

To access the Agenda and Backup Materials electronically, go to [www.gjcity.org](http://www.gjcity.org)



**CITY COUNCIL AGENDA  
WEDNESDAY, MAY 4, 2022  
250 NORTH 5<sup>TH</sup> STREET - AUDITORIUM  
[VIRTUAL MEETING](#) - [LIVE STREAMED](#)  
BROADCAST ON CABLE CHANNEL 191  
5:30 AM – REGULAR MEETING**

**Call to Order, Pledge of Allegiance, Moment of Silence**

**Proclamations**

Proclaiming the Week of May 1 - May 7, 2022 as Municipal Clerks Week in the City of Grand Junction

Proclaiming May 15 - May 21, 2022 as Police Week in the City of Grand Junction

**Appointments**

Election of Council President/Ex-Officio Mayor and Council President Pro Tem/Ex-Officio Mayor Pro Tem

**Citizen Comments**

*Individuals may comment regarding items scheduled on the Consent Agenda and items not specifically scheduled on the agenda. This time may be used to address City Council about items that were discussed at a previous City Council Workshop.*

*Citizens have four options for providing Citizen Comments: 1) in person during the meeting, 2) virtually during the meeting (registration required), 3) via phone by leaving a message at 970-244-1504 until noon on Wednesday, May 4, 2022 or 4) submitting comments [online](#) until noon on Wednesday, May 4, 2022 by completing this form. Please reference the agenda item and all comments will be forwarded to City Council.*

**City Manager Report**

**Council Reports**

## **CONSENT AGENDA**

*The Consent Agenda includes items that are considered routine and will be approved by a single motion. Items on the Consent Agenda will not be discussed by City Council, unless an item is removed for individual consideration.*

### **1. Approval of Minutes**

- a. Summary of the April 18, 2022 Workshop
- b. Minutes of the April 20, 2022 Regular Meeting

### **2. Set Public Hearings**

*All ordinances require two readings. The first reading is the introduction of an ordinance and generally not discussed by City Council. Those are listed in Section 2 of the agenda. The second reading of the ordinance is a Public Hearing where public comment is taken. Those are listed below.*

- a. Legislative
  - i. Introduction of an Ordinance to Reenact Ordinance No. 4833 Regarding Camping on Public Property/Public Places with the Elimination of the Sunset Clause and Setting a Public Hearing for May 18, 2022
- b. Quasi-judicial
  - i. Introduction of an Ordinance for Zoning Approximately 2.37 Acres from County RSF-4 (Residential Single Family - 4 du/ac) to R-5 (Residential - 5 du/ac) for the Twenty Eighty Broadway Annexation, Located at 2080 Broadway and Setting a Public Hearing for May 18, 2022

### **3. Procurements**

- a. 2022 Contract Street Maintenance - Seal Coat
- b. Construction Contract for Partial Reconstruction of South Rim Drive and Kansas Avenue
- c. Purchase Tow Behind Stump Grinder from Vermeer Sales in Grand Junction, Colorado

### **4. Resolutions**



- a. A Resolution Adopting the 4th and 5th Street Feasibility Study
- b. A Resolution Setting Fees for Cannabis Licensing

## **REGULAR AGENDA**

*If any item is removed from the Consent Agenda by City Council, it will be considered here.*

### **5. Public Hearings**

- a. Legislative
  - i. An Ordinance Amending Title 21 Chapter 4, Chapter 6, and Chapter 10 and Amending Title 27, Chapter 12 of the Grand Junction Municipal Code Regarding Use Standards and for Specific Buffering between Certain Schools and Rehabilitation Facilities, and Adopting Regulations for Signage of Cannabis Businesses, and Definitions for such Businesses

### **6. Agreements**

- a. Solar Farm Subscription with Pivot Energy

### **7. Non-Scheduled Citizens & Visitors**

*This is the opportunity for individuals to speak to City Council about items on tonight's agenda and time may be used to address City Council about items that were discussed at a previous City Council Workshop.*

### **8. Other Business**

### **9. Executive Session - City Hall Administration Conference Room**

- a. EXECUTIVE SESSION TO DISCUSS PERSONNEL MATTERS UNDER AND PURSUANT TO SECTION 24-6-402(4)(f)(I) C.R.S. OF THE OPEN MEETINGS LAW RELATIVE TO A CITY COUNCIL EMPLOYEE, SPECIFICALLY THE CITY MANAGER - THE CITY MANAGER HAS NOT REQUESTED DISCUSSION IN OPEN SESSION
- b. EXECUTIVE SESSION TO DISCUSS PERSONNEL MATTERS UNDER AND PURSUANT TO SECTION 24-6-402(4)(f)(I) C.R.S. OF THE OPEN MEETINGS LAW RELATIVE TO CITY A COUNCIL EMPLOYEE, SPECIFICALLY THE CITY ATTORNEY - THE CITY ATTORNEY HAS NOT REQUESTED DISCUSSION IN OPEN SESSION

**10. Conclusion of Executive Session and Adjournment of May 4, 2022 City Council Meeting - City Hall Administration Conference Room**

The Council will return to Open Session to conclude the Executive Session; the City Council will not be returning to Open Session in the City Council chambers. Adjournment of the May 4, 2022 City Council meeting will occur in the City Hall Administration Conference room.



*City of Grand Junction, State of Colorado*

# Proclamation

- Whereas,** the Office of the Municipal Clerk, a time honored and vital part of local government, exists throughout the world; and
- Whereas,** the Municipal Clerk is the oldest among public servants; and
- Whereas,** Municipal Clerks provide the professional link between the citizens, the local governing bodies, and agencies of government at other levels; and
- Whereas,** Municipal Clerks have pledged to be ever mindful of their neutrality and impartiality, rendering equal service to all; and
- Whereas,** Municipal Clerks serve as the information center on functions of local government and community; and
- Whereas,** Municipal Clerks continually strive to improve the administration of the affairs of the Office of the Municipal Clerk through participation in education programs, seminars, workshops and the annual meetings of their state, provincial, county, and international professional organizations; and
- Whereas,** it is most appropriate that we recognize the accomplishments of Municipal Clerks.

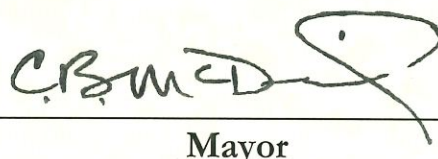
**NOW, THEREFORE,** I, C.B. McDaniel, by the power vested in me as Mayor of the City of Grand Junction, do hereby proclaim May 1 through May 7, 2022 as

## ***"Municipal Clerks Week"***

and further extend appreciation to all Municipal Clerks for the vital services they perform and their exemplary dedication to the communities they represent.



IN WITNESS WHEREOF, I have hereunto set my hand and caused to be affixed the official Seal of the City of Grand Junction this 4<sup>th</sup> day of May 2022.

  
\_\_\_\_\_  
Mayor





*City of Grand Junction, State of Colorado*

# Proclamation

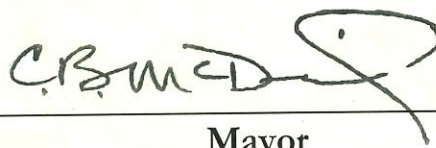
- Whereas,** there are more than 800,000 law enforcement officers serving in communities across the United States, including the dedicated members of our local law enforcement agencies, to include the Mesa County Sheriff's Office, the Grand Junction Police Department, the Palisade Police Department, the Fruita Police Department, Collbran Marshal's Office, De Beque Marshal's Office, and the Colorado State Patrol; and
- Whereas,** approximately 58,000 assaults against law enforcement officers are reported on average each year, resulting in more than 17,000 injuries; and
- Whereas,** since the first recorded death in 1786, more than 22,000 law enforcement officers in the United States have made the ultimate sacrifice and been killed in the line of duty, including five from local law enforcement agencies: Mesa County Sheriff Deputy Edward Innes was killed on September 27, 1906, during an inmate jail escape, Colorado State Patrol Sergeant Wesley Rosette was killed in a crash on January 31, 1951, Fruita Police Department Acting Chief Dan Dalley was killed in a motorcycle crash in June 2001, Deputy Derek Geer, of the Mesa County Sheriff's Office, died after being shot by an armed suspect in February of 2016, Most recently, Sergeant Wayne Weyler lost his battle to COVID-19 in December of 2021; and
- Whereas,** the names of these dedicated public servants are engraved on the walls of the National Law Enforcement Officers Memorial in Washington, D.C.; and
- Whereas,** 472 officers were killed in the line of duty in 2021, nine of whom were fallen Colorado heroes: Officer Gordon Beesley of the Arvada Police Department, Sergeant Eric Scherr of the Aurora Police Department, Officer Eric Talley of the Boulder Police Department, Deputy Sheriff James Herrera of the Denver Sheriff's Department, Deputy Sheriff Duke Trujillo of the Denver Sheriff's Department, Detective Joe Pollack of the Douglas County Sheriff's Office, Deputy Sheriff Clay Zachary Livingston of the Elbert County Sheriff's Office, Officer Ty Powell of the Windsor Police Department, and Sergeant Wayne Weyler of the Mesa County Sheriff's Office. Their names will be added to the National Law Enforcement Officers Memorial located in Washington, D.C., this year; and
- Whereas,** May 15 is designated as Peace Officers Memorial Day and the week of May 15 through May 21, 2022, is National Police Week.

NOW, THEREFORE, I, C.B. McDaniel, by the power vested in me as Mayor of the City of Grand Junction, do hereby proclaim May 15 - 21, 2022 as

## *"National Police Week"*

in the City of Grand Junction, and publicly salute the service of law enforcement officers in our community and in communities across the nation.

IN WITNESS WHEREOF, I have hereunto set my hand and caused to be affixed the official Seal of the City of Grand Junction this 4<sup>th</sup> day of May 2022.



Mayor





## Grand Junction City Council

### Regular Session

Item #

---

**Meeting Date:** May 4, 2022

**Presented By:** City Council

**Department:** City Manager's Office

**Submitted By:** John Shaver, City Attorney, and Laura Bauer, Interim City Clerk

---

### **Information**

#### **SUBJECT:**

Election of Council President/Ex-Officio Mayor and Council President Pro Tem/Ex-Officio Mayor Pro Tem

#### **RECOMMENDATION:**

Nominate and elect a Council President/Ex-Officio Mayor and a Council President Pro Tem/Ex-Officio Mayor Pro Tem.

#### **EXECUTIVE SUMMARY:**

The Charter sets forth the process for selecting a President of the Council and a President of the Council Pro Tem. Article V, Section 39 provides that during the first regular City Council Meeting in May of each year, a Council President/Ex-Officio Mayor and Council President Pro Tem/Ex-Officio Mayor Pro Tem are nominated and voted on to fulfill the obligations of those duties through April of the following year.

#### **BACKGROUND OR DETAILED INFORMATION:**

Article V (President of the Council), Section 39 (Term-Duties) of the Grand Junction Municipal Charter states that "each Council, at its first regular meeting and thereafter when a vacancy occurs, shall elect from its membership a president of the council. He shall serve for a term of one year and until his successor is elected and qualified. During such term he shall be a member of the council with the same right to speak and vote therein as any other member, but without the right of veto. He shall be recognized as the official head of the city for all ceremonial purposes, by the courts for the purpose of serving civil process, and by the governor for military purposes. In case of his absence or disability, his duties shall be performed by a president pro tempore, chosen by the council from among its own members."

Paragraph 39 specifies that the Council “elects” a president; historically, the Council has also elected a president *pro tempore* on the same date. The process for those elections has been the same for president and president *pro tempore* with the Council generally establishing the procedure with each election.

By law, secret ballots are not allowed. As such, all of the election proceedings, other than the City Clerk’s written tallies, are spoken. The City Clerk will report her tallies as part of the selection process and will keep those in her records. Of course, you may, during the process, ask for assistance from the City Clerk and/or City Attorney; Nominations and seconds are required; self-nominations are allowed. Typically, a short statement is made by each member making a nomination and by the nominee when accepting a nomination. A nominee may decline a nomination and withdraw her/his name either at the time of nomination or later (but preferably before being elected). The president of the council is chosen first but Council may order the process as a majority determines. After discussion, the sitting Mayor begins the process by announcing that the nominations are open and will be entertained. At the conclusion of the nominations and seconds, a motion to close nominations should be made, seconded and voted on before the voting begins.

It may be that there are multiple nominations and multiple rounds of voting. If that happens, the nominees with the highest number of votes (without achieving a majority of four) are advanced to subsequent rounds of voting. Typically, the Council has required at least three votes to advance, but in the event of two nominees receiving two votes, a “run-off” is held between those nominees with the highest number of votes advancing to a ballot with the nominee previously receiving 3 votes.

Votes from round to round are non-binding.

The same process is used for the president and president *pro tempore*.

With the exception of the law specifying no secret ballots, the Council may establish the selection process as a majority prefers.

**FISCAL IMPACT:**

N/A

**SUGGESTED MOTION:**

Nominations will be entertained by the President of the Council. Nominations that are seconded will be voted upon voice vote; no secret ballots are allowed. Detailed procedures are described above.

**Attachments**

None



## GRAND JUNCTION CITY COUNCIL WORKSHOP SUMMARY

April 18, 2022

**Meeting Convened:** 5:30 p.m. The meeting was held in person at the Fire Department Training Room, 625 Ute Avenue, and live streamed via GoToWebinar.

**City Councilmembers Present:** Councilmembers Randall Reitz, Dennis Simpson, Rick Taggart, Abe Herman, Anna Stout, and Mayor Chuck McDaniel

**City Councilmembers Absent:** Councilmember Phil Pe'a

**Staff present:** City Manager Greg Caton, City Attorney John Shaver, Interim City Clerk Laura Bauer, Deputy City Clerk Selestina Sandoval, and Parks and Recreation Director Ken Sherbenou,

---

### **1. Discussion Topics**

#### **a. Community Recreation Center Survey Discussion**

The Community Recreation Center Survey was conducted by The Social Research Center of Colorado Mesa University Professors Justin Gollob, Eliot Jennings, and Clay King, in partnership with Berwood Yost of the Center for Opinion Research at Franklin & Marshall College and City staff. Mr. Gollob attributed the success of the survey to the community messaging on the importance of the survey. Mr. Yost provided an overview of the process used to conduct the survey. He said most of the data collection took place in February of 2022 using multiple methods such as online, mailing and telephone. The group concluded there was an 80% cooperation rate and of the respondents, 59% support the City building an indoor recreation facility and 49% were favorable to using a 15% nicotine tax as a funding mechanism. The majority of those surveyed preferred one large facility versus multiple smaller facilities and the majority supported Matchett Park as the preferred location. In response to Council questions, funding the project would come from cannabis revenue as a base, and nicotine tax to supplement. Council expressed concern that if it isn't feasible to build at Matchett Park, and they build at Lincoln Park, there could be pushback from the community. Council was also concerned that in 2019 the community survey was favorable to constructing a center; however, the measure failed at the polls by 54%. City Manager Caton reminded Council that there were three tax issues on that ballot, which could have contributed to the failed measure. It was noted that this survey did not include questions regarding funding annual maintenance. There was discussion in support of using the Parks and Recreation Advisory Board in collaboration with a consultant and staff to work on various components of a community recreation center. City Council discussion also included when to refer the matter to the ballot.

**b. Orchard Mesa Pool**

Parks and Recreation Director Ken Sherbenou spoke on this topic. He informed Council that the pool is 38 years old and is jointly funded by the City, the county and the school district. Significant maintenance work is needed. Mesa County reduced their financial contribution this year; however, the school district made up the difference. The average number of users per day is 109; however, whether these users are City residents is not known. Council asked staff if they could delve deeper into who the users are city residents, Mesa County residents, visitors, etc. City Manager Caton suggested that Council may want to have a discussion with the county regarding their future funding commitments regarding the pool. Council discussed the pros and cons of converting the pool building into a multi-use facility, using reserves to move ahead with pool improvements now and bundling and bundling future building renovations with the community center question on a future ballot.

**2. City Council Communication**

There was no Council communication.

**3. Next Workshop Topics**

City Manager Caton reviewed upcoming topics

**4. Other Business**

There being no further business, the Workshop adjourned at 7:34 pm



# **GRAND JUNCTION CITY COUNCIL MINUTES OF THE REGULAR MEETING**

**April 20, 2022**

## **Call to Order, Pledge of Allegiance, Moment of Silence**

The City Council of the City of Grand Junction convened into regular session on the 20<sup>th</sup> day of April 2022 at 5:30 p.m. Those present were Councilmembers Abe Herman, Randall Reitz, Dennis Simpson, Anna Stout, Rick Taggart and Council President Chuck McDaniel. Councilmember Phillip Pe'a was absent.

Also present were City Manager Greg Caton, City Attorney John Shaver, Interim City Clerk Laura Bauer, Deputy City Clerk Selestina Sandoval, Fire Chief Ken Watkins, Principal Planner Kristen Ashbeck, Senior Planner Jace Hochwalt, Senior Planner Nicole Galehouse and Visit Grand Junction Director Elizabeth Fogarty.

Council President McDaniel called the meeting to order. Tope Student Kodi Kyle led those present in the Pledge of Allegiance, followed by a moment of silence.

## **Presentations**

### **Grand Junction Fire Department Accreditation**

Fire Chief Ken Watkins presented the plaque recognizing the Grand Junction Fire Department as an accredited agency with the Commission on Fire Accreditation International and said a few words regarding the accreditation process, timeline and merit. He introduced and thanked his team: Deputy Chief Chris Angermuller (Accreditation Manager), Community Risk Specialist Ellis Thompson-Ellis (Assistant Accreditation Manager and Data Specialist), and Communication Center Supervisor Shon Kiniston who also assisted in the process.

City Manager Caton praised the department for their efforts in obtaining the accreditation.

## **Appointments**

### **To the Parks and Recreation Advisory Board**

Councilmember Stout moved and Councilmember Taggart seconded to reappoint Lisa Whalin, Kyle Gardner, Austin Solko, and Cindy Enos-Martinez to the Parks and Recreation Advisory Board for three-year terms expiring June 2025. Motion carried by unanimous voice vote.

**Proclamations****Proclaiming April 23, 2022 as Arbor Day in the City of Grand Junction**

Council President McDaniel read the proclamation. Forestry Board Chair Susan Carter accepted the proclamation.

**Citizen Comments**

Bruce Lohmiller invited the public to speak at Citizen Comments, spoke regarding housing issues in the community and expressed concern regarding Fentanyl.

**City Manager Report**

City Manager Greg Caton outlined 2022 Spring Cleanup statistics.

**Council Reports**

Councilmember Reitz commended Spring Cleanup efforts by staff.

Councilmember Stout reported the legislative session is near its end and will report on outcomes at a future meeting.

Councilmember Taggart gave an update on the Grand Junction Regional Airport Authority.

Councilmember Herman gave an update on the Urban Trails Committee, invited the public to the Western Colorado Economic Summit and provided a Grand Junction Economic Partnership Executive Director search update.

**CONSENT AGENDA**

Councilmember Stout moved to adopt Consent Agenda items #1 - #3. Councilmember Herman seconded. Motion carried by unanimous voice vote.

**1. Approval of Minutes**

- a. Minutes of the March 16, 2022 Regular Meeting
- b. Minutes of the April 4, 2022 Special Meeting
- c. Minutes of the April 6, 2022 Regular Meeting

**2. Procurements**

- a. Contract for Professional Services for Document Scanning, Digitizing and Indexing
- b. Hogchute (aka Carson) Reservoir Dam Modifications Change Order No. 2

**3. Resolutions**

- a. A Resolution Vacating a Portion of a Public Storm Sewer Right-of-Way on the Campus of Grand Junction High School at 1400 N. 5<sup>th</sup> Street
- b. A Resolution Approving the Grand Junction City Council Audit Committee Charter and Appointing Anna Stout and Chuck McDaniel as the 2022-2023 Audit Committee

**REGULAR AGENDA****An Ordinance Vacating a Public Alley Right-of-Way, Located South of 245 and 333 South Avenue**

Anna Company, LLC requested vacation of an undeveloped east-west alley that lies south of 245 and the west portion of 333 South Avenue. The area to be vacated is a 10-foot wide and variable length strip of land, encompassing a total of 2,239 square feet. The vacation of the alley will eliminate the approximately one-foot encroachment of the building into a public right-of-way. The requested vacation conforms with the City's Comprehensive Plan and Circulation Plan.

Principal Planner Kristen Ashbeck presented this item.

The public hearing opened at 6:02 p.m.

There were no comments.

The public hearing closed at 6:02 p.m.

Councilmember Taggart moved and Councilmember Simpson seconded to adopt Ordinance No. 5067, an ordinance vacating a portion of public alley right-of-way south of 245 and 333 South Avenue on final passage and ordered final publication in pamphlet form. Motion carried unanimously by roll call vote.

**An Ordinance Rezoning One Parcel Totaling Approximately 2.46 Acres from PD (Planned Development) to C-1 (Light Commercial), Located at the Northeast Corner of Horizon Drive and 27 ½ Road**

Property owner Emanuel Epstein Revocable Trust requested the rezone of one parcel totaling approximately 2.46 acres from PD (Planned Development) to C-1 (Light Commercial) located at the northeast corner of Horizon Drive and 27 ½ Road. The requested C-1 zone district conforms with the Comprehensive Plan Land Use Map designation of Commercial.

Senior Planner Jace Hochwalt presented this item.

The public hearing opened at 6:12 p.m.

There were no comments.

The public hearing closed at 6:12 p.m.

Councilmember Reitz moved and Councilmember Simpson seconded to adopt Ordinance No. 5068, an ordinance rezoning approximately 2.46 acres from a PD (Planned Development) zone district to a C-1 (Light Commercial) zone district located at the northeast corner of Horizon Drive and 27 ½ Road on final passage and ordered final publication in pamphlet form. Motion carried by unanimous roll call vote.

**An Ordinance Rezoning 1.18 Acres from R-4 (Residential - 4 du/ac) to R-8 (Residential – 8 du/ac), Located at 702 25 Road**

Property owner Kent Slawson requested a rezone from R-4 (Residential - 4 du/ac) to R-8 (Residential – 8 du/ac) for 1.18-acres located at 702 25 Road in anticipation of future development. The R-8 zone district is consistent with the Comprehensive Plan Land Use Map designation of Residential Medium (5.5 – 8 du/ac).

Senior Planner Nicole Galehouse presented this item.

Council had questions regarding the zoning in surrounding areas.

The public hearing opened at 6:21 p.m.

There were no comments.

The public hearing closed at 6:21 p.m.

Councilmember Herman moved and Councilmember Stout seconded to adopt Ordinance No. 5069, an ordinance rezoning approximately 1.18 acres from an R-4 (Residential - 4 du/ac) zone district to a R-8 (Residential - 8 du/ac) zone district located



at 702 25 Road on final passage and ordered final publication in pamphlet form. Motion carried by unanimous roll call vote.

**A Resolution Adopting the Grand Junction Area Tourism Membership Program, Managed by Visit Grand Junction**

In 1996, the City Council authorized the expansion of the Visitor & Convention Bureau (now known as Visit Grand Junction (VGJ)) marketing programs to include lodging properties outside the Grand Junction City limits. The offering of those services has been reauthorized four times since the initial resolution, with the most recent reauthorization being October 2016 with the approval of Resolution No. 41-16.

In late 2021, the VGJ Board of Directors recommended that the marketing program be improved and expanded beyond lodging to include other tourism-related events and businesses. The proposed changes, marketing programs and services will be more inclusive and equitable. For lodging businesses outside the City of Grand Junction, there will be a membership fee of no less than \$350/year and they will be required to enter into a Membership Program Agreement. This fee helps to create an even balance with those in the City that collect and pay a lodging tax.

Visit Grand Junction Director Elizabeth Fogarty presented this item.

Council questioned if setting fees was within the scope of an advisory board, if in setting the fees, there isn't a conflict of interest between Board members and potential business competitors, and if the membership contracts were public record. City Attorney Shaver confirmed the contracts will be between the City and not Visit Grand Junction and will be subject to the Open Records Act. Ms. Fogarty informed Council that local businesses are excited for the launch of this program. Council commended the Board for the development of this program.

Councilmember Stout moved and Councilmember Herman seconded to adopt Resolution No. 35-22, a resolution adopting Visit Grand Junction's Grand Junction Area Tourism Membership Program, allowing Visit Grand Junction, on behalf of the City of Grand Junction, to enter into contracts for their marketing services with tourism-related businesses within Mesa County. Motion carried by unanimous voice vote.

**Non-Scheduled Citizens & Visitors**

Todd Anderson recommended Citizen Comments be moved right after the moment of silence.

**Other Business**

Councilmember Taggart requested an affordable housing item be put on a workshop

agenda to develop a program for residential and multi-housing projects to help provide more affordable housing options.

**Adjournment**

The meeting adjourned at 6:52 p.m.



---

Laura Bauer, MMC  
Interim City Clerk



## Grand Junction City Council

### Regular Session

Item #2.a.i.

---

**Meeting Date:** May 4, 2022

**Presented By:** John Shaver, City Attorney

**Department:** City Attorney

**Submitted By:** John P. Shaver, City Attorney

---

### **Information**

#### **SUBJECT:**

Introduction of an Ordinance to Reenact Ordinance No. 4833 Regarding Camping on Public Property/Public Places with the Elimination of the Sunset Clause and Setting a Public Hearing for May 18, 2022

#### **RECOMMENDATION:**

Approval and set a public hearing for May 18, 2022.

#### **EXECUTIVE SUMMARY:**

Ordinance No. 4833 regarding camping on public property/public places was enacted on April 17, 2019 and included a sunset provision requiring action by City Council within sixty days of the third anniversary of the adoption of the ordinance or the ordinance terms will expire in their entirety. This ordinance will amend Ordinance No. 4833 with the elimination of the sunset clause.

#### **BACKGROUND OR DETAILED INFORMATION:**

Ordinance No. 4833 was enacted by City Council on April 17, 2019, amending Chapters 12.04, 12.08, and 21.06 of the Grand Junction Municipal Code ("GJMC") and establishing laws that assist in maintaining the City in a clean, sanitary and accessible condition while adequately protecting the health, safety and public welfare of the community, and preserving, protecting and enhancing the natural resource of the Colorado and Gunnison Rivers ("Riverfront") for many recreational and other proper uses. Ordinance No. 4833 prohibits the use of public property for the purpose of maintaining a temporary place to live as the use of public areas, parks, streets and the Riverfront for camping purposes interferes with the rights of others to use those areas for the purpose for which they were intended.

Ordinance No. 4833 includes a sunset clause for which City Council shall consider the effectiveness of the ordinance at achieving its state purposes within sixty days of the third anniversary of the adoption of the ordinance. If no further action is taken by the City Council in reviewing the ordinance, the ordinance terms will expire.

The Grand Junction Police Department recommends reinstatement of the ordinance with the elimination of the sunset clause. Attached as support is a report completed by the Grand Junction Police Department.

**FISCAL IMPACT:**

This action has no direct fiscal impact.

**SUGGESTED MOTION:**

I move to introduce an ordinance to amend Ordinance No. 4833 regarding camping on public property/places with a finding of the satisfaction and the elimination of the sunset clause and set a public hearing for May 18, 2022.

**Attachments**

1. Grand Junction Police Dept Camping Report
2. Camping ordinance summary
3. ORD-Camping Reenact 042322

## Camping Ordinance Justification

In June of 2022, the Grand Junction Municipal ordinance created in 2019 is set to sunset (expire) if the city council does not take action to retain the ordinance. (Attachment A) In consideration, the following is justification from the Grand Junction Police Department which provides rationale for continuing this public health and safety ordinance.

The following will outline the particulars of the problems faced by the citizens of Grand Junction regarding illegal camping and while the community in whole understands and empathizes with the complexity of homelessness in America and in our community, they also understand that unregulated camping on private and public property poses significant burdens on many of our resources. Additionally, such activity can infringe upon the health and safety of everyone, including those living illegally in camps as well as residents and business owners who have property rights and of shared public land use rights.

In 2019, Colorado was found to be in the top 10 states experiencing the most homelessness and while Grand Junction may not have the rates of homelessness of Denver, there is a significant population of homeless and the chronically homeless impacting Grand Junction. While a majority of homeless individuals do not negatively impact the community, there are some who do. Clearly, the people of Grand Junction support efforts to help the homeless by providing resources to many organizations in the community who work to assist the homeless here. Residents and business alike support organizations dedicated to providing housing and subsistence to those experiencing homelessness here in the valley – these organizations include but are not limited to Catholic Outreach, KARIS, Pathway's Village, Homeward Bound, and the Joseph Center. In essence, there are numerous service providers that provide lasting and positive benefits. Given the potential of de-regulation, this could create what equates to an enabling mechanism that most likely would increase the negative impacts of the illegal camping problem we already experience in the valley. For example, Austin, Texas, de-regulated camping and experienced increases in illegal camping and found not only an increase in camping, but a decrease of those in shelter as well. Austin also experienced increased problems such as crime and disorder among those living on the street. (Attachment D)

The Grand Junction Police Department is often tasked with addressing people experiencing homelessness when they are reported for trespassing or illegally camping by the general public, property owners or members of the business community. In many of these instances officers respond, evaluate the situation and ask those trespassing or illegally camping to leave and they gain compliance. In some of these situations the person(s) may leave, but they leave behind trash, accumulated property, clothing, and even human waste. These issues then become long term problems that can spread disease and even affect the environment through contamination of soils and the watershed. (Attachment E)

Along with environmental concerns, there are the real costs associated with illegal camping and trespass which include the monetary costs to clean up the discarded remnants and waste. These costs fall directly on property owners or, if on public lands, the taxpayers. Costs can run well into the thousands of dollars and some property owners have to contend with these costs multiple times when they experience repeated trespass camping incidents. In 2020 and 2021 the police

department spent over \$60,000 to cleanup illegal campsites in public areas. Attachment F includes photos taken by GJPD CRU officers in 2020 and 2021 of various illegal campsites which were cleaned. The photos also show how derelict motorhomes and camp trailers can also serve as illegal campsites and like a campsite, can contaminate the environment with grey water and discarded items such as fuel, batteries, mattresses or even oil that is dumped directly onto the land or into the storm drains and ultimately the Colorado River.

Derelict motorhomes used as housing in Seattle, WA became such a nuisance the state instituted a fee to pay for their remediation. Washington state found in Seattle that these motorhome campsites were a potential hazard to water quality from the dumping of grey water into the gutters, leaving trash, and other items that all flowed into water ways. The motorhomes themselves would be discarded and the costs of towing and destroying the campers is very costly, something we in Grand Junction have also discovered. (Attachment F)

The issues contained in the attachments regarding problems with camping sites in Seattle and Austin also exist in Grand Junction, they just have not been reported with any depth by local journalists. Photos of campsites throughout the City of Grand Junction are included in Attachment G. These campsites regularly accumulate trash, stolen property, and human waste as individuals continue to live in these sites and the problems grow exponentially. These sites create a public health hazard as it allows humans to live in substandard and unhealthy conditions, which are hazardous at best. Additionally, these situations harm the surrounding environment through trash accumulation and unmitigated human waste, which can lead to the spread of diseases and other harmful outcomes.

While many of the campsites consist of tents, tarps and bedding, most fill up quickly with scavenged and stolen property. This property is transported by bike carts, both homemade and salvaged, along with commandeered shopping carts from stores that do not have locking mechanisms on them that prevent their removal from parking lots. Currently, the only store with locking mechanisms are the City Markets. Many discovered camps include abandoned and destroyed shopping carts, but these stolen shopping carts can be found abandoned across the city, and local businesses have asked people be charged for having their carts illegally removed, but most do little to prevent the carts from being removed from their properties or even make attempts to locate and collect the carts removed from their properties. This fact contributes to the ease at which large amounts of property can be accumulated at an illegal campsite in a very condensed amount of time.

While the police department responds to these trespassing and illegal camping complaints on a daily basis, several times a day in most cases, officers do not arrest or write a great number of summonses for those violations, but rather seek compliance through warnings and, when requested, by serving a notice that the person is banned from the particular private property who made that request. Some violators however refuse to cooperate and are issued a summons to appear in court at a later date, which usually encourages the person to then leave. From the time of the enactment of the no camping ordinance in 2019 through 2021, the Grand Junction Police Department has issued only 14 citations to individuals in 11 instances where it was necessary to use a citation to gain compliance. During that same time, no one has been physically arrested and booked into jail for illegal camping in Grand Junction. All camping charges from 2019 through 2021 show only summons arrests, which are written citations. (Attachment B)



The Grand Junction Police Department Community Resource Unit (CRU) monitors known areas for illegal camping and routinely post camps or provide those within a camp notices (Attachment B) that warn against illegal camping and trespass and that it may be a crime, but the notices also include a phone number to CRU offering assistance with resources. When officers can speak directly to people, they inquire about helping with benefits, which includes access to our Co-Responder program to help assess any potential mental health needs. The unit has been successful in helping connect homeless individuals to resources and in some cases they have been successful in getting housing, medical care, or even getting a homeless individual reunited with family, who in turn helped the individual re-establish family bonds and find housing and work.

Cities throughout Colorado have enacted a camping ban similar to Grand Junction in an effort to mitigate the effects of uncontrolled camping within city limits. The City of Aurora is currently enacting a camping ban similar to the ban in effect in Grand Junction. The City & County of Denver has had a camping ban in effect for some time to deal with their challenges with homelessness. (Attachment H) In fact in 2020, Denver's ordinance against camping was upheld as legal and Constitutional in Denver District Court (*City and County of Denver v. Burton*, 19CV34925), a decision that the Colorado Supreme Court refused to hear on certiorari. (Attachment I)

The Grand Junction Police Department believes it is necessary to continue the ordinance against camping on public property and its related ordinances as a way to prevent camps from forming as well as mitigating the hazardous effects of camps after they have formed. Without this ordinance, the City will not have the tools necessary to intervene and prevent the spread of these camps throughout the City. To allow these camps to exist and grow will only serve to harm the individuals that live in these camps, the environment around the camps, and the City as a whole. The Grand Junction Police Department requests that the Grand Junction City Council continue these ordinances permanently.

Attachment A

**12.04.080 Camping on public property without authorization prohibited.**

No person may camp in or upon any public property, nor any property owned by other governmental entities that have posted notice prohibiting camping, unless:

- (a) The person has the authorization of the owner of the property to camp at that location; or
- (b) An overnight use is specifically authorized by the issuance of a use permit in accordance with Parks Department regulations; or
- (c) Camping is otherwise specifically authorized by GJMC; or
- (d) The camper(s) is(are) on public property other than a sidewalk, street, parking strip, alleyway, lane, breezeway or public right-of-way, and there is no available overnight shelter; or
- (e) Camping is necessary after the formal declaration of an emergency in accordance with City Charter or a declaration of the Governor.

(Ord. 4833, 4-17-19)

**\*Code reviser's note** – Ordinance 4833, which adds this section, provides, “Sunset Clause. Within sixty days of the third anniversary of the adoption of this ordinance the City Council shall consider the effectiveness of the ordinance at achieving its stated purposes. Without further action by the City Council, the terms and provisions of this ordinance shall expire on the third anniversary of the effective date hereof without subsequent action by the City Council.”

**12.04.100 Removal, disposition and release of personal property.**

Upon removal of an encampment, all debris, including items having no reasonably apparent utility or monetary value and items in an unsanitary condition, may be immediately discarded. All other personal property shall be gathered, retained, and released, all in accordance with the reasonable notice being provided to the property owner. Unclaimed property may be disposed in accordance with GJMC 2.44.020 et seq.

(Ord. 4833, 4-17-19)

**\*Code reviser's note** – Ordinance 4833, which adds this section, provides, “Sunset Clause. Within sixty days of the third anniversary of the adoption of this ordinance the City Council shall consider the effectiveness of the ordinance at achieving its stated purposes. Without further action by the City Council, the terms and provisions of this ordinance shall expire on the third anniversary of the effective date hereof without subsequent action by the City Council.”

**12.04.110 Enforcement and mitigation.**

By enacting this title, it is neither the City's intent to criminalize homelessness nor violate a homeless person's constitutional rights. Likewise, the City does not propose to prohibit the ordinary use of the parks such as resting or sleeping in a park during normal park hours, picnicking on a blanket or using parks or other public property for lawful uses. Enforcement of this title shall be undertaken to avoid such results.

Upon conviction for a violation of this title, in addition to any other factors deemed appropriate by the prosecutor and the Court, the Court shall consider in mitigation whether or not the person immediately removed all personal property and litter, including, but not limited to, bottles, cans and garbage, from the encampment after being informed the camping was in violation of the law.

(Ord. 4833, 4-17-19)

**\*Code reviser's note** – Ordinance 4833, which adds this section, provides, "Sunset Clause. Within sixty days of the third anniversary of the adoption of this ordinance the City Council shall consider the effectiveness of the ordinance at achieving its stated purposes. Without further action by the City Council, the terms and provisions of this ordinance shall expire on the third anniversary of the effective date hereof without subsequent action by the City Council."

#### **12.04.120 Application to City property outside City limits.**

This title applies to public property owned by the City that is located outside the City's municipal limits.

(Ord. 4833, 4-17-19)

**\*Code reviser's note** – Ordinance 4833, which adds this section, provides, "Sunset Clause. Within sixty days of the third anniversary of the adoption of this ordinance the City Council shall consider the effectiveness of the ordinance at achieving its stated purposes. Without further action by the City Council, the terms and provisions of this ordinance shall expire on the third anniversary of the effective date hereof without subsequent action by the City Council."

## Attachment B

### Arrests 2019-2021

1. 19-70631 Wells Fargo 359 Main St. Gerald Coffey warned repeatedly –trash, food, other items all over.
2. 20-9889 Blue Heron RF Trl Jacob Daniels blocking the trail charged someone and was yelling. Officers found in a camp – profane with officers – open beds in shelter – Daniels failed to comply with officers had an established camp.
3. 20-43725 1220 N. 18<sup>th</sup> living out of camper – Columbus Holt 3 calls on subjects camping living on the side of residential street in the camper.
4. 20-44946 9<sup>th</sup> & Tracks – Tristen Bales/Brenda Goeff – Welfare check female yelling – mattress – camp set up Union Pacific property – long continuous history of Bales and Goeff involved in domestic violence and piling up lots of property where they camp.
5. 20-49769 Printers Wy/Hilaria Ave – Columbus Holt/Tera Hickerson – Previously warned 4 times by various officers not to camp in camper on public property.
6. 20-50554 462 Ute Ave – Gabriel Lopez/Amber Hoffman – Officer observed bedding and other items and contacted the duo in an area we receive a high number of complaints about homeless camping unlawfully. Hoffman has had multiple officer contacts for this type of issue.
7. 21-5157 Las Colonias Park 2735 Riverside Prkwy – James Bonati – In middle of park for several days with tent over a water hose bib, electrical outlets and had beer cans and other items outside of the tent. Bonati had previously been warned not to camp in the park and not to trespass after hours. Bonati admitted on date of citation he ignored the warning and continued to camp.
8. 21-6994 424 Pitkin Ave – Jose Orozco – Fire and PD responded to Witman Park where Orozco had a fire going in a bucket on a picnic table. There was a large amount of property scattered around (Orozco has been contacted numerous times while camping on public and private property and collected a large amount of trash and items from dumpsters in a short amount of time. 3 times a trash truck has had to be called to pick up the trash and items he piled up). On this call, as on others, Orozco was verbally non-compliant.
9. 21-9388 400 S. 3<sup>rd</sup> Street – Jose Orozco – warned prior at a location close by about illegally camping in public, re-contacted after a complaint from Catholic Outreach. Orozco accumulated a large amount of rubbish in a hut constructed of discard wood and other items all on an easement. He also had taken a city issued trash can from somewhere and was using that to transport more items to his campsite. Orozco at the time had been served 3 trespassing summons for trespass in a parking lot where he'd been camping just days before this contact.

10. 21-9627 2436 Hill Ave – Tera Hickerson – Hickerson was contacted 2 ½ hours earlier for a verbal argument while she was camping in a tent in the alley. Hickerson was warned and told to leave, she did not and had not cleaned up her camp.
11. 21-20529 Under Grand Avenue Bridge - Edward Kulowiyl/Cena Riggs – Riggs called 911 claiming Kulowiyl was trespassing in her tent, but officers found the two were dating and living in the tent for 3 months and they had a large amount of belongings accumulated.

| <u>Arrest Charge</u> | <u>Arrest Charge Statute</u> | <u>Arrest Charge Statute Description</u>                    | <u>Arrest Charge Statute Keyword</u> | <u>Arrest Date And Time</u> | <u>Arrest Number</u> | <u>Arrest 031</u> | <u>Arrest Type</u> | <u>Arrestee Global Subject</u> | <u>Case Number</u> |
|----------------------|------------------------------|-------------------------------------------------------------|--------------------------------------|-----------------------------|----------------------|-------------------|--------------------|--------------------------------|--------------------|
| 12.04.080            | 12.04.080                    | CAMPING ON PUBLIC PROPERTY WITHOUT AUTHORIZATION PROHIBITED | TRESPASS                             | 12/09/2019                  |                      | CO0390            | SUMMONS/C          |                                | 2019-              |
| 12.04.080            | 12.04.080                    | CAMPING ON PUBLIC PROPERTY WITHOUT AUTHORIZATION PROHIBITED | TRESPASS                             | 08:42:00                    | 45274                | 100               | ITED               | GERALD LLOYD COFFEY            | 00070631           |
| 12.04.080            | 12.04.080                    | CAMPING ON PUBLIC PROPERTY WITHOUT AUTHORIZATION PROHIBITED | TRESPASS                             | 02/20/2020                  |                      | CO0390            | SUMMONS/C          |                                | 2020-              |
| 12.04.080            | 12.04.080                    | CAMPING ON PUBLIC PROPERTY WITHOUT AUTHORIZATION PROHIBITED | TRESPASS                             | 16:49:00                    | 46231                | 100               | ITED               | JACOB LEE DANIELS              | 00009089           |
| 12.04.080            | 12.04.080                    | CAMPING ON PUBLIC PROPERTY WITHOUT AUTHORIZATION PROHIBITED | TRESPASS                             | 08/19/2020                  |                      | CO0390            | SUMMONS/C          |                                | 2020-              |
| 12.04.080            | 12.04.080                    | CAMPING ON PUBLIC PROPERTY WITHOUT AUTHORIZATION PROHIBITED | TRESPASS                             | 16:25:00                    | 48246                | 100               | ITED               | HOLT L COLUMBUS                | 00043725           |
| 12.04.080            | 12.04.080                    | CAMPING ON PUBLIC PROPERTY WITHOUT AUTHORIZATION PROHIBITED | TRESPASS                             | 08/24/2020                  |                      | CO0390            | SUMMONS/C          |                                | 2020-              |
| 12.04.080            | 12.04.080                    | CAMPING ON PUBLIC PROPERTY WITHOUT AUTHORIZATION PROHIBITED | TRESPASS                             | 22:06:00                    | 48318                | 100               | ITED               | TRISTIN WILLIAM BALES          | 00044946           |
| 12.04.080            | 12.04.080                    | CAMPING ON PUBLIC PROPERTY WITHOUT AUTHORIZATION PROHIBITED | TRESPASS                             | 08/24/2020                  |                      | CO0390            | SUMMONS/C          |                                | 2020-              |
| 12.04.080            | 12.04.080                    | CAMPING ON PUBLIC PROPERTY WITHOUT AUTHORIZATION PROHIBITED | TRESPASS                             | 22:06:00                    | 48317                | 100               | ITED               | BRENDA LEE GOFF                | 00044946           |
| 12.04.080            | 12.04.080                    | CAMPING ON PUBLIC PROPERTY WITHOUT AUTHORIZATION PROHIBITED | TRESPASS                             | 09/19/2020                  |                      | CO0390            | SUMMONS/C          |                                | 2020-              |
| 12.04.080            | 12.04.080                    | CAMPING ON PUBLIC PROPERTY WITHOUT AUTHORIZATION PROHIBITED | TRESPASS                             | 01:48:00                    | 48576                | 100               | ITED               | MONROE HOLT                    | 00049769           |
| 12.04.080            | 12.04.080                    | CAMPING ON PUBLIC PROPERTY WITHOUT AUTHORIZATION PROHIBITED | TRESPASS                             | 09/19/2020                  |                      | CO0390            | SUMMONS/C          |                                | 2020-              |
| 12.04.080            | 12.04.080                    | CAMPING ON PUBLIC PROPERTY WITHOUT AUTHORIZATION PROHIBITED | TRESPASS                             | 01:48:00                    | 48575                | 100               | ITED               | TERA A HICKERSON               | 00049769           |
| 12.04.080            | 12.04.080                    | CAMPING ON PUBLIC PROPERTY WITHOUT AUTHORIZATION PROHIBITED | TRESPASS                             | 09/22/2020                  |                      | CO0390            | SUMMONS/C          |                                | 2020-              |
| 12.04.080            | 12.04.080                    | CAMPING ON PUBLIC PROPERTY WITHOUT AUTHORIZATION PROHIBITED | TRESPASS                             | 23:05:00                    | 48610                | 100               | ITED               | AMBER LYNN HOFFMAN             | 00050554           |
| 12.04.080            | 12.04.080                    | CAMPING ON PUBLIC PROPERTY WITHOUT AUTHORIZATION PROHIBITED | TRESPASS                             | 01/30/2021                  |                      | CO0390            | SUMMONS/C          |                                | 2021-              |
| 12.04.080            | 12.04.080                    | CAMPING ON PUBLIC PROPERTY WITHOUT AUTHORIZATION PROHIBITED | TRESPASS                             | 11:03:00                    | 50303                | 100               | ITED               | JAMES CHARLES BOHATI           | 00005157           |
| 12.04.080            | 12.04.080                    | CAMPING ON PUBLIC PROPERTY WITHOUT AUTHORIZATION PROHIBITED | TRESPASS                             | 02/10/2021                  |                      | CO0390            | SUMMONS/C          |                                | 2021-              |
| 12.04.080            | 12.04.080                    | CAMPING ON PUBLIC PROPERTY WITHOUT AUTHORIZATION PROHIBITED | TRESPASS                             | 06:45:00                    | 50288                | 100               | ITED               | JOSE ALFREDO OROZCO            | 00006994           |
| 12.04.080            | 12.04.080                    | CAMPING ON PUBLIC PROPERTY WITHOUT AUTHORIZATION PROHIBITED | TRESPASS                             | 02/24/2021                  |                      | CO0390            | SUMMONS/C          |                                | 2021-              |
| 12.04.080            | 12.04.080                    | CAMPING ON PUBLIC PROPERTY WITHOUT AUTHORIZATION PROHIBITED | TRESPASS                             | 07:06:00                    | 50435                | 100               | ITED               | JOSE ALFREDO OROZCO            | 00009388           |
| 12.04.080            | 12.04.080                    | CAMPING ON PUBLIC PROPERTY WITHOUT AUTHORIZATION PROHIBITED | TRESPASS                             | 02/25/2021                  |                      | CO0390            | SUMMONS/C          |                                | 2021-              |
| 12.04.080            | 12.04.080                    | CAMPING ON PUBLIC PROPERTY WITHOUT AUTHORIZATION PROHIBITED | TRESPASS                             | 09:14:00                    | 50414                | 100               | ITED               | TERA A HICKERSON               | 00009627           |
| 12.04.080            | 12.04.080                    | CAMPING ON PUBLIC PROPERTY WITHOUT AUTHORIZATION PROHIBITED | TRESPASS                             |                             |                      | CO0390            | SUMMONS/C          |                                | 2021-              |
| 12.04.080            | 12.04.080                    | CAMPING ON PUBLIC PROPERTY WITHOUT AUTHORIZATION PROHIBITED | TRESPASS                             | 04/27/2021                  | 51357                | 100               | ITED               | DELICENA VAREEN RIGGS          | 00020529           |
| 12.04.080            | 12.04.080                    | CAMPING ON PUBLIC PROPERTY WITHOUT AUTHORIZATION PROHIBITED | TRESPASS                             | 04/27/2021                  |                      | CO0390            | SUMMONS/C          | EDWARD PETER                   | 2021-              |
| 12.04.080            | 12.04.080                    | CAMPING ON PUBLIC PROPERTY WITHOUT AUTHORIZATION PROHIBITED | TRESPASS                             | 22:14:00                    | 51356                | 100               | ITED               | KULOWIYI                       | 00020529           |

14 citations (11 incidents), 9 males cited (2 twice), 5 females

## Attachment C



### Public Property **NOTICE!**

Camping is only allowed where a land use approval has been granted for a campground or on City property where a permit has been granted for such use.

#### **THESE ACTIVITIES ARE ILLEGAL AND WILL BE ENFORCED.**

NOTICE is hereby given that ALL PERSONAL PROPERTY, including tents, the contents of tents and campsites that are in the area after 8:00 A.M. on \_\_\_\_\_, will be assumed to be ABANDONED and will be CONFISCATED, DISPOSED OF AND/OR DESTROYED.

Any valuable items that are not removed prior to \_\_\_\_\_, will be booked in at the Grand Junction Police Department.

If you are in need of health care, food or shelter, you may contact any of the following resources for information on available services:

|                             |                               |                |
|-----------------------------|-------------------------------|----------------|
| Community Homeless Shelter, | 2853 North Avenue,            | (970) 256-9424 |
| Rescue Mission,             | 550 South Avenue,             | (970) 243-2333 |
| Catholic Outreach,          | 245 S 1 <sup>st</sup> Street, | (970) 241-3658 |
| Outreach Day Center,        | 302 Pitkin Avenue,            | (970) 257-9062 |

If you have any questions, please contact the Grand Junction Police Department Community Resource Unit at the following telephone numbers:

Grand Junction Police Department  
Community Resource Unit, 555 Ute Avenue, 970-549-5331

Dated this \_\_\_\_\_ day of \_\_\_\_\_.

555 Ute Avenue, Grand Junction, CO 81501 P (970) 242-6727 F (970) 241-3459 WWW.gjcity.org

Grand Junction Police Dept

**Private Property**

*Your presence here  
may be criminal.*

**Remove your property  
and vacate this area.**

**Please contact the Community Resource  
Unit for assistance in connecting you  
with available resources.**

Community Resource Unit, 555 Ute Ave, Grand Junction  
CRO@gjcity.org 970-549-5331

Reference Number: \_\_\_\_\_

Grand Junction Police Dept

## No Trespassing

*Your presence here  
may be criminal.*

Remove your property  
and vacate this area.

Please contact the Community Resource  
Unit for assistance in connecting you  
with available resources.

Community Resource Unit, 555 Ute Ave, Grand Junction  
Phone: 970-549-5331 Email: CRO@gjcity.org

Reference Number: \_\_\_\_\_

Grand Junction Police Department

## Violation

*Living in a vehicle/ RV on a  
public street, in a parking lot or  
on a vacant lot is a code  
violation.*

Remove your vehicle/ RV  
and vacate this area.

Please contact the Community Resource  
Unit for assistance in connecting you  
with available resources.

Community Resource Unit, 555 Ute Ave, Grand Junction  
Phone: 970-549-5331 Email: CRO@gjcity.org

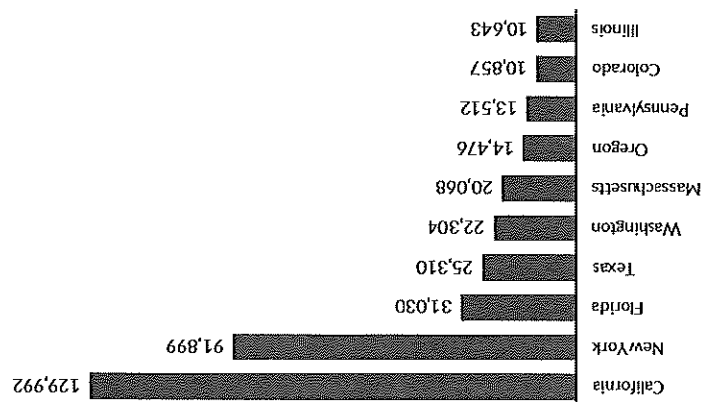
Reference Number: \_\_\_\_\_



Attachment D

California is grappling with an enormous crisis, but it is not the only state struggling with increased rates of homelessness. According to data highlighted in the 2019 State of Homelessness report, the 10 states with the highest homeless counts account for 55 percent of the homeless population:

States with the Largest Populations of People Experiencing Homelessness, 2019



Source: National Alliance to End Homelessness, *State of Homelessness* (Washington, DC: National Alliance to End Homelessness, 2019).  
URBAN INSTITUTE

([www.urban.org/urban-wire/homelessness-blame-game](http://www.urban.org/urban-wire/homelessness-blame-game))

*"What makes Austin different is that people here are willing to ask tough questions, go against the status quo, and hold their leaders accountable for solving the problems in their community. That political vigilance is as important now as ever."*

- ❖ By 2020, homelessness in Austin increased by 30 percent, to over 2,500 people.
- ❖ The number of people on the streets increased by 50 percent, while the number of people in shelters dropped by 20 percent.
- ❖ Death, disease, violence, and disorder all increased.
- ❖ Data undeniably show that permissive camping laws lure needy individuals away from services and back out onto the streets.
- ❖ Austin's own surveys show that 37% of homeless Austinites are from outside the city itself, presumably drawn to Austin's unregulated streets.

(<https://civicroinstitute.org/continuing-failed-policies-costs-lives-banning-street-camping-gets-people-the-help-they-need>)

## Who should pay to tow Washington's abandoned RVs? Owner fired up over fee

Before an abandoned RV disposal fee was implemented, private tow companies shouldered the cost of getting rid of abandoned and unsafe RVs.



Author: Vanessa Misciagna

Published: 11:45 AM PST February 25, 2020

Updated: 12:03 PM PST February 25, 2020

SEATTLE — Of all the fees Kelly Hatfield-Burmaz had to pay recently to renew her recreational vehicle tabs, one didn't quite sit right.

"We got the whopping \$6 for the Abandoned RV Disposal," she said as she pointed out the very last fee among the seven listed on her bill.

The Abandoned Vehicle Disposal fee has been in place since 2018, after it was signed into law.

If you have registered an RV or renewed your tabs, you've probably noticed it. The money collected from the fee goes right into a fund through the state treasury.

The fund is used for reimbursing tow truck companies and licensed dismantlers for the removal and dismantling of abandoned recreational vehicles. The RVs are usually broken down and unsanitary and were used for shelter.

In Substitute Senate Bill 6437, lawmakers stated that "Abandoned recreational vehicles continue to be a hazard to the health and safety of citizens, business owners, and the environment," and "adequate funding is necessary to resolve the problem."

Receipt in hand, Hatfield-Burmaz questioned the need for that funding to come out of her pocket.

"As a responsible taxpayer, I'm thinking, why are we being foot with the bill?" she said.

**RELATED: Sewage from RVs may be contaminating waterways, Seattle businesses warn**

In Ballard, Emily Gerke-Wade works at Big D Towing as the operations manger and serves as the administrative director of the Towing and Recovery Association of Washington.

She and her colleagues deal with the removal of abandoned RVs almost daily.

"As much as I understand the situation that people need a place to go, these RVs aren't the solution," she said.

Gerke-Wade said that before the fund was created, businesses like Big D would have to eat thousands of dollars of expenses for every RV they moved.

Between towing the RV, keeping it on the lot for 21 days, then paying a dismantler to break it down, costs could be in the ballpark of \$3,200. That also includes time and labor the company wouldn't get back.

With the fund, tow companies are able to file paperwork with the state to get a large chunk of that money returned, which can take about a month.

"Nothing is a perfect system, but it's a start and it's a way to start clearing some of these nuances and dilapidated vehicles once and for all," Gerke-Wade said.

Something the fund does not cover, according to Gerke-Wade, is the complete initial towing cost to bring it to the impound lot.

She says in this case, some is better than none, especially when this helps break the cycle of impounded RVs in disrepair being bought for cheap then taken right back out into the street.

"What often ended up happening is that these RVs just got recycled and put back on the street, sold to the highest bidder. Sometimes that was \$10," Gerke-Wade said.

**RELATED: Seattle partners with Ballard church to expand safe parking program**

As an RV owner herself, Gerke-Wade understands why people would be upset over the fee, but she feels like this was a problem that needed some sort of a solution.

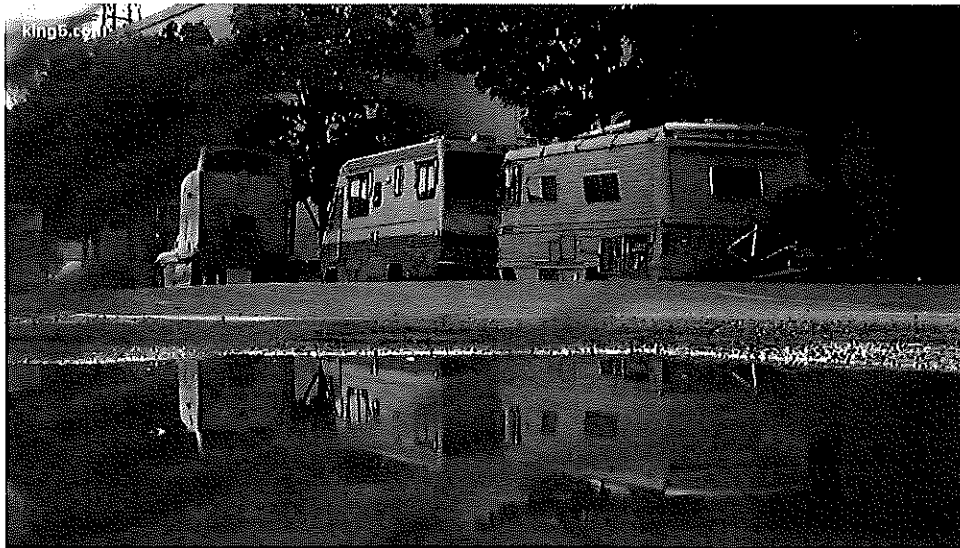
"This has given us an opportunity, at \$6 a pop per RV, for RV owners to be able to contribute. Not that we want to, but it is everyone's problem at this point," she said.

It's a fee to help shoulder the cost of a larger problem. However, that still does not mean RV owners like Hatfield-Burmaz don't have a problem with it.

"We pay a lot of taxes in the state already," she said. "It adds up."

**Sewage from RVs may be contaminating waterways, Seattle businesses warn**

Business owners in Ballard and SODO are raising concerns about raw sewage from RVs being pumped into storm drains, potentially contaminating local waterways.



Author: Ted Land

Published: 9:54 PM PDT October 24, 2019

Updated: 9:54 PM PDT October 24, 2019

SEATTLE — Business owners in Ballard and SODO are raising concerns about raw sewage from RVs being pumped into storm drains, potentially contaminating local waterways.

“We have numerous reports and I have firsthand witnessing of human waste being dumped directly into the drain,” said Erin Goodman, executive director of the SODO Business Improvement Area (BIA).

The SODO BIA and the Ballard Alliance worked with an environmental research company to test a storm drain earlier this year at 1st Street and Lander Street.

They say they found fecal coliform levels 300 times greater than the state water quality standard.

“One sample does not make a conclusive argument, but it is indicative that further study is needed,” Goodman said, noting that there is nowhere for people living in RVs to reliably pump their waste, besides storm drains.

The business groups outlined their concerns about RVs and sewage in a [Seattle Times opinion piece](#).

Seattle Public Utilities said it ran tests last year in SODO and found elevated fecal coliform levels were primarily due to incorrect private sewer connections, which were later repaired.

**RELATED: [Seattle cracks down on vagrant RVs and vehicles returning to city streets](#)**

"We appreciate the partnership of our local businesses and their continued advocacy for a healthy, clean environment. SPU will continue working with them and the Mayor's Office as we work to better understand this data and continue to expand our efforts to protect our waterways," SPU said in a statement.

SPU has an RV trash remediation pilot program, which removes garbage and solid waste from RV parking sites. SPU said it's working to mitigate wastewater pollution from RVs through a mobile RV pump-out pilot.

The business groups said in their opinion piece that "While the mayor's office has engaged productively, council members turn a blind eye to the issue, choosing instead to keep the status quo and continue to allow derelict RVs to remain parked on our neighborhood streets, threatening the safety of our waterways."

A spokesperson for the city council did not respond to a request for comment, Thursday evening.

### **RELATED: Seattle City Council moves to crackdown on RVs, those who rent them out**

### **Seattle cracks down on vagrant RVs and vehicles returning to city streets**

In an effort to reduce the number of unsafe, inoperable vehicles in the city, Seattle is creating more strict guidelines as it cleans up public right of ways.



Author: KING Staff

Published: 1:01 PM PDT June 12, 2019

Updated: 10:54 PM PDT June 12, 2019

Seattle is making changes that could lead to more derelict vehicles being junked, rather than being re-sold and returning to city streets.

Mayor Jenny Durkan announced new steps Wednesday to stem the supply of "hazardous vehicles" by preventing their re-sale.

The city will apply additional criteria on whether a car or RV that has been towed meets the definition of a health hazard. In the event a vehicle is designated a hazard, it will be destroyed, instead of sold back at auction.

"We have an obligation to protect public health and ensure that our neighbors are not living in inhumane conditions. And we will hold accountable those who prey on vulnerable people for profit," Mayor Durkan said. "We will continue to work for holistic solutions and do more to connect people with services and housing – and we will continue to invest in the strategies we know have an impact, like our Navigation Team."

The mayor will also introduce legislation next week that updates the city's municipal code to fine landlords who rent vehicles in poor or inoperable conditions.

Dan Lehr, the owner of West Seattle Health Club, says an RV came barreling through his building last October.

"The building was on fire, an RV literally poking through the wall of our club, almost went completely into the pool," Lehr recalled. He says it took nearly three months and more than a half-million dollars to repair the pool and get his business fully running again.

According to Lehr, unsafe RVs are still parked across the street from his business.

"We are kind of at the mercy of the city. I mean, we are doing everything we can do within our legal rights," Lehr said.

He thinks the mayor's new rules for RVs will make it safer for him to do business.

"I don't think it is the ultimate solution. I think it is a multifaceted problem. But safety is job number one of city council and the Mayor, so that is a big step in the right direction," he said.

**RELATED: Amazon will donate \$8 million to housing, homeless nonprofits in HQ regions**

They are steps building on the RV Remediation Program established last year. During the pilot program, 173 vehicles were towed because they were inoperable, unsafe, or posed a threat to public health. But 60 of the 173 vehicles that were removed were re-sold, according to the city.

Seattle has long struggled with derelict RVs.

During the Ed Murray administration, three safe lots were proposed. After determining the costs of one, the city halted the program, instead creating "safe zones."

A new parking lot pilot program in South Seattle drew a crowd of concerned residents.

A one-night count of Seattle and King County's homeless in January found 11,199 people living on the streets and in shelters, which is an 8% percent drop from last year. Of those 11,199 people, 2,147 people were living in vehicles, which is a 36% drop from 2018.

**RELATED: Mayor Durkan to increase Seattle homeless camp removal, Navigation Team staffing**

**Seattle City Council moves to crackdown on RVs, those who rent them out**

The legislation would require people who own the RVs to also live in them. It also has language aimed at helping tenants find new, safer housing.



Author: Chris Daniels (KING 5)

Published: 3:28 PM PDT September 18, 2019

Updated: 2:51 PM PDT September 19, 2019

SEATTLE — The City of Seattle is attempting to corral the explosion of dilapidated recreational vehicles on city streets.

On Wednesday, Councilmember Sally Bagshaw submitted amended legislation to crack down on "RV Ranchers," who rent out space in the squalid conditions.

The legislation would require people who own the RVs to also live in them. It also has language aimed at helping tenants find new, safer housing.

It also defines the "extensively damaged motor vehicles" as having two or more of the following criteria: a broken window or windshield, and/or missing tires, inoperable, inadequate sanitation, infestation, garbage, leaking fluids, or poor indoor air quality.

**RELATED: Seattle City Council raises questions about mayor's plan to target 'predatory' RVs**

Victims of predatory 'RV Ranchers' will be entitled to receive relocation assistance.

The amendments come after original legislation was forwarded by Mayor Jenny Durkan's office to the council for approval.

Bagshaw acknowledged there is a proliferation of the vehicles across the city, and leaders are still trying to figure out a new approach for RV safe lots, which have been problematic or underused in the past.

Seattle reimbursed Lincoln Towing for disposal of 219 RVs between May of 2018 and July of 2019, according to Seattle Public Utilities spokesperson Sabrina Register.



## Environmental Damage and Homeless Camps

by Gordon Werner | April 2nd, 2019

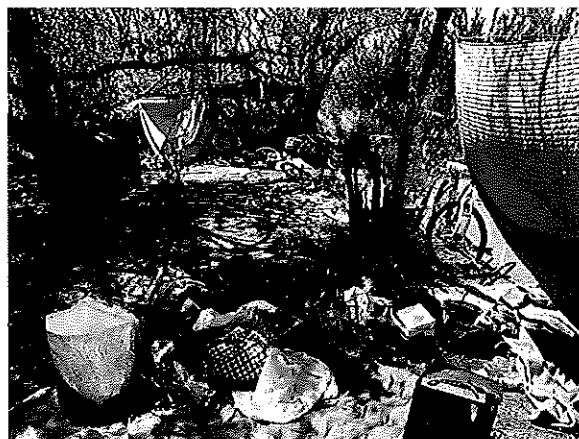
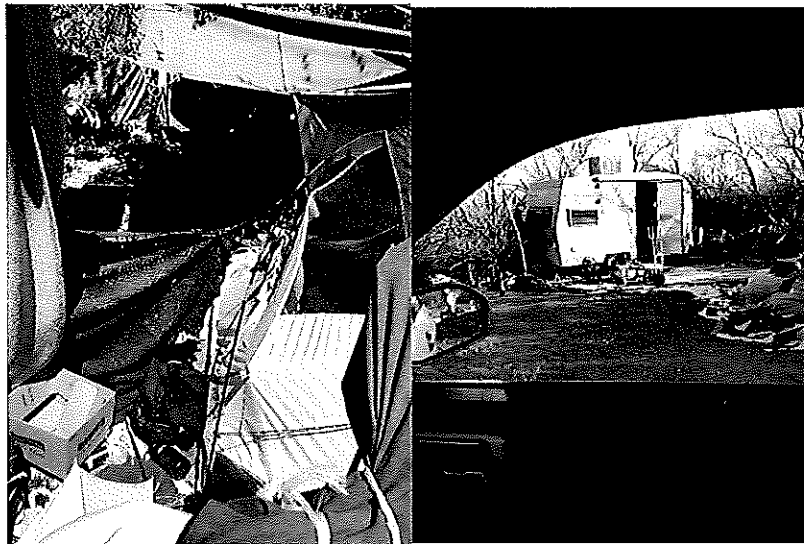
### Project Description

TCA has been a leader in the effort to get Seattle elected officials to recognize and address the environmental impacts of homeless encampments in parks and green spaces. Those impacts include erosion, destruction of native vegetation, debris accumulation, water quality issues, habitat destruction, public health issues (including hypodermic needles and possibly *E. coli* fecal coliform bacterial contamination of the creek and its tributaries), and discouragement of public use of parks and green spaces. We've written several letters and emails since September 2017, and have spoken personally to one mayor and various City Council members, including on a tour of part of the Thornton Creek watershed. We recognize that everyone needs a place to live that is



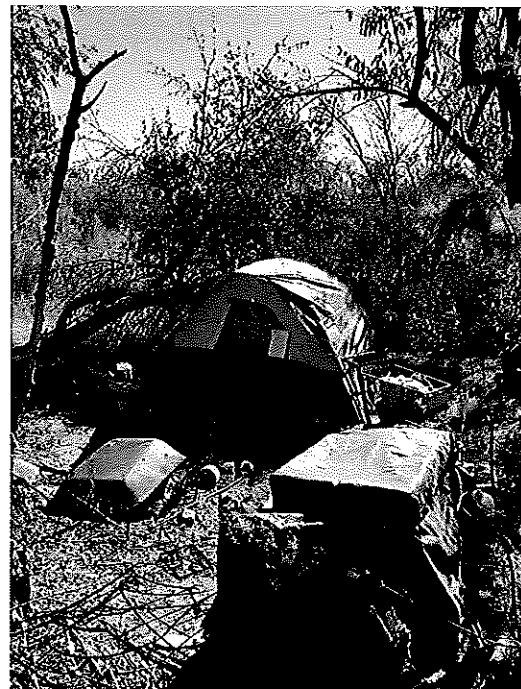
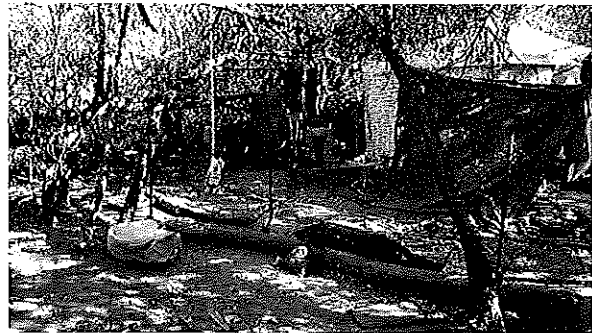
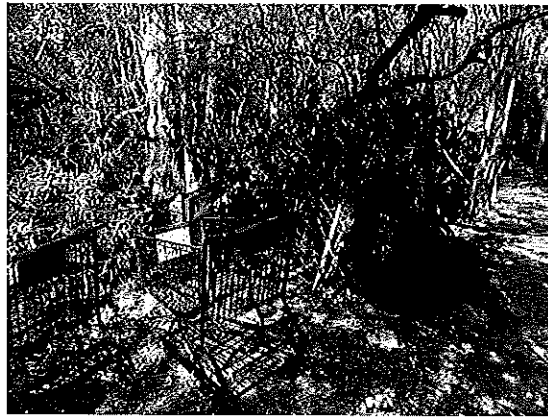
safe, clean and affordable, that homelessness and affordable housing are major issues in King County which will not be solved overnight, and that not all homeless individuals will avail themselves of shelter and other offered services. But we also desire universal recognition that sustainable living includes not just social and economic components but also an environmental one. Camping and littering in Seattle parks are prohibited under Seattle Municipal Code. We do not wish our many years of productive work to preserve and protect environmental values in the Thornton Creek watershed, in collaboration with City and County governments, to be undone by the sanction of environmentally-destructive practices. We want to see more timely response to unauthorized encampments in parks and green spaces, and will continue to work with all concerned organizations to develop constructive solutions.

Attachment G

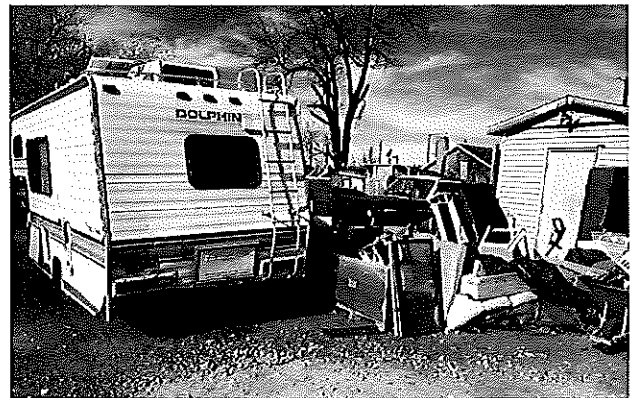














## Attachment H

3/31/22, 2:53 PM

Denver, CO Code of Ordinances

### Sec. 38-86.2. - Unauthorized camping on public or private property prohibited.

- (a) It shall be unlawful for any person to camp upon any private property without the express written consent of the property owner or the owner's agent, and only in such locations where camping may be conducted in accordance with any other applicable city law.
- (b) It shall be unlawful for any person to camp upon any public property except in any location where camping has been expressly allowed by the officer or agency having the control, management and supervision of the public property in question.
- (c) No law enforcement officer shall issue a citation, make an arrest or otherwise enforce this section against any person unless:
  - (1) The officer orally requests or orders the person to refrain from the alleged violation of this section and, if the person fails to comply after receiving the oral request or order, the officer tenders a written request or order to the person warning that if the person fails to comply the person may be cited or arrested for a violation of this section; and
  - (2) The officer attempts to ascertain whether the person is in need of medical or human services assistance, including, but not limited, to mental health treatment, drug or alcohol rehabilitation, or homeless services assistance. If the officer determines that the person may be in need of medical or human services assistance, the officer shall make reasonable efforts to contact and obtain the assistance of a designated human service outreach worker, who in turn shall assess the needs of the person and, if warranted, direct the person to an appropriate provider of medical or human services assistance in lieu of the person being cited or arrested for a violation of this section. If the officer is unable to obtain the assistance of a human services outreach worker, if the human services outreach worker determines that the person is not in need of medical or human services assistance, or if the person refuses to cooperate with the direction of the human services outreach worker, the officer may proceed to cite or arrest the person for a violation of this section so long as the warnings required by paragraph (1) of this subsection have been previously given.
- (d) For purposes of this section:
  - (1) "Camp" means to reside or dwell temporarily in a place, with shelter. The term "shelter" includes, without limitation, any tent, tarpaulin, lean-to, sleeping bag, bedroll, blankets, or any form of cover or protection from the elements other than clothing. The term "reside or dwell" includes, without limitation, conducting such activities as eating, sleeping, or the storage of personal possessions.
  - (2) "Designated human service outreach worker" shall mean any person designated in writing by the manager of the Denver Department of Human Services or the department of housing stability to assist law enforcement officers as provided in subsection (c), regardless of whether the person is an employee of the department of human services.
  - (3) "Public property" means, by way of illustration, any street, alley, sidewalk, pedestrian or transit mall, bike path, greenway, or any other structure or area encompassed within the public right-of-way; any park, parkway, mountain park, or other recreation facility; or any other grounds, buildings, or other facilities owned or leased by the city or by any other public owner, regardless of whether such public property is vacant or occupied and actively used for any public purpose.

(Ord. No. 255-12, § 1, 5-14-12; Ord. No. 47-20, § 59, 3-16-20)



## Attachment I

|                                                                                                                        |                                                                   |
|------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------|
| DISTRICT COURT, CITY AND COUNTY OF<br>DENVER, STATE OF COLORADO<br>520 West Colfax, Room 135<br>Denver, Colorado 80204 | DATE FILED: September 3, 2020 4:28 PM<br>CASE NUMBER: 2019CV34925 |
| THE CITY AND COUNTY OF DENVER,<br>Plaintiff-Appellant,<br><br>v.<br><br>JERRY RODRICK BURTON,<br>Defendant-Appellee.   | ▲ COURT USE ONLY ▲                                                |
|                                                                                                                        | Case No.: 19CV34925<br><br>Courtroom: 4G                          |
| <b>ORDER ON APPEAL</b>                                                                                                 |                                                                   |

THIS MATTER comes before the Court on Plaintiff-Appellant City and County of Denver's ("City") appeal from a ruling of the County Court that the City's "camping ban" ordinance, D.R.M.C. § 38-86.2(b) (the "Ordinance") is unconstitutional. The appeal has been fully briefed. Having reviewed the parties' briefs, applicable case law, and the record below, the Court now finds and orders as follows.

## I. THE CASE BELOW

Defendant was cited for violation of the Ordinance on April 29, 2019. Defendant pleaded not guilty and filed a motion to dismiss the citation. Defendant argued that the Ordinance violated the Eighth and Fourteenth Amendments of the United States Constitution and Article II, Section 20 of the Colorado Constitution both facially and as applied. (Court File "CF" p. 42.) The trial court held an extensive hearing on the motion to dismiss which spanned four days and included multiple witnesses and exhibits.

Following the hearing, the trial court issued its Order Concerning Motion to Dismiss. (CF pp. 1206-1216.) In its order, the trial court made the following findings of fact:

- Defendant was homeless when he was camping on public property. (CF pp. 1206-07.)
- Defendant was contacted by police and given the option of going to a homeless shelter. (CF, p. 1207.)

- Defendant received and offer of shelter, which he refused, and was subsequently cited for violation of the Ordinance. (Id.; CF p. 1211.)
- Defendant voluntarily took down his camp was therefore was not arrested. (CF. p. 1207.)
- Defendant, a homeless person, was not part of a suspect class because the Denver homeless population does not lack effective representation in the political process. (CF. p. 1210.)
- The City, in enforcing the Ordinance, was not motivated by a discriminatory purpose nor a desire to harm a “politically unpopular group” and thus there was no “animus” on the part of the City. (CF. p. 1211.)
- The City “has not had a custom, practice and policy of arresting, harassing and otherwise interfering with homeless people for engaging in basic activities of daily life.” (CF. p. 1212.)
- Defendant “was not arrested and was allowed to load his possessions on a flat bed [sic.] truck.” (Id.) The trial court thus concluded that Defendant was not placed in a position of danger as a result of the Ordinance’s enforcement. (Id.)
- There was insufficient evidence presented at the hearing to conclude that the Ordinance facially violated the Fourteenth Amendment’s right to bodily integrity. (Id.)
- There has been no shortage of homeless shelters in Denver since January 1, 2018, and the shelters operate at well below capacity on a nightly basis. (CF. p. 1214.)

Each of these findings has ample support in the record. Despite these findings, the trial court concluded that the Ordinance was facially unconstitutional under the Eighth Amendment of the U.S. Constitution based almost entirely on the reasoning in *Martin v. City of Boise*, 920 F.3d 584 (9th Cir. 2019). The trial court dismissed the case. The City now appeals that ruling.

## II. STANDARD OF REVIEW

Appeals from final judgment and decrees of the county courts are heard by the district court based on the record made in the county court. C.R.S. § 13-6-310(1). In acting as an appellate court, the function of a district court is the same whether the case originates in a municipal court of record or county court, namely, to either review the decision on the record,

remand the case for a new trial with instructions, or direct that a trial *de novo* be had before the district court. *People v. Anderson*, 392 P.2d 844, 845 (Colo. 1972).

The district court, when it elects to act in its appellate authority, cannot alter or depart from the county court's findings of fact in any way. *Bovard v. People*, 99 P.3d 585, 589 (Colo. 2004). Further, if a district court reviews the case based on the county court record, its review is limited to the sufficiency of the evidence. *Water, Waste & Land, Inc. v. Lanham*, 955 P.2d 997, 1002 (Colo. 1998). Consideration of the evidence presented to the lower court must be viewed in the light most favorable to that court's judgment. *Schempp v. Lucre Management Group, LLC.*, 75 P.3d 1157, 1161 (Colo. App. 2003). The interpretation of a statute is a question of law, and the appellate court is not bound by the trial court's interpretation. *Pac. Life & Annuity Co. v. Colo. Div. Of Ins.*, 140 P.3d 181, 183 (Colo. App. 2006).

### III. THE LEGAL FRAMEWORK

Defendant argues that the Ordinance is facially unconstitutional because it is overbroad and a violation of the Eighth Amendment's prohibition against cruel and unusual punishment. In short, Defendant argues that the Ordinance is directed at the homeless and designed essentially to eradicate them from the streets of Denver. Defendant further argues that the Ordinance is unconstitutional as applied to his specific circumstance (and the circumstances of other homeless individuals).

#### A. Facial Challenge

"A facial challenge to a legislative [act] is, of course, the most difficult challenge to mount successfully, since the challenger must establish that no set of circumstances exists under which the [act] would be valid." *United States v. Salerno*, 481 U.S. 739, 745 (1987). Under a facial challenge, a plaintiff must show, beyond a reasonable doubt, that a statute is unconstitutional in all its applications. *People v. Bondurant*, 296 P.3d 200 (Colo. App. 2012) citing *People v. Shell*, 148 P.3d 162, 172 (Colo.2006). If a statute is susceptible to alternate constructions, one of which is constitutional and the other of which is not, then the court is obligated to adopt the constitutional construction. *People v. Iannicelli*, 449 P.3d 387 (Colo 2019). Thus, if the Ordinance can be applied in a neutral manner in at least some circumstances, it is facially constitutional.

#### B. As Applied Challenge

In contrast to a facial challenge, "an as-applied challenge alleges that the statute is unconstitutional as to the specific circumstances under which a defendant acted." *People v. Ford*, 232 P.3d 260, 263 (Colo. App. 2009) citing *Sanger v. Dennis*, 148 P.3d 404, 410-11 (Colo. App. 2006). Here, the pertinent examination is how the Ordinance was enforced against Defendant. There is considerable scholarly debate as to whether there is a meaningful distinction between a facial and an as-applied challenge, and the two tests seem to blur the more one thinks about

them. *See e.g.*, Michael C. Dorf, *Facial Challenges to State and Federal Statutes*, 46 Stan L. Rev. 236 (1994). As will be seen, the trial court below seems to have conflated the two tests in reaching his decision that the Ordinance was facially unconstitutional.

#### IV. ANALYSIS

##### A. The Ordinance is Facially Constitutional

###### The Eighth Amendment

circumscribes the criminal process in three ways: First, it limits the kinds of punishment that can be imposed on those convicted of crimes; second, it proscribes punishment grossly disproportionate to the severity of the crime; and third, it imposes substantive limits on what can be made criminal and punished as such, *e. g.*, *Robinson v. California*, [370 U.S. 660 (1962).] We have recognized the last limitation as one to be applied sparingly.

*Ingraham v. Wright*, 430 U.S. 651, 667 (1977) (some internal citations omitted). Defendant argues that it is this third prohibition, the limitation on what can be criminalized, that applies here. Defendant maintains that the Ordinance unconstitutionally punishes his status as a homeless individual.

The Court is not persuaded for two reasons. First, the Ordinance is silent as to status. The Ordinance facially applies to anyone, homeless or not, who might decide to camp on public property within the City and County of Denver. Even if the Ordinance was passed expressly to drive homeless individuals away from the city, this does not matter for the purposes of analyzing its facial constitutionality. The trial court found that the Ordinance was facially neutral, and this Court agrees.

Second, the Ordinance does not criminalize status. It criminalizes an activity. That the activity is often engaged in by homeless individuals is beside the point. This is in contrast to the law at issue in *Robinson*, which outlawed drug addiction (as opposed to drug use). *Robinson v. California*, 370 U.S. 660, 666 (1962) (observing the law “is not one which punishes a person for the use of narcotics, . . . or for antisocial or disorderly behavior,” but rather one that punishes “status”). The Ordinance, on its face, is not directed to “homelessness.” Rather, it prohibits an activity often associated with homelessness, just like a law prohibiting drug possession prohibits an act often associated with addiction.

*Martin v. City of Boise*, 920 F.3d 584 (9th Cir. 2019) does not compel a contrary result. To the extent *Martin* analyzed the facial unconstitutionality of the ordinance at issue there (which is unclear), the holding was limited to those situations where there was no available shelter for the cited individuals. As discussed above, Defendant was offered shelter and refused it.

## **B. The Ordinance is Constitutional as Applied to Defendant**

In determining whether the Ordinance was unconstitutionally applied to Defendant, it is helpful to revisit the trial court's findings. (Citations for the following findings appear above and will not be repeated here.) Defendant was homeless when he was camping on public property. He was contacted by police and given the option of going to a homeless shelter. It was only after he refused shelter that he received a citation for violation of the Ordinance. In its enforcement of the Ordinance, the City was not motivated by a discriminatory purpose nor a desire to harm a "politically unpopular group," and thus there was no "animus" on the part of the City. The City does not have a custom and practice of arresting, harassing and otherwise interfering with homeless people for engaging in basic activities of daily life.

"A plaintiff bringing an 'as-applied' challenge contends that the statute would be unconstitutional under the circumstances in which the plaintiff has acted or proposes to act." *Sanger v. Dennis*, 148 P.3d 404, 410 (Colo. App. 2006). The circumstances under which Defendant was cited do not raise any constitutional infirmities based on the factual findings of the trial court, which enjoy ample record support. The record reflects that Defendant was not targeted based on his homeless status, and he was offered shelter which he refused. Only then was he cited.

*Martin v. City of Boise*, supra, actually is consistent with this result. *Martin* repeatedly emphasizes that its holding is limited to those situations where no alternative shelter is available.

We hold only that so long as there is a greater number of homeless individuals in a jurisdiction than the number of available beds in shelters, the jurisdiction cannot prosecute homeless individuals for "involuntarily sitting, lying, and sleeping in public. That is, as long as there is no option of sleeping indoors, the government cannot criminalize indigent, homeless people for sleeping outdoors, on public property, on the false premise they had a choice in the matter.

*Martin*, 920 F.3d at 671 (internal quote marks, brackets and citations omitted). In the instant case, to repeat, Defendant was offered shelter, which was available to him, and he refused it. Even if *Martin* is good law, its holding simply does not apply here.

## **V. CONCLUSION**

Defendant invites the Court to review the record below and find the Ordinance unconstitutional on numerous other grounds. The Court declines this invitation and limits its holding to the reasoning and grounds articulated by the trial court.

The trial court's order dismissing the case is REVERSED. This matter is REMANDED for trial on the merits.

ENTERED this 3d day of September, 2020.

BY THE COURT:

A handwritten signature in black ink, appearing to read "J. Eric Elliff". The signature is written in a cursive, flowing style.

J. Eric Elliff  
District Court Judge

The Grand Junction Police Department is tasked daily with addressing people experiencing homelessness when they receive calls concerning illegally camping (or trespass when on private property). In many of these instances officers respond, evaluate the situation and ask those illegally camping to leave and they gain compliance, but they very frequently, leave behind trash, accumulated property, clothing, and even human waste. These issues then become long term problems that can spread disease and even affect the environment through contamination of soils and the watershed. It also creates costs in the cleanup of the discarded waste. In the prior two years, 2020-2021, the Grand Junction Police Department incurred over \$60,000 in cleanup costs related to illegal campsites on public lands.

The effects of from illegal camping clearly impact public and private property, but while illegally camping on private property is usually a criminal trespass, it is not on public lands unless that land has established rules governing when they can be legally accessed. As a result, individuals camping in public alleys, roads, on sidewalks and on easements and rights of way can't be removed without the Grand Junction prohibition against camping without other laws being violated which would allow for the removal of those campers, such as creating a traffic hazard.

Since having the camping ban, the intent of the Grand Junction Police Department wasn't to write every violator, it was to utilize the ordinance in a prudent and judicious manner that would only result in citations for those who ignored police requests to leave the restricted areas. As a result, violations for the camping ban ordinance was only written to 14 individuals in 11 instances according the GJPD Records. Without this ordinance however, the police department would not have had any tool to address illegal camping in public areas beyond compliance with requests to leave. In a great many other situations where people are illegally camping, they are doing so on private property and thus, trespassing, which is a separate criminal violation that is not available in public areas such as rights of way, easements, and other public lands.

A new phenomenon in which the camping ban ordinance is essential is illegal RV camping. There is a growing problem of this and to address it, the camping ban is essential as these RV's are often in public areas, i.e. easements, rights of way and city streets. In these situations the camping ordinance is the only enforcement tool to address those who refuse to voluntarily vacate.

The ability to enforce the camping ban has been an integral piece in protecting public lands and the general public in Grand Junction from the negative consequences of illegal camps. Enforcement action only occurring when available shelter space is ignored, requests are ignored and the person(s) refuses other assistance in getting permeant housing, which is available from many organizations in the Grand Valley.

In 2020, Denver's ordinance against camping was upheld as legal and Constitutional in Denver District Court (*City and County of Denver v. Burton*, 19CV34925), a decision that the Colorado Supreme Court refused to hear on certiorari. Grand Junction's ordinance is in concert with that of Denver's.





**ORDINANCE NO. \_\_\_\_\_**

**AN ORDINANCE TO AMEND AND REENACT ORDINANCE 4833 REGARDING  
CAMPING ON PUBLIC PROPERTY/PUBLIC PLACES WITH THE ELIMINATION AND  
SATISFACTION OF THE SUNSET CLAUSE**

**RECITALS:**

On April 17, 2019, the City Council enacted Ordinance 4833. With Ordinance 4833 Chapters 12.04, 12.08, and 21.06 of the Grand Junction Municipal Code ("GJMC") were amended to enact as law the provisions of Ordinance 4883 which when applied would assist in maintaining the City in a clean, sanitary and accessible condition while adequately protecting the health, safety and public welfare of the community, and preserving, protecting and enhancing the natural resource of the Colorado and Gunnison Rivers ("Riverfront") for many recreational and other proper uses by addressing camping on public property/public places. Ordinance 4833, and the codification thereof in the GJMC, prohibits the use of public property/public places for the purpose of maintaining a temporary place to live as the use of public areas, parks, streets, and the Riverfront for camping purposes interferes with the rights of others to use those areas for the purposes for which they were intended.

As adopted, Ordinance 4833 included a Sunset Clause by which the City Council was to consider the effectiveness of the Ordinance at achieving its stated purposes. That review is to occur within sixty days of the third anniversary of the adoption of the Ordinance and if no further action is taken by City Council the Ordinance terms will expire.

Pursuant to Ordinance 4833 the Grand Junction Police Department has provided the City Council a report and based on that report, City Staff recommends amendment and reenactment of Ordinance 4833 regarding camping on public property/public places, with the specific amendment being a finding of satisfaction and the consequent elimination of the Sunset Clause.

**NOW THEREFORE, BE IT ORDAINED BY THE CITY COUNCIL OF THE CITY OF  
GRAND JUNCTION THAT:**

Ordinance 4833 is hereby be amended and reenacted in full, with a finding of satisfaction of and the consequent elimination of the Sunset Clause in the Ordinance. All other provisions of the Ordinance and the codification thereof in the GJMC shall be unchanged.

Introduced on first reading the 4<sup>th</sup> day of May 2022 and ordered published in pamphlet form.

Adopted on second reading this \_\_\_\_\_ day of \_\_\_\_\_, 2022 and ordered published in pamphlet form.

---

C.B. McDaniel  
President of City Council

ATTEST:

---

Laura J. Bauer  
Interim City Clerk

DRAFT



## Grand Junction City Council

### Regular Session

Item #2.b.i.

---

**Meeting Date:** May 4, 2022  
**Presented By:** David Thornton, Principal Planner  
**Department:** Community Development  
**Submitted By:** David Thornton, Principal Planner

---

### **Information**

#### **SUBJECT:**

Introduction of an Ordinance for Zoning Approximately 2.37 Acres from County RSF-4 (Residential Single Family - 4 du/ac) to R-5 (Residential - 5 du/ac) for the Twenty Eighty Broadway Annexation, Located at 2080 Broadway and Setting a Public Hearing for May 18, 2022

#### **RECOMMENDATION:**

The Planning Commission heard this request at their April 26 meeting and voted (5-1) to recommend approval of the request.

#### **EXECUTIVE SUMMARY:**

The Applicant, Redlands Limited, is requesting a zone of annexation to R-5 (Residential 3 to 5.5 du/ac) for the Twenty Eighty Broadway Annexation. The approximately 2.37-acres consists of 1 parcel of land, located at 2080 Broadway. A portion of the subject property is undeveloped. The property is Annexable Development per the Persigo Agreement. The zone district of R-5 is consistent with the Residential Low (2 to 5.5 du/ac) Land Use category of the Comprehensive Plan and the City R-4 and R-5 zoning nearby. The request for annexation will be considered separately by City Council, but concurrently with the zoning amendment request.

#### **BACKGROUND OR DETAILED INFORMATION:**

##### **BACKGROUND**

##### **Annexation Request:**

The Applicant, Redlands Limited is requesting annexation of approximately 2.37 acres consisting of 1 parcel of land located at 2080 Broadway. There is no right-of-way included in the annexation. The subject property has an existing residence.

The property is Annexable Development per the Persigo Agreement. The Applicant is requesting annexation into the city limits. Annexation is being sought in anticipation of developing the northern portion of the property. The request for zoning will be considered separately by City Council, but concurrently with the annexation request and will be heard in a future Council action.

The schedule for the annexation and zoning is as follows:

- Referral of Petition (30 Day Notice), Introduction of a Proposed Ordinance, Exercising Land Use – April 6, 2022.
- Planning Commission considers Zone of Annexation – April 26, 2022.
- Introduction of a Proposed Ordinance on Zoning by City Council – May 4, 2022.
- Acceptance of Petition and Public Hearing on Annexation and Zoning by City Council – May 18, 2022.
- Effective date of Annexation and Zoning – June 19, 2022.

**Zone of Annexation Request:**

The Applicant is requesting a zone district of R-5 (Residential – 5 du/ac. The property is currently zoned in the County as RSF-4 (Residential Single Family 4 Dwellings per acre). The proposed zone district of R-5 is consistent with the Residential Low (2 to 5.5 du/ac) Land Use category of the Comprehensive Plan and city R-4 to the west and R-5 zoning to the east as well as adjacent Mesa County zoning of RSF-4 within the unincorporated area north of Broadway.

Historically, surrounding development in the County has been large lot residential with single family uses, but the area is seeing further development of properties in recent years, consisting of more dense development with lot sizes as small as 1/5 of an acre supporting R-5 densities. Zoning will be considered in a future action by City Council and requires review and recommendation by the Planning Commission.

The annexation area has sewer service and all other urban amenities to the property. It is located within Tier 2 on the Intensification and Growth Tiers Map of the Comprehensive Plan. The goal to “encourage infill and redevelopment to leverage existing infrastructure” supports the Applicant’s request of a zone of annexation of R-5.

The R-5 zoning establishes densities between 3 and 5.5 dwelling units per acre which will allow the property to also develop at densities like the other R-5 zoned properties that have been developed recently. The R-5 requested zoning implements the Comprehensive Plan’s Residential Low Land Use category.

The purpose of the R-5 (Residential – 5 du/ac) zone district is to provide for medium density detached and attached dwellings in areas where adequate public facilities and services are available. R-5 supports the Comprehensive Plan’s principles of concentrating urban growth. A mix of dwelling types is allowed in this district. This property is located within a sub-urban infill area of the community. The greater surrounding Redlands area both within the city limits and unincorporated Mesa County

are largely developed with homes on large properties that can be further developed supporting infill growth.

In addition to the R-5 zoning requested by the petitioner, the following zone districts would also be consistent with the proposed Comprehensive Plan designation of Residential Medium (5.5 to 12 du/ac).

- a. R-4 (Residential – 2-4 du/ac)
- b. CSR (Community Services and Recreation)

### **NOTIFICATION REQUIREMENTS**

A Neighborhood Meeting regarding the proposed Annexation and Zoning was held in-person on January 6, 2022, in accordance with Section 21.02.080 (e) of the Zoning and Development Code. The Applicant's representative and City staff were in attendance.

Notice was completed consistent with the provisions in Section 21.02.080 (g) of the City's Zoning and Development Code. The subject property was posted with an application sign on February 1, 2022. Mailed notice of the public hearings before Planning Commission and City Council in the form of notification cards was sent to surrounding property owners within 500 feet of the subject property on April 15, 2022. The notice of the Planning Commission public hearing was published April 19, 2022 in the Grand Junction Daily Sentinel.

### **ANALYSIS**

#### **Zone of Annexation Analysis**

The criteria for review are set forth in Section 21.02.140 (a) and includes that the City may rezone property if the proposed changes are consistent with the vision, goals and policies of the Comprehensive Plan and must meet one or more of the following rezone criteria as identified:

(1) Subsequent events have invalidated the original premises and findings; and/or The property owners have petitioned for annexation into the City limits and requested zoning of R-5 which is compatible with the Comprehensive Plan Land Use Map designation of Residential Low (2 to 5.5 du/ac). Since the Applicant's properties are currently in the County, the annexation of the property is a subsequent event that will invalidate one of these original premises, a county zoning designation. However, staff has found this to not be enough justification and finds this criterion has not been met.

(2) The character and/or condition of the area has changed such that the amendment is consistent with the Plan; and/or

The character or condition of the area is beginning to change with the further development of the area. Infill development along Peony Drive to the east has seen further subdivision of existing single family large lot residential. For example, the Peony Height Subdivision located 270 feet to the east and annexed and platted in 2013 created three lots of 0.22 and one lot of 0.21 acres, lot sizes that are found in a RSF-5

zone district. Staff finds that this criterion has been met.

(3) Public and community facilities are adequate to serve the type and scope of land use proposed; and/or

Existing public and community facilities and services are available in close proximity to and can be extended into the annexation area. These services are sufficient to serve land uses associated with the proposed R-5 zone district for this property, between 5 and 11 dwelling units at full buildout when developed. The Applicant has stated they will develop when they can connect to utilities being constructed by Monument Ridge Estates or other future development is stubbed to their property.

Water and sewer services are available to this property. This property is within the Ute Water District service area. A 12-inch water line runs along Broadway. The area can be served by Xcel Energy for electricity and natural gas.

The property is currently within the Persigo 201 Sewer Service Area. However, the property does not currently have a sewer connection. The property owner would be required to extend a sewer line and connect to the existing 8-inch sewer main that is located along Peony Drive or wait to connect to the future Monument Ridge Estates development that will stub sewer to this property. There is available capacity in the sewer collection system to accommodate future development of this property with 11 dwelling units. The maximum anticipated additional flow associated with 11 equivalent units (EQUs) is about 2800 gallons per day. The Persigo wastewater treatment plant has sufficient capacity to accommodate this development. The current capacity of the wastewater treatment plant is 12,500,000 gallons per day. The plant currently only receives approximately 8 million gallons per day. Therefore, the plant has ample capacity to accommodate this additional flow.

This property is in the Grand Junction Rural Fire Protection District and Redlands Sub-District, both served by the Grand Junction Fire Department through an intergovernmental agreement between the City and the rural fire district. With an estimated build out of 5-11 residential dwelling units, Fire Station 5 has the capacity to handle the increase in calls and meets National Fire Protection Association Standards for response time to this area.

To the east along Hwy 340 (Broadway) is Redlands Middle School and Broadway Elementary School. Walking distance to the east is the Monument Village Shopping Center with limited goods and services. Major shopping is available 3 ½ -miles away at Mesa Mall and the 24 Road area. Staff has found the public and community facilities are adequate to serve the type and scope of the residential land use proposed at the R-5 densities. Therefore, this criterion has been met.

(4) An inadequate supply of suitably designated land is available in the community, as defined by the presiding body, to accommodate the proposed land use; and/or

The subject property and surrounding area are designated on the Comprehensive Plan Land Use Map as Residential Low (2 to 5.5 du/ac). The proposed zoning designation of R-5 meets the intent of achieving the minimum and desired density for the property with

this request, to develop at the high end of the Residential low land use category. For properties already annexed into the City limits in the area, to the west are zoned R-4 and to the east zoned R-5

For unincorporated areas of the Redlands near this annexation and north of Broadway, Mesa County has zoned the majority of the area as RSF-4. Much of the surrounding area, including unincorporated Mesa County, is developed, except along the west side of this property where the proposed Monument Ridge Estates is proposed and the infill development opportunities along Peony Drive where large single family residential lots are numerous. The Land Use Map defines the immediate half mile area around the subject property north of Broadway as Residential Low and located in tier 2 of the Intensification and Growth Tiers Map and the area south of Broadway as Rural and located within Tier 3 (includes The Preserve Subdivision in unincorporated Mesa County). Staff finds that there is an adequate supply of R-4 (and County RSF-4) zoning in the area, but not enough R-5 zoning which also implements the Residential Low Land Use category. Therefore staff finds this criterion has been met.

(5) The community or area, as defined by the presiding body, will derive benefits from the proposed amendment.

Annexation and zoning of the properties will create additional land within the City limits for city growth and it helps fill in the patchwork of unincorporated and/or urban area that is adjacent to the City limits. The annexation is also consistent with the City and County 1998 Persigo Agreement. The requested zone district provides housing within a range of density that has been defined as urban densities in the 2020 One Grand Junction Comprehensive Plan and is consistent with the needs of the community. This principle is supported and encouraged by the Comprehensive Plan and furthers the plan's goal of promoting a diverse supply of housing types that meet the needs of all ages, abilities, and incomes identified in Plan Principle 5: Strong Neighborhoods and Housing Choice, Chapter 2 of the Comprehensive Plan. Therefore, Staff finds that this criterion has been met.

Section 21.02.160 (f) of the Grand Junction Zoning and Development Code provides that the zoning of an annexation area shall be consistent with the adopted Comprehensive Plan and the criteria set forth. Though the R-4 zone district as well the CSR zoning could be considered in a Residential Low Land Use area, the R-5 zone district is consistent with the recommendations of the Plan's Land Use Map, compatible with the surrounding neighborhood and provides for housing on a smaller residential lot, thereby providing more housing to the community.

### **Consistency with Comprehensive Plan**

Further, the zoning request is consistent with the following chapters, goals and principles of the Comprehensive Plan:

#### **Chapter 2**

#### **Plan Principle 3: Responsible and Managed Growth**

Goal: Support fiscally responsible growth and annexation policies that promote a

compact pattern of growth...and encourage the efficient use of land.

Goal: Encourage infill and redevelopment to leverage existing infrastructure.

#### Plan Principle 5: Strong Neighborhoods and Housing Choices

Goal: Promote more opportunities for housing choices that meet the needs of people of all ages, abilities, and incomes.

#### Chapter 3

Intensification and Tiered Growth Plan. Subject property is located within Tier 2 – In Tier 2, the City should promote the annexation of those parcels which are surrounded by, and or have direct adjacency to, the City limits of Grand Junction. Annexation and development of these parcels will provide development opportunities while minimizing the impact on infrastructure and City services.

Relationship to Existing Zoning. Requests to rezone properties should be considered based on the Implementing Zone Districts assigned to each Land Use Designation.

- Guide future zoning changes. Requests for zoning changes are required to implement the Comprehensive Plan.

#### **RECOMMENDATION AND FINDINGS OF FACT**

After reviewing the Twenty Eighty Broadway Zone of Annexation, ANX-2022-60 request for the property located at 2080 Broadway from County RSF-4 (Residential Single Family 4 Dwellings per acre) to R-5 (Residential – 5 du/ac), the following findings of facts have been made:

1. The request conforms with Section 21.02.140 of the Zoning and Development Code.
2. The request is consistent with the vision (intent), goals and policies of the Comprehensive Plan.

Therefore, Planning Commission recommended approval of the request.

#### **FISCAL IMPACT:**

This land use action does not have any direct fiscal impact. Subsequent actions such as future development and related construction may have direct fiscal impact depending on the type of use.

#### **SUGGESTED MOTION:**

I move to introduce an ordinance zoning the Twenty Eighty Broadway Annexation located at 2080 Broadway, Grand Junction, Colorado to R-5 (Residential 5 du/ac) zone district set a public hearing for May 18, 2022.

#### **Attachments**

1. Development Application
2. Annexation Schedule - Table - Twenty Eighty Broadway Annexation



3. 2080 Broadway Annexation Plat
4. Maps and Site Photo
5. ORD-Zoning 2080 Broadway 042522

## Development Application

We, the undersigned, being the owner's of the property adjacent to or situated in the City of Grand Junction, Mesa County, State of Colorado, as described herein do petition this:

Petition For:

Please fill in blanks below only for Zone of Annexation, Rezones, and Comprehensive Plan Amendments:

Existing Land Use Designation

Existing Zoning

Proposed Land Use Designation

Proposed Zoning

### Property Information

Site Location:

Site Acreage:

Site Tax No(s):

Site Zoning:

Project Description:

### Property Owner Information

Name:

Street Address:

City/State/Zip:

Business Phone #:

E-Mail:

Fax #:

Contact Person:

Contact Phone #:

### Applicant Information

Name:

Street Address:

City/State/Zip:

Business Phone #:

E-Mail:

Fax #:

Contact Person:

Contact Phone #:

### Representative Information

Name:

Street Address:

City/State/Zip:

Business Phone #:

E-Mail:

Fax #:

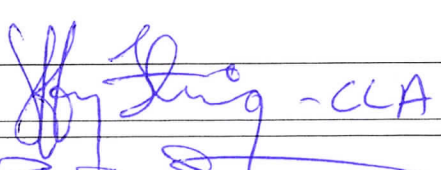
Contact Person:

Contact Phone #:

### **NOTE: Legal property owner is owner of record on date of submittal.**

We hereby acknowledge that we have familiarized ourselves with the rules and regulations with respect to the preparation of this submittal. that the foregoing information is true and complete to the best of our knowledge, and that we assume the responsibility to monitor the status of the application, and the review comments. We recognize that we or our representative(s) must be present at all required hearings. In the event that the petitioner is not represented, the item may be dropped from the agenda and an additional fee may be charged to cover rescheduling expenses before it can again be placed on the agenda.

Signature of Person Completing the Application

 - CLA

Date

Signature of Legal Property Owner



Date

# Project Report

## Redlands Limited Annexation and Zoning

January 21, 2022

Prepared for:

Michael and Tammy Brislin

2080 Broadway

Grand Junction, CO 81507

For proposed

**Annexation and Zoning**



Prepared by Jeffery Fleming ~ Colorado Land Advisor

Redlands Limited Annexation and Zoning

# Project Report

This report is the property of  
Redlands Limited, a Colorado limited liability company, it's  
successors and assigns.

2021 Redlands Limited

Prepared by:

Jeffery Fleming, CNUa  
Colorado Land Advisor, Ltd.  
300 Main Street Suite 302  
Grand Junction, CO. 81501  
970.812.3288  
LandAdvisor@ColoradoLandAdvisor.com

As a professional urban planner much experience and research has gone into compiling information for this report. Information was collected from various sources and every attempt has been made to acknowledge the contributing sources. Any errors of omission are unintentional and should be brought to the attention of the author as soon as possible.

# Table of Contents

|                                              |           |
|----------------------------------------------|-----------|
| <b>Introduction and Summary</b>              | <b>4</b>  |
| <b>Site Analysis</b>                         | <b>5</b>  |
| <b>Existing Land Use and Future Land Use</b> | <b>7</b>  |
| <b>R5 Zoning</b>                             | <b>8</b>  |
| <b>Surrounding Land Use</b>                  | <b>9</b>  |
| <b>Annexed City Limits Map</b>               | <b>10</b> |
| <b>Population and Density</b>                | <b>11</b> |
| <b>Transportation and Emergency Services</b> | <b>12</b> |
| <b>Area Schools</b>                          | <b>13</b> |
| <b>Utility Services</b>                      | <b>14</b> |
| <b>Development Evaluation</b>                | <b>15</b> |
| <b>Annexation and Zoning Criteria</b>        | <b>16</b> |

# Introduction and Summary

This General Project Report, documents, and accompanying drawings, is intended to provide an overview of the property and proposed development utilizing the Grand Junction's Planning process. The process is intended to gather initial input from review agencies prior to Annexation and Zoning.

The site selected for Redlands Limited consists of a single parcel of land that is 2.36 acres. The site is located at 2080 Broadway in Mesa County, Colorado. The parcel of land currently has a house, garage, and quonsut hut on it. The Mesa County Assessor has given the property the following parcel number: 2947-154-00-016.

This request is for the Annexation and Zoning of the lot. The existing house and structures would remain with possible development in the future of residential units.

The Redlands Limited property is currently a single family home with outbuildings. The North end of the property has been used for agricultural purposes, primarily for livestock.

This request is for annexation into the City of Grand Junction coupled with a zoning designation. This request is for a zoning designation of R-5. Future development would likely be in the 4+ DU/AC. Access to the lot would remain where it is until that future date when another application for development is approved.

No construction is being proposed with this application. Any construction would be proposed in a future development application. All utilities: water, gas, sewer, electric, etc. are adjacent, or on-site.

There are no known site conditions which would be impacted by this request. The site has no wetlands, no surface waters, no unusual topography as it has gentle slopes to the north. It is within the Persigo Agreement Boundary.

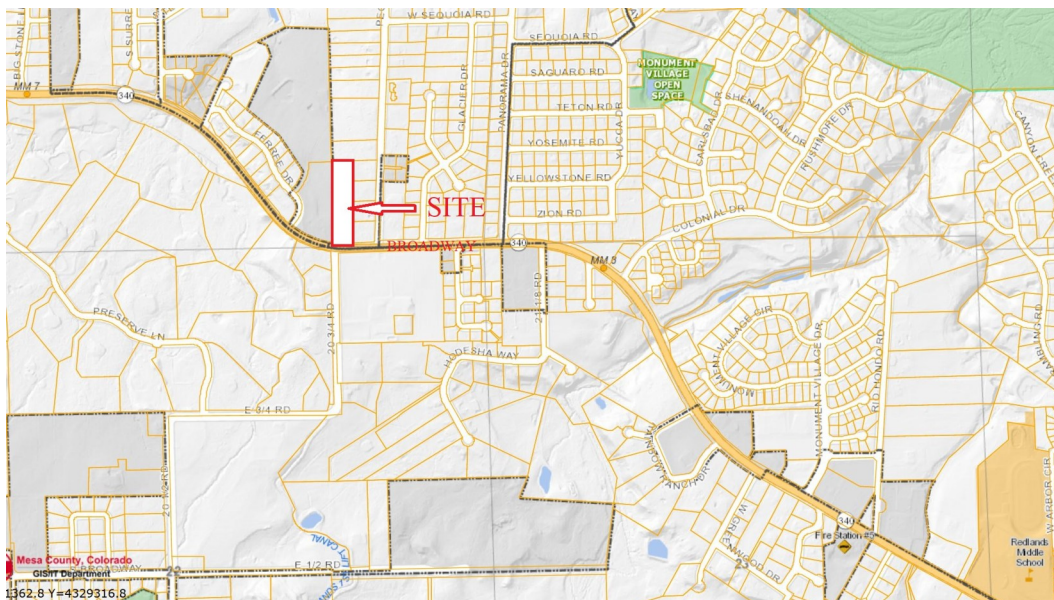


# Site Analysis

The purpose of this section is to identify the physical and technical characteristics of the property selected for the Redlands Limited Annexation and Zoning in relationship to the surrounding area. This section also evaluates the site assets and constraints.

The site under consideration is one parcel of land that is rectangular in shape. The parcel is partially developed land. Ground cover ranges between non-existent on the formerly cultivated areas, to native landscaping typically found in a high desert setting. Around the existing house the land is fully landscaped.

The site consists of one parcel of land that totals 2.63 acres. Located in Mesa County, Colorado. The longitude and latitude of the approximate center of the property is: Latitude = 39.0933158 Longitude = -108.6636227.



**Location Map**

# Site Analysis

The subject property is within the Persigo Agreement Boundary, sometimes referred to as the 201 Boundary, a reference to the Colorado State Statute which governs such acts. The Future Land Use Map shows this area of the Redlands as being within the 201 and as such must be annexed and developed at urban type densities. The Redlands Limited Annexation and Zoning request will meet the criteria as set forth in the Zoning and Development Code. This Report details the character of the site and how it is suited to meet that criteria.

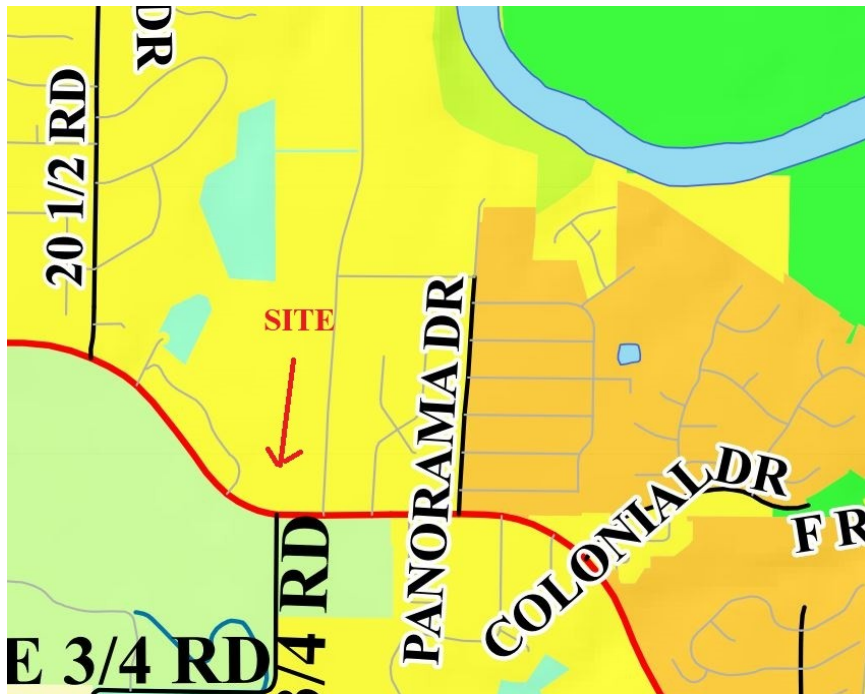
Recent growth within the Grand Valley has created a great deal of demand for developable lots within the city. Inventory continues to shrink and prices continue to rise as a result of this demand. Many people moving into the Valley are seeking to live in the Redlands area. This parcel is well suited for future development. Adjacent parcels have been, or are in the process of being developed. The proposed density would be compatible with those past and current developments' density.



# Existing Land Use & Future Land Use Zoning

The topography of the site consists of low slopes of about 1%. An elevation distance of 4,661 feet is the lowest point (North) and to 4,668 exists as the highest point (Southwest).

This request is to have the parcel zoned to R-5. The Primary Uses of the R-5 zone are likely to fit any future development proposal. On the Future Land Use Map the area parcels are designated as Residential Medium Low and Residential Medium to the East. Adjacent parcels are zoned R-4. A reproduction of part of the City's Future Land Use Map follows:



Future Land Use Map

# R-5 Zoning

This request is for the parcel to be zoned to an R5 zoning designation. The standards for this zone are:

Primary Uses of R-5 - Detached Single-Family, Two-Family Dwelling, Multifamily, Civic

Maximum Density 5.5 units/acre, Minimum Density 3 units/acre, Cluster Allowed

For the purpose of calculating density on parcels smaller than five acres, one-half of the land area of all adjoining rights-of-way may be included in the gross lot area.

## DENSITY AND DIMENSIONAL STANDARDS FOR : R-5 ZONE

| DENSITY<br>(units/ac.) | MIN. LOT SIZE                                            | MIN.<br>STREET<br>FRONTAGE | MINIMUM SETBACKS |       |      | MAX.<br>HEIGHT |
|------------------------|----------------------------------------------------------|----------------------------|------------------|-------|------|----------------|
| Max. 5.5               | Area: 4,000 ft<br>(Single-Family)                        | 20 feet                    | Street           | Side  | Rear | 40 Feet        |
| Min. 3                 | Width: 40 ft<br>(Single-Family)<br>60 ft<br>(Two-Family) |                            | 20/25ft.         | 5/3ft | 15ft |                |

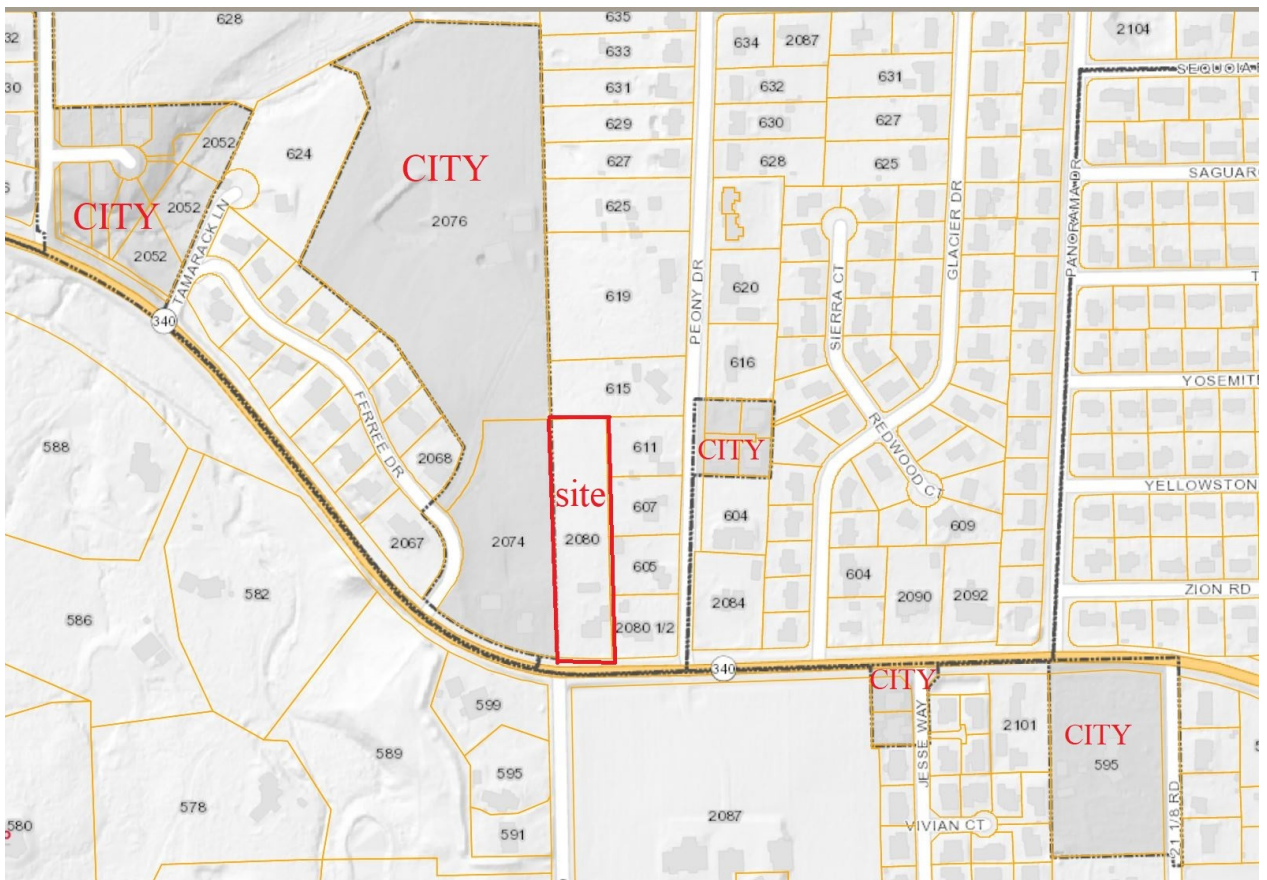
# Surrounding Land Use

The surrounding land uses in the vicinity of the subject property are considered to be “low to moderate” intensity. Surrounding Land Uses in the immediate vicinity of the subject property are depicted on the accompanying Surrounding Land Use Map that shows the configuration of the various properties in relationship to the subject site. The following chart describes the various land uses that adjoin the property:

| <b>NORTHWEST</b>                                                   | <b>NORTH</b>                                                                    | <b>NORHTEAST</b>                                             |
|--------------------------------------------------------------------|---------------------------------------------------------------------------------|--------------------------------------------------------------|
| <b>Single Family Dwellings<br/>on Parcels &amp; Vacant</b>         | <b>Single Family Dwellings<br/>on Parcels</b>                                   | <b>Single Family Dwellings<br/>on Parcels</b>                |
| <b>WEST</b>                                                        | <b>SITE</b>                                                                     | <b>EAST</b>                                                  |
| <b>Single Family Dwellings<br/>on Large Parcels</b>                |                                                                                 | <b>Single Family Dwellings<br/>&amp; Duplex’s on Parcels</b> |
| <b>SOUTHWEST</b>                                                   | <b>SOUTH</b>                                                                    | <b>SOUTHEAST</b>                                             |
| <b>Single Family Dwellings<br/>on Rural and Estate<br/>Parcels</b> | <b>Two-Family Dwelling<br/>Single Family Dwelling<br/>on Parcels and Winery</b> | <b>Single Family Dwellings<br/>on Parcels</b>                |

# City Limits

The attached map shows the site in relationship with other properties which were previously annexed into the City of Grand Junction. These were largely driven by the Persigo Agreement.



# Population & Demogrphics

According to the Grand Junction Economic Partnership, the Grand Junction Area population is nearly 155,000. The following graphs depict Age distribution and household size within the valley. The Valley appears to be getting younger in smaller households.

## GRAND JUNCTION economic PARTNERSHIP

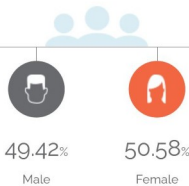
[Move Here](#) [Grow Here](#) [Live Here](#) [About GJEP](#)

### People

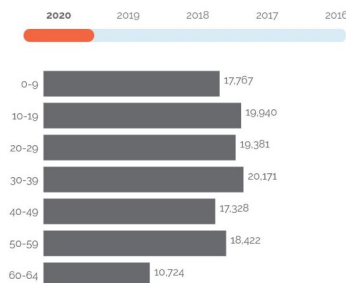
The total population of Mesa County is 154,350. The median age is 38.96

154,350

Total Population



### Age Distribution

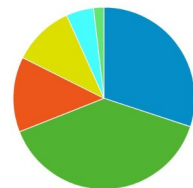


## GRAND JUNCTION economic PARTNERSHIP

[Move Here](#) [Grow Here](#) [Live Here](#) [About GJEP](#)

### Size of Household

- 1 Person
- 2 Person
- 3 Person
- 4 Person
- 5 Person
- 6+ Person



|                | Total  | %     | Map                 |
|----------------|--------|-------|---------------------|
| <b>Default</b> |        |       |                     |
| 1 Person       | 19,247 | 29.70 | <a href="#">map</a> |
| 2 Person       | 24,979 | 38.55 | <a href="#">map</a> |
| 3 Person       | 8,552  | 13.20 | <a href="#">map</a> |
| 4 Person       | 6,982  | 10.77 | <a href="#">map</a> |
| 5 Person       | 3,127  | 4.83  | <a href="#">map</a> |
| 6+ Person      | 1,189  | 1.83  | <a href="#">map</a> |

# Transportation and Emergency Services

Developing the site is supported by existing transportation systems as well as emergency services. Access to the site is gained from Broadway, which connects to other major Redlands thoroughfares such as Redlands Parkway. Broadway is maintained by the state of Colorado. The roadway has curb, gutter, and sidewalk fronting the parcel. It is fully landscaped running along the side of the street. It is well maintained and is in good condition.

The property is located in : Fire Area “F” as established by the City of Grand Junction Fire Department. Firefighters can respond to emergencies from Fire Station No. 5 located at 2155 Broadway, which is one mile away from the project site.

The Grand Junction Fire Department currently employs approximately 100 full time employees and is one of the largest paid fire departments between Denver and Salt Lake City; the Grand Junction Fire Department has made numerous upgrades to its service including a new 911 Call Center.



## Station 5- 2155 Broadway

Established: 2004

Specialty: Confined Space/River Rescue

### Staffing:

- 1 Engine
- 1 Boat (cross staffed with Engine)
- 1 Water Tender (cross staffed with Engine)
- 1 Light Brush Engine(cross staffed with Engine)
- 1 Confined Space Trailer(cross staffed with Engine)

Other emergency services are available from the City of Grand Junction Police Department; the Uniform Patrol section was comprised of sworn officers, non-sworn police service technicians, sergeants and lieutenants. Collateral duties such as the Canine Program, SWAT, the Bike Office Program, and Forensic Investigations fall under the Uniform Patrol section. In all the Grand Junction Police Department has approximately 200 full time law enforcement employees.



# Area Schools

School District 51 recently redrew the lines for many schools in order to better balance the growth of students within their system. Schools designated to and around the project site are as follows:

Broadway Elementary School, which is located at 2248 Broadway.

Redlands Middle School, which is located at 2200 Broadway.

Grand Junction High School, which is located at 5<sup>th</sup> Street and Tiger Way

Colorado Mesa University, which is located at 1100 North Ave.

All the above-mentioned schools are in Grand Junction, CO.

## Broadway Elementary School



## Redlands Middle School



## Grand Junction High School



## Colorado Mesa University



# Utility Services

With growth, demands on utilities increases. The Redlands Limited site utilities are:

**DOMESTIC WATER** – The site is served by a publicly owned domestic water distribution system. Any future development would extend these services into each new dwelling from the water main owned and operated by Ute Water Conservation District. Fire protection would be addressed upon development of the site.

**SANITARY SEWER** – Redlands Limited is located within the 201/Persigo Boundary. Therefore, any new sewage connections would be made to that system via individual 4" lines.

**NATURAL GAS** – XCEL Energy has a main gas line in Broadway which would be used to provide any additional services needed.

**DRY UTILITIES** – Electric and communication lines are available along the front (South) of the property and will be extended into any future development. New lines would be underground on-site.

**CELLULAR TELEPHONE SERVICE** - All major cellular telephone companies provide coverage to the area. Phone reception for each of the carriers is available with signals ranging from good (AT&T) to very good (Verizon, Sprint and T-mobile).

**IRRIGATION WATER** – The existing irrigation water facilities currently servicing the property will continue to be utilized for the Redlands Limited property.

**DRAINAGE** – Historic drainage patterns have been addressed by the project engineer and will continue to discharge north into a future stormwater pond.



# Development Evaluation

**GENERAL** - The development of the subject property is a response to the existing, and future housing demands of the Grand Junction area as projected in the Redlands Area Plan as well as the 2020 Comprehensive Plan. The site is within the Persigo Agreement Boundary which requires annexation and connection to sanitary sewer.

This area of the Redlands is sought after for its location. It is less than 10 minutes from shopping at the Mesa Mall. Likewise it is 10 minutes to the downtown core. The site has nice views and is well suited for future development.

Any activity similar to the proposed development, no matter where it is located, will most likely create some impact to the surrounding community economically, socially and physically. The nature of the proposal and how it is handled and controlled can determine whether the impacts are positive or negative. By a logical evaluation of all aspects of the existing and proposed development, steps can be taken which insure that the ultimate affects by the proposal are beneficial to the community.

Evaluation of the request is accomplished by using criteria contained within the Zoning and Development Code for approval of Annexations and Zoning Criteria. The 2020 Comprehensive Plan Goals were also considered before making this Application. It is anticipated that the parcel and any future development will fit well within those goals.

The following response to each of the applicable criteria illustrates compliance:

# Responses to Criteria

## 21.02.160 Annexation.

- (a) **Purpose.** In accordance with State statutes, land may be annexed or de-annexed from the City as deemed appropriate by the City Council.
- (b) **Applicability.** Any lands to be added to or deleted from the corporate limits of the City shall comply with this section.
- (c) **Approval Criteria.** The application shall meet all applicable statutory and City administrative requirements. A complete copy of these requirements is available from the Public Works and Planning Department.
- (d) **Decision-Maker.**
  - (1) The Director shall make recommendations to City Council.
  - (2) City Council shall approve, conditionally approve or disapprove all applications for annexation or contraction of the municipal limits.
- (e) **Application and Review Procedures.** Application requirements and processing procedures shall comply with those described in applicable State statutes. A summary of these procedures is available from the Public Works and Planning Department.
- (f) **Zoning of Annexed Properties.** Land annexed to the City shall be zoned in accordance with GJMC 21.02.140 to a district that is consistent with the adopted Comprehensive Plan and the criteria set forth. Generally, future development should be at a density equal to or greater than the allowed density of the applicable County zoning district.

*This Application represents a formal request in writing and does give consent to Annexation and Zoning. All owners do consent to this Application. No part of the subject property's boundary is disputed. No right-of-way will be changed through this annexation.*

*This Application is intended to meet many of the Goals of the Comprehensive Plan as well as the requirements within the Zoning and Development Code which relate to this application.*

*There is adequate capacity in all systems to support this application including transportation, city services, schools and utilities. We respectfully request your approval of this Application.*

# Responses to Criteria

***(C) Correct a scrivener or clerical error such as lot numbers, acreage, street names and identification of adjacent recorded plats.***

N/A

***(3) Additional Approval Criteria. The Director will approve a Annexation and Zoning if the applicant demonstrates that:***

***(I) Any changes to existing easements or right-of-way have been completed in accordance with this code or otherwise allowed by law (additional easements or right-of-way may be dedicated);***

N/A

***(ii) The right-of-way shown on the Grand Valley Circulation Plan is not changed; and***

*It has been considered and it will not be affected by this Annexation and Zoning*

***(iii) If a new lot is being created, no portion of the property may have been the subject of a previous Annexation and Zoning creating a new lot within the preceding 10 years or a minor exemption subdivision (see subsection (o) of this section).***

*Previously considered and supported by City Planner and Development Engineer.*

## 2080 BROADWAY ANNEXATION PETITION FOR ANNEXATION

WE THE UNDERSIGNED do hereby petition the City Council of the City of Grand Junction, State of Colorado, to annex the following described parcel to the said City:

GENERAL LOCATION: 2080 Broadway, Grand Junction, CO. 81507

Tax ID # 2947-154-00-016

This foregoing description describes the parcel; the perimeter boundary description, for purposes of the Annexation Act, is shown on the attached "Perimeter Boundary Legal Description, 2080 Broadway Annexation."

As grounds therefore, the petitioner respectfully state that annexation to the City of Grand Junction, Colorado is both necessary and desirable and that the said territory is eligible for annexation in that the provisions of the Municipal Annexation Act of 1965, Sections 31-12-104 and 31-12-105 CRS 1973 have been met.

This petition is accompanied by four copies of a map or plat of the said territory, showing its boundary and its relation to established city limit lines, and said map is prepared upon a material suitable for filing.

Your petitioner further states that they are the owners of more than fifty percent of the area of such territory to be annexed, exclusive of streets and alleys; that the mailing address of the signer and the date of signature are set forth hereafter opposite the name of the signer, and that the legal description of the property owned by the signer of said petition is attached hereto.

WHEREFORE, these petitioners pray that this petition be accepted and that the said annexation be approved and accepted by ordinance. These petitioners by his/her/their signature(s) acknowledge, understand and agree that if any development application concerning the property which is the subject hereof is denied, discontinued or disapproved, in whole or in part, that the annexation of the property to the City of Grand Junction shall proceed. \_

Redlands Limited  
By: Michael Brislin

2080 Broadway Grand Junction, CO 81507  
Address

  
SIGNATURE

12-7-21  
DATE

( Annexation Petition.doc)

STATE OF COLORADO

SS

AFFIDAVIT

COUNTY OF MESA

Michael Brislin, of lawful age, being first duly sworn, upon oath, deposes and says:

That he is the circulator of the forgoing petition: Redlands Limited, a Colorado limited liability company.

That each signature on the said petition is the signature of the person whose name it purports to be.

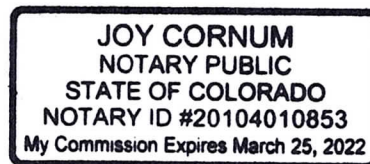
Subscribed and sworn to before me this 7<sup>th</sup> day of December, 2021.

Witness my hand and official seal.

Joy Cornum  
Notary Public

300 Main #302 GS, CO 81501  
Address

My commission expires: March 25, 2022



Beginning at a point that is South 89°30' East a distance of 97.2 feet from the Southwest corner of the SE1/4SE1/4, Section 15, Township 11 South, Range 101 West, 6th P.M., thence North 0°04' West a distance of 32.4 feet to the point of beginning, thence North 0°04' West a distance of 663.45 feet, thence North 89°56' East a distance of 154 feet, thence South 0°04' East a distance of 672.25 feet, thence South 89°37' West a distance of 56.8 feet, thence North 85°50' West a distance of 97.2 feet to the point of beginning;

TOGETHER WITH a tract or parcel of land of the State Department of Highways, Division of Highways, State of Colorado, Project No. S 0143(4) In the W1/2 of the SE1/4 of the SE1/4 of Section 15, Township 11 South, Range 101 West, of the Sixth Principal Meridian, in Mesa County, Colorado, said tract or parcel being more particularly described as follows:

All of the land North of the following described right of way fence:

Beginning at a point on the north right of way line of SH 340 (Oct. 1975), 40 feet left of the centerline of said SH 340, from which point the SE corner of Sec. 15 bears S88°03'E, a distance of 1,070.2 feet;

1. Thence S89°39'W, along said right of way fence, a distance of 56.8 feet;
2. Thence continuing along said right of way fence, along the arc of a curve to the right, having a radius of 676.7 feet, a distance of 97.3 feet (the chord of this arc bears N86°13'30"W a distance of 97.2 feet) all In Mesa County, Colorado.

County of Mesa, State of Colorado.

Causing this document to be delivered to the Secretary of State for filing shall constitute the affirmation or acknowledgment of each individual causing such delivery, under penalties of perjury, that the document is the individual's act and deed, or that the individual in good faith believes the document is the act and deed of the person on whose behalf the individual is causing the document to be delivered for filing, taken in conformity with the requirements of part 3 of article 90 of title 7, C.R.S., and, if applicable, the constituent documents, and the organic statutes, and that the individual in good faith believes the facts stated in the document are true and the document complies with the requirements of that Part, the constituent documents, and the organic statutes.

This perjury notice applies to each individual who causes this document to be delivered to the secretary of state, whether or not such individual is named in the document as one who has caused it to be delivered.

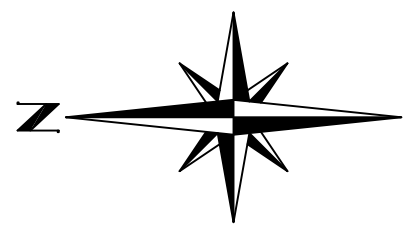
**Name(s) and address(es) of the individual(s) causing the document to be delivered for filing**

Michael Brislin  
2529 Woody Creek DR  
Grand Junction CO 81505  
US



# IMPROVEMENT SURVEY

SITUATED IN THE SE¼ SE¼ SECTION 15  
TOWNSHIP 11 SOUTH, RANGE 101 WEST OF THE 6TH P.M.  
COUNTY OF MESA, STATE OF COLORADO

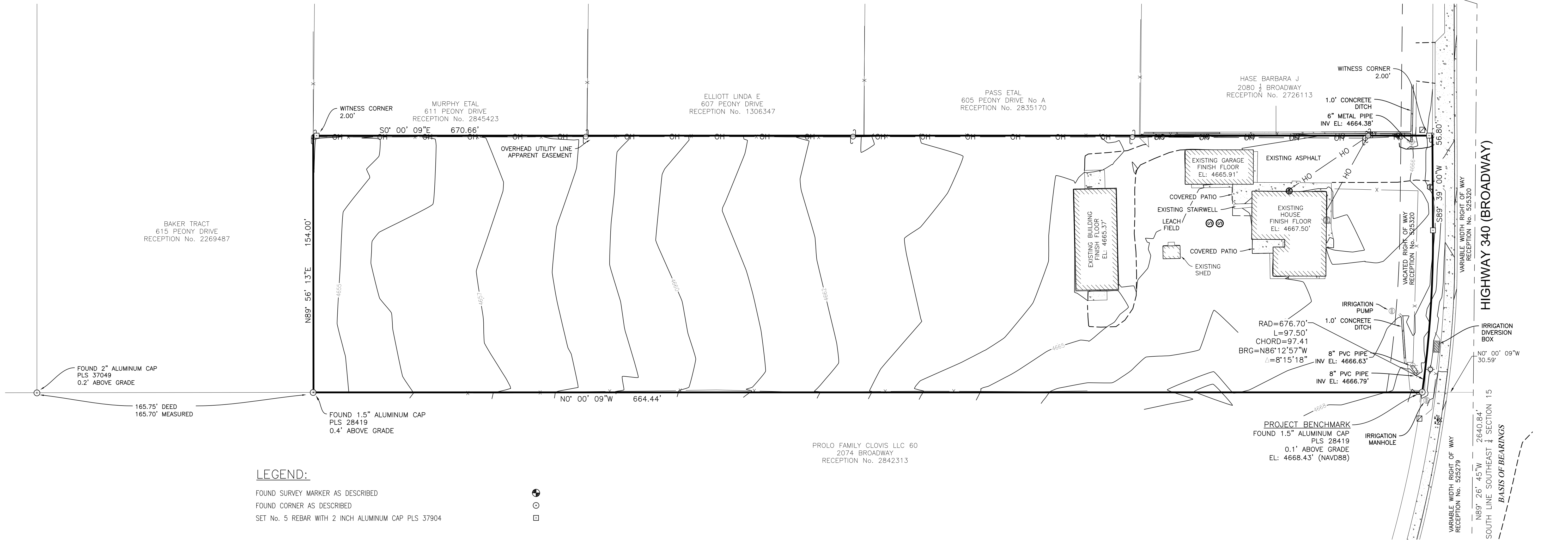


GRAPHIC SCALE:

1"=30'



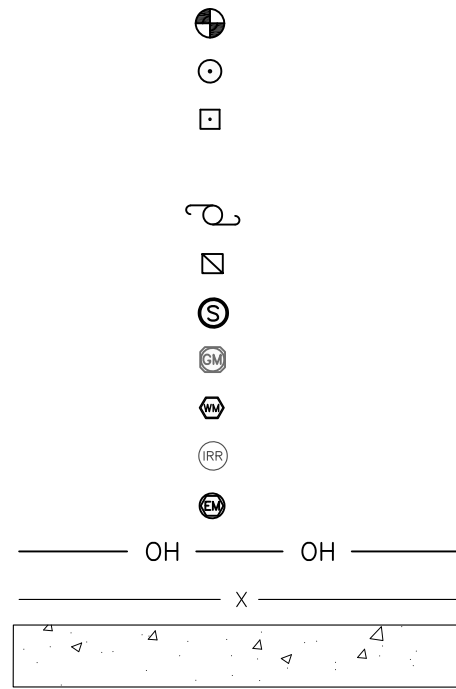
LINEAR UNITS ARE U.S. SURVEY FEET



## LEGEND:

FOUND SURVEY MARKER AS DESCRIBED  
FOUND CORNER AS DESCRIBED  
SET No. 5 REBAR WITH 2 INCH ALUMINUM CAP PLS 37904

EXISTING UTILITY POLE  
EXISTING UTILITY PEDESTAL  
EXISTING SEPTIC LID  
EXISTING GAS METER  
EXISTING WATER METER  
EXISTING IRRIGATION FEATURE  
EXISTING ELECTRIC METER  
EXISTING OVERHEAD UTILITY LINE  
EXISTING FENCE LINE  
EXISTING CONCRETE



## NOTES

- OWNERSHIP, RECORDED RIGHTS-OF-WAY, AND EASEMENT INFORMATION WAS DONE USING A CURRENT TITLE POLICY PROVIDED BY FIDELITY NATIONAL TITLE COMPANY, POLICY NUMBER CO-FSTG-IMP-27306-1-21-F0721575.
- BEARINGS ARE BASED ON THE SOUTH LINE OF SE¼ SECTION 15, TOWNSHIP 11 SOUTH, RANGE 101 WEST OF THE 6TH PRINCIPAL MERIDIAN. THE VALUE USED N89°26'45"W, WAS CALCULATED USING THE MESA COUNTY LOCAL COORDINATE SYSTEM. MESA COUNTY SURVEY MARKERS WERE FOUND AT THE EAST AND WEST ENDS OF SAID LINE AS SHOWN HEREON.
- ACCORDING TO COLORADO LAW YOU MUST COMMENCE ANY LEGAL ACTION BASED UPON ANY DEFECT IN THIS SURVEY WITHIN THREE YEARS AFTER YOU FIRST DISCOVERED SUCH DEFECT. IN NO EVENT MAY ANY ACTION BASED UPON ANY DEFECT IN THIS SURVEY BE COMMENCED MORE THAN TEN YEARS FROM THE DATE OF THE CERTIFICATION SHOWN HEREON.
- THIS SURVEY IS BASED ON THE DEED AS RECORDED AT RECEPTION NUMBER 3005225, OF THE MESA COUNTY RECORDS.

## ABBREVIATIONS:

N NORTH  
S SOUTH  
E EAST  
W WEST  
T TOWNSHIP  
R RANGE  
MCSM MESA COUNTY SURVEY MARKER  
ROW RIGHT OF WAY  
SIMS SURVEY INFORMATION MANAGEMENT SYSTEM  
PLS PROFESSIONAL LAND SURVEYOR  
No. NUMBER  
GPS GLOBAL POSITIONING SYSTEM  
ID IDENTIFICATION  
SQ SQUARE  
FT FEET  
AVE. AVENUE  
ST. STREET  
CT. COURT  
LN. LANE  
DR. DRIVE  
U.S. UNITED STATES  
L.C.E. LIMITED COMMON ELEMENT  
P.O.C. POINT OF COMMENCEMENT  
P.O.B. POINT OF BEGINNING

## CURVE LABEL ABBREVIATIONS:

RAD RADIUS  
L ARC LENGTH  
CHORD LONG CHORD DISTANCE  
BRG LONG CHORD BEARING  
Δ CURVE CENTRAL ANGLE

## LEGAL DESCRIPTION:

Beginning at a point that is South 89°30' East a distance of 97.2 feet from the Southwest corner of the SE1/4SE1/4, Section 15, Township 11 South, Range 101 West, 6th P.M., thence North 0°04' West a distance of 32.4 feet to the point of beginning, thence North 0°04' West a distance of 663.45 feet, thence North 89°56' East a distance of 154 feet, thence South 0°04' East a distance of 672.25 feet, thence South 89°37' West a distance of 56.8 feet, thence North 85°50' West a distance of 97.2 feet to the point of beginning; TOGETHER WITH a tract or parcel of land of the State Department of Highways, Division of Highways, State of Colorado, Project No. S 0143(4) In the W1/2 of the SE1/4 of the SE1/4 of Section 15, Township 11 South, Range 101 West, of the Sixth Principal Meridian, in Mesa County, Colorado, said tract or parcel being more particularly described as follows: All of the land North of the following described right of way fence: Beginning at a point on the north right of way line of SH 340 (Oct. 1975), 40 feet left of the centerline of said SH 340, from which point the SE corner of Sec. 15 bears S88°03'E, a distance of 1,070.2 feet;  
1. Thence S89°39'W, along said right of way fence, a distance of 56.8 feet;  
2. Thence continuing along said right of way fence, along the arc of a curve to the right, having a radius of 676.7 feet, a distance of 97.3 feet (the chord of this arc bears N86°13'30"W a distance of 97.2 feet) all in Mesa County, Colorado.  
County of Mesa, State of Colorado.

Said parcel contains 2.37 ACRES.

COLORADO REGISTERED LAND SURVEYOR PLS #37904

## SURVEYOR'S CERTIFICATION:

I, Patrick W. Click, a registered Professional Land Surveyor in the State of Colorado, do hereby certify that this Plat represents a field survey completed by me and / or under my direct supervision. Both conform to the standards of practice, statutes and laws of the State of Colorado to the best of my knowledge and belief. This statement is not a guaranty or warranty, either expressed or implied.

## IMPROVEMENT SURVEY

FOR REDLANDS LIMITED  
SITUATED IN THE SE¼ SE¼ SECTION 15  
TOWNSHIP 11 SOUTH, RANGE 101 WEST OF THE 6TH P.M.  
COUNTY OF MESA, STATE OF COLORADO

JOB #: 2021-238 FIELD WORK: KM DRAWN BY: JW  
DATE: 01/05/22 DRAWING NAME: 2080 BROADWAY CHECKED BY: PC

**POLARIS SURVEYING**

PATRICK W. CLICK P.L.S.

3194 MESA AVE. #B  
GRAND JUNCTION, CO 81504  
PHONE (970)434-7038



# **Redlands Limited 2080 Broadway Neighborhood Meeting Minutes**

**Meeting Held on 1-6-22  
At 5:30 pm  
Two Rivers Winery**

The Redlands Limited neighborhood meeting was hosted at the Two Rivers Winery on January 6th 2022. The meeting was attended by 8 people. (Sign in sheet attached) Jeffery Fleming of Colorado Land Advisor hosted the meeting for Redlands Limited who is the owner and developer. Dave Thornton, Principal Planner for the City of Grand Junction attended, as did 4 neighbors.

Question: What type of houses will be built on the project? Jeffery responded by stating nothing had been fully decided but they would be similar to the ones in the area. Jeffery stated they may be single family or duplexes, with a total number of between 5 and 8 units.

Question: When will you start building the houses? A brief time line for the project was given noting it would likely be sometime in 2023.

Question: How wide is the easement along the East property line? The Site Plan was referenced to answer the question.

Question: Are you going to change the zoning? Mr Fleming stated the parcel is currently in the County and had a zoning of RSF4 for the property. The request is for R5 Zoning and the Use would remain residential.

Jeffery talked about how in the future development the driveway would likely be a shared driveway or private roadway. No construction would likely take place until the adjoining property to the west is approved by the City and developed.

Another neighbor gave some history of some irrigation water concerns. She wanted to make sure they would continue to get their irrigation water. Mr Fleming stated that the irrigation water would stay the same as it is now or be improved. The exact details of that would not be determined until an engineering design was completed with a future application for development. Currently this application is for Annexation and Zoning.

The attendees were thanked for coming out and reminded that they would receive a public hearing notice from the City, in the mail, in a few months. A couple of neighbors asked to take some of the maps presented at the meeting so they could better understand the project. Their request was granted. The meeting lasted approximately 45 minutes.

# SIGN IN SHEET FOR

# Redlands Limited

NEIGHBORHOOD MEETING 1-6-22

2080 Broadway G.J., CO

PHONE or EMAIL

970-812-3288

(303) 883-4757

(303) 753-1883

9494497152

9493035742

81507

970-216-1132

81507

970-243-7680

81501

970-244-1450

OWNERSHIP STATEMENT - CORPORATION OR LIMITED LIABILITY COMPANY

(a) Redlands Limited ("Entity") is the owner of the following property:

(b) 2080 Broadway, G.J., CO. 81507 BEG S 89DEG30MIN E 97.2FT + 32.4FT N OF SW COR SE4SE4 SEC 15 11S 101W N 663.45FT N 89DEG56MIN E 154FT S 0DEG04MIN E 672.25FT S 89DEG37MIN W 56.8FT N 85DEG50MIN W 97.2FT TO BEG & THAT PTN OF VAC ROW ON S AS DESC IN B-1765 P-638 MESA CO RECORDS

A copy of the deed(s) evidencing the owner's interest in the property is attached. Any documents conveying any interest in the property to someone else by the owner are also attached.

I am the (c) Member for the Entity. I have the legal authority to bind the Entity regarding obligations and this property. I have attached the most recent recorded Statement of Authority of the Entity.

☐ My legal authority to bind the Entity both financially and concerning this property is unlimited.

☐ My legal authority to bind the Entity financially and/or concerning this property is limited as follows:

☐ The Entity is the sole owner of the property.

☐ The Entity owns the property with other(s). The other owners of the property are:

On behalf of Entity, I have reviewed the application for the (d) Zone of Annexation

I have the following knowledge or evidence of a possible boundary conflict affecting the property:

(e) None

I understand the continuing duty of the Entity to inform the City planner of any changes regarding my authority to bind the Entity and/or regarding ownership, easement, right-of-way, encroachment, lienholder and any other interest in the land.

I swear under penalty of perjury that the information in this Ownership Statement is true, complete and correct.

Signature of Entity representative: 

Printed name of person signing: Michael Brislin

State of Colorado )

County of Mesa ) ss.

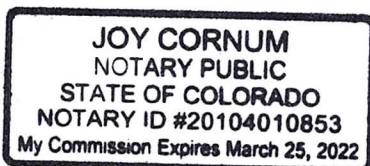
Subscribed and sworn to before me on this 7<sup>th</sup> day of December, 2021

by Michael Brislin

Witness my hand and seal.

My Notary Commission expires on March 25, 2022

  
Notary Public Signature





File No.: F0721575-396-7SB

### QUIT CLAIM DEED

THIS DEED, Made this 22 day of October, 2021

between Michael Stephen Brislin and Tammy Renee Brislin

of the County of Mesa and State of COLORADO, Grantor(s)

and Redlands Limited

whose legal address is 2529 Woody Creek Drive Grand Junction, CO ~~81507~~ 81505

of the County of Mesa and State of COLORADO, Grantee(s)

WITNESSETH, That the grantor(s), for and in consideration of the sum of TEN AND NO/100 DOLLARS, (\$10.00), the receipt and sufficiency of which is hereby acknowledged, has remised, released, sold, and QUIT CLAIMED, and by these presents does remise, release, sell and QUIT CLAIM unto the grantee(s), his heirs, successors and assigns, forever, all the right, title, interest, claim and demand which the grantor(s) has in and to the real property, together with improvements, if any, situate, lying and being in the County of Mesa and COLORADO, described as follows:

See Exhibit A attached hereto and made a part hereof.

also known by street and number as: 2080 Broadway Grand Junction, CO 81507-9711

TO HAVE AND TO HOLD the same, together with all and singular the appurtenances and privileges thereunto belonging, or in anywise thereunto appertaining, and all the estate, right, title, interest, and claim whatsoever, of the grantor(s), either in law or equity, to the only proper use, benefit and behalf of the grantee(s), his heirs and assigns forever.

The singular number shall include the plural, the plural the singular, and the use of any gender shall be applicable to all genders.

IN WITNESS WHEREOF, the grantor(s) has executed this deed on the date set forth above.

  
Michael Stephen Brislin

  
Tammy Renee Brislin

STATE OF COLORADO  
COUNTY OF Mesa

} SS:

The foregoing instrument was acknowledged before me this 22 day of October, 2021  
by Michael Stephen Brislin and Tammy Renee Brislin

  
Notary Public

Witness my hand and official seal.  
My Commission expires:

ELIZABETH SCHEER  
NOTARY PUBLIC  
STATE OF COLORADO  
NOTARY ID #20204033061  
My Commission Expires September 22, 2024

## **TWENTY EIGHTY BROADWAY ANNEXATION SCHEDULE**

|                       |                                                                                                 |
|-----------------------|-------------------------------------------------------------------------------------------------|
| <b>April 6, 2022</b>  | Referral of Petition (30 Day Notice), Introduction of a Proposed Ordinance, Exercising Land Use |
| <b>April 26, 2022</b> | Planning Commission considers Zone of Annexation                                                |
| <b>May 4, 2022</b>    | Introduction of a Proposed Ordinance on Zoning by City Council                                  |
| <b>May 18, 2022</b>   | Acceptance of Petition and Public Hearing on Annexation and Zoning by City Council              |
| <b>June 19, 2022</b>  | Effective date of Annexation and Zoning                                                         |

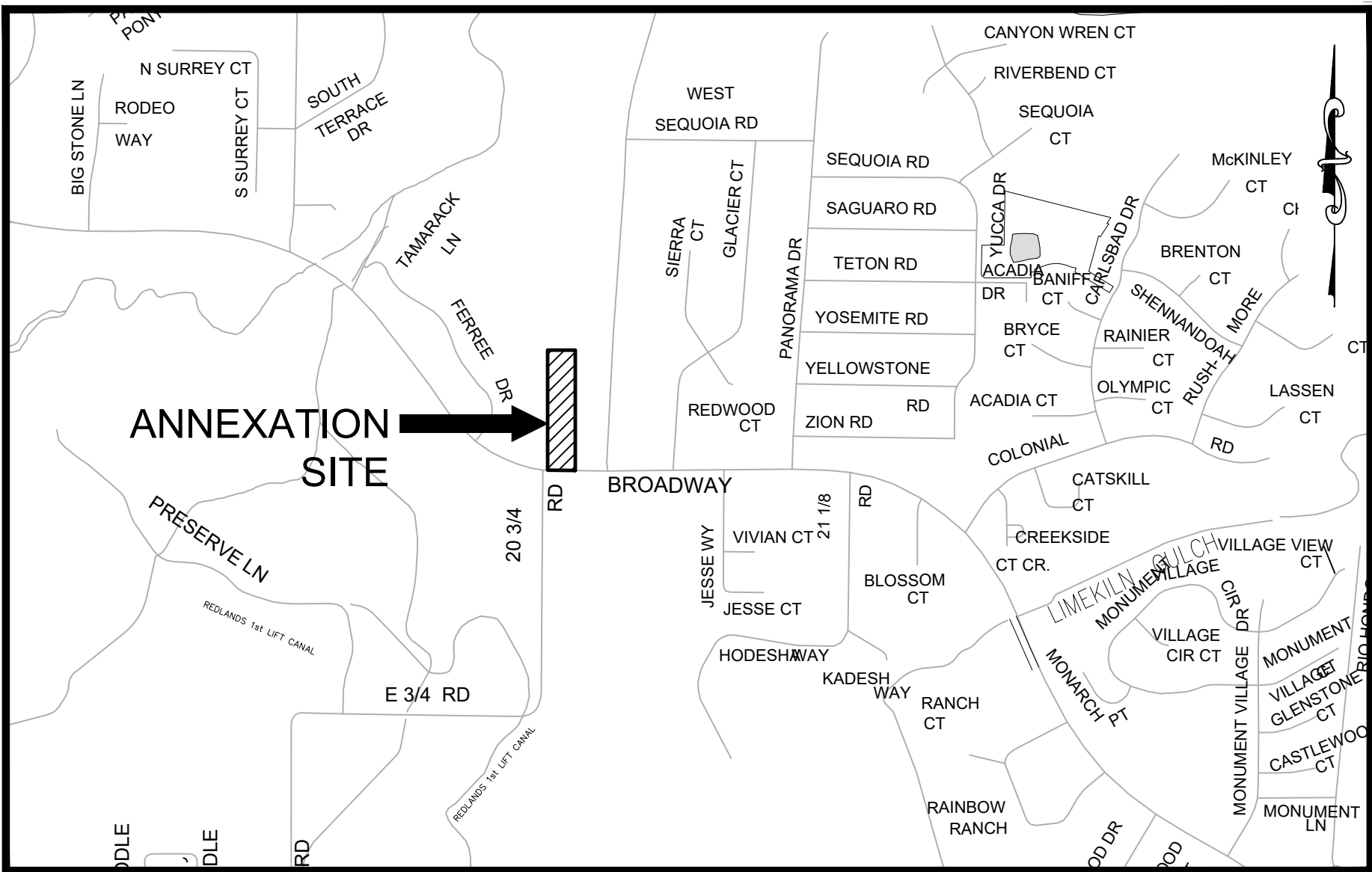
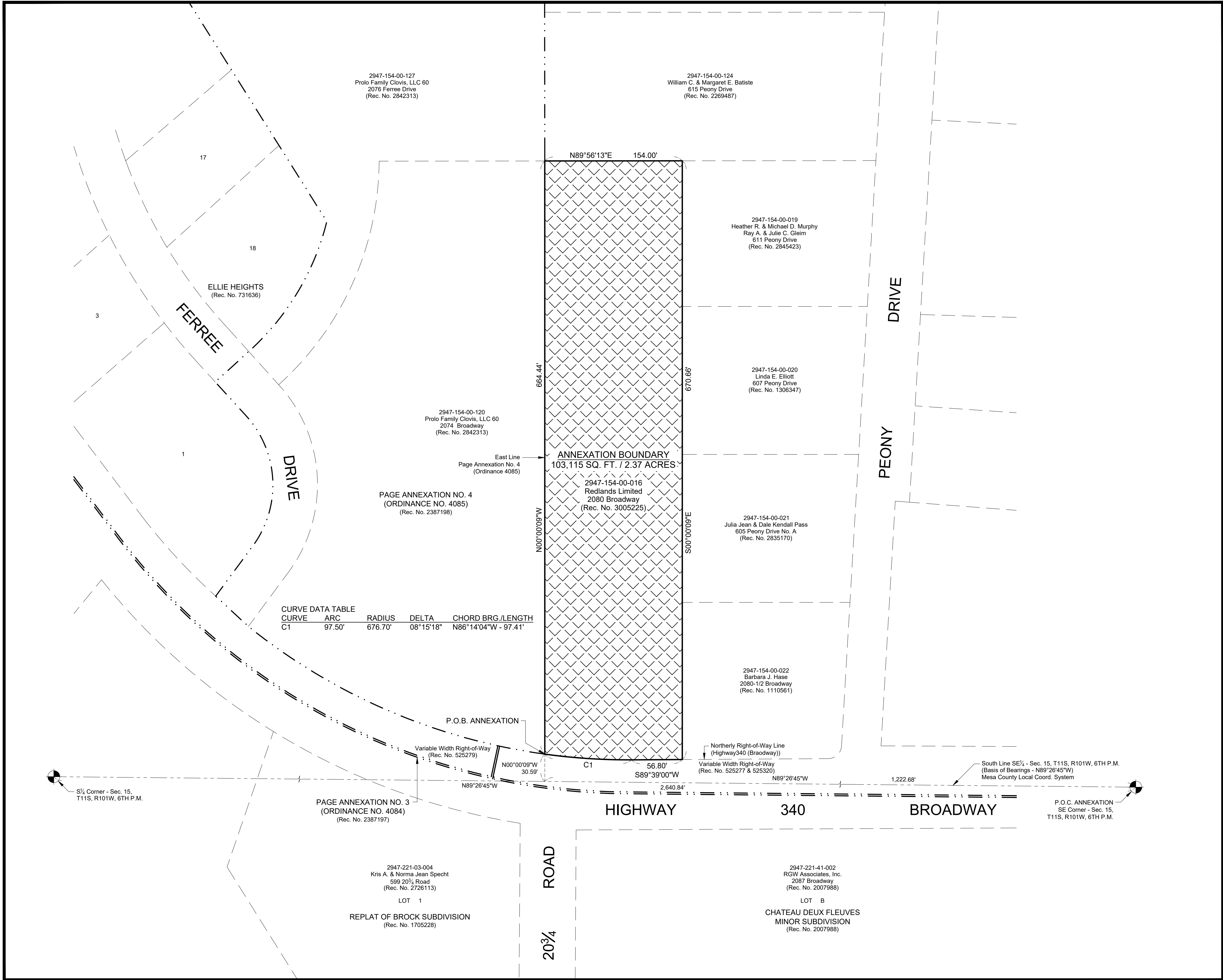
### **ANNEXATION SUMMARY**

|                                       |                             |                                         |
|---------------------------------------|-----------------------------|-----------------------------------------|
| <b>File Number:</b>                   |                             | ANX-2022-60                             |
| <b>Location:</b>                      |                             | 2080 Broadway                           |
| <b>Tax ID Numbers:</b>                |                             | 2947-154-00-016                         |
| <b># of Parcels:</b>                  |                             | 1                                       |
| <b>Existing Population:</b>           |                             | 2                                       |
| <b># of Parcels (owner occupied):</b> |                             | 1                                       |
| <b># of Dwelling Units:</b>           |                             | 1                                       |
| <b>Acres land annexed:</b>            |                             | 2.37                                    |
| <b>Developable Acres Remaining:</b>   |                             | 2                                       |
| <b>Right-of-way in Annexation:</b>    |                             | 0                                       |
| <b>Previous County Zoning:</b>        |                             | RSF-4                                   |
| <b>Proposed City Zoning:</b>          |                             | R-5                                     |
| <b>Current Land Use:</b>              |                             | Single Family                           |
| <b>Comprehensive Plan Land Use:</b>   |                             | Residential Low                         |
| <b>Values:</b>                        | <b>Assessed:</b>            | \$26,500                                |
|                                       | <b>Actual:</b>              | \$370,590                               |
| <b>Address Ranges:</b>                |                             | 2880 Broadway                           |
| <b>Special Districts:</b>             | <b>Water:</b>               | Ute                                     |
|                                       | <b>Sewer:</b>               | City                                    |
|                                       | <b>Fire:</b>                | GJ Rural (& GJ Rural Fire Redlands Sub) |
|                                       | <b>Irrigation/Drainage:</b> | Redlands Water and Power                |
|                                       | <b>School:</b>              | District 51                             |
|                                       | <b>Pest:</b>                | Grand River Mosquito District           |
|                                       | <b>Other:</b>               | Colorado River Water Conservancy        |



# TWENTY EIGHTY BROADWAY ANNEXATION

Located in the SE 1/4 SE 1/4 SECTION 15, TOWNSHIP 11 SOUTH, RANGE 101 WEST,  
6TH PRINCIPAL MERIDIAN, COUNTY OF MESA, STATE OF COLORADO



## SITE LOCATION MAP

SCALE: 1" = 800'

### LEGAL DESCRIPTION

A parcel of land as described in Reception Number 3005225, located in the Southeast Quarter of the Southeast Quarter (SE1/4 SE1/4) of Section 15, Township 11 South, Range 101 West of the 6th Principal Meridian, County of Mesa, State of Colorado and being more particularly described as follows:

Commencing at the Southeast Corner of said Section 15 and assuming the South line of the Southeast Quarter of said Section 15 bears N89°26'45"W with all other bearings contained herein relative thereto; thence N89°26'45"W along said South line, a distance of 1,222.68 feet; thence N00°00'09"W, a distance of 30.59 feet to a point on the Northerly Right-of-Way line of Highway 340 as described in Reception Number 525320, said point also being a point on the East line of PAGE ANNEXATION NO. 4, Ordinance 4085, Reception Number 2387198 and being the Point of Beginning;

thence continuing N0°00'09"W along said East line of PAGE ANNEXATION NO. 4, a distance of 664.44 feet; thence N89°56'13"E, a distance of 154.00 feet; thence S00°00'09"E, a distance of 670.66 feet to said Northerly Right-of-Way line of Highway 340; thence S89°39'00"W, a distance of 56.80 feet to the beginning of a curve; thence Westerly, a distance of 97.50 feet along the curve concave to the North, having a radius of 676.70 feet, a central angle of 08°15'18" and a chord which bears N86°14'04"W, a distance of 97.41 feet distant to the Point of Beginning.

Said parcel containing **103,115** Square Feet or **2.37** Acres more or less, as described.

### LEGEND

|                      |           |
|----------------------|-----------|
| ANNEXATION BOUNDARY  | —         |
| ANNEXATION AREA      |           |
| EXISTING CITY LIMITS | - - - - - |

### SURVEY ABBREVIATIONS

| P.O.C. | POINT OF COMMENCEMENT | SQ. FT.    | SQUARE FEET         |
|--------|-----------------------|------------|---------------------|
| P.O.B. | POINT OF BEGINNING    | Δ=         | CENTRAL ANGLE       |
| R.O.W. | RIGHT OF WAY          | RAD.       | RADIUS              |
| SEC.   | SECTION               | ARC        | ARC LENGTH          |
| TWP.   | TOWNSHIP              | CHD.       | CHORD LENGTH        |
| RGE.   | RANGE                 | CHB.       | CHORD BEARING       |
| U.M.   | UTE MERIDIAN          | BLK.       | BLOCK               |
| NO.    | NUMBER                | P.B.       | PLAT BOOK           |
| REC.   | RECEPTION             | BK.        | BOOK                |
|        |                       | PG.        | PAGE                |
|        |                       | HOR. DIST. | HORIZONTAL DISTANCE |

### AREAS OF ANNEXATION

|                      |                         |
|----------------------|-------------------------|
| ANNEXATION PERIMETER | 1,643.40 FT.            |
| CONTIGUOUS PERIMETER | 664.44 FT.              |
| AREA IN SQUARE FEET  | 103,115 FT <sup>2</sup> |
| AREA IN ACRES        | 2.37                    |
| AREA WITHIN R.O.W.   | 0.000 FT <sup>2</sup>   |
|                      | 0.00 ACRES              |

**ORDINANCE NO.**  
XXXX

**EFFECTIVE DATE**  
APRIL XX, 2022

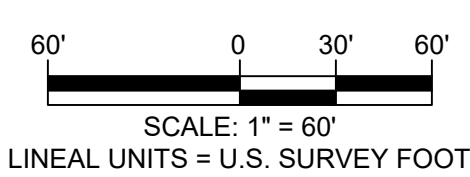
**NOTE:**  
THE DESCRIPTION(S) CONTAINED HEREIN HAVE BEEN DERIVED FROM SUBDIVISION PLAT, DEED DESCRIPTIONS & DEPOSIT SURVEYS AS THEY APPEAR IN THE OFFICE OF THE MESA COUNTY CLERK & RECORDER. THIS PLAT OF ANNEXATION DOES NOT CONSTITUTE A LEGAL BOUNDARY SURVEY, AND IS NOT INTENDED TO BE USED AS A MEANS OF ESTABLISHING OR VERIFYING PROPERTY BOUNDARY LINES.

**RENEE BETH PARENT**  
STATE OF COLORADO - P.L.S. NO. 38266  
FOR THE CITY OF GRAND JUNCTION  
333 WEST AVENUE - BLDG. C  
GRAND JUNCTION, CO. 81501

G:\Data\SURVEY\Annexations\2022\2022-60 - 2080 Broadway\60 CAD\2080 Broadway Annexation Plat.dwg - PLOTTED 2022-03-01

**NOTICE:**  
ACCORDING TO COLORADO LAW ANY LEGAL ACTION BASED UPON ANY DEFECT FOUND IN THIS SURVEY MUST COMMENCE WITHIN THREE (3) YEARS AFTER THE DISCOVERY OF SUCH DEFECT. IN NO EVENT MAY ANY ACTION BASED UPON ANY DEFECT FOUND IN THIS SURVEY BE COMMENCED MORE THAN TEN (10) YEARS FROM THE DATE OF THE CERTIFICATION SHOWN HEREON.

DRAWN BY: NCW DATE: 03/01/2022  
DESIGNED BY: RBP DATE: 03/01/2022  
CHECKED BY: CVW DATE: 03/04/2022  
APPROVED BY: RBP DATE: 03/04/2022



**PUBLIC WORKS  
ENGINEERING DIVISION**

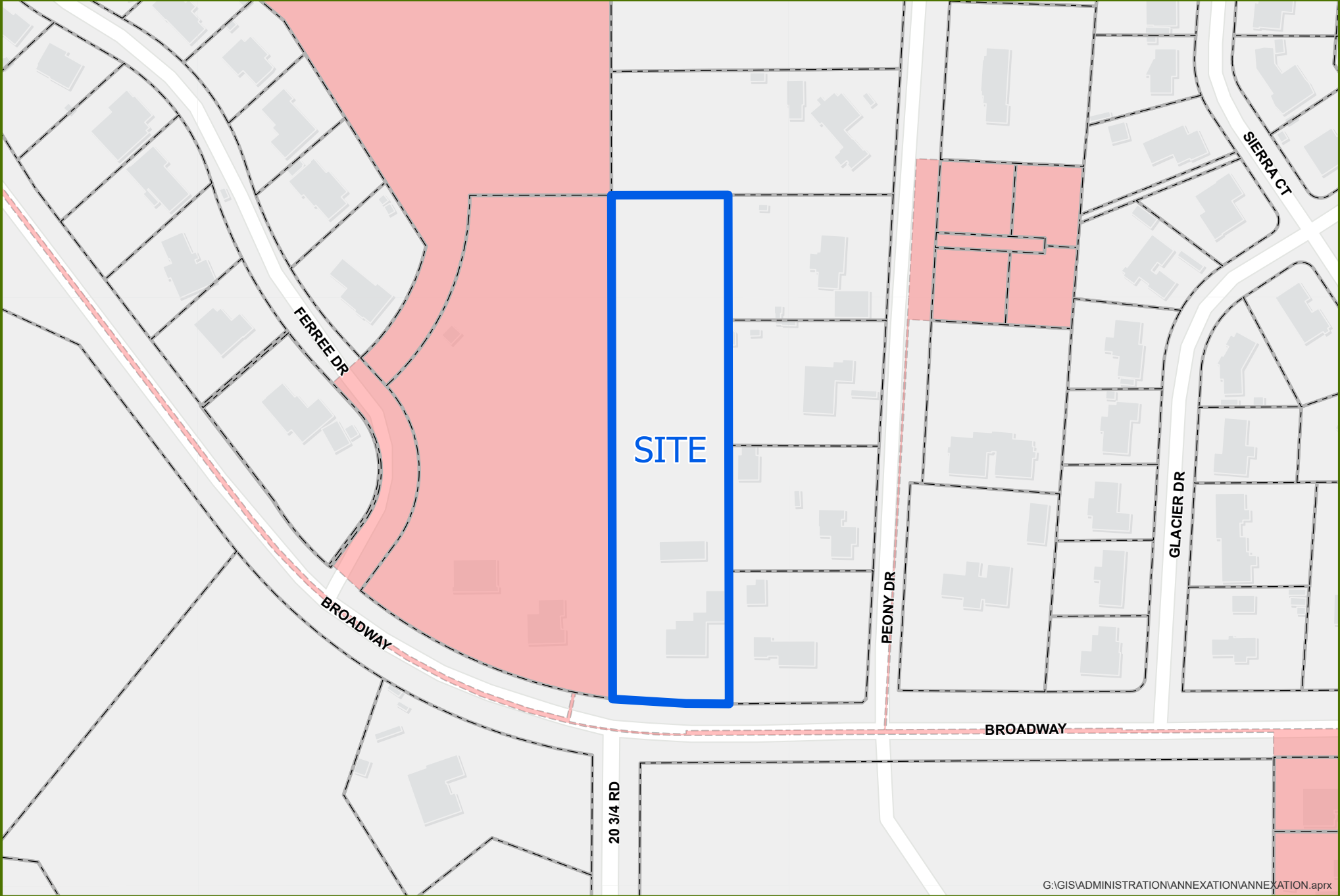
**TWENTY EIGHTY BROADWAY ANNEXATION**

Located in the SE 1/4 SE 1/4 SECTION 15, TOWNSHIP 11 SOUTH, RANGE 101 WEST,  
6TH PRINCIPAL MERIDIAN, COUNTY OF MESA, STATE OF COLORADO

**1**  
OF  
**1**



# TWENTY EIGHTY BROADWAY ANNEXATION



G:\GIS\ADMINISTRATION\ANNEXATION\ANNEXATION.aprx

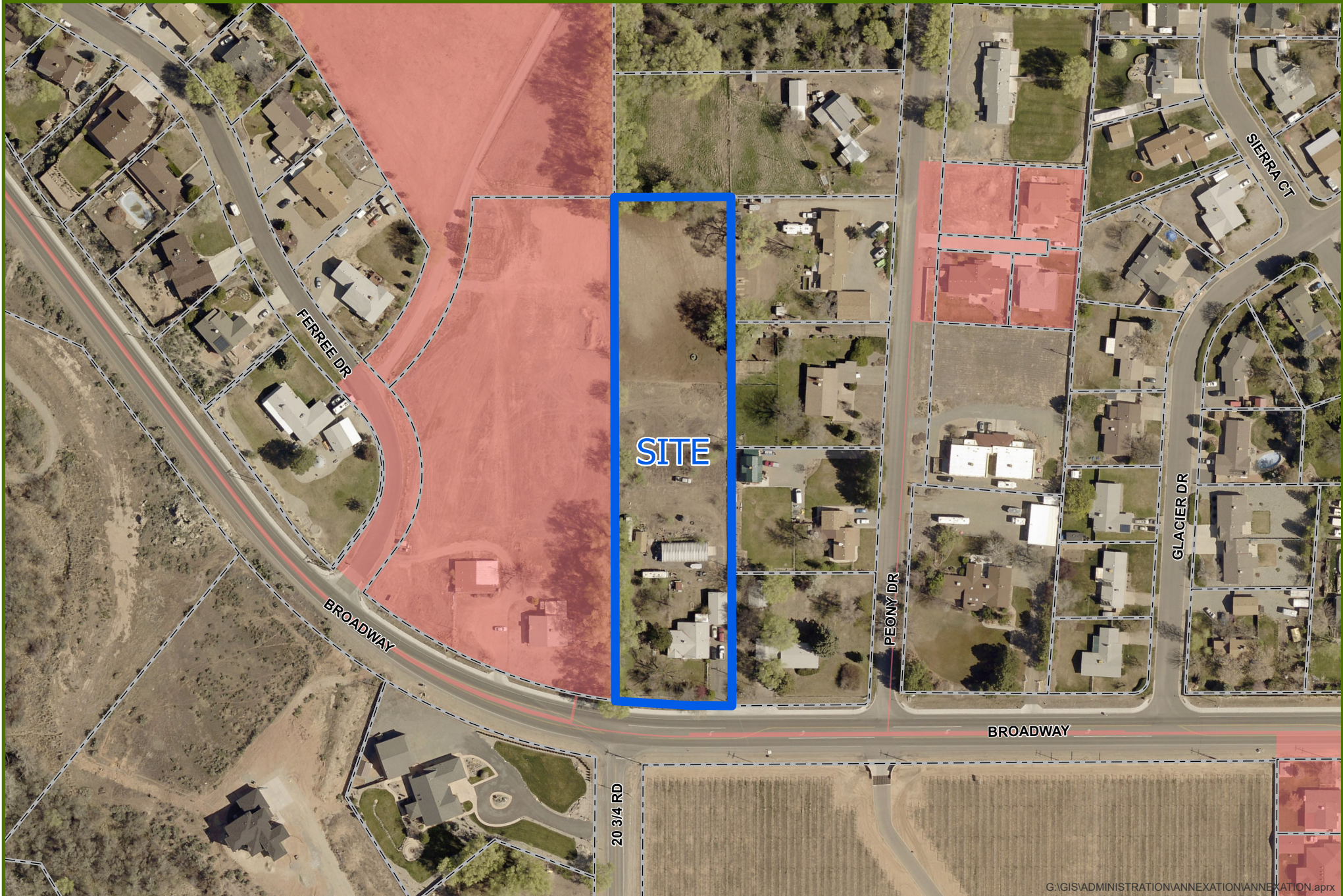


0 100 200 Feet

 Annexation  City Limits



# TWENTY EIGHTY BROADWAY ANNEXATION



G:\GIS\ADMINISTRATION\ANNEXATION\ANNEXATION.aprx



0 100 200 Feet



Annexation



City Limits



# TWENTY EIGHTY BROADWAY ANNEXATION - LAND USE



G:\GIS\ADMINISTRATION\ANNEXATION\ANNEXATION.aprx



0 100 200 Feet

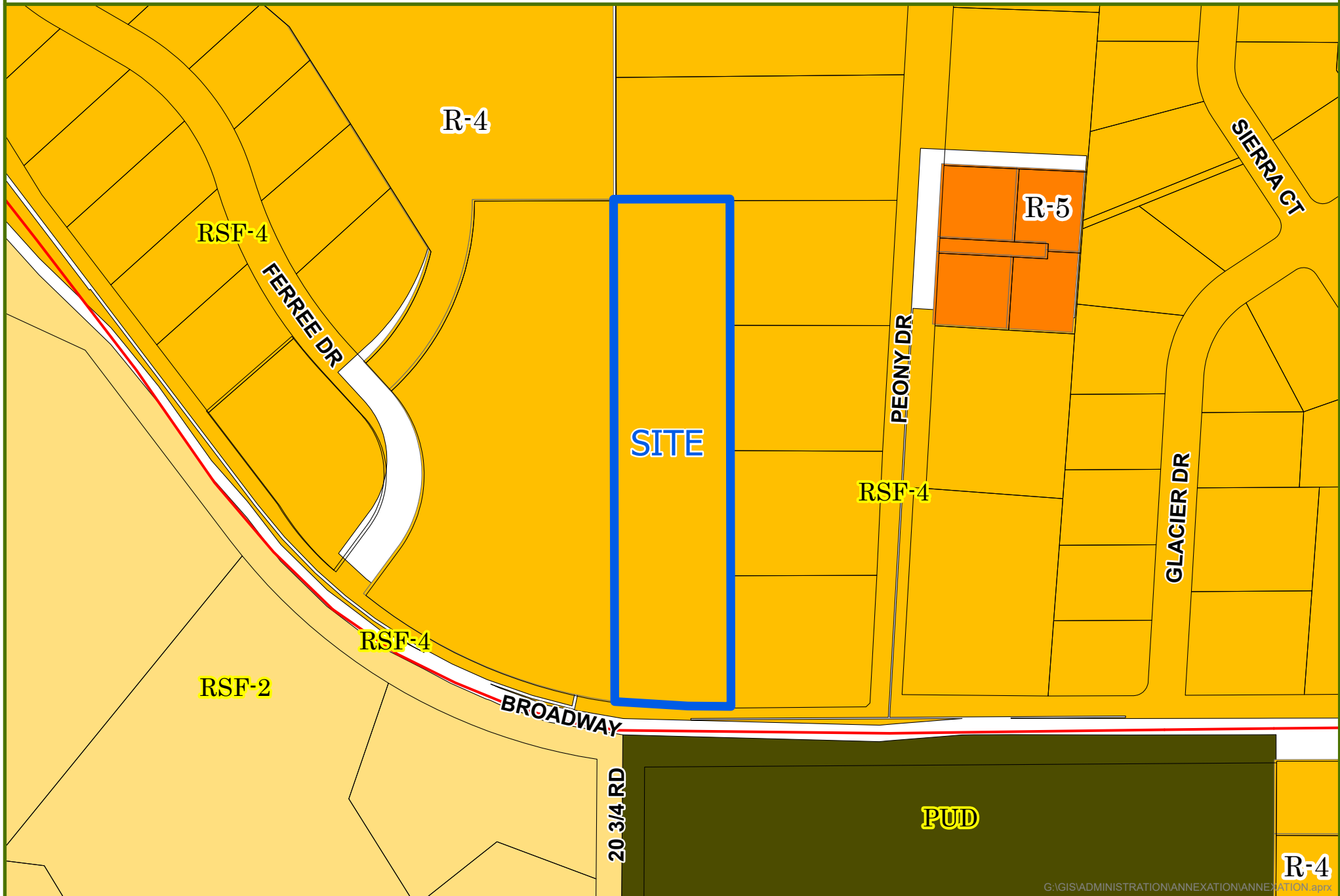
 Annexation Boundary

Packet Page 02

Date Created: 2/14/2022

**CITY OF**  
**Grand Junction**  
**COLORADO**  
GEOGRAPHIC INFORMATION SYSTEMS

# TWENTY EIGHTY BROADWAY ANNEXATION - ZONING



G:\GIS\ADMINISTRATION\ANNEXATION\ANNEXATION.aprx



0 100 200 Feet

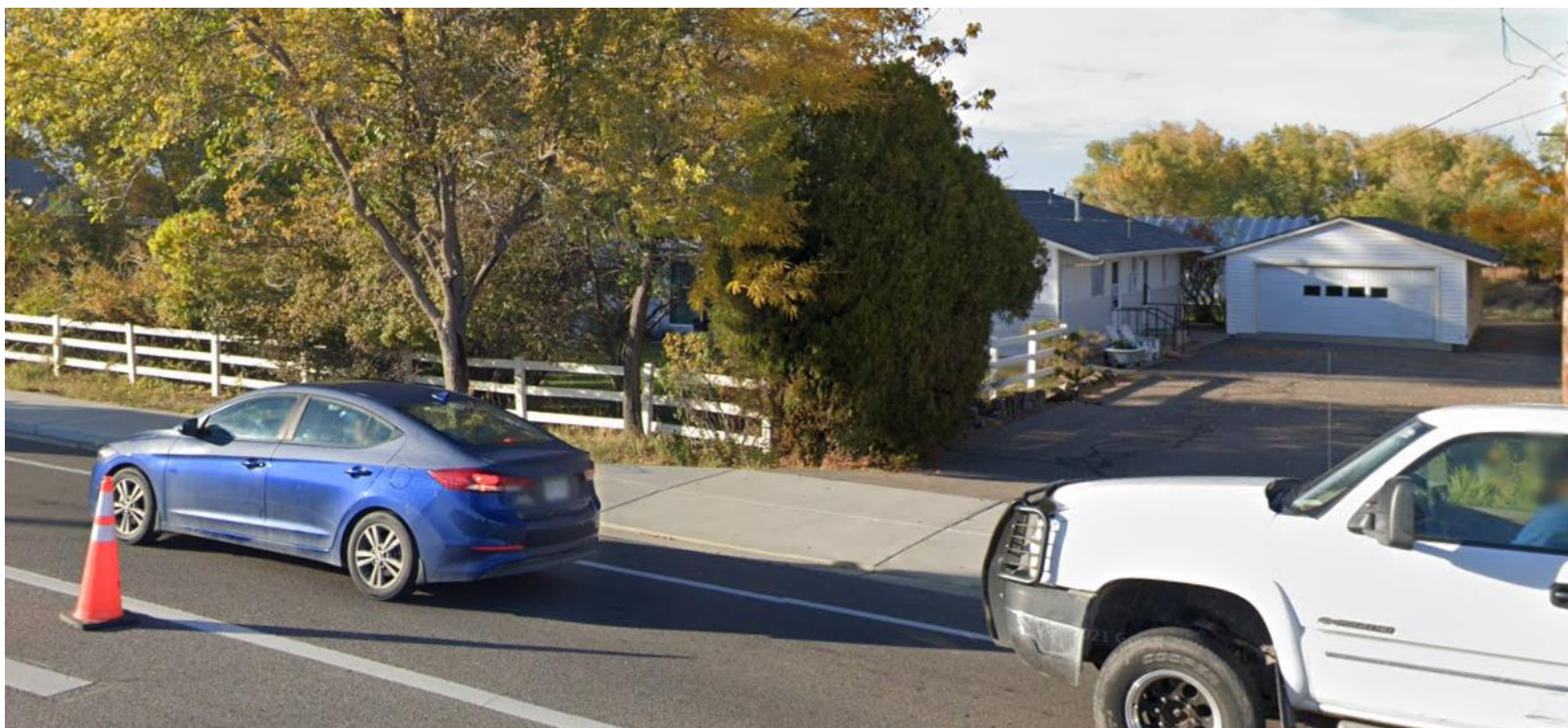
 Annexation

City Zoning  
Packet Page 93

County Zoning

Date Created: 2/14/2022

**CITY OF**  
**Grand Junction**  
COLORADO  
GEOGRAPHIC INFORMATION SYSTEMS



**Looking North from Broadway (Hwy 340)**

**CITY OF GRAND JUNCTION, COLORADO**

**ORDINANCE NO. \_\_\_\_\_**

**AN ORDINANCE ZONING TWENTY EIGHTY BROADWAY ANNEXATION  
LOCATED AT 2080 BROADWAY, GRAND JUNCTION, COLORADO  
TO R-5 (RESIDENTIAL – 5 DU/AC) ZONE**

Recitals:

The property owner has petitioned to annex 2.37 acres into the City limits. The annexation is referred to as the “Twenty Eighty Broadway Annexation.”

After public notice and public hearing as required by the Grand Junction Zoning & Development Code, the Grand Junction Planning Commission recommended zoning the Twenty Eighty Broadway Annexation consisting of 2.37 acres from County RSF-4 (Residential Single Family 4 Dwellings per acre) to City R-5 (Residential – 5 du/ac) finding that both the R-5 zone district conforms with the designation of *Residential Low* as shown on the Land Use Map of the Comprehensive Plan, and that R-5 conforms with the Comprehensive Plan’s goals and policies and is generally compatible with land uses located in the surrounding area.

After public notice and public hearing, the Grand Junction City Council finds that the R-5 (Residential – 5 du/ac) zone district is in conformance with at least one of the stated criteria of Section 21.02.140 of the Grand Junction Zoning & Development Code for the parcel as designated.

**BE IT ORDAINED BY THE CITY COUNCIL OF THE CITY OF GRAND JUNCTION THAT:**

The foregoing Recitals are adopted and incorporated and that THE TWENTY EIGHTY BROADWAY ANNEXATION, a 2.37-acre parcel of land in the City of Grand Junction, Mesa County, Colorado, with a perimeter boundary legal description as follows, is hereby zoned R-5 (Residential – 5 du/ac):

**TWENTY EIGHTY BROADWAY ANNEXATION**

A parcel of land as described in Reception Number 3005225, located in the Southeast Quarter of the Southeast Quarter (SE1/4 SE1/4) of Section 15, Township 11 South, Range 101 West of the 6<sup>th</sup> Principal Meridian, County of Mesa, State of Colorado and being more particularly described as follows:

Commencing at the Southeast Corner of said Section 15 and assuming the South line of the Southeast Quarter of said Section 15 bears N89°26’45”W with all other bearings contained

herein relative thereto; thence N89°26'45"W along said South line, a distance of 1,222.68 feet; thence N00°00'09"W, a distance of 30.59 feet to a point on the Northerly Right-of-Way line of Highway 340 as described in Reception Number 525320, said point also being a point on the East line of *PAGE ANNEXATION NO. 4, Ordinance 4085*, Reception Number 2387198 and being the Point of Beginning; thence continuing N0°00'09"W along said East line of *PAGE ANNEXATION NO. 4*, a distance of 664.44 feet; thence N89°56'13"E, a distance of 154.00 feet; thence S00°00'09"E, a distance of 670.66 feet to said Northerly Right-of-Way line of Highway 340; thence S89°39'00"W, a distance of 56.80 feet to the beginning of a curve; thence Westerly, a distance of 97.50 feet along the curve concave to the North, having a radius of 676.70 feet, a central angle of 08°15'18" and a chord which bears N86°14'04"W, a distance of 97.41 feet distant to the Point of Beginning.

Said parcel containing **103,115** Square Feet or **2.37** Acres more or less, as described, is zoned R-5 (Residential – 5 du/ac).

**INTRODUCED** on first reading this 4<sup>th</sup> day of May 2022 and ordered published in pamphlet form.

**ADOPTED** on second reading this \_\_\_\_\_ day of \_\_\_\_\_, 2022 and ordered published in pamphlet form.

\_\_\_\_\_  
C.B. McDaniel  
President of the Council

ATTEST:

\_\_\_\_\_  
Laura Bauer  
Interim City Clerk



## Grand Junction City Council

### Regular Session

Item #3.a.

---

**Meeting Date:** May 4, 2022

**Presented By:** Trenton Prall, Public Works Director

**Department:** Public Works - Streets

**Submitted By:** Eric Rink, Project Engineer

---

### **Information**

#### **SUBJECT:**

2022 Contract Street Maintenance - Seal Coat

#### **RECOMMENDATION:**

Authorize the City Purchasing Division to enter into a Contract with Andale Construction, Inc. of Wichita, KS for the 2022 Contract Street Maintenance - Seal Coat (High Density Mineral Bond) Project in the amount of \$518,865.00

#### **EXECUTIVE SUMMARY:**

This construction contract includes the application of a seal coat also known as High Density Mineral Bond (HA5) material on several existing residential streets as part of this year's annual street maintenance program. This contract with Andale Construction, Inc., if approved, will preserve the asphalt of approximately 21 lane miles of residential streets at various locations throughout the City. This contract includes a unique pavement preservation treatment that could not be included in other street maintenance contracts.

#### **BACKGROUND OR DETAILED INFORMATION:**

Roads throughout the City have been rated for condition and an asset management program is used to determine the road and the treatment list for the annual Streets Maintenance program. This contract consists of the application of a High Density Mineral Bond treatment to City streets with a proprietary material that is installed utilizing specialized equipment capable of a uniform application in a continuous motion with the ability to disperse mineral aggregate evenly throughout the application. This application will preserve the existing pavement condition and potentially extend the service life of the pavement for an additional 5 to 10 years.

This contract includes 150,921 square yards of High Density Mineral Bond treatment with associated mobilization and traffic control.

The street areas selected for this contract include:

|                                       |           |
|---------------------------------------|-----------|
| 2385 G Road                           | 857 SY    |
| 29.5 Rd Area                          | 18,882 SY |
| Autumn Glen Subdivison                | 8,732 SY  |
| Brookfield North Filing 1             | 8,327 SY  |
| Burdock Way Area                      | 32,730 SY |
| Dodge St Area                         | 25,236 SY |
| Enclave Subdivision Filing 1          | 6,544 SY  |
| Fox Meadows                           | 4,389 SY  |
| Grand View Hollow                     | 6,124 SY  |
| Lookout Point                         | 359 SY    |
| McCary Point Estates aka Ridges Point | 795 SY    |
| Ridgewood Heights                     | 5,597 SY  |
| San Juan and Ozark Area               | 22,496 SY |



|                               |          |
|-------------------------------|----------|
| Seasons<br>Area CDS           | 4,168 SY |
| Siena View<br>Filing 2        | 2,107 SY |
| Thunder<br>Valley Filing<br>I | 3,578 SY |

PCI ratings for the streets in these areas are generally 75 or higher. The treatment is applied to streets in generally good condition because the application of this material will not improve the existing condition but rather, will preserve and extend the existing condition for upwards of 5 to 10 years. A 5 year warranty is included with the application of the HA5 material on good condition asphalt.

A formal Invitation for Bids was issued via BidNet (an on-line site for government agencies to post solicitations), posted on the City's Purchasing website, sent to the Grand Junction Chamber of Commerce and the Western Colorado Contractors Association, and advertised in *The Daily Sentinel*. One company submitted a formal bid, which was found to be responsive and responsible in the following amount:

| Firm                      | Location    | Base Amount  |
|---------------------------|-------------|--------------|
| Andale Construction, Inc. | Wichita, KS | \$518,865.00 |

This project is scheduled to begin in late June with an expected final completion date of late July.

Per Section 10.10 of the Purchasing Manual, all solicitation documents shall remain confidential until the Purchasing Division awards the contract.

### **FISCAL IMPACT:**

The funding for this project is in the 2022 Adopted Budget in the Sales Tax Capital Improvement Fund's \$4.3 million Contract Street Maintenance Project. Also on this agenda is the contract for the partial reconstruction of Kansas Avenue (\$613,049) which is also funded within the Contract Street Maintenance Project.

### **SUGGESTED MOTION:**

I move to authorize the City Purchasing Division to enter into a contract with Andale Construction, Inc. of Wichita, CO for the 2018 Contract Street Maintenance - High Density Mineral Bond Project in the amount of \$518,865.00.

### **Attachments**

None



## Grand Junction City Council

### Regular Session

Item #3.b.

---

**Meeting Date:** May 4, 2022

**Presented By:** Trenton Prall, Public Works Director

**Department:** Public Works - Engineering

**Submitted By:** Eric Rink, Project Engineer

---

### **Information**

#### **SUBJECT:**

Construction Contract for Partial Reconstruction of South Rim Drive and Kansas Avenue

#### **RECOMMENDATION:**

Authorize the City Purchasing Division to enter into a Contract with Mountain Valley Contracting, Inc. of Grand Junction, CO for the Partial Reconstruction of South Rim Drive and Kansas Avenue project in the amount of \$613,048.56.

#### **EXECUTIVE SUMMARY:**

South Rim Drive, Kansas Ave, and 5 associated cul-de-sacs are in a failed pavement condition. This project will remove the existing pavement, recondition base course, and pave a fresh asphalt surface. Drainage patterns will largely be maintained, but a slight crown will be added to the roadway to enhance water shedding.

#### **BACKGROUND OR DETAILED INFORMATION:**

The condition of City streets is rated on a periodic basis as part of the City's asset management program to determine annual maintenance treatments. Ideally, the City streets are maintained at a level that requires regular surface treatment and minimizes the amount of more costly reconstruction efforts. The section of South Rim Drive between Redlands Parkway and 23 Road, as well as the adjacent section of Kansas Avenue and connecting cul-de-sacs, have deteriorated beyond the point that surface treatment is appropriate, yet not quite in need of full reconstruction. As a result, this contract proposes a partial reconstruction that includes removal of asphalt, reconditioning of the existing base materials, and installing a new asphalt section on each of these streets. This partial reconstruction allows the City to reuse the existing road base materials and minimizes impacts to the shallow utilities in this area. The final

product will be equivalent to a new road section with a similar life expectancy.

This contract includes approximately 14,399 SY of asphalt mat removal, 14,349 SY of existing base course reconditioning, 40 SY of concrete gutter, 2,802 Tons of asphalt pavement, utility adjustments, and reset of landscaping.

A formal Invitation for Bids was issued via BidNet (an online site for government agencies to post solicitations), posted on the City's Purchasing website, sent to the Grand Junction Chamber of Commerce and the Western Colorado Contractors Association, and advertised in The Daily Sentinel. Four companies attended a mandatory pre-bid meeting and one company submitted a bid, which was found to be responsive and responsible in the following amount:

| Firm                              | Location           | Bid Amount   |
|-----------------------------------|--------------------|--------------|
| Mountain Valley Contracting, Inc. | Grand Junction, CO | \$613,048.56 |

It is believed that no other bids were received due to the limited amount of contractor availability. The bid received appears to be in line with unit prices for current market conditions and Mountain Valley Contracting, Inc. has successfully demonstrated that they are qualified for this type of work. This project is scheduled to begin in May with construction expected to take approximately one month.

Per Section 10.10 of the Purchasing Manual, all solicitation documents shall remain confidential until the Purchasing Division awards the contract.

**FISCAL IMPACT:**

The funding for this project is in the 2022 Adopted Budget in the Sales Tax Capital Improvement Fund's \$4.3 million Contract Street Maintenance Project. Also on this agenda is the contract for the application of seal coat (\$518,865) which is also funded within the Contract Street Maintenance Project.

**SUGGESTED MOTION:**

I move to authorize the City Purchasing Division to enter into a Contract with Mountain Valley Contracting, Inc. of Grand Junction, CO for the Partial Reconstruction of South Rim Drive and Kansas Avenue project in the amount of \$613,048.56.

**Attachments**

None



## Grand Junction City Council

### Regular Session

Item #3.c.

---

**Meeting Date:** May 4, 2022

**Presented By:** Jay Valentine, General Services Director

**Department:** General Services

**Submitted By:** Tim Barker

---

### **Information**

#### **SUBJECT:**

Purchase Tow Behind Stump Grinder from Vermeer Sales in Grand Junction, Colorado

#### **RECOMMENDATION:**

Staff recommends purchasing a tree-stump grinding machine in the amount of \$76,770.00 from Vermeer Sales in Grand Junction Colorado

#### **EXECUTIVE SUMMARY:**

Staff is requesting approval for the purchase of a tree-stump grinding machine in the amount of \$76,770.00 from Vermeer Sales. This purchase will replace a 15-year-old unit that has reached the end of its useful life. Although this purchase falls under the Council approval threshold of \$500,000, only one bid was received and in accordance with policy, which requires any purchase over \$50,000 in which there was only one bid was received, City Council approval is required.

#### **BACKGROUND OR DETAILED INFORMATION:**

10 companies downloaded the solicitation and only Vermeer responded. The Fleet Services division administers the equipment replacement program and vehicle operating budgets. This includes evaluation and determination of equipment replacement and preparation of specifications which ensure acquisition of effective equipment and asset management.

A formal Invitation for Bids was issued via BidNet (an on-line site for government agencies to post solicitations), posted on the City's Purchasing website, sent to the Grand Junction Chamber of Commerce and the Western Colorado Contractors Association, and advertised in The Daily Sentinel. One company submitted a formal

bid, which was found to be responsive and responsible in the following amount:

| <b>Company</b>                | <b>Location</b>       | <b>Bid Amount</b> |
|-------------------------------|-----------------------|-------------------|
| Vermeer<br>Sales &<br>Service | Grand<br>Junction, CO | \$76,770.00       |

Per Section 10.10 of the Purchasing Manual, all solicitation documents shall remain confidential until the Purchasing Division awards the contract.

**FISCAL IMPACT:**

Funds for this purchase are in the 2022 Adopted Budget in the Fleet Replacement Fund.

**SUGGESTED MOTION:**

I move to authorize the City Purchasing division to execute a purchase order to Vermeer Sales and service for the purchase of a trailer mount tree-stump grinder.

**Attachments**

None



## Grand Junction City Council

### Workshop Session

Item #4.a.

---

**Meeting Date:** May 4, 2022

**Presented By:** Trent Prall

**Department:** Public Works - Streets

**Submitted By:** Trent Prall, Public Works Director

---

### **Information**

#### **SUBJECT:**

A Resolution Adopting the 4th and 5th Street Feasibility Study

#### **EXECUTIVE SUMMARY:**

The Downtown Development Authority (DDA) hired the consulting engineering firm of Bohannon Huston to conduct a Feasibility Study on the One-Way to Two-Way Conversion of 4<sup>th</sup> and 5<sup>th</sup> Streets in conjunction with City staff. A technical team comprised of CDOT, City and County staff and a project advisory committee made up of various downtown business and residential interests met a few times and a public open house was held. Based on this outreach, project goals and priorities were developed as well as alternatives for both one-way "enhanced" and two-way configurations. The study proposes similar infrastructure for either the one-way "enhanced" and the two-way corridors, which will allow for phased implementation. The proposed resolution adopts the findings of the study.

#### **BACKGROUND OR DETAILED INFORMATION:**

In 1981, the Downtown Development Authority (DDA) identified the conversion of 4th and 5th Street from one-way to two-way as a goal in its original Plan of Development. In 2013, the City's Greater Downtown Plan also called for looking at the configuration of 4th and 5th Street. This was also confirmed again in the 2019 DDA Plan of Development and the City's updated Comprehensive Plan also identifies utilization of Complete Streets within the Downtown core.

In late 2020, the DDA hired the consulting engineering firm of Bohannon Huston of Englewood, Colorado to conduct a Feasibility Study on the One-Way to Two-Way Conversion of 4th and 5th Streets in coordination with City Staff.



Bohannon Huston is teamed with MaxGreen Transportation Engineers for the engineering and traffic analysis portion of the work and MIG for outreach and stakeholder coordination and some of the Urban Planning and Design/Economic Development elements of the proposed scope of work.

The study tasks included determining existing conditions with traffic counts and review of land use/demographics, future conditions forecast, and feasibility assessment. Conceptual plans were prepared that included visual renderings to help stakeholders envision potential changes. The feasibility assessment was based on an evaluation of traffic circulation, safety, accessibility, parking, economic viability along with bicycle, pedestrian, transit and the movement of freight. Analysis of pros/cons and public outreach are included along with the final feasibility.

A technical team and project advisory committee were both formed to help provide input and review findings. A public open house was held May 4, 2021 and a virtual outreach was held through the month of September, which included an online survey.

The study team published a project website (<https://project.bhinc.com/4th5thStudy>) with a dedicated page for an interactive map. The project website and interactive map allowed the public an ongoing opportunity to provide input while respecting pandemic conditions as well as allowing flexibility with busy schedules. This helped accommodate those that might not be able to attend the public meetings while still being able to capture their feedback and provided an anonymous platform for sharing input for those who may not feel comfortable speaking out through other means. A dedicated email address ([4th5thStudy@bhinc.com](mailto:4th5thStudy@bhinc.com)) was also available where the public can ask any questions or share comments throughout the duration of the study.

This was previously presented to the DDA on November 11 and City Council on November 15. It reviews the vision and goals that have been developed based on public outreach, study area priorities, input on street design elements, cross sections, outreach summary, traffic summary, and recommendations. The alternatives analysis matrix is attached separately for reference.

Goals developed for the project include:

1. Enhancing Safety
2. Improve Walkability and Bikeability
3. Activate Economic Development
4. Optimize Traffic Circulation

Traffic modeling indicates that 4th Street and 5th Street would operate at acceptable levels under either the one-way or two-way configurations. Additional traffic analysis will be completed to ensure the appropriate infrastructure, signals, and signs are integrated at the intersections during the design phase.

The study concluded that full build-out of the enhanced one-way OR the enhanced two-way will work. As the infrastructure is very similar for both alternatives, there is the

opportunity for phased implementation of improvements, remaining in the one-way configuration until such time as the conversion to two-way, if desired, is within reach from a budget standpoint. There is also an opportunity to pilot modifications with the one-way configuration to confirm changes of traffic patterns if the signals on both 4th Street and 5th Street between Grand and Ute Ave were removed and replaced with stop signs.

Next steps include developing plans for full implementation on both 4th and 5th Streets in 2022 utilizing "pop up" elements such as "safe hit" bollards, parking blocks, planters and simple restriping to create the intent of the corridor and allocate the space as defined in the study. This will allow for implementation this year at relatively low cost as well as enable the community to "test drive" the design. Once the concept is proven, then long-term improvements with the addition of permanent bulb-outs and pedestrian-level amenity zones can be permanently constructed in 2023 and 2024.

### **FISCAL IMPACT:**

There is no fiscal impact related to the adoption of a resolution. Depending upon proposed solutions and DDA/Council support, projects have been budgeted and added to the City's capital improvement program. The City has \$700,000 budgeted in 2022, and \$750,000 in 2023 and 2024 in the ten-year capital plan for a total of \$2,200,000 to implement the recommendations of this study.

The project appears to be eligible for CDOT's Revitalizing Main Street grant program. This could bring an additional \$150,000 to the project. Applications are due June 1. Staff will request a resolution of support to apply for the grant at the May 18th Council meeting.

### **SUGGESTED ACTION:**

I move to adopt Resolution No. 36-22, a resolution adopting the 4th-5th Street Feasibility Study.

### **Attachments**

1. GJ4th5thFeasibilityStudy\_March22.2022.FINAL
2. GJ4th5thFeasibilityStudy\_March22.2022.Public Comments Received
3. Resolution - 4th-5th Feasibility Study - 202200504



GRAND JUNCTION

# 4<sup>TH</sup> & 5<sup>TH</sup> ST

FEASIBILITY STUDY



March 2022

# ACKNOWLEDGEMENTS

The following individuals and organizations contributed to the development of the *Grand Junction 4th & 5th St Feasibility Study*: Thank you to all for your continued input and support.

## **Study Leads**

|               |                                                |
|---------------|------------------------------------------------|
| Brandon Stam  | Director, Downtown Development Authority (DDA) |
| Trenton Prall | Public Works Director, City of Grand Junction  |

## **Technical Team**

|                 |                                                          |
|-----------------|----------------------------------------------------------|
| Kaity Clark     | Region 3 - Grand Junction Resident Engineer, CDOT        |
| Zane Znamenacek | Traffic and Safety Program Manager, CDOT                 |
| Mark Bunnell    | Traffic Engineer, CDOT                                   |
| David Goe       | Community Engagement Manager, DDA                        |
| Eric Mocko      | Transportation Engineer, City of Grand Junction          |
| Greg Scott      | Traffic, City of Grand Junction                          |
| Tamra Allen     | Planning, City of Grand Junction                         |
| Greg LeBlanc    | Senior Assistant to City Manager, City of Grand Junction |
| Dean Bressler   | Senior Engineer, Mesa County RTPO                        |
| Andrew Gingrich | Transit Coordinator, Mesa County RTPO                    |

## **Project Advisory Committee**

|                 |                                                |
|-----------------|------------------------------------------------|
| Jason Smith     | Region 3 Program Manager, CDOT                 |
| Andrea Haitz    | Planning Commission, City of Grand Junction    |
| Josh Niernberg  | DDA Board                                      |
| Cole Hanson     | DDA Board                                      |
| Eli Gerson      | Local Business Owner                           |
| Nina Parentice  | Local Resident                                 |
| Diana Rooney    | Urban Trails Committee, City of Grand Junction |
| Heath Hillman   | Local Neighborhood                             |
| Colin St. Clair | Local Neighborhood                             |

## **Downtown Development Authority Board of Directors**

|                 |                |
|-----------------|----------------|
| Doug Simons Jr. | Maria Rainsdon |
| Josh Niernberg  | Libby Olson    |
| Dan Meyer       | Cole Hanson    |
| Garrett Portra  | Randall Reitz  |
| Vance Wagner    |                |

## **City of Grand Junction City Council**

|                |                |
|----------------|----------------|
| Abe Herman     | Dennis Simpson |
| Chuck McDaniel | Anna Stout     |
| Phillip Pe'a   | Rick Taggart - |
| Randall Reitz  |                |



## TABLE OF CONTENTS

|                                               |           |
|-----------------------------------------------|-----------|
| Acknowledgements.....                         | i         |
| <b>Chapter 1 – Setting the Stage .....</b>    | <b>1</b>  |
| Overview .....                                | 2         |
| Previous Planning Efforts .....               | 6         |
| Public & Stakeholder Involvement.....         | 8         |
| Vision & Goals .....                          | 14        |
| Existing Conditions .....                     | 17        |
| <b>Chapter 2 – Feasibility .....</b>          | <b>24</b> |
| Priorities & Preferences .....                | 25        |
| Proposed Alternatives.....                    | 31        |
| <b>Chapter 3 – Looking to the Future.....</b> | <b>46</b> |
| Recommendations .....                         | 47        |
| <b>Appendix 1 – Maps &amp; Outreach .....</b> | <b>1</b>  |
| Study Maps .....                              | 2         |
| Outreach Materials .....                      | 11        |
| Alternatives Evaluation Matrix .....          | 22        |
| <b>Appendix 2 – Traffic Memo .....</b>        | <b>23</b> |







GRAND JUNCTION

# 4<sup>TH</sup> & 5<sup>TH</sup> ST

FEASIBILITY STUDY



## Chapter 1 – Setting the Stage



# OVERVIEW

## Purpose

**The 4th and 5th Street Feasibility Study** is being led by the Grand Junction Downtown Development Authority (DDA), in conjunction with the City of Grand Junction (City). The purpose of the feasibility study is to evaluate potential improvements along both corridors with the primary task being to evaluate whether to maintain the one-way traffic operations or transition to two-way travel along the parallel corridors.

*Ensuring a comprehensive look at any proposed modifications, the following key elements were considered for any and all alternatives:*

- **Safety**
- **Traffic Circulation**
- **Walkability**
- **Bicycle Facilities**
- **Parking**
- **Transit**
- **Land Use**
- **Economic Development**

## Study Area

The study area (Figure 1) includes both 4<sup>th</sup> Street and 5<sup>th</sup> Street from North Avenue (US Hwy 6) to the north and Pitkin Avenue (I-70B Eastbound) to the south. The 4<sup>th</sup> Street corridor is a one-way roadway that travels south, and 5<sup>th</sup> Street is a one-way roadway that travels north. The northern portion of the study area has a residential character, while the southern portion includes the downtown core that supports both local businesses and city and community services such as the library and chamber of commerce. There are also two parks within the area – Hawthorne Park located between Hill Avenue and Gunnison Avenue, and Whitman Park located between the one-way couplet I-70B business loop corridors (Westbound - Ute Avenue and Eastbound - Pitkin Avenue).

Although 4<sup>th</sup> and 5<sup>th</sup> Streets are owned and maintained by the City of Grand Junction, the northern and southern termini of the study area, North Avenue (US Hwy 6) and the Ute Avenue and Pitkin Avenue one-way couplet, are Colorado Department of Transportation (CDOT)-owned roadways.

Currently, there are limited transit facilities and bicycle facilities within the study area. The only bike lane is along 5th Street between Ouray Avenue and Belford Avenue.

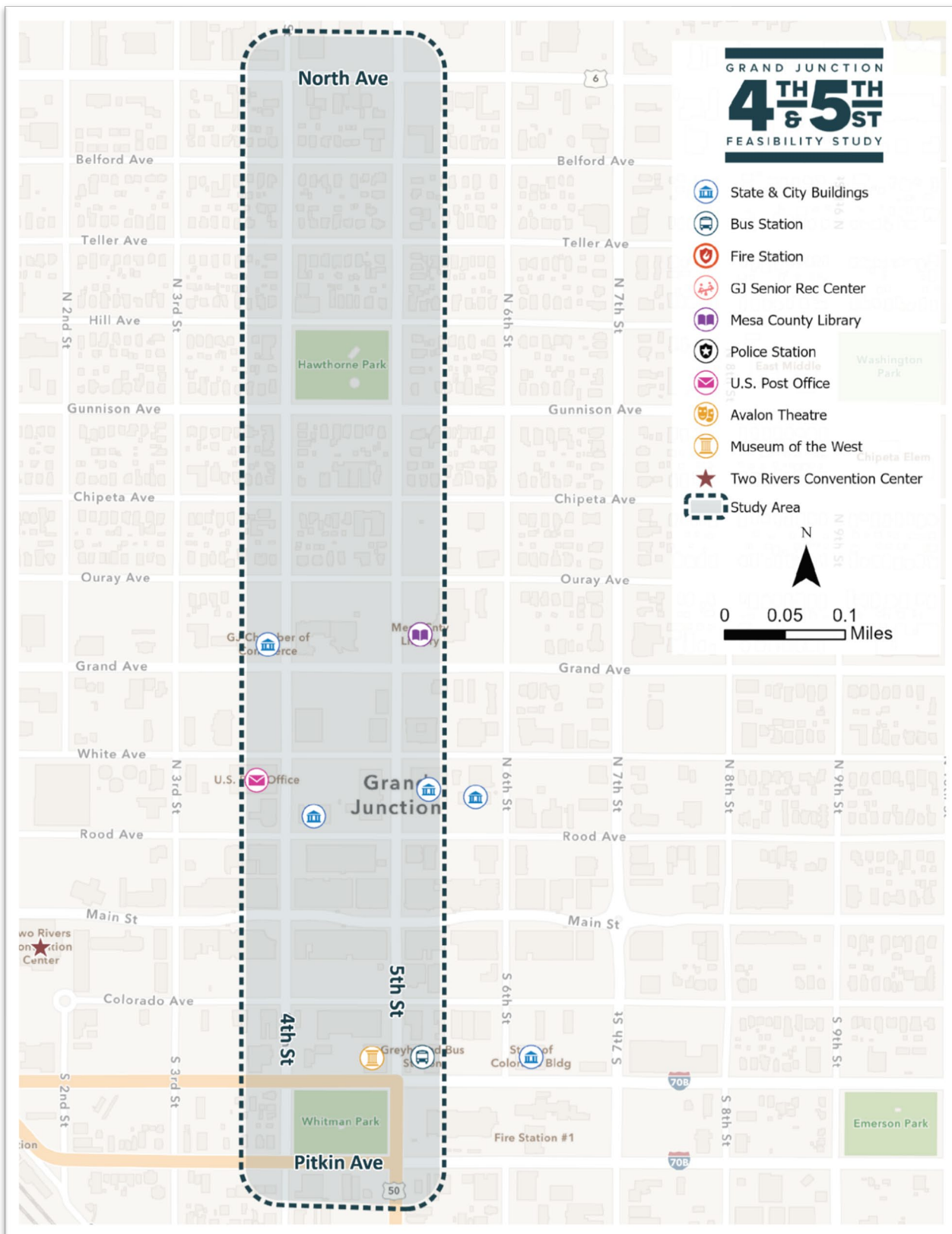


Figure 1: Study Area Map



*Figure 2: 4th St and Rood Ave - Looking North*



*Figure 3: 5th St Between North Ave and Belford Ave*

Early in the planning process, the study team leveraged best practice expertise to articulate a **Summary of Benefits** for both one-way and two-way roadway configurations. This summary (Figure 4) was utilized as a way of framing the conversation around the feasibility and tolerance for specific tradeoffs for each potential operational configuration of 4<sup>th</sup> Street and 5<sup>th</sup> Street.



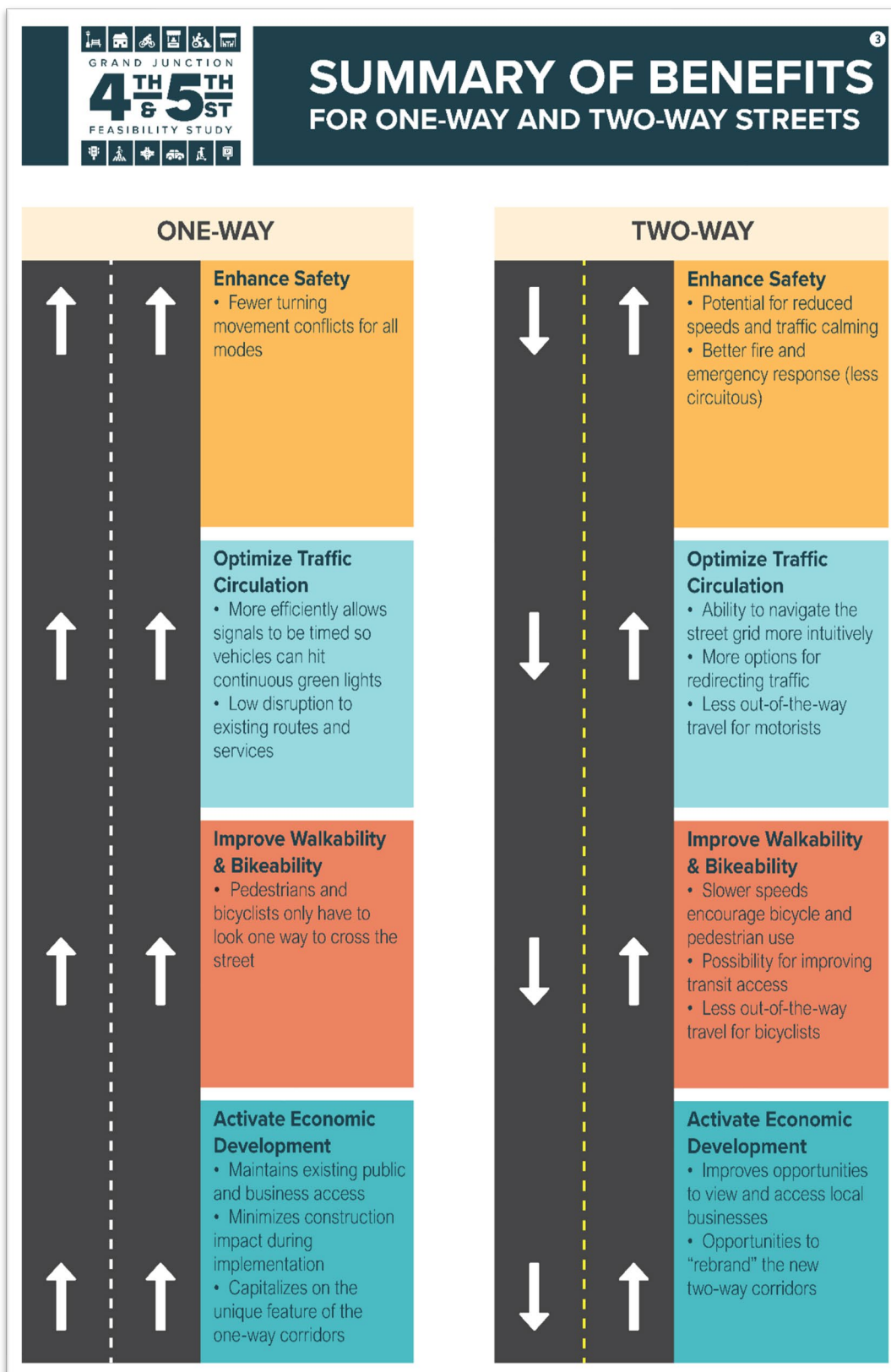


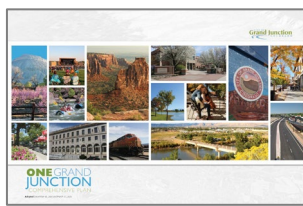
Figure 4: One-Way and Two-Way Benefits Summary

# PREVIOUS PLANNING EFFORTS

This study builds upon multiple previous planning efforts. In 1981, the Downtown Development Authority (DDA) identified the conversion of 4th and 5th Street from one-way to two-way as a goal in its original Plan of Development. In 2013, the City of Grand Junction's Greater Downtown Plan also called for looking at the configuration of 4th and 5th Street. This was again confirmed as a focus area in the 2019 DDA Plan of Development, and the City's updated Comprehensive Plan due to continued concerns around safety issues related to this corridor. Two of the plans with the most influence on this study are further highlighted below.



*"Convert 4th and 5th to two-way Streets" is listed as a priority strategy for connectivity.*



*The conversion of 4th and 5th Street from one-way to two-way was confirmed as a focus area due to continued concerns around safety issues.*



*The City's municipal code includes a policy within the Downtown District goals and policies to "Study alternatives for 4th and 5th Streets including returning these streets to the two-way grid system between Ute Avenue and North Avenue."*



*The City's Complete Streets Policy and the 2018 Circulation Plan provide additional guidance that will inform this study.*

## Vibrant Together – A Downtown Initiative (2019)

This Plan provides a unified vision for downtown, identifies projects to advance that vision, and brings local leaders together in pursuit of the vision. Goals outlined in the Plan focus on downtown development, connectivity, safety and comfort, and vibrancy. Specific to 4<sup>th</sup> Street and 5<sup>th</sup> Street, it identifies a wide variety of opportunities and challenges for the study area as a whole and the individual corridors respectively.

The following were recommended for the **study area** as a whole:

- Recommended **bump outs** at Colorado Ave, Main St, Rood Ave, White Ave, and Grand Ave.
  - Proposes a neighborhood bikeway on Ouray Ave, crossing through the two corridors
  - Proposes improved bike intersections along at Grand Ave, Ute Ave, and Pitkin Ave

Recommendations for **4<sup>th</sup> Street** include:

- Identifies that a crosswalk is needed at Grand Ave
- Proposes a bike lane

- Proposes a future event space at Colorado Ave

Recommendations for **5<sup>th</sup> Street** include:

- Identifies Pitkin Ave as a dangerous intersection
- Identifies a new bump out at Grand Ave

## One Grand Junction Comprehensive Plan (2020)

The One Grand Junction Comprehensive Plan envisions an efficient and connected transportation system that enhances mobility for all modes. Several opportunities outlined to achieve this include narrowing travel lanes as much as possible; **encouraging the use of transit, biking, walking; and implementing complete streets approaches.**

The recommendation to work with CDOT to ensure the I-70B business loop, an important roadway that provides access to downtown, is a multi-modal facility and provides for comfortable connectivity was identified as a high priority in the near-term.



*Figure 5: 4<sup>th</sup> St and Ouray Ave – Looking South*





# PUBLIC & STAKEHOLDER INVOLVEMENT

## Engaging the Public

Public involvement was an essential component of this feasibility study. Given the pandemic conditions during the entire timeframe of this study process, a combination of both in-person and online virtual engagement methods were used to provide ample opportunities for the public to share their input throughout the full duration of the study.

Key methods of communication included a public meeting, project website, project email, online surveys, online interactive map, social media posts, and more.

Cumulatively, there were almost 500 public comments collected as a result of these engagement activities. A matrix of the comments is provided in the Appendix, while the contents of the comments were used to develop the overall recommendations.

Below is a summary of how the team engaged with the public throughout the study:

- **Public Open House** was held in-person on *May 4, 2021* at the Avalon Theatre in downtown Grand Junction.
- **Project Website** was developed and maintained throughout the study providing updates and input opportunities (<https://project.bhinc.com/4th5thStudy>).
- **Project email** was created allowing for ongoing input ([4th5thStudy@bhinc.com](mailto:4th5thStudy@bhinc.com)).
- **Online Survey** was made available to the public following the open house in *May of 2021* to collect feedback from those who may have been unable to attend or who may have felt more comfortable sharing their feedback through other means.
- **Interactive Map** was developed for the study area and made available on the project website inviting comments from the public and key stakeholders.



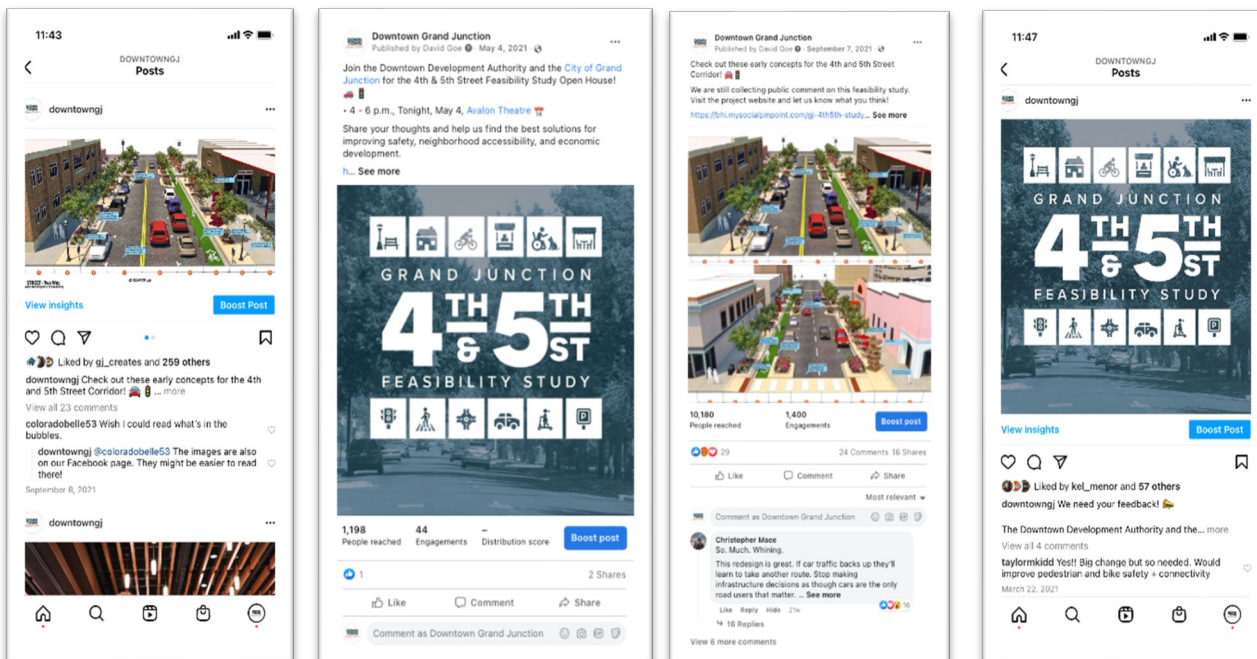


Figure 6: Social Media Posts

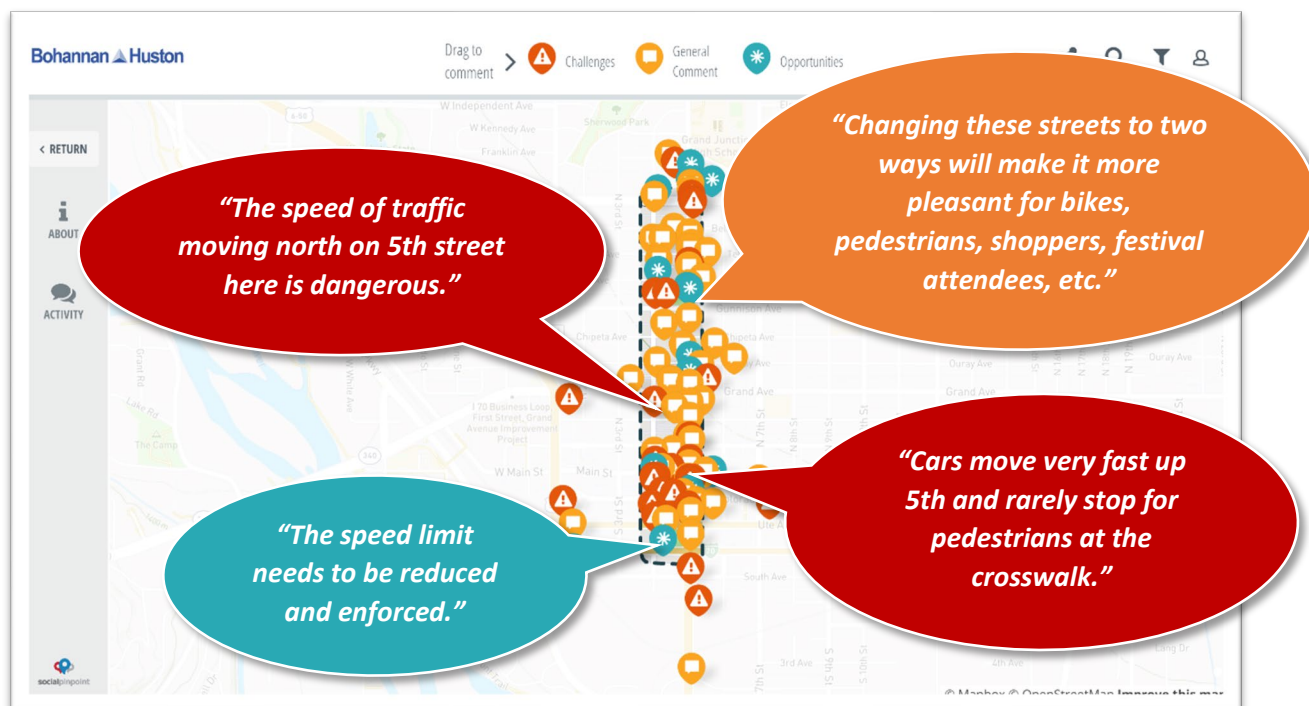


Figure 7: Online Interactive Map Screenshot and Example Comments from Users



- **Online Outreach Effort** was conducted through the month of *September 2021*, which included posting and distribution of resources such as the vision and goals, alternatives illustrated, a traffic analysis summary, and an additional online survey collecting more input.
- **Social Media** posts were ongoing throughout the study process encouraging engagement through the website, email, meeting attendance, and the online activities.

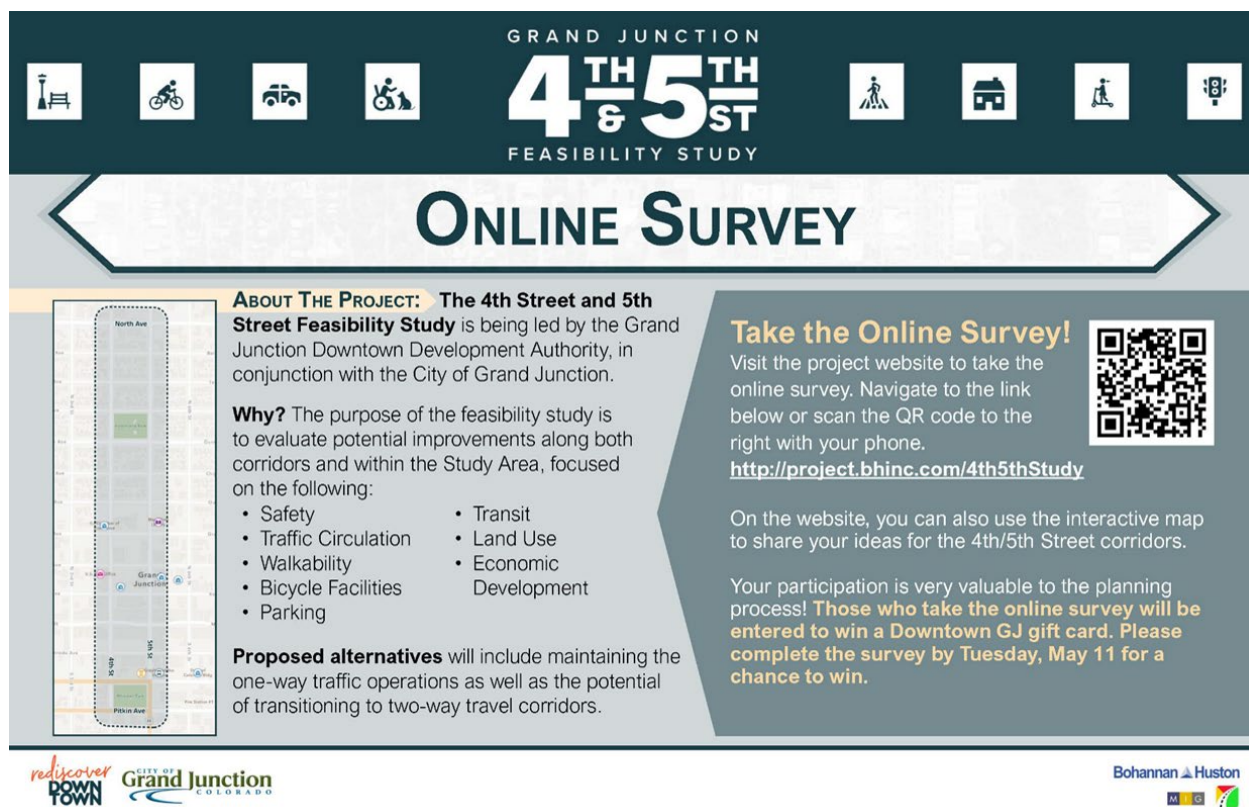


Figure 8 Public Involvement Flyer

## How Stakeholders Participated

The study team also held meetings with various stakeholder groups since the onset of the planning process to identify the vision and goals and overall preferences and priorities for the study area. These entities were also asked to help inform design elements for the proposed alternatives for 4<sup>th</sup> Street and 5<sup>th</sup> Street. There were three major stakeholder groups that supported this effort: Technical Team (TT), Project Advisory Committee (PAC), and Colorado Department of Transportation (CDOT). Key members are noted and appreciated on the acknowledgement page.

- The **Technical Team (TT)** met approximately five times throughout the duration of the study to help collect and review data, review alternatives, provide feedback based on technical expertise, and support recommendations from the study team. This team was comprised of City and County Staff representatives, intergovernmental partners from CDOT, and subject matter experts in the fields of traffic, transportation, mobility, and engineering.
- The **Project Advisory Committee (PAC)** attended three workshops during the study and were integral to supporting the development of vision and goals, providing input throughout the planning process, sharing resources, informing the alternatives and associated pros and cons for each, and disseminating important study information. This committee was comprised of local business owners and residents, community leaders, Downtown Development Authority Board and Planning Commission Members, and a representative from CDOT.
- Several additional meetings were held with CDOT representatives to address concerns along the northern and southern portions of the study area and to meaningfully incorporate CDOT improvements within the study area that are planned for the near future. Coordination with CDOT was ongoing and CDOT staff were members of the TT and PAC, as well.



GRAND JUNCTION  
**4<sup>TH</sup> & 5<sup>TH</sup> ST**  
FEASIBILITY STUDY

**ONLINE SURVEY**

**ABOUT THE PROJECT:** The 4th Street and 5th Street Feasibility Study is being led by the Grand Junction Downtown Development Authority, in conjunction with the City of Grand Junction.

**Why?** The purpose of the feasibility study is to evaluate potential improvements along both corridors and within the Study Area, focused on the following:

- Safety
- Traffic Circulation
- Walkability
- Bicycle Facilities
- Parking
- Transit
- Land Use
- Economic Development

**Proposed alternatives** will include maintaining the one-way traffic operations as well as the potential of transitioning to two-way travel corridors.

**Take the Online Survey!**  
Visit the project website to take the online survey. Navigate to the link below or scan the QR code to the right with your phone.  
<http://project.bhinc.com/4th5thStudy>

On the website, you can also use the interactive map to share your ideas for the 4th/5th Street corridors.

Your participation is very valuable to the planning process! **Those who take the online survey will be entered to win a Downtown GJ gift card. Please complete the survey by Tuesday, May 11 for a chance to win.**

rediscover **POWERTOWN** GRAND JUNCTION  
CITY OF **Grand Junction** COLORADO

Bohannon & Huston

Figure 9: Public Flyer for Online Survey



Figure 10: PAC Meeting Vision and Goals Workshop, March 3, 2021



## DDA Board and City Council

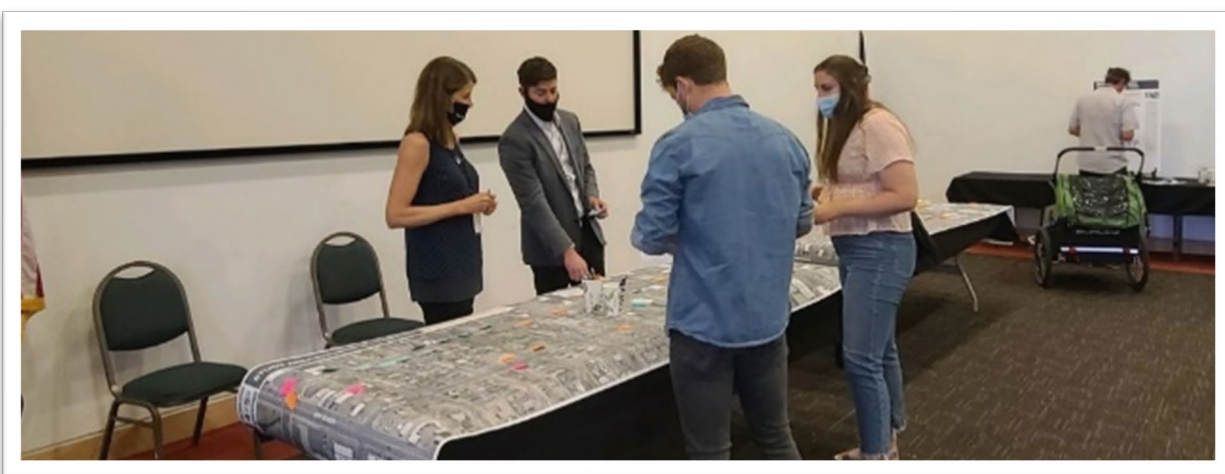
Throughout the study process, the team provided updates and received direction from the DDA Board and the City Council. With seven presentations total throughout 2021, there was complete transparency as alternatives were developed and recommendations were finalized. This ongoing support from the DDA Board and City Council was very helpful and appreciated, and these leadership presentations provided additional opportunities for the public to learn and ask questions about the study.

Members of the study team presented at the following meetings:

- City Council: June 28 and Nov 15, 2021
- DDA Board: March 25, May 13, Sept 23, and Nov 11, 2021
- DDA Board and City Council: August 12, 2021



*Figure 11: Project Website Welcome Page*



*Figure 12: Public Meeting, May 4, 2021*

# VISION & GOALS

The Vision & Goals for the study were developed through partnership with the PAC and based on a wealth of public engagement and input from previous planning efforts. A proposed set of Vision & Goals were then reinforced by input received from the public at the public open house.

All of the input on Vision and Goals was ultimately finalized to include four Vision Elements with a pair of Goals for each. The Goals established and shared below were then used to develop and evaluate all proposed alternatives throughout the remainder of the feasibility study process. They were readily available for the public and stakeholders to refer to when evaluating options and providing input, ensuring that the decisions made throughout the study aligned with the overall vision and overall goals for the study area.



Figure 13: PAC members on Vision and Goals

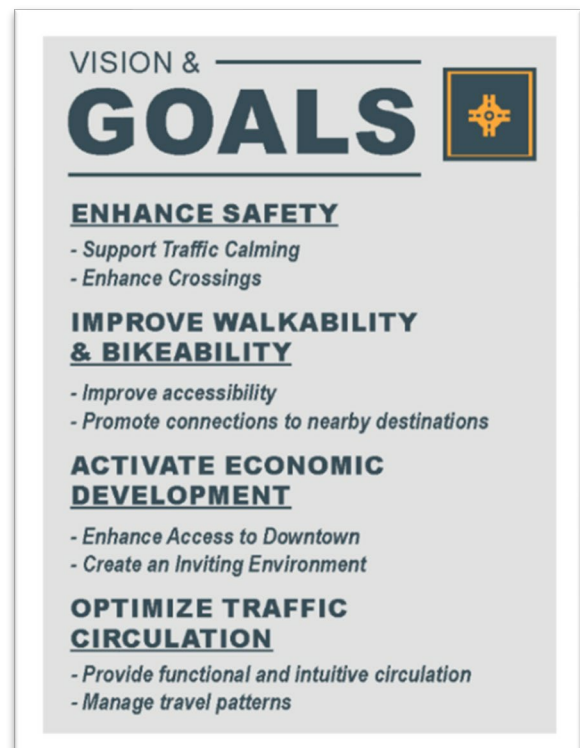


Figure 14: Final Vision and Goals Established for the Feasibility Study



Figure 15: Vision and Goals Activity – Public Meeting May 2021

## Study Area Priorities

Study Area Priorities were also developed with the community to directly align with the Vision Elements. Working in tandem with the Vision and Goals, the Study Area Priorities were used throughout the process to evaluate the various design alternatives being tested for their feasibility. The Study Area Priorities, in particular, were based on feedback received during the Public Open House in May of 2021 and through an associated online survey.

### STUDY AREA

## PRIORITIES

### ENHANCE SAFETY

- Speeding
- Driver Inattention
- Crashes
- Wrong-Way Drivers
- Backing Out of Parking

### IMPROVE WALKABILITY & BIKEABILITY

- Needs More and Safer Pedestrian Crossings
- Issues with Noncontinuous Bike Lane on 5th St
- More Bike Lanes are Desired
- Improve Access to Parks

### ACTIVATE ECONOMIC DEVELOPMENT

- Improve Access to Businesses
- Expand Sidewalk for Seating Areas
- Draw More People into the Area
- Create Pedestrian-Friendly Places
- Incorporate Art and Landscaping into the Corridor
- Signage During Construction

### OPTIMIZE TRAFFIC CIRCULATION

- Reduce Driver Confusion
- Increase the Amount of Signage
- Reduce Traffic Congestion
- Opportunities Exist to Re-Route Through Traffic

### WHAT WE **HEARD**

Over 300 total comments were collected using a combination of an interactive map, project e-mail, public open house, and an online survey.



**"Enhance Safety" and "Improve Walkability and Bikeability" were the highest-ranked Vision Elements**



**Corridor users typically drive or walk when utilizing 4th and 5th Street**



**What are the top three elements that would make 4th & 5th Street more enjoyable?**

- 1. SLOWER SPEEDS**
- 2. IMPROVED CROSSINGS**
- 3. MORE CROSSING LOCATIONS**

**Enhance Safety** and **Improve Walkability and Bikeability** were the two most prioritized Vision Elements by the community. The top three recommended strategies that would make 4<sup>th</sup> Street and 5<sup>th</sup> Street more enjoyable included slower speeds, improved crossings, and more crossing locations.

Examples of major themes that emerged within each of the Study Area Priorities included speeding, improved access to parks, a desire for more bike lanes, expansion of the sidewalk for seating areas, and reduced driver confusion. A more detailed list of these themes is presented to the far left.



## Opportunities and Challenges

The study team, along with the PAC and TT, also brainstormed and shared ideas on opportunities and challenges for the two corridors. This information helped highlight traffic, land use, economic development, and safety considerations for this study. Results are summarized below and shared in Figure X.

The following was mentioned:

- Consider signal at 3<sup>rd</sup> Street for safe bicycle crossing
- Connect to existing bike routes
- Consider existing transit routes and connections
- Anticipate transit needs of future growth
- Respect the residential character on north end
- Improve safety at the alleyways
- Explore signage, striping, and signal modifications
- Improve connections to I-70B
- Enhance/Establish a gateway al to downtown along I-70B

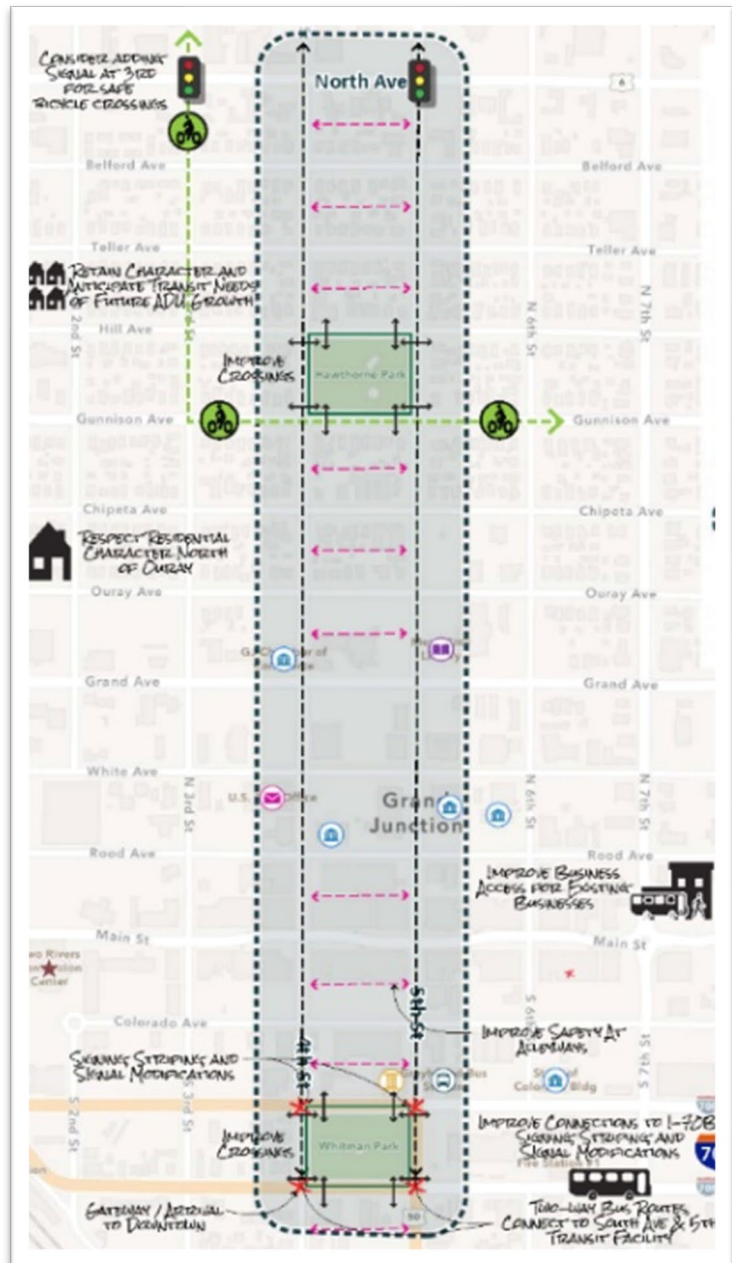


Figure 16: A Map of Opportunities/Challenges



# EXISTING CONDITIONS

The **4<sup>th</sup> Street and 5<sup>th</sup> Street** corridors are one-way couplets located in downtown Grand Junction. Existing roadway cross-sections are presented following the narrative existing conditions assessment for each individual corridor below. Today, the environment on the 4<sup>th</sup> Street corridor is more pedestrian-friendly compared to 5<sup>th</sup> Street, where the design and overall landscape lends itself more to prioritizing vehicles over pedestrian comfort. In addition to the existing cross-sections, narrative and existing conditions photos, the Appendix of this study contains a set of existing conditions reference maps – including detailed data on existing and future Land Use, existing and proposed bike facilities, existing transit, and parking within the Study Area – that were used as a basis for developing the concept alternatives in the feasibility analysis component of this project.

*The following maps are available in the Appendix of this document:*

- *Project Area Overview*
- *Current Land Use*
- *Future Land Use*
- *Downtown District*
- *Historic Assets*
- *Parking Facilities*
- *Pedestrian and Bicycle Facilities*
- *Transit Facilities*



*Figure 17: 5th St and Hill Ave – Looking North*

## 4<sup>th</sup> Street Corridor

Between Ute Avenue and Colorado Avenue along 4<sup>th</sup> Street, there are two travel lanes that vary in width, parallel and angled parking on each side, and generous sidewalks (ranging from approximately 11-15'). The section between Colorado Avenue and Rood Avenue includes two travel lanes that also vary in width with parallel parking located immediately adjacent to the travel lanes, and 10-foot sidewalks. The travel lanes in this area vary based on the parking angle. The inconsistent lane widths create a less predictable environment for users while the consistently generous sidewalk supports walkability.

Between Rood Avenue and White Avenue, the corridor has consistent travel lane widths, parking that varies in width (8.5-17.5'), and sidewalks that vary in width (6-15'). From Grand Avenue to Belford Avenue, there are two travel lanes, sidewalks with large buffers/tree lawns (14.5'), and no delineated parking. In these sections of 4<sup>th</sup> Street, the travel lanes are wider than necessary, and there are missed opportunities for bike accommodations and additional parking capacity.



*Figure 18: 4th St and Belford Ave – Looking South*

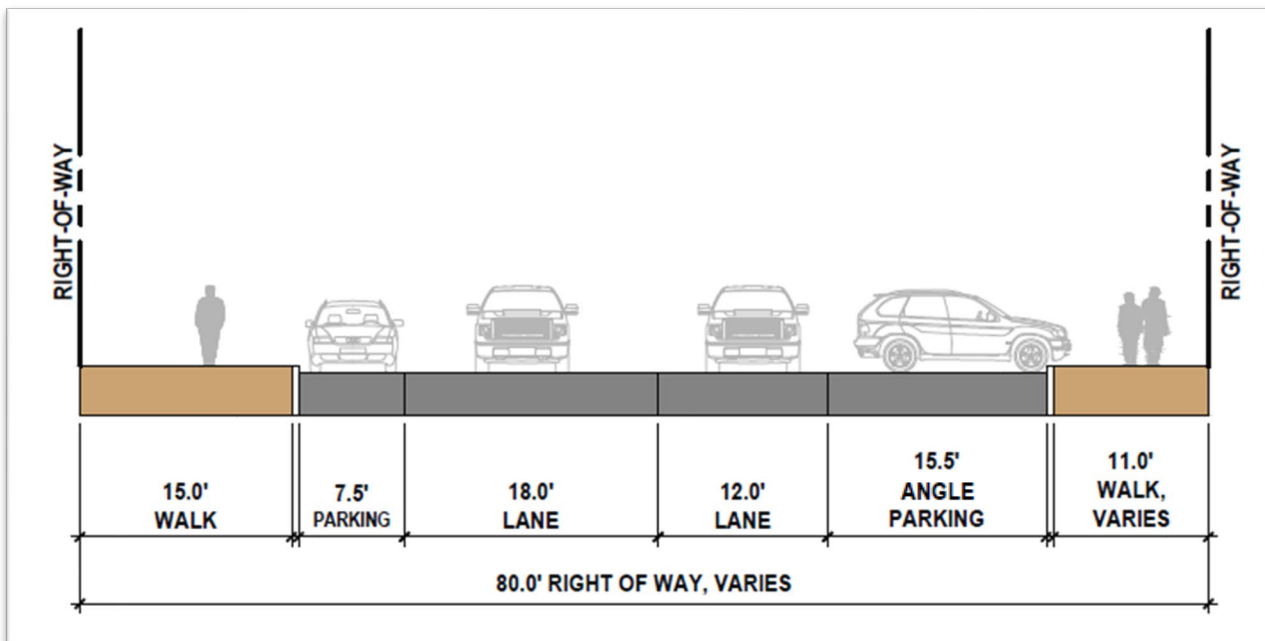


Figure 19: 4th St - Existing Cross-Sections Between Ute Ave & Colorado Ave

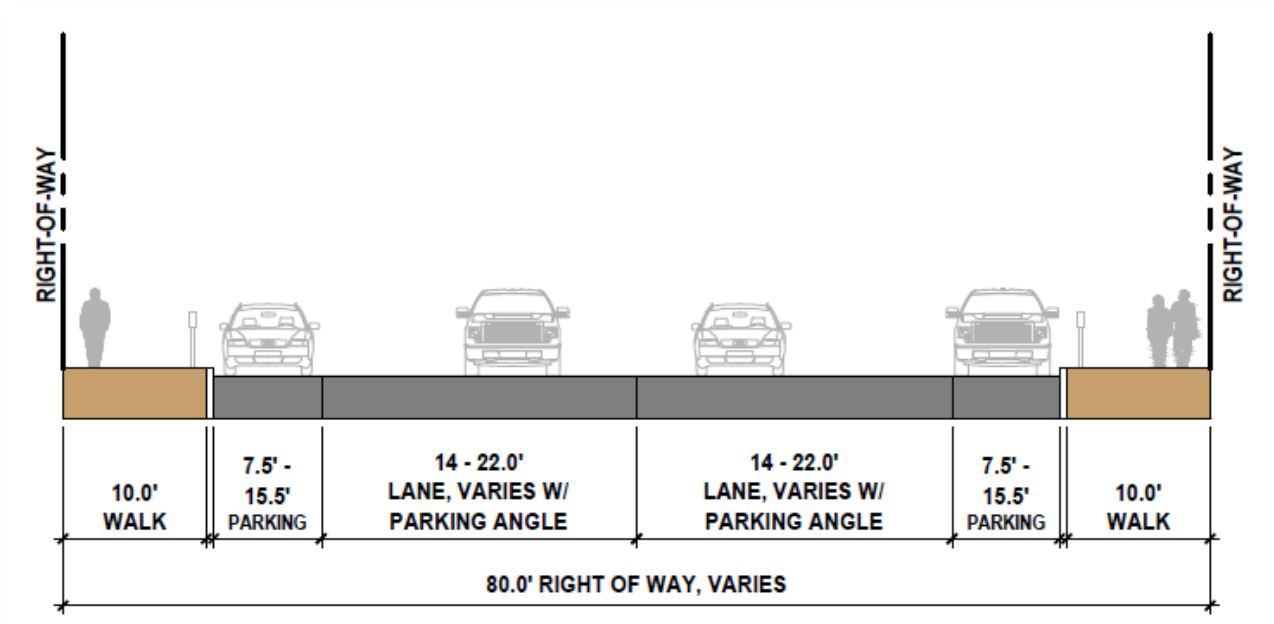


Figure 20: 4th St - Existing Cross-Sections Between Colorado Ave & Rood Ave



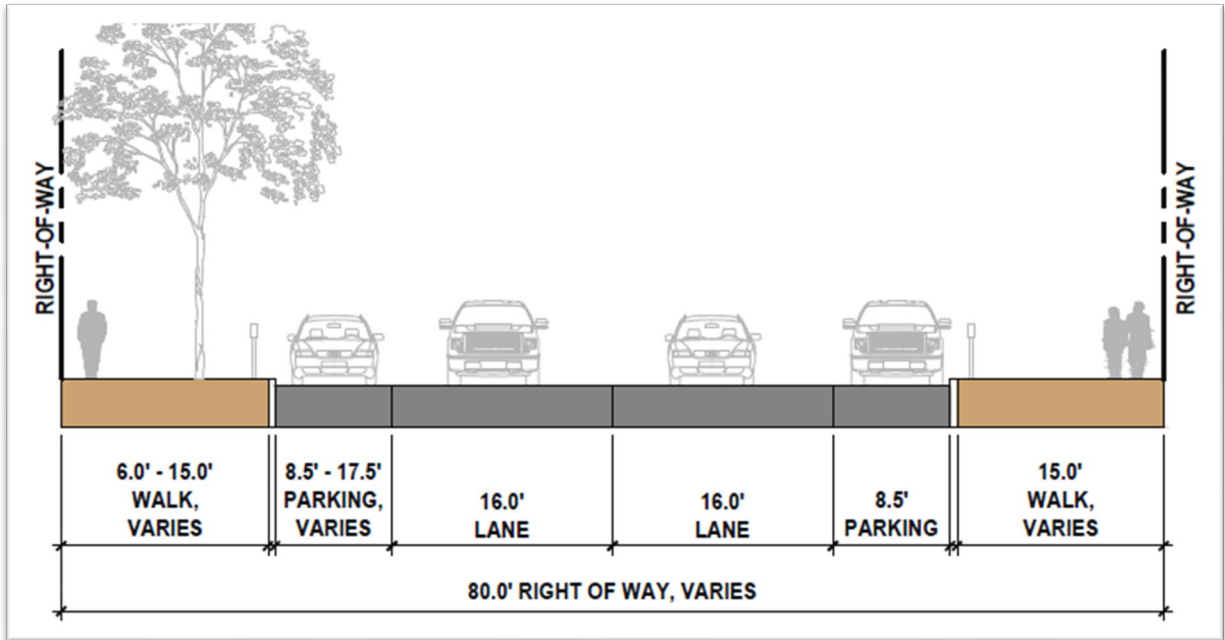


Figure 21: 4th St - Existing Cross-Sections Between Rood Ave & White Ave

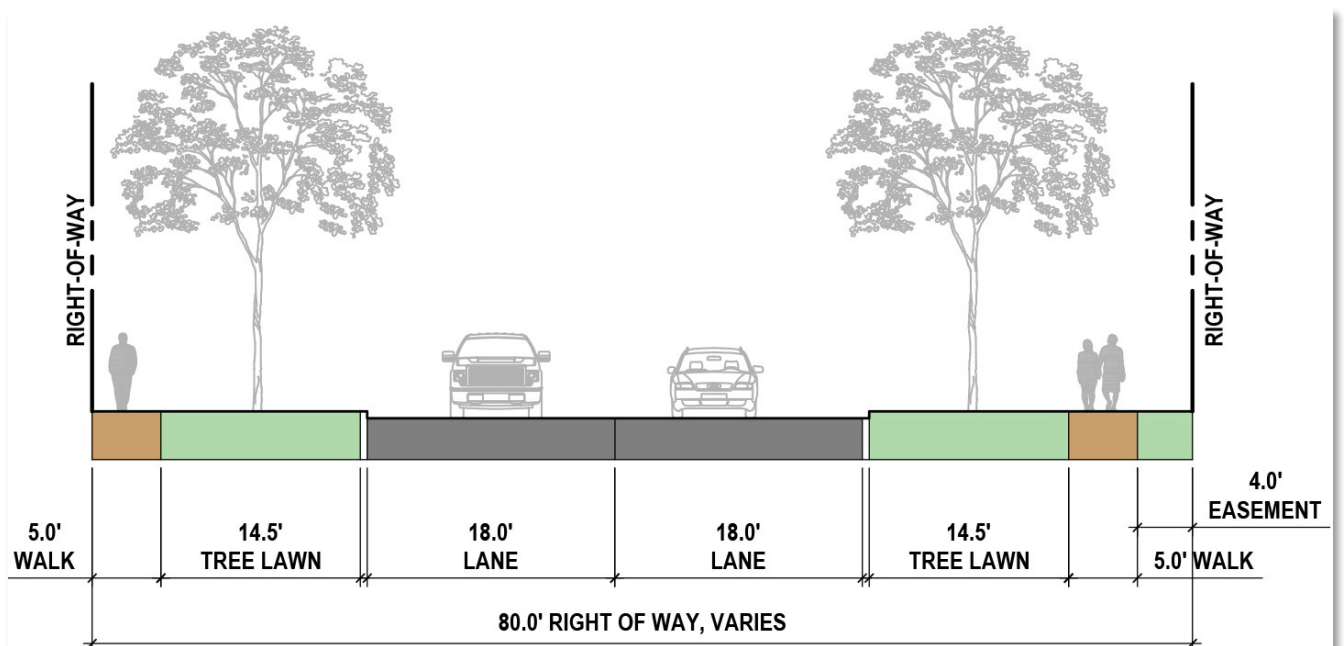


Figure 22: 4th St - Existing Cross-Sections Between Grand Ave & Belford Ave



## 5<sup>th</sup> Street Corridor

Between Ute Avenue and Colorado Avenue along 5<sup>th</sup> Street, there are two wide travel lanes, a combination of parallel and angled parking, and sidewalks. The sections between Colorado Avenue and Main Street and Main Street to Rood Avenue include two travel lanes, angled parking, and sidewalks. The sidewalk varies throughout this area. The wider lanes in this area create an environment that is more conducive to speeding. The inconsistency in the right-of-way allocation leads to a less predictable environment. Overall, the design throughout this area communicates a diminished priority for pedestrians, which creates a challenge for activating the sidewalk area. This challenge of activation inhibits the economic development potential of the downtown environment.

Between Rood Avenue and Grand Avenue, the corridor has two travel lanes, angled parking, and sidewalks that vary in width. The section from Grand Avenue to Belford Avenue includes two travel lanes, a bike lane (5.5') on the east side, parallel parking on the west side, and sidewalks with large buffers/tree lawns (14.5'). Similar to the southern end of the corridor, the northern end has the same right-of-way allocation inconsistency issues. The transition to the 'neighborhood' section north of Grand Avenue signals a shift of prioritization to other modes and users such as bicyclists. However, because this bike lane is not present throughout the entirety of the corridor, it creates connectivity issues for those traveling by bike.



*Figure 23: 5th St and Grand Ave – Looking North*

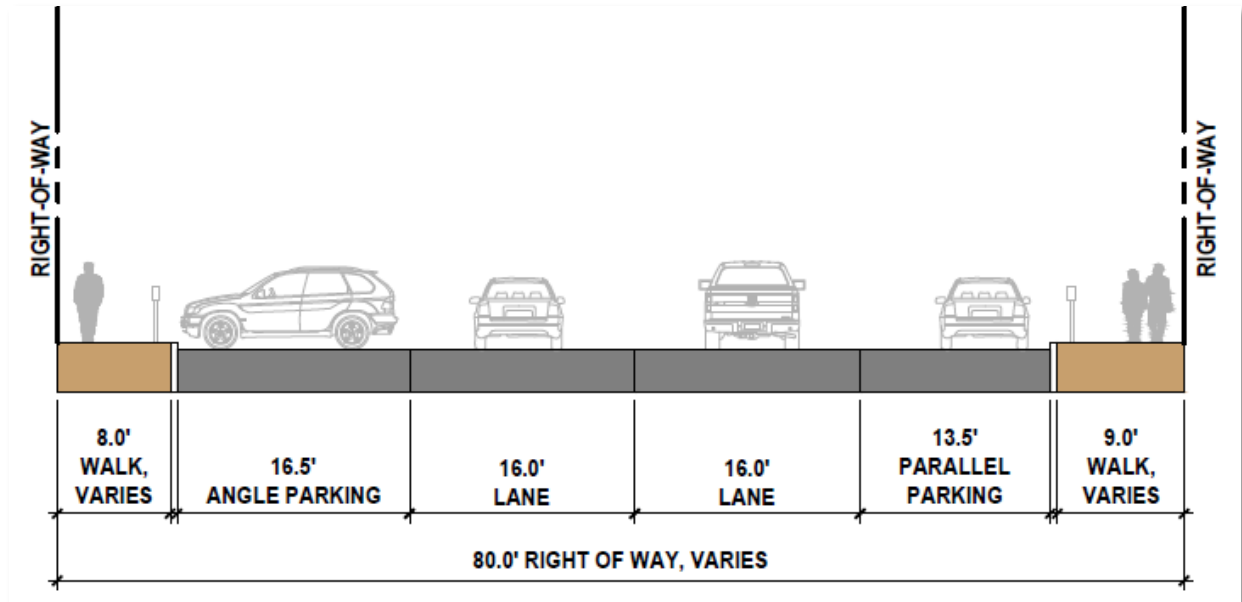


Figure 24: 5th St - Existing Cross-Sections Between Ute Ave & Colorado Ave

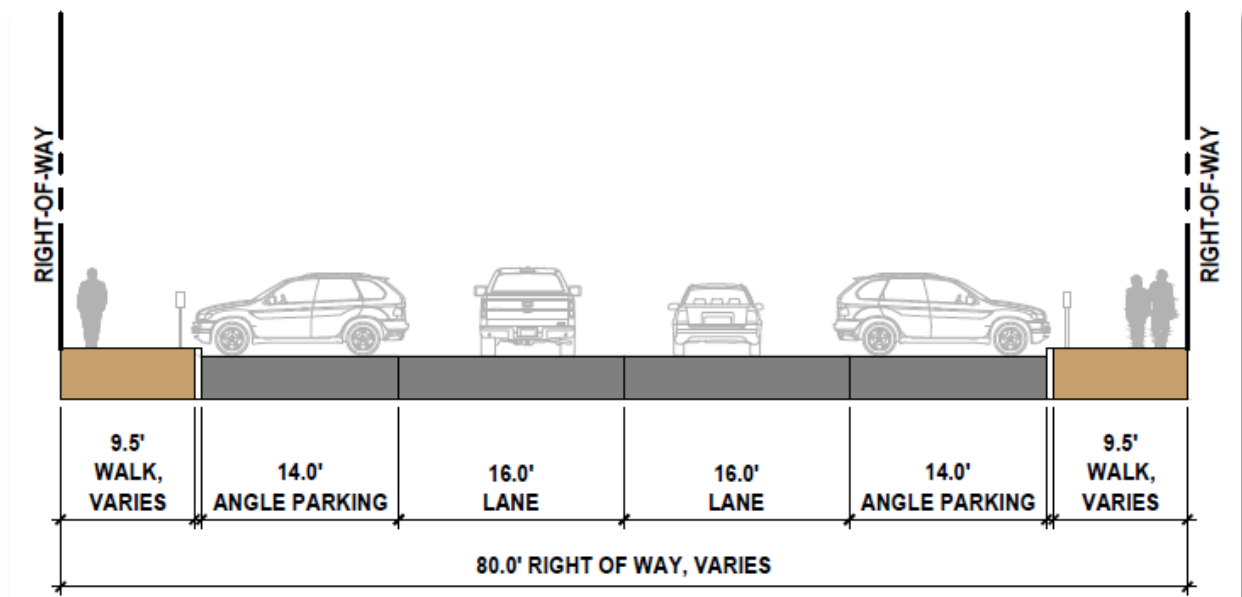


Figure 25: 5th St - Existing Cross-Sections Between Colorado Ave & Main St & Main St to Rood Ave

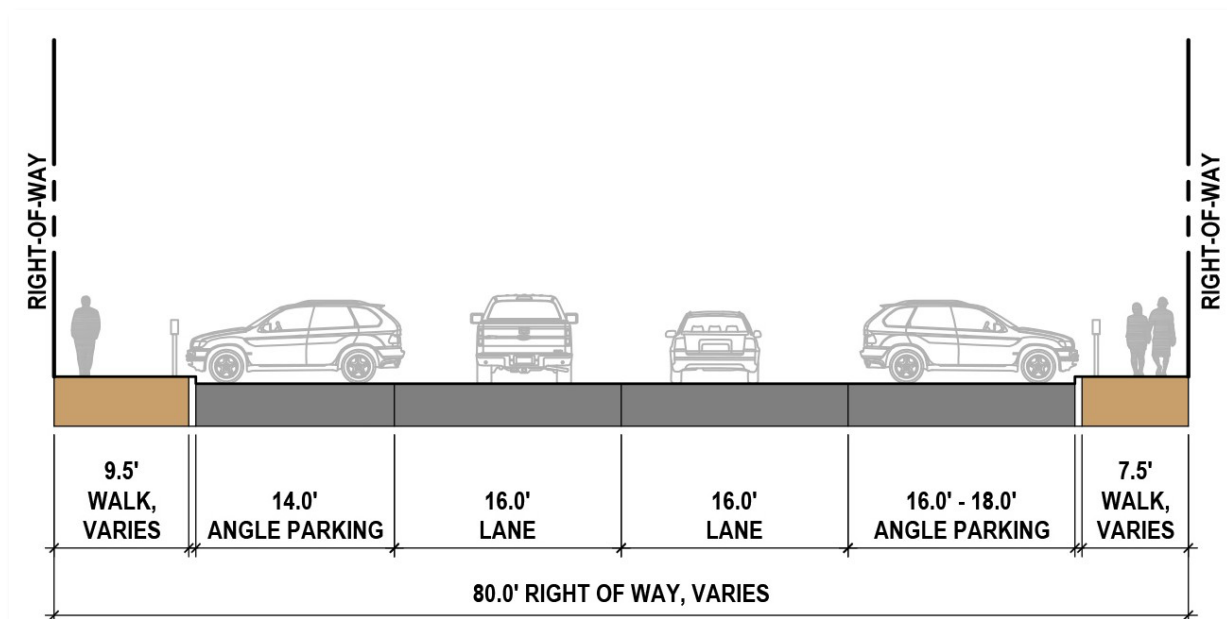


Figure 26: 5th St - Existing Cross-Sections Between Rood Ave & Grand Ave

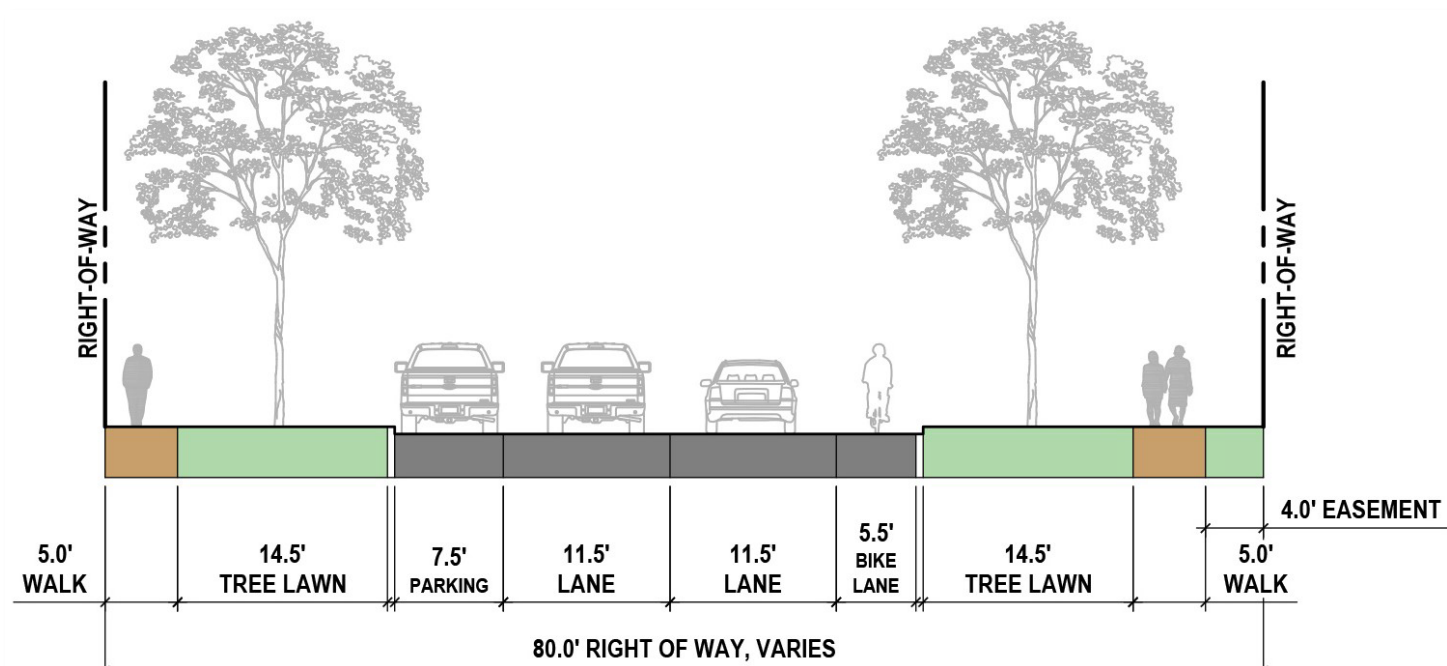


Figure 27: 5th St - Existing Cross-Sections Between Grand Ave & Belford Ave





GRAND JUNCTION

# 4<sup>TH</sup> & 5<sup>TH</sup> ST

FEASIBILITY STUDY



## Chapter 2 – Feasibility

# PRIORITIES & PREFERENCES

In addition to the broader reach of public engagement that is outlined in Chapter 1 of this document, this study leveraged the expertise of its Technical Team (TT) and Project Advisory Committee (PAC) in developing the nuances of concept design alternatives in the Feasibility Assessment phase of the project.

As a foundation for developing concept alternatives, the TT and PAC were asked to rank various design elements based on whether they felt those elements achieved the study area priorities. These key stakeholders and subject matter experts had the opportunity to respond to questions using interactive polling activities about bicycle facility types and treatments, parking treatments, pedestrian realm treatments, and pedestrian amenities. A snapshot of these interactive activities are presented below, and while not used as absolute directives, they were used as key inputs to assessing the feasibility and tradeoffs associated with each of the proposed concept alternatives.



**Figure 28: 5th St and Gunnison Ave - Looking North**



**Figure 29: 5th St and Main - Looking Northeast**

## Bicycle Facilities



Figure 30: Polling results – PAC meeting on June 16, 2021

For bicycling, stakeholders reported protected bike lanes, parking protected bike lanes, and separated bike lanes as facilities that would achieve the study area priorities. A variety of parking facilities were then studied, with the proposed alternatives recommending parking protected bike lanes on both 4<sup>th</sup> Street and 5<sup>th</sup> Street.

## Parking Treatments



**Figure 31: Polling results - PAC meeting on June 16, 2021**

For parking treatments, stakeholders reported parallel parking as the preferred parking design that would achieve the study area priorities. While the existing conditions along 4<sup>th</sup> Street and 5<sup>th</sup> Street contain a variety of parallel and angled parking treatments, based upon the results of this study – including the input from the public and key stakeholders, the proposed alternatives recommend a consistent approach to parallel parking along both corridors.

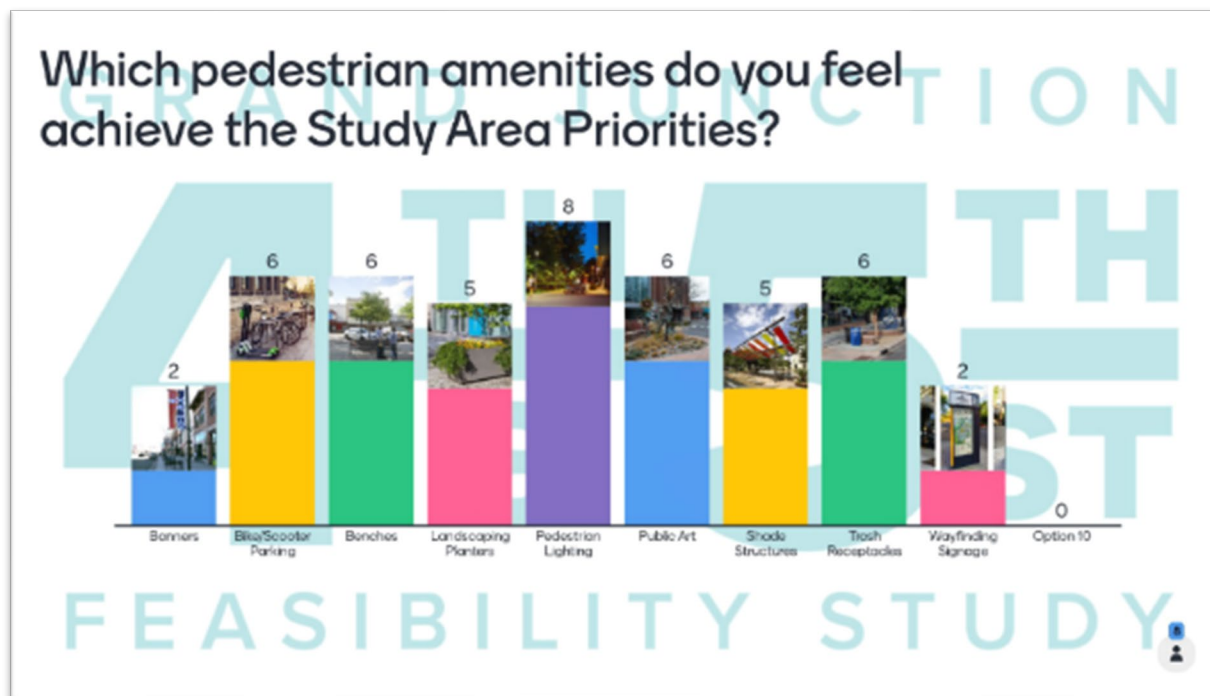
## Pedestrian Realm/Public Space Treatments



*Figure 32: Polling results - PAC meeting on June 16, 2021*

For pedestrian realm treatments, stakeholders reported tree-lined sidewalks, café/patio seating, and multi-purpose art/play installations as elements that would achieve the study area priorities. A variety of configurations were explored for pedestrian realm and public space treatments along both corridors, with the proposed alternatives recommending a continuous 8' amenity zone (in addition to a 9-foot sidewalk) along the downtown portions of 4<sup>th</sup> Street and 5<sup>th</sup> Street within the study area, which can be flexibly programmed with any of the priority treatments identified through this process.

## Pedestrian Amenities



**Figure 33: Polling results - PAC meeting on June 16, 2021**

For pedestrian amenities, stakeholders reported pedestrian lighting, trash receptacles, benches, landscaping planters, and public art as elements that would achieve the study area priorities. Similar to the approach for public realm treatments, within the proposed alternatives, many of these elements can be located within the flexible 8' amenity zone and/or can be included as a component of features such as bulb-outs.





# What is most important?

Reiterating what we heard from the public via the project website, polling results are shared below. Corridor users reported walking or driving as the most common use when traveling along the corridor and also indicated that slower speeds and improved crosswalks were most important along both 4<sup>th</sup> and 5<sup>th</sup> Street. These inputs were strongly considered when creating the proposed alternatives to ensure that both existing and future needs are being met.

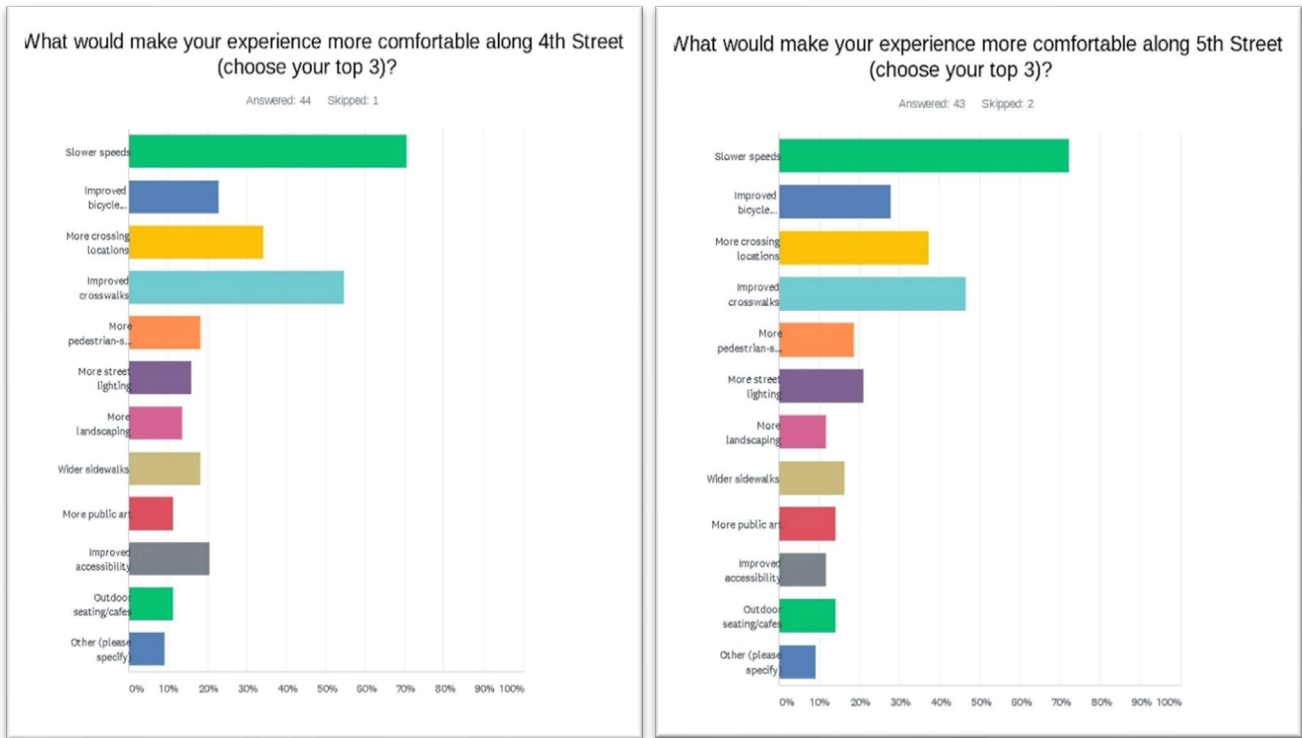


Figure 34: Polling Results via the Project Website

# PROPOSED ALTERNATIVES

## Development of Proposed Alternatives

Based on the collection of input received from the City Council, DDA Board, PAC, TT, and the public a set of proposed alternatives were created for 4<sup>th</sup> Street and 5<sup>th</sup> Street. The proposed alternatives seek to achieve both the vision and the goals set forth for this study - **enhance safety, improve walkability and bikeability, activate economic development, and optimize traffic circulation.**

Proposed alternatives for both 4<sup>th</sup> and 5<sup>th</sup> Street include the **Enhanced One-Way Alternative** and **Enhanced Two-Way Alternative**, with descriptions and associated visuals shown on the following pages. Details on existing conditions, for comparison purposes, are in Chapter 1.

The **Enhanced One-Way Alternative** represents the proposed future concept for 4<sup>th</sup> & 5<sup>th</sup> Street remaining as a one-way configuration with additional enhancements, including two travel lanes, consistent parallel parking, a parking-protected bike lane on one side of the street, and expanded sidewalks and amenity zones on both sides of the street.

| Key Takeaways for Enhanced One-Way Alternative on 4 <sup>th</sup> and 5 <sup>th</sup> Street |                      |                                                                   |                                |
|----------------------------------------------------------------------------------------------|----------------------|-------------------------------------------------------------------|--------------------------------|
| One-Way Vehicle Travel                                                                       | Parallel Parking     | Expanded Sidewalks                                                | Bulbouts at Corners and Alleys |
| Narrowed Travel Lanes                                                                        | Separated Bike Lanes | Amenity Zone (Landscaping, Art, Outdoor Seating, Other Amenities) |                                |

The **Enhanced Two-Way Alternative** represents the proposed future concept for 4<sup>th</sup> & 5<sup>th</sup> Street converted to a two-way configuration with additional enhancements, including two travel lanes, consistent parallel parking, a parking-protected bike lane on one side of the street, and expanded sidewalks and amenity zones on both sides of the street.

| Key Takeaways for Enhanced Two-Way Alternative on 4 <sup>th</sup> and 5 <sup>th</sup> Street |                      |                                                                   |                                |
|----------------------------------------------------------------------------------------------|----------------------|-------------------------------------------------------------------|--------------------------------|
| Two-Way Vehicle Travel                                                                       | Parallel Parking     | Expanded Sidewalks                                                | Bulbouts at Corners and Alleys |
| Narrowed Travel Lanes                                                                        | Separated Bike Lanes | Amenity Zone (Landscaping, Art, Outdoor Seating, Other Amenities) |                                |

While the portion of 4<sup>th</sup> Street and 5<sup>th</sup> Street south of Grand has a downtown character, the portion north of Grand Ave serves a more residential user base, and therefore a separate, yet congruous, alternative was developed for the northern portion of the corridors. Accordingly, each alternative is separated into two sections, presented north to south: North to Grand and Grand to Ute.

## Proposed Alternative: North to Grand (Residential)

Given the similar conditions for 4<sup>th</sup> and 5<sup>th</sup> Street between North and Grand, the following visuals represent the proposed alternatives for both corridors. During design there will be refinements to adequately address any unique features along each corridor.



*Figure 35: 4th Street at Belford – Looking South*



## 4<sup>th</sup> and 5<sup>th</sup> Street – Enhanced One-Way and Two-Way Alternatives

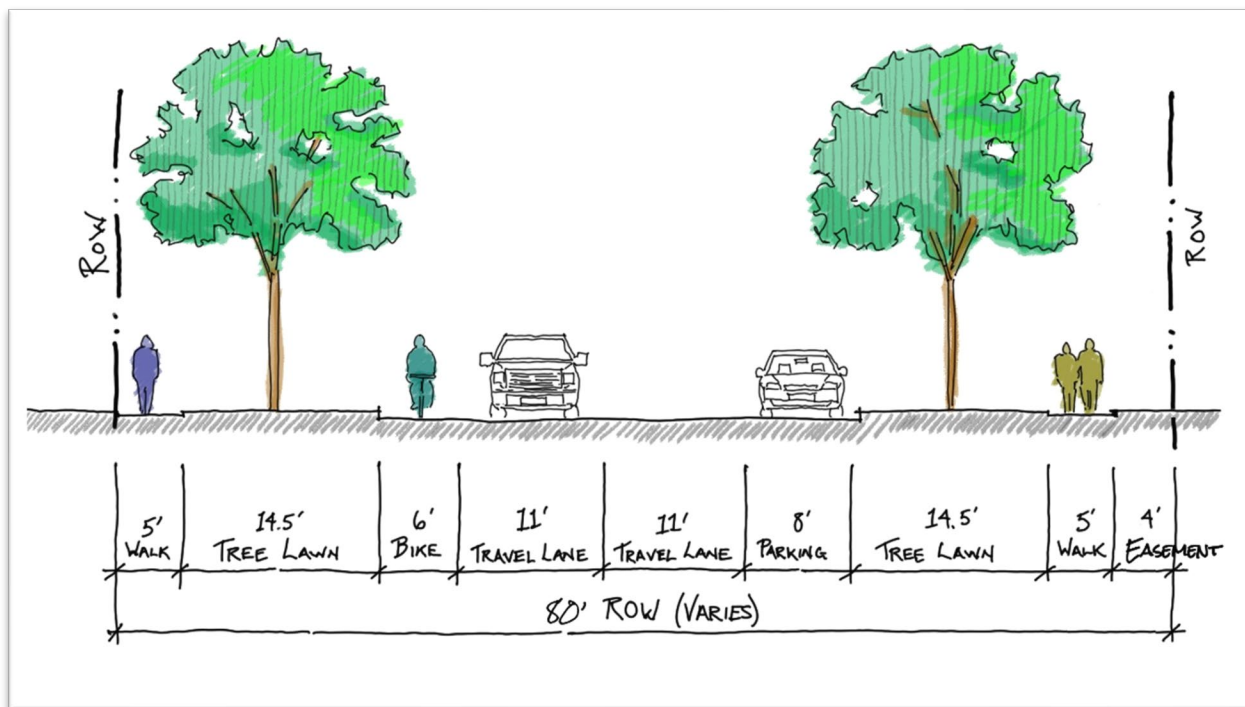


Figure 36: Enhanced One-Way/Two-Way Alternative - 4th St - North of Grand

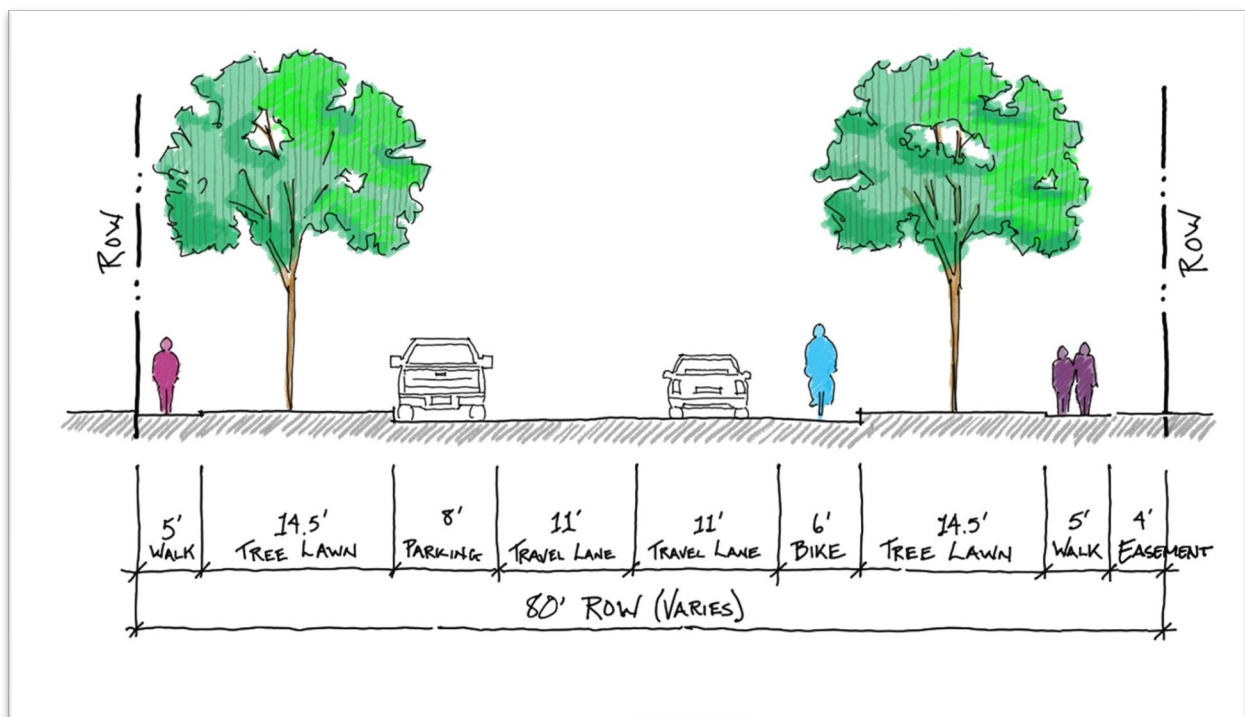


Figure 37: Enhanced One-Way/Two-Way Alternative - 5th St - North of Grand

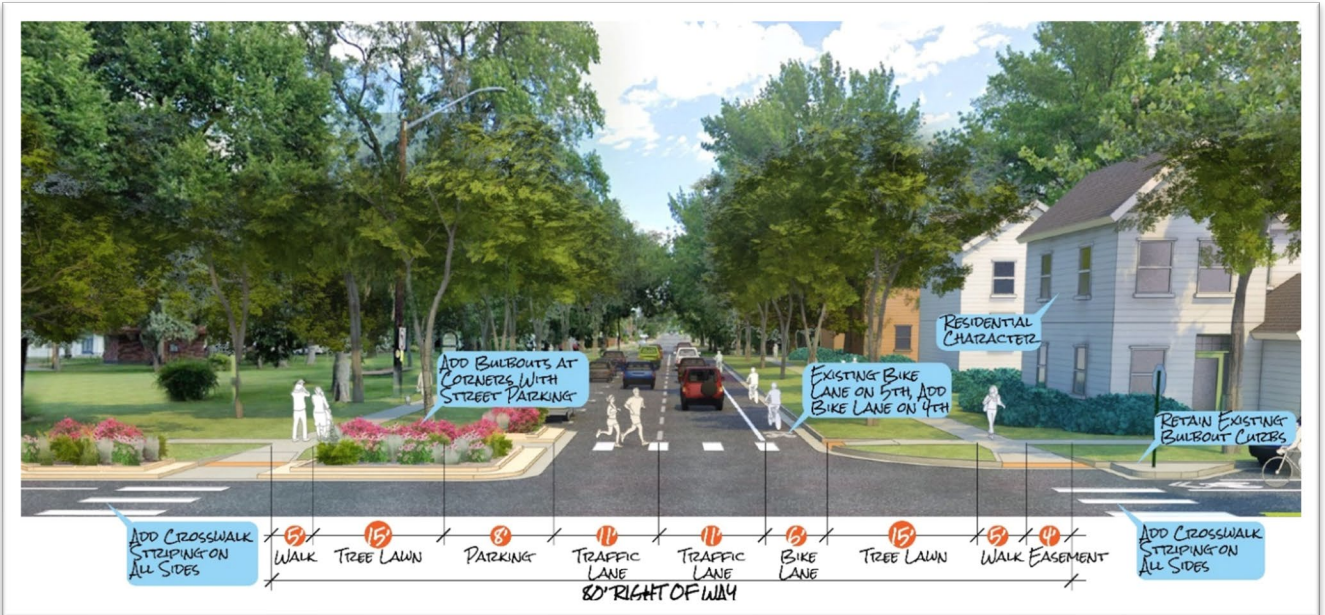


Figure 38: One-Way Residential Section - North of Grand Ave

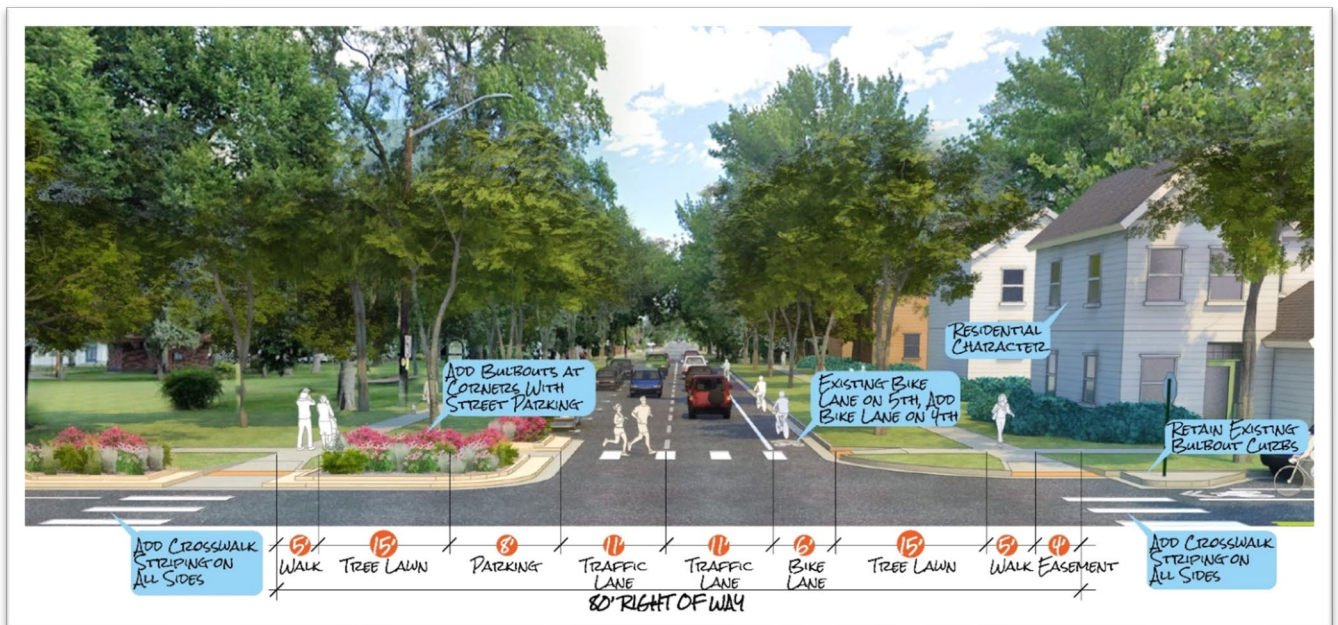


Figure 39: Two-Way Residential Section - North of Grand Ave



## Proposed Alternatives: Grand to Ute (Commercial)

The following graphics represent the proposed alternatives for the southern portion of both corridors from Grand to Ute. Since the directional traffic is the primary delineator, visually they look very similar, providing many of the same enhancements. At this time, they are conceptual and will be further refined during the design phase.

### **4<sup>th</sup> Street**

Along 4<sup>th</sup> Street, both the Enhanced One-Way and the Enhanced Two-Way Alternative provide two travel lanes, parallel parking on both sides where space permits, a southbound directional bike lane, and additional space for pedestrian activities and public placemaking. The bike lane is painted entirely green in the following visuals but would potentially only be painted green at the conflict points with implementation.



*Figure 40: 4th St and Rood Ave - Looking West*



## 4<sup>th</sup> Street – Enhanced One-Way Alternative

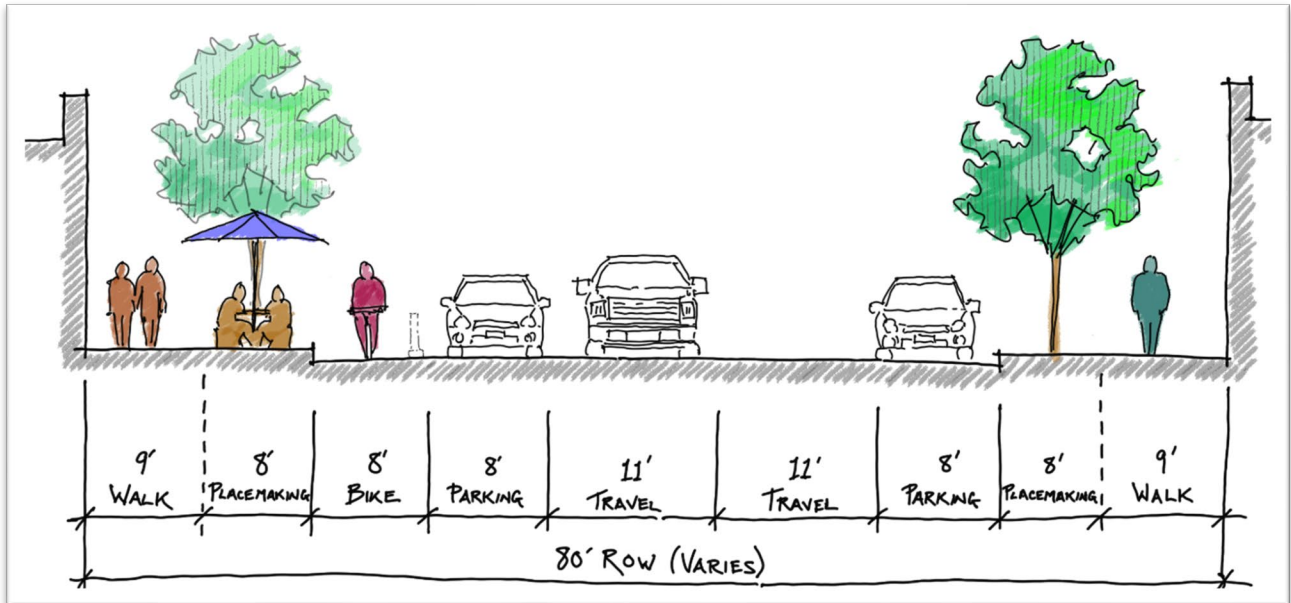


Figure 41: Enhanced One-Way Alternative - 4th St – Grand to Ute

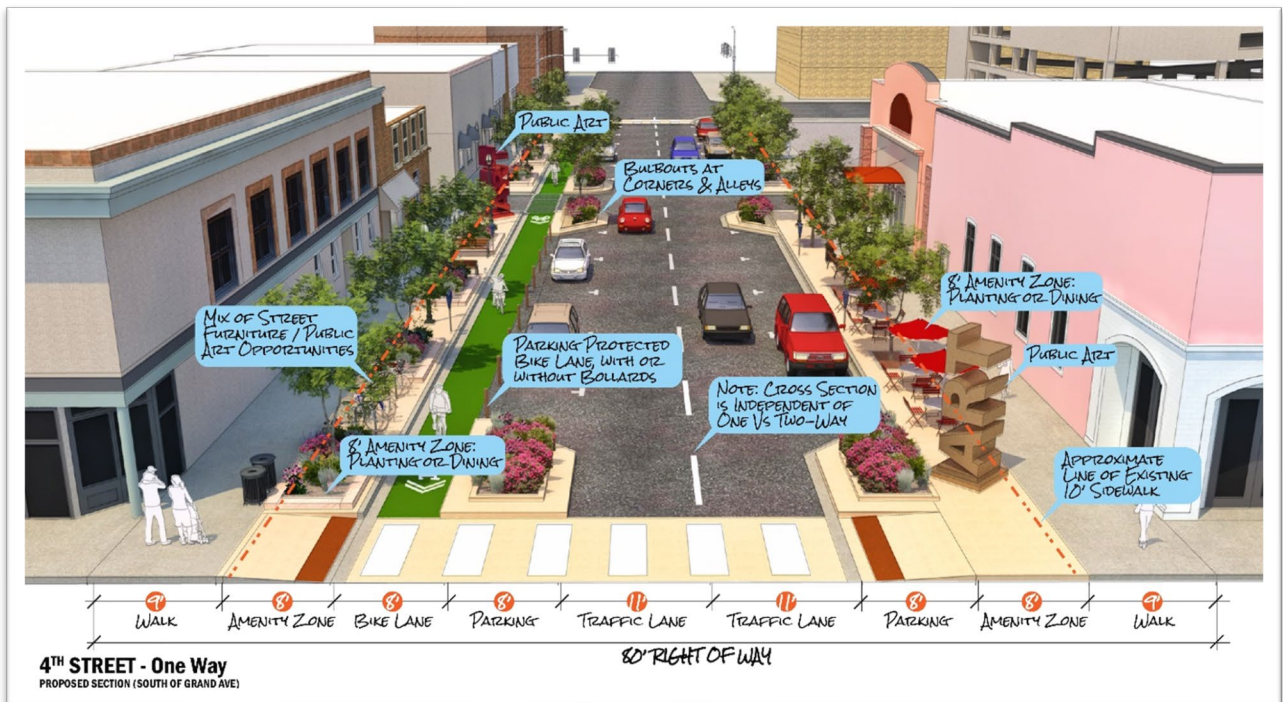


Figure 42: Proposed Section - One-Way - 4th St South of Grand Ave

## 4<sup>th</sup> Street – Enhanced Two-Way Alternative

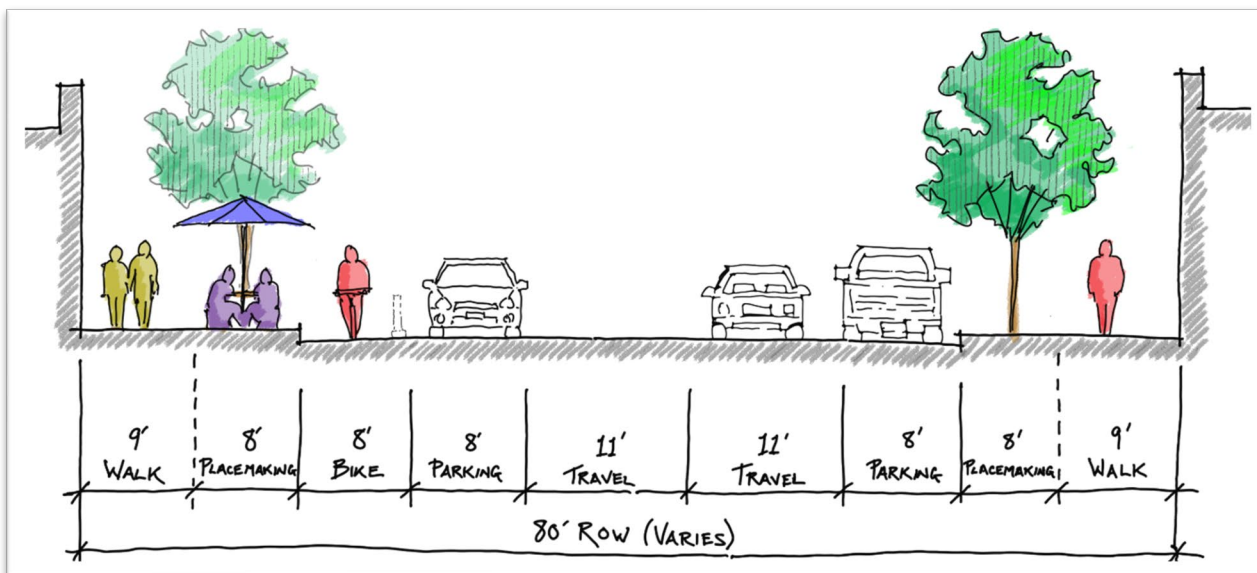


Figure 43: Enhanced Two-Way Alternative - 4th St – Grand to Ute

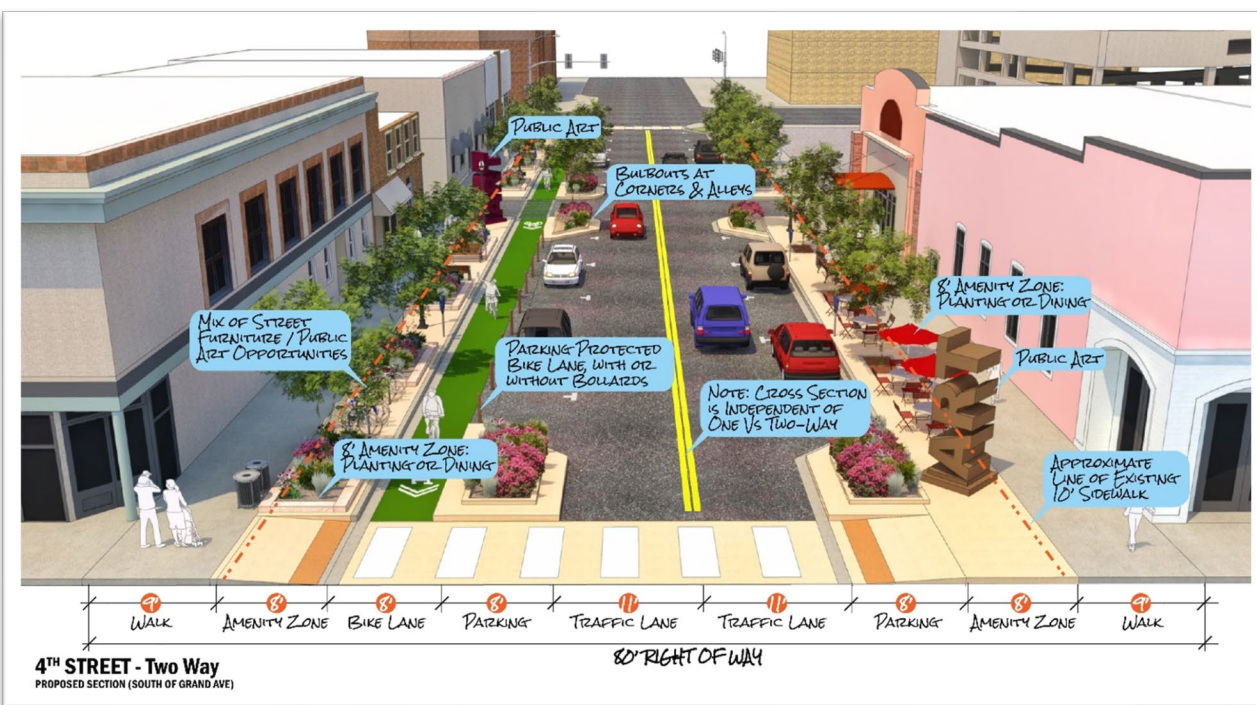


Figure 44: Proposed Section – Two-Way - 4th St - South of Grand Ave



## 5<sup>th</sup> Street

Along 5<sup>th</sup> Street, both the Enhanced One-Way and the Enhanced Two-Way Alternative provide two travel lanes, parallel parking on both sides where space permits, a northbound directional bike lane, and additional space for pedestrian activities and public placemaking. The bike lane is painted entirely green in the following visuals but would potentially only be painted green at the conflict points with implementation.



*Figure 45: 5th Street and Main St – Looking Northwest*



## 5<sup>th</sup> Street – Enhanced One-Way Alternative

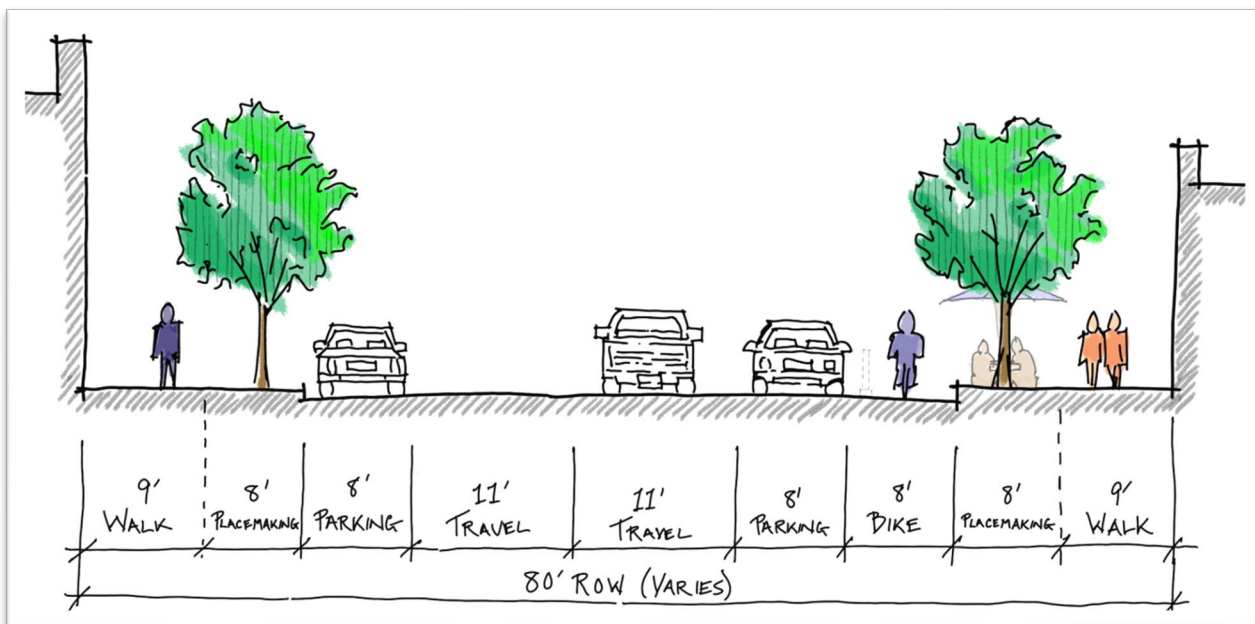


Figure 46: Enhanced One-Way Alternative - 5th St - Ute to Grand

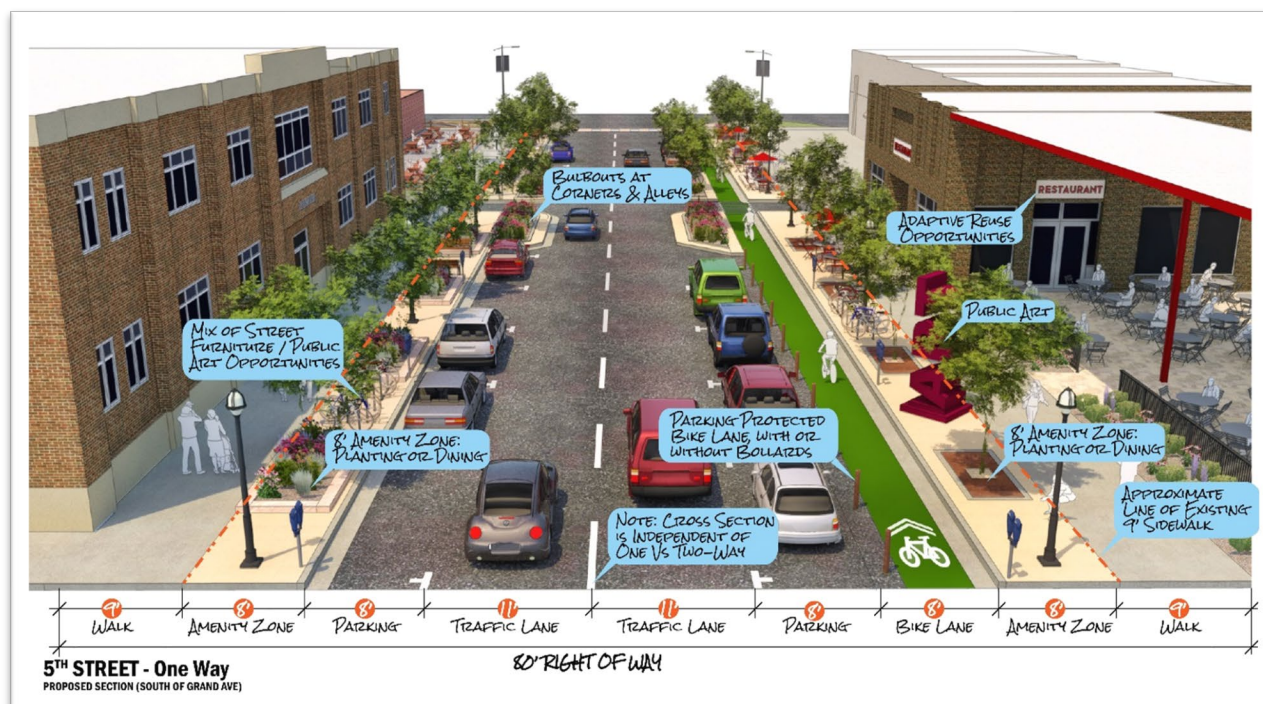


Figure 47: Enhanced One-Way Alternative - 5th St – Ute to Grand

## 5<sup>th</sup> Street – Enhanced Two-Way Alternative

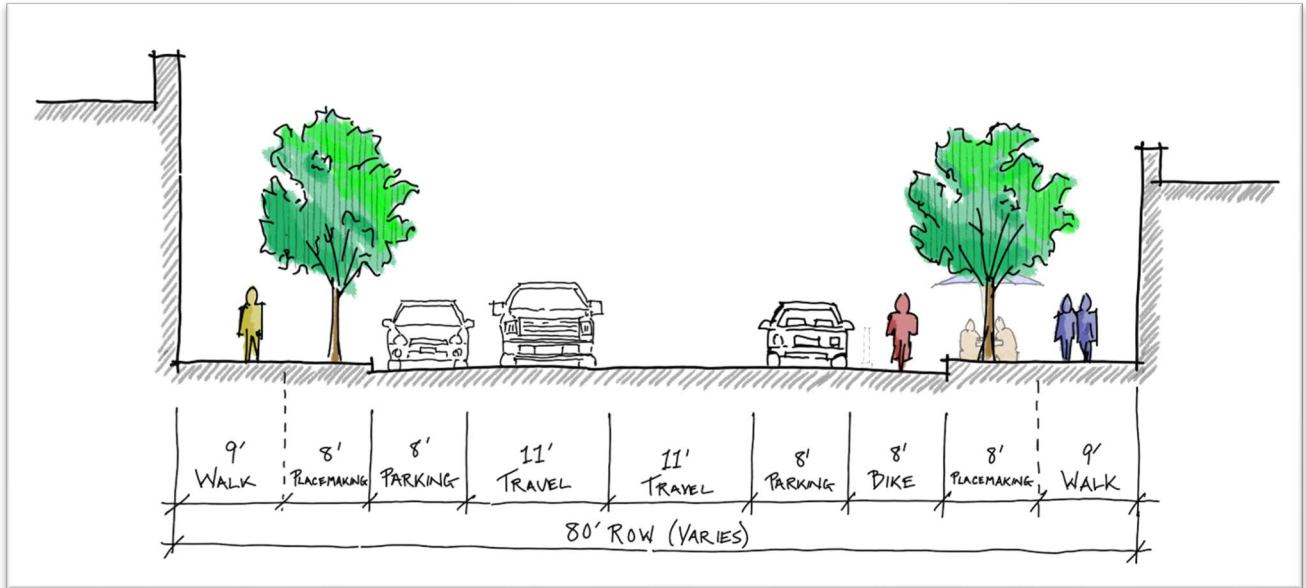


Figure 48: Enhanced Two-Way Alternative - 5th St - Ute to Grand

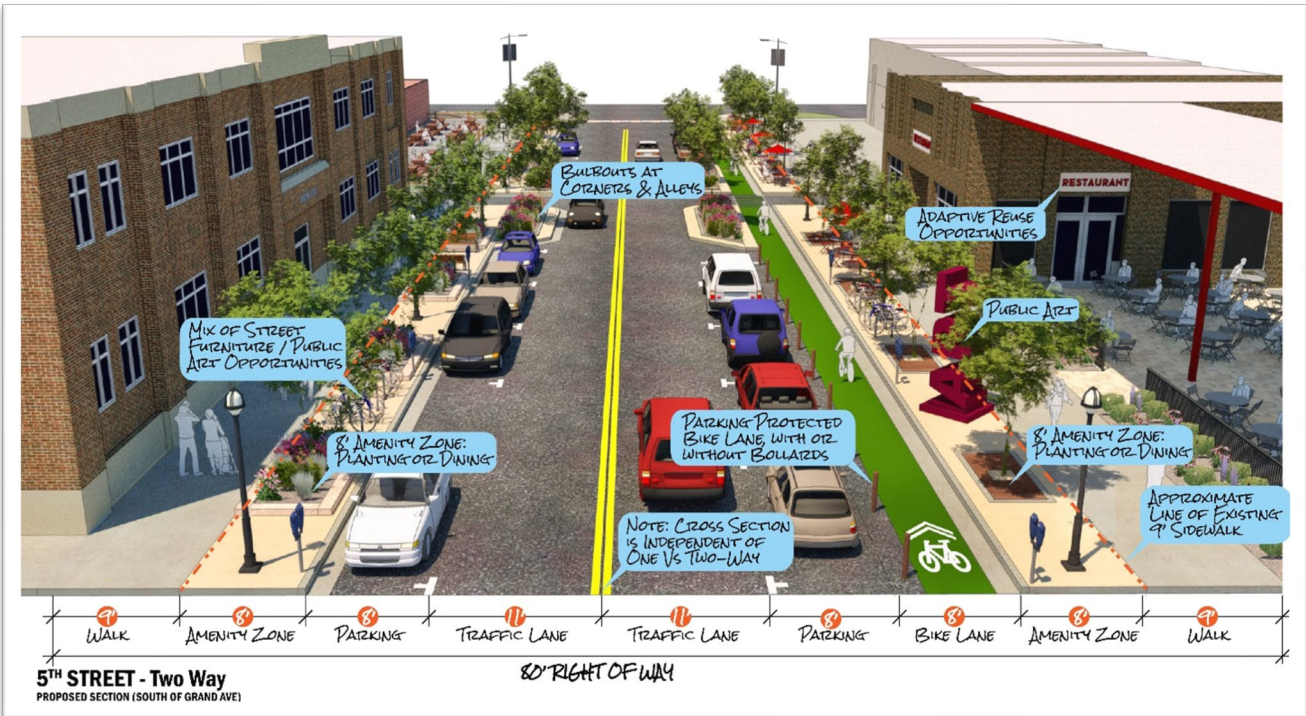


Figure 49: Enhanced Two-Way Alternative - 5th St – Ute to Grand

## Feedback on Proposed Alternatives

As part of the online outreach component of the project during the month of September in 2021, an online survey was made available to the public and key stakeholders. The survey asked about preferences for the alternatives and provided an opportunity to gather additional feedback. There were a total of 164 respondents and an overwhelming majority of participants reported being a corridor user or visitor. Most importantly, more than half of respondents reported that they agreed or strongly agreed that the Enhanced One-Way Alternative aligns with the Vision Elements and preferred this option over the Enhanced Two-Way Alternative. The input received is summarized below and helped to inform the overall recommendations for this study.

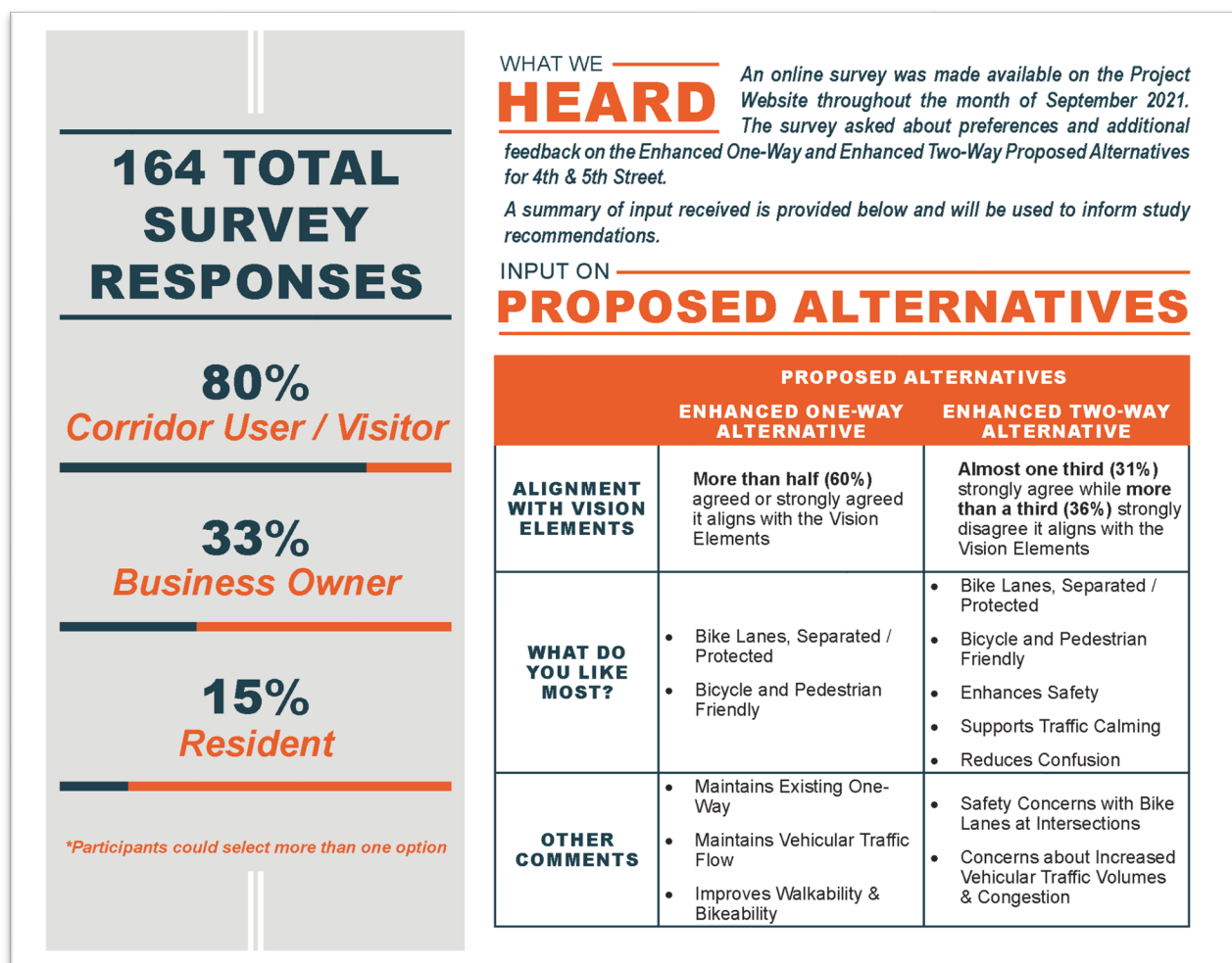


Figure 50: Online Survey Summary Shared with City Council and DDA Board



## Analysis of Proposed Alternatives

Following the public input on the proposed alternatives, members of the TT and PAC, as well as City staff and the consultant team, completed their own individual analysis of the Enhanced One-Way Alternative and Enhanced Two-Way Alternative, as compared to the Existing One-Way condition. Largely qualitative in nature yet based on both best practice design and expertise within the team, the analysis focused on a set of Vision-based Criteria (using the Vision Elements and Goals) and includes an evaluation score with associated notes for each. Average scores and combined evaluation notes are presented in the matrix below, with a full-sized view available in the Appendix.

|  <b>4TH &amp; 5TH ST</b><br>FEASIBILITY STUDY |                       |                              |                                                                                                              |                              |                                                                                                                              |
|--------------------------------------------------------------------------------------------------------------------------------|-----------------------|------------------------------|--------------------------------------------------------------------------------------------------------------|------------------------------|------------------------------------------------------------------------------------------------------------------------------|
| PROPOSED ALTERNATIVES ANALYSIS MATRIX                                                                                          |                       |                              |                                                                                                              |                              |                                                                                                                              |
|                                                                                                                                | EXISTING ONE-WAY PAIR | ENHANCED ONE-WAY ALTERNATIVE |                                                                                                              | ENHANCED TWO-WAY ALTERNATIVE |                                                                                                                              |
|                                                                                                                                | EVALUATION SCORE      | EVALUATION SCORE             | EVALUATION NOTES                                                                                             | EVALUATION SCORE             | EVALUATION NOTES                                                                                                             |
| <b>VISION-BASED CRITERIA</b>                                                                                                   |                       |                              |                                                                                                              |                              |                                                                                                                              |
| <b>Enhance Safety</b>                                                                                                          |                       |                              |                                                                                                              |                              |                                                                                                                              |
| Reduce Speeds                                                                                                                  | *                     | ***                          | Infrastructure modifications reduce speeds                                                                   | ****                         | Infrastructure modifications reduce speeds<br>Increase in potential conflicts could further reduce speeds                    |
| Reduce Crashes                                                                                                                 | *                     | ****                         | Lower speeds reduce crashes                                                                                  | ***                          | Lower speeds reduce crashes<br>Increase in potential conflicts could result in more crashes                                  |
| <b>Optimize Traffic Circulation</b>                                                                                            |                       |                              |                                                                                                              |                              |                                                                                                                              |
| Reduce Driver Confusion                                                                                                        | *                     | ***                          | Maintains current travel patterns for locals                                                                 | ****                         | Less long-term confusion for all travelers                                                                                   |
| Encourage Traffic Calming                                                                                                      | *                     | ***                          | Slower speeds and roadway design encourage traffic calming                                                   | ****                         | Slower speeds, roadway design, and more potential conflicts encourage traffic calming                                        |
| Promote Direct Local Connections                                                                                               | **                    | **                           | Requires some out of direction travel for local connections, although minimal<br>Decrease in through traffic | ***                          | Provides more direct local connections<br>Decrease in through traffic                                                        |
| Support Corridor Truck Deliveries                                                                                              | ***                   | ***                          | May need designated loading zone and encourage use of alleys                                                 | **                           | May need designated loading zone and encourage use of alley<br>May impact directional travel                                 |
| Support Transit                                                                                                                | ***                   | ****                         | Opportunity for improved bus stops                                                                           | ****                         | Opportunity for improved bus stops                                                                                           |
| <b>Improve Walkability &amp; Bikeability</b>                                                                                   |                       |                              |                                                                                                              |                              |                                                                                                                              |
| Improve Crossings                                                                                                              | *                     | ****                         | Shorter crossing distances plus bulbouts<br>Need to consider double throat from two one-way vehicles         | ****                         | Shorter crossing distances plus bulbouts, except at left-turn locations (2-3 intersections)                                  |
| Provide/Improve Bicycle Facilities                                                                                             | *                     | ****                         | Provides consistent bicycle facilities                                                                       | ****                         | Provides consistent bicycle facilities                                                                                       |
| Improve Sidewalks                                                                                                              | **                    | ****                         | Widens and enhances sidewalk area                                                                            | ****                         | Widens and enhances sidewalk area                                                                                            |
| <b>Activate Economic Development</b>                                                                                           |                       |                              |                                                                                                              |                              |                                                                                                                              |
| Improve Business Access                                                                                                        | **                    | ***                          | Slower speeds improves business access                                                                       | ****                         | Slower speeds and more direct connections improve business access                                                            |
| Provide Opportunities For Amenities                                                                                            | **                    | ****                         | Widened sidewalks allow for placemaking/landscaping opportunities                                            | ****                         | Widened sidewalks allow for placemaking/landscaping opportunities                                                            |
| Enhance Parking                                                                                                                | **                    | ****                         | Consistent, parallel parking with lower speeds will enhance parking and reduce quantity of spots             | ***                          | Consistent, parallel parking with lower speeds will enhance parking and reduce quantity of spots (even more with left-turns) |
| Preliminary Costs                                                                                                              |                       |                              | -                                                                                                            |                              | Higher cost due to modification to signals and signage                                                                       |

Figure 51: Alternatives Evaluation Matrix

Overall, the Enhanced One-Way Alternative and Enhanced Two-Way Alternative were determined to result in greater benefits than the Existing One-Way Pair, indicating that either would be better than the current conditions roadways. When comparing the level of benefits for the Enhanced One-Way Alternative to the Enhanced Two-Way Alternative, they generally level out.

The notable differences between the two directional scenarios are the improved opportunities for loading/unloading with the Enhanced One-Way Alternative and the greater level of opportunity for traffic calming with the Enhanced Two-Way Alternative.

Therefore, based upon community and stakeholder feedback, a set of concept design alternatives that achieved Vision Elements and Goals that were community driven, and a corresponding analysis of the proposed alternatives through the criteria of the same Vision and Goals, the study team can confirm the feasibility of either proposed alternative, with both achieving a comparable level of adherence to the community's stated vision.

## Traffic Analysis for Proposed Alternatives

In addition to the analysis performed against the Vision-based Criteria, several traffic analyses were completed throughout the study to determine how motor vehicle traffic might be affected by future growth while either maintaining the existing one-way configuration or making changes to the roadway configuration allowing for two-way travel along both 4<sup>th</sup> and 5<sup>th</sup> Street. This analysis also reveals potential impacts to motor vehicle travel for nearby and adjacent roadways. A summary of results is provided below, while the full traffic memo can be found in the Appendix.



*Figure 52: 4th St and North Ave*

With support from the Mesa County Regional Transportation Planning Office, both the one-way and two-way scenarios were evaluated using the 2045 Regional Travel Demand Model. Through this analysis, it was determined that both 4<sup>th</sup> and 5<sup>th</sup> Streets would operate at acceptable levels under either condition, resulting in a general level of delay on both streets with the reduction in travel lanes and addition of other bicycle and pedestrian elements. Although still acceptable in this urban setting, the Enhanced Two-Way Alternative has the potential to cause a greater delay at the intersections due to the increase in vehicular conflicts.

As a regional model, the results were also used to consider the potential impacts on nearby corridors. The proposed improvements would encourage some travelers to move to 1<sup>st</sup> and 7<sup>th</sup> Streets; however, the impact would be minimal and both 1<sup>st</sup> and 7<sup>th</sup> Streets have been shown to have the capacity to handle the slight increase in traffic.



Figure 53: Traffic Analysis Summary Shared on Project Website

As the alternatives were refined and the proposed Enhanced One-Way and Enhanced Two-Way Alternatives were developed, a more **detailed traffic analysis** was conducted on 4<sup>th</sup> and 5<sup>th</sup> Streets and the associated intersections. Results indicate acceptable Levels of Service under both scenarios, with both 2021 and 2045 traffic volumes.

Under the **Enhanced One-Way Alternative** similar operations are maintained, traffic speeds are reduced. Under the **Enhanced Two-Way Alternative** travel is transitioned to two-way on both streets, traffic speeds are reduced, no additional left-turn lanes are expected, and one additional signal may be needed at 4<sup>th</sup> Street / North Avenue. Under both alternatives, due to speed reduction, there is potential for signal removal at the following locations:

- 4<sup>th</sup> Street / White Avenue
- 4<sup>th</sup> and 5<sup>th</sup> Street / Rood Avenue
- 4<sup>th</sup> and 5<sup>th</sup> Street / Main Street

The overall traffic analysis results indicate that the addition of the corridor enhancements under either the one-way or two-way scenario, would ultimately slow down speeds, allow for bicycle facilities, and improve the crossing distance along both corridors. The preliminary results will be further considered by City traffic engineers as design and implementation move forward.

## Cost Considerations

Cost considerations for the proposed alternatives are dependent upon many things: materials, temporary or permanent infrastructure, reconstruction or overlay, signal modifications, landscaping, and more. Under the feasibility study, a range of preliminary cost estimates were developed allowing for a more phased implementation of improvements, as funds become available. All costs here were developed in 2021 and would need to be escalated for inflation at the time of implementation.

Cost estimates associated with the full build-out of the Enhanced One-Way and the Enhanced Two-Way Alternatives include complete roadway reconstruction, improved public spaces, and landscaping for the entire corridor. The primary cost increase for the Enhanced Two-Way Alternative is the expense associated with modifying appropriate traffic signals, signage and striping, and median islands totaling approximately \$1 Million.

- Full-Build Out and Roadway Reconstruction of Enhanced One-Way Alternative
  - \$16 Million
- Full Build Out and Roadway Reconstruction of Enhanced Two-Way Alternative
  - \$17 Million

Given this high price tag, a secondary cost estimate for the Enhanced One-Way Alternative, allowing for a phased implementation of the proposed improvements, was created. The initial phase includes fewer overall improvements such as only chip seal and patching, striping instead of curb relocation, and implementation of temporary pedestrian and public space elements.

- Phased Implementation of Enhanced One-Way Alternative
  - \$2.2 Million

The phased implementation cost estimate allows for options based on the available funds. The City can choose to make changes by the block or apply striping along the full corridor. The application of temporary infrastructure at the intersections provides opportunities to test out modifications and examine travel patterns before investing more funds in permanent features. Expensive elements like pavers and landscaping can also be added over time. Costs would need to be refined prior to design and construction but the preliminary costs established as part of the feasibility study provide guidelines for budgeting and decision-making for the proposed future improvements.



GRAND JUNCTION

# 4<sup>TH</sup> & 5<sup>TH</sup> ST

FEASIBILITY STUDY



## Chapter 3 – Looking to the Future



# RECOMMENDATIONS

This Study asserts the feasibility of both proposed configurations and acknowledges that either the Enhanced One-Way or the Enhanced Two-Way Alternative can successfully achieve the Vision, Goals and Study Area Priorities established at the outset of this project.

That said, and considering budgetary constraints, the lower cost **Enhanced One-Way Alternative is recommended**, at least as a “Phase 1”. Being confident and candid, the one-way scenario may serve the City of Grand Junction and its residents well for many years and not necessitate the evolution to a “Phase 2,” two-way configuration, but our alternative development process allows for that very transition should it be desired in the future. Proceeding with the one-way transition and integration of enhanced improvements at the initial phase allows for the downtown to benefit from a lower cost implementation in the short-term –demonstrating tangible progress toward several years of engagement by the community through other Plans – and sets the city up to evaluate the effects of these improvements and assess the need for others at a future date.

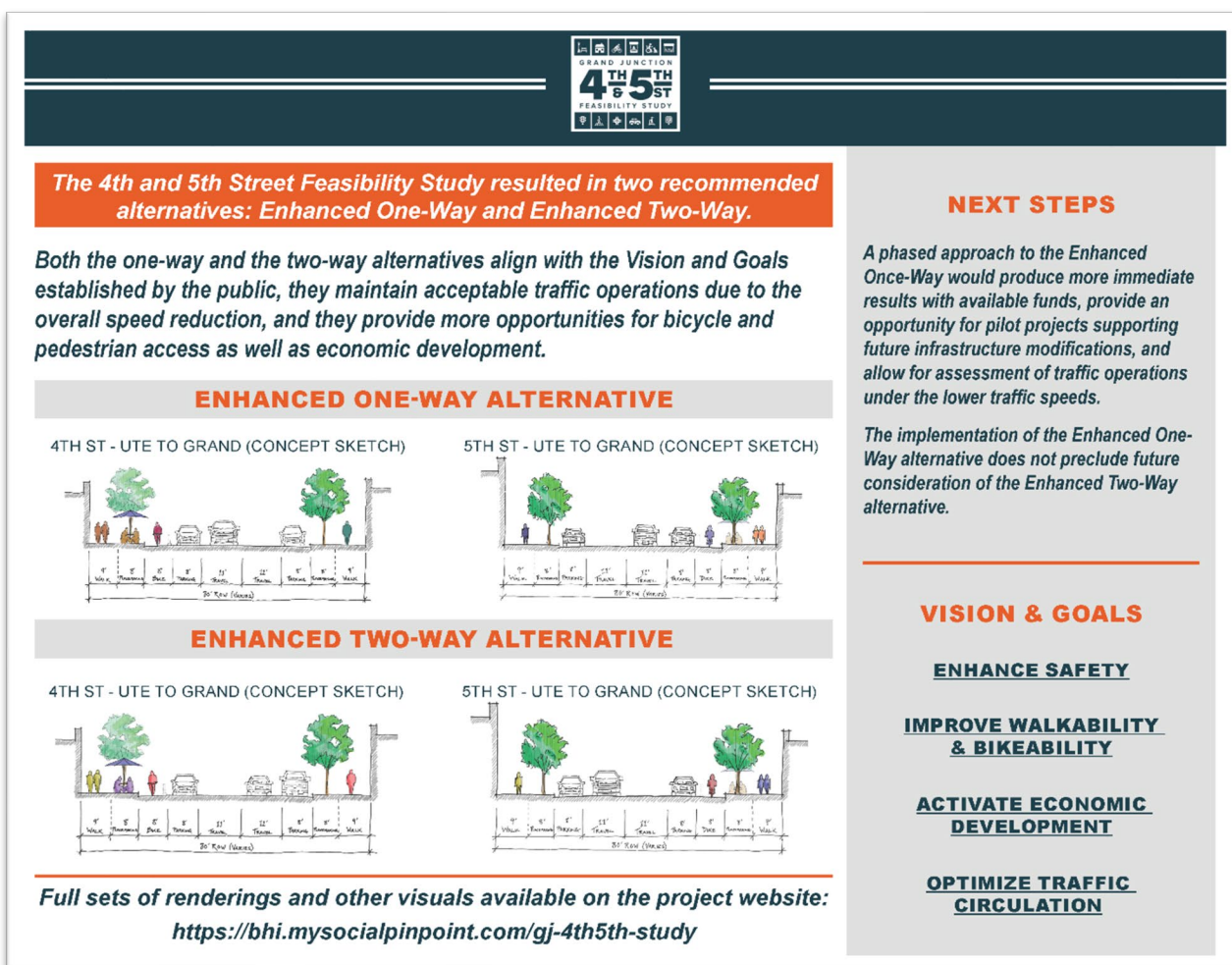


Figure 54: Summary of Recommendations



As the City of Grand Junction moves into the next steps of implementing changes to the 4<sup>th</sup> and 5<sup>th</sup> Street corridors, one of the distinctive benefits of the recommended design alternative for the one-way scenario is that the right-of-way allocation and roadway geometry has been designed in a manner that allows for implementation of the vision, while not precluding an evolution to the two-way scenario without significant investment. Importantly, all of the design alternatives considered how lower cost, short-term investment could be improved upon, rather than proving to ultimately be a redundant expense. Specifically, a transition from the one-way configuration to the two-way configuration could be achieved without replacement of curb and gutter infrastructure, and rather would be an investment in restriping, additional signage and potentially signalization.

## Implementation

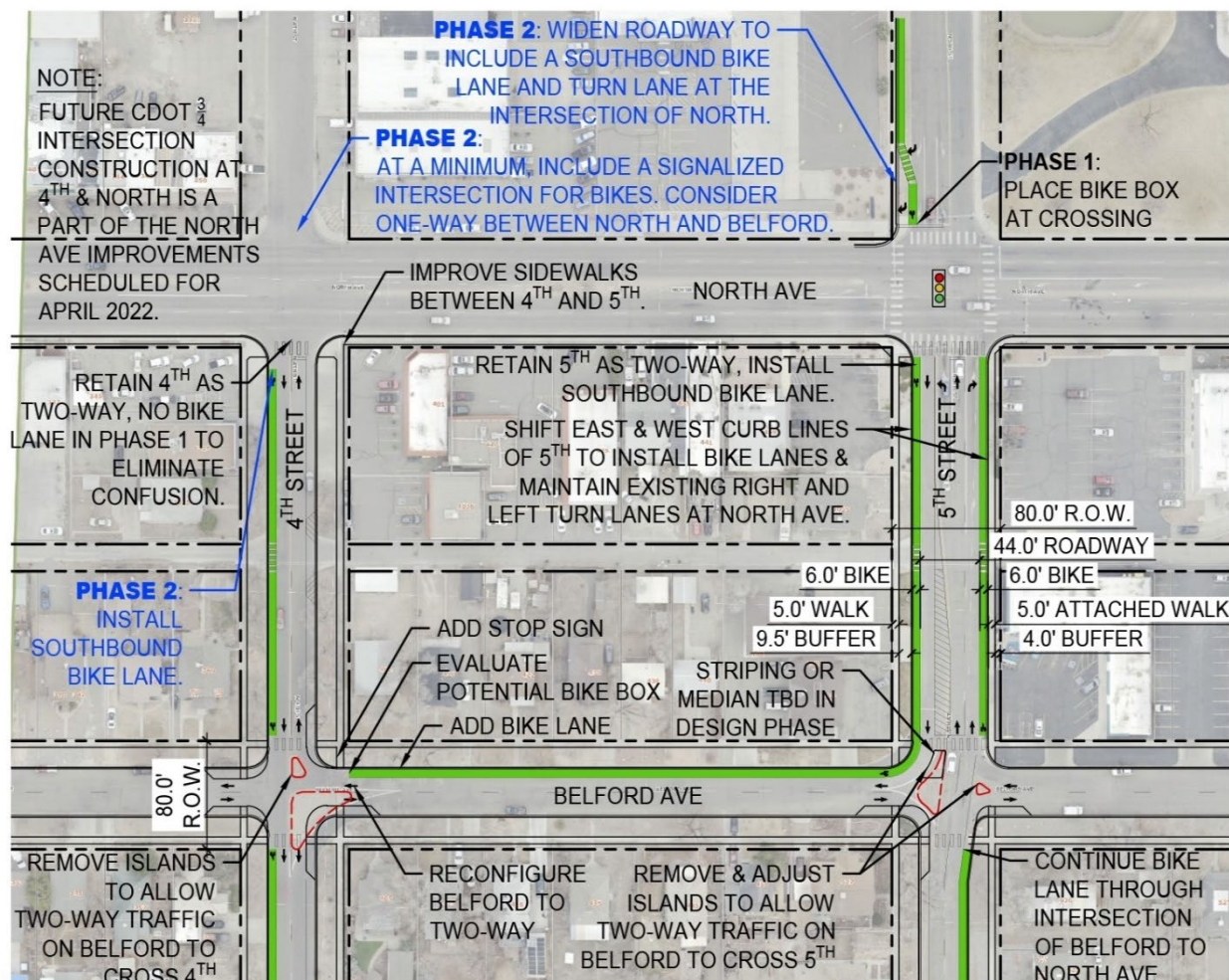
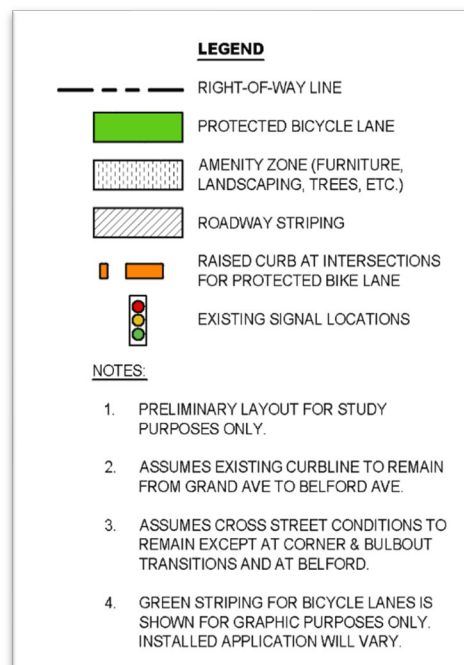
Expounding on the recommendation to move forward the Enhanced One-Way Alternative for design and construction, refinements to the typical section were completed. The following layout figures provide a more detailed visual plan for the future of both corridors. You will note the elements previously shared in the proposed alternatives of Chapter 2, including wider sidewalks, directional bike lanes on each roadway, enhanced crosswalks including bulb-outs to improve pedestrian comfort, and parallel parking. However, in the layout figures, it becomes more tangible as tweaks are made to fit within right-of-way, access, and natural elements. All the while ensuring alignment with the goals established by the community – safety, walkability and bikeability, economic development, traffic operations – is maintained.

As refinements to the conceptual Enhanced One-Way Alternative were being considered, it was determined that the existing two-way travel would remain at the north end of both 4<sup>th</sup> and 5<sup>th</sup> Streets. This decision allowed a safer transition with North Avenue under the current operational conditions. Connectivity of the bicycle facilities were considered within the study area and to the north. Improved signage for the various travel modes will be integrated as part of the design, including green paint for conflict areas with bicycles and enhanced crosswalk elements where appropriate.

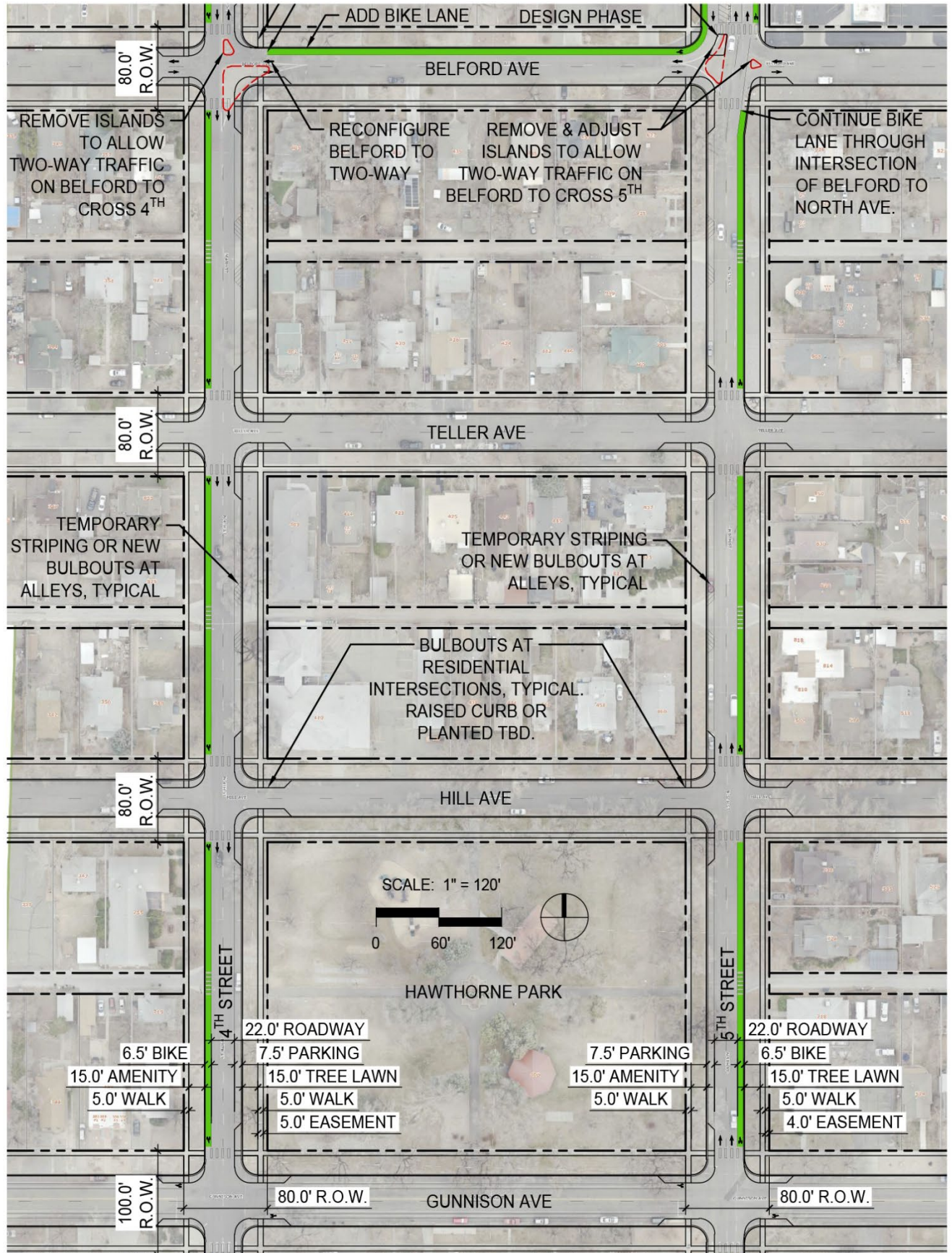
The preliminary traffic analysis suggested that some of the signalized intersections could be transitioned to stop control intersections. Instead of making this modification immediately, the City intends to analyze this recommendation and potentially do a pilot project to evaluate how well traffic flows under the various options.

## Layout of Enhanced One-Way Alternative

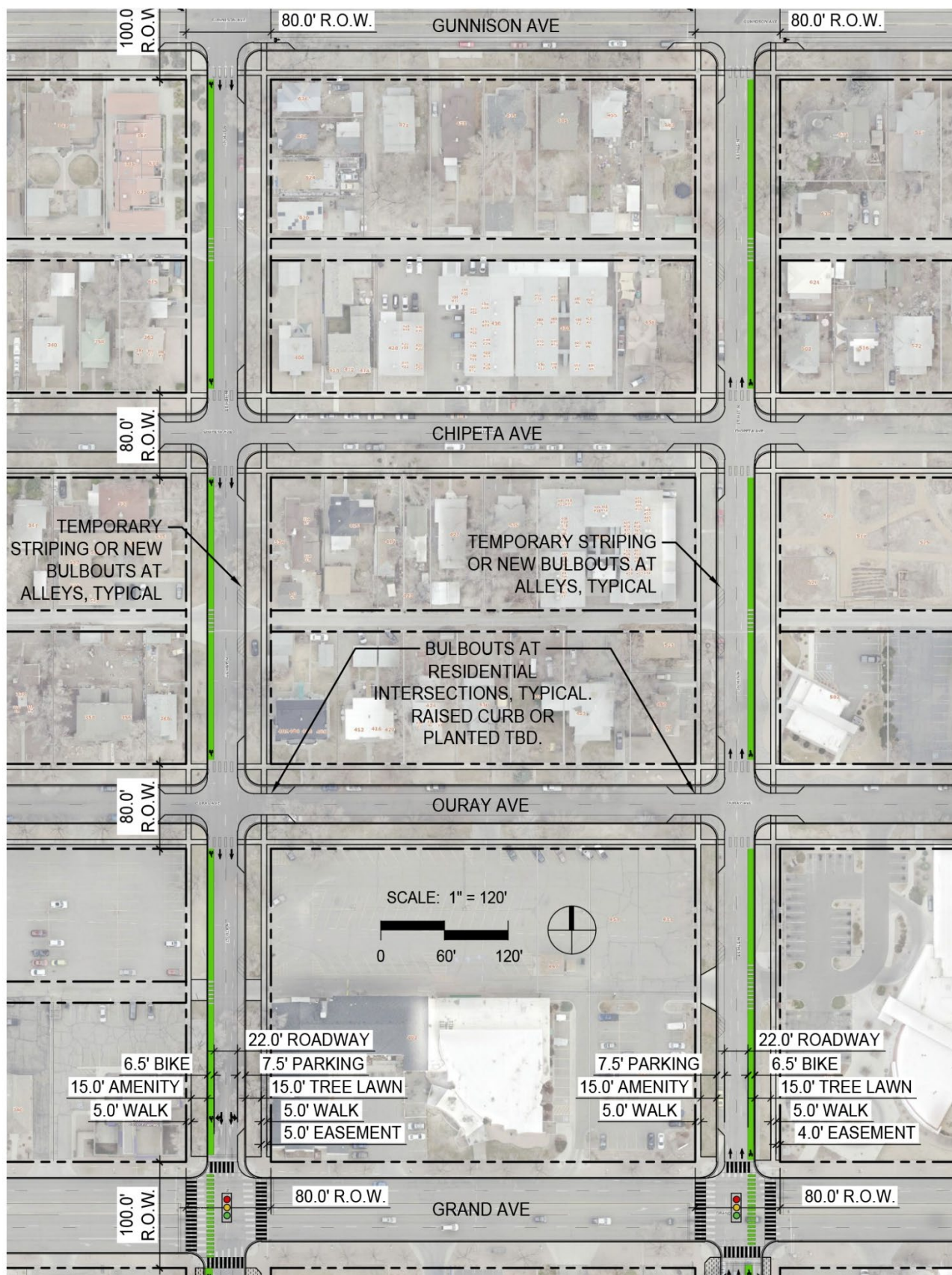
The layout figures below are just the beginning of an exciting step forward for the City of Grand Junction and the Downtown Development Authority. The implementation of the Enhanced One-Way Alternative creates a myriad of opportunities to change the experience for all users along 4<sup>th</sup> and 5<sup>th</sup> Street and truly activate economic development for years to come.



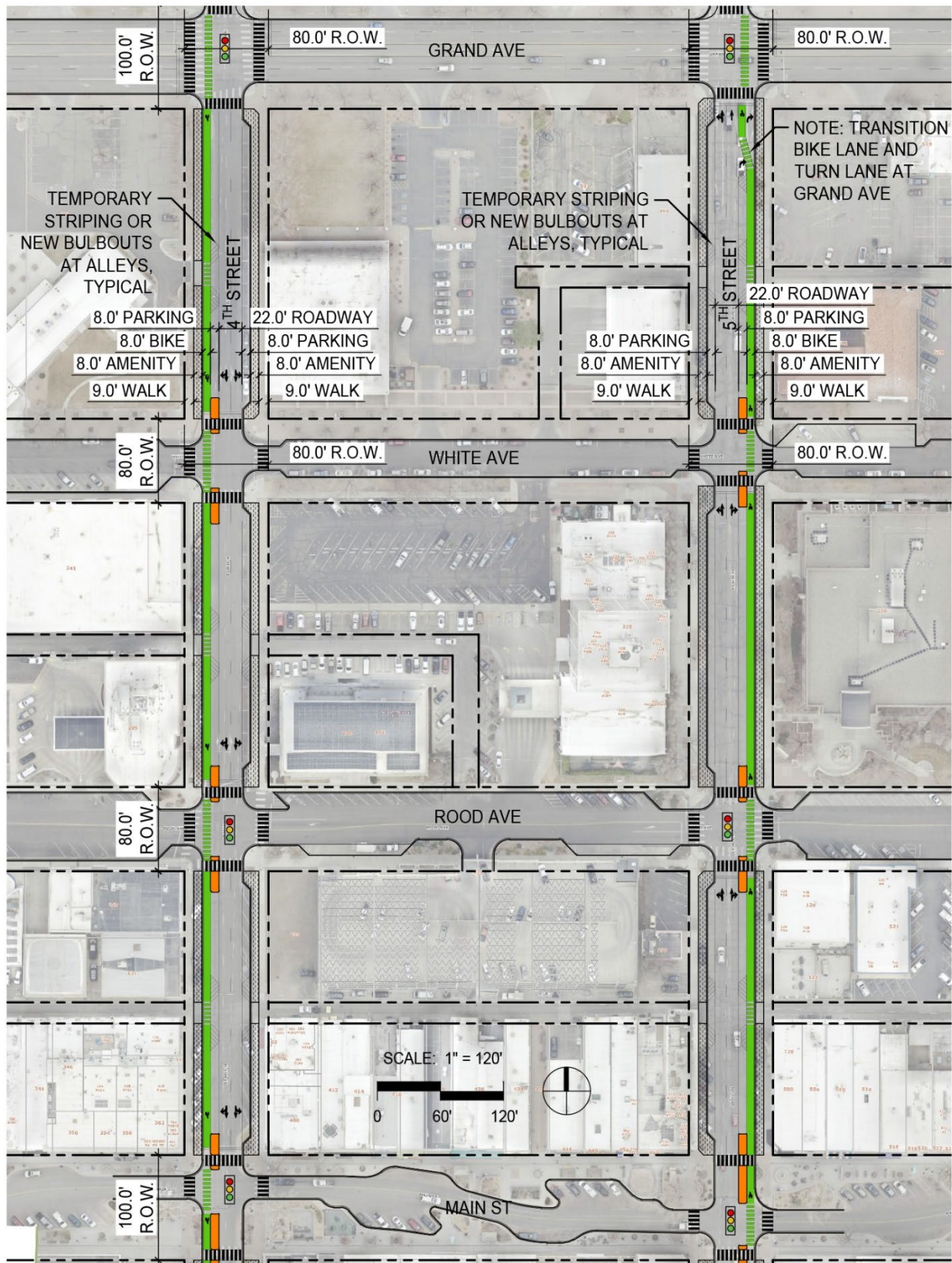




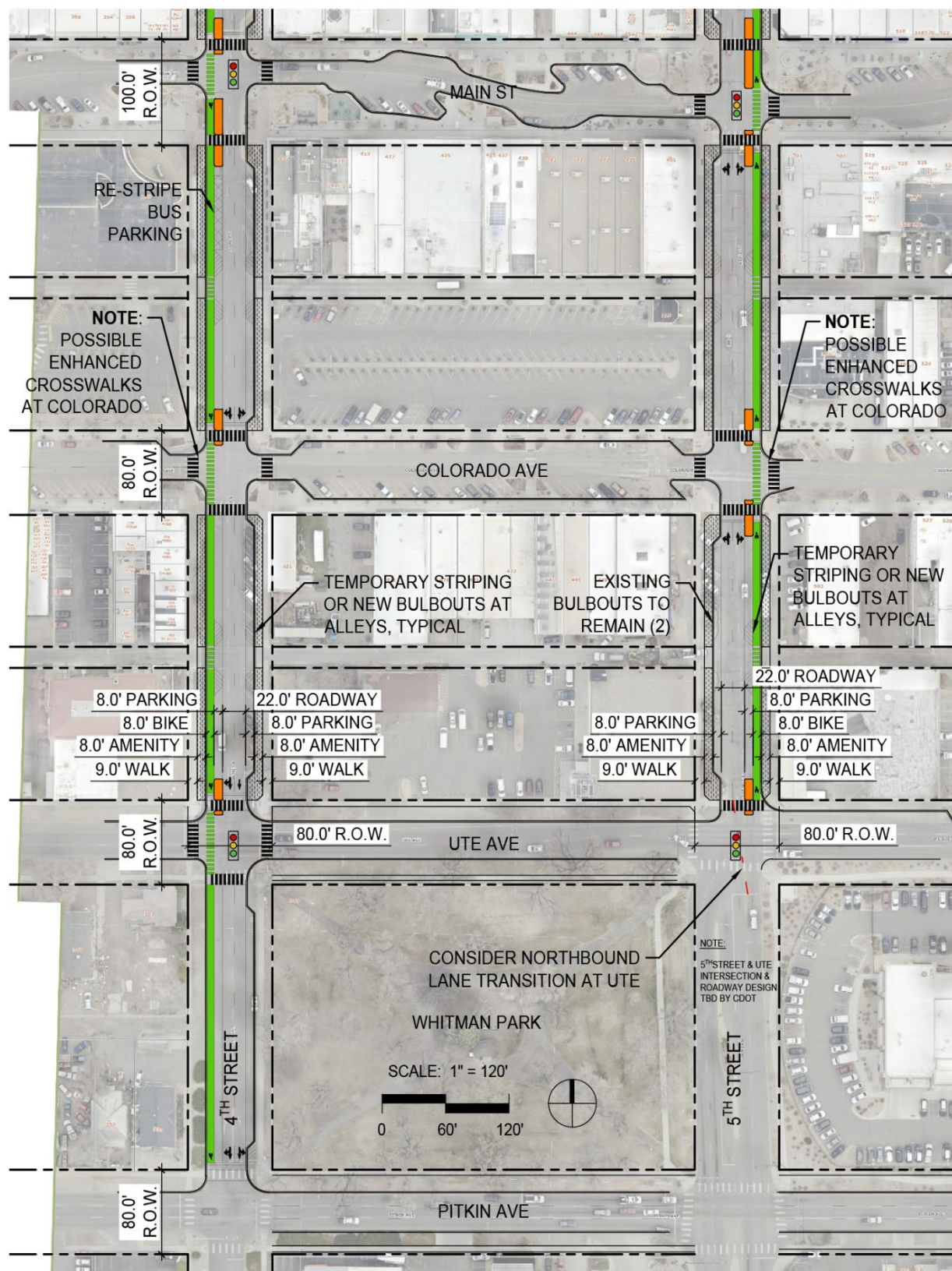


















GRAND JUNCTION

# 4<sup>TH</sup> & 5<sup>TH</sup> ST

FEASIBILITY STUDY

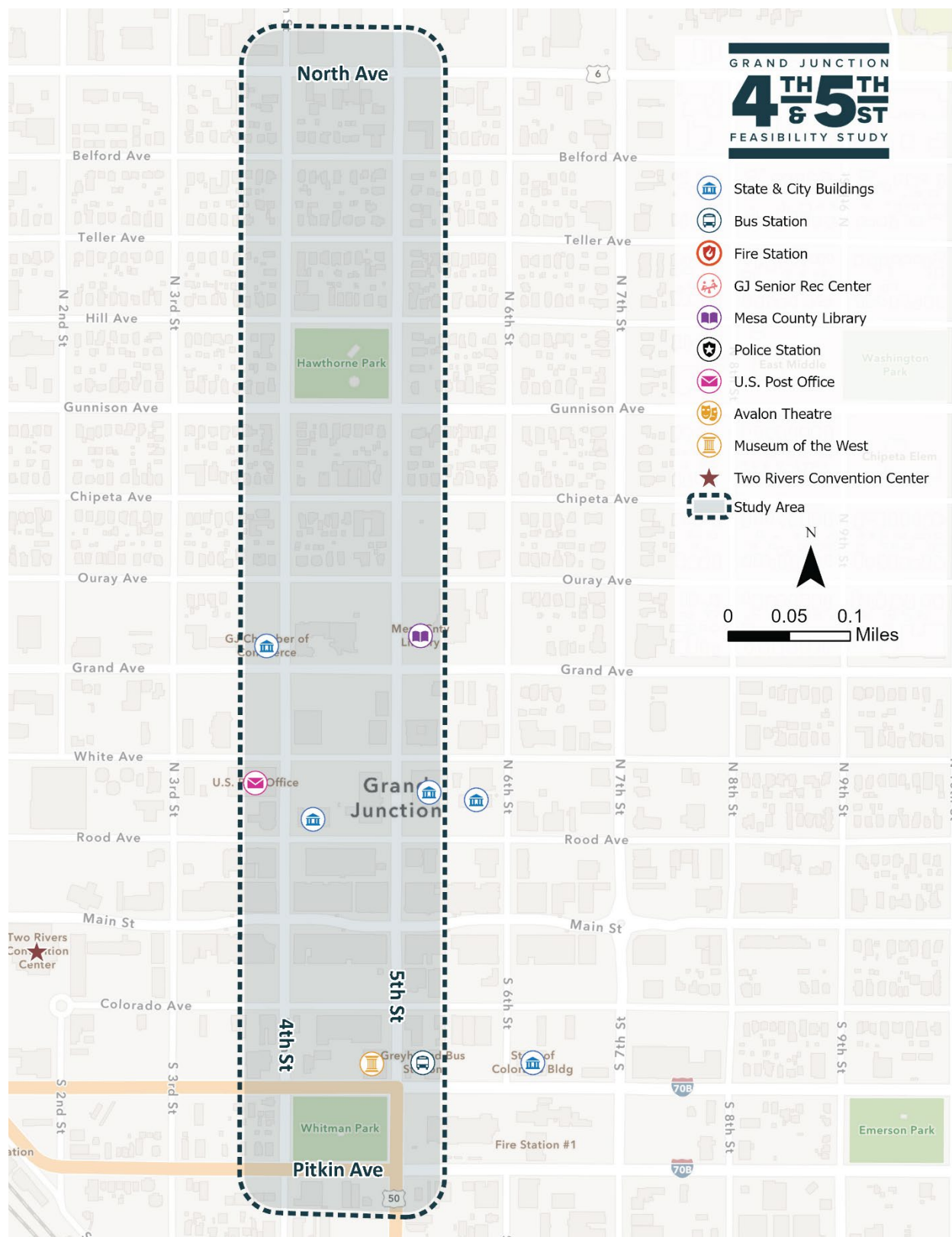


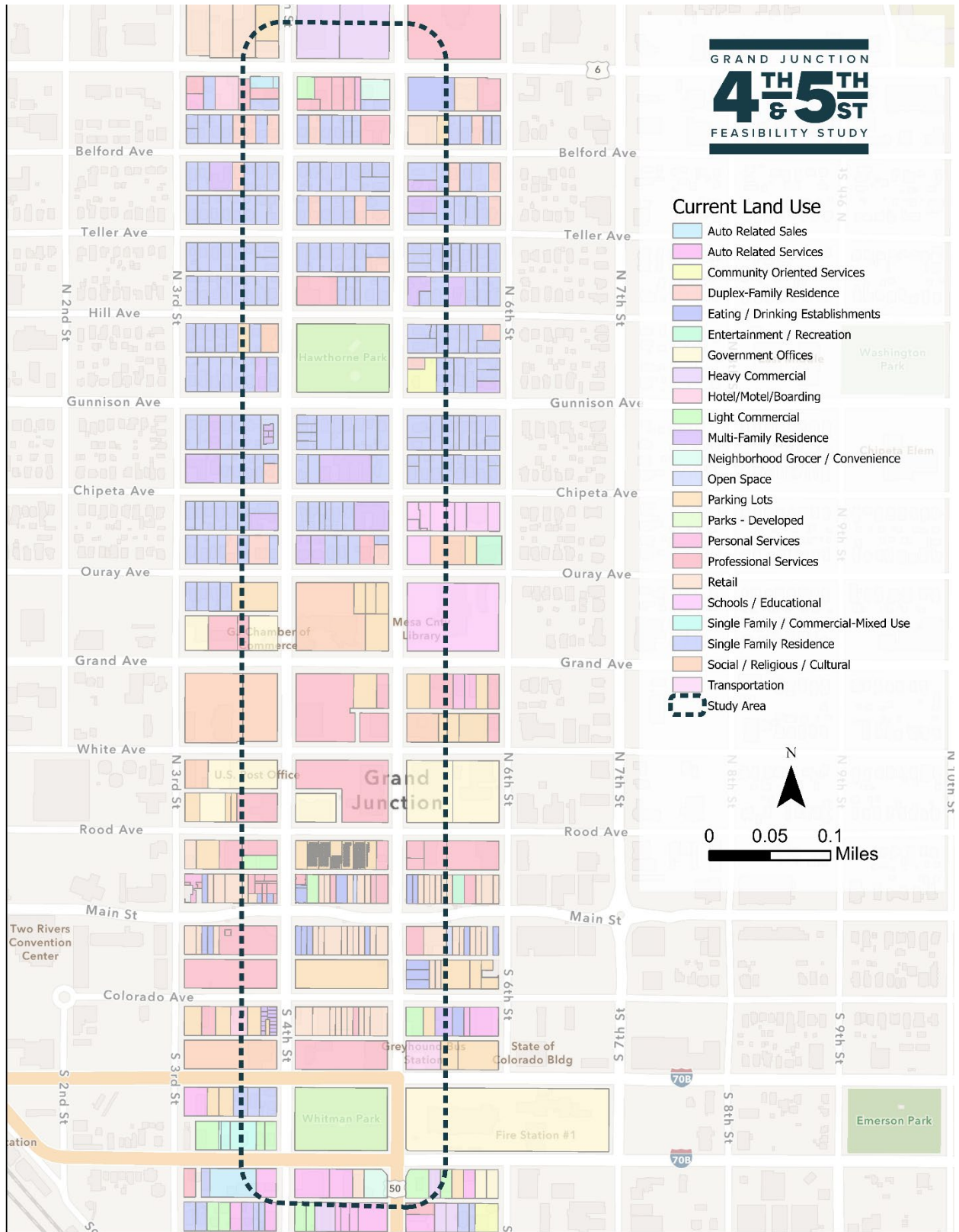
## Appendix 1 – Maps & Outreach

# STUDY MAPS

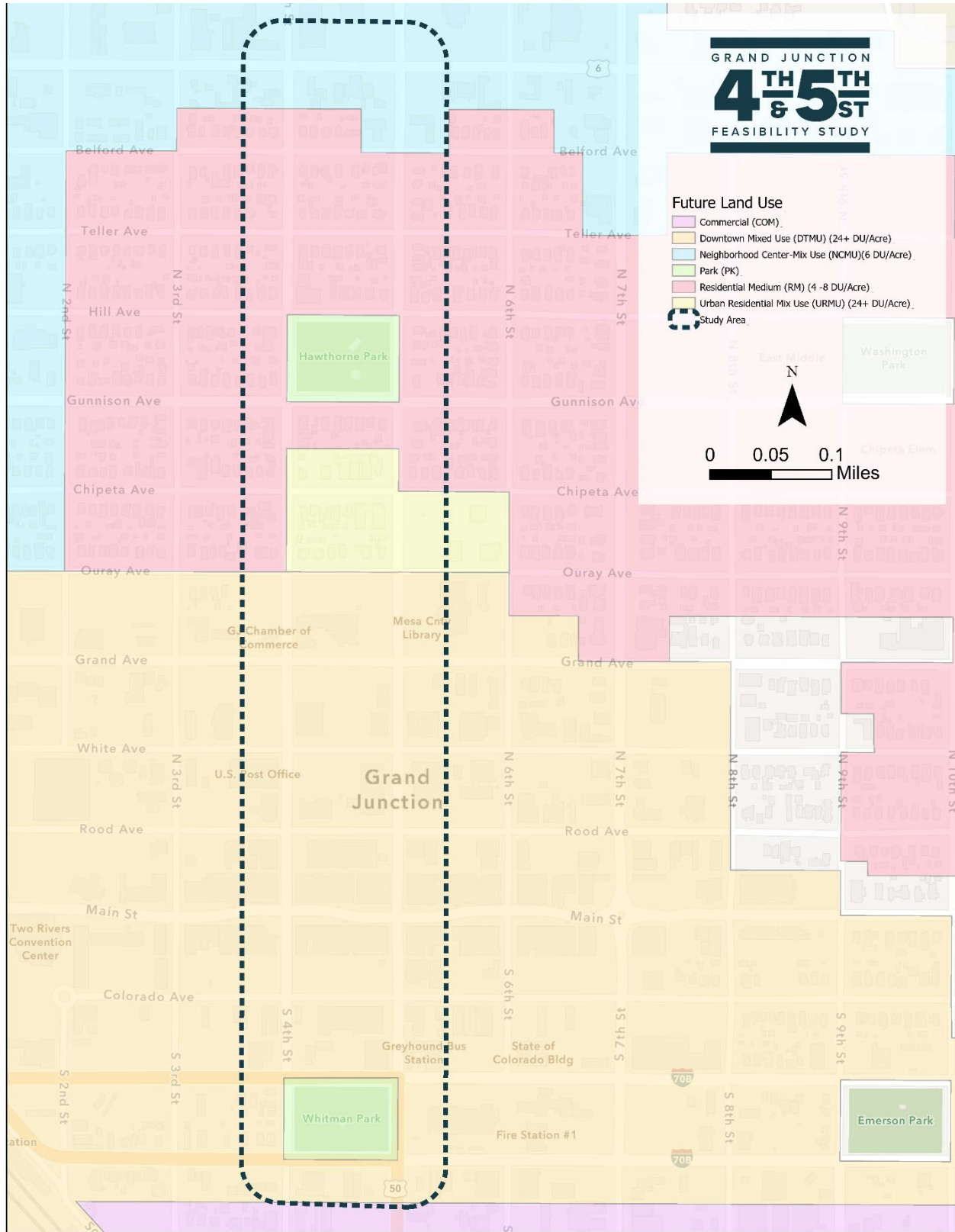
- Project Area Overview
- Current Land Use
- Future Land Use
- Downtown District
- Historic Assets
- Parking Facilities
- Pedestrian and Bicycle Facilities
- Transit Facilities

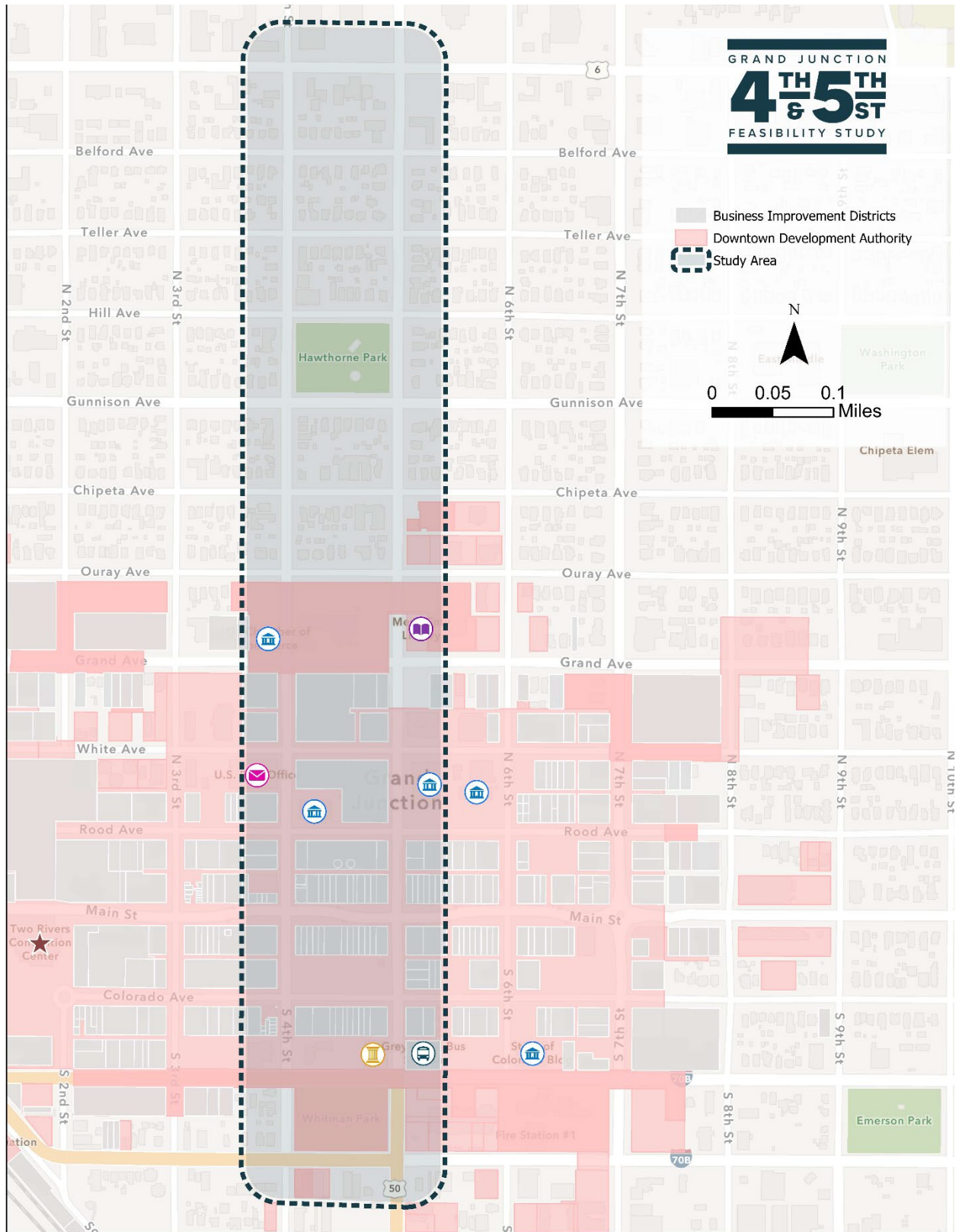


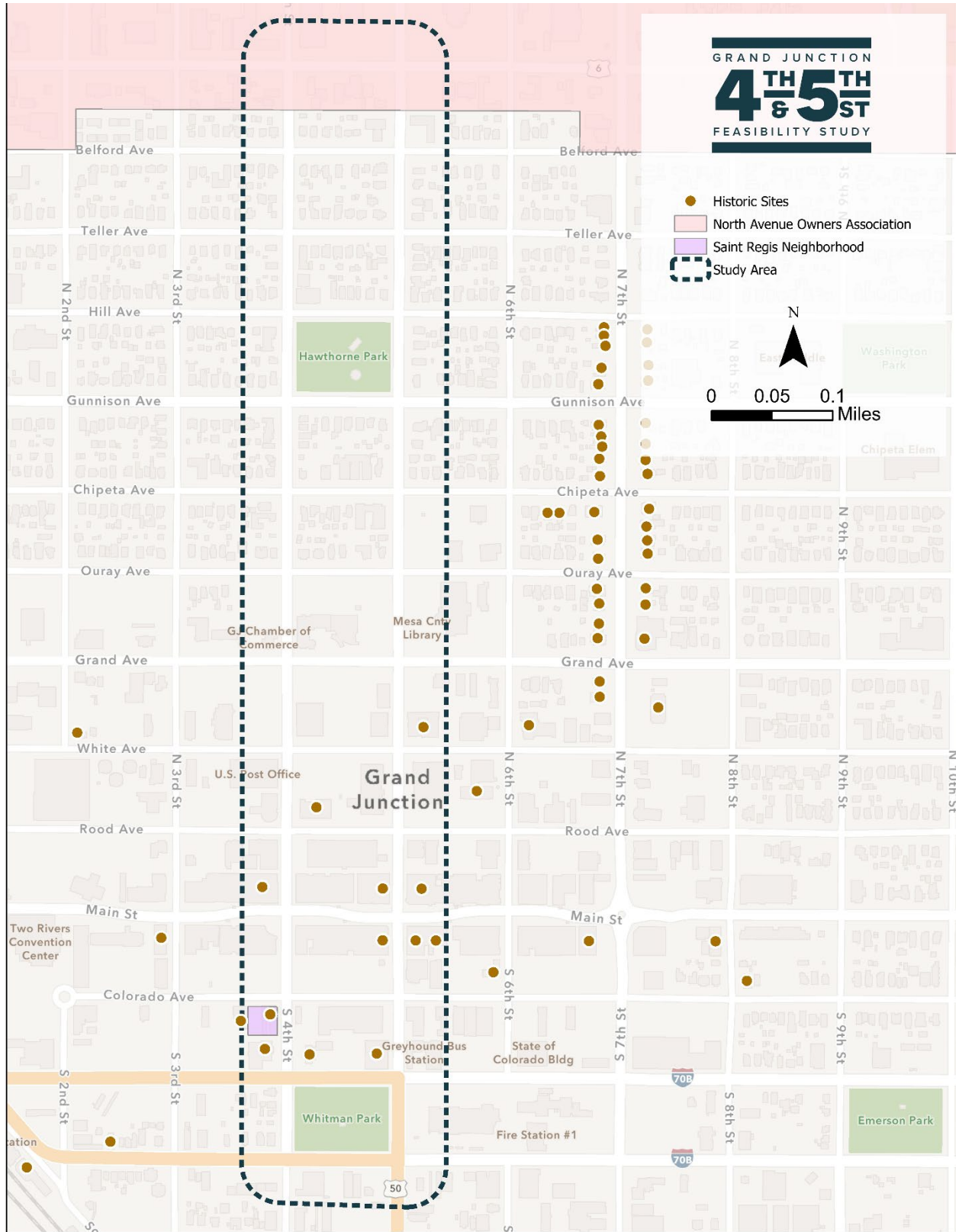




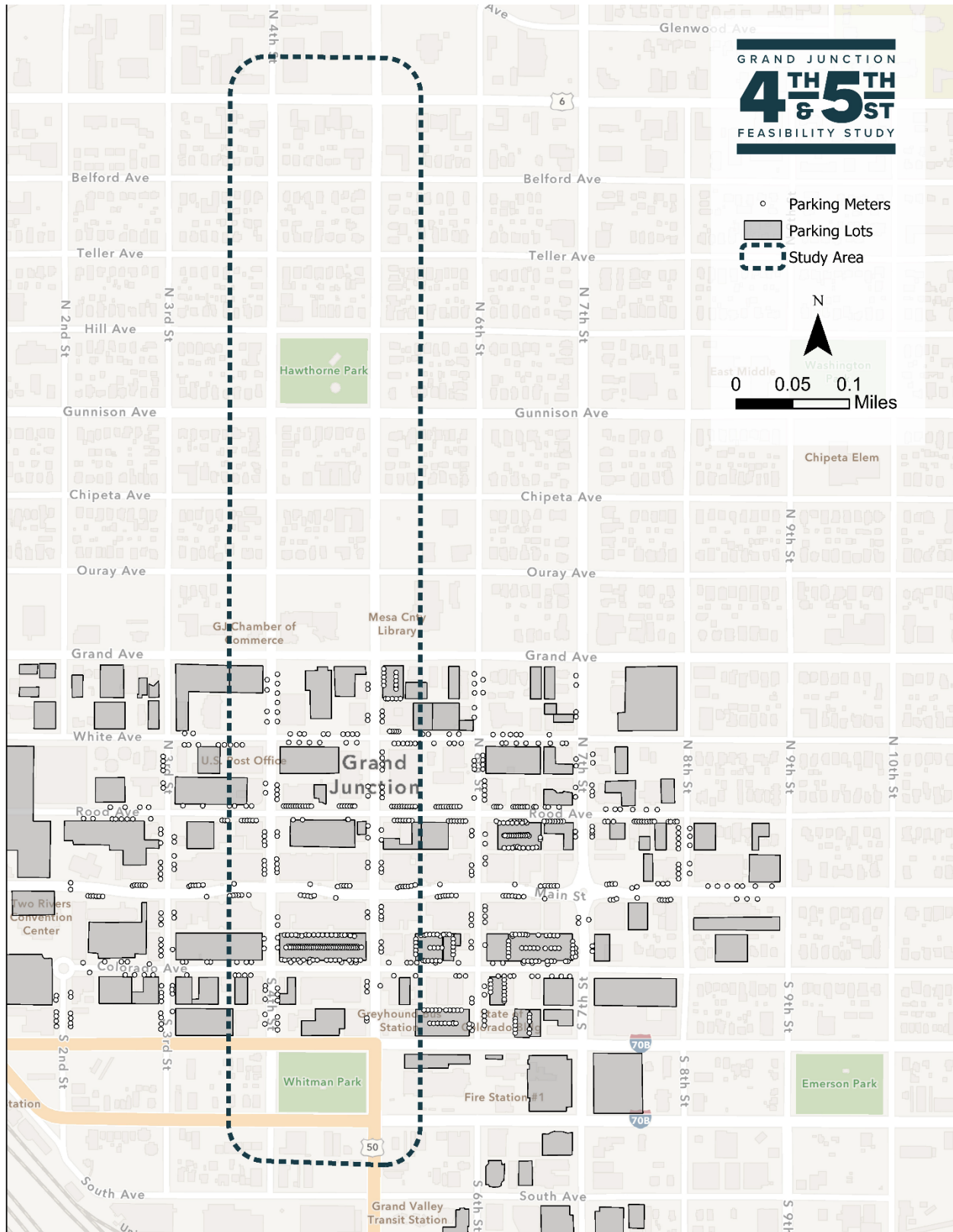


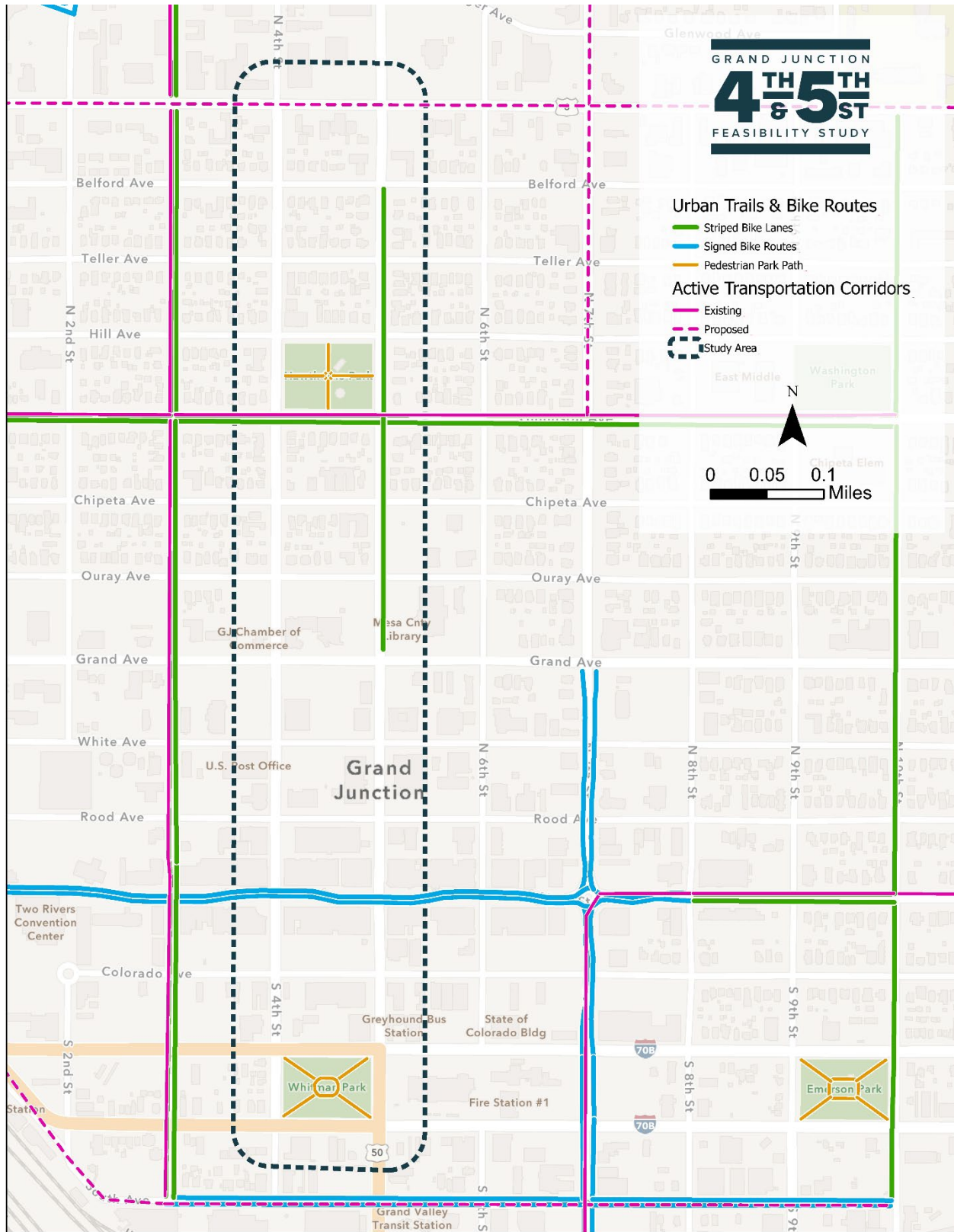




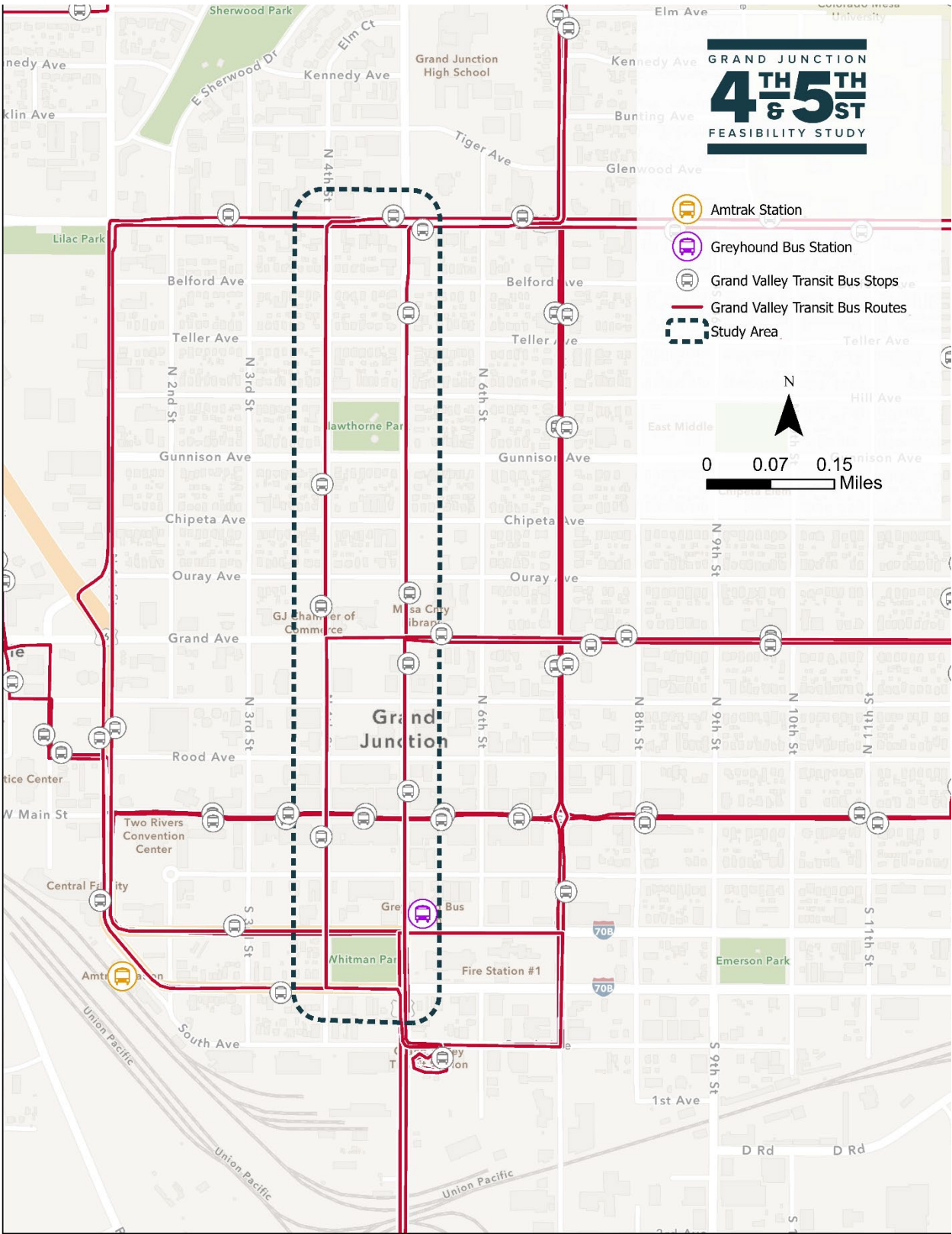












# OUTREACH MATERIALS

- Public Open House Materials
- Visuals from the Project Website



GRAND JUNCTION

**4<sup>TH</sup> & 5<sup>TH</sup> ST**

FEASIBILITY STUDY

*Welcome!*

**PUBLIC OPEN HOUSE FOR 4TH AND 5TH STREET FEASIBILITY STUDY**

Tuesday May 4, 2021 | 4:00 - 6:00pm

Welcome! Thank you for joining us at the Public Open House for the 4th and 5th Street Feasibility Study. We appreciate your input and will use the information you share to help inform study recommendations.

**We want to hear from you!**

While you are here, please visit the five stations to learn more about the study and participate in a variety of interactive activities:

**Station 1. Study Overview & Study Area**

**Station 2. Vision & Goals**

**Station 3. Summary of Benefits for One-Way and Two-Way Streets**

**Station 4. Study Area Interaction & Priorities**

**Station 5. Mapping Activity**

**Enter to Win!**

When you're done at today's open house, you can enter to win a gift card to Downtown GJ!

**DON'T FORGET TO CHECK OUT THE COMMENT SHEET ON THE BACK!**





# STUDY OVERVIEW

**ABOUT THE STUDY:** The 4th Street and 5th Street Feasibility Study is being led by the Grand Junction Downtown Development Authority, in conjunction with the City of Grand Junction.

**Why?** The purpose of the feasibility study is to evaluate potential improvements along both corridors and within the Study Area, focused on the following:

- Safety
- Traffic Circulation
- Walkability
- Bicycle Facilities
- Parking
- Transit
- Land Use
- Economic Development

**Proposed alternatives** will include maintaining the one-way traffic operations as well as the potential of transitioning to two-way travel corridors.

## WAYS TO PARTICIPATE:

### Project Website:

<http://project.bhinc.com/4th5thStudy>

Use the interactive map on the project website to share your ideas for the 4th/5th Street corridors. Check out the website for information about upcoming community engagement opportunities.

### Questions and Comments:

Share questions or comments at any time by emailing [4th5thStudy@bhinc.com](mailto:4th5thStudy@bhinc.com) or calling (720) 587-2653.



## TIMELINE:



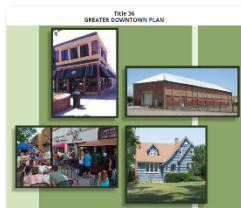
**PREVIOUS PLANNING WORK:** This study builds upon multiple previous planning efforts. In 1981, the Downtown Development Authority identified the conversion of 4th and 5th Street from one-way to two-way as a goal in its original Plan of Development. In 2013, the City of Grand Junction's Greater Downtown Plan also called for looking at the configuration of 4th and 5th Street. This was again confirmed as a focus area in the 2019 DDA Plan of Development, and the City's updated Comprehensive Plan due to continued concerns around safety issues related to this corridor.



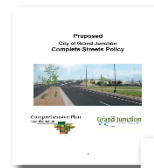
"Convert 4th and 5th to Two-way Streets" is listed as a priority strategy for connectivity.



The conversion of 4th and 5th Street from one-way to two-way was confirmed as a focus area due to continued concerns around safety issues related to this corridor.



The City's municipal code includes a policy within the Downtown District goals and policies to "Study alternatives for 4th and 5th Streets including returning these streets to the two-way grid system between Ute Avenue and North Avenue."



The City's Complete Streets Policy and the 2018 Circulation Plan provide additional guidance that will inform this study.





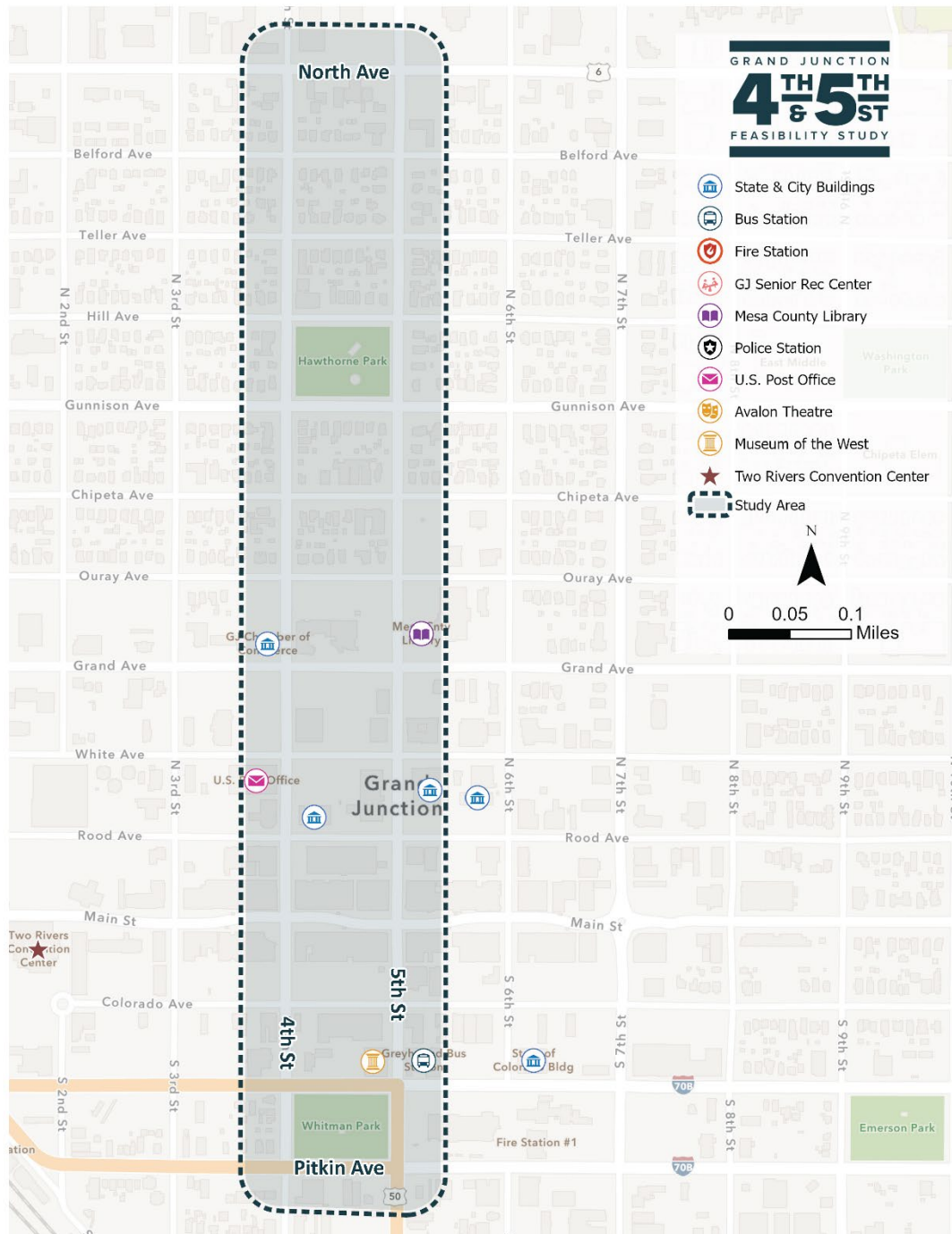


**GRAND JUNCTION**  
**4<sup>TH</sup> & 5<sup>TH</sup> ST**  
FEASIBILITY STUDY

# STUDY AREA MAP

1

The study area limits are from North Ave (US Hwy 6) to the north and Pitkin Ave (I-70B EB) to the south.





## VISION & GOALS PRIORITIZATION ACTIVITY

2

Each vision element in a colored box to the right has two associated goals. These have been developed by the project team with the help of staff and the Project Advisory Committee (PAC). All of these vision statements and goals will help inform the study and conceptual design moving forward.

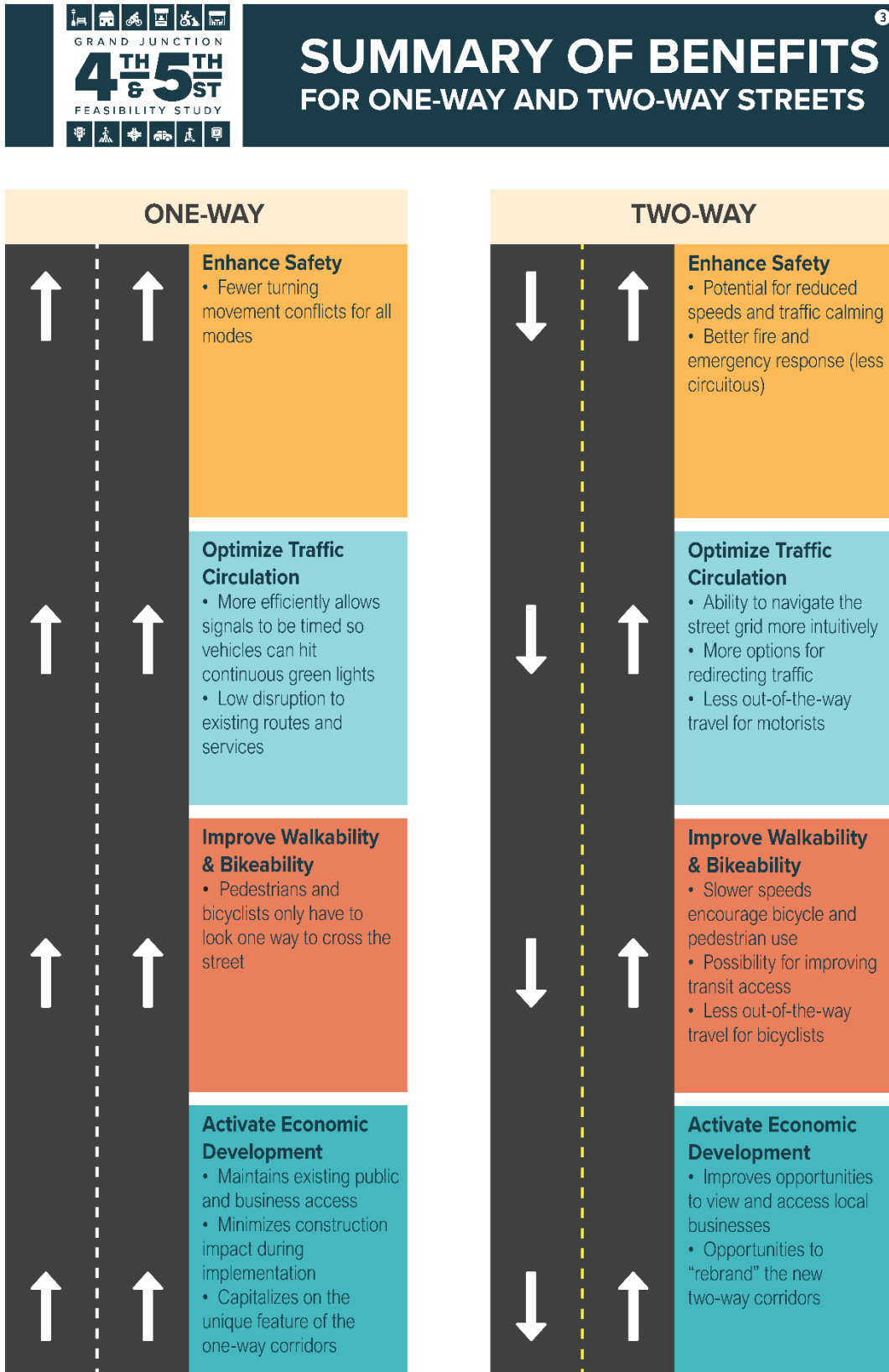
### ACTIVITY INSTRUCTIONS:

Please help us understand which of these vision elements is the highest priority to you by placing each of your two dot stickers in a white box to the right.

Did we miss anything? Place a sticky note below with any other vision elements or goals you'd like to see included.

|                                                                                                                                                                              |                |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------|
| <b>Enhance Safety</b> <ul style="list-style-type: none"> <li>• Support traffic calming</li> <li>• Enhance crossings</li> </ul>                                               | Place dot here |
| <b>Improve Walkability &amp; Bikeability</b> <ul style="list-style-type: none"> <li>• Improve accessibility</li> <li>• Promote connections to nearby destinations</li> </ul> | Place dot here |
| <b>Activate Economic Development</b> <ul style="list-style-type: none"> <li>• Enhance access to downtown</li> <li>• Create an inviting environment</li> </ul>                | Place dot here |
| <b>Optimize Traffic Circulation</b> <ul style="list-style-type: none"> <li>• Provide functional and intuitive circulation</li> <li>• Manage travel patterns</li> </ul>       | Place dot here |







GRAND JUNCTION  
**4<sup>TH</sup> & 5<sup>TH</sup> ST**  
FEASIBILITY STUDY

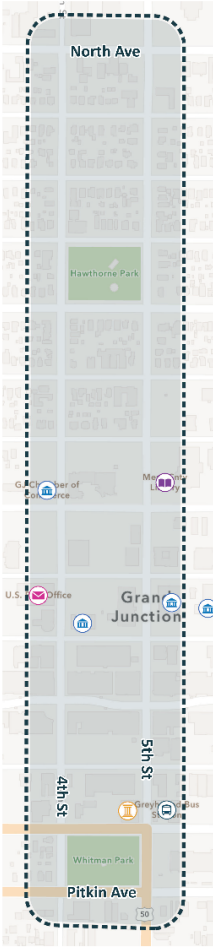
# STUDY AREA INTERACTION

4

**How do you interact with 4th Street and 5th Street?**  
**ACTIVITY INSTRUCTIONS:** Place a dot or dots in the correct box below.



|                                                |                                                 |
|------------------------------------------------|-------------------------------------------------|
| <b>Resident</b><br>in/near the Study Area      | <b>Business Owner</b><br>in/near the Study Area |
| <b>Transit Rider</b><br>in/near the Study Area | <b>Bicyclist</b><br>in/near the Study Area      |
| <b>Driver</b><br>in/near the Study Area        | <b>Pedestrian</b><br>in/near the Study Area     |



Did we miss anything? Place a sticky note below to describe any other ways you interact with the study area.



# GRAND JUNCTION 4<sup>TH</sup> & 5<sup>TH</sup> ST FEASIBILITY STUDY



## ONLINE SURVEY

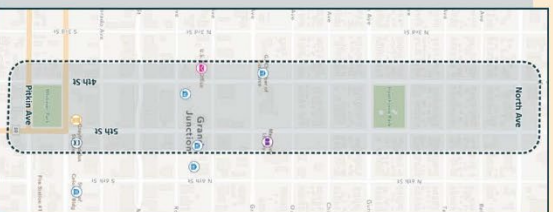
### ABOUT THE PROJECT: The 4th Street and 5th

**Street Feasibility Study** is being led by the Grand Junction Downtown Development Authority, in conjunction with the City of Grand Junction.

**Why?** The purpose of the feasibility study is to evaluate potential improvements along both corridors and within the Study Area, focused on the following:

- Safety
- Traffic Circulation
- Walkability
- Bicycle Facilities
- Parking
- Transit
- Land Use
- Economic Development

**Proposed alternatives** will include maintaining the one-way traffic operations as well as the potential of transitioning to two-way travel corridors.



### Take the Online Survey!

Visit the project website to take the online survey. Navigate to the link below or scan the QR code to the right with your phone.

<http://project.bhinc.com/4th5thStudy>



On the website, you can also use the interactive map to share your ideas for the 4th/5th Street corridors.

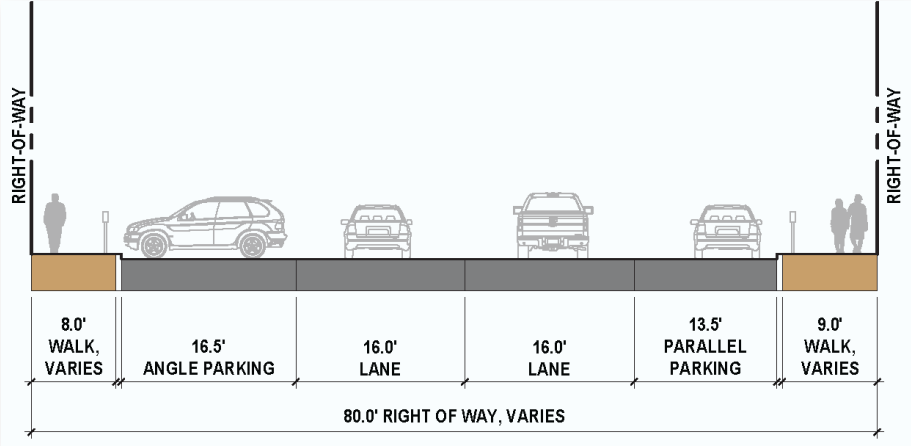
Your participation is very valuable to the planning process! **Those who take the online survey will be entered to win a Downtown GJ gift card. Please complete the survey by Tuesday, May 11 for a chance to win.**



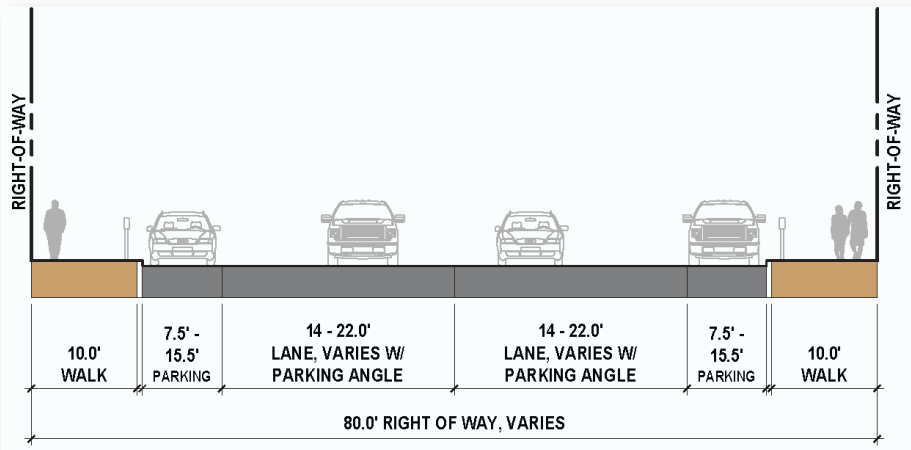


## EXISTING ONE-WAY PAIR (LOOKING NORTH)

### 5th Street - Between Ute & Colorado



### 4th Street - Between Colorado & Rood



### KEY ELEMENTS FOR 4TH & 5TH

- One-Way Vehicle Travel
- Wide Travel Lanes
- Sidewalks with Landscaping
- Parallel & Diagonal Parking
- No Bike Facilities



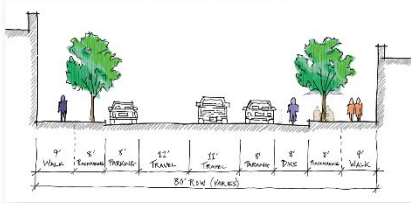
Bohannon & Huston



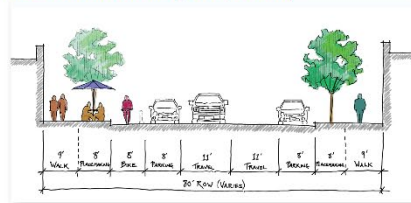
GRAND JUNCTION  
**4<sup>TH</sup> & 5<sup>TH</sup> ST**  
FEASIBILITY STUDY

**ENHANCED ONE-WAY ALTERNATIVE**  
(LOOKING NORTH)

5th Street - Ute to Grand (Concept Sketch)



4th Street - Ute to Grand (Concept Sketch)



5th Street - South of Grand (Concept Rendering)



4th Street - South of Grand (Concept Rendering)



**KEY ELEMENTS FOR 4TH & 5TH**



- One-Way Vehicle Travel
- Narrowed Travel Lanes

- Parallel Parking
- Separated Bike Lane

- Expanded Sidewalks
- Amenity Zone for Landscaping, Art, Outdoor Seating, & Other Amenities

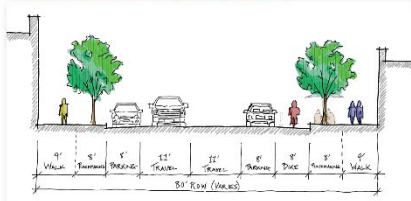
- Bulbouts at Corners & Alleys



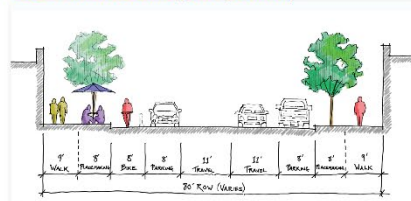
GRAND JUNCTION  
**4<sup>TH</sup> & 5<sup>TH</sup> ST**  
FEASIBILITY STUDY

**ENHANCED TWO-WAY ALTERNATIVE**  
(LOOKING NORTH)

5th Street - Ute to Grand (Concept Sketch)



4th Street - Ute to Grand (Concept Sketch)



5th Street - South of Grand (Concept Rendering)



4th Street - South of Grand (Concept Rendering)



**KEY ELEMENTS FOR 4TH & 5TH**



- Two-Way Vehicle Travel
- Narrowed Travel Lanes

- Parallel Parking
- Separated Bike Lane

- Expanded Sidewalks
- Amenity Zone for Landscaping, Art, Outdoor Seating, & Other Amenities

- Bulbouts at Corners & Alleys



# ALTERNATIVES EVALUATION MATRIX

- Proposed Alternatives Analysis Matrix Used to Evaluate the Two Directional Scenarios





## GRAND JUNCTION 4<sup>TH</sup> & 5<sup>TH</sup> ST FEASIBILITY STUDY

### PROPOSED ALTERNATIVES ANALYSIS MATRIX

|                                                                                                                                | EXISTING ONE-WAY PAIR | ENHANCED ONE-WAY ALTERNATIVE                                                      |                                                                                                              | ENHANCED TWO-WAY ALTERNATIVE                                                        |                                                                                                                              |
|--------------------------------------------------------------------------------------------------------------------------------|-----------------------|-----------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------|
|                                                                                                                                | EVALUATION SCORE      | EVALUATION SCORE                                                                  | EVALUATION NOTES                                                                                             | EVALUATION SCORE                                                                    | EVALUATION NOTES                                                                                                             |
| <b>VISION-BASED CRITERIA</b>                                                                                                   |                       |                                                                                   |                                                                                                              |                                                                                     |                                                                                                                              |
|  <b>Enhance Safety</b>                      |                       |                                                                                   |                                                                                                              |                                                                                     |                                                                                                                              |
| Reduce Speeds                                                                                                                  | *                     | ***                                                                               | Infrastructure modifications reduce speeds                                                                   | ****                                                                                | Infrastructure modifications reduce speeds                                                                                   |
| Reduce Crashes                                                                                                                 | *                     | ****                                                                              | Lower speeds reduce crashes                                                                                  | ***                                                                                 | Lower speeds reduce crashes<br>Increase in potential conflicts could result in more crashes                                  |
|  <b>Optimize Traffic Circulation</b>          |                       |                                                                                   |                                                                                                              |                                                                                     |                                                                                                                              |
| Reduce Driver Confusion                                                                                                        | *                     | ***                                                                               | Maintains current travel patterns for locals                                                                 | ****                                                                                | Less long-term confusion for all travelers                                                                                   |
| Encourage Traffic Calming                                                                                                      | *                     | ***                                                                               | Slower speeds and roadway design encourage traffic calming                                                   | ****                                                                                | Slower speeds, roadway design, and more potential conflicts encourage traffic calming                                        |
| Promote Direct Local Connections                                                                                               | **                    | **                                                                                | Requires some out of direction travel for local connections, although minimal<br>Decrease in through traffic | **                                                                                  | Provides more direct local connections<br>Decrease in through traffic                                                        |
| Support Corridor Truck Deliveries                                                                                              | ***                   | ***                                                                               | May need designated loading zone and encourage use of alleys                                                 | **                                                                                  | May need designated loading zone and encourage use of alleys<br>May impact directional travel                                |
| Support Transit                                                                                                                | ***                   | ***                                                                               | Opportunity for improved bus stops                                                                           | ****                                                                                | Opportunity for improved bus stops                                                                                           |
|  <b>Improve Walkability &amp; Bikeability</b> |                       |                                                                                   |                                                                                                              |                                                                                     |                                                                                                                              |
| Improve Crossings                                                                                                              | *                     | ****                                                                              | Shorter crossing distances plus bulbouts<br>Need to consider double threat from two one-way vehicles         | ****                                                                                | Shorter crossing distances plus bulbouts, except at left-turn locations (2-3 intersections)                                  |
| Provide/Improve Bicycle Facilities                                                                                             | *                     | ****                                                                              | Provides consistent bicycle facilities                                                                       | ****                                                                                | Provides consistent bicycle facilities                                                                                       |
| Improve Sidewalks                                                                                                              | **                    | ****                                                                              | Widens and enhances sidewalk area                                                                            | ****                                                                                | Widens and enhances sidewalk area                                                                                            |
|  <b>Activate Economic Development</b>         |                       |                                                                                   |                                                                                                              |                                                                                     |                                                                                                                              |
| Improve Business Access                                                                                                        | **                    | ***                                                                               | Slower speeds improves business access                                                                       | ****                                                                                | Slower speeds and more direct connections improve business access                                                            |
| Provide Opportunities For Amenities                                                                                            | **                    | ****                                                                              | Widened sidewalks allow for placemaking/landscaping opportunities                                            | ****                                                                                | Widened sidewalks allow for placemaking/landscaping opportunities                                                            |
| Enhance Parking                                                                                                                | **                    | ****                                                                              | Consistent, parallel parking with lower speeds will enhance parking and reduce quantity of spots             | ***                                                                                 | Consistent, parallel parking with lower speeds will enhance parking and reduce quantity of spots (even more with left-turns) |
| Preliminary Costs                                                                                                              |                       |  |                                                                                                              |  | Higher cost due to modification to signals and signage                                                                       |

**NOTE:** "Evaluation Score" represents a combined scoring from inputs by the Project Advisory Committee and Technical Team 85 of August 12, 2021.

Lowest  
\*  
Highest  
\*\*\*\*

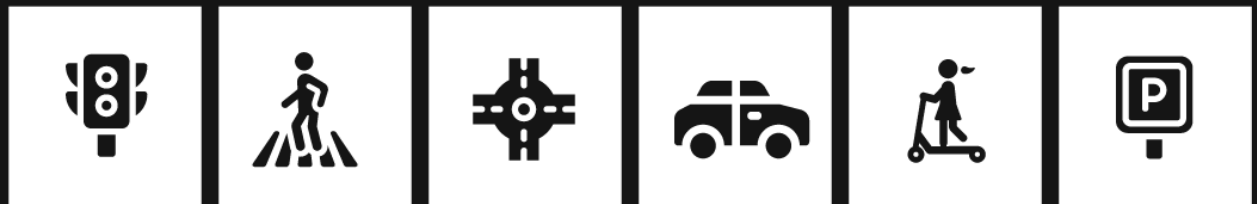
It is a relational score representing how well each of the alternatives, as compared to the existing one-way pair, responds to the Vision-Based Criteria with \* indicating little to no benefit and \*\*\*\* indicating the most benefit.



GRAND JUNCTION

# 4<sup>TH</sup> & 5<sup>TH</sup> ST

FEASIBILITY STUDY



## Appendix 2 – Traffic Memo





## MEMORANDUM

DATE: October 20, 2021

TO: Denise Aten, Consultant Project Manager, BHI

FROM: Karen Aspelin, PE, PTOE

SUBJECT: Grand Junction 4<sup>th</sup> and 5<sup>th</sup> Street Conversion Study Traffic Analysis

---

The Grand Junction Downtown Development Authority is considering modifications to 4<sup>th</sup> Street and 5<sup>th</sup> Street between Pitkin Avenue and North Avenue that would make both streets two-way streets rather than the current one-way pair. This memo documents the existing traffic conditions and summarizes an analysis of how the proposed modifications would be expected to affect traffic now and in the future.

### Existing Traffic Conditions (One-Way Operations on 4<sup>th</sup> and 5<sup>th</sup>)

Traffic volumes were counted in the study area, which is shown in Figure 1, in February of 2021. It should be noted that turning movements were not counted at the minor intersections north of Grand Avenue, and for these a turning movement volume of 10 vehicles per hour (vph) per movement was assumed. The raw data are included as Appendix A and the PM peak hour turning movements, used for this analysis, are summarized in Figure 2.



Figure 1 – Study Area





Fourth and 5<sup>th</sup> streets currently operate as a one-way pair, with only northbound travel on 5<sup>th</sup> Street and only southbound travel on 4<sup>th</sup> Street between Ute Avenue and Belford Avenue. South of Ute Avenue 5<sup>th</sup> Street is two-way but 4<sup>th</sup> Street is one-way only southbound. North of Belford Avenue both streets are two-way. The existing traffic control is summarized here:

| Control                         | 4 <sup>th</sup> Street Intersection                       | 5 <sup>th</sup> Street Intersection                              |
|---------------------------------|-----------------------------------------------------------|------------------------------------------------------------------|
| Signalized                      | Pitkin, Ute, Main, Rood, White, Grand                     | Pitkin, Ute, Main, Rood, Grand, North                            |
| Stop on East-West Street Only   | Colorado, Ouray, Chipeta, Gunnison, Hill, Teller, Belford | Colorado, White, Ouray, Chipeta, Gunnison, Hill, Teller, Belford |
| Stop on North-South Street Only | North                                                     | (none)                                                           |

Existing traffic signal timing plans for the study intersections were provided by the City. An existing level of service analysis for the PM peak was performed for the study area intersections. The analysis used the *Highway Capacity Manual* module of the Synchro 10 software for level of service analysis. The results are summarized in Table 1, and all analysis worksheets are in Appendix B.

**Table 1. Existing PM Peak Hour Levels of Service<sup>1</sup> at the Study Intersections**

| Cross Street | 4 <sup>th</sup> Street |                          | 5 <sup>th</sup> Street |                          |
|--------------|------------------------|--------------------------|------------------------|--------------------------|
|              | Overall LOS            | Worst Approach LOS       | Overall LOS            | Worst Approach LOS       |
| North Ave    | (unsignalized)         | E (SB approach)          | B                      | C (NB and SB approaches) |
| Belford Ave  | (unsignalized)         | B                        | (unsignalized)         | A                        |
| Teller Ave   | (unsignalized)         | B                        | (unsignalized)         | B                        |
| Hill Ave     | (unsignalized)         | B                        | (unsignalized)         | B                        |
| Gunnison Ave | (unsignalized)         | B                        | (unsignalized)         | B                        |
| Chipeta Ave  | (unsignalized)         | B                        | (unsignalized)         | B                        |
| Ouray Ave    | (unsignalized)         | B                        | (unsignalized)         | B                        |
| Grand Ave    | B                      | C (EB and SB approaches) | C                      | C (WB and NB approaches) |
| White Ave    | B                      | C (EB and WB approaches) | (unsignalized)         | B                        |
| Rood Ave     | C                      | C (EB and WB approaches) | C                      | C (EB and WB approaches) |
| Main St      | B                      | C (SB approach)          | B                      | C (WB approach)          |
| Colorado Ave | (unsignalized)         | B                        | (unsignalized)         | B                        |
| Ute Ave      | C                      | C (WB and SB approach)   | B                      | C (WB approach)          |
| Pitkin Ave   | A                      | A                        | C                      | D (EB approach)          |

<sup>1</sup>Level of service shown for signalized intersection is overall level of service and worst approach level of service. Level of service shown for two-way stop control intersection is worst approach level of service (approach identified where LOS is C or worse).

The analysis showed that all movements in the PM peak hour are currently operating at acceptable levels of service (considered in this memo as a LOS D or better), with the exception of the southbound approach of the 4<sup>th</sup> Street/North Avenue intersection, which is unsignalized and operates at a LOS E.





A queueing analysis was done by using the SimTraffic 10 software to perform ten simulations of the peak hour. The queueing worksheets are included in Appendix C. The analysis looked for the following potential queueing issues:

- Queues extending back into the upstream intersection
- Queues spilling out of a turn lane and blocking the adjacent through lane
- Queues in a through lane blocking access to the adjacent turn lane in more than 10% of cycles
- Cycle failure – when a waiting queue is not completely dispersed during the cycle and continues to build over the peak period

These queueing issues were observed in the existing condition simulations:

- At 5<sup>th</sup> Street/Ute Avenue, the outside through lane westbound blocked entry to the westbound right-turn lane 8 of 36 cycles in the peak hour.
- At 5<sup>th</sup> Street/Pitkin Avenue, the inside through lane southbound blocked entry to the southbound left-turn lane 6 of 36 cycles in the peak hour.

## Existing Year Traffic Conditions with Two-Way Operations on 4<sup>th</sup> and 5<sup>th</sup>

The regional model output provided by the Grand Valley Metropolitan Planning Organization/Mesa County Regional Transportation Planning Office (MPO) shows that when 4<sup>th</sup> Street and 5<sup>th</sup> Street are both open to two-way traffic that of the total traffic volume those two streets carry, in general 4<sup>th</sup> Street carries about 40% of it, and 5<sup>th</sup> Street carries about 60% of it.

The regional model output also shows that when 4<sup>th</sup> Street and 5<sup>th</sup> Street are both open to two-way traffic, that some traffic from other streets (including 1<sup>st</sup> Street and 7<sup>th</sup> Street) gets diverted to them. Total traffic volumes on 4<sup>th</sup> Street and 5<sup>th</sup> Street grows by about 30% in the model when those streets were both made two-way.

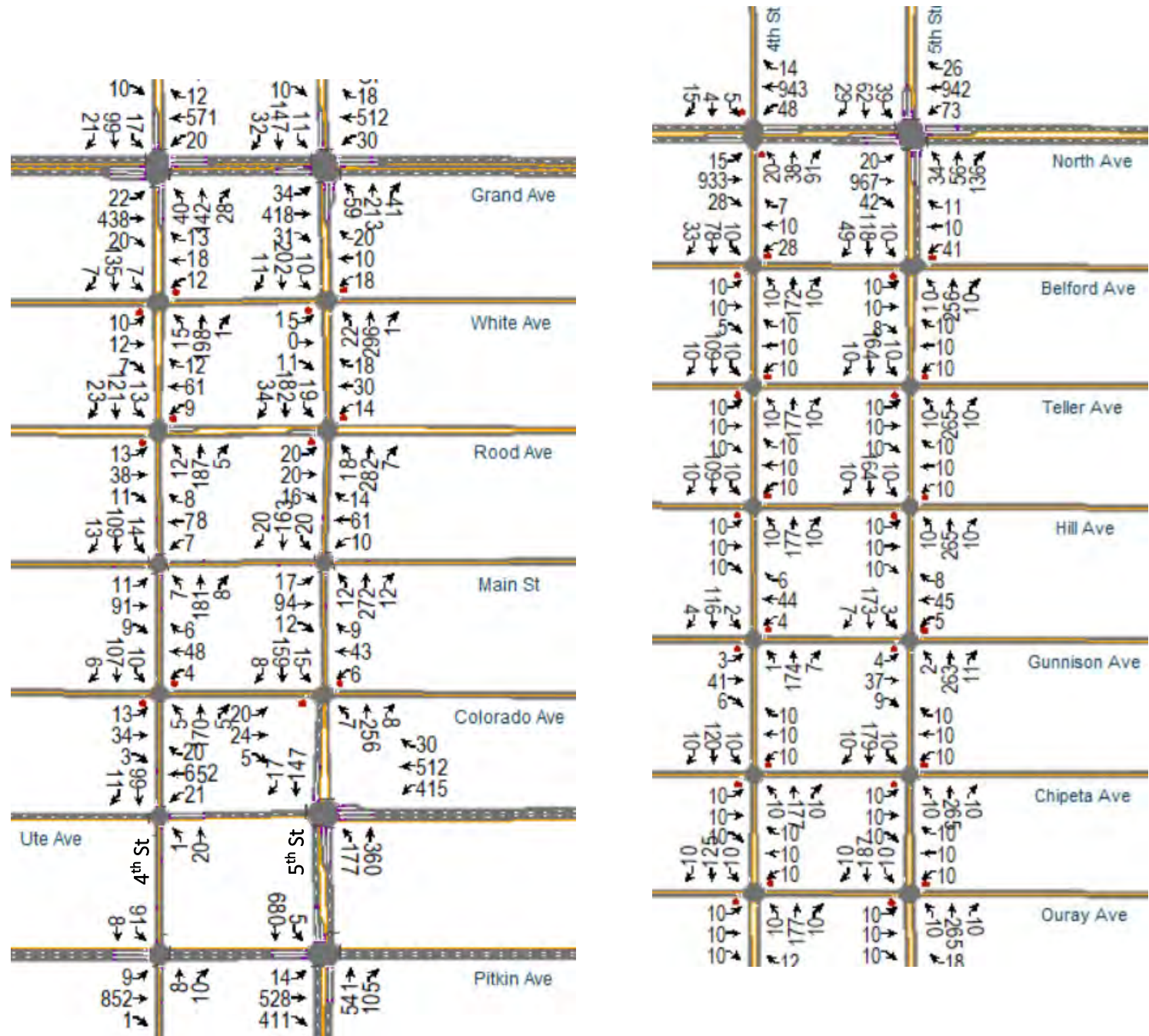
Using this information, the total existing traffic counts on 4<sup>th</sup> Street and 5<sup>th</sup> Street were added up and then distributed: 40% to the intersections on 4<sup>th</sup> Street and 60% to the intersections on 5<sup>th</sup> Street. To account for the added traffic drawn from other streets in the PM peak, a factor of 1.3 was applied to the north-south through volumes on 4<sup>th</sup> Street and 5<sup>th</sup> Street. Figure 3 shows the estimated turning movement volumes for the study intersections for the two-way operations scenario in the current year.

A level of service analysis was again run for today's PM peak under two-way conditions. The same cycle length that is used now, 100 seconds, was assumed to be used. The results are summarized in Table 2, and all analysis worksheets are in Appendix B.





Figure 3 – Estimated Existing PM Peak Hour Volumes (Two-Way Conditions)




**Table 2. PM Peak Hour Levels of Service<sup>1</sup> at the Study Intersections – Existing Year, Two-Way Operations**

| Cross Street           | 4 <sup>th</sup> Street |                          | 5 <sup>th</sup> Street |                          |
|------------------------|------------------------|--------------------------|------------------------|--------------------------|
|                        | Overall LOS            | Worst Approach LOS       | Overall LOS            | Worst Approach LOS       |
| North Ave              | (unsignalized)         | F (NB and SB approaches) | B                      | D (NB approach)          |
| Belford Ave            | (unsignalized)         | B                        | (unsignalized)         | B                        |
| Teller Ave             | (unsignalized)         | B                        | (unsignalized)         | B                        |
| Hill Ave               | (unsignalized)         | B                        | (unsignalized)         | B                        |
| Gunnison Ave           | (unsignalized)         | B                        | (unsignalized)         | B                        |
| Chipeta Ave            | (unsignalized)         | B                        | (unsignalized)         | B                        |
| Ouray Ave              | (unsignalized)         | B                        | (unsignalized)         | B                        |
| Grand Ave              | B                      | C (NB and SB approaches) | B                      | C (NB and SB approaches) |
| White Ave <sup>2</sup> | (unsignalized)         | B                        | (unsignalized)         | B                        |
| Rood Ave <sup>2</sup>  | (unsignalized)         | B                        | (unsignalized)         | B                        |
| Main St                | C                      | D (EB and WB approaches) | B                      | D (EB and WB approaches) |
| Colorado Ave           | (unsignalized)         | B                        | (unsignalized)         | B                        |
| Ute Ave                | D                      | D (WB approach)          | C                      | D (WB approach)          |
| Pitkin Ave             | C                      | D (EB approach)          | C                      | D (EB approach)          |

<sup>1</sup>Level of service shown for signalized intersection is overall level of service and worst approach level of service. Level of service shown for two-way stop control intersection is worst approach level of service (approach identified where LOS is C or worse).

<sup>2</sup>The 4<sup>th</sup> Street/White Avenue and 4<sup>th</sup> Street/Rood Avenue intersections were assumed to be stop-controlled in the two-way scenario.

The analysis showed that all movements in the PM peak hour would be expected to operate at acceptable levels of service in the existing year under the two-way conditions with the exception of the northbound and southbound approaches of the 4<sup>th</sup> Street/North Avenue intersection, which is unsignalized and has side street movements operating at a LOS F.

The northern two blocks of the study area warrant further consideration if 4<sup>th</sup> and 5<sup>th</sup> streets are made two-way. Discussions with CDOT have revealed that they do not want to signalize the 4<sup>th</sup> Street/North Avenue intersection because of its proximity to the existing signal at 5<sup>th</sup> Street/North Avenue (North Avenue is US Highway 6). However, the travel demand model loads 4<sup>th</sup> Street and the unsignalized 4<sup>th</sup> Street/North Avenue intersection without regard to its type of control and shows, as was mentioned before, about 40% of the traffic in the 4<sup>th</sup> Street-5<sup>th</sup> Street corridor being carried by 4<sup>th</sup> Street. As demonstrated above, this volume would cause the side street movements of the 4<sup>th</sup> Street/North Avenue intersection to fail if it is not signalized. What would be more likely to happen is that northbound 4<sup>th</sup> Street traffic would find its way to the 5<sup>th</sup> Street/North Avenue intersection to use the signal there. This pattern could be encouraged by having northbound drivers on 4<sup>th</sup> Street take a right onto eastbound Belford Avenue, and then take a left onto northbound 5<sup>th</sup> Street to reach the signal. The configuration and traffic control at the 5<sup>th</sup> Street/Belford Avenue intersection would need to be modified to accommodate this new pattern.

These queueing issues were observed in the simulations of the existing year scenario with two-way operations:

- At 5<sup>th</sup> Street/Grand Avenue, the northbound through lane blocked entry to the northbound right-turn lane 9 of 36 cycles in the peak hour.
- At 5<sup>th</sup> Street/Ute Avenue, the outside through lane westbound blocked entry to the westbound right-turn lane 10 of 36 cycles in the peak hour.



- At 5<sup>th</sup> Street/Pitkin Avenue, the inside through lane southbound blocked entry to the southbound left-turn lane 6 of 36 cycles in the peak hour.

## Year 2045 Traffic Conditions with One-Way Operations on 4<sup>th</sup> and 5<sup>th</sup>

This study used a simplified method of determining the overall growth factor expected between the year 2021 and the forecast year 2045. Traffic model projections were provided by the MPO. A screenline was placed just south of Rood Avenue, and the daily traffic volumes on 1<sup>st</sup>, 4<sup>th</sup>, 5<sup>th</sup>, and 7<sup>th</sup> streets were summed at that location for the existing year and year 2045 scenario with the existing one-way pair and existing speed limits.

|                        | Base Year ADTs | Year 2045 One-Way Pair,<br>Existing Speed Limits ADTs |
|------------------------|----------------|-------------------------------------------------------|
| 1 <sup>st</sup> Street | 18,629         | 28,083                                                |
| 4 <sup>th</sup> Street | 3,508          | 5,140                                                 |
| 5 <sup>th</sup> Street | 7,002          | 8,544                                                 |
| 7 <sup>th</sup> Street | 8,556          | 13,496                                                |
| Totals                 | 37,695         | 55,263                                                |

The growth observed between these two screenline ADTs is approximately 1.5. This factor was applied to all of the existing year 2021 turning movement counts to estimate future year conditions, which are shown in Figure 4.

A level of service analysis was again run for the projected year 2045 PM peak under the current one-way conditions. The same cycle length that is used now, 100 seconds, was assumed to be used. The results are summarized in Table 3, and all analysis worksheets are in Appendix B.

**Table 3. Forecast Year 2045 PM Peak Hour Levels of Service<sup>1</sup> with One-Way Operations**

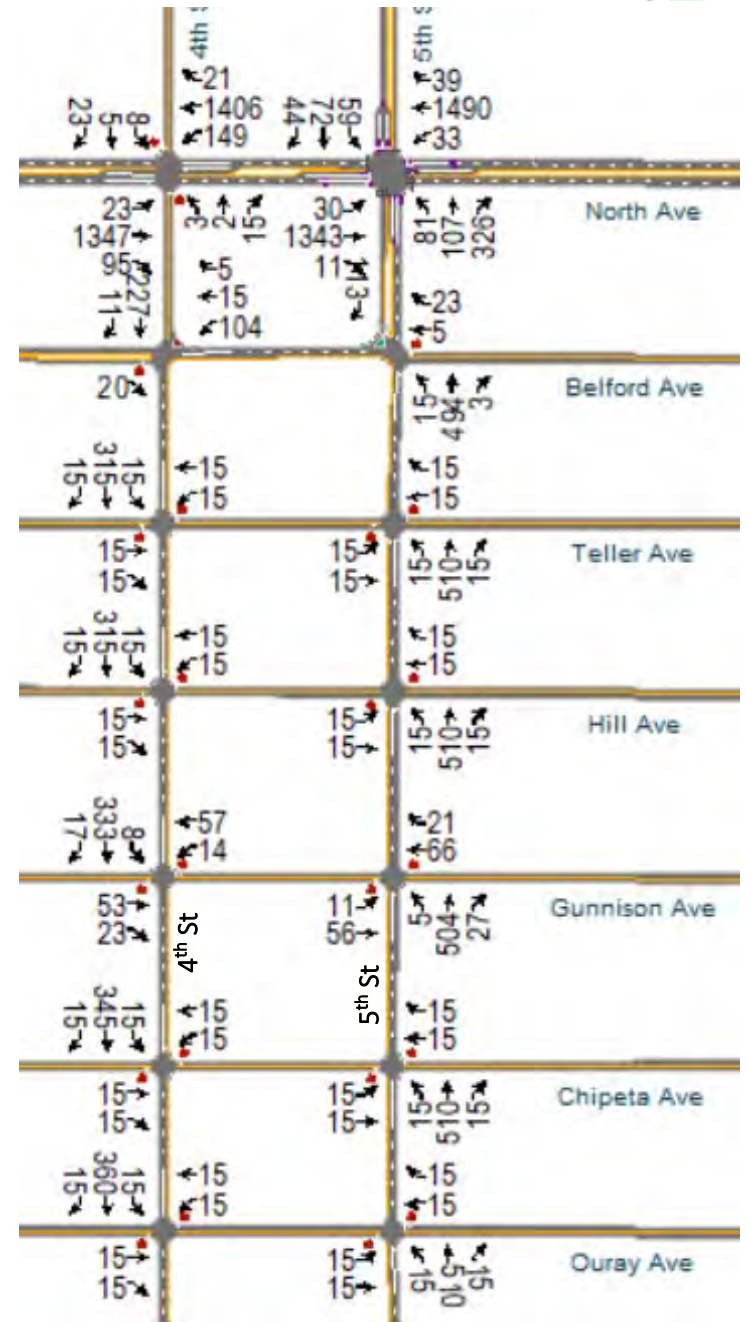
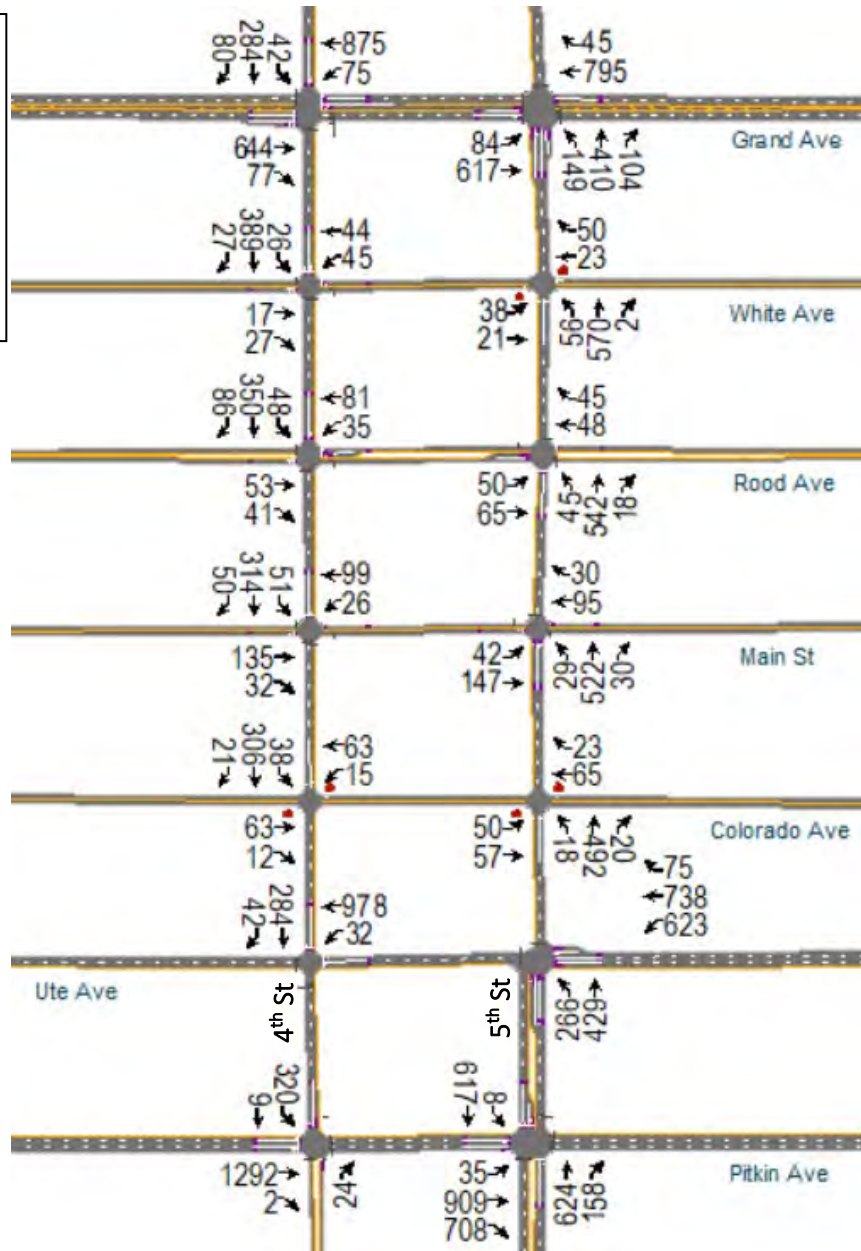
| Cross Street | 4 <sup>th</sup> Street |                          | 5 <sup>th</sup> Street |                          |
|--------------|------------------------|--------------------------|------------------------|--------------------------|
|              | Overall LOS            | Worst Approach LOS       | Overall LOS            | Worst Approach LOS       |
| North Ave    | (unsignalized)         | F (NB and SB approaches) | C                      | D (NB approach)          |
| Belford Ave  | (unsignalized)         | B                        | (unsignalized)         | B                        |
| Teller Ave   | (unsignalized)         | B                        | (unsignalized)         | B                        |
| Hill Ave     | (unsignalized)         | B                        | (unsignalized)         | B                        |
| Gunnison Ave | (unsignalized)         | B                        | (unsignalized)         | B                        |
| Chipeta Ave  | (unsignalized)         | B                        | (unsignalized)         | B                        |
| Ouray Ave    | (unsignalized)         | B                        | (unsignalized)         | B                        |
| Grand Ave    | B                      | C (EB and SB approaches) | C                      | C (WB and NB approaches) |
| White Ave    | B                      | C (EB and WB approaches) | (unsignalized)         | B                        |
| Rood Ave     | C                      | C (all approaches)       | C                      | C (all approaches)       |
| Main St      | C                      | C (SB approach)          | C                      | C (WB and NB approaches) |
| Colorado Ave | (unsignalized)         | B                        | (unsignalized)         | B                        |
| Ute Ave      | C                      | C (WB and SB approaches) | B                      | B                        |
| Pitkin Ave   | A                      | A                        | C                      | D (EB approach)          |

<sup>1</sup>Level of service shown for signalized intersection is overall level of service and worst approach level of service. Level of service shown for two-way stop control intersection is worst approach level of service (approach identified where LOS is C or worse).





Figure 4 –  
Estimated  
Year 2045 PM  
Peak Hour  
Volumes  
(One-Way)





The analysis showed that all movements in the forecast year 2045 PM peak hour, with the one-way pair, are expected to operate at acceptable levels of service with the exception of the northbound and southbound approaches of the 4<sup>th</sup> Street/North Avenue intersection, which is unsignalized and operates at a LOS F.

These queueing issues were observed in the simulations of the forecast year 2045 with the one-way pair:

- At 5<sup>th</sup> Street/North Avenue, the eastbound through lane blocked entry to the eastbound left-turn lane 5 of 36 cycles in the peak hour and the westbound through lane blocked entry to the westbound left-turn lane 7 of 36 cycles in the peak hour.
- At 5<sup>th</sup> Street/Grand Avenue, the northbound through lane blocked entry to the northbound right-turn lane 4 of 36 cycles in the peak hour.
- At 5<sup>th</sup> Street/Ute Avenue, the outside through lane westbound blocked entry to the westbound right-turn lane 7 of 36 cycles in the peak hour.
- At 5<sup>th</sup> Street/Pitkin Avenue, the inside through lane southbound blocked entry to the southbound left-turn lane 12 of 36 cycles in the peak hour.

## Year 2045 Traffic Conditions with Two-Way Operations on 4<sup>th</sup> and 5<sup>th</sup>

To estimate year 2045 traffic conditions under a scenario with two-way operations on 4<sup>th</sup> and 5<sup>th</sup> streets, the turning movements shown in Figure 3 were escalated by the future year growth factor of 1.5. These volumes are shown in Figure 5.

A level of service analysis was again run for the projected year 2045 PM peak under the proposed two-way conditions. The same cycle length that is used now, 100 seconds, was assumed to be used. The results are summarized in Table 4, and all analysis worksheets are in Appendix B.

**Table 4. Forecast Year 2045 PM Peak Hour Levels of Service<sup>1</sup> with Two-Way Operations**

| Cross Street           | 4 <sup>th</sup> Street |                          | 5 <sup>th</sup> Street |                          |
|------------------------|------------------------|--------------------------|------------------------|--------------------------|
|                        | Overall LOS            | Worst Approach LOS       | Overall LOS            | Worst Approach LOS       |
| North Ave              | (unsignalized)         | F (NB and SB approaches) | C                      | D (NB approach)          |
| Belford Ave            | (unsignalized)         | B                        | (unsignalized)         | C                        |
| Teller Ave             | (unsignalized)         | B                        | (unsignalized)         | C                        |
| Hill Ave               | (unsignalized)         | B                        | (unsignalized)         | C                        |
| Gunnison Ave           | (unsignalized)         | B                        | (unsignalized)         | C                        |
| Chipeta Ave            | (unsignalized)         | B                        | (unsignalized)         | C                        |
| Ouray Ave              | (unsignalized)         | B                        | (unsignalized)         | C                        |
| Grand Ave              | B                      | D (NB approach)          | B                      | C                        |
| White Ave <sup>2</sup> | (unsignalized)         | B                        | (unsignalized)         | C                        |
| Rood Ave <sup>2</sup>  | (unsignalized)         | C                        | (unsignalized)         | C                        |
| Main St                | C                      | D (EB and WB approaches) | B                      | D (EB and WB approaches) |
| Colorado Ave           | (unsignalized)         | B                        | (unsignalized)         | C                        |
| Ute Ave                | C                      | D (WB approach)          | C                      | C                        |
| Pitkin Ave             | C                      | C                        | C                      | D (EB approach)          |

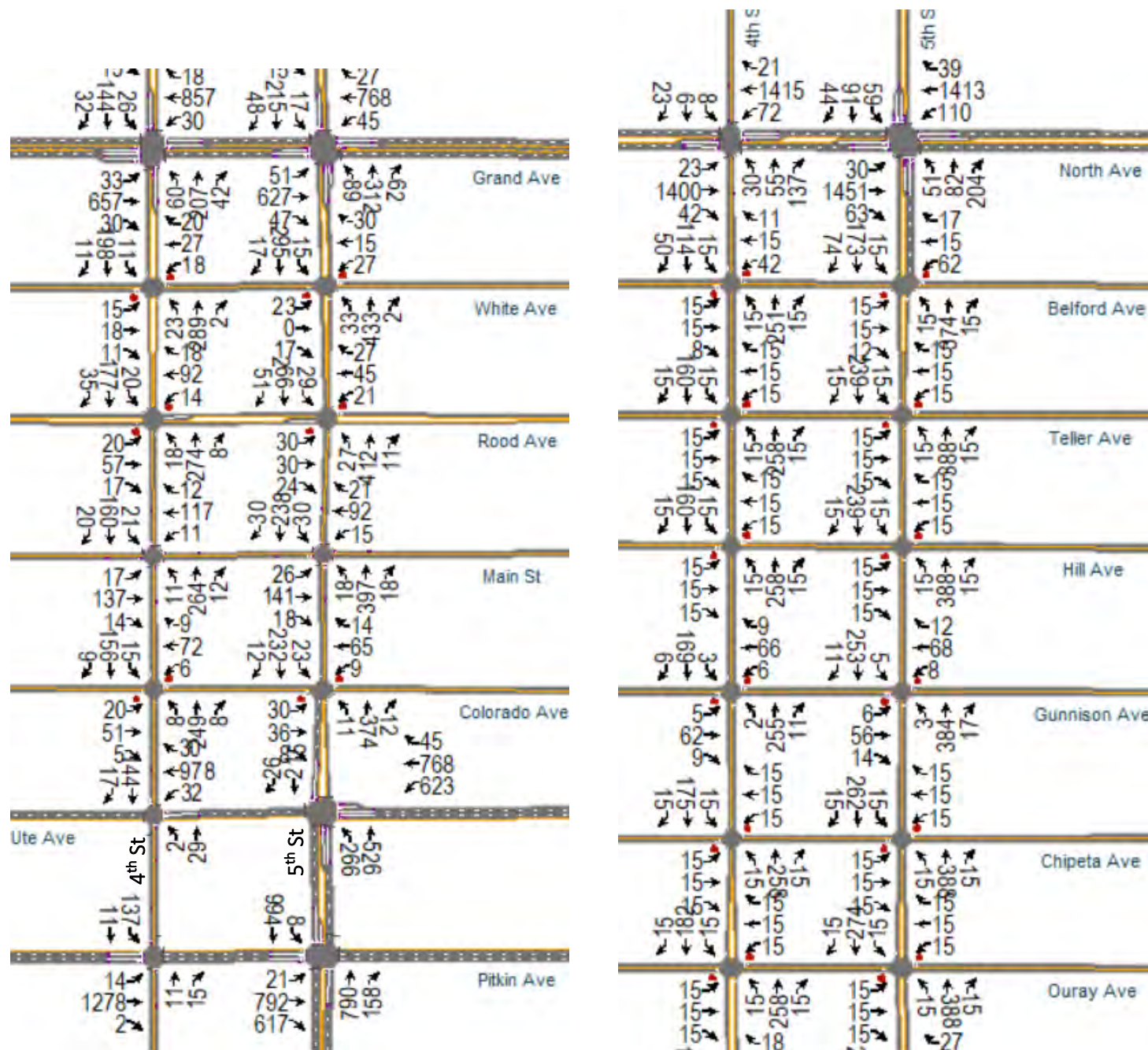
<sup>1</sup>Level of service shown for signalized intersection is overall level of service and worst approach level of service. Level of service shown for two-way stop control intersection is worst approach level of service (approach identified where LOS is D or worse).

<sup>2</sup>The 4<sup>th</sup> Street/White Avenue and 4<sup>th</sup> Street/Rood Avenue intersections were assumed to be stop-controlled in the two-way scenario.





Figure 5 –  
Estimated Year  
2045 PM Peak  
Hour Volumes  
(Two-Way)





The analysis showed that all movements in the forecast year 2045 PM peak hour, in the two-way scenario, are expected to operate at acceptable levels of service with the exception of the northbound and southbound approaches of the 4<sup>th</sup> Street/North Avenue intersection, which is unsignalized and operates at a LOS F. As discussed earlier, the northern blocks of the study area would need to be examined more closely if the streets are both made two-way without signalizing the intersection of 4<sup>th</sup> Street/North Avenue.

For the queueing analysis, the 2045 two-way scenario was simulated to show northbound 4<sup>th</sup> Street traffic that would have turned left or gone straight through at North Avenue diverting to 5<sup>th</sup> Street at Belford, to use the traffic signal at 5<sup>th</sup> Street/North Avenue. These queueing issues were observed in the simulations of the forecast year 2045 with two-way operations:

- At 5th Street/North Avenue, the eastbound through lane blocked entry to the eastbound left-turn lane 8 of 36 cycles in the peak hour and the westbound through lane blocked entry to the westbound left-turn lane 5 of 36 cycles in the peak hour.
- At 5th Street/Grand Avenue, the northbound through lane blocked entry to the northbound right-turn lane 11 of 36 cycles, and the southbound through/right turn lane blocked entry to the southbound left-turn lane in 4 of 36 cycles in the peak hour.
- At 4th Street/Grand Avenue, the northbound through lane blocked entry to the northbound right-turn lane 4 of 36 cycles in the peak hour.
- At 5th Street/Ute Avenue, the outside through lane westbound blocked entry to the westbound right-turn lane 14 of 36 cycles in the peak hour and the right-side northbound left turn lane blocked entrance into the left-side northbound left turn lane 8 of 36 cycles.
- At 5<sup>th</sup> Street/Pitkin Avenue, the inside through lane southbound blocked entry to the southbound left-turn lane 11 of 36 cycles in the peak hour.

## CDOT Facilities and Coordination

Several of the streets in the study area are CDOT facilities: North Avenue (US 6), and the segments of 5th Street (US 50), Ute Avenue (I-70B), and Pitkin Avenue (I-70B) around Whitman Park. Accordingly, coordination meetings were held to keep CDOT traffic engineering staff apprised of the study.

Meetings were held on February 8, 2021, and June 14, 2021. The purpose of the February meeting was to find out what CDOT's concerns would be regarding making any changes to the lane configurations on 4<sup>th</sup> Street and 5<sup>th</sup> Street. The June meeting was to discuss the output of the travel demand forecast models with staff from the MPO.

CDOT's concern was that the two-way alternative would significantly increase the delay and queueing at the signalized intersections. The existing one-way scenario allows the traffic signals to be coordinated to provide good progression on both 4<sup>th</sup> Street and 5<sup>th</sup> Street (i.e., a platoon of one-way traffic can arrive at the traffic signals as they turn green and not have to make many stops). The two-way scenario would not be able to provide the same progression and would increase the number of stops. City of Grand Junction staff voiced the same concern that two-way traffic would defeat the effort of traffic progression.

## Need for Left-turn Lanes

No changes in lane configuration were assumed with the one-way pair scenarios.

In the two-way scenario, the northbound approach geometry at 5<sup>th</sup> Street/Ute Avenue was assumed to be two left-turn lanes and a single through lane.



In the two-way scenario, the maximum left-turn volumes off of 4<sup>th</sup> or 5<sup>th</sup> Street at any of the unsignalized intersections is estimated to be 33 vph (northbound left from 5<sup>th</sup> Street onto White Avenue in the year 2045), or approximately one vehicle turning left every two minutes. This magnitude of left-turn volumes does not cause delay or queueing issues at the unsignalized intersections. Therefore, no left-turn lanes are recommended to be added to allow acceptable traffic operations.

## Signalization Changes

In the two-way scenarios, the signals were assumed to be removed at the 4th Street/White Avenue, 4th Street/Rood Avenue, and 5th Street/Rood Avenue intersections. This is because signal modifications (additional poles, mastarms, and heads) would be required to make these intersections work for two-way traffic operations, it is unlikely that these intersections meet any signal warrants, and the intersections operate acceptably without a signal.

Other intersections that may not warrant the signals they have now are 4th Street/Main Street and 5th Street/Main Street, regardless of whether the one-way or two-way scenario is in place.

CDOT has stated that they do not want to signalize the 4<sup>th</sup> Street/North Avenue intersection because of its proximity to the existing signal at 5<sup>th</sup> Street/North Avenue. However, if travel demand under the two-way scenario does put 40% of the 4<sup>th</sup> Street-5<sup>th</sup> Street corridor traffic on 4<sup>th</sup> Street, there will be a greater desire to travel through the 4<sup>th</sup> Street/North Avenue intersection. Rather than signalizing the 4<sup>th</sup> Street/North Avenue intersection, modifications should be considered to the configuration of the 4<sup>th</sup> Street – Belford Avenue – 5<sup>th</sup> Street path to allow 4<sup>th</sup> Street users to access the signal at 5<sup>th</sup> Street/North Avenue.

## Summary

- A traffic analysis was performed for four scenarios: 2021/One-Way, 2021/Two-Way, 2045/One-Way, 2045/Two-Way. The purpose of the traffic analysis was to estimate vehicle levels of service and queueing.
- The PM peak turning movement counts were developed by these methodologies:
  - 2021/One-Way – existing turning movement counts collected in February 2021
  - 2021/Two-Way – existing turning movement counts in the corridor were distributed 40% to 4<sup>th</sup> Street and 60% to 5<sup>th</sup> Street. A factor of 1.3 was then applied to account for traffic expected to divert from other streets (1<sup>st</sup> and 7<sup>th</sup> streets) due to the change in configuration.
  - 2045/One-Way – a growth factor of 1.5 was applied to the 2021/One-Way counts. This was based on a comparison of ADTs between the model output (“Year 2045 One-Way Pair, Existing Speed Limits”) and Base Year ADTs provided by Mesa County MPO.
  - 2045/Two-Way – a growth factor of 1.5 was applied to the 2021/Two-Way Volumes
- Levels of service were acceptable for all movements under all of the above scenarios with the exception of the unsignalized side street movements at 4<sup>th</sup> Street/North Avenue, which operate at LOS E or F due to lack of gaps.
- There were only minor queueing issues observed – in some locations there is blockage of the turn lanes by the adjacent through lane for a handful of cycles in the peak. No queue backup into the upstream intersection was ever observed.
- Turn lanes
  - No changes in lane configuration were assumed with the one-way pair scenarios.
  - In the two-way scenario, the northbound approach geometry at 5<sup>th</sup> Street/Ute Avenue was assumed to be two left-turn lanes and a single through lane.



- In the two-way scenario left-turn volumes off the north-south streets are low and they do not cause delay or queueing issues, so no additional left-turn lanes are recommended from a traffic operations standpoint.
- Signalization changes
  - In the two-way scenarios, the signals were assumed to be removed at the 4<sup>th</sup> Street/White Avenue, 4<sup>th</sup> Street/Rood Avenue, and 5<sup>th</sup> Street/Rood Avenue intersections. This is because signal modifications (additional poles, mastarms, and heads) would be required to make these intersections two-way, it is unlikely that these intersections meet any signal warrants, and the intersections operate acceptably without a signal.
  - Other intersections that may not warrant the signals they have now are 4<sup>th</sup> Street/Main Street and 5<sup>th</sup> Street/Main Street.
  - If 4<sup>th</sup> Street and 5<sup>th</sup> Street are converted to two-way facilities, modifications should be made in the north part of the study area to allow northbound 4<sup>th</sup> Street drivers to better access the traffic signal at 5<sup>th</sup> Street/North Avenue, because CDOT does not plan to signalize the 4<sup>th</sup> Street/North Avenue intersection.
- CDOT and City concerns
  - Both CDOT and City traffic signal staff have voiced concern that a conversion from one-way to two-way operations on 4<sup>th</sup> Street and 5<sup>th</sup> Street would defeat traffic progression on both streets.

## Appendix A – Turning Movement Count Data

---





(303) 216-2439  
www.alltrafficdata.net

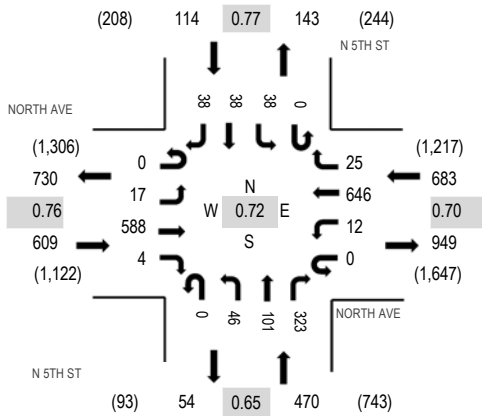
**Location:** 1 N 5TH ST & NORTH AVE AM

**Date:** Tuesday, February 16, 2021

**Peak Hour:** 07:15 AM - 08:15 AM

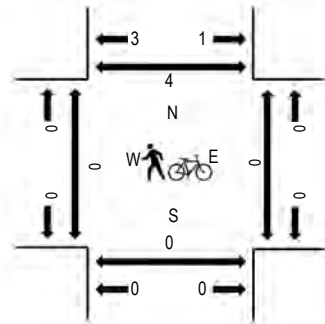
**Peak 15-Minutes:** 07:45 AM - 08:00 AM

### Peak Hour - All Vehicles



Note: Total study counts contained in parentheses.

### Peak Hour - Pedestrians/Bicycles on Crosswalk



### Traffic Counts

| Interval<br>Start Time | NORTH AVE<br>Eastbound |      |       |       | NORTH AVE<br>Westbound |      |       |       | N 5TH ST<br>Northbound |      |      |       | N 5TH ST<br>Southbound |      |      |       | Total | Rolling<br>Hour | Pedestrian Crossings |      |       |       |
|------------------------|------------------------|------|-------|-------|------------------------|------|-------|-------|------------------------|------|------|-------|------------------------|------|------|-------|-------|-----------------|----------------------|------|-------|-------|
|                        | U-Turn                 | Left | Thru  | Right | U-Turn                 | Left | Thru  | Right | U-Turn                 | Left | Thru | Right | U-Turn                 | Left | Thru | Right |       |                 | West                 | East | South | North |
| 7:00 AM                | 0                      | 3    | 78    | 1     | 0                      | 4    | 79    | 10    | 0                      | 2    | 11   | 38    | 0                      | 17   | 2    | 12    | 257   | 1,765           | 0                    | 0    | 0     | 0     |
| 7:15 AM                | 0                      | 6    | 121   | 0     | 0                      | 3    | 132   | 5     | 0                      | 7    | 23   | 52    | 0                      | 8    | 6    | 8     | 371   | 1,876           | 0                    | 0    | 0     | 3     |
| 7:30 AM                | 0                      | 5    | 150   | 0     | 0                      | 2    | 161   | 5     | 0                      | 12   | 32   | 89    | 0                      | 11   | 8    | 13    | 488   | 1,836           | 0                    | 0    | 0     | 1     |
| 7:45 AM                | 0                      | 3    | 195   | 3     | 0                      | 3    | 235   | 5     | 0                      | 15   | 27   | 140   | 0                      | 2    | 16   | 5     | 649   | 1,727           | 0                    | 0    | 0     | 0     |
| 8:00 AM                | 0                      | 3    | 122   | 1     | 0                      | 4    | 118   | 10    | 0                      | 12   | 19   | 42    | 0                      | 17   | 8    | 12    | 368   | 1,525           | 0                    | 0    | 0     | 0     |
| 8:15 AM                | 0                      | 6    | 114   | 0     | 0                      | 2    | 116   | 5     | 0                      | 13   | 16   | 37    | 0                      | 8    | 6    | 8     | 331   |                 | 7                    | 0    | 1     | 0     |
| 8:30 AM                | 0                      | 5    | 130   | 0     | 0                      | 2    | 136   | 5     | 0                      | 14   | 15   | 43    | 0                      | 11   | 5    | 13    | 379   |                 | 2                    | 0    | 0     | 2     |
| 8:45 AM                | 0                      | 3    | 170   | 3     | 0                      | 9    | 161   | 5     | 0                      | 17   | 17   | 50    | 0                      | 2    | 5    | 5     | 447   |                 | 1                    | 0    | 0     | 3     |
| Count Total            | 0                      | 34   | 1,080 | 8     | 0                      | 29   | 1,138 | 50    | 0                      | 92   | 160  | 491   | 0                      | 76   | 56   | 76    | 3,290 |                 | 10                   | 0    | 1     | 9     |
| Peak Hour              | 0                      | 17   | 588   | 4     | 0                      | 12   | 646   | 25    | 0                      | 46   | 101  | 323   | 0                      | 38   | 38   | 38    | 1,876 |                 | 0                    | 0    | 0     | 4     |



(303) 216-2439  
www.alltrafficdata.net

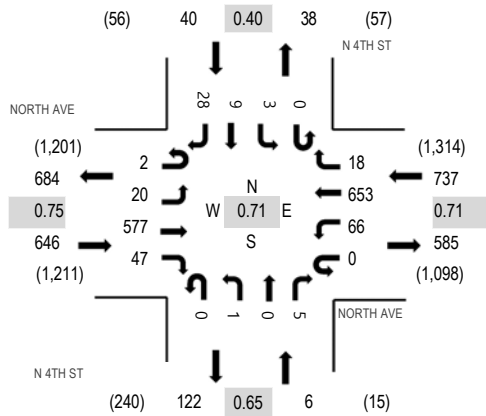
Location: 2 N 4TH ST & NORTH AVE AM

Date: Tuesday, February 16, 2021

Peak Hour: 07:15 AM - 08:15 AM

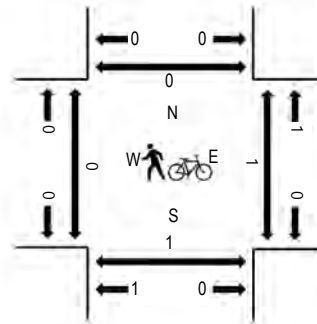
Peak 15-Minutes: 07:45 AM - 08:00 AM

### Peak Hour - All Vehicles



Note: Total study counts contained in parentheses.

### Peak Hour - Pedestrians/Bicycles on Crosswalk



### Traffic Counts

| Interval<br>Start Time | NORTH AVE<br>Eastbound |      |       |       | NORTH AVE<br>Westbound |      |       |       | N 4TH ST<br>Northbound |      |      |       | N 4TH ST<br>Southbound |      |      |       | Total | Rolling<br>Hour | Pedestrian Crossings |      |       |       |
|------------------------|------------------------|------|-------|-------|------------------------|------|-------|-------|------------------------|------|------|-------|------------------------|------|------|-------|-------|-----------------|----------------------|------|-------|-------|
|                        | U-Turn                 | Left | Thru  | Right | U-Turn                 | Left | Thru  | Right | U-Turn                 | Left | Thru | Right | U-Turn                 | Left | Thru | Right |       |                 | West                 | East | South | North |
| 7:00 AM                | 0                      | 3    | 75    | 7     | 0                      | 11   | 81    | 2     | 0                      | 0    | 0    | 1     | 0                      | 1    | 1    | 0     | 182   | 1,334           | 0                    | 0    | 0     | 0     |
| 7:15 AM                | 1                      | 7    | 119   | 7     | 0                      | 16   | 136   | 3     | 0                      | 0    | 0    | 1     | 0                      | 2    | 2    | 0     | 294   | 1,429           | 0                    | 0    | 1     | 0     |
| 7:30 AM                | 0                      | 7    | 150   | 14    | 0                      | 13   | 162   | 6     | 0                      | 0    | 0    | 0     | 0                      | 0    | 0    | 5     | 357   | 1,420           | 0                    | 0    | 0     | 0     |
| 7:45 AM                | 1                      | 5    | 193   | 17    | 0                      | 17   | 236   | 7     | 0                      | 0    | 0    | 0     | 0                      | 1    | 6    | 18    | 501   | 1,379           | 0                    | 0    | 0     | 0     |
| 8:00 AM                | 0                      | 1    | 115   | 9     | 0                      | 20   | 119   | 2     | 0                      | 1    | 0    | 4     | 0                      | 0    | 1    | 5     | 277   | 1,262           | 0                    | 0    | 0     | 0     |
| 8:15 AM                | 0                      | 0    | 119   | 18    | 0                      | 14   | 124   | 3     | 0                      | 2    | 1    | 1     | 0                      | 0    | 0    | 3     | 285   |                 | 0                    | 2    | 0     | 0     |
| 8:30 AM                | 0                      | 1    | 134   | 14    | 0                      | 17   | 139   | 2     | 0                      | 1    | 0    | 2     | 0                      | 1    | 3    | 2     | 316   |                 | 0                    | 2    | 0     | 1     |
| 8:45 AM                | 0                      | 5    | 178   | 11    | 0                      | 22   | 160   | 2     | 0                      | 0    | 0    | 1     | 0                      | 0    | 0    | 5     | 384   |                 | 0                    | 0    | 0     | 0     |
| Count Total            | 2                      | 29   | 1,083 | 97    | 0                      | 130  | 1,157 | 27    | 0                      | 4    | 1    | 10    | 0                      | 5    | 13   | 38    | 2,596 |                 | 0                    | 4    | 1     | 1     |
| Peak Hour              | 2                      | 20   | 577   | 47    | 0                      | 66   | 653   | 18    | 0                      | 1    | 0    | 5     | 0                      | 3    | 9    | 28    | 1,429 |                 | 0                    | 0    | 1     | 0     |



(303) 216-2439  
www.alltrafficdata.net

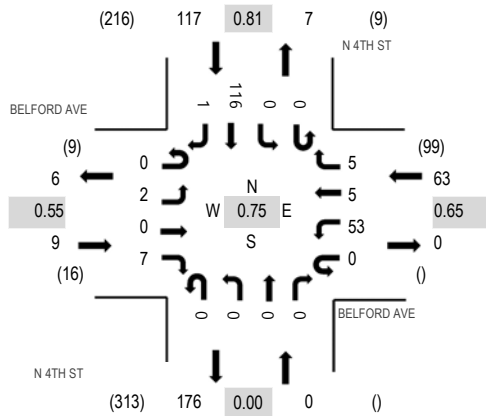
Location: 3 N 4TH ST & BELFORD AVE AM

Date: Tuesday, February 16, 2021

Peak Hour: 07:30 AM - 08:30 AM

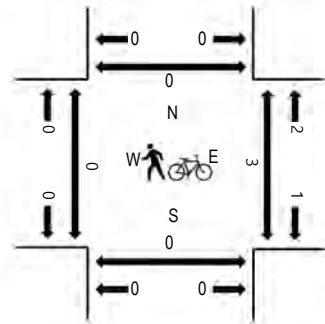
Peak 15-Minutes: 07:45 AM - 08:00 AM

### Peak Hour - All Vehicles



Note: Total study counts contained in parentheses.

### Peak Hour - Pedestrians/Bicycles on Crosswalk



### Traffic Counts

| Interval<br>Start Time | BELFORD AVE<br>Eastbound |      |      |       | BELFORD AVE<br>Westbound |      |      |       | N 4TH ST<br>Northbound |      |      |       | N 4TH ST<br>Southbound |      |      |       | Total | Rolling<br>Hour | Pedestrian Crossings |      |       |       |
|------------------------|--------------------------|------|------|-------|--------------------------|------|------|-------|------------------------|------|------|-------|------------------------|------|------|-------|-------|-----------------|----------------------|------|-------|-------|
|                        | U-Turn                   | Left | Thru | Right | U-Turn                   | Left | Thru | Right | U-Turn                 | Left | Thru | Right | U-Turn                 | Left | Thru | Right |       |                 | West                 | East | South | North |
| 7:00 AM                | 0                        | 0    | 0    | 0     | 0                        | 0    | 3    | 0     | 0                      | 0    | 0    | 0     | 0                      | 0    | 19   | 0     | 22    | 160             | 0                    | 0    | 0     | 0     |
| 7:15 AM                | 0                        | 0    | 0    | 2     | 0                        | 5    | 2    | 1     | 0                      | 0    | 0    | 0     | 0                      | 0    | 23   | 0     | 33    | 185             | 0                    | 0    | 0     | 0     |
| 7:30 AM                | 0                        | 0    | 0    | 1     | 0                        | 13   | 1    | 0     | 0                      | 0    | 0    | 0     | 0                      | 0    | 27   | 0     | 42    | 189             | 0                    | 0    | 0     | 0     |
| 7:45 AM                | 0                        | 0    | 0    | 2     | 0                        | 22   | 1    | 2     | 0                      | 0    | 0    | 0     | 0                      | 0    | 36   | 0     | 63    | 185             | 0                    | 1    | 0     | 0     |
| 8:00 AM                | 0                        | 2    | 0    | 3     | 0                        | 12   | 3    | 3     | 0                      | 0    | 0    | 0     | 0                      | 0    | 24   | 0     | 47    | 171             | 0                    | 0    | 0     | 0     |
| 8:15 AM                | 0                        | 0    | 0    | 1     | 0                        | 6    | 0    | 0     | 0                      | 0    | 0    | 0     | 0                      | 0    | 29   | 1     | 37    |                 | 0                    | 2    | 0     | 0     |
| 8:30 AM                | 0                        | 0    | 0    | 2     | 0                        | 8    | 1    | 0     | 0                      | 0    | 0    | 0     | 0                      | 0    | 27   | 0     | 38    |                 | 0                    | 2    | 0     | 0     |
| 8:45 AM                | 0                        | 0    | 0    | 3     | 0                        | 15   | 0    | 1     | 0                      | 0    | 0    | 0     | 0                      | 0    | 30   | 0     | 49    |                 | 0                    | 0    | 0     | 0     |
| Count Total            | 0                        | 2    | 0    | 14    | 0                        | 84   | 8    | 7     | 0                      | 0    | 0    | 0     | 0                      | 0    | 215  | 1     | 331   |                 | 0                    | 5    | 0     | 0     |
| Peak Hour              | 0                        | 2    | 0    | 7     | 0                        | 53   | 5    | 5     | 0                      | 0    | 0    | 0     | 0                      | 0    | 116  | 1     | 189   |                 | 0                    | 3    | 0     | 0     |



(303) 216-2439  
www.alltrafficdata.net

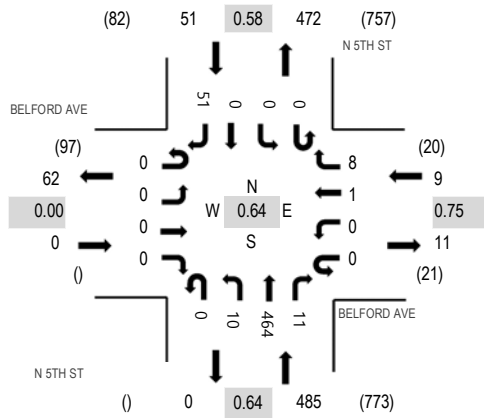
Location: 4 N 5TH ST & BELFORD AVE AM

Date: Tuesday, February 16, 2021

Peak Hour: 07:15 AM - 08:15 AM

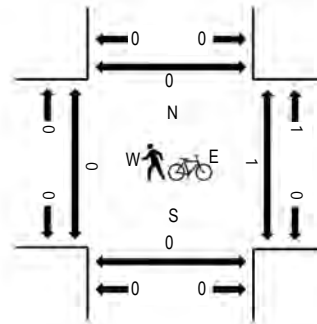
Peak 15-Minutes: 07:45 AM - 08:00 AM

### Peak Hour - All Vehicles



Note: Total study counts contained in parentheses.

### Peak Hour - Pedestrians/Bicycles on Crosswalk



### Traffic Counts

| Interval<br>Start Time | BELFORD AVE<br>Eastbound |      |      |       | BELFORD AVE<br>Westbound |      |      |       | N 5TH ST<br>Northbound |      |      |       | N 5TH ST<br>Southbound |      |      |       | Total | Rolling<br>Hour | Pedestrian Crossings |      |       |       |   |
|------------------------|--------------------------|------|------|-------|--------------------------|------|------|-------|------------------------|------|------|-------|------------------------|------|------|-------|-------|-----------------|----------------------|------|-------|-------|---|
|                        | U-Turn                   | Left | Thru | Right | U-Turn                   | Left | Thru | Right | U-Turn                 | Left | Thru | Right | U-Turn                 | Left | Thru | Right |       |                 | West                 | East | South | North |   |
|                        |                          |      |      |       |                          |      |      |       |                        |      |      |       |                        |      |      |       |       |                 |                      |      |       |       |   |
| 7:00 AM                | 0                        | 0    | 0    | 0     | 0                        | 0    | 0    | 0     | 0                      | 0    | 1    | 51    | 2                      | 0    | 0    | 0     | 2     | 56              | 508                  | 0    | 0     | 0     | 0 |
| 7:15 AM                | 0                        | 0    | 0    | 0     | 0                        | 0    | 0    | 2     | 0                      | 0    | 1    | 78    | 2                      | 0    | 0    | 0     | 7     | 90              | 545                  | 0    | 0     | 0     | 0 |
| 7:30 AM                | 0                        | 0    | 0    | 0     | 0                        | 0    | 0    | 1     | 0                      | 0    | 1    | 132   | 3                      | 0    | 0    | 0     | 12    | 149             | 533                  | 0    | 0     | 0     | 0 |
| 7:45 AM                | 0                        | 0    | 0    | 0     | 0                        | 0    | 0    | 2     | 0                      | 0    | 4    | 181   | 4                      | 0    | 0    | 0     | 22    | 213             | 465                  | 0    | 1     | 0     | 0 |
| 8:00 AM                | 0                        | 0    | 0    | 0     | 0                        | 0    | 1    | 3     | 0                      | 0    | 4    | 73    | 2                      | 0    | 0    | 0     | 10    | 93              | 367                  | 0    | 0     | 0     | 0 |
| 8:15 AM                | 0                        | 0    | 0    | 0     | 0                        | 0    | 0    | 5     | 0                      | 0    | 0    | 65    | 3                      | 0    | 0    | 0     | 5     | 78              |                      | 0    | 0     | 0     | 0 |
| 8:30 AM                | 0                        | 0    | 0    | 0     | 0                        | 0    | 0    | 2     | 0                      | 0    | 2    | 69    | 0                      | 0    | 0    | 0     | 8     | 81              |                      | 0    | 0     | 0     | 0 |
| 8:45 AM                | 0                        | 0    | 0    | 0     | 0                        | 0    | 0    | 4     | 0                      | 0    | 1    | 89    | 5                      | 0    | 0    | 0     | 16    | 115             |                      | 0    | 0     | 0     | 0 |
| Count Total            | 0                        | 0    | 0    | 0     | 0                        | 0    | 1    | 19    | 0                      | 0    | 14   | 738   | 21                     | 0    | 0    | 0     | 82    | 875             |                      | 0    | 1     | 0     | 0 |
| Peak Hour              | 0                        | 0    | 0    | 0     | 0                        | 0    | 1    | 8     | 0                      | 0    | 10   | 464   | 11                     | 0    | 0    | 0     | 51    | 545             |                      | 0    | 1     | 0     | 0 |



(303) 216-2439  
www.alltrafficdata.net

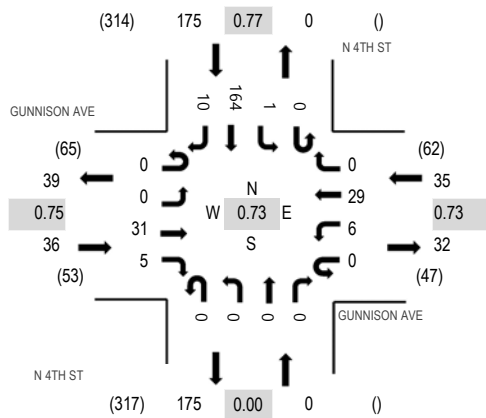
Location: 5 N 4TH ST & GUNNISON AVE AM

Date: Tuesday, February 16, 2021

Peak Hour: 07:45 AM - 08:45 AM

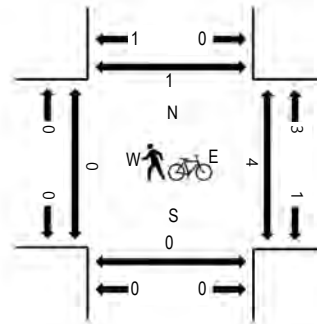
Peak 15-Minutes: 07:45 AM - 08:00 AM

### Peak Hour - All Vehicles



Note: Total study counts contained in parentheses.

### Peak Hour - Pedestrians/Bicycles on Crosswalk



### Traffic Counts

| Interval<br>Start Time | GUNNISON AVE<br>Eastbound |      |      |       | GUNNISON AVE<br>Westbound |      |      |       | N 4TH ST<br>Northbound |      |      |       | N 4TH ST<br>Southbound |      |      |       | Total | Rolling<br>Hour | Pedestrian Crossings |      |       |       |
|------------------------|---------------------------|------|------|-------|---------------------------|------|------|-------|------------------------|------|------|-------|------------------------|------|------|-------|-------|-----------------|----------------------|------|-------|-------|
|                        | U-Turn                    | Left | Thru | Right | U-Turn                    | Left | Thru | Right | U-Turn                 | Left | Thru | Right | U-Turn                 | Left | Thru | Right |       |                 | West                 | East | South | North |
| 7:00 AM                | 0                         | 0    | 1    | 0     | 0                         | 1    | 2    | 0     | 0                      | 0    | 0    | 0     | 0                      | 0    | 22   | 0     | 26    | 202             | 0                    | 2    | 1     | 0     |
| 7:15 AM                | 0                         | 0    | 1    | 0     | 0                         | 1    | 6    | 0     | 0                      | 0    | 0    | 0     | 0                      | 0    | 28   | 0     | 36    | 236             | 0                    | 0    | 0     | 0     |
| 7:30 AM                | 0                         | 0    | 4    | 1     | 0                         | 1    | 8    | 0     | 0                      | 0    | 0    | 0     | 0                      | 1    | 41   | 0     | 56    | 244             | 0                    | 0    | 0     | 0     |
| 7:45 AM                | 0                         | 0    | 11   | 1     | 0                         | 1    | 12   | 0     | 0                      | 0    | 0    | 0     | 0                      | 1    | 55   | 3     | 84    | 246             | 0                    | 1    | 0     | 0     |
| 8:00 AM                | 0                         | 0    | 5    | 2     | 0                         | 2    | 7    | 0     | 0                      | 0    | 0    | 0     | 0                      | 0    | 43   | 1     | 60    | 227             | 0                    | 0    | 0     | 0     |
| 8:15 AM                | 0                         | 0    | 5    | 0     | 0                         | 1    | 2    | 0     | 0                      | 0    | 0    | 0     | 0                      | 0    | 32   | 4     | 44    |                 | 0                    | 0    | 0     | 1     |
| 8:30 AM                | 0                         | 0    | 10   | 2     | 0                         | 2    | 8    | 0     | 0                      | 0    | 0    | 0     | 0                      | 0    | 34   | 2     | 58    |                 | 0                    | 1    | 0     | 0     |
| 8:45 AM                | 0                         | 0    | 8    | 2     | 0                         | 0    | 8    | 0     | 0                      | 0    | 0    | 0     | 0                      | 0    | 45   | 2     | 65    |                 | 0                    | 2    | 0     | 1     |
| Count Total            | 0                         | 0    | 45   | 8     | 0                         | 9    | 53   | 0     | 0                      | 0    | 0    | 0     | 0                      | 2    | 300  | 12    | 429   |                 | 0                    | 6    | 1     | 2     |
| Peak Hour              | 0                         | 0    | 31   | 5     | 0                         | 6    | 29   | 0     | 0                      | 0    | 0    | 0     | 0                      | 1    | 164  | 10    | 246   |                 | 0                    | 2    | 0     | 1     |





(303) 216-2439  
www.alltrafficdata.net

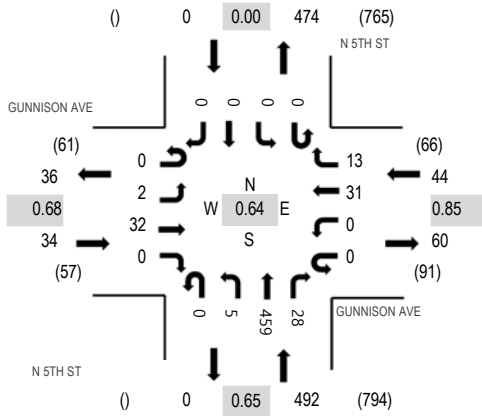
Location: 6 N 5TH ST & GUNNISON AVE AM

Date: Tuesday, February 16, 2021

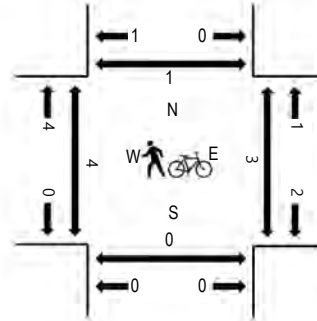
Peak Hour: 07:30 AM - 08:30 AM

Peak 15-Minutes: 07:45 AM - 08:00 AM

### Peak Hour - All Vehicles



### Peak Hour - Pedestrians/Bicycles on Crosswalk



Note: Total study counts contained in parentheses.

### Traffic Counts

| Interval<br>Start Time | GUNNISON AVE<br>Eastbound |      |      |       | GUNNISON AVE<br>Westbound |      |      |       | N 5TH ST<br>Northbound |      |      |       | N 5TH ST<br>Southbound |      |      |       | Total | Rolling<br>Hour | Pedestrian Crossings |      |       |       |
|------------------------|---------------------------|------|------|-------|---------------------------|------|------|-------|------------------------|------|------|-------|------------------------|------|------|-------|-------|-----------------|----------------------|------|-------|-------|
|                        | U-Turn                    | Left | Thru | Right | U-Turn                    | Left | Thru | Right | U-Turn                 | Left | Thru | Right | U-Turn                 | Left | Thru | Right |       |                 | West                 | East | South | North |
| 7:00 AM                | 0                         | 0    | 1    | 0     | 0                         | 0    | 2    | 1     | 0                      | 1    | 54   | 0     | 0                      | 0    | 0    | 0     | 59    | 536             | 1                    | 0    | 0     | 0     |
| 7:15 AM                | 0                         | 1    | 0    | 0     | 0                         | 0    | 2    | 0     | 0                      | 3    | 78   | 5     | 0                      | 0    | 0    | 0     | 89    | 569             | 0                    | 0    | 0     | 0     |
| 7:30 AM                | 0                         | 0    | 4    | 0     | 0                         | 0    | 11   | 2     | 0                      | 1    | 135  | 14    | 0                      | 0    | 0    | 0     | 167   | 570             | 3                    | 2    | 0     | 1     |
| 7:45 AM                | 0                         | 1    | 14   | 0     | 0                         | 0    | 8    | 5     | 0                      | 4    | 182  | 7     | 0                      | 0    | 0    | 0     | 221   | 492             | 1                    | 0    | 0     | 0     |
| 8:00 AM                | 0                         | 0    | 6    | 0     | 0                         | 0    | 9    | 4     | 0                      | 0    | 72   | 1     | 0                      | 0    | 0    | 0     | 92    | 381             | 0                    | 1    | 0     | 0     |
| 8:15 AM                | 0                         | 1    | 8    | 0     | 0                         | 0    | 3    | 2     | 0                      | 0    | 70   | 6     | 0                      | 0    | 0    | 0     | 90    |                 | 0                    | 0    | 0     | 0     |
| 8:30 AM                | 0                         | 2    | 9    | 0     | 0                         | 0    | 8    | 3     | 0                      | 1    | 64   | 2     | 0                      | 0    | 0    | 0     | 89    |                 | 1                    | 0    | 0     | 0     |
| 8:45 AM                | 0                         | 1    | 9    | 0     | 0                         | 0    | 6    | 0     | 0                      | 2    | 87   | 5     | 0                      | 0    | 0    | 0     | 110   |                 | 0                    | 0    | 0     | 1     |
| Count Total            | 0                         | 6    | 51   | 0     | 0                         | 0    | 49   | 17    | 0                      | 12   | 742  | 40    | 0                      | 0    | 0    | 0     | 917   |                 | 6                    | 3    | 0     | 2     |
| Peak Hour              | 0                         | 2    | 32   | 0     | 0                         | 0    | 31   | 13    | 0                      | 5    | 459  | 28    | 0                      | 0    | 0    | 0     | 570   |                 | 4                    | 3    | 0     | 1     |



(303) 216-2439  
www.alltrafficdata.net

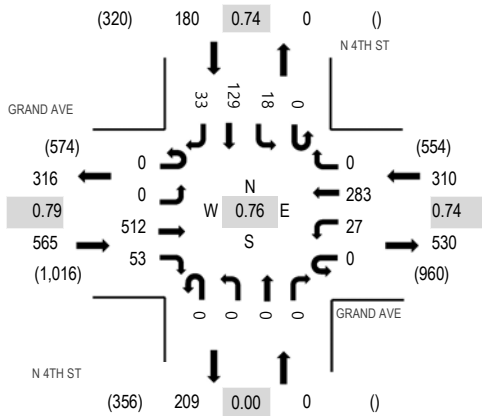
Location: 7 N 4TH ST & GRAND AVE AM

Date: Tuesday, February 16, 2021

Peak Hour: 07:30 AM - 08:30 AM

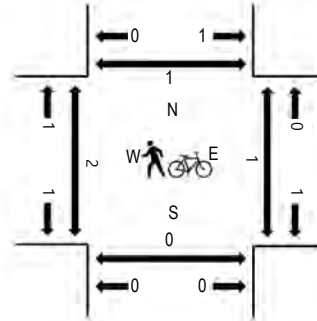
Peak 15-Minutes: 07:45 AM - 08:00 AM

### Peak Hour - All Vehicles



Note: Total study counts contained in parentheses.

### Peak Hour - Pedestrians/Bicycles on Crosswalk



### Traffic Counts

| Interval<br>Start Time | GRAND AVE<br>Eastbound |      |      |       | GRAND AVE<br>Westbound |      |      |       | N 4TH ST<br>Northbound |      |      |       | N 4TH ST<br>Southbound |      |      |       | Total | Rolling<br>Hour | Pedestrian Crossings |      |       |       |
|------------------------|------------------------|------|------|-------|------------------------|------|------|-------|------------------------|------|------|-------|------------------------|------|------|-------|-------|-----------------|----------------------|------|-------|-------|
|                        | U-Turn                 | Left | Thru | Right | U-Turn                 | Left | Thru | Right | U-Turn                 | Left | Thru | Right | U-Turn                 | Left | Thru | Right |       |                 | West                 | East | South | North |
| 7:00 AM                | 0                      | 0    | 98   | 1     | 0                      | 4    | 40   | 0     | 0                      | 0    | 0    | 0     | 0                      | 0    | 12   | 15    | 170   | 962             | 0                    | 0    | 0     | 1     |
| 7:15 AM                | 0                      | 0    | 98   | 6     | 0                      | 5    | 48   | 0     | 0                      | 0    | 0    | 0     | 0                      | 0    | 20   | 7     | 184   | 1,015           | 0                    | 0    | 0     | 1     |
| 7:30 AM                | 0                      | 0    | 146  | 11    | 0                      | 2    | 60   | 0     | 0                      | 0    | 0    | 0     | 0                      | 6    | 26   | 9     | 260   | 1,055           | 0                    | 0    | 0     | 0     |
| 7:45 AM                | 0                      | 0    | 162  | 17    | 0                      | 12   | 96   | 0     | 0                      | 0    | 0    | 0     | 0                      | 3    | 46   | 12    | 348   | 1,010           | 2                    | 1    | 0     | 0     |
| 8:00 AM                | 0                      | 0    | 94   | 12    | 0                      | 7    | 64   | 0     | 0                      | 0    | 0    | 0     | 0                      | 5    | 33   | 8     | 223   | 928             | 0                    | 0    | 0     | 0     |
| 8:15 AM                | 0                      | 0    | 110  | 13    | 0                      | 6    | 63   | 0     | 0                      | 0    | 0    | 0     | 0                      | 4    | 24   | 4     | 224   |                 | 0                    | 0    | 0     | 1     |
| 8:30 AM                | 0                      | 0    | 97   | 6     | 0                      | 6    | 66   | 0     | 0                      | 0    | 0    | 0     | 0                      | 5    | 27   | 8     | 215   |                 | 0                    | 0    | 0     | 0     |
| 8:45 AM                | 0                      | 0    | 129  | 16    | 0                      | 9    | 66   | 0     | 0                      | 0    | 0    | 0     | 0                      | 3    | 35   | 8     | 266   |                 | 1                    | 2    | 1     | 0     |
| Count Total            | 0                      | 0    | 934  | 82    | 0                      | 51   | 503  | 0     | 0                      | 0    | 0    | 0     | 0                      | 26   | 223  | 71    | 1,890 |                 | 3                    | 3    | 1     | 3     |
| Peak Hour              | 0                      | 0    | 512  | 53    | 0                      | 27   | 283  | 0     | 0                      | 0    | 0    | 0     | 0                      | 18   | 129  | 33    | 1,055 |                 | 2                    | 1    | 0     | 1     |



(303) 216-2439  
www.alltrafficdata.net

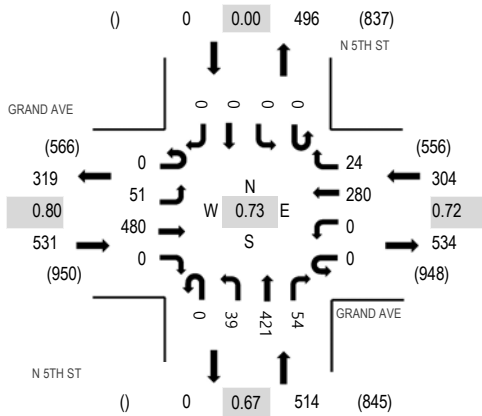
Location: 8 N 5TH ST & GRAND AVE AM

Date: Tuesday, February 16, 2021

Peak Hour: 07:30 AM - 08:30 AM

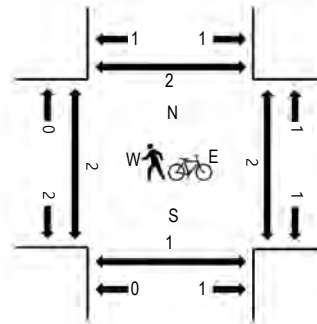
Peak 15-Minutes: 07:45 AM - 08:00 AM

### Peak Hour - All Vehicles



Note: Total study counts contained in parentheses.

### Peak Hour - Pedestrians/Bicycles on Crosswalk



### Traffic Counts

| Interval<br>Start Time | GRAND AVE<br>Eastbound |      |      |       | GRAND AVE<br>Westbound |      |      |       | N 5TH ST<br>Northbound |      |      |       | N 5TH ST<br>Southbound |      |      |       | Total | Rolling<br>Hour | Pedestrian Crossings |      |       |       |
|------------------------|------------------------|------|------|-------|------------------------|------|------|-------|------------------------|------|------|-------|------------------------|------|------|-------|-------|-----------------|----------------------|------|-------|-------|
|                        | U-Turn                 | Left | Thru | Right | U-Turn                 | Left | Thru | Right | U-Turn                 | Left | Thru | Right | U-Turn                 | Left | Thru | Right |       |                 | West                 | East | South | North |
| 7:00 AM                | 0                      | 30   | 66   | 0     | 0                      | 0    | 45   | 2     | 0                      | 0    | 47   | 11    | 0                      | 0    | 0    | 0     | 201   | 1,265           | 0                    | 0    | 0     | 1     |
| 7:15 AM                | 0                      | 10   | 89   | 0     | 0                      | 0    | 49   | 3     | 0                      | 4    | 70   | 10    | 0                      | 0    | 0    | 0     | 235   | 1,318           | 1                    | 0    | 0     | 0     |
| 7:30 AM                | 0                      | 18   | 134  | 0     | 0                      | 0    | 59   | 5     | 0                      | 7    | 129  | 12    | 0                      | 0    | 0    | 0     | 364   | 1,349           | 0                    | 1    | 0     | 1     |
| 7:45 AM                | 0                      | 21   | 144  | 0     | 0                      | 0    | 96   | 11    | 0                      | 14   | 161  | 18    | 0                      | 0    | 0    | 0     | 465   | 1,234           | 1                    | 1    | 0     | 0     |
| 8:00 AM                | 0                      | 5    | 96   | 0     | 0                      | 0    | 62   | 4     | 0                      | 9    | 69   | 9     | 0                      | 0    | 0    | 0     | 254   | 1,086           | 0                    | 0    | 1     | 0     |
| 8:15 AM                | 0                      | 7    | 106  | 0     | 0                      | 0    | 63   | 4     | 0                      | 9    | 62   | 15    | 0                      | 0    | 0    | 0     | 266   |                 | 0                    | 0    | 0     | 1     |
| 8:30 AM                | 0                      | 6    | 91   | 0     | 0                      | 0    | 65   | 5     | 0                      | 8    | 61   | 13    | 0                      | 0    | 0    | 0     | 249   |                 | 0                    | 0    | 0     | 0     |
| 8:45 AM                | 0                      | 9    | 118  | 0     | 0                      | 0    | 70   | 13    | 0                      | 6    | 85   | 16    | 0                      | 0    | 0    | 0     | 317   |                 | 0                    | 1    | 0     | 0     |
| Count Total            | 0                      | 106  | 844  | 0     | 0                      | 0    | 509  | 47    | 0                      | 57   | 684  | 104   | 0                      | 0    | 0    | 0     | 2,351 |                 | 2                    | 3    | 1     | 3     |
| Peak Hour              | 0                      | 51   | 480  | 0     | 0                      | 0    | 280  | 24    | 0                      | 39   | 421  | 54    | 0                      | 0    | 0    | 0     | 1,349 |                 | 1                    | 2    | 1     | 2     |



(303) 216-2439  
www.alltrafficdata.net

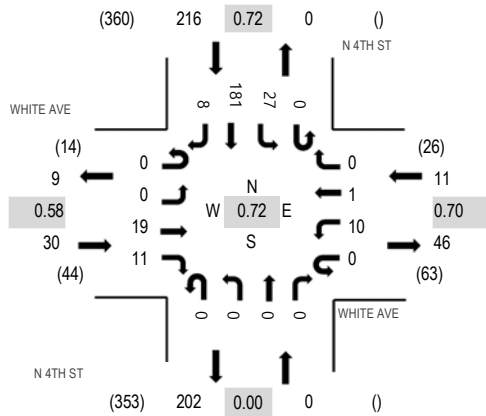
Location: 9 N 4TH ST & WHITE AVE AM

Date: Tuesday, February 16, 2021

Peak Hour: 07:45 AM - 08:45 AM

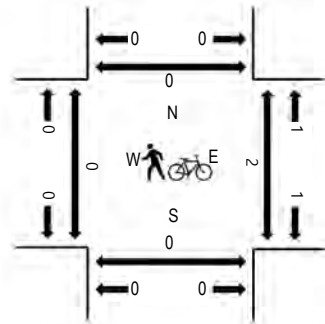
Peak 15-Minutes: 07:45 AM - 08:00 AM

### Peak Hour - All Vehicles



Note: Total study counts contained in parentheses.

### Peak Hour - Pedestrians/Bicycles on Crosswalk



### Traffic Counts

| Interval<br>Start Time | WHITE AVE<br>Eastbound |      |      |       | WHITE AVE<br>Westbound |      |      |       | N 4TH ST<br>Northbound |      |      |       | N 4TH ST<br>Southbound |      |      |       | Total | Rolling<br>Hour | Pedestrian Crossings |      |       |       |
|------------------------|------------------------|------|------|-------|------------------------|------|------|-------|------------------------|------|------|-------|------------------------|------|------|-------|-------|-----------------|----------------------|------|-------|-------|
|                        | U-Turn                 | Left | Thru | Right | U-Turn                 | Left | Thru | Right | U-Turn                 | Left | Thru | Right | U-Turn                 | Left | Thru | Right |       |                 | West                 | East | South | North |
| 7:00 AM                | 0                      | 0    | 2    | 2     | 0                      | 3    | 1    | 0     | 0                      | 0    | 0    | 0     | 0                      | 1    | 16   | 1     | 26    | 194             | 0                    | 1    | 0     | 0     |
| 7:15 AM                | 0                      | 0    | 0    | 1     | 0                      | 5    | 0    | 0     | 0                      | 0    | 0    | 0     | 0                      | 3    | 26   | 0     | 35    | 237             | 0                    | 1    | 1     | 0     |
| 7:30 AM                | 0                      | 0    | 1    | 1     | 0                      | 1    | 1    | 0     | 0                      | 0    | 0    | 0     | 0                      | 3    | 36   | 1     | 44    | 256             | 0                    | 0    | 1     | 0     |
| 7:45 AM                | 0                      | 0    | 8    | 5     | 0                      | 1    | 0    | 0     | 0                      | 0    | 0    | 0     | 0                      | 11   | 63   | 1     | 89    | 257             | 0                    | 1    | 0     | 0     |
| 8:00 AM                | 0                      | 0    | 7    | 3     | 0                      | 2    | 1    | 0     | 0                      | 0    | 0    | 0     | 0                      | 10   | 43   | 3     | 69    | 236             | 0                    | 0    | 0     | 0     |
| 8:15 AM                | 0                      | 0    | 2    | 2     | 0                      | 5    | 0    | 0     | 0                      | 0    | 0    | 0     | 0                      | 3    | 41   | 1     | 54    |                 | 0                    | 1    | 0     | 0     |
| 8:30 AM                | 0                      | 0    | 2    | 1     | 0                      | 2    | 0    | 0     | 0                      | 0    | 0    | 0     | 0                      | 3    | 34   | 3     | 45    |                 | 0                    | 0    | 0     | 0     |
| 8:45 AM                | 0                      | 0    | 2    | 5     | 0                      | 3    | 1    | 0     | 0                      | 0    | 0    | 0     | 0                      | 5    | 52   | 0     | 68    |                 | 0                    | 2    | 4     | 1     |
| Count Total            | 0                      | 0    | 24   | 20    | 0                      | 22   | 4    | 0     | 0                      | 0    | 0    | 0     | 0                      | 39   | 311  | 10    | 430   |                 | 0                    | 6    | 6     | 1     |
| Peak Hour              | 0                      | 0    | 19   | 11    | 0                      | 10   | 1    | 0     | 0                      | 0    | 0    | 0     | 0                      | 27   | 181  | 8     | 257   |                 | 0                    | 2    | 0     | 0     |



(303) 216-2439  
www.alltrafficdata.net

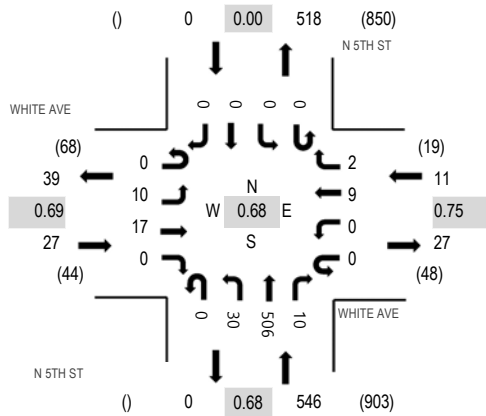
**Location:** 10 N 5TH ST & WHITE AVE AM

**Date:** Tuesday, February 16, 2021

**Peak Hour:** 07:30 AM - 08:30 AM

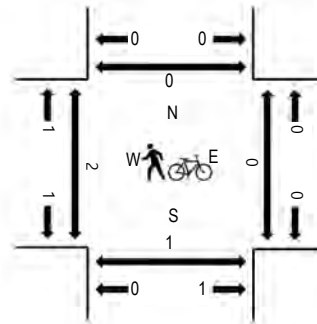
**Peak 15-Minutes:** 07:45 AM - 08:00 AM

### Peak Hour - All Vehicles



Note: Total study counts contained in parentheses.

### Peak Hour - Pedestrians/Bicycles on Crosswalk



### Traffic Counts

| Interval<br>Start Time | WHITE AVE<br>Eastbound |      |      |       | WHITE AVE<br>Westbound |      |      |       | N 5TH ST<br>Northbound |      |      |       | N 5TH ST<br>Southbound |      |      |       | Total | Rolling<br>Hour | Pedestrian Crossings |      |       |       |
|------------------------|------------------------|------|------|-------|------------------------|------|------|-------|------------------------|------|------|-------|------------------------|------|------|-------|-------|-----------------|----------------------|------|-------|-------|
|                        | U-Turn                 | Left | Thru | Right | U-Turn                 | Left | Thru | Right | U-Turn                 | Left | Thru | Right | U-Turn                 | Left | Thru | Right |       |                 | West                 | East | South | North |
| 7:00 AM                | 0                      | 0    | 3    | 0     | 0                      | 0    | 0    | 1     | 0                      | 8    | 56   | 0     | 0                      | 0    | 0    | 0     | 68    | 542             | 0                    | 0    | 0     | 0     |
| 7:15 AM                | 0                      | 0    | 1    | 0     | 0                      | 0    | 2    | 0     | 0                      | 6    | 86   | 3     | 0                      | 0    | 0    | 0     | 98    | 577             | 0                    | 0    | 0     | 0     |
| 7:30 AM                | 0                      | 0    | 2    | 0     | 0                      | 0    | 4    | 0     | 0                      | 3    | 151  | 2     | 0                      | 0    | 0    | 0     | 162   | 584             | 0                    | 0    | 0     | 0     |
| 7:45 AM                | 0                      | 5    | 6    | 0     | 0                      | 0    | 2    | 0     | 0                      | 7    | 190  | 4     | 0                      | 0    | 0    | 0     | 214   | 518             | 0                    | 0    | 0     | 0     |
| 8:00 AM                | 0                      | 4    | 8    | 0     | 0                      | 0    | 3    | 1     | 0                      | 5    | 79   | 3     | 0                      | 0    | 0    | 0     | 103   | 424             | 1                    | 0    | 1     | 0     |
| 8:15 AM                | 0                      | 1    | 1    | 0     | 0                      | 0    | 0    | 1     | 0                      | 15   | 86   | 1     | 0                      | 0    | 0    | 0     | 105   |                 | 0                    | 0    | 0     | 0     |
| 8:30 AM                | 0                      | 4    | 4    | 0     | 0                      | 0    | 3    | 1     | 0                      | 2    | 78   | 4     | 0                      | 0    | 0    | 0     | 96    |                 | 0                    | 0    | 0     | 0     |
| 8:45 AM                | 0                      | 2    | 3    | 0     | 0                      | 0    | 1    | 0     | 0                      | 7    | 104  | 3     | 0                      | 0    | 0    | 0     | 120   |                 | 1                    | 0    | 0     | 0     |
| Count Total            | 0                      | 16   | 28   | 0     | 0                      | 0    | 15   | 4     | 0                      | 53   | 830  | 20    | 0                      | 0    | 0    | 0     | 966   |                 | 2                    | 0    | 1     | 0     |
| Peak Hour              | 0                      | 10   | 17   | 0     | 0                      | 0    | 9    | 2     | 0                      | 30   | 506  | 10    | 0                      | 0    | 0    | 0     | 584   |                 | 1                    | 0    | 1     | 0     |





(303) 216-2439  
www.alltrafficdata.net

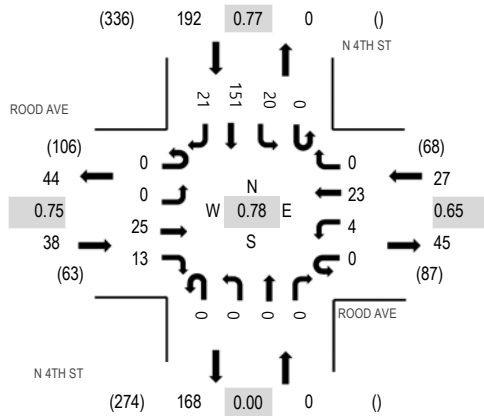
Location: 11 N 4TH ST & ROOD AVE AM

Date: Tuesday, February 16, 2021

Peak Hour: 07:30 AM - 08:30 AM

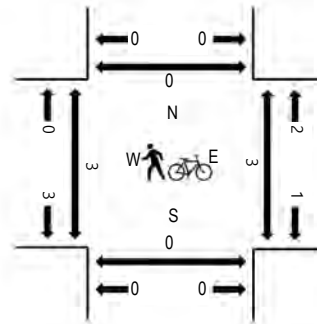
Peak 15-Minutes: 07:45 AM - 08:00 AM

### Peak Hour - All Vehicles



Note: Total study counts contained in parentheses.

### Peak Hour - Pedestrians/Bicycles on Crosswalk



### Traffic Counts

| Interval<br>Start Time | ROOD AVE<br>Eastbound |      |      |       | ROOD AVE<br>Westbound |      |      |       | N 4TH ST<br>Northbound |      |      |       | N 4TH ST<br>Southbound |      |      |       | Total | Rolling<br>Hour | Pedestrian Crossings |      |       |       |
|------------------------|-----------------------|------|------|-------|-----------------------|------|------|-------|------------------------|------|------|-------|------------------------|------|------|-------|-------|-----------------|----------------------|------|-------|-------|
|                        | U-Turn                | Left | Thru | Right | U-Turn                | Left | Thru | Right | U-Turn                 | Left | Thru | Right | U-Turn                 | Left | Thru | Right |       |                 | West                 | East | South | North |
| 7:00 AM                | 0                     | 0    | 3    | 0     | 0                     | 0    | 10   | 0     | 0                      | 0    | 0    | 0     | 0                      | 3    | 13   | 2     | 31    | 213             | 0                    | 0    | 1     | 0     |
| 7:15 AM                | 0                     | 0    | 5    | 0     | 0                     | 1    | 14   | 0     | 0                      | 0    | 0    | 0     | 0                      | 3    | 21   | 5     | 49    | 245             | 2                    | 1    | 0     | 0     |
| 7:30 AM                | 0                     | 0    | 4    | 1     | 0                     | 1    | 7    | 0     | 0                      | 0    | 0    | 0     | 0                      | 4    | 31   | 3     | 51    | 257             | 1                    | 1    | 0     | 0     |
| 7:45 AM                | 0                     | 0    | 8    | 6     | 0                     | 1    | 5    | 0     | 0                      | 0    | 0    | 0     | 0                      | 6    | 53   | 3     | 82    | 257             | 2                    | 2    | 0     | 0     |
| 8:00 AM                | 0                     | 0    | 9    | 3     | 0                     | 1    | 3    | 0     | 0                      | 0    | 0    | 0     | 0                      | 8    | 31   | 8     | 63    | 254             | 0                    | 0    | 0     | 0     |
| 8:15 AM                | 0                     | 0    | 4    | 3     | 0                     | 1    | 8    | 0     | 0                      | 0    | 0    | 0     | 0                      | 2    | 36   | 7     | 61    |                 | 0                    | 0    | 0     | 0     |
| 8:30 AM                | 0                     | 0    | 7    | 2     | 0                     | 3    | 4    | 0     | 0                      | 0    | 0    | 0     | 0                      | 5    | 27   | 3     | 51    |                 | 0                    | 1    | 2     | 1     |
| 8:45 AM                | 0                     | 0    | 7    | 1     | 0                     | 2    | 7    | 0     | 0                      | 0    | 0    | 0     | 0                      | 9    | 36   | 17    | 79    |                 | 1                    | 2    | 0     | 0     |
| Count Total            | 0                     | 0    | 47   | 16    | 0                     | 10   | 58   | 0     | 0                      | 0    | 0    | 0     | 0                      | 40   | 248  | 48    | 467   |                 | 6                    | 7    | 3     | 1     |
| Peak Hour              | 0                     | 0    | 25   | 13    | 0                     | 4    | 23   | 0     | 0                      | 0    | 0    | 0     | 0                      | 20   | 151  | 21    | 257   |                 | 3                    | 3    | 0     | 0     |



(303) 216-2439  
www.alltrafficdata.net

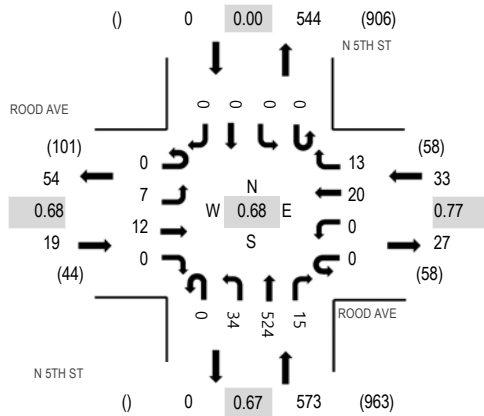
Location: 12 N 5TH ST & ROOD AVE AM

Date: Tuesday, February 16, 2021

Peak Hour: 07:30 AM - 08:30 AM

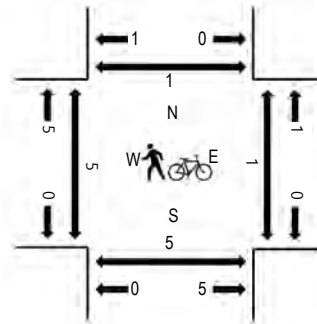
Peak 15-Minutes: 07:45 AM - 08:00 AM

### Peak Hour - All Vehicles



Note: Total study counts contained in parentheses.

### Peak Hour - Pedestrians/Bicycles on Crosswalk



### Traffic Counts

| Interval<br>Start Time | ROOD AVE<br>Eastbound |      |      |       | ROOD AVE<br>Westbound |      |      |       | N 5TH ST<br>Northbound |      |      |       | N 5TH ST<br>Southbound |      |      |       | Total | Rolling<br>Hour | Pedestrian Crossings |      |       |       |
|------------------------|-----------------------|------|------|-------|-----------------------|------|------|-------|------------------------|------|------|-------|------------------------|------|------|-------|-------|-----------------|----------------------|------|-------|-------|
|                        | U-Turn                | Left | Thru | Right | U-Turn                | Left | Thru | Right | U-Turn                 | Left | Thru | Right | U-Turn                 | Left | Thru | Right |       |                 | West                 | East | South | North |
| 7:00 AM                | 0                     | 1    | 4    | 0     | 0                     | 0    | 2    | 2     | 0                      | 9    | 61   | 2     | 0                      | 0    | 0    | 0     | 81    | 594             | 0                    | 0    | 1     | 0     |
| 7:15 AM                | 0                     | 1    | 0    | 0     | 0                     | 0    | 2    | 2     | 0                      | 9    | 94   | 4     | 0                      | 0    | 0    | 0     | 112   | 619             | 1                    | 1    | 0     | 0     |
| 7:30 AM                | 0                     | 1    | 2    | 0     | 0                     | 0    | 3    | 4     | 0                      | 8    | 153  | 1     | 0                      | 0    | 0    | 0     | 172   | 625             | 0                    | 1    | 0     | 0     |
| 7:45 AM                | 0                     | 3    | 2    | 0     | 0                     | 0    | 6    | 5     | 0                      | 11   | 193  | 9     | 0                      | 0    | 0    | 0     | 229   | 557             | 3                    | 0    | 2     | 0     |
| 8:00 AM                | 0                     | 2    | 8    | 0     | 0                     | 0    | 6    | 2     | 0                      | 8    | 78   | 2     | 0                      | 0    | 0    | 0     | 106   | 471             | 2                    | 0    | 2     | 0     |
| 8:15 AM                | 0                     | 1    | 0    | 0     | 0                     | 0    | 5    | 2     | 0                      | 7    | 100  | 3     | 0                      | 0    | 0    | 0     | 118   |                 | 0                    | 0    | 1     | 0     |
| 8:30 AM                | 0                     | 2    | 6    | 0     | 0                     | 0    | 6    | 2     | 0                      | 4    | 81   | 3     | 0                      | 0    | 0    | 0     | 104   |                 | 0                    | 0    | 1     | 0     |
| 8:45 AM                | 0                     | 5    | 6    | 0     | 0                     | 0    | 5    | 4     | 0                      | 10   | 107  | 6     | 0                      | 0    | 0    | 0     | 143   |                 | 1                    | 3    | 2     | 0     |
| Count Total            | 0                     | 16   | 28   | 0     | 0                     | 0    | 35   | 23    | 0                      | 66   | 867  | 30    | 0                      | 0    | 0    | 0     | 1,065 |                 | 7                    | 5    | 9     | 0     |
| Peak Hour              | 0                     | 7    | 12   | 0     | 0                     | 0    | 20   | 13    | 0                      | 34   | 524  | 15    | 0                      | 0    | 0    | 0     | 625   |                 | 5                    | 1    | 5     | 0     |



(303) 216-2439  
www.alltrafficdata.net

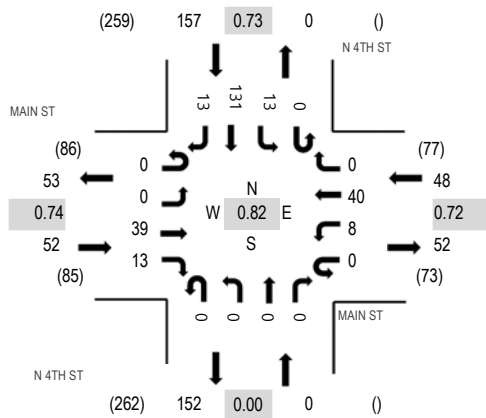
Location: 13 N 4TH ST & MAIN ST AM

Date: Tuesday, February 16, 2021

Peak Hour: 07:45 AM - 08:45 AM

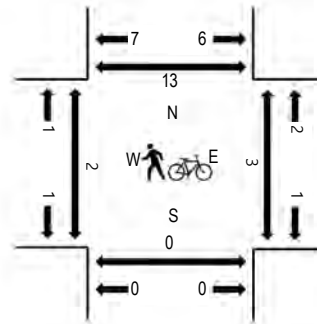
Peak 15-Minutes: 07:45 AM - 08:00 AM

### Peak Hour - All Vehicles



Note: Total study counts contained in parentheses.

### Peak Hour - Pedestrians/Bicycles on Crosswalk



### Traffic Counts

| Interval<br>Start Time | MAIN ST<br>Eastbound |      |      |       | MAIN ST<br>Westbound |      |      |       | N 4TH ST<br>Northbound |      |      |       | N 4TH ST<br>Southbound |      |      |       | Total | Rolling<br>Hour | Pedestrian Crossings |      |       |       |
|------------------------|----------------------|------|------|-------|----------------------|------|------|-------|------------------------|------|------|-------|------------------------|------|------|-------|-------|-----------------|----------------------|------|-------|-------|
|                        | U-Turn               | Left | Thru | Right | U-Turn               | Left | Thru | Right | U-Turn                 | Left | Thru | Right | U-Turn                 | Left | Thru | Right |       |                 | West                 | East | South | North |
| 7:00 AM                | 0                    | 0    | 5    | 0     | 0                    | 1    | 4    | 0     | 0                      | 0    | 0    | 0     | 0                      | 0    | 12   | 3     | 25    | 175             | 2                    | 0    | 0     | 0     |
| 7:15 AM                | 0                    | 0    | 3    | 0     | 0                    | 2    | 3    | 0     | 0                      | 0    | 0    | 0     | 0                      | 0    | 18   | 2     | 28    | 204             | 0                    | 0    | 0     | 0     |
| 7:30 AM                | 0                    | 0    | 2    | 3     | 0                    | 2    | 5    | 0     | 0                      | 0    | 0    | 0     | 0                      | 0    | 31   | 1     | 44    | 242             | 0                    | 1    | 0     | 3     |
| 7:45 AM                | 0                    | 0    | 13   | 0     | 0                    | 1    | 10   | 0     | 0                      | 0    | 0    | 0     | 0                      | 3    | 47   | 4     | 78    | 257             | 1                    | 1    | 0     | 2     |
| 8:00 AM                | 0                    | 0    | 10   | 4     | 0                    | 2    | 8    | 0     | 0                      | 0    | 0    | 0     | 0                      | 1    | 28   | 1     | 54    | 246             | 0                    | 0    | 0     | 7     |
| 8:15 AM                | 0                    | 0    | 8    | 6     | 0                    | 1    | 9    | 0     | 0                      | 0    | 0    | 0     | 0                      | 7    | 32   | 3     | 66    |                 | 0                    | 1    | 0     | 1     |
| 8:30 AM                | 0                    | 0    | 8    | 3     | 0                    | 4    | 13   | 0     | 0                      | 0    | 0    | 0     | 0                      | 2    | 24   | 5     | 59    |                 | 1                    | 1    | 0     | 3     |
| 8:45 AM                | 0                    | 0    | 10   | 10    | 0                    | 2    | 10   | 0     | 0                      | 0    | 0    | 0     | 0                      | 1    | 29   | 5     | 67    |                 | 0                    | 1    | 0     | 7     |
| Count Total            | 0                    | 0    | 59   | 26    | 0                    | 15   | 62   | 0     | 0                      | 0    | 0    | 0     | 0                      | 14   | 221  | 24    | 421   |                 | 4                    | 5    | 0     | 23    |
| Peak Hour              | 0                    | 0    | 39   | 13    | 0                    | 8    | 40   | 0     | 0                      | 0    | 0    | 0     | 0                      | 13   | 131  | 13    | 257   |                 | 2                    | 3    | 0     | 13    |



(303) 216-2439  
www.alltrafficdata.net

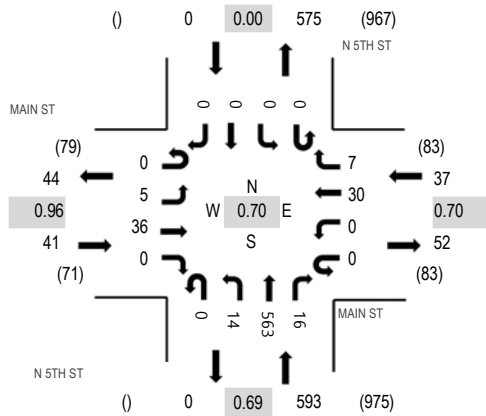
Location: 14 N 5TH ST & MAIN ST AM

Date: Tuesday, February 16, 2021

Peak Hour: 07:30 AM - 08:30 AM

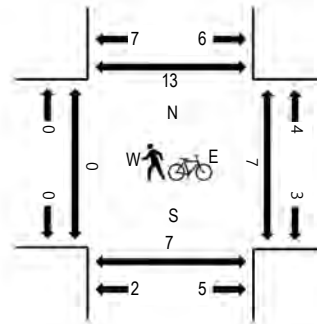
Peak 15-Minutes: 07:45 AM - 08:00 AM

### Peak Hour - All Vehicles



Note: Total study counts contained in parentheses.

### Peak Hour - Pedestrians/Bicycles on Crosswalk



### Traffic Counts

| Interval<br>Start Time | MAIN ST<br>Eastbound |      |      |       | MAIN ST<br>Westbound |      |      |       | N 5TH ST<br>Northbound |      |      |       | N 5TH ST<br>Southbound |      |      |       | Total | Rolling<br>Hour | Pedestrian Crossings |      |       |       |
|------------------------|----------------------|------|------|-------|----------------------|------|------|-------|------------------------|------|------|-------|------------------------|------|------|-------|-------|-----------------|----------------------|------|-------|-------|
|                        | U-Turn               | Left | Thru | Right | U-Turn               | Left | Thru | Right | U-Turn                 | Left | Thru | Right | U-Turn                 | Left | Thru | Right |       |                 | West                 | East | South | North |
| 7:00 AM                | 0                    | 1    | 3    | 0     | 0                    | 0    | 2    | 0     | 0                      | 3    | 71   | 2     | 0                      | 0    | 0    | 0     | 82    | 617             | 0                    | 0    | 1     | 0     |
| 7:15 AM                | 0                    | 0    | 2    | 0     | 0                    | 0    | 4    | 3     | 0                      | 1    | 106  | 2     | 0                      | 0    | 0    | 0     | 118   | 653             | 0                    | 2    | 0     | 1     |
| 7:30 AM                | 0                    | 0    | 2    | 0     | 0                    | 0    | 5    | 1     | 0                      | 3    | 162  | 5     | 0                      | 0    | 0    | 0     | 178   | 671             | 0                    | 1    | 2     | 1     |
| 7:45 AM                | 0                    | 1    | 12   | 0     | 0                    | 0    | 10   | 2     | 0                      | 3    | 208  | 3     | 0                      | 0    | 0    | 0     | 239   | 604             | 0                    | 4    | 0     | 1     |
| 8:00 AM                | 0                    | 1    | 12   | 0     | 0                    | 0    | 7    | 3     | 0                      | 2    | 87   | 6     | 0                      | 0    | 0    | 0     | 118   | 512             | 0                    | 1    | 2     | 7     |
| 8:15 AM                | 0                    | 3    | 10   | 0     | 0                    | 0    | 8    | 1     | 0                      | 6    | 106  | 2     | 0                      | 0    | 0    | 0     | 136   |                 | 0                    | 0    | 3     | 4     |
| 8:30 AM                | 0                    | 1    | 10   | 0     | 0                    | 0    | 13   | 4     | 0                      | 1    | 81   | 1     | 0                      | 0    | 0    | 0     | 111   |                 | 0                    | 1    | 1     | 5     |
| 8:45 AM                | 0                    | 4    | 9    | 0     | 0                    | 0    | 10   | 10    | 0                      | 1    | 111  | 2     | 0                      | 0    | 0    | 0     | 147   |                 | 0                    | 2    | 1     | 5     |
| Count Total            | 0                    | 11   | 60   | 0     | 0                    | 0    | 59   | 24    | 0                      | 20   | 932  | 23    | 0                      | 0    | 0    | 0     | 1,129 |                 | 0                    | 11   | 10    | 24    |
| Peak Hour              | 0                    | 5    | 36   | 0     | 0                    | 0    | 30   | 7     | 0                      | 14   | 563  | 16    | 0                      | 0    | 0    | 0     | 671   |                 | 0                    | 6    | 7     | 13    |



(303) 216-2439  
www.alltrafficdata.net

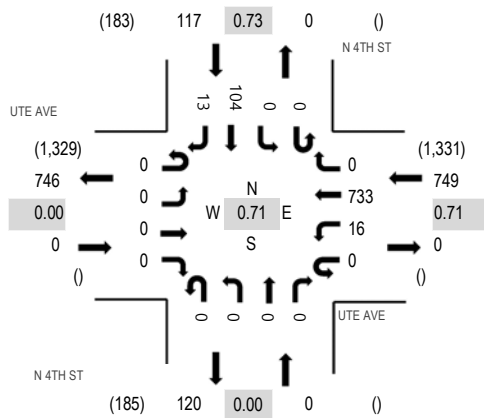
Location: 15 N 4TH ST & UTE AVE AM

Date: Tuesday, February 16, 2021

Peak Hour: 07:30 AM - 08:30 AM

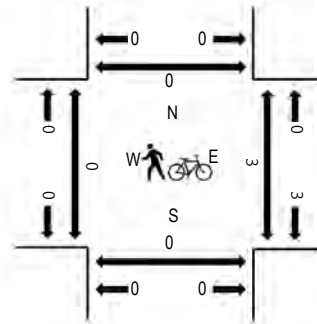
Peak 15-Minutes: 07:45 AM - 08:00 AM

### Peak Hour - All Vehicles



Note: Total study counts contained in parentheses.

### Peak Hour - Pedestrians/Bicycles on Crosswalk



### Traffic Counts

| Interval<br>Start Time | UTE AVE<br>Eastbound |      |      |       | UTE AVE<br>Westbound |      |       |       | N 4TH ST<br>Northbound |      |      |       | N 4TH ST<br>Southbound |      |      |       | Total | Rolling<br>Hour | Pedestrian Crossings |      |       |       |
|------------------------|----------------------|------|------|-------|----------------------|------|-------|-------|------------------------|------|------|-------|------------------------|------|------|-------|-------|-----------------|----------------------|------|-------|-------|
|                        | U-Turn               | Left | Thru | Right | U-Turn               | Left | Thru  | Right | U-Turn                 | Left | Thru | Right | U-Turn                 | Left | Thru | Right |       |                 | West                 | East | South | North |
| 7:00 AM                | 0                    | 0    | 0    | 0     | 0                    | 0    | 0     | 105   | 0                      | 0    | 0    | 0     | 0                      | 0    | 8    | 1     | 114   | 757             | 0                    | 0    | 0     | 0     |
| 7:15 AM                | 0                    | 0    | 0    | 0     | 0                    | 0    | 0     | 138   | 0                      | 0    | 0    | 0     | 0                      | 0    | 13   | 0     | 151   | 845             | 0                    | 0    | 0     | 1     |
| 7:30 AM                | 0                    | 0    | 0    | 0     | 0                    | 2    | 157   | 0     | 0                      | 0    | 0    | 0     | 0                      | 0    | 25   | 4     | 188   | 866             | 0                    | 0    | 0     | 0     |
| 7:45 AM                | 0                    | 0    | 0    | 0     | 0                    | 7    | 257   | 0     | 0                      | 0    | 0    | 0     | 0                      | 0    | 37   | 3     | 304   | 853             | 0                    | 1    | 0     | 0     |
| 8:00 AM                | 0                    | 0    | 0    | 0     | 0                    | 5    | 176   | 0     | 0                      | 0    | 0    | 0     | 0                      | 0    | 19   | 2     | 202   | 757             | 0                    | 0    | 0     | 0     |
| 8:15 AM                | 0                    | 0    | 0    | 0     | 0                    | 2    | 143   | 0     | 0                      | 0    | 0    | 0     | 0                      | 0    | 23   | 4     | 172   |                 | 0                    | 0    | 0     | 0     |
| 8:30 AM                | 0                    | 0    | 0    | 0     | 0                    | 3    | 151   | 0     | 0                      | 0    | 0    | 0     | 0                      | 0    | 18   | 3     | 175   |                 | 0                    | 0    | 0     | 0     |
| 8:45 AM                | 0                    | 0    | 0    | 0     | 0                    | 3    | 182   | 0     | 0                      | 0    | 0    | 0     | 0                      | 0    | 20   | 3     | 208   |                 | 0                    | 0    | 0     | 0     |
| Count Total            | 0                    | 0    | 0    | 0     | 0                    | 22   | 1,309 | 0     | 0                      | 0    | 0    | 0     | 0                      | 0    | 163  | 20    | 1,514 |                 | 0                    | 1    | 0     | 1     |
| Peak Hour              | 0                    | 0    | 0    | 0     | 0                    | 16   | 733   | 0     | 0                      | 0    | 0    | 0     | 0                      | 0    | 104  | 13    | 866   |                 | 0                    | 1    | 0     | 0     |





(303) 216-2439  
www.alltrafficdata.net

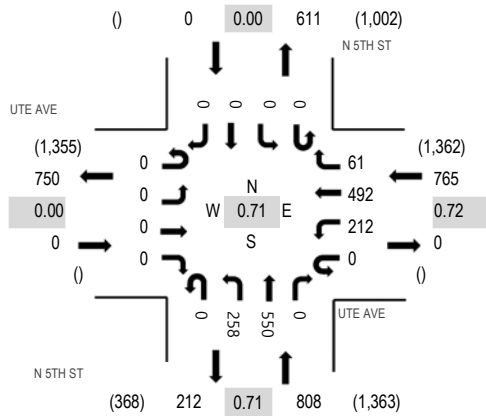
Location: 16 N 5TH ST & UTE AVE AM

Date: Tuesday, February 16, 2021

Peak Hour: 07:30 AM - 08:30 AM

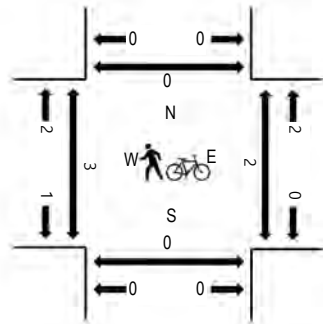
Peak 15-Minutes: 07:45 AM - 08:00 AM

### Peak Hour - All Vehicles



Note: Total study counts contained in parentheses.

### Peak Hour - Pedestrians/Bicycles on Crosswalk



### Traffic Counts

| Interval<br>Start Time | UTE AVE<br>Eastbound |      |      |       | UTE AVE<br>Westbound |      |      |       | N 5TH ST<br>Northbound |      |      |       | N 5TH ST<br>Southbound |      |      |       | Total | Rolling<br>Hour | Pedestrian Crossings |      |       |       |
|------------------------|----------------------|------|------|-------|----------------------|------|------|-------|------------------------|------|------|-------|------------------------|------|------|-------|-------|-----------------|----------------------|------|-------|-------|
|                        | U-Turn               | Left | Thru | Right | U-Turn               | Left | Thru | Right | U-Turn                 | Left | Thru | Right | U-Turn                 | Left | Thru | Right |       |                 | West                 | East | South | North |
| 7:00 AM                | 0                    | 0    | 0    | 0     | 0                    | 19   | 80   | 11    | 0                      | 26   | 67   | 0     | 0                      | 0    | 0    | 0     | 203   | 1,435           | 0                    | 0    | 0     | 0     |
| 7:15 AM                | 0                    | 0    | 0    | 0     | 0                    | 38   | 95   | 1     | 0                      | 50   | 105  | 0     | 0                      | 0    | 0    | 0     | 289   | 1,559           | 0                    | 0    | 0     | 0     |
| 7:30 AM                | 0                    | 0    | 0    | 0     | 0                    | 47   | 100  | 10    | 0                      | 62   | 168  | 0     | 0                      | 0    | 0    | 0     | 387   | 1,573           | 2                    | 1    | 0     | 0     |
| 7:45 AM                | 0                    | 0    | 0    | 0     | 0                    | 69   | 178  | 21    | 0                      | 88   | 200  | 0     | 0                      | 0    | 0    | 0     | 556   | 1,476           | 0                    | 0    | 0     | 0     |
| 8:00 AM                | 0                    | 0    | 0    | 0     | 0                    | 54   | 115  | 11    | 0                      | 66   | 81   | 0     | 0                      | 0    | 0    | 0     | 327   | 1,290           | 0                    | 1    | 0     | 0     |
| 8:15 AM                | 0                    | 0    | 0    | 0     | 0                    | 42   | 99   | 19    | 0                      | 42   | 101  | 0     | 0                      | 0    | 0    | 0     | 303   |                 | 1                    | 0    | 0     | 0     |
| 8:30 AM                | 0                    | 0    | 0    | 0     | 0                    | 46   | 115  | 5     | 0                      | 47   | 77   | 0     | 0                      | 0    | 0    | 0     | 290   |                 | 1                    | 1    | 0     | 0     |
| 8:45 AM                | 0                    | 0    | 0    | 0     | 0                    | 52   | 126  | 9     | 1                      | 66   | 116  | 0     | 0                      | 0    | 0    | 0     | 370   |                 | 0                    | 0    | 0     | 0     |
| Count Total            | 0                    | 0    | 0    | 0     | 0                    | 367  | 908  | 87    | 1                      | 447  | 915  | 0     | 0                      | 0    | 0    | 0     | 2,725 |                 | 4                    | 3    | 0     | 0     |
| Peak Hour              | 0                    | 0    | 0    | 0     | 0                    | 212  | 492  | 61    | 0                      | 258  | 550  | 0     | 0                      | 0    | 0    | 0     | 1,573 |                 | 3                    | 2    | 0     | 0     |



(303) 216-2439  
www.alltrafficdata.net

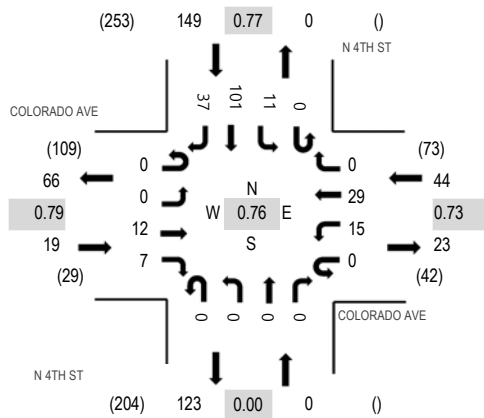
Location: 17 N 4TH ST & COLORADO AVE AM

Date: Tuesday, February 16, 2021

Peak Hour: 07:45 AM - 08:45 AM

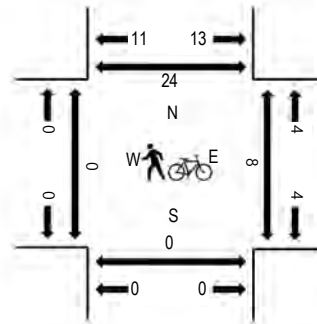
Peak 15-Minutes: 07:45 AM - 08:00 AM

### Peak Hour - All Vehicles



Note: Total study counts contained in parentheses.

### Peak Hour - Pedestrians/Bicycles on Crosswalk



### Traffic Counts

| Interval<br>Start Time | COLORADO AVE<br>Eastbound |      |      |       | COLORADO AVE<br>Westbound |      |      |       | N 4TH ST<br>Northbound |      |      |       | N 4TH ST<br>Southbound |      |      |       | Total | Rolling<br>Hour | Pedestrian Crossings |      |       |       |
|------------------------|---------------------------|------|------|-------|---------------------------|------|------|-------|------------------------|------|------|-------|------------------------|------|------|-------|-------|-----------------|----------------------|------|-------|-------|
|                        | U-Turn                    | Left | Thru | Right | U-Turn                    | Left | Thru | Right | U-Turn                 | Left | Thru | Right | U-Turn                 | Left | Thru | Right |       |                 | West                 | East | South | North |
| 7:00 AM                | 0                         | 0    | 1    | 0     | 0                         | 0    | 5    | 0     | 0                      | 0    | 0    | 0     | 0                      | 2    | 10   | 1     | 19    | 156             | 0                    | 0    | 0     | 0     |
| 7:15 AM                | 0                         | 0    | 3    | 0     | 0                         | 0    | 2    | 0     | 0                      | 0    | 0    | 0     | 0                      | 2    | 15   | 2     | 24    | 177             | 0                    | 0    | 0     | 8     |
| 7:30 AM                | 0                         | 0    | 0    | 0     | 0                         | 0    | 8    | 0     | 0                      | 0    | 0    | 0     | 0                      | 2    | 30   | 3     | 43    | 210             | 3                    | 0    | 0     | 6     |
| 7:45 AM                | 0                         | 0    | 3    | 3     | 0                         | 4    | 10   | 0     | 0                      | 0    | 0    | 0     | 0                      | 3    | 40   | 7     | 70    | 212             | 0                    | 2    | 0     | 6     |
| 8:00 AM                | 0                         | 0    | 2    | 1     | 0                         | 1    | 6    | 0     | 0                      | 0    | 0    | 0     | 0                      | 2    | 22   | 6     | 40    | 199             | 0                    | 2    | 0     | 3     |
| 8:15 AM                | 0                         | 0    | 3    | 1     | 0                         | 8    | 7    | 0     | 0                      | 0    | 0    | 0     | 0                      | 4    | 24   | 10    | 57    |                 | 0                    | 3    | 0     | 10    |
| 8:30 AM                | 0                         | 0    | 4    | 2     | 0                         | 2    | 6    | 0     | 0                      | 0    | 0    | 0     | 0                      | 2    | 15   | 14    | 45    |                 | 0                    | 1    | 0     | 5     |
| 8:45 AM                | 0                         | 0    | 2    | 4     | 0                         | 2    | 12   | 0     | 0                      | 0    | 0    | 0     | 0                      | 7    | 20   | 10    | 57    |                 | 0                    | 1    | 0     | 3     |
| Count Total            | 0                         | 0    | 18   | 11    | 0                         | 17   | 56   | 0     | 0                      | 0    | 0    | 0     | 0                      | 24   | 176  | 53    | 355   |                 | 3                    | 9    | 0     | 41    |
| Peak Hour              | 0                         | 0    | 12   | 7     | 0                         | 15   | 29   | 0     | 0                      | 0    | 0    | 0     | 0                      | 11   | 101  | 37    | 212   |                 | 0                    | 8    | 0     | 24    |



(303) 216-2439  
www.alltrafficdata.net

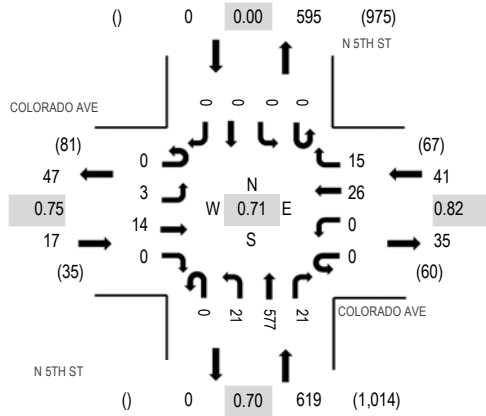
**Location:** 18 N 5TH ST & COLORADO AVE AM

**Date:** Tuesday, February 16, 2021

**Peak Hour:** 07:30 AM - 08:30 AM

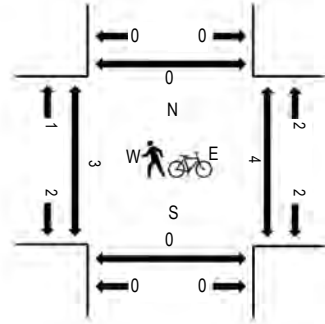
**Peak 15-Minutes:** 07:45 AM - 08:00 AM

### Peak Hour - All Vehicles



Note: Total study counts contained in parentheses.

### Peak Hour - Pedestrians/Bicycles on Crosswalk



### Traffic Counts

| Interval<br>Start Time | COLORADO AVE<br>Eastbound |      |      |       | COLORADO AVE<br>Westbound |      |      |       | N 5TH ST<br>Northbound |      |      |       | N 5TH ST<br>Southbound |      |      |       | Total | Rolling<br>Hour | Pedestrian Crossings |      |       |       |
|------------------------|---------------------------|------|------|-------|---------------------------|------|------|-------|------------------------|------|------|-------|------------------------|------|------|-------|-------|-----------------|----------------------|------|-------|-------|
|                        | U-Turn                    | Left | Thru | Right | U-Turn                    | Left | Thru | Right | U-Turn                 | Left | Thru | Right | U-Turn                 | Left | Thru | Right |       |                 | West                 | East | South | North |
| 7:00 AM                | 0                         | 2    | 1    | 0     | 0                         | 0    | 4    | 0     | 0                      | 2    | 75   | 2     | 0                      | 0    | 0    | 0     | 86    | 623             | 0                    | 1    | 0     | 1     |
| 7:15 AM                | 0                         | 2    | 2    | 0     | 0                         | 0    | 2    | 0     | 0                      | 0    | 103  | 3     | 0                      | 0    | 0    | 0     | 112   | 646             | 0                    | 0    | 0     | 0     |
| 7:30 AM                | 0                         | 0    | 1    | 0     | 0                         | 0    | 3    | 1     | 0                      | 5    | 171  | 5     | 0                      | 0    | 0    | 0     | 186   | 677             | 0                    | 2    | 0     | 0     |
| 7:45 AM                | 0                         | 1    | 6    | 0     | 0                         | 0    | 9    | 2     | 0                      | 7    | 207  | 7     | 0                      | 0    | 0    | 0     | 239   | 591             | 0                    | 1    | 0     | 0     |
| 8:00 AM                | 0                         | 1    | 2    | 0     | 0                         | 0    | 4    | 10    | 0                      | 2    | 86   | 4     | 0                      | 0    | 0    | 0     | 109   | 493             | 0                    | 1    | 0     | 0     |
| 8:15 AM                | 0                         | 1    | 5    | 0     | 0                         | 0    | 10   | 2     | 0                      | 7    | 113  | 5     | 0                      | 0    | 0    | 0     | 143   |                 | 1                    | 0    | 0     | 0     |
| 8:30 AM                | 0                         | 0    | 5    | 0     | 0                         | 0    | 9    | 0     | 0                      | 3    | 80   | 3     | 0                      | 0    | 0    | 0     | 100   |                 | 0                    | 2    | 0     | 2     |
| 8:45 AM                | 0                         | 3    | 3    | 0     | 0                         | 0    | 9    | 2     | 0                      | 5    | 113  | 6     | 0                      | 0    | 0    | 0     | 141   |                 | 2                    | 0    | 0     | 1     |
| Count Total            | 0                         | 10   | 25   | 0     | 0                         | 0    | 50   | 17    | 0                      | 31   | 948  | 35    | 0                      | 0    | 0    | 0     | 1,116 |                 | 3                    | 7    | 0     | 4     |
| Peak Hour              | 0                         | 3    | 14   | 0     | 0                         | 0    | 26   | 15    | 0                      | 21   | 577  | 21    | 0                      | 0    | 0    | 0     | 677   |                 | 1                    | 4    | 0     | 0     |



(303) 216-2439  
www.alltrafficdata.net

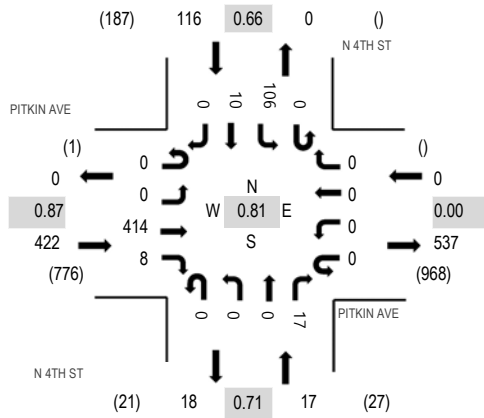
Location: 19 N 4TH ST & PITKIN AVE AM

Date: Tuesday, February 16, 2021

Peak Hour: 07:45 AM - 08:45 AM

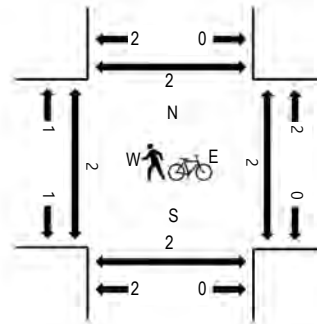
Peak 15-Minutes: 07:45 AM - 08:00 AM

### Peak Hour - All Vehicles



Note: Total study counts contained in parentheses.

### Peak Hour - Pedestrians/Bicycles on Crosswalk



### Traffic Counts

| Interval<br>Start Time | PITKIN AVE<br>Eastbound |      |      |       | PITKIN AVE<br>Westbound |      |      |       | N 4TH ST<br>Northbound |      |      |       | N 4TH ST<br>Southbound |      |      |       | Total | Rolling<br>Hour | Pedestrian Crossings |      |       |       |
|------------------------|-------------------------|------|------|-------|-------------------------|------|------|-------|------------------------|------|------|-------|------------------------|------|------|-------|-------|-----------------|----------------------|------|-------|-------|
|                        | U-Turn                  | Left | Thru | Right | U-Turn                  | Left | Thru | Right | U-Turn                 | Left | Thru | Right | U-Turn                 | Left | Thru | Right |       |                 | West                 | East | South | North |
|                        |                         |      |      |       |                         |      |      |       |                        |      |      |       |                        |      |      |       |       |                 |                      |      |       |       |
| 7:00 AM                | 0                       | 0    | 64   | 0     | 0                       | 0    | 0    | 0     | 0                      | 0    | 0    | 1     | 0                      | 8    | 0    | 0     | 73    | 466             | 0                    | 0    | 0     | 2     |
| 7:15 AM                | 0                       | 0    | 74   | 0     | 0                       | 0    | 0    | 0     | 0                      | 0    | 0    | 4     | 0                      | 13   | 0    | 0     | 91    | 521             | 0                    | 0    | 0     | 0     |
| 7:30 AM                | 0                       | 0    | 103  | 0     | 0                       | 0    | 0    | 0     | 0                      | 0    | 0    | 2     | 0                      | 25   | 1    | 0     | 131   | 553             | 0                    | 1    | 1     | 1     |
| 7:45 AM                | 0                       | 0    | 120  | 1     | 0                       | 0    | 0    | 0     | 0                      | 0    | 0    | 4     | 0                      | 43   | 3    | 0     | 171   | 555             | 0                    | 1    | 0     | 1     |
| 8:00 AM                | 0                       | 0    | 96   | 0     | 0                       | 0    | 0    | 0     | 0                      | 0    | 0    | 6     | 0                      | 23   | 3    | 0     | 128   | 524             | 0                    | 0    | 2     | 0     |
| 8:15 AM                | 0                       | 0    | 94   | 2     | 0                       | 0    | 0    | 0     | 0                      | 0    | 0    | 3     | 0                      | 22   | 2    | 0     | 123   |                 | 1                    | 1    | 0     | 1     |
| 8:30 AM                | 0                       | 0    | 104  | 5     | 0                       | 0    | 0    | 0     | 0                      | 0    | 0    | 4     | 0                      | 18   | 2    | 0     | 133   |                 | 1                    | 0    | 0     | 0     |
| 8:45 AM                | 0                       | 0    | 113  | 0     | 0                       | 0    | 0    | 0     | 0                      | 0    | 0    | 3     | 0                      | 21   | 2    | 1     | 140   |                 | 2                    | 0    | 2     | 1     |
| Count Total            | 0                       | 0    | 768  | 8     | 0                       | 0    | 0    | 0     | 0                      | 0    | 0    | 27    | 0                      | 173  | 13   | 1     | 990   |                 | 4                    | 3    | 5     | 6     |
| Peak Hour              | 0                       | 0    | 414  | 8     | 0                       | 0    | 0    | 0     | 0                      | 0    | 0    | 17    | 0                      | 106  | 10   | 0     | 555   |                 | 2                    | 2    | 2     | 2     |



(303) 216-2439  
www.alltrafficdata.net

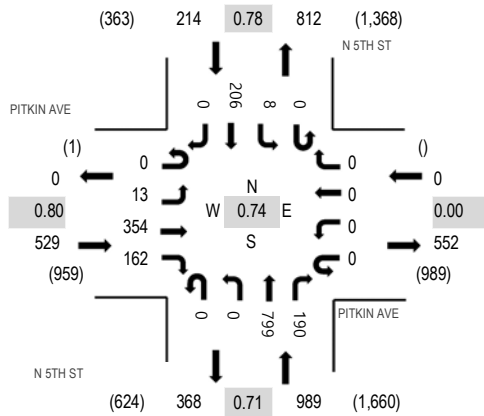
Location: 20 N 5TH ST & PITKIN AVE AM

Date: Tuesday, February 16, 2021

Peak Hour: 07:30 AM - 08:30 AM

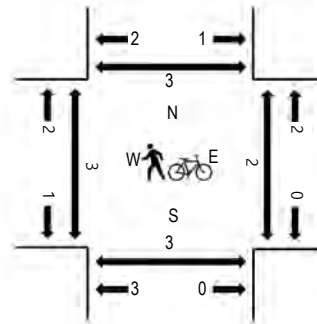
Peak 15-Minutes: 07:45 AM - 08:00 AM

### Peak Hour - All Vehicles



Note: Total study counts contained in parentheses.

### Peak Hour - Pedestrians/Bicycles on Crosswalk



### Traffic Counts

| Interval<br>Start Time | PITKIN AVE<br>Eastbound |      |      |       | PITKIN AVE<br>Westbound |      |      |       | N 5TH ST<br>Northbound |      |       |       | N 5TH ST<br>Southbound |      |      |       | Total | Rolling<br>Hour | Pedestrian Crossings |      |       |       |
|------------------------|-------------------------|------|------|-------|-------------------------|------|------|-------|------------------------|------|-------|-------|------------------------|------|------|-------|-------|-----------------|----------------------|------|-------|-------|
|                        | U-Turn                  | Left | Thru | Right | U-Turn                  | Left | Thru | Right | U-Turn                 | Left | Thru  | Right | U-Turn                 | Left | Thru | Right |       |                 | West                 | East | South | North |
| 7:00 AM                | 0                       | 2    | 49   | 27    | 0                       | 0    | 0    | 0     | 0                      | 0    | 93    | 19    | 0                      | 0    | 17   | 0     | 207   | 1,553           | 0                    | 1    | 0     | 0     |
| 7:15 AM                | 0                       | 2    | 71   | 17    | 0                       | 0    | 0    | 0     | 0                      | 0    | 153   | 33    | 0                      | 2    | 35   | 1     | 314   | 1,711           | 0                    | 0    | 0     | 0     |
| 7:30 AM                | 0                       | 2    | 83   | 35    | 0                       | 0    | 0    | 0     | 0                      | 0    | 231   | 46    | 0                      | 3    | 44   | 0     | 444   | 1,732           | 0                    | 0    | 0     | 0     |
| 7:45 AM                | 0                       | 4    | 119  | 45    | 0                       | 0    | 0    | 0     | 0                      | 0    | 286   | 65    | 0                      | 0    | 69   | 0     | 588   | 1,614           | 1                    | 0    | 0     | 2     |
| 8:00 AM                | 0                       | 3    | 78   | 46    | 0                       | 0    | 0    | 0     | 0                      | 0    | 144   | 43    | 0                      | 1    | 50   | 0     | 365   | 1,429           | 1                    | 1    | 3     | 0     |
| 8:15 AM                | 0                       | 4    | 74   | 36    | 0                       | 0    | 0    | 0     | 0                      | 0    | 138   | 36    | 0                      | 4    | 43   | 0     | 335   |                 | 0                    | 1    | 0     | 1     |
| 8:30 AM                | 0                       | 5    | 85   | 36    | 0                       | 0    | 0    | 0     | 0                      | 0    | 118   | 37    | 0                      | 1    | 44   | 0     | 326   |                 | 0                    | 0    | 0     | 0     |
| 8:45 AM                | 0                       | 7    | 97   | 32    | 0                       | 0    | 0    | 0     | 0                      | 0    | 176   | 42    | 0                      | 1    | 48   | 0     | 403   |                 | 0                    | 1    | 0     | 1     |
| Count Total            | 0                       | 29   | 656  | 274   | 0                       | 0    | 0    | 0     | 0                      | 0    | 1,339 | 321   | 0                      | 12   | 350  | 1     | 2,982 |                 | 2                    | 4    | 3     | 4     |
| Peak Hour              | 0                       | 13   | 354  | 162   | 0                       | 0    | 0    | 0     | 0                      | 0    | 799   | 190   | 0                      | 8    | 206  | 0     | 1,732 |                 | 2                    | 2    | 3     | 3     |





(303) 216-2439  
www.alltrafficdata.net

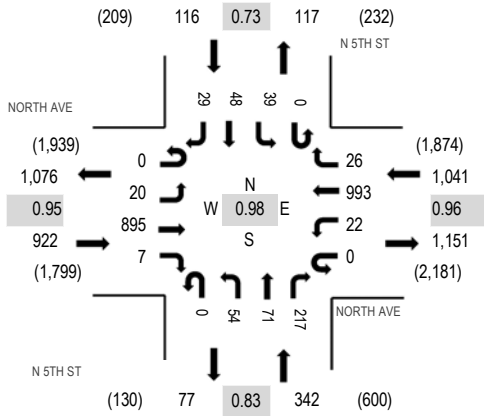
**Location:** 1 N 5TH ST & NORTH AVE PM

**Date:** Tuesday, February 16, 2021

**Peak Hour:** 04:15 PM - 05:15 PM

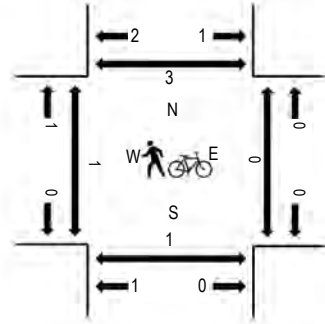
**Peak 15-Minutes:** 05:00 PM - 05:15 PM

### Peak Hour - All Vehicles



Note: Total study counts contained in parentheses.

### Peak Hour - Pedestrians/Bicycles on Crosswalk



### Traffic Counts

| Interval<br>Start Time | NORTH AVE<br>Eastbound |      |       |       | NORTH AVE<br>Westbound |      |       |       | N 5TH ST<br>Northbound |      |      |       | N 5TH ST<br>Southbound |      |      |       | Total | Rolling<br>Hour | Pedestrian Crossings |      |       |       |
|------------------------|------------------------|------|-------|-------|------------------------|------|-------|-------|------------------------|------|------|-------|------------------------|------|------|-------|-------|-----------------|----------------------|------|-------|-------|
|                        | U-Turn                 | Left | Thru  | Right | U-Turn                 | Left | Thru  | Right | U-Turn                 | Left | Thru | Right | U-Turn                 | Left | Thru | Right |       |                 | West                 | East | South | North |
| 4:00 PM                | 0                      | 5    | 235   | 6     | 0                      | 2    | 238   | 11    | 0                      | 13   | 24   | 42    | 0                      | 17   | 8    | 10    | 611   | 2,414           | 0                    | 0    | 0     | 0     |
| 4:15 PM                | 0                      | 7    | 225   | 1     | 0                      | 8    | 238   | 5     | 0                      | 12   | 17   | 62    | 0                      | 8    | 7    | 6     | 596   | 2,421           | 0                    | 0    | 0     | 2     |
| 4:30 PM                | 0                      | 4    | 221   | 0     | 0                      | 3    | 264   | 5     | 0                      | 10   | 16   | 38    | 0                      | 12   | 19   | 9     | 601   | 2,372           | 0                    | 0    | 1     | 1     |
| 4:45 PM                | 0                      | 4    | 231   | 0     | 0                      | 6    | 260   | 5     | 0                      | 10   | 12   | 62    | 0                      | 2    | 9    | 5     | 606   | 2,262           | 0                    | 0    | 0     | 0     |
| 5:00 PM                | 0                      | 5    | 218   | 6     | 0                      | 5    | 231   | 11    | 0                      | 22   | 26   | 55    | 0                      | 17   | 13   | 9     | 618   | 2,068           | 1                    | 0    | 0     | 0     |
| 5:15 PM                | 0                      | 7    | 236   | 1     | 0                      | 8    | 208   | 5     | 0                      | 12   | 17   | 33    | 0                      | 8    | 5    | 7     | 547   |                 | 0                    | 0    | 0     | 0     |
| 5:30 PM                | 0                      | 4    | 205   | 0     | 0                      | 3    | 181   | 5     | 0                      | 14   | 16   | 34    | 0                      | 12   | 10   | 7     | 491   |                 | 1                    | 0    | 1     | 2     |
| 5:45 PM                | 0                      | 4    | 174   | 0     | 0                      | 6    | 161   | 5     | 0                      | 9    | 12   | 32    | 0                      | 2    | 4    | 3     | 412   |                 | 0                    | 0    | 1     | 3     |
| Count Total            | 0                      | 40   | 1,745 | 14    | 0                      | 41   | 1,781 | 52    | 0                      | 102  | 140  | 358   | 0                      | 78   | 75   | 56    | 4,482 |                 | 2                    | 0    | 3     | 8     |
| Peak Hour              | 0                      | 20   | 895   | 7     | 0                      | 22   | 993   | 26    | 0                      | 54   | 71   | 217   | 0                      | 39   | 48   | 29    | 2,421 |                 | 1                    | 0    | 1     | 3     |



(303) 216-2439  
www.alltrafficdata.net

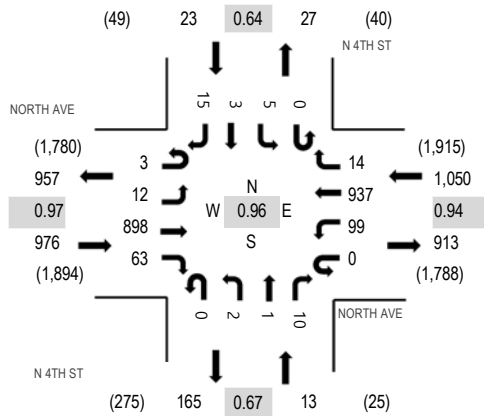
**Location:** 2 N 4TH ST & NORTH AVE PM

**Date:** Tuesday, February 16, 2021

**Peak Hour:** 04:15 PM - 05:15 PM

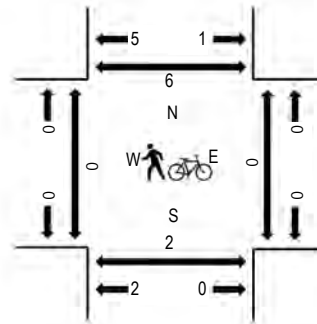
**Peak 15-Minutes:** 05:00 PM - 05:15 PM

### Peak Hour - All Vehicles



Note: Total study counts contained in parentheses.

### Peak Hour - Pedestrians/Bicycles on Crosswalk



### Traffic Counts

| Interval<br>Start Time | NORTH AVE<br>Eastbound |      |       |       | NORTH AVE<br>Westbound |      |       |       | N 4TH ST<br>Northbound |      |      |       | N 4TH ST<br>Southbound |      |      |       | Total | Rolling<br>Hour | Pedestrian Crossings |      |       |       |
|------------------------|------------------------|------|-------|-------|------------------------|------|-------|-------|------------------------|------|------|-------|------------------------|------|------|-------|-------|-----------------|----------------------|------|-------|-------|
|                        | U-Turn                 | Left | Thru  | Right | U-Turn                 | Left | Thru  | Right | U-Turn                 | Left | Thru | Right | U-Turn                 | Left | Thru | Right |       |                 | West                 | East | South | North |
| 4:00 PM                | 2                      | 2    | 233   | 15    | 0                      | 15   | 226   | 1     | 0                      | 0    | 0    | 3     | 0                      | 2    | 0    | 4     | 503   | 2,026           | 0                    | 0    | 0     | 1     |
| 4:15 PM                | 0                      | 7    | 225   | 16    | 0                      | 28   | 212   | 3     | 0                      | 2    | 0    | 1     | 0                      | 2    | 1    | 3     | 500   | 2,062           | 0                    | 0    | 2     | 2     |
| 4:30 PM                | 0                      | 2    | 216   | 9     | 0                      | 21   | 242   | 1     | 0                      | 0    | 1    | 3     | 0                      | 3    | 1    | 2     | 501   | 2,062           | 0                    | 0    | 0     | 1     |
| 4:45 PM                | 3                      | 2    | 229   | 16    | 0                      | 17   | 241   | 5     | 0                      | 0    | 0    | 5     | 0                      | 0    | 0    | 4     | 522   | 1,993           | 0                    | 0    | 0     | 1     |
| 5:00 PM                | 0                      | 1    | 228   | 22    | 0                      | 33   | 242   | 5     | 0                      | 0    | 0    | 1     | 0                      | 0    | 1    | 6     | 539   | 1,857           | 0                    | 0    | 0     | 0     |
| 5:15 PM                | 0                      | 1    | 240   | 12    | 0                      | 16   | 213   | 1     | 0                      | 2    | 0    | 4     | 0                      | 1    | 1    | 9     | 500   |                 | 0                    | 0    | 0     | 3     |
| 5:30 PM                | 0                      | 2    | 206   | 9     | 0                      | 17   | 189   | 3     | 0                      | 0    | 0    | 1     | 0                      | 0    | 1    | 4     | 432   |                 | 0                    | 0    | 0     | 0     |
| 5:45 PM                | 0                      | 3    | 182   | 11    | 0                      | 12   | 172   | 0     | 0                      | 1    | 0    | 1     | 0                      | 2    | 1    | 1     | 386   |                 | 0                    | 1    | 0     | 0     |
| Count Total            | 5                      | 20   | 1,759 | 110   | 0                      | 159  | 1,737 | 19    | 0                      | 5    | 1    | 19    | 0                      | 10   | 6    | 33    | 3,883 |                 | 0                    | 1    | 2     | 8     |
| Peak Hour              | 3                      | 12   | 898   | 63    | 0                      | 99   | 937   | 14    | 0                      | 2    | 1    | 10    | 0                      | 5    | 3    | 15    | 2,062 |                 | 0                    | 0    | 2     | 4     |



(303) 216-2439  
www.alltrafficdata.net

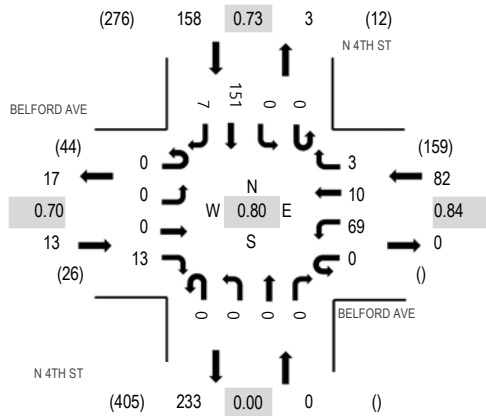
Location: 3 N 4TH ST & BELFORD AVE PM

Date: Tuesday, February 16, 2021

Peak Hour: 04:15 PM - 05:15 PM

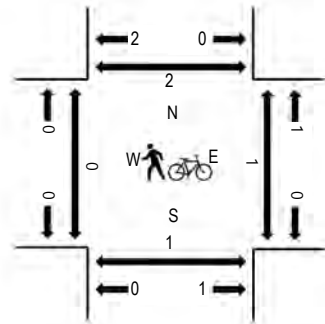
Peak 15-Minutes: 05:00 PM - 05:15 PM

### Peak Hour - All Vehicles



Note: Total study counts contained in parentheses.

### Peak Hour - Pedestrians/Bicycles on Crosswalk



### Traffic Counts

| Interval<br>Start Time | BELFORD AVE<br>Eastbound |      |      |       | BELFORD AVE<br>Westbound |      |      |       | N 4TH ST<br>Northbound |      |      |       | N 4TH ST<br>Southbound |      |      |       | Total | Rolling<br>Hour | Pedestrian Crossings |      |       |       |
|------------------------|--------------------------|------|------|-------|--------------------------|------|------|-------|------------------------|------|------|-------|------------------------|------|------|-------|-------|-----------------|----------------------|------|-------|-------|
|                        | U-Turn                   | Left | Thru | Right | U-Turn                   | Left | Thru | Right | U-Turn                 | Left | Thru | Right | U-Turn                 | Left | Thru | Right |       |                 | West                 | East | South | North |
| 4:00 PM                | 0                        | 0    | 0    | 4     | 0                        | 17   | 3    | 1     | 0                      | 0    | 0    | 0     | 0                      | 0    | 31   | 1     | 57    | 231             | 0                    | 1    | 0     | 0     |
| 4:15 PM                | 0                        | 0    | 0    | 4     | 0                        | 14   | 2    | 2     | 0                      | 0    | 0    | 0     | 0                      | 0    | 43   | 4     | 69    | 253             | 0                    | 0    | 0     | 0     |
| 4:30 PM                | 0                        | 0    | 0    | 2     | 0                        | 21   | 4    | 1     | 0                      | 0    | 0    | 0     | 0                      | 0    | 25   | 0     | 53    | 239             | 0                    | 0    | 0     | 2     |
| 4:45 PM                | 0                        | 0    | 0    | 2     | 0                        | 16   | 2    | 0     | 0                      | 0    | 0    | 0     | 0                      | 0    | 31   | 1     | 52    | 239             | 0                    | 1    | 0     | 0     |
| 5:00 PM                | 0                        | 0    | 0    | 5     | 0                        | 18   | 2    | 0     | 0                      | 0    | 0    | 0     | 0                      | 0    | 52   | 2     | 79    | 230             | 0                    | 0    | 0     | 0     |
| 5:15 PM                | 0                        | 1    | 0    | 2     | 0                        | 15   | 5    | 3     | 0                      | 0    | 0    | 0     | 0                      | 0    | 25   | 4     | 55    |                 | 0                    | 0    | 0     | 0     |
| 5:30 PM                | 0                        | 0    | 0    | 4     | 0                        | 14   | 3    | 1     | 0                      | 0    | 0    | 0     | 0                      | 0    | 26   | 5     | 53    |                 | 0                    | 1    | 0     | 0     |
| 5:45 PM                | 0                        | 0    | 0    | 2     | 0                        | 8    | 4    | 3     | 0                      | 0    | 0    | 0     | 0                      | 0    | 24   | 2     | 43    |                 | 0                    | 1    | 0     | 0     |
| Count Total            | 0                        | 1    | 0    | 25    | 0                        | 123  | 25   | 11    | 0                      | 0    | 0    | 0     | 0                      | 0    | 257  | 19    | 461   |                 | 0                    | 4    | 0     | 2     |
| Peak Hour              | 0                        | 0    | 0    | 13    | 0                        | 69   | 10   | 3     | 0                      | 0    | 0    | 0     | 0                      | 0    | 151  | 7     | 253   |                 | 0                    | 1    | 0     | 2     |



(303) 216-2439  
www.alltrafficdata.net

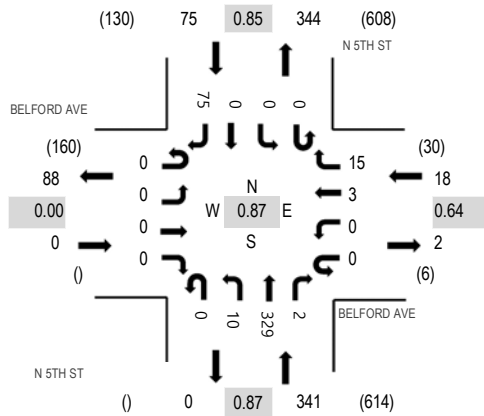
Location: 4 N 5TH ST & BELFORD AVE PM

Date: Tuesday, February 16, 2021

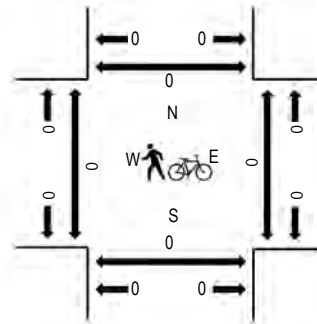
Peak Hour: 04:15 PM - 05:15 PM

Peak 15-Minutes: 05:00 PM - 05:15 PM

### Peak Hour - All Vehicles



### Peak Hour - Pedestrians/Bicycles on Crosswalk



Note: Total study counts contained in parentheses.

### Traffic Counts

| Interval<br>Start Time | BELFORD AVE<br>Eastbound |      |      |       | BELFORD AVE<br>Westbound |      |      |       | N 5TH ST<br>Northbound |      |      |       | N 5TH ST<br>Southbound |      |      |       | Total | Rolling<br>Hour | Pedestrian Crossings |      |       |       |
|------------------------|--------------------------|------|------|-------|--------------------------|------|------|-------|------------------------|------|------|-------|------------------------|------|------|-------|-------|-----------------|----------------------|------|-------|-------|
|                        | U-Turn                   | Left | Thru | Right | U-Turn                   | Left | Thru | Right | U-Turn                 | Left | Thru | Right | U-Turn                 | Left | Thru | Right |       |                 | West                 | East | South | North |
|                        |                          |      |      |       |                          |      |      |       |                        |      |      |       |                        |      |      |       |       |                 |                      |      |       |       |
| 4:00 PM                | 0                        | 0    | 0    | 0     | 0                        | 0    | 0    | 5     | 0                      | 3    | 75   | 2     | 0                      | 0    | 0    | 16    | 101   | 410             | 0                    | 0    | 1     | 0     |
| 4:15 PM                | 0                        | 0    | 0    | 0     | 0                        | 0    | 2    | 5     | 0                      | 2    | 88   | 1     | 0                      | 0    | 0    | 16    | 114   | 434             | 0                    | 0    | 0     | 0     |
| 4:30 PM                | 0                        | 0    | 0    | 0     | 0                        | 0    | 1    | 3     | 0                      | 4    | 62   | 0     | 0                      | 0    | 0    | 22    | 92    | 405             | 0                    | 0    | 0     | 0     |
| 4:45 PM                | 0                        | 0    | 0    | 0     | 0                        | 0    | 0    | 2     | 0                      | 2    | 84   | 0     | 0                      | 0    | 0    | 15    | 103   | 397             | 0                    | 0    | 0     | 0     |
| 5:00 PM                | 0                        | 0    | 0    | 0     | 0                        | 0    | 0    | 5     | 0                      | 2    | 95   | 1     | 0                      | 0    | 0    | 22    | 125   | 364             | 0                    | 0    | 0     | 0     |
| 5:15 PM                | 0                        | 0    | 0    | 0     | 0                        | 0    | 1    | 1     | 0                      | 4    | 63   | 1     | 0                      | 0    | 0    | 15    | 85    |                 | 0                    | 0    | 0     | 0     |
| 5:30 PM                | 0                        | 0    | 0    | 0     | 0                        | 0    | 0    | 2     | 0                      | 4    | 63   | 1     | 0                      | 0    | 0    | 14    | 84    |                 | 0                    | 1    | 0     | 0     |
| 5:45 PM                | 0                        | 0    | 0    | 0     | 0                        | 0    | 1    | 2     | 0                      | 4    | 53   | 0     | 0                      | 0    | 0    | 10    | 70    |                 | 0                    | 0    | 0     | 0     |
| Count Total            | 0                        | 0    | 0    | 0     | 0                        | 0    | 5    | 25    | 0                      | 25   | 583  | 6     | 0                      | 0    | 0    | 130   | 774   |                 | 0                    | 1    | 1     | 0     |
| Peak Hour              | 0                        | 0    | 0    | 0     | 0                        | 0    | 3    | 15    | 0                      | 10   | 329  | 2     | 0                      | 0    | 0    | 75    | 434   |                 | 0                    | 0    | 0     | 0     |



(303) 216-2439  
www.alltrafficdata.net

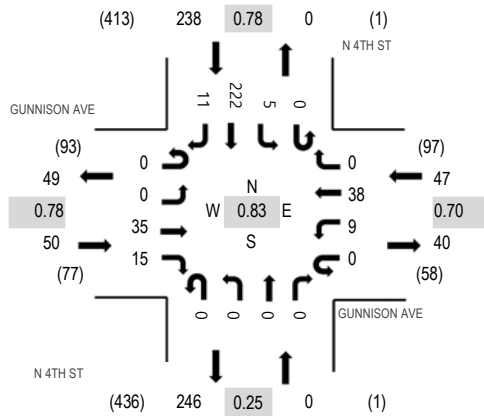
Location: 5 N 4TH ST & GUNNISON AVE PM

Date: Tuesday, February 16, 2021

Peak Hour: 04:15 PM - 05:15 PM

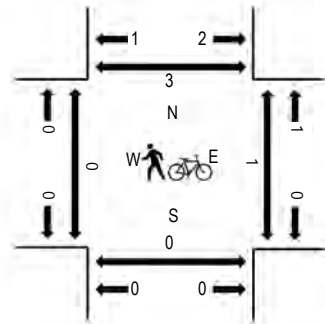
Peak 15-Minutes: 05:00 PM - 05:15 PM

### Peak Hour - All Vehicles



Note: Total study counts contained in parentheses.

### Peak Hour - Pedestrians/Bicycles on Crosswalk



### Traffic Counts

| Interval<br>Start Time | GUNNISON AVE<br>Eastbound |      |      |       | GUNNISON AVE<br>Westbound |      |      |       | N 4TH ST<br>Northbound |      |      |       | N 4TH ST<br>Southbound |      |      |       | Total | Rolling<br>Hour | Pedestrian Crossings |      |       |       |
|------------------------|---------------------------|------|------|-------|---------------------------|------|------|-------|------------------------|------|------|-------|------------------------|------|------|-------|-------|-----------------|----------------------|------|-------|-------|
|                        | U-Turn                    | Left | Thru | Right | U-Turn                    | Left | Thru | Right | U-Turn                 | Left | Thru | Right | U-Turn                 | Left | Thru | Right |       |                 | West                 | East | South | North |
| 4:00 PM                | 0                         | 0    | 2    | 7     | 0                         | 5    | 16   | 0     | 0                      | 0    | 0    | 0     | 0                      | 1    | 53   | 1     | 85    | 319             | 0                    | 3    | 0     | 0     |
| 4:15 PM                | 0                         | 0    | 5    | 4     | 0                         | 3    | 11   | 0     | 0                      | 0    | 0    | 0     | 0                      | 2    | 53   | 4     | 82    | 335             | 0                    | 0    | 0     | 0     |
| 4:30 PM                | 0                         | 0    | 7    | 7     | 0                         | 2    | 12   | 0     | 0                      | 0    | 0    | 0     | 0                      | 1    | 48   | 1     | 78    | 309             | 0                    | 1    | 0     | 0     |
| 4:45 PM                | 0                         | 0    | 10   | 1     | 0                         | 2    | 8    | 0     | 0                      | 0    | 0    | 0     | 0                      | 0    | 49   | 4     | 74    | 294             | 0                    | 0    | 0     | 2     |
| 5:00 PM                | 0                         | 0    | 13   | 3     | 0                         | 2    | 7    | 0     | 0                      | 0    | 0    | 0     | 0                      | 2    | 72   | 2     | 101   | 269             | 0                    | 0    | 0     | 1     |
| 5:15 PM                | 0                         | 0    | 3    | 0     | 0                         | 3    | 7    | 0     | 0                      | 0    | 1    | 0     | 0                      | 0    | 40   | 2     | 56    |                 | 0                    | 0    | 0     | 3     |
| 5:30 PM                | 0                         | 0    | 7    | 3     | 0                         | 1    | 8    | 0     | 0                      | 0    | 0    | 0     | 0                      | 0    | 41   | 3     | 63    |                 | 0                    | 0    | 0     | 3     |
| 5:45 PM                | 0                         | 0    | 3    | 2     | 0                         | 4    | 6    | 0     | 0                      | 0    | 0    | 0     | 0                      | 2    | 31   | 1     | 49    |                 | 0                    | 3    | 0     | 0     |
| Count Total            | 0                         | 0    | 50   | 27    | 0                         | 22   | 75   | 0     | 0                      | 0    | 1    | 0     | 0                      | 8    | 387  | 18    | 588   |                 | 0                    | 7    | 0     | 9     |
| Peak Hour              | 0                         | 0    | 35   | 15    | 0                         | 9    | 38   | 0     | 0                      | 0    | 0    | 0     | 0                      | 5    | 222  | 11    | 335   |                 | 0                    | 1    | 0     | 3     |





(303) 216-2439  
www.alltrafficdata.net

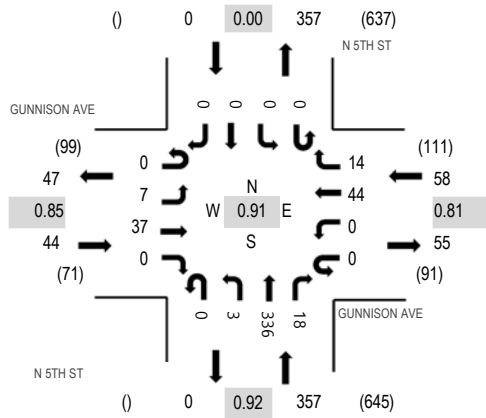
Location: 6 N 5TH ST & GUNNISON AVE PM

Date: Tuesday, February 16, 2021

Peak Hour: 04:15 PM - 05:15 PM

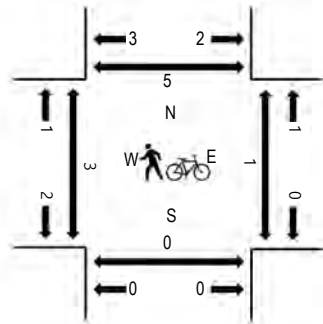
Peak 15-Minutes: 04:15 PM - 04:30 PM

### Peak Hour - All Vehicles



Note: Total study counts contained in parentheses.

### Peak Hour - Pedestrians/Bicycles on Crosswalk



### Traffic Counts

| Interval<br>Start Time | GUNNISON AVE<br>Eastbound |      |      |       | GUNNISON AVE<br>Westbound |      |      |       | N 5TH ST<br>Northbound |      |      |       | N 5TH ST<br>Southbound |      |      |       | Total | Rolling<br>Hour | Pedestrian Crossings |      |       |       |
|------------------------|---------------------------|------|------|-------|---------------------------|------|------|-------|------------------------|------|------|-------|------------------------|------|------|-------|-------|-----------------|----------------------|------|-------|-------|
|                        | U-Turn                    | Left | Thru | Right | U-Turn                    | Left | Thru | Right | U-Turn                 | Left | Thru | Right | U-Turn                 | Left | Thru | Right |       |                 | West                 | East | South | North |
| 4:00 PM                | 0                         | 1    | 3    | 0     | 0                         | 0    | 17   | 4     | 0                      | 3    | 78   | 4     | 0                      | 0    | 0    | 0     | 110   | 449             | 0                    | 1    | 0     | 1     |
| 4:15 PM                | 0                         | 2    | 7    | 0     | 0                         | 0    | 15   | 5     | 0                      | 0    | 89   | 8     | 0                      | 0    | 0    | 0     | 126   | 459             | 0                    | 0    | 0     | 0     |
| 4:30 PM                | 0                         | 0    | 9    | 0     | 0                         | 0    | 11   | 4     | 0                      | 2    | 74   | 4     | 0                      | 0    | 0    | 0     | 104   | 425             | 0                    | 1    | 0     | 0     |
| 4:45 PM                | 0                         | 2    | 11   | 0     | 0                         | 0    | 9    | 3     | 0                      | 0    | 82   | 2     | 0                      | 0    | 0    | 0     | 109   | 412             | 0                    | 0    | 0     | 2     |
| 5:00 PM                | 0                         | 3    | 10   | 0     | 0                         | 0    | 9    | 2     | 0                      | 1    | 91   | 4     | 0                      | 0    | 0    | 0     | 120   | 378             | 0                    | 0    | 0     | 2     |
| 5:15 PM                | 0                         | 2    | 5    | 0     | 0                         | 0    | 11   | 1     | 0                      | 1    | 69   | 3     | 0                      | 0    | 0    | 0     | 92    |                 | 0                    | 0    | 0     | 3     |
| 5:30 PM                | 0                         | 0    | 11   | 0     | 0                         | 0    | 8    | 1     | 0                      | 1    | 67   | 3     | 0                      | 0    | 0    | 0     | 91    |                 | 0                    | 0    | 0     | 1     |
| 5:45 PM                | 0                         | 0    | 5    | 0     | 0                         | 0    | 11   | 0     | 0                      | 0    | 57   | 2     | 0                      | 0    | 0    | 0     | 75    |                 | 0                    | 0    | 0     | 1     |
| Count Total            | 0                         | 10   | 61   | 0     | 0                         | 0    | 91   | 20    | 0                      | 8    | 607  | 30    | 0                      | 0    | 0    | 0     | 827   |                 | 0                    | 2    | 0     | 10    |
| Peak Hour              | 0                         | 7    | 37   | 0     | 0                         | 0    | 44   | 14    | 0                      | 3    | 336  | 18    | 0                      | 0    | 0    | 0     | 459   |                 | 0                    | 1    | 0     | 4     |



(303) 216-2439  
www.alltrafficdata.net

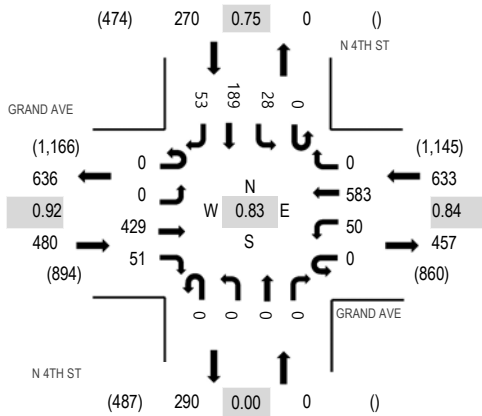
**Location:** 7 N 4TH ST & GRAND AVE PM

**Date:** Tuesday, February 16, 2021

**Peak Hour:** 04:15 PM - 05:15 PM

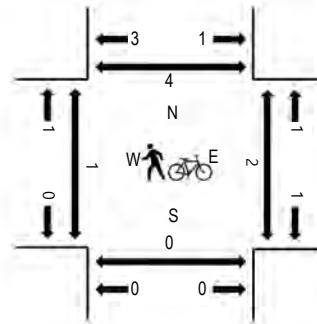
**Peak 15-Minutes:** 05:00 PM - 05:15 PM

### Peak Hour - All Vehicles



Note: Total study counts contained in parentheses.

### Peak Hour - Pedestrians/Bicycles on Crosswalk



### Traffic Counts

| Interval<br>Start Time | GRAND AVE<br>Eastbound |      |      |       | GRAND AVE<br>Westbound |      |       |       | N 4TH ST<br>Northbound |      |      |       | N 4TH ST<br>Southbound |      |      |       | Total | Rolling<br>Hour | Pedestrian Crossings |      |       |       |
|------------------------|------------------------|------|------|-------|------------------------|------|-------|-------|------------------------|------|------|-------|------------------------|------|------|-------|-------|-----------------|----------------------|------|-------|-------|
|                        | U-Turn                 | Left | Thru | Right | U-Turn                 | Left | Thru  | Right | U-Turn                 | Left | Thru | Right | U-Turn                 | Left | Thru | Right |       |                 | West                 | East | South | North |
| 4:00 PM                | 0                      | 0    | 122  | 8     | 0                      | 15   | 141   | 0     | 0                      | 0    | 0    | 0     | 0                      | 4    | 53   | 14    | 357   | 1,325           | 0                    | 1    | 0     | 0     |
| 4:15 PM                | 0                      | 0    | 111  | 10    | 0                      | 14   | 113   | 0     | 0                      | 0    | 0    | 0     | 0                      | 4    | 44   | 14    | 310   | 1,383           | 0                    | 0    | 0     | 2     |
| 4:30 PM                | 0                      | 0    | 107  | 16    | 0                      | 13   | 139   | 0     | 0                      | 0    | 0    | 0     | 0                      | 5    | 40   | 11    | 331   | 1,360           | 0                    | 0    | 0     | 0     |
| 4:45 PM                | 0                      | 0    | 91   | 14    | 0                      | 12   | 148   | 0     | 0                      | 0    | 0    | 0     | 0                      | 6    | 41   | 15    | 327   | 1,297           | 0                    | 0    | 0     | 1     |
| 5:00 PM                | 0                      | 0    | 120  | 11    | 0                      | 11   | 183   | 0     | 0                      | 0    | 0    | 0     | 0                      | 13   | 64   | 13    | 415   | 1,188           | 1                    | 1    | 0     | 0     |
| 5:15 PM                | 0                      | 0    | 93   | 4     | 0                      | 6    | 136   | 0     | 0                      | 0    | 0    | 0     | 0                      | 4    | 26   | 18    | 287   |                 | 0                    | 0    | 1     | 1     |
| 5:30 PM                | 0                      | 0    | 101  | 5     | 0                      | 4    | 110   | 0     | 0                      | 0    | 0    | 0     | 0                      | 4    | 31   | 13    | 268   |                 | 0                    | 3    | 0     | 0     |
| 5:45 PM                | 0                      | 0    | 74   | 7     | 0                      | 8    | 92    | 0     | 0                      | 0    | 0    | 0     | 0                      | 1    | 30   | 6     | 218   |                 | 0                    | 0    | 0     | 0     |
| Count Total            | 0                      | 0    | 819  | 75    | 0                      | 83   | 1,062 | 0     | 0                      | 0    | 0    | 0     | 0                      | 41   | 329  | 104   | 2,513 |                 | 1                    | 5    | 1     | 4     |
| Peak Hour              | 0                      | 0    | 429  | 51    | 0                      | 50   | 583   | 0     | 0                      | 0    | 0    | 0     | 0                      | 28   | 189  | 53    | 1,383 |                 | 1                    | 1    | 0     | 3     |



(303) 216-2439  
www.alltrafficdata.net

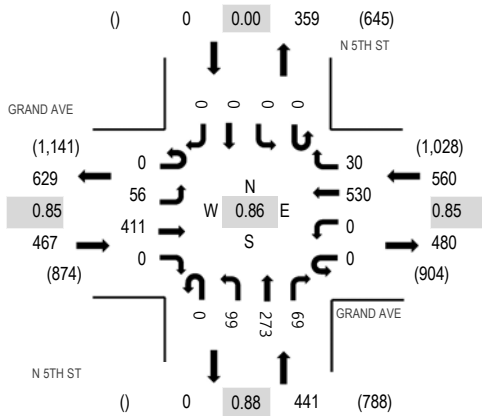
Location: 8 N 5TH ST & GRAND AVE PM

Date: Tuesday, February 16, 2021

Peak Hour: 04:15 PM - 05:15 PM

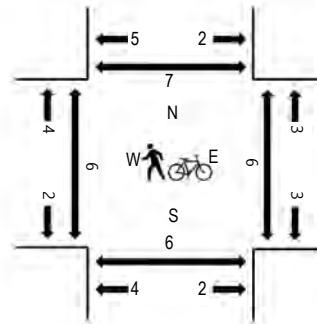
Peak 15-Minutes: 05:00 PM - 05:15 PM

### Peak Hour - All Vehicles



Note: Total study counts contained in parentheses.

### Peak Hour - Pedestrians/Bicycles on Crosswalk



### Traffic Counts

| Interval<br>Start Time | GRAND AVE<br>Eastbound |      |      |       | GRAND AVE<br>Westbound |      |      |       | N 5TH ST<br>Northbound |      |      |       | N 5TH ST<br>Southbound |      |      |       | Total | Rolling<br>Hour | Pedestrian Crossings |      |       |       |
|------------------------|------------------------|------|------|-------|------------------------|------|------|-------|------------------------|------|------|-------|------------------------|------|------|-------|-------|-----------------|----------------------|------|-------|-------|
|                        | U-Turn                 | Left | Thru | Right | U-Turn                 | Left | Thru | Right | U-Turn                 | Left | Thru | Right | U-Turn                 | Left | Thru | Right |       |                 | West                 | East | South | North |
|                        |                        |      |      |       |                        |      |      |       |                        |      |      |       |                        |      |      |       |       |                 |                      |      |       |       |
| 4:00 PM                | 0                      | 22   | 106  | 0     | 0                      | 0    | 138  | 8     | 0                      | 15   | 58   | 23    | 0                      | 0    | 0    | 0     | 370   | 1,411           | 0                    | 0    | 0     | 0     |
| 4:15 PM                | 0                      | 16   | 105  | 0     | 0                      | 0    | 110  | 11    | 0                      | 20   | 79   | 17    | 0                      | 0    | 0    | 0     | 358   | 1,468           | 0                    | 0    | 0     | 2     |
| 4:30 PM                | 0                      | 14   | 94   | 0     | 0                      | 0    | 130  | 5     | 0                      | 21   | 57   | 15    | 0                      | 0    | 0    | 0     | 336   | 1,429           | 1                    | 2    | 0     | 2     |
| 4:45 PM                | 0                      | 13   | 88   | 0     | 0                      | 0    | 135  | 4     | 0                      | 22   | 66   | 19    | 0                      | 0    | 0    | 0     | 347   | 1,381           | 3                    | 1    | 2     | 1     |
| 5:00 PM                | 0                      | 13   | 124  | 0     | 0                      | 0    | 155  | 10    | 0                      | 36   | 71   | 18    | 0                      | 0    | 0    | 0     | 427   | 1,279           | 2                    | 3    | 3     | 1     |
| 5:15 PM                | 0                      | 11   | 88   | 0     | 0                      | 0    | 117  | 5     | 0                      | 28   | 50   | 20    | 0                      | 0    | 0    | 0     | 319   |                 | 0                    | 2    | 0     | 1     |
| 5:30 PM                | 0                      | 12   | 97   | 0     | 0                      | 0    | 93   | 7     | 0                      | 19   | 46   | 14    | 0                      | 0    | 0    | 0     | 288   |                 | 0                    | 1    | 0     | 0     |
| 5:45 PM                | 0                      | 6    | 65   | 0     | 0                      | 0    | 97   | 3     | 0                      | 5    | 58   | 11    | 0                      | 0    | 0    | 0     | 245   |                 | 2                    | 0    | 0     | 0     |
| Count Total            | 0                      | 107  | 767  | 0     | 0                      | 0    | 975  | 53    | 0                      | 166  | 485  | 137   | 0                      | 0    | 0    | 0     | 2,690 |                 | 8                    | 9    | 5     | 7     |
| Peak Hour              | 0                      | 56   | 411  | 0     | 0                      | 0    | 530  | 30    | 0                      | 99   | 273  | 69    | 0                      | 0    | 0    | 0     | 1,468 |                 | 6                    | 6    | 5     | 6     |



(303) 216-2439  
www.alltrafficdata.net

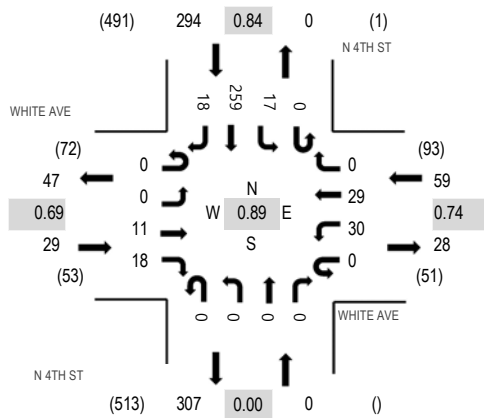
Location: 9 N 4TH ST & WHITE AVE PM

Date: Tuesday, February 16, 2021

Peak Hour: 04:15 PM - 05:15 PM

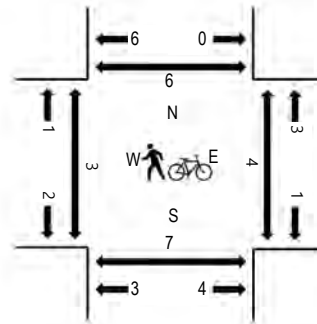
Peak 15-Minutes: 05:00 PM - 05:15 PM

### Peak Hour - All Vehicles



Note: Total study counts contained in parentheses.

### Peak Hour - Pedestrians/Bicycles on Crosswalk



### Traffic Counts

| Interval<br>Start Time | WHITE AVE<br>Eastbound |      |      |       | WHITE AVE<br>Westbound |      |      |       | N 4TH ST<br>Northbound |      |      |       | N 4TH ST<br>Southbound |      |      |       | Total | Rolling<br>Hour | Pedestrian Crossings |      |       |       |
|------------------------|------------------------|------|------|-------|------------------------|------|------|-------|------------------------|------|------|-------|------------------------|------|------|-------|-------|-----------------|----------------------|------|-------|-------|
|                        | U-Turn                 | Left | Thru | Right | U-Turn                 | Left | Thru | Right | U-Turn                 | Left | Thru | Right | U-Turn                 | Left | Thru | Right |       |                 | West                 | East | South | North |
| 4:00 PM                | 0                      | 0    | 5    | 3     | 0                      | 7    | 7    | 1     | 0                      | 0    | 0    | 0     | 0                      | 5    | 64   | 4     | 96    | 371             | 4                    | 4    | 3     | 1     |
| 4:15 PM                | 0                      | 0    | 1    | 3     | 0                      | 7    | 5    | 0     | 0                      | 0    | 0    | 0     | 0                      | 2    | 62   | 8     | 88    | 382             | 0                    | 2    | 2     | 1     |
| 4:30 PM                | 0                      | 0    | 3    | 5     | 0                      | 8    | 4    | 0     | 0                      | 0    | 0    | 0     | 0                      | 6    | 57   | 2     | 85    | 347             | 2                    | 0    | 2     | 0     |
| 4:45 PM                | 0                      | 0    | 5    | 7     | 0                      | 7    | 13   | 0     | 0                      | 0    | 0    | 0     | 0                      | 5    | 61   | 4     | 102   | 315             | 1                    | 1    | 2     | 2     |
| 5:00 PM                | 0                      | 0    | 2    | 3     | 0                      | 8    | 7    | 0     | 0                      | 0    | 0    | 0     | 0                      | 4    | 79   | 4     | 107   | 266             | 0                    | 1    | 1     | 3     |
| 5:15 PM                | 0                      | 0    | 6    | 2     | 0                      | 3    | 6    | 0     | 0                      | 0    | 0    | 0     | 0                      | 1    | 34   | 1     | 53    |                 | 0                    | 1    | 0     | 0     |
| 5:30 PM                | 0                      | 0    | 3    | 3     | 0                      | 4    | 2    | 0     | 0                      | 0    | 0    | 0     | 0                      | 0    | 40   | 1     | 53    |                 | 0                    | 3    | 2     | 0     |
| 5:45 PM                | 0                      | 0    | 1    | 1     | 0                      | 4    | 0    | 0     | 0                      | 0    | 0    | 0     | 0                      | 2    | 41   | 4     | 53    |                 | 0                    | 0    | 0     | 2     |
| Count Total            | 0                      | 0    | 26   | 27    | 0                      | 48   | 44   | 1     | 0                      | 0    | 0    | 0     | 0                      | 25   | 438  | 28    | 637   |                 | 7                    | 12   | 12    | 9     |
| Peak Hour              | 0                      | 0    | 11   | 18    | 0                      | 30   | 29   | 0     | 0                      | 0    | 0    | 0     | 0                      | 17   | 259  | 18    | 382   |                 | 3                    | 4    | 7     | 6     |



(303) 216-2439  
www.alltrafficdata.net

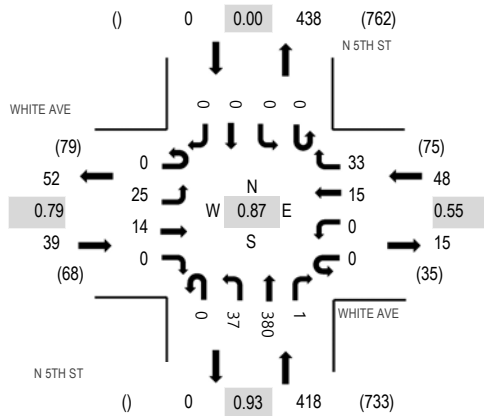
Location: 10 N 5TH ST & WHITE AVE PM

Date: Tuesday, February 16, 2021

Peak Hour: 04:15 PM - 05:15 PM

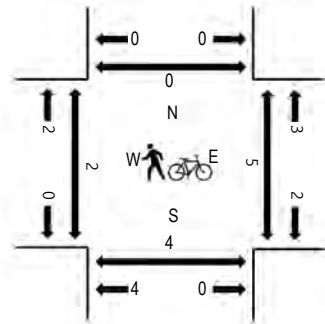
Peak 15-Minutes: 05:00 PM - 05:15 PM

### Peak Hour - All Vehicles



Note: Total study counts contained in parentheses.

### Peak Hour - Pedestrians/Bicycles on Crosswalk



### Traffic Counts

| Interval<br>Start Time | WHITE AVE<br>Eastbound |      |      |       | WHITE AVE<br>Westbound |      |      |       | N 5TH ST<br>Northbound |      |      |       | N 5TH ST<br>Southbound |      |      |       | Total | Rolling<br>Hour | Pedestrian Crossings |      |       |       |
|------------------------|------------------------|------|------|-------|------------------------|------|------|-------|------------------------|------|------|-------|------------------------|------|------|-------|-------|-----------------|----------------------|------|-------|-------|
|                        | U-Turn                 | Left | Thru | Right | U-Turn                 | Left | Thru | Right | U-Turn                 | Left | Thru | Right | U-Turn                 | Left | Thru | Right |       |                 | West                 | East | South | North |
| 4:00 PM                | 0                      | 3    | 4    | 0     | 0                      | 0    | 7    | 5     | 0                      | 8    | 79   | 0     | 0                      | 0    | 0    | 0     | 106   | 466             | 0                    | 0    | 1     | 0     |
| 4:15 PM                | 0                      | 6    | 2    | 0     | 0                      | 0    | 2    | 5     | 0                      | 8    | 101  | 0     | 0                      | 0    | 0    | 0     | 124   | 505             | 0                    | 0    | 0     | 0     |
| 4:30 PM                | 0                      | 3    | 3    | 0     | 0                      | 0    | 3    | 5     | 0                      | 8    | 82   | 0     | 0                      | 0    | 0    | 0     | 104   | 484             | 0                    | 0    | 2     | 0     |
| 4:45 PM                | 0                      | 10   | 4    | 0     | 0                      | 0    | 6    | 5     | 0                      | 9    | 97   | 1     | 0                      | 0    | 0    | 0     | 132   | 466             | 2                    | 0    | 2     | 0     |
| 5:00 PM                | 0                      | 6    | 5    | 0     | 0                      | 0    | 4    | 18    | 0                      | 12   | 100  | 0     | 0                      | 0    | 0    | 0     | 145   | 410             | 0                    | 0    | 0     | 0     |
| 5:15 PM                | 0                      | 5    | 6    | 0     | 0                      | 0    | 1    | 6     | 0                      | 3    | 80   | 2     | 0                      | 0    | 0    | 0     | 103   |                 | 0                    | 0    | 0     | 0     |
| 5:30 PM                | 0                      | 4    | 4    | 0     | 0                      | 0    | 2    | 2     | 0                      | 2    | 71   | 1     | 0                      | 0    | 0    | 0     | 86    |                 | 0                    | 0    | 0     | 0     |
| 5:45 PM                | 0                      | 1    | 2    | 0     | 0                      | 0    | 2    | 2     | 0                      | 2    | 66   | 1     | 0                      | 0    | 0    | 0     | 76    |                 | 2                    | 0    | 0     | 2     |
| Count Total            | 0                      | 38   | 30   | 0     | 0                      | 0    | 27   | 48    | 0                      | 52   | 676  | 5     | 0                      | 0    | 0    | 0     | 876   |                 | 4                    | 0    | 5     | 2     |
| Peak Hour              | 0                      | 25   | 14   | 0     | 0                      | 0    | 15   | 33    | 0                      | 37   | 380  | 1     | 0                      | 0    | 0    | 0     | 505   |                 | 2                    | 0    | 4     | 0     |





(303) 216-2439  
www.alltrafficdata.net

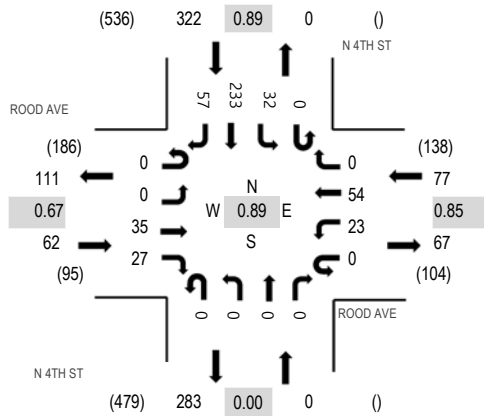
Location: 11 N 4TH ST & ROOD AVE PM

Date: Tuesday, February 16, 2021

Peak Hour: 04:15 PM - 05:15 PM

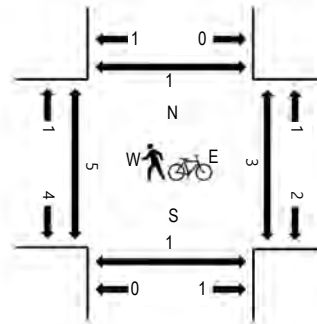
Peak 15-Minutes: 04:45 PM - 05:00 PM

### Peak Hour - All Vehicles



Note: Total study counts contained in parentheses.

### Peak Hour - Pedestrians/Bicycles on Crosswalk



### Traffic Counts

| Interval<br>Start Time | ROOD AVE<br>Eastbound |      |      |       | ROOD AVE<br>Westbound |      |      |       | N 4TH ST<br>Northbound |      |      |       | N 4TH ST<br>Southbound |      |      |       | Total | Rolling<br>Hour | Pedestrian Crossings |      |       |       |
|------------------------|-----------------------|------|------|-------|-----------------------|------|------|-------|------------------------|------|------|-------|------------------------|------|------|-------|-------|-----------------|----------------------|------|-------|-------|
|                        | U-Turn                | Left | Thru | Right | U-Turn                | Left | Thru | Right | U-Turn                 | Left | Thru | Right | U-Turn                 | Left | Thru | Right |       |                 | West                 | East | South | North |
| 4:00 PM                | 0                     | 0    | 6    | 7     | 0                     | 1    | 10   | 0     | 0                      | 0    | 0    | 0     | 0                      | 10   | 58   | 10    | 102   | 441             | 0                    | 1    | 0     | 0     |
| 4:15 PM                | 0                     | 0    | 7    | 5     | 0                     | 6    | 14   | 0     | 0                      | 0    | 0    | 0     | 0                      | 13   | 53   | 13    | 111   | 461             | 2                    | 1    | 0     | 1     |
| 4:30 PM                | 0                     | 0    | 12   | 5     | 0                     | 3    | 7    | 0     | 0                      | 0    | 0    | 0     | 0                      | 5    | 51   | 15    | 98    | 417             | 0                    | 1    | 1     | 0     |
| 4:45 PM                | 0                     | 0    | 13   | 12    | 0                     | 6    | 17   | 0     | 0                      | 0    | 0    | 0     | 0                      | 6    | 60   | 16    | 130   | 389             | 2                    | 0    | 0     | 0     |
| 5:00 PM                | 0                     | 0    | 3    | 5     | 0                     | 8    | 16   | 0     | 0                      | 0    | 0    | 0     | 0                      | 8    | 69   | 13    | 122   | 328             | 1                    | 1    | 0     | 0     |
| 5:15 PM                | 0                     | 0    | 5    | 3     | 0                     | 5    | 14   | 0     | 0                      | 0    | 0    | 0     | 0                      | 2    | 29   | 9     | 67    |                 | 2                    | 1    | 1     | 1     |
| 5:30 PM                | 0                     | 0    | 3    | 2     | 0                     | 4    | 12   | 0     | 0                      | 0    | 0    | 0     | 0                      | 3    | 43   | 3     | 70    |                 | 1                    | 5    | 1     | 0     |
| 5:45 PM                | 0                     | 0    | 5    | 2     | 0                     | 1    | 14   | 0     | 0                      | 0    | 0    | 0     | 0                      | 3    | 41   | 3     | 69    |                 | 1                    | 0    | 1     | 2     |
| Count Total            | 0                     | 0    | 54   | 41    | 0                     | 34   | 104  | 0     | 0                      | 0    | 0    | 0     | 0                      | 50   | 404  | 82    | 769   |                 | 9                    | 10   | 4     | 4     |
| Peak Hour              | 0                     | 0    | 35   | 27    | 0                     | 23   | 54   | 0     | 0                      | 0    | 0    | 0     | 0                      | 32   | 233  | 57    | 461   |                 | 5                    | 3    | 1     | 1     |



(303) 216-2439  
www.alltrafficdata.net

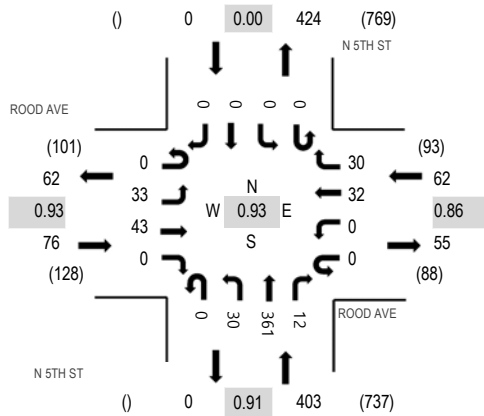
Location: 12 N 5TH ST & ROOD AVE PM

Date: Tuesday, February 16, 2021

Peak Hour: 04:15 PM - 05:15 PM

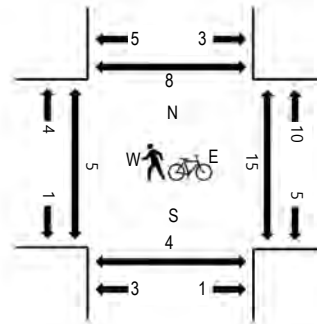
Peak 15-Minutes: 04:15 PM - 04:30 PM

### Peak Hour - All Vehicles



Note: Total study counts contained in parentheses.

### Peak Hour - Pedestrians/Bicycles on Crosswalk



### Traffic Counts

| Interval<br>Start Time | ROOD AVE<br>Eastbound |      |      |       | ROOD AVE<br>Westbound |      |      |       | N 5TH ST<br>Northbound |      |      |       | N 5TH ST<br>Southbound |      |      |       | Total | Rolling<br>Hour | Pedestrian Crossings |      |       |       |
|------------------------|-----------------------|------|------|-------|-----------------------|------|------|-------|------------------------|------|------|-------|------------------------|------|------|-------|-------|-----------------|----------------------|------|-------|-------|
|                        | U-Turn                | Left | Thru | Right | U-Turn                | Left | Thru | Right | U-Turn                 | Left | Thru | Right | U-Turn                 | Left | Thru | Right |       |                 | West                 | East | South | North |
| 4:00 PM                | 0                     | 7    | 11   | 0     | 0                     | 0    | 5    | 3     | 0                      | 4    | 79   | 4     | 0                      | 0    | 0    | 0     | 113   | 514             | 3                    | 2    | 1     | 1     |
| 4:15 PM                | 0                     | 9    | 10   | 0     | 0                     | 0    | 11   | 7     | 0                      | 7    | 96   | 5     | 0                      | 0    | 0    | 0     | 145   | 541             | 2                    | 2    | 0     | 0     |
| 4:30 PM                | 0                     | 7    | 14   | 0     | 0                     | 0    | 4    | 10    | 0                      | 10   | 74   | 2     | 0                      | 0    | 0    | 0     | 121   | 520             | 2                    | 2    | 1     | 0     |
| 4:45 PM                | 0                     | 11   | 9    | 0     | 0                     | 0    | 10   | 7     | 0                      | 7    | 91   | 0     | 0                      | 0    | 0    | 0     | 135   | 491             | 0                    | 7    | 0     | 3     |
| 5:00 PM                | 0                     | 6    | 10   | 0     | 0                     | 0    | 7    | 6     | 0                      | 6    | 100  | 5     | 0                      | 0    | 0    | 0     | 140   | 444             | 1                    | 4    | 2     | 5     |
| 5:15 PM                | 0                     | 8    | 6    | 0     | 0                     | 0    | 3    | 3     | 0                      | 7    | 94   | 3     | 0                      | 0    | 0    | 0     | 124   |                 | 0                    | 2    | 2     | 0     |
| 5:30 PM                | 0                     | 6    | 1    | 0     | 0                     | 0    | 6    | 4     | 0                      | 4    | 67   | 4     | 0                      | 0    | 0    | 0     | 92    |                 | 0                    | 1    | 2     | 0     |
| 5:45 PM                | 0                     | 10   | 3    | 0     | 0                     | 0    | 6    | 1     | 0                      | 4    | 63   | 1     | 0                      | 0    | 0    | 0     | 88    |                 | 2                    | 3    | 0     | 1     |
| Count Total            | 0                     | 64   | 64   | 0     | 0                     | 0    | 52   | 41    | 0                      | 49   | 664  | 24    | 0                      | 0    | 0    | 0     | 958   |                 | 10                   | 23   | 8     | 10    |
| Peak Hour              | 0                     | 33   | 43   | 0     | 0                     | 0    | 32   | 30    | 0                      | 30   | 361  | 12    | 0                      | 0    | 0    | 0     | 541   |                 | 5                    | 15   | 3     | 8     |



(303) 216-2439  
www.alltrafficdata.net

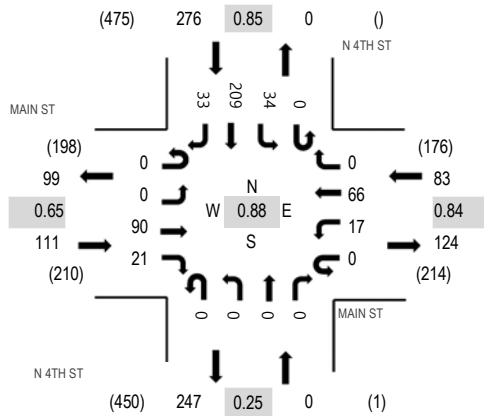
Location: 13 N 4TH ST & MAIN ST PM

Date: Tuesday, February 16, 2021

Peak Hour: 04:15 PM - 05:15 PM

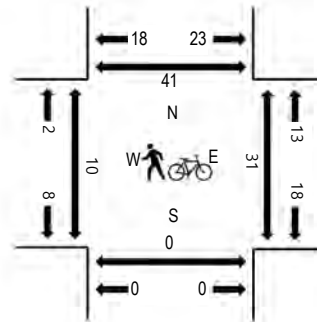
Peak 15-Minutes: 05:00 PM - 05:15 PM

### Peak Hour - All Vehicles



Note: Total study counts contained in parentheses.

### Peak Hour - Pedestrians/Bicycles on Crosswalk



### Traffic Counts

| Interval<br>Start Time | MAIN ST<br>Eastbound |      |      |       | MAIN ST<br>Westbound |      |      |       | N 4TH ST<br>Northbound |      |      |       | N 4TH ST<br>Southbound |      |      |       | Total | Rolling<br>Hour | Pedestrian Crossings |      |       |       |
|------------------------|----------------------|------|------|-------|----------------------|------|------|-------|------------------------|------|------|-------|------------------------|------|------|-------|-------|-----------------|----------------------|------|-------|-------|
|                        | U-Turn               | Left | Thru | Right | U-Turn               | Left | Thru | Right | U-Turn                 | Left | Thru | Right | U-Turn                 | Left | Thru | Right |       |                 | West                 | East | South | North |
| 4:00 PM                | 0                    | 0    | 22   | 7     | 0                    | 5    | 24   | 0     | 0                      | 0    | 0    | 0     | 0                      | 5    | 55   | 6     | 124   | 461             | 7                    | 6    | 0     | 6     |
| 4:15 PM                | 0                    | 0    | 38   | 6     | 0                    | 3    | 13   | 0     | 0                      | 0    | 0    | 0     | 0                      | 5    | 50   | 6     | 121   | 470             | 5                    | 8    | 0     | 16    |
| 4:30 PM                | 0                    | 0    | 12   | 9     | 0                    | 1    | 19   | 0     | 0                      | 0    | 0    | 0     | 0                      | 9    | 44   | 3     | 97    | 430             | 3                    | 7    | 0     | 7     |
| 4:45 PM                | 0                    | 0    | 18   | 3     | 0                    | 5    | 15   | 0     | 0                      | 0    | 0    | 0     | 0                      | 9    | 55   | 14    | 119   | 437             | 0                    | 7    | 0     | 12    |
| 5:00 PM                | 0                    | 0    | 22   | 3     | 0                    | 8    | 19   | 0     | 0                      | 0    | 0    | 0     | 0                      | 11   | 60   | 10    | 133   | 401             | 2                    | 8    | 0     | 6     |
| 5:15 PM                | 0                    | 0    | 17   | 9     | 0                    | 0    | 19   | 0     | 0                      | 0    | 0    | 0     | 0                      | 5    | 30   | 1     | 81    |                 | 1                    | 5    | 0     | 6     |
| 5:30 PM                | 0                    | 0    | 22   | 7     | 0                    | 5    | 17   | 0     | 0                      | 1    | 0    | 0     | 0                      | 3    | 41   | 8     | 104   |                 | 3                    | 4    | 0     | 1     |
| 5:45 PM                | 0                    | 0    | 10   | 5     | 0                    | 3    | 20   | 0     | 0                      | 0    | 0    | 0     | 0                      | 6    | 36   | 3     | 83    |                 | 0                    | 4    | 0     | 5     |
| Count Total            | 0                    | 0    | 161  | 49    | 0                    | 30   | 146  | 0     | 0                      | 1    | 0    | 0     | 0                      | 53   | 371  | 51    | 862   |                 | 21                   | 49   | 0     | 59    |
| Peak Hour              | 0                    | 0    | 90   | 21    | 0                    | 17   | 66   | 0     | 0                      | 0    | 0    | 0     | 0                      | 34   | 209  | 33    | 470   |                 | 10                   | 30   | 0     | 41    |



(303) 216-2439  
www.alltrafficdata.net

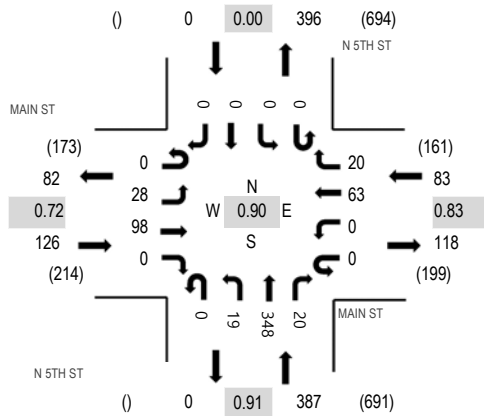
Location: 14 N 5TH ST & MAIN ST PM

Date: Tuesday, February 16, 2021

Peak Hour: 04:15 PM - 05:15 PM

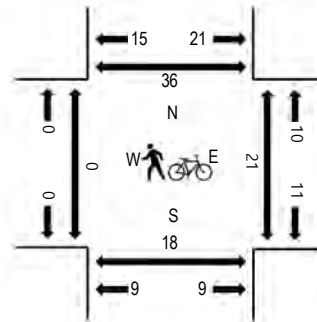
Peak 15-Minutes: 05:00 PM - 05:15 PM

### Peak Hour - All Vehicles



Note: Total study counts contained in parentheses.

### Peak Hour - Pedestrians/Bicycles on Crosswalk



### Traffic Counts

| Interval<br>Start Time | MAIN ST<br>Eastbound |      |      |       | MAIN ST<br>Westbound |      |      |       | N 5TH ST<br>Northbound |      |      |       | N 5TH ST<br>Southbound |      |      |       | Total | Rolling<br>Hour | Pedestrian Crossings |      |       |       |
|------------------------|----------------------|------|------|-------|----------------------|------|------|-------|------------------------|------|------|-------|------------------------|------|------|-------|-------|-----------------|----------------------|------|-------|-------|
|                        | U-Turn               | Left | Thru | Right | U-Turn               | Left | Thru | Right | U-Turn                 | Left | Thru | Right | U-Turn                 | Left | Thru | Right |       |                 | West                 | East | South | North |
|                        |                      |      |      |       |                      |      |      |       |                        |      |      |       |                        |      |      |       |       |                 |                      |      |       |       |
| 4:00 PM                | 0                    | 0    | 24   | 0     | 0                    | 0    | 21   | 1     | 0                      | 6    | 84   | 1     | 0                      | 0    | 0    | 0     | 137   | 567             | 0                    | 12   | 7     | 9     |
| 4:15 PM                | 0                    | 7    | 37   | 0     | 0                    | 0    | 13   | 4     | 0                      | 3    | 89   | 3     | 0                      | 0    | 0    | 0     | 156   | 596             | 0                    | 2    | 7     | 8     |
| 4:30 PM                | 0                    | 7    | 16   | 0     | 0                    | 0    | 17   | 6     | 0                      | 2    | 78   | 1     | 0                      | 0    | 0    | 0     | 127   | 553             | 0                    | 9    | 9     | 10    |
| 4:45 PM                | 0                    | 7    | 17   | 0     | 0                    | 0    | 15   | 3     | 0                      | 5    | 89   | 11    | 0                      | 0    | 0    | 0     | 147   | 542             | 0                    | 6    | 1     | 17    |
| 5:00 PM                | 0                    | 7    | 28   | 0     | 0                    | 0    | 18   | 7     | 0                      | 9    | 92   | 5     | 0                      | 0    | 0    | 0     | 166   | 499             | 0                    | 4    | 1     | 1     |
| 5:15 PM                | 0                    | 5    | 17   | 0     | 0                    | 0    | 10   | 2     | 0                      | 8    | 70   | 1     | 0                      | 0    | 0    | 0     | 113   |                 | 0                    | 4    | 3     | 4     |
| 5:30 PM                | 0                    | 7    | 18   | 0     | 0                    | 0    | 18   | 5     | 0                      | 7    | 58   | 3     | 0                      | 0    | 0    | 0     | 116   |                 | 0                    | 5    | 2     | 4     |
| 5:45 PM                | 0                    | 4    | 13   | 0     | 0                    | 0    | 20   | 1     | 0                      | 1    | 61   | 4     | 0                      | 0    | 0    | 0     | 104   |                 | 0                    | 6    | 1     | 4     |
| Count Total            | 0                    | 44   | 170  | 0     | 0                    | 0    | 132  | 29    | 0                      | 41   | 621  | 29    | 0                      | 0    | 0    | 0     | 1,066 |                 | 0                    | 48   | 31    | 57    |
| Peak Hour              | 0                    | 28   | 98   | 0     | 0                    | 0    | 63   | 20    | 0                      | 19   | 348  | 20    | 0                      | 0    | 0    | 0     | 596   |                 | 0                    | 21   | 18    | 36    |



(303) 216-2439  
www.alltrafficdata.net

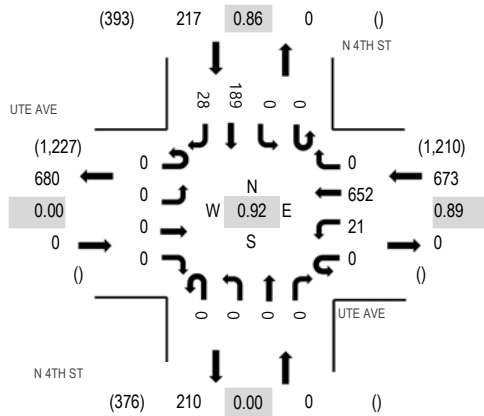
Location: 15 N 4TH ST & UTE AVE PM

Date: Tuesday, February 16, 2021

Peak Hour: 04:00 PM - 05:00 PM

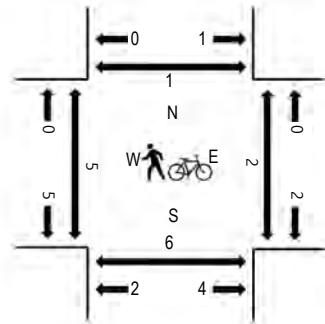
Peak 15-Minutes: 04:45 PM - 05:00 PM

### Peak Hour - All Vehicles



Note: Total study counts contained in parentheses.

### Peak Hour - Pedestrians/Bicycles on Crosswalk



### Traffic Counts

| Interval<br>Start Time | UTE AVE<br>Eastbound |      |      |       | UTE AVE<br>Westbound |      |       |       | N 4TH ST<br>Northbound |      |      |       | N 4TH ST<br>Southbound |      |      |       | Total | Rolling<br>Hour | Pedestrian Crossings |      |       |       |
|------------------------|----------------------|------|------|-------|----------------------|------|-------|-------|------------------------|------|------|-------|------------------------|------|------|-------|-------|-----------------|----------------------|------|-------|-------|
|                        | U-Turn               | Left | Thru | Right | U-Turn               | Left | Thru  | Right | U-Turn                 | Left | Thru | Right | U-Turn                 | Left | Thru | Right |       |                 | West                 | East | South | North |
| 4:00 PM                | 0                    | 0    | 0    | 0     | 0                    | 0    | 5     | 167   | 0                      | 0    | 0    | 0     | 0                      | 0    | 50   | 10    | 232   | 890             | 0                    | 1    | 2     | 0     |
| 4:15 PM                | 0                    | 0    | 0    | 0     | 0                    | 0    | 7     | 140   | 0                      | 0    | 0    | 0     | 0                      | 0    | 45   | 5     | 197   | 877             | 1                    | 0    | 0     | 0     |
| 4:30 PM                | 0                    | 0    | 0    | 0     | 0                    | 0    | 2     | 163   | 0                      | 0    | 0    | 0     | 0                      | 0    | 45   | 9     | 219   | 855             | 2                    | 1    | 2     | 1     |
| 4:45 PM                | 0                    | 0    | 0    | 0     | 0                    | 0    | 7     | 182   | 0                      | 0    | 0    | 0     | 0                      | 0    | 49   | 4     | 242   | 819             | 2                    | 0    | 2     | 0     |
| 5:00 PM                | 0                    | 0    | 0    | 0     | 0                    | 0    | 0     | 155   | 0                      | 0    | 0    | 0     | 0                      | 0    | 58   | 6     | 219   | 713             | 0                    | 0    | 0     | 0     |
| 5:15 PM                | 0                    | 0    | 0    | 0     | 0                    | 0    | 3     | 138   | 0                      | 0    | 0    | 0     | 0                      | 0    | 29   | 5     | 175   |                 | 0                    | 0    | 0     | 0     |
| 5:30 PM                | 0                    | 0    | 0    | 0     | 0                    | 0    | 6     | 133   | 0                      | 0    | 0    | 0     | 0                      | 0    | 38   | 6     | 183   |                 | 0                    | 0    | 0     | 0     |
| 5:45 PM                | 0                    | 0    | 0    | 0     | 0                    | 0    | 3     | 99    | 0                      | 0    | 0    | 0     | 0                      | 0    | 29   | 5     | 136   |                 | 1                    | 0    | 1     | 0     |
| Count Total            | 0                    | 0    | 0    | 0     | 0                    | 33   | 1,177 | 0     | 0                      | 0    | 0    | 0     | 0                      | 0    | 343  | 50    | 1,603 |                 | 6                    | 2    | 7     | 1     |
| Peak Hour              | 0                    | 0    | 0    | 0     | 0                    | 21   | 652   | 0     | 0                      | 0    | 0    | 0     | 0                      | 0    | 189  | 28    | 890   |                 | 5                    | 2    | 6     | 1     |



(303) 216-2439  
www.alltrafficdata.net

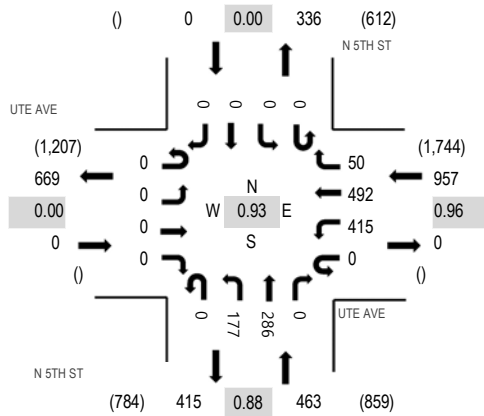
Location: 16 N 5TH ST & UTE AVE PM

Date: Tuesday, February 16, 2021

Peak Hour: 04:00 PM - 05:00 PM

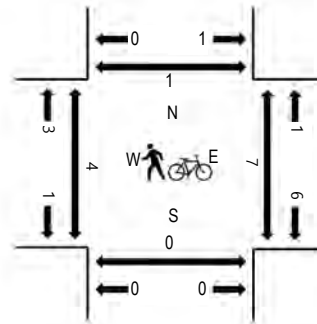
Peak 15-Minutes: 04:45 PM - 05:00 PM

### Peak Hour - All Vehicles



Note: Total study counts contained in parentheses.

### Peak Hour - Pedestrians/Bicycles on Crosswalk



### Traffic Counts

| Interval<br>Start Time | UTE AVE<br>Eastbound |      |      |       | UTE AVE<br>Westbound |      |      |       | N 5TH ST<br>Northbound |      |      |       | N 5TH ST<br>Southbound |      |      |       | Total | Rolling<br>Hour | Pedestrian Crossings |      |       |       |
|------------------------|----------------------|------|------|-------|----------------------|------|------|-------|------------------------|------|------|-------|------------------------|------|------|-------|-------|-----------------|----------------------|------|-------|-------|
|                        | U-Turn               | Left | Thru | Right | U-Turn               | Left | Thru | Right | U-Turn                 | Left | Thru | Right | U-Turn                 | Left | Thru | Right |       |                 | West                 | East | South | North |
| 4:00 PM                | 0                    | 0    | 0    | 0     | 0                    | 113  | 114  | 10    | 0                      | 54   | 77   | 0     | 0                      | 0    | 0    | 0     | 368   | 1,420           | 0                    | 4    | 0     | 0     |
| 4:15 PM                | 0                    | 0    | 0    | 0     | 0                    | 98   | 107  | 11    | 0                      | 38   | 78   | 0     | 0                      | 0    | 0    | 0     | 332   | 1,410           | 0                    | 1    | 0     | 0     |
| 4:30 PM                | 0                    | 0    | 0    | 0     | 0                    | 100  | 134  | 17    | 0                      | 33   | 56   | 0     | 0                      | 0    | 0    | 0     | 340   | 1,405           | 1                    | 0    | 0     | 1     |
| 4:45 PM                | 0                    | 0    | 0    | 0     | 0                    | 104  | 137  | 12    | 0                      | 52   | 75   | 0     | 0                      | 0    | 0    | 0     | 380   | 1,332           | 1                    | 1    | 0     | 0     |
| 5:00 PM                | 0                    | 0    | 0    | 0     | 0                    | 113  | 126  | 9     | 0                      | 34   | 76   | 0     | 0                      | 0    | 0    | 0     | 358   | 1,183           | 2                    | 0    | 1     | 0     |
| 5:15 PM                | 0                    | 0    | 0    | 0     | 0                    | 118  | 92   | 9     | 0                      | 47   | 61   | 0     | 0                      | 0    | 0    | 0     | 327   |                 | 0                    | 1    | 0     | 0     |
| 5:30 PM                | 0                    | 0    | 0    | 0     | 0                    | 73   | 93   | 8     | 0                      | 47   | 46   | 0     | 0                      | 0    | 0    | 0     | 267   |                 | 0                    | 0    | 0     | 0     |
| 5:45 PM                | 0                    | 0    | 0    | 0     | 0                    | 65   | 72   | 9     | 0                      | 27   | 58   | 0     | 0                      | 0    | 0    | 0     | 231   |                 | 0                    | 0    | 1     | 1     |
| Count Total            | 0                    | 0    | 0    | 0     | 0                    | 784  | 875  | 85    | 0                      | 332  | 527  | 0     | 0                      | 0    | 0    | 0     | 2,603 |                 | 4                    | 7    | 2     | 2     |
| Peak Hour              | 0                    | 0    | 0    | 0     | 0                    | 415  | 492  | 50    | 0                      | 177  | 286  | 0     | 0                      | 0    | 0    | 0     | 1,420 |                 | 2                    | 6    | 0     | 1     |





(303) 216-2439  
www.alltrafficdata.net

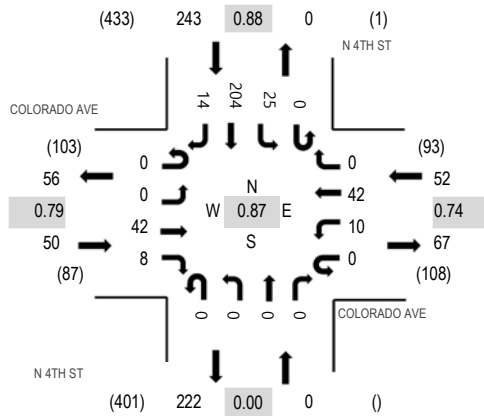
Location: 17 N 4TH ST & COLORADO AVE PM

Date: Tuesday, February 16, 2021

Peak Hour: 04:15 PM - 05:15 PM

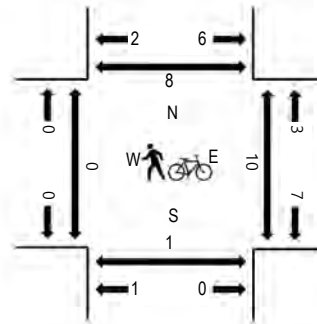
Peak 15-Minutes: 05:00 PM - 05:15 PM

### Peak Hour - All Vehicles



Note: Total study counts contained in parentheses.

### Peak Hour - Pedestrians/Bicycles on Crosswalk



### Traffic Counts

| Interval<br>Start Time | COLORADO AVE<br>Eastbound |      |      |       | COLORADO AVE<br>Westbound |      |      |       | N 4TH ST<br>Northbound |      |      |       | N 4TH ST<br>Southbound |      |      |       | Total | Rolling<br>Hour | Pedestrian Crossings |      |       |       |
|------------------------|---------------------------|------|------|-------|---------------------------|------|------|-------|------------------------|------|------|-------|------------------------|------|------|-------|-------|-----------------|----------------------|------|-------|-------|
|                        | U-Turn                    | Left | Thru | Right | U-Turn                    | Left | Thru | Right | U-Turn                 | Left | Thru | Right | U-Turn                 | Left | Thru | Right |       |                 | West                 | East | South | North |
| 4:00 PM                | 0                         | 0    | 6    | 7     | 0                         | 2    | 11   | 0     | 0                      | 0    | 0    | 0     | 0                      | 4    | 54   | 4     | 88    | 334             | 0                    | 2    | 0     | 5     |
| 4:15 PM                | 0                         | 0    | 8    | 2     | 0                         | 4    | 14   | 0     | 0                      | 0    | 0    | 0     | 0                      | 10   | 47   | 3     | 88    | 345             | 0                    | 2    | 0     | 1     |
| 4:30 PM                | 0                         | 0    | 9    | 2     | 0                         | 0    | 10   | 0     | 0                      | 0    | 0    | 0     | 0                      | 2    | 50   | 1     | 74    | 322             | 0                    | 2    | 0     | 2     |
| 4:45 PM                | 0                         | 0    | 9    | 2     | 0                         | 2    | 10   | 0     | 0                      | 0    | 0    | 0     | 0                      | 7    | 50   | 4     | 84    | 311             | 0                    | 1    | 0     | 5     |
| 5:00 PM                | 0                         | 0    | 16   | 2     | 0                         | 4    | 8    | 0     | 0                      | 0    | 0    | 0     | 0                      | 6    | 57   | 6     | 99    | 279             | 0                    | 4    | 1     | 0     |
| 5:15 PM                | 0                         | 0    | 13   | 4     | 0                         | 3    | 7    | 0     | 0                      | 0    | 0    | 0     | 0                      | 3    | 29   | 6     | 65    |                 | 0                    | 3    | 0     | 0     |
| 5:30 PM                | 0                         | 0    | 4    | 0     | 0                         | 3    | 5    | 0     | 0                      | 0    | 0    | 0     | 0                      | 5    | 43   | 3     | 63    |                 | 1                    | 1    | 0     | 1     |
| 5:45 PM                | 0                         | 0    | 3    | 0     | 0                         | 3    | 6    | 1     | 0                      | 0    | 0    | 0     | 0                      | 3    | 31   | 5     | 52    |                 | 0                    | 2    | 0     | 2     |
| Count Total            | 0                         | 0    | 68   | 19    | 0                         | 21   | 71   | 1     | 0                      | 0    | 0    | 0     | 0                      | 40   | 361  | 32    | 613   |                 | 1                    | 17   | 1     | 16    |
| Peak Hour              | 0                         | 0    | 42   | 8     | 0                         | 10   | 42   | 0     | 0                      | 0    | 0    | 0     | 0                      | 25   | 204  | 14    | 345   |                 | 0                    | 9    | 1     | 8     |



(303) 216-2439  
www.alltrafficdata.net

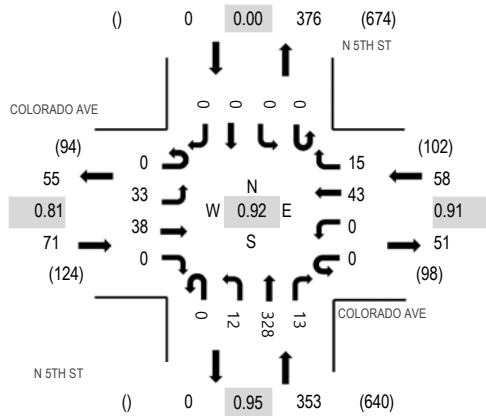
Location: 18 N 5TH ST & COLORADO AVE PM

Date: Tuesday, February 16, 2021

Peak Hour: 04:15 PM - 05:15 PM

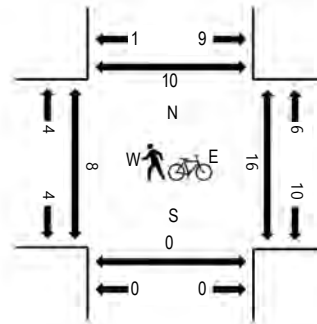
Peak 15-Minutes: 05:00 PM - 05:15 PM

### Peak Hour - All Vehicles



Note: Total study counts contained in parentheses.

### Peak Hour - Pedestrians/Bicycles on Crosswalk



### Traffic Counts

| Interval<br>Start Time | COLORADO AVE<br>Eastbound |      |      |       | COLORADO AVE<br>Westbound |      |      |       | N 5TH ST<br>Northbound |      |      |       | N 5TH ST<br>Southbound |      |      |       | Total | Rolling<br>Hour | Pedestrian Crossings |      |       |       |
|------------------------|---------------------------|------|------|-------|---------------------------|------|------|-------|------------------------|------|------|-------|------------------------|------|------|-------|-------|-----------------|----------------------|------|-------|-------|
|                        | U-Turn                    | Left | Thru | Right | U-Turn                    | Left | Thru | Right | U-Turn                 | Left | Thru | Right | U-Turn                 | Left | Thru | Right |       |                 | West                 | East | South | North |
| 4:00 PM                | 0                         | 6    | 13   | 0     | 0                         | 0    | 10   | 4     | 0                      | 3    | 84   | 4     | 0                      | 0    | 0    | 0     | 124   | 475             | 0                    | 5    | 0     | 0     |
| 4:15 PM                | 0                         | 10   | 10   | 0     | 0                         | 0    | 12   | 2     | 0                      | 4    | 83   | 2     | 0                      | 0    | 0    | 0     | 123   | 482             | 0                    | 0    | 0     | 1     |
| 4:30 PM                | 0                         | 5    | 7    | 0     | 0                         | 0    | 10   | 2     | 0                      | 4    | 71   | 3     | 0                      | 0    | 0    | 0     | 102   | 458             | 1                    | 6    | 0     | 2     |
| 4:45 PM                | 0                         | 8    | 9    | 0     | 0                         | 0    | 11   | 5     | 0                      | 3    | 88   | 2     | 0                      | 0    | 0    | 0     | 126   | 433             | 3                    | 5    | 0     | 3     |
| 5:00 PM                | 0                         | 10   | 12   | 0     | 0                         | 0    | 10   | 6     | 0                      | 1    | 86   | 6     | 0                      | 0    | 0    | 0     | 131   | 391             | 3                    | 5    | 0     | 3     |
| 5:15 PM                | 0                         | 3    | 14   | 0     | 0                         | 0    | 3    | 7     | 0                      | 5    | 67   | 0     | 0                      | 0    | 0    | 0     | 99    |                 | 0                    | 2    | 0     | 1     |
| 5:30 PM                | 0                         | 5    | 4    | 0     | 0                         | 0    | 5    | 5     | 0                      | 1    | 56   | 1     | 0                      | 0    | 0    | 0     | 77    |                 | 0                    | 2    | 0     | 2     |
| 5:45 PM                | 0                         | 0    | 8    | 0     | 0                         | 0    | 7    | 3     | 0                      | 5    | 58   | 3     | 0                      | 0    | 0    | 0     | 84    |                 | 0                    | 1    | 0     | 1     |
| Count Total            | 0                         | 47   | 77   | 0     | 0                         | 0    | 68   | 34    | 0                      | 26   | 593  | 21    | 0                      | 0    | 0    | 0     | 866   |                 | 7                    | 26   | 0     | 13    |
| Peak Hour              | 0                         | 33   | 38   | 0     | 0                         | 0    | 43   | 15    | 0                      | 12   | 328  | 13    | 0                      | 0    | 0    | 0     | 482   |                 | 7                    | 16   | 0     | 9     |



(303) 216-2439  
www.alltrafficdata.net

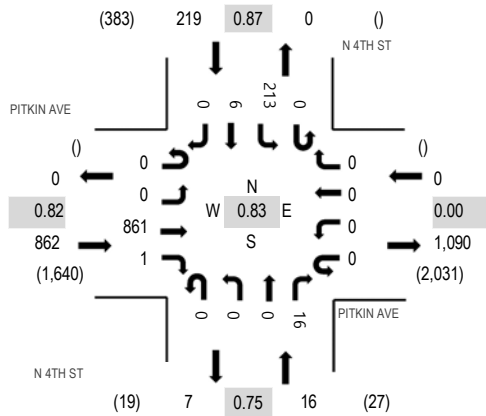
Location: 19 N 4TH ST & PITKIN AVE PM

Date: Tuesday, February 16, 2021

Peak Hour: 04:15 PM - 05:15 PM

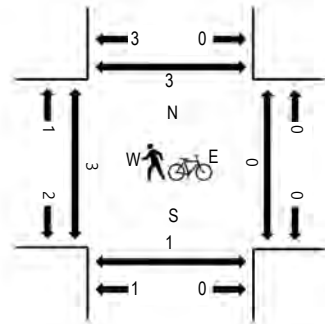
Peak 15-Minutes: 05:00 PM - 05:15 PM

### Peak Hour - All Vehicles



Note: Total study counts contained in parentheses.

### Peak Hour - Pedestrians/Bicycles on Crosswalk



### Traffic Counts

| Interval<br>Start Time | PITKIN AVE<br>Eastbound |      |       |       | PITKIN AVE<br>Westbound |      |      |       | N 4TH ST<br>Northbound |      |      |       | N 4TH ST<br>Southbound |      |      |       | Total | Rolling<br>Hour | Pedestrian Crossings |      |       |       |
|------------------------|-------------------------|------|-------|-------|-------------------------|------|------|-------|------------------------|------|------|-------|------------------------|------|------|-------|-------|-----------------|----------------------|------|-------|-------|
|                        | U-Turn                  | Left | Thru  | Right | U-Turn                  | Left | Thru | Right | U-Turn                 | Left | Thru | Right | U-Turn                 | Left | Thru | Right |       |                 | West                 | East | South | North |
|                        |                         |      |       |       |                         |      |      |       |                        |      |      |       |                        |      |      |       |       |                 |                      |      |       |       |
| 4:00 PM                | 0                       | 0    | 238   | 4     | 0                       | 0    | 0    | 0     | 0                      | 0    | 0    | 3     | 0                      | 51   | 2    | 0     | 298   | 1,063           | 0                    | 0    | 0     | 0     |
| 4:15 PM                | 0                       | 0    | 210   | 0     | 0                       | 0    | 0    | 0     | 0                      | 0    | 0    | 1     | 0                      | 55   | 3    | 0     | 269   | 1,097           | 0                    | 0    | 0     | 0     |
| 4:30 PM                | 0                       | 0    | 189   | 0     | 0                       | 0    | 0    | 0     | 0                      | 0    | 0    | 3     | 0                      | 45   | 0    | 0     | 237   | 1,077           | 0                    | 0    | 1     | 0     |
| 4:45 PM                | 0                       | 0    | 200   | 0     | 0                       | 0    | 0    | 0     | 0                      | 0    | 0    | 6     | 0                      | 50   | 3    | 0     | 259   | 1,060           | 2                    | 0    | 0     | 1     |
| 5:00 PM                | 0                       | 0    | 262   | 1     | 0                       | 0    | 0    | 0     | 0                      | 0    | 0    | 6     | 0                      | 63   | 0    | 0     | 332   | 987             | 0                    | 0    | 0     | 0     |
| 5:15 PM                | 0                       | 0    | 212   | 1     | 0                       | 0    | 0    | 0     | 0                      | 0    | 0    | 3     | 0                      | 32   | 1    | 0     | 249   |                 | 0                    | 0    | 1     | 0     |
| 5:30 PM                | 0                       | 0    | 171   | 1     | 0                       | 0    | 0    | 0     | 0                      | 0    | 0    | 3     | 0                      | 44   | 1    | 0     | 220   |                 | 0                    | 0    | 0     | 0     |
| 5:45 PM                | 0                       | 0    | 150   | 1     | 0                       | 0    | 0    | 0     | 0                      | 0    | 0    | 2     | 0                      | 32   | 1    | 0     | 186   |                 | 0                    | 0    | 0     | 0     |
| Count Total            | 0                       | 0    | 1,632 | 8     | 0                       | 0    | 0    | 0     | 0                      | 0    | 0    | 27    | 0                      | 372  | 11   | 0     | 2,050 |                 | 2                    | 0    | 2     | 1     |
| Peak Hour              | 0                       | 0    | 861   | 1     | 0                       | 0    | 0    | 0     | 0                      | 0    | 0    | 16    | 0                      | 213  | 6    | 0     | 1,097 |                 | 2                    | 0    | 1     | 1     |



(303) 216-2439  
www.alltrafficdata.net

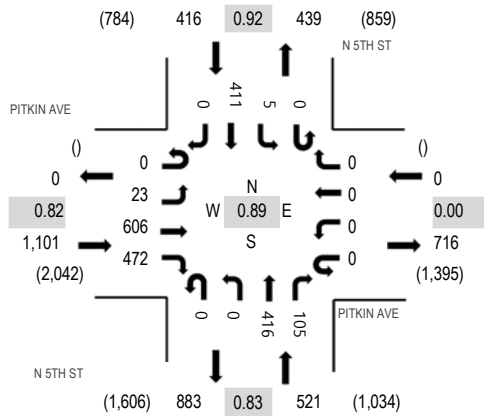
Location: 20 N 5TH ST & PITKIN AVE PM

Date: Tuesday, February 16, 2021

Peak Hour: 04:15 PM - 05:15 PM

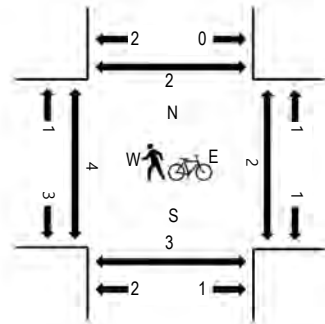
Peak 15-Minutes: 05:00 PM - 05:15 PM

### Peak Hour - All Vehicles



Note: Total study counts contained in parentheses.

### Peak Hour - Pedestrians/Bicycles on Crosswalk



### Traffic Counts

| Interval<br>Start Time | PITKIN AVE<br>Eastbound |      |       |       | PITKIN AVE<br>Westbound |      |      |       | N 5TH ST<br>Northbound |      |      |       | N 5TH ST<br>Southbound |      |      |       | Total | Rolling<br>Hour | Pedestrian Crossings |      |       |       |
|------------------------|-------------------------|------|-------|-------|-------------------------|------|------|-------|------------------------|------|------|-------|------------------------|------|------|-------|-------|-----------------|----------------------|------|-------|-------|
|                        | U-Turn                  | Left | Thru  | Right | U-Turn                  | Left | Thru | Right | U-Turn                 | Left | Thru | Right | U-Turn                 | Left | Thru | Right |       |                 | West                 | East | South | North |
| 4:00 PM                | 0                       | 4    | 170   | 113   | 0                       | 0    | 0    | 0     | 0                      | 0    | 130  | 39    | 0                      | 3    | 106  | 0     | 565   | 2,029           | 0                    | 4    | 0     | 0     |
| 4:15 PM                | 0                       | 4    | 158   | 111   | 0                       | 0    | 0    | 0     | 0                      | 0    | 110  | 39    | 0                      | 2    | 97   | 0     | 521   | 2,038           | 1                    | 1    | 1     | 0     |
| 4:30 PM                | 0                       | 6    | 129   | 103   | 0                       | 0    | 0    | 0     | 0                      | 0    | 83   | 25    | 0                      | 0    | 102  | 0     | 448   | 2,018           | 1                    | 1    | 2     | 0     |
| 4:45 PM                | 0                       | 7    | 134   | 113   | 0                       | 0    | 0    | 0     | 0                      | 0    | 120  | 18    | 0                      | 1    | 102  | 0     | 495   | 1,981           | 0                    | 0    | 0     | 0     |
| 5:00 PM                | 0                       | 6    | 185   | 145   | 0                       | 0    | 0    | 0     | 0                      | 0    | 103  | 23    | 0                      | 2    | 110  | 0     | 574   | 1,831           | 1                    | 0    | 0     | 0     |
| 5:15 PM                | 0                       | 8    | 159   | 88    | 0                       | 0    | 0    | 0     | 0                      | 0    | 100  | 27    | 0                      | 4    | 115  | 0     | 501   |                 | 0                    | 1    | 0     | 0     |
| 5:30 PM                | 0                       | 3    | 129   | 88    | 0                       | 0    | 0    | 0     | 0                      | 0    | 91   | 26    | 0                      | 1    | 73   | 0     | 411   |                 | 0                    | 0    | 0     | 0     |
| 5:45 PM                | 0                       | 5    | 99    | 75    | 0                       | 0    | 0    | 0     | 0                      | 0    | 79   | 21    | 0                      | 1    | 65   | 0     | 345   |                 | 2                    | 2    | 0     | 0     |
| Count Total            | 0                       | 43   | 1,163 | 836   | 0                       | 0    | 0    | 0     | 0                      | 0    | 816  | 218   | 0                      | 14   | 770  | 0     | 3,860 |                 | 5                    | 9    | 3     | 0     |
| Peak Hour              | 0                       | 23   | 606   | 472   | 0                       | 0    | 0    | 0     | 0                      | 0    | 416  | 105   | 0                      | 5    | 411  | 0     | 2,038 |                 | 3                    | 2    | 3     | 0     |

## Appendix B – Capacity Analysis Worksheets

---

# HCM 6th Signalized Intersection Summary

## 5: 5th Street & North Ave

Existing Conditions 2021

10/09/2021

|                              |  |  |  |  |  |  |  |  |  |  |  |  |
|------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|
| Movement                     | EBL                                                                               | EBT                                                                               | EBR                                                                               | WBL                                                                               | WBT                                                                               | WBR                                                                               | NBL                                                                                 | NBT                                                                                 | NBR                                                                                 | SBL                                                                                 | SBT                                                                                 | SBR                                                                                 |
| Lane Configurations          |  |  |                                                                                   |  |  |                                                                                   |  |  |  |  |  |  |
| Traffic Volume (veh/h)       | 20                                                                                | 895                                                                               | 7                                                                                 | 22                                                                                | 993                                                                               | 26                                                                                | 54                                                                                  | 71                                                                                  | 217                                                                                 | 39                                                                                  | 48                                                                                  | 29                                                                                  |
| Future Volume (veh/h)        | 20                                                                                | 895                                                                               | 7                                                                                 | 22                                                                                | 993                                                                               | 26                                                                                | 54                                                                                  | 71                                                                                  | 217                                                                                 | 39                                                                                  | 48                                                                                  | 29                                                                                  |
| Initial Q (Qb), veh          | 0                                                                                 | 0                                                                                 | 0                                                                                 | 0                                                                                 | 0                                                                                 | 0                                                                                 | 0                                                                                   | 0                                                                                   | 0                                                                                   | 0                                                                                   | 0                                                                                   | 0                                                                                   |
| Ped-Bike Adj(A_pbT)          | 1.00                                                                              |                                                                                   | 1.00                                                                              | 1.00                                                                              |                                                                                   | 1.00                                                                              | 1.00                                                                                |                                                                                     | 1.00                                                                                | 1.00                                                                                |                                                                                     | 1.00                                                                                |
| Parking Bus, Adj             | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                                | 1.00                                                                                | 1.00                                                                                | 1.00                                                                                | 1.00                                                                                | 1.00                                                                                |
| Work Zone On Approach        | No                                                                                |                                                                                   |                                                                                   | No                                                                                |                                                                                   |                                                                                   | No                                                                                  |                                                                                     |                                                                                     | No                                                                                  |                                                                                     |                                                                                     |
| Adj Sat Flow, veh/h/ln       | 1885                                                                              | 1885                                                                              | 1885                                                                              | 1885                                                                              | 1885                                                                              | 1885                                                                              | 1885                                                                                | 1885                                                                                | 1885                                                                                | 1885                                                                                | 1885                                                                                | 1885                                                                                |
| Adj Flow Rate, veh/h         | 20                                                                                | 895                                                                               | 7                                                                                 | 22                                                                                | 993                                                                               | 26                                                                                | 54                                                                                  | 71                                                                                  | 217                                                                                 | 39                                                                                  | 48                                                                                  | 29                                                                                  |
| Peak Hour Factor             | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                                | 1.00                                                                                | 1.00                                                                                | 1.00                                                                                | 1.00                                                                                | 1.00                                                                                |
| Percent Heavy Veh, %         | 1                                                                                 | 1                                                                                 | 1                                                                                 | 1                                                                                 | 1                                                                                 | 1                                                                                 | 1                                                                                   | 1                                                                                   | 1                                                                                   | 1                                                                                   | 1                                                                                   | 1                                                                                   |
| Cap, veh/h                   | 329                                                                               | 1900                                                                              | 15                                                                                | 371                                                                               | 1867                                                                              | 49                                                                                | 366                                                                                 | 319                                                                                 | 270                                                                                 | 316                                                                                 | 303                                                                                 | 257                                                                                 |
| Arrive On Green              | 0.02                                                                              | 0.52                                                                              | 0.52                                                                              | 0.02                                                                              | 0.52                                                                              | 0.52                                                                              | 0.05                                                                                | 0.17                                                                                | 0.17                                                                                | 0.04                                                                                | 0.16                                                                                | 0.16                                                                                |
| Sat Flow, veh/h              | 1795                                                                              | 3642                                                                              | 28                                                                                | 1795                                                                              | 3566                                                                              | 93                                                                                | 1795                                                                                | 1885                                                                                | 1598                                                                                | 1795                                                                                | 1885                                                                                | 1598                                                                                |
| Grp Volume(v), veh/h         | 20                                                                                | 440                                                                               | 462                                                                               | 22                                                                                | 499                                                                               | 520                                                                               | 54                                                                                  | 71                                                                                  | 217                                                                                 | 39                                                                                  | 48                                                                                  | 29                                                                                  |
| Grp Sat Flow(s),veh/h/ln     | 1795                                                                              | 1791                                                                              | 1880                                                                              | 1795                                                                              | 1791                                                                              | 1868                                                                              | 1795                                                                                | 1885                                                                                | 1598                                                                                | 1795                                                                                | 1885                                                                                | 1598                                                                                |
| Q Serve(g_s), s              | 0.4                                                                               | 11.3                                                                              | 11.3                                                                              | 0.4                                                                               | 13.4                                                                              | 13.4                                                                              | 1.8                                                                                 | 2.4                                                                                 | 9.5                                                                                 | 1.3                                                                                 | 1.6                                                                                 | 1.1                                                                                 |
| Cycle Q Clear(g_c), s        | 0.4                                                                               | 11.3                                                                              | 11.3                                                                              | 0.4                                                                               | 13.4                                                                              | 13.4                                                                              | 1.8                                                                                 | 2.4                                                                                 | 9.5                                                                                 | 1.3                                                                                 | 1.6                                                                                 | 1.1                                                                                 |
| Prop In Lane                 | 1.00                                                                              |                                                                                   | 0.02                                                                              | 1.00                                                                              |                                                                                   | 0.05                                                                              | 1.00                                                                                |                                                                                     | 1.00                                                                                | 1.00                                                                                |                                                                                     | 1.00                                                                                |
| Lane Grp Cap(c), veh/h       | 329                                                                               | 934                                                                               | 981                                                                               | 371                                                                               | 938                                                                               | 978                                                                               | 366                                                                                 | 319                                                                                 | 270                                                                                 | 316                                                                                 | 303                                                                                 | 257                                                                                 |
| V/C Ratio(X)                 | 0.06                                                                              | 0.47                                                                              | 0.47                                                                              | 0.06                                                                              | 0.53                                                                              | 0.53                                                                              | 0.15                                                                                | 0.22                                                                                | 0.80                                                                                | 0.12                                                                                | 0.16                                                                                | 0.11                                                                                |
| Avail Cap(c_a), veh/h        | 535                                                                               | 934                                                                               | 981                                                                               | 573                                                                               | 938                                                                               | 978                                                                               | 580                                                                                 | 569                                                                                 | 483                                                                                 | 545                                                                                 | 569                                                                                 | 483                                                                                 |
| HCM Platoon Ratio            | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                                | 1.00                                                                                | 1.00                                                                                | 1.00                                                                                | 1.00                                                                                | 1.00                                                                                |
| Upstream Filter(I)           | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                                | 1.00                                                                                | 1.00                                                                                | 1.00                                                                                | 1.00                                                                                | 1.00                                                                                |
| Uniform Delay (d), s/veh     | 8.9                                                                               | 11.0                                                                              | 11.0                                                                              | 8.5                                                                               | 11.5                                                                              | 11.5                                                                              | 23.7                                                                                | 26.1                                                                                | 29.1                                                                                | 23.9                                                                                | 26.3                                                                                | 26.1                                                                                |
| Incr Delay (d2), s/veh       | 0.1                                                                               | 1.7                                                                               | 1.6                                                                               | 0.1                                                                               | 2.2                                                                               | 2.1                                                                               | 0.2                                                                                 | 0.3                                                                                 | 5.5                                                                                 | 0.2                                                                                 | 0.2                                                                                 | 0.2                                                                                 |
| Initial Q Delay(d3),s/veh    | 0.0                                                                               | 0.0                                                                               | 0.0                                                                               | 0.0                                                                               | 0.0                                                                               | 0.0                                                                               | 0.0                                                                                 | 0.0                                                                                 | 0.0                                                                                 | 0.0                                                                                 | 0.0                                                                                 | 0.0                                                                                 |
| %ile BackOfQ(50%),veh/ln     | 0.1                                                                               | 4.4                                                                               | 4.6                                                                               | 0.1                                                                               | 5.2                                                                               | 5.4                                                                               | 0.7                                                                                 | 1.1                                                                                 | 3.9                                                                                 | 0.5                                                                                 | 0.7                                                                                 | 0.4                                                                                 |
| Unsig. Movement Delay, s/veh |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| LnGrp Delay(d),s/veh         | 9.0                                                                               | 12.7                                                                              | 12.7                                                                              | 8.6                                                                               | 13.6                                                                              | 13.5                                                                              | 23.8                                                                                | 26.5                                                                                | 34.6                                                                                | 24.1                                                                                | 26.6                                                                                | 26.3                                                                                |
| LnGrp LOS                    | A                                                                                 | B                                                                                 | B                                                                                 | A                                                                                 | B                                                                                 | B                                                                                 | C                                                                                   | C                                                                                   | C                                                                                   | C                                                                                   | C                                                                                   | C                                                                                   |
| Approach Vol, veh/h          | 922                                                                               |                                                                                   | 1041                                                                              |                                                                                   |                                                                                   |                                                                                   | 342                                                                                 |                                                                                     | 116                                                                                 |                                                                                     |                                                                                     |                                                                                     |
| Approach Delay, s/veh        | 12.6                                                                              |                                                                                   | 13.5                                                                              |                                                                                   |                                                                                   |                                                                                   | 31.2                                                                                |                                                                                     | 25.7                                                                                |                                                                                     |                                                                                     |                                                                                     |
| Approach LOS                 | B                                                                                 |                                                                                   | B                                                                                 |                                                                                   |                                                                                   |                                                                                   | C                                                                                   |                                                                                     | C                                                                                   |                                                                                     |                                                                                     |                                                                                     |
| Timer - Assigned Phs         | 1                                                                                 | 2                                                                                 | 3                                                                                 | 4                                                                                 | 5                                                                                 | 6                                                                                 | 7                                                                                   | 8                                                                                   |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Phs Duration (G+Y+Rc), s     | 7.3                                                                               | 16.7                                                                              | 5.7                                                                               | 43.1                                                                              | 6.7                                                                               | 17.3                                                                              | 5.8                                                                                 | 43.0                                                                                |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Change Period (Y+Rc), s      | 4.0                                                                               | 5.0                                                                               | 4.0                                                                               | 5.0                                                                               | 4.0                                                                               | 5.0                                                                               | 4.0                                                                                 | 5.0                                                                                 |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Max Green Setting (Gmax), s  | 12.0                                                                              | 22.0                                                                              | 10.0                                                                              | 38.0                                                                              | 12.0                                                                              | 22.0                                                                              | 10.0                                                                                | 38.0                                                                                |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Max Q Clear Time (g_c+I1), s | 3.8                                                                               | 3.6                                                                               | 2.4                                                                               | 15.4                                                                              | 3.3                                                                               | 11.5                                                                              | 2.4                                                                                 | 13.3                                                                                |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Green Ext Time (p_c), s      | 0.0                                                                               | 0.2                                                                               | 0.0                                                                               | 7.1                                                                               | 0.0                                                                               | 0.8                                                                               | 0.0                                                                                 | 6.3                                                                                 |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Intersection Summary         |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| HCM 6th Ctrl Delay           | 16.2                                                                              |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| HCM 6th LOS                  | B                                                                                 |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |



| Intersection             |                                                                                   |                                                                                   |      |                                                                                   |                                                                                   |      |        |                                                                                   |      |        |                                                                                     |      |
|--------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|------|--------|-----------------------------------------------------------------------------------|------|--------|-------------------------------------------------------------------------------------|------|
| Int Delay, s/veh         | 1.2                                                                               |                                                                                   |      |                                                                                   |                                                                                   |      |        |                                                                                   |      |        |                                                                                     |      |
| Movement                 | EBL                                                                               | EBT                                                                               | EBR  | WBL                                                                               | WBT                                                                               | WBR  | NBL    | NBT                                                                               | NBR  | SBL    | SBT                                                                                 | SBR  |
| Lane Configurations      |  |  |      |  |  |      |        |  |      |        |  |      |
| Traffic Vol, veh/h       | 15                                                                                | 898                                                                               | 63   | 99                                                                                | 937                                                                               | 14   | 2      | 1                                                                                 | 10   | 5      | 3                                                                                   | 15   |
| Future Vol, veh/h        | 15                                                                                | 898                                                                               | 63   | 99                                                                                | 937                                                                               | 14   | 2      | 1                                                                                 | 10   | 5      | 3                                                                                   | 15   |
| Conflicting Peds, #/hr   | 0                                                                                 | 0                                                                                 | 0    | 0                                                                                 | 0                                                                                 | 0    | 0      | 0                                                                                 | 0    | 0      | 0                                                                                   | 0    |
| Sign Control             | Free                                                                              | Free                                                                              | Free | Free                                                                              | Free                                                                              | Free | Stop   | Stop                                                                              | Stop | Stop   | Stop                                                                                | Stop |
| RT Channelized           | -                                                                                 | -                                                                                 | None | -                                                                                 | -                                                                                 | None | -      | -                                                                                 | None | -      | -                                                                                   | None |
| Storage Length           | 100                                                                               | -                                                                                 | -    | 100                                                                               | -                                                                                 | -    | -      | -                                                                                 | -    | -      | -                                                                                   | -    |
| Veh in Median Storage, # | -                                                                                 | 0                                                                                 | -    | -                                                                                 | 0                                                                                 | -    | -      | 0                                                                                 | -    | -      | 0                                                                                   | -    |
| Grade, %                 | -                                                                                 | 0                                                                                 | -    | -                                                                                 | 0                                                                                 | -    | -      | 0                                                                                 | -    | -      | 0                                                                                   | -    |
| Peak Hour Factor         | 100                                                                               | 100                                                                               | 100  | 100                                                                               | 100                                                                               | 100  | 100    | 100                                                                               | 100  | 100    | 100                                                                                 | 100  |
| Heavy Vehicles, %        | 1                                                                                 | 1                                                                                 | 1    | 1                                                                                 | 1                                                                                 | 1    | 1      | 1                                                                                 | 1    | 1      | 1                                                                                   | 1    |
| Mvmt Flow                | 15                                                                                | 898                                                                               | 63   | 99                                                                                | 937                                                                               | 14   | 2      | 1                                                                                 | 10   | 5      | 3                                                                                   | 15   |
|                          |                                                                                   |                                                                                   |      |                                                                                   |                                                                                   |      |        |                                                                                   |      |        |                                                                                     |      |
| Major/Minor              | Major1                                                                            |                                                                                   |      | Major2                                                                            |                                                                                   |      | Minor1 |                                                                                   |      | Minor2 |                                                                                     |      |
| Conflicting Flow All     | 951                                                                               | 0                                                                                 | 0    | 961                                                                               | 0                                                                                 | 0    | 1628   | 2109                                                                              | 481  | 1622   | 2133                                                                                | 476  |
| Stage 1                  | -                                                                                 | -                                                                                 | -    | -                                                                                 | -                                                                                 | -    | 960    | 960                                                                               | -    | 1142   | 1142                                                                                | -    |
| Stage 2                  | -                                                                                 | -                                                                                 | -    | -                                                                                 | -                                                                                 | -    | 668    | 1149                                                                              | -    | 480    | 991                                                                                 | -    |
| Critical Hdwy            | 4.12                                                                              | -                                                                                 | -    | 4.12                                                                              | -                                                                                 | -    | 7.52   | 6.52                                                                              | 6.92 | 7.52   | 6.52                                                                                | 6.92 |
| Critical Hdwy Stg 1      | -                                                                                 | -                                                                                 | -    | -                                                                                 | -                                                                                 | -    | 6.52   | 5.52                                                                              | -    | 6.52   | 5.52                                                                                | -    |
| Critical Hdwy Stg 2      | -                                                                                 | -                                                                                 | -    | -                                                                                 | -                                                                                 | -    | 6.52   | 5.52                                                                              | -    | 6.52   | 5.52                                                                                | -    |
| Follow-up Hdwy           | 2.21                                                                              | -                                                                                 | -    | 2.21                                                                              | -                                                                                 | -    | 3.51   | 4.01                                                                              | 3.31 | 3.51   | 4.01                                                                                | 3.31 |
| Pot Cap-1 Maneuver       | 724                                                                               | -                                                                                 | -    | 718                                                                               | -                                                                                 | -    | 68     | 51                                                                                | 534  | 69     | 49                                                                                  | 538  |
| Stage 1                  | -                                                                                 | -                                                                                 | -    | -                                                                                 | -                                                                                 | -    | 278    | 335                                                                               | -    | 215    | 275                                                                                 | -    |
| Stage 2                  | -                                                                                 | -                                                                                 | -    | -                                                                                 | -                                                                                 | -    | 416    | 273                                                                               | -    | 538    | 324                                                                                 | -    |
| Platoon blocked, %       |                                                                                   | -                                                                                 | -    |                                                                                   | -                                                                                 | -    |        |                                                                                   |      |        |                                                                                     |      |
| Mov Cap-1 Maneuver       | 724                                                                               | -                                                                                 | -    | 718                                                                               | -                                                                                 | -    | 55     | 43                                                                                | 534  | 59     | 41                                                                                  | 538  |
| Mov Cap-2 Maneuver       | -                                                                                 | -                                                                                 | -    | -                                                                                 | -                                                                                 | -    | 55     | 43                                                                                | -    | 59     | 41                                                                                  | -    |
| Stage 1                  | -                                                                                 | -                                                                                 | -    | -                                                                                 | -                                                                                 | -    | 272    | 328                                                                               | -    | 210    | 237                                                                                 | -    |
| Stage 2                  | -                                                                                 | -                                                                                 | -    | -                                                                                 | -                                                                                 | -    | 344    | 235                                                                               | -    | 515    | 317                                                                                 | -    |
|                          |                                                                                   |                                                                                   |      |                                                                                   |                                                                                   |      |        |                                                                                   |      |        |                                                                                     |      |
|                          |                                                                                   |                                                                                   |      |                                                                                   |                                                                                   |      |        |                                                                                   |      |        |                                                                                     |      |
| Approach                 | EB                                                                                |                                                                                   |      | WB                                                                                |                                                                                   |      | NB     |                                                                                   |      | SB     |                                                                                     |      |
| HCM Control Delay, s     | 0.2                                                                               |                                                                                   |      | 1                                                                                 |                                                                                   |      | 28.5   |                                                                                   |      | 40.5   |                                                                                     |      |
| HCM LOS                  |                                                                                   |                                                                                   |      |                                                                                   |                                                                                   |      | D      |                                                                                   |      | E      |                                                                                     |      |
|                          |                                                                                   |                                                                                   |      |                                                                                   |                                                                                   |      |        |                                                                                   |      |        |                                                                                     |      |
| Minor Lane/Major Mvmt    | NBLn1                                                                             | EBL                                                                               | EBT  | EBR                                                                               | WBL                                                                               | WBT  | WBR    | SBLn1                                                                             |      |        |                                                                                     |      |
| Capacity (veh/h)         | 166                                                                               | 724                                                                               | -    | -                                                                                 | 718                                                                               | -    | -      | 124                                                                               |      |        |                                                                                     |      |
| HCM Lane V/C Ratio       | 0.078                                                                             | 0.021                                                                             | -    | -                                                                                 | 0.138                                                                             | -    | -      | 0.185                                                                             |      |        |                                                                                     |      |
| HCM Control Delay (s)    | 28.5                                                                              | 10.1                                                                              | -    | -                                                                                 | 10.8                                                                              | -    | -      | 40.5                                                                              |      |        |                                                                                     |      |
| HCM Lane LOS             | D                                                                                 | B                                                                                 | -    | -                                                                                 | B                                                                                 | -    | -      | E                                                                                 |      |        |                                                                                     |      |
| HCM 95th %tile Q(veh)    | 0.3                                                                               | 0.1                                                                               | -    | -                                                                                 | 0.5                                                                               | -    | -      | 0.7                                                                               |      |        |                                                                                     |      |

| Intersection             |      |      |      |      |      |      |      |      |      |      |       |      |
|--------------------------|------|------|------|------|------|------|------|------|------|------|-------|------|
| Int Delay, s/veh         | 0.5  |      |      |      |      |      |      |      |      |      |       |      |
| Movement                 | EBL  | EBT  | EBR  | WBL  | WBT  | WBR  | NBL  | NBT  | NBR  | SBL  | SBT   | SBR  |
| Lane Configurations      |      |      |      |      | ↶    |      |      | ↷    |      |      |       | ↶    |
| Traffic Vol, veh/h       | 0    | 0    | 0    | 0    | 3    | 15   | 10   | 329  | 2    | 0    | 0     | 75   |
| Future Vol, veh/h        | 0    | 0    | 0    | 0    | 3    | 15   | 10   | 329  | 2    | 0    | 0     | 75   |
| Conflicting Peds, #/hr   | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0     | 0    |
| Sign Control             | Stop | Stop | Stop | Stop | Stop | Stop | Free | Free | Free | Free | Free  | Free |
| RT Channelized           | -    | -    | None | -    | -    | None | -    | -    | None | -    | -     | Free |
| Storage Length           | -    | -    | -    | -    | -    | -    | -    | -    | -    | -    | -     | 0    |
| Veh in Median Storage, # | -    | 2    | -    | -    | 0    | -    | -    | 0    | -    | -    | 16965 | -    |
| Grade, %                 | -    | 0    | -    | -    | 0    | -    | -    | 0    | -    | -    | 0     | -    |
| Peak Hour Factor         | 100  | 100  | 100  | 100  | 100  | 100  | 100  | 100  | 100  | 100  | 100   | 100  |
| Heavy Vehicles, %        | 1    | 1    | 1    | 1    | 1    | 1    | 1    | 1    | 1    | 1    | 1     | 1    |
| Mvmt Flow                | 0    | 0    | 0    | 0    | 3    | 15   | 10   | 329  | 2    | 0    | 0     | 75   |

| Major/Minor          | Minor1 |      |      | Major1 |   |   |
|----------------------|--------|------|------|--------|---|---|
| Conflicting Flow All | -      | 350  | 166  | 0      | 0 | 0 |
| Stage 1              | -      | 350  | -    | -      | - | - |
| Stage 2              | -      | 0    | -    | -      | - | - |
| Critical Hdwy        | -      | 6.52 | 6.92 | 4.12   | - | - |
| Critical Hdwy Stg 1  | -      | 5.52 | -    | -      | - | - |
| Critical Hdwy Stg 2  | -      | -    | -    | -      | - | - |
| Follow-up Hdwy       | -      | 4.01 | 3.31 | 2.21   | - | - |
| Pot Cap-1 Maneuver   | 0      | 575  | 852  | -      | - | - |
| Stage 1              | 0      | 634  | -    | -      | - | - |
| Stage 2              | 0      | -    | -    | -      | - | - |
| Platoon blocked, %   |        |      |      |        | - | - |
| Mov Cap-1 Maneuver   | -      | 0    | 852  | -      | - | - |
| Mov Cap-2 Maneuver   | -      | 0    | -    | -      | - | - |
| Stage 1              | -      | 0    | -    | -      | - | - |
| Stage 2              | -      | 0    | -    | -      | - | - |

| Approach             | WB  | NB |
|----------------------|-----|----|
| HCM Control Delay, s | 9.3 |    |
| HCM LOS              | A   |    |

| Minor Lane/Major Mvmt | NBL | NBT | NBRWBLn1 |
|-----------------------|-----|-----|----------|
| Capacity (veh/h)      | -   | -   | 852      |
| HCM Lane V/C Ratio    | -   | -   | 0.021    |
| HCM Control Delay (s) | -   | -   | 9.3      |
| HCM Lane LOS          | -   | -   | A        |
| HCM 95th %tile Q(veh) | -   | -   | 0.1      |

| Intersection             |      |      |      |      |      |      |      |       |      |      |      |      |
|--------------------------|------|------|------|------|------|------|------|-------|------|------|------|------|
| Int Delay, s/veh         | 0.5  |      |      |      |      |      |      |       |      |      |      |      |
| Movement                 | EBL  | EBT  | EBR  | WBL  | WBT  | WBR  | NBL  | NBT   | NBR  | SBL  | SBT  | SBR  |
| Lane Configurations      |      |      |      |      |      |      |      |       |      |      |      |      |
| Traffic Vol, veh/h       | 0    | 0    | 13   | 69   | 10   | 3    | 0    | 0     | 0    | 0    | 151  | 7    |
| Future Vol, veh/h        | 0    | 0    | 13   | 69   | 10   | 3    | 0    | 0     | 0    | 0    | 151  | 7    |
| Conflicting Peds, #/hr   | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0     | 0    | 0    | 0    | 0    |
| Sign Control             | Stop | Stop | Stop | Stop | Stop | Stop | Free | Free  | Free | Free | Free | Free |
| RT Channelized           | -    | -    | None | -    | -    | Free | -    | -     | None | -    | -    | None |
| Storage Length           | -    | -    | 0    | 0    | -    | -    | -    | -     | -    | -    | -    | -    |
| Veh in Median Storage, # | -    | 0    | -    | -    | 0    | -    | -    | 16974 | -    | -    | 0    | -    |
| Grade, %                 | -    | 0    | -    | -    | 0    | -    | -    | 0     | -    | -    | 0    | -    |
| Peak Hour Factor         | 100  | 100  | 100  | 100  | 100  | 100  | 100  | 100   | 100  | 100  | 100  | 100  |
| Heavy Vehicles, %        | 1    | 1    | 1    | 1    | 1    | 1    | 1    | 1     | 1    | 1    | 1    | 1    |
| Mvmt Flow                | 0    | 0    | 13   | 69   | 10   | 3    | 0    | 0     | 0    | 0    | 151  | 7    |

| Major/Minor          | Minor2 |   | Minor1 |       |       | Major2 |   |   |
|----------------------|--------|---|--------|-------|-------|--------|---|---|
| Conflicting Flow All | -      | - | 155    | 161   | 158   | -      | - | 0 |
| Stage 1              | -      | - | -      | 0     | 0     | -      | - | - |
| Stage 2              | -      | - | -      | 161   | 158   | -      | - | - |
| Critical Hdwy        | -      | - | 6.21   | 7.11  | 6.51  | -      | - | - |
| Critical Hdwy Stg 1  | -      | - | -      | -     | -     | -      | - | - |
| Critical Hdwy Stg 2  | -      | - | -      | 6.11  | 5.51  | -      | - | - |
| Follow-up Hdwy       | -      | - | 3.309  | 3.509 | 4.009 | -      | - | - |
| Pot Cap-1 Maneuver   | 0      | 0 | 893    | 807   | 736   | 0      | 0 | - |
| Stage 1              | 0      | 0 | -      | -     | -     | 0      | 0 | - |
| Stage 2              | 0      | 0 | -      | 843   | 769   | 0      | 0 | - |
| Platoon blocked, %   | -      | - | -      | -     | -     | -      | - | - |
| Mov Cap-1 Maneuver   | -      | - | 893    | 795   | 736   | -      | - | - |
| Mov Cap-2 Maneuver   | -      | - | -      | 795   | 736   | -      | - | - |
| Stage 1              | -      | - | -      | -     | -     | -      | - | - |
| Stage 2              | -      | - | -      | 831   | 769   | -      | - | - |

| Approach             | EB  | WB | SB |
|----------------------|-----|----|----|
| HCM Control Delay, s | 9.1 |    | 0  |
| HCM LOS              | A   | -  |    |

| Minor Lane/Major Mvmt | EBLn1WBLn1WBLn2 | SBT | SBR |
|-----------------------|-----------------|-----|-----|
| Capacity (veh/h)      | 893 795         | -   | -   |
| HCM Lane V/C Ratio    | 0.015 0.087     | -   | -   |
| HCM Control Delay (s) | 9.1 10          | -   | -   |
| HCM Lane LOS          | A B             | -   | -   |
| HCM 95th %tile Q(veh) | 0 0.3           | -   | -   |

| Intersection             |      |      |      |      |      |      |      |      |      |      |       |      |
|--------------------------|------|------|------|------|------|------|------|------|------|------|-------|------|
| Int Delay, s/veh         | 1.1  |      |      |      |      |      |      |      |      |      |       |      |
| Movement                 | EBL  | EBT  | EBR  | WBL  | WBT  | WBR  | NBL  | NBT  | NBR  | SBL  | SBT   | SBR  |
| Lane Configurations      |      | ↰    |      |      | ↱    |      |      | ↰↱   |      |      |       |      |
| Traffic Vol, veh/h       | 10   | 10   | 0    | 0    | 10   | 10   | 10   | 340  | 10   | 0    | 0     | 0    |
| Future Vol, veh/h        | 10   | 10   | 0    | 0    | 10   | 10   | 10   | 340  | 10   | 0    | 0     | 0    |
| Conflicting Peds, #/hr   | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0     | 0    |
| Sign Control             | Stop | Stop | Stop | Stop | Stop | Stop | Free | Free | Free | Free | Free  | Free |
| RT Channelized           | -    | -    | None | -    | -    | None | -    | -    | None | -    | -     | None |
| Storage Length           | -    | -    | -    | -    | -    | -    | -    | -    | -    | -    | -     | -    |
| Veh in Median Storage, # | -    | 0    | -    | -    | 0    | -    | -    | 0    | -    | -    | 16965 | -    |
| Grade, %                 | -    | 0    | -    | -    | 0    | -    | -    | 0    | -    | -    | 0     | -    |
| Peak Hour Factor         | 100  | 100  | 100  | 100  | 100  | 100  | 100  | 100  | 100  | 100  | 100   | 100  |
| Heavy Vehicles, %        | 1    | 1    | 1    | 1    | 1    | 1    | 1    | 1    | 1    | 1    | 1     | 1    |
| Mvmt Flow                | 10   | 10   | 0    | 0    | 10   | 10   | 10   | 340  | 10   | 0    | 0     | 0    |

| Major/Minor          | Minor2 |      | Minor1 |   | Major1 |      |      |   |   |  |  |
|----------------------|--------|------|--------|---|--------|------|------|---|---|--|--|
| Conflicting Flow All | 195    | 370  | -      | - | 365    | 175  | 0    | 0 | 0 |  |  |
| Stage 1              | 0      | 0    | -      | - | 365    | -    | -    | - | - |  |  |
| Stage 2              | 195    | 370  | -      | - | 0      | -    | -    | - | - |  |  |
| Critical Hdwy        | 7.52   | 6.52 | -      | - | 6.52   | 6.92 | 4.12 | - | - |  |  |
| Critical Hdwy Stg 1  | -      | -    | -      | - | 5.52   | -    | -    | - | - |  |  |
| Critical Hdwy Stg 2  | 6.52   | 5.52 | -      | - | -      | -    | -    | - | - |  |  |
| Follow-up Hdwy       | 3.51   | 4.01 | -      | - | 4.01   | 3.31 | 2.21 | - | - |  |  |
| Pot Cap-1 Maneuver   | 749    | 560  | 0      | 0 | 564    | 841  | -    | - | - |  |  |
| Stage 1              | -      | -    | 0      | 0 | 624    | -    | -    | - | - |  |  |
| Stage 2              | 791    | 621  | 0      | 0 | -      | -    | -    | - | - |  |  |
| Platoon blocked, %   |        |      |        |   |        |      |      | - | - |  |  |
| Mov Cap-1 Maneuver   | 730    | 560  | -      | - | 564    | 841  | -    | - | - |  |  |
| Mov Cap-2 Maneuver   | 730    | 560  | -      | - | 564    | -    | -    | - | - |  |  |
| Stage 1              | -      | -    | -      | - | 624    | -    | -    | - | - |  |  |
| Stage 2              | 769    | 621  | -      | - | -      | -    | -    | - | - |  |  |

| Approach             | EB   |  | WB   |  | NB |  |  |
|----------------------|------|--|------|--|----|--|--|
| HCM Control Delay, s | 10.9 |  | 10.5 |  |    |  |  |
| HCM LOS              | B    |  | B    |  |    |  |  |

| Minor Lane/Major Mvmt | NBL | NBT | NBR | EBLn1WBLn1 |      |
|-----------------------|-----|-----|-----|------------|------|
| Capacity (veh/h)      | -   | -   | -   | 634        | 675  |
| HCM Lane V/C Ratio    | -   | -   | -   | 0.032      | 0.03 |
| HCM Control Delay (s) | -   | -   | -   | 10.9       | 10.5 |
| HCM Lane LOS          | -   | -   | -   | B          | B    |
| HCM 95th %tile Q(veh) | -   | -   | -   | 0.1        | 0.1  |

| Intersection             |      |      |      |      |      |      |      |       |      |      |      |      |
|--------------------------|------|------|------|------|------|------|------|-------|------|------|------|------|
| Int Delay, s/veh         | 1.5  |      |      |      |      |      |      |       |      |      |      |      |
| Movement                 | EBL  | EBT  | EBR  | WBL  | WBT  | WBR  | NBL  | NBT   | NBR  | SBL  | SBT  | SBR  |
| Lane Configurations      |      | ↱    |      |      | ↰    |      |      |       |      |      | ↰↱   |      |
| Traffic Vol, veh/h       | 0    | 10   | 10   | 10   | 10   | 0    | 0    | 0     | 0    | 10   | 210  | 10   |
| Future Vol, veh/h        | 0    | 10   | 10   | 10   | 10   | 0    | 0    | 0     | 0    | 10   | 210  | 10   |
| Conflicting Peds, #/hr   | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0     | 0    | 0    | 0    | 0    |
| Sign Control             | Stop | Stop | Stop | Stop | Stop | Stop | Free | Free  | Free | Free | Free | Free |
| RT Channelized           | -    | -    | None | -    | -    | None | -    | -     | None | -    | -    | None |
| Storage Length           | -    | -    | -    | -    | -    | -    | -    | -     | -    | -    | -    | -    |
| Veh in Median Storage, # | -    | 0    | -    | -    | 0    | -    | -    | 16974 | -    | -    | 0    | -    |
| Grade, %                 | -    | 0    | -    | -    | 0    | -    | -    | 0     | -    | -    | 0    | -    |
| Peak Hour Factor         | 100  | 100  | 100  | 100  | 100  | 100  | 100  | 100   | 100  | 100  | 100  | 100  |
| Heavy Vehicles, %        | 1    | 1    | 1    | 1    | 1    | 1    | 1    | 1     | 1    | 1    | 1    | 1    |
| Mvmt Flow                | 0    | 10   | 10   | 10   | 10   | 0    | 0    | 0     | 0    | 10   | 210  | 10   |

| Major/Minor          | Minor2 |      | Minor1 |      |      |   | Major2 |   |   |
|----------------------|--------|------|--------|------|------|---|--------|---|---|
| Conflicting Flow All | -      | 235  | 110    | 130  | 240  | - | 0      | 0 | 0 |
| Stage 1              | -      | 235  | -      | 0    | 0    | - | -      | - | - |
| Stage 2              | -      | 0    | -      | 130  | 240  | - | -      | - | - |
| Critical Hdwy        | -      | 6.52 | 6.92   | 7.52 | 6.52 | - | 4.12   | - | - |
| Critical Hdwy Stg 1  | -      | 5.52 | -      | -    | -    | - | -      | - | - |
| Critical Hdwy Stg 2  | -      | -    | -      | 6.52 | 5.52 | - | -      | - | - |
| Follow-up Hdwy       | -      | 4.01 | 3.31   | 3.51 | 4.01 | - | 2.21   | - | - |
| Pot Cap-1 Maneuver   | 0      | 667  | 926    | 832  | 662  | 0 | -      | - | - |
| Stage 1              | 0      | 712  | -      | -    | -    | 0 | -      | - | - |
| Stage 2              | 0      | -    | -      | 863  | 708  | 0 | -      | - | - |
| Platoon blocked, %   |        |      |        |      |      |   |        | - | - |
| Mov Cap-1 Maneuver   | -      | 667  | 926    | 814  | 662  | - | -      | - | - |
| Mov Cap-2 Maneuver   | -      | 667  | -      | 814  | 662  | - | -      | - | - |
| Stage 1              | -      | 712  | -      | -    | -    | - | -      | - | - |
| Stage 2              | -      | -    | -      | 842  | 708  | - | -      | - | - |

| Approach             | EB  |  | WB   |  | SB |  |
|----------------------|-----|--|------|--|----|--|
| HCM Control Delay, s | 9.8 |  | 10.1 |  |    |  |
| HCM LOS              | A   |  | B    |  |    |  |

| Minor Lane/Major Mvmt | EBLn1WBLn1 |       | SBL | SBT | SBR |
|-----------------------|------------|-------|-----|-----|-----|
| Capacity (veh/h)      | 775        | 730   | -   | -   | -   |
| HCM Lane V/C Ratio    | 0.026      | 0.027 | -   | -   | -   |
| HCM Control Delay (s) | 9.8        | 10.1  | -   | -   | -   |
| HCM Lane LOS          | A          | B     | -   | -   | -   |
| HCM 95th %tile Q(veh) | 0.1        | 0.1   | -   | -   | -   |

| Intersection             |      |      |      |      |      |      |      |      |      |      |       |      |
|--------------------------|------|------|------|------|------|------|------|------|------|------|-------|------|
| Int Delay, s/veh         | 1.1  |      |      |      |      |      |      |      |      |      |       |      |
| Movement                 | EBL  | EBT  | EBR  | WBL  | WBT  | WBR  | NBL  | NBT  | NBR  | SBL  | SBT   | SBR  |
| Lane Configurations      |      | ↰    |      |      | ↱    |      |      | ↰↱   |      |      |       |      |
| Traffic Vol, veh/h       | 10   | 10   | 0    | 0    | 10   | 10   | 10   | 340  | 10   | 0    | 0     | 0    |
| Future Vol, veh/h        | 10   | 10   | 0    | 0    | 10   | 10   | 10   | 340  | 10   | 0    | 0     | 0    |
| Conflicting Peds, #/hr   | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0     | 0    |
| Sign Control             | Stop | Stop | Stop | Stop | Stop | Stop | Free | Free | Free | Free | Free  | Free |
| RT Channelized           | -    | -    | None | -    | -    | None | -    | -    | None | -    | -     | None |
| Storage Length           | -    | -    | -    | -    | -    | -    | -    | -    | -    | -    | -     | -    |
| Veh in Median Storage, # | -    | 0    | -    | -    | 0    | -    | -    | 0    | -    | -    | 16965 | -    |
| Grade, %                 | -    | 0    | -    | -    | 0    | -    | -    | 0    | -    | -    | 0     | -    |
| Peak Hour Factor         | 100  | 100  | 100  | 100  | 100  | 100  | 100  | 100  | 100  | 100  | 100   | 100  |
| Heavy Vehicles, %        | 1    | 1    | 1    | 1    | 1    | 1    | 1    | 1    | 1    | 1    | 1     | 1    |
| Mvmt Flow                | 10   | 10   | 0    | 0    | 10   | 10   | 10   | 340  | 10   | 0    | 0     | 0    |

| Major/Minor          | Minor2 |      | Minor1 |   | Major1 |      |      |   |   |
|----------------------|--------|------|--------|---|--------|------|------|---|---|
| Conflicting Flow All | 195    | 370  | -      | - | 365    | 175  | 0    | 0 | 0 |
| Stage 1              | 0      | 0    | -      | - | 365    | -    | -    | - | - |
| Stage 2              | 195    | 370  | -      | - | 0      | -    | -    | - | - |
| Critical Hdwy        | 7.52   | 6.52 | -      | - | 6.52   | 6.92 | 4.12 | - | - |
| Critical Hdwy Stg 1  | -      | -    | -      | - | 5.52   | -    | -    | - | - |
| Critical Hdwy Stg 2  | 6.52   | 5.52 | -      | - | -      | -    | -    | - | - |
| Follow-up Hdwy       | 3.51   | 4.01 | -      | - | 4.01   | 3.31 | 2.21 | - | - |
| Pot Cap-1 Maneuver   | 749    | 560  | 0      | 0 | 564    | 841  | -    | - | - |
| Stage 1              | -      | -    | 0      | 0 | 624    | -    | -    | - | - |
| Stage 2              | 791    | 621  | 0      | 0 | -      | -    | -    | - | - |
| Platoon blocked, %   |        |      |        |   |        |      |      | - | - |
| Mov Cap-1 Maneuver   | 730    | 560  | -      | - | 564    | 841  | -    | - | - |
| Mov Cap-2 Maneuver   | 730    | 560  | -      | - | 564    | -    | -    | - | - |
| Stage 1              | -      | -    | -      | - | 624    | -    | -    | - | - |
| Stage 2              | 769    | 621  | -      | - | -      | -    | -    | - | - |

| Approach             | EB   |  | WB   |  | NB |  |  |
|----------------------|------|--|------|--|----|--|--|
| HCM Control Delay, s | 10.9 |  | 10.5 |  |    |  |  |
| HCM LOS              | B    |  | B    |  |    |  |  |

| Minor Lane/Major Mvmt | NBL | NBT | NBR | EBLn1WBLn1 |      |
|-----------------------|-----|-----|-----|------------|------|
| Capacity (veh/h)      | -   | -   | -   | 634        | 675  |
| HCM Lane V/C Ratio    | -   | -   | -   | 0.032      | 0.03 |
| HCM Control Delay (s) | -   | -   | -   | 10.9       | 10.5 |
| HCM Lane LOS          | -   | -   | -   | B          | B    |
| HCM 95th %tile Q(veh) | -   | -   | -   | 0.1        | 0.1  |



| Intersection             |             |      |        |      |      |      |          |       |      |      |      |      |
|--------------------------|-------------|------|--------|------|------|------|----------|-------|------|------|------|------|
| Int Delay, s/veh         | 1.5         |      |        |      |      |      |          |       |      |      |      |      |
| Movement                 | EBL         | EBT  | EBR    | WBL  | WBT  | WBR  | NBL      | NBT   | NBR  | SBL  | SBT  | SBR  |
| Lane Configurations      |             | ↰    |        |      | ↱    |      |          |       |      | ↰↱   |      |      |
| Traffic Vol, veh/h       | 0           | 10   | 10     | 10   | 10   | 0    | 0        | 0     | 0    | 10   | 210  | 10   |
| Future Vol, veh/h        | 0           | 10   | 10     | 10   | 10   | 0    | 0        | 0     | 0    | 10   | 210  | 10   |
| Conflicting Peds, #/hr   | 0           | 0    | 0      | 0    | 0    | 0    | 0        | 0     | 0    | 0    | 0    | 0    |
| Sign Control             | Stop        | Stop | Stop   | Stop | Stop | Stop | Free     | Free  | Free | Free | Free | Free |
| RT Channelized           | -           | -    | None   | -    | -    | None | -        | -     | None | -    | -    | None |
| Storage Length           | -           | -    | -      | -    | -    | -    | -        | -     | -    | -    | -    | -    |
| Veh in Median Storage, # | -           | 0    | -      | -    | 0    | -    | -        | 16974 | -    | -    | 0    | -    |
| Grade, %                 | -           | 0    | -      | -    | 0    | -    | -        | 0     | -    | -    | 0    | -    |
| Peak Hour Factor         | 100         | 100  | 100    | 100  | 100  | 100  | 100      | 100   | 100  | 100  | 100  | 100  |
| Heavy Vehicles, %        | 1           | 1    | 1      | 1    | 1    | 1    | 1        | 1     | 1    | 1    | 1    | 1    |
| Mvmt Flow                | 0           | 10   | 10     | 10   | 10   | 0    | 0        | 0     | 0    | 10   | 210  | 10   |
|                          |             |      |        |      |      |      |          |       |      |      |      |      |
| Major/Minor              | Minor2      |      | Minor1 |      |      |      | Major2   |       |      |      |      |      |
| Conflicting Flow All     | -           | 235  | 110    | 130  | 240  | -    | 0 0 0    |       |      |      |      |      |
| Stage 1                  | -           | 235  | -      | 0    | 0    | -    | - - -    |       |      |      |      |      |
| Stage 2                  | -           | 0    | -      | 130  | 240  | -    | - - -    |       |      |      |      |      |
| Critical Hdwy            | -           | 6.52 | 6.92   | 7.52 | 6.52 | -    | 4.12 - - |       |      |      |      |      |
| Critical Hdwy Stg 1      | -           | 5.52 | -      | -    | -    | -    | - - -    |       |      |      |      |      |
| Critical Hdwy Stg 2      | -           | -    | -      | 6.52 | 5.52 | -    | - - -    |       |      |      |      |      |
| Follow-up Hdwy           | -           | 4.01 | 3.31   | 3.51 | 4.01 | -    | 2.21 - - |       |      |      |      |      |
| Pot Cap-1 Maneuver       | 0           | 667  | 926    | 832  | 662  | 0    | - - -    |       |      |      |      |      |
| Stage 1                  | 0           | 712  | -      | -    | -    | 0    | - - -    |       |      |      |      |      |
| Stage 2                  | 0           | -    | -      | 863  | 708  | 0    | - - -    |       |      |      |      |      |
| Platoon blocked, %       |             |      |        |      |      |      |          |       |      |      | -    | -    |
| Mov Cap-1 Maneuver       | -           | 667  | 926    | 814  | 662  | -    | - - -    |       |      |      |      |      |
| Mov Cap-2 Maneuver       | -           | 667  | -      | 814  | 662  | -    | - - -    |       |      |      |      |      |
| Stage 1                  | -           | 712  | -      | -    | -    | -    | - - -    |       |      |      |      |      |
| Stage 2                  | -           | -    | -      | 842  | 708  | -    | - - -    |       |      |      |      |      |
|                          |             |      |        |      |      |      |          |       |      |      |      |      |
|                          |             |      |        |      |      |      |          |       |      |      |      |      |
| Approach                 | EB          |      | WB     |      |      |      | SB       |       |      |      |      |      |
| HCM Control Delay, s     | 9.8         |      | 10.1   |      |      |      |          |       |      |      |      |      |
| HCM LOS                  | A           |      | B      |      |      |      |          |       |      |      |      |      |
|                          |             |      |        |      |      |      |          |       |      |      |      |      |
| Minor Lane/Major Mvmt    | EBLn1WBLn1  |      | SBL    | SBT  | SBR  |      |          |       |      |      |      |      |
| Capacity (veh/h)         | 775 730     |      | -      | -    | -    |      |          |       |      |      |      |      |
| HCM Lane V/C Ratio       | 0.026 0.027 |      | -      | -    | -    |      |          |       |      |      |      |      |
| HCM Control Delay (s)    | 9.8 10.1    |      | -      | -    | -    |      |          |       |      |      |      |      |
| HCM Lane LOS             | A B         |      | -      | -    | -    |      |          |       |      |      |      |      |
| HCM 95th %tile O(veh)    | 0.1 0.1     |      | -      | -    | -    |      |          |       |      |      |      |      |

| Intersection             |      |      |      |      |      |      |      |      |      |      |       |      |
|--------------------------|------|------|------|------|------|------|------|------|------|------|-------|------|
| Int Delay, s/veh         | 2.6  |      |      |      |      |      |      |      |      |      |       |      |
| Movement                 | EBL  | EBT  | EBR  | WBL  | WBT  | WBR  | NBL  | NBT  | NBR  | SBL  | SBT   | SBR  |
| Lane Configurations      |      | ↰    |      |      | ↱    |      |      | ↰↱   |      |      |       |      |
| Traffic Vol, veh/h       | 7    | 37   | 0    | 0    | 44   | 14   | 3    | 336  | 18   | 0    | 0     | 0    |
| Future Vol, veh/h        | 7    | 37   | 0    | 0    | 44   | 14   | 3    | 336  | 18   | 0    | 0     | 0    |
| Conflicting Peds, #/hr   | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0     | 0    |
| Sign Control             | Stop | Stop | Stop | Stop | Stop | Stop | Free | Free | Free | Free | Free  | Free |
| RT Channelized           | -    | -    | None | -    | -    | None | -    | -    | None | -    | -     | None |
| Storage Length           | -    | -    | -    | -    | -    | -    | -    | -    | -    | -    | -     | -    |
| Veh in Median Storage, # | -    | 0    | -    | -    | 0    | -    | -    | 0    | -    | -    | 16965 | -    |
| Grade, %                 | -    | 0    | -    | -    | 0    | -    | -    | 0    | -    | -    | 0     | -    |
| Peak Hour Factor         | 100  | 100  | 100  | 100  | 100  | 100  | 100  | 100  | 100  | 100  | 100   | 100  |
| Heavy Vehicles, %        | 1    | 1    | 1    | 1    | 1    | 1    | 1    | 1    | 1    | 1    | 1     | 1    |
| Mvmt Flow                | 7    | 37   | 0    | 0    | 44   | 14   | 3    | 336  | 18   | 0    | 0     | 0    |

| Major/Minor          | Minor2 |      | Minor1 |   | Major1 |      |      |   |   |  |  |
|----------------------|--------|------|--------|---|--------|------|------|---|---|--|--|
| Conflicting Flow All | 196    | 360  | -      | - | 351    | 177  | 0    | 0 | 0 |  |  |
| Stage 1              | 0      | 0    | -      | - | 351    | -    | -    | - | - |  |  |
| Stage 2              | 196    | 360  | -      | - | 0      | -    | -    | - | - |  |  |
| Critical Hdwy        | 7.52   | 6.52 | -      | - | 6.52   | 6.92 | 4.12 | - | - |  |  |
| Critical Hdwy Stg 1  | -      | -    | -      | - | 5.52   | -    | -    | - | - |  |  |
| Critical Hdwy Stg 2  | 6.52   | 5.52 | -      | - | -      | -    | -    | - | - |  |  |
| Follow-up Hdwy       | 3.51   | 4.01 | -      | - | 4.01   | 3.31 | 2.21 | - | - |  |  |
| Pot Cap-1 Maneuver   | 748    | 568  | 0      | 0 | 574    | 839  | -    | - | - |  |  |
| Stage 1              | -      | -    | 0      | 0 | 633    | -    | -    | - | - |  |  |
| Stage 2              | 790    | 627  | 0      | 0 | -      | -    | -    | - | - |  |  |
| Platoon blocked, %   |        |      |        |   |        |      |      | - | - |  |  |
| Mov Cap-1 Maneuver   | 693    | 568  | -      | - | 574    | 839  | -    | - | - |  |  |
| Mov Cap-2 Maneuver   | 693    | 568  | -      | - | 574    | -    | -    | - | - |  |  |
| Stage 1              | -      | -    | -      | - | 633    | -    | -    | - | - |  |  |
| Stage 2              | 723    | 627  | -      | - | -      | -    | -    | - | - |  |  |

| Approach             | EB   |  | WB   |  | NB |  |  |
|----------------------|------|--|------|--|----|--|--|
| HCM Control Delay, s | 11.7 |  | 11.4 |  |    |  |  |
| HCM LOS              | B    |  | B    |  |    |  |  |

| Minor Lane/Major Mvmt | NBL | NBT | NBR | EBLn1WBLn1 |       |
|-----------------------|-----|-----|-----|------------|-------|
| Capacity (veh/h)      | -   | -   | -   | 585        | 621   |
| HCM Lane V/C Ratio    | -   | -   | -   | 0.075      | 0.093 |
| HCM Control Delay (s) | -   | -   | -   | 11.7       | 11.4  |
| HCM Lane LOS          | -   | -   | -   | B          | B     |
| HCM 95th %tile Q(veh) | -   | -   | -   | 0.2        | 0.3   |

| Intersection             |             |      |        |      |      |      |        |       |      |      |      |      |
|--------------------------|-------------|------|--------|------|------|------|--------|-------|------|------|------|------|
| Int Delay, s/veh         | 3           |      |        |      |      |      |        |       |      |      |      |      |
| Movement                 | EBL         | EBT  | EBR    | WBL  | WBT  | WBR  | NBL    | NBT   | NBR  | SBL  | SBT  | SBR  |
| Lane Configurations      |             | ↱    |        |      | ↰    |      |        |       |      | ↰↱   |      |      |
| Traffic Vol, veh/h       | 0           | 35   | 15     | 9    | 38   | 0    | 0      | 0     | 0    | 5    | 222  | 11   |
| Future Vol, veh/h        | 0           | 35   | 15     | 9    | 38   | 0    | 0      | 0     | 0    | 5    | 222  | 11   |
| Conflicting Peds, #/hr   | 0           | 0    | 0      | 0    | 0    | 0    | 0      | 0     | 0    | 0    | 0    | 0    |
| Sign Control             | Stop        | Stop | Stop   | Stop | Stop | Stop | Free   | Free  | Free | Free | Free | Free |
| RT Channelized           | -           | -    | None   | -    | -    | None | -      | -     | None | -    | -    | None |
| Storage Length           | -           | -    | -      | -    | -    | -    | -      | -     | -    | -    | -    | -    |
| Veh in Median Storage, # | -           | 0    | -      | -    | 0    | -    | -      | 16974 | -    | -    | 0    | -    |
| Grade, %                 | -           | 0    | -      | -    | 0    | -    | -      | 0     | -    | -    | 0    | -    |
| Peak Hour Factor         | 100         | 100  | 100    | 100  | 100  | 100  | 100    | 100   | 100  | 100  | 100  | 100  |
| Heavy Vehicles, %        | 1           | 1    | 1      | 1    | 1    | 1    | 1      | 1     | 1    | 1    | 1    | 1    |
| Mvmt Flow                | 0           | 35   | 15     | 9    | 38   | 0    | 0      | 0     | 0    | 5    | 222  | 11   |
|                          |             |      |        |      |      |      |        |       |      |      |      |      |
| Major/Minor              | Minor2      |      | Minor1 |      |      |      | Major2 |       |      |      |      |      |
| Conflicting Flow All     | -           | 238  | 117    | 139  | 243  | -    |        |       |      | 0    | 0    | 0    |
| Stage 1                  | -           | 238  | -      | 0    | 0    | -    |        |       |      | -    | -    | -    |
| Stage 2                  | -           | 0    | -      | 139  | 243  | -    |        |       |      | -    | -    | -    |
| Critical Hdwy            | -           | 6.52 | 6.92   | 7.52 | 6.52 | -    |        |       |      | 4.12 | -    | -    |
| Critical Hdwy Stg 1      | -           | 5.52 | -      | -    | -    | -    |        |       |      | -    | -    | -    |
| Critical Hdwy Stg 2      | -           | -    | -      | 6.52 | 5.52 | -    |        |       |      | -    | -    | -    |
| Follow-up Hdwy           | -           | 4.01 | 3.31   | 3.51 | 4.01 | -    |        |       |      | 2.21 | -    | -    |
| Pot Cap-1 Maneuver       | 0           | 664  | 916    | 820  | 660  | 0    |        |       |      | -    | -    | -    |
| Stage 1                  | 0           | 710  | -      | -    | -    | 0    |        |       |      | -    | -    | -    |
| Stage 2                  | 0           | -    | -      | 853  | 706  | 0    |        |       |      | -    | -    | -    |
| Platoon blocked, %       |             |      |        |      |      |      |        |       |      |      | -    | -    |
| Mov Cap-1 Maneuver       | -           | 664  | 916    | 774  | 660  | -    |        |       |      | -    | -    | -    |
| Mov Cap-2 Maneuver       | -           | 664  | -      | 774  | 660  | -    |        |       |      | -    | -    | -    |
| Stage 1                  | -           | 710  | -      | -    | -    | -    |        |       |      | -    | -    | -    |
| Stage 2                  | -           | -    | -      | 798  | 706  | -    |        |       |      | -    | -    | -    |
|                          |             |      |        |      |      |      |        |       |      |      |      |      |
|                          |             |      |        |      |      |      |        |       |      |      |      |      |
| Approach                 | EB          |      | WB     |      |      |      | SB     |       |      |      |      |      |
| HCM Control Delay, s     | 10.3        |      | 10.7   |      |      |      |        |       |      |      |      |      |
| HCM LOS                  | B           |      | B      |      |      |      |        |       |      |      |      |      |
|                          |             |      |        |      |      |      |        |       |      |      |      |      |
|                          |             |      |        |      |      |      |        |       |      |      |      |      |
| Minor Lane/Major Mvmt    | EBLn1WBLn1  |      | SBL    | SBT  | SBR  |      |        |       |      |      |      |      |
| Capacity (veh/h)         | 724 679     |      | -      | -    | -    |      |        |       |      |      |      |      |
| HCM Lane V/C Ratio       | 0.069 0.069 |      | -      | -    | -    |      |        |       |      |      |      |      |
| HCM Control Delay (s)    | 10.3 10.7   |      | -      | -    | -    |      |        |       |      |      |      |      |
| HCM Lane LOS             | B B         |      | -      | -    | -    |      |        |       |      |      |      |      |
| HCM 95th %tile O(veh)    | 0.2 0.2     |      | -      | -    | -    |      |        |       |      |      |      |      |

| Intersection             |      |      |      |      |      |      |      |      |      |      |       |      |
|--------------------------|------|------|------|------|------|------|------|------|------|------|-------|------|
| Int Delay, s/veh         | 1.1  |      |      |      |      |      |      |      |      |      |       |      |
| Movement                 | EBL  | EBT  | EBR  | WBL  | WBT  | WBR  | NBL  | NBT  | NBR  | SBL  | SBT   | SBR  |
| Lane Configurations      |      | ↰    |      |      | ↱    |      |      | ↰↱   |      |      |       |      |
| Traffic Vol, veh/h       | 10   | 10   | 0    | 0    | 10   | 10   | 10   | 340  | 10   | 0    | 0     | 0    |
| Future Vol, veh/h        | 10   | 10   | 0    | 0    | 10   | 10   | 10   | 340  | 10   | 0    | 0     | 0    |
| Conflicting Peds, #/hr   | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0     | 0    |
| Sign Control             | Stop | Stop | Stop | Stop | Stop | Stop | Free | Free | Free | Free | Free  | Free |
| RT Channelized           | -    | -    | None | -    | -    | None | -    | -    | None | -    | -     | None |
| Storage Length           | -    | -    | -    | -    | -    | -    | -    | -    | -    | -    | -     | -    |
| Veh in Median Storage, # | -    | 0    | -    | -    | 0    | -    | -    | 0    | -    | -    | 16965 | -    |
| Grade, %                 | -    | 0    | -    | -    | 0    | -    | -    | 0    | -    | -    | 0     | -    |
| Peak Hour Factor         | 100  | 100  | 100  | 100  | 100  | 100  | 100  | 100  | 100  | 100  | 100   | 100  |
| Heavy Vehicles, %        | 1    | 1    | 1    | 1    | 1    | 1    | 1    | 1    | 1    | 1    | 1     | 1    |
| Mvmt Flow                | 10   | 10   | 0    | 0    | 10   | 10   | 10   | 340  | 10   | 0    | 0     | 0    |

| Major/Minor          | Minor2 |      | Minor1 |   | Major1 |      |      |   |   |  |  |
|----------------------|--------|------|--------|---|--------|------|------|---|---|--|--|
| Conflicting Flow All | 195    | 370  | -      | - | 365    | 175  | 0    | 0 | 0 |  |  |
| Stage 1              | 0      | 0    | -      | - | 365    | -    | -    | - | - |  |  |
| Stage 2              | 195    | 370  | -      | - | 0      | -    | -    | - | - |  |  |
| Critical Hdwy        | 7.52   | 6.52 | -      | - | 6.52   | 6.92 | 4.12 | - | - |  |  |
| Critical Hdwy Stg 1  | -      | -    | -      | - | 5.52   | -    | -    | - | - |  |  |
| Critical Hdwy Stg 2  | 6.52   | 5.52 | -      | - | -      | -    | -    | - | - |  |  |
| Follow-up Hdwy       | 3.51   | 4.01 | -      | - | 4.01   | 3.31 | 2.21 | - | - |  |  |
| Pot Cap-1 Maneuver   | 749    | 560  | 0      | 0 | 564    | 841  | -    | - | - |  |  |
| Stage 1              | -      | -    | 0      | 0 | 624    | -    | -    | - | - |  |  |
| Stage 2              | 791    | 621  | 0      | 0 | -      | -    | -    | - | - |  |  |
| Platoon blocked, %   |        |      |        |   |        |      |      | - | - |  |  |
| Mov Cap-1 Maneuver   | 730    | 560  | -      | - | 564    | 841  | -    | - | - |  |  |
| Mov Cap-2 Maneuver   | 730    | 560  | -      | - | 564    | -    | -    | - | - |  |  |
| Stage 1              | -      | -    | -      | - | 624    | -    | -    | - | - |  |  |
| Stage 2              | 769    | 621  | -      | - | -      | -    | -    | - | - |  |  |

| Approach             | EB   |  | WB   |  | NB |  |  |
|----------------------|------|--|------|--|----|--|--|
| HCM Control Delay, s | 10.9 |  | 10.5 |  |    |  |  |
| HCM LOS              | B    |  | B    |  |    |  |  |

| Minor Lane/Major Mvmt | NBL | NBT | NBR | EBLn1WBLn1 |      |
|-----------------------|-----|-----|-----|------------|------|
| Capacity (veh/h)      | -   | -   | -   | 634        | 675  |
| HCM Lane V/C Ratio    | -   | -   | -   | 0.032      | 0.03 |
| HCM Control Delay (s) | -   | -   | -   | 10.9       | 10.5 |
| HCM Lane LOS          | -   | -   | -   | B          | B    |
| HCM 95th %tile Q(veh) | -   | -   | -   | 0.1        | 0.1  |

| Intersection             |      |      |      |      |      |      |      |       |      |      |      |      |
|--------------------------|------|------|------|------|------|------|------|-------|------|------|------|------|
| Int Delay, s/veh         | 1.4  |      |      |      |      |      |      |       |      |      |      |      |
| Movement                 | EBL  | EBT  | EBR  | WBL  | WBT  | WBR  | NBL  | NBT   | NBR  | SBL  | SBT  | SBR  |
| Lane Configurations      |      | ↱    |      |      | ↱    |      |      |       |      |      | ↱↲   |      |
| Traffic Vol, veh/h       | 0    | 10   | 10   | 10   | 10   | 0    | 0    | 0     | 0    | 10   | 230  | 10   |
| Future Vol, veh/h        | 0    | 10   | 10   | 10   | 10   | 0    | 0    | 0     | 0    | 10   | 230  | 10   |
| Conflicting Peds, #/hr   | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0     | 0    | 0    | 0    | 0    |
| Sign Control             | Stop | Stop | Stop | Stop | Stop | Stop | Free | Free  | Free | Free | Free | Free |
| RT Channelized           | -    | -    | None | -    | -    | None | -    | -     | None | -    | -    | None |
| Storage Length           | -    | -    | -    | -    | -    | -    | -    | -     | -    | -    | -    | -    |
| Veh in Median Storage, # | -    | 0    | -    | -    | 0    | -    | -    | 16974 | -    | -    | 0    | -    |
| Grade, %                 | -    | 0    | -    | -    | 0    | -    | -    | 0     | -    | -    | 0    | -    |
| Peak Hour Factor         | 100  | 100  | 100  | 100  | 100  | 100  | 100  | 100   | 100  | 100  | 100  | 100  |
| Heavy Vehicles, %        | 1    | 1    | 1    | 1    | 1    | 1    | 1    | 1     | 1    | 1    | 1    | 1    |
| Mvmt Flow                | 0    | 10   | 10   | 10   | 10   | 0    | 0    | 0     | 0    | 10   | 230  | 10   |

| Major/Minor          | Minor2 |      | Minor1 |      |      |   | Major2 |   |   |
|----------------------|--------|------|--------|------|------|---|--------|---|---|
| Conflicting Flow All | -      | 255  | 120    | 140  | 260  | - | 0      | 0 | 0 |
| Stage 1              | -      | 255  | -      | 0    | 0    | - | -      | - | - |
| Stage 2              | -      | 0    | -      | 140  | 260  | - | -      | - | - |
| Critical Hdwy        | -      | 6.52 | 6.92   | 7.52 | 6.52 | - | 4.12   | - | - |
| Critical Hdwy Stg 1  | -      | 5.52 | -      | -    | -    | - | -      | - | - |
| Critical Hdwy Stg 2  | -      | -    | -      | 6.52 | 5.52 | - | -      | - | - |
| Follow-up Hdwy       | -      | 4.01 | 3.31   | 3.51 | 4.01 | - | 2.21   | - | - |
| Pot Cap-1 Maneuver   | 0      | 650  | 912    | 819  | 646  | 0 | -      | - | - |
| Stage 1              | 0      | 698  | -      | -    | -    | 0 | -      | - | - |
| Stage 2              | 0      | -    | -      | 851  | 694  | 0 | -      | - | - |
| Platoon blocked, %   |        |      |        |      |      |   |        | - | - |
| Mov Cap-1 Maneuver   | -      | 650  | 912    | 800  | 646  | - | -      | - | - |
| Mov Cap-2 Maneuver   | -      | 650  | -      | 800  | 646  | - | -      | - | - |
| Stage 1              | -      | 698  | -      | -    | -    | - | -      | - | - |
| Stage 2              | -      | -    | -      | 830  | 694  | - | -      | - | - |

| Approach             | EB  | WB   | SB |
|----------------------|-----|------|----|
| HCM Control Delay, s | 9.9 | 10.2 |    |
| HCM LOS              | A   | B    |    |

| Minor Lane/Major Mvmt | EBLn1WBLn1  | SBL | SBT | SBR |
|-----------------------|-------------|-----|-----|-----|
| Capacity (veh/h)      | 759 715     | -   | -   | -   |
| HCM Lane V/C Ratio    | 0.026 0.028 | -   | -   | -   |
| HCM Control Delay (s) | 9.9 10.2    | -   | -   | -   |
| HCM Lane LOS          | A B         | -   | -   | -   |
| HCM 95th %tile Q(veh) | 0.1 0.1     | -   | -   | -   |

| Intersection             |        |      |        |      |        |      |            |      |      |      |       |      |
|--------------------------|--------|------|--------|------|--------|------|------------|------|------|------|-------|------|
| Int Delay, s/veh         | 1.1    |      |        |      |        |      |            |      |      |      |       |      |
| Movement                 | EBL    | EBT  | EBR    | WBL  | WBT    | WBR  | NBL        | NBT  | NBR  | SBL  | SBT   | SBR  |
| Lane Configurations      |        | ↕    |        |      | ↕      |      |            | ↕↕   |      |      |       |      |
| Traffic Vol, veh/h       | 10     | 10   | 0      | 0    | 10     | 10   | 10         | 340  | 10   | 0    | 0     | 0    |
| Future Vol, veh/h        | 10     | 10   | 0      | 0    | 10     | 10   | 10         | 340  | 10   | 0    | 0     | 0    |
| Conflicting Peds, #/hr   | 0      | 0    | 0      | 0    | 0      | 0    | 0          | 0    | 0    | 0    | 0     | 0    |
| Sign Control             | Stop   | Stop | Stop   | Stop | Stop   | Stop | Free       | Free | Free | Free | Free  | Free |
| RT Channelized           | -      | -    | None   | -    | -      | None | -          | -    | None | -    | -     | None |
| Storage Length           | -      | -    | -      | -    | -      | -    | -          | -    | -    | -    | -     | -    |
| Veh in Median Storage, # | -      | 0    | -      | -    | 0      | -    | -          | 0    | -    | -    | 16965 | -    |
| Grade, %                 | -      | 0    | -      | -    | 0      | -    | -          | 0    | -    | -    | 0     | -    |
| Peak Hour Factor         | 100    | 100  | 100    | 100  | 100    | 100  | 100        | 100  | 100  | 100  | 100   | 100  |
| Heavy Vehicles, %        | 1      | 1    | 1      | 1    | 1      | 1    | 1          | 1    | 1    | 1    | 1     | 1    |
| Mvmt Flow                | 10     | 10   | 0      | 0    | 10     | 10   | 10         | 340  | 10   | 0    | 0     | 0    |
|                          |        |      |        |      |        |      |            |      |      |      |       |      |
| Major/Minor              | Minor2 |      | Minor1 |      | Major1 |      |            |      |      |      |       |      |
| Conflicting Flow All     | 195    | 370  | -      | -    | 365    | 175  | 0          | 0    | 0    |      |       |      |
| Stage 1                  | 0      | 0    | -      | -    | 365    | -    | -          | -    | -    |      |       |      |
| Stage 2                  | 195    | 370  | -      | -    | 0      | -    | -          | -    | -    |      |       |      |
| Critical Hdwy            | 7.52   | 6.52 | -      | -    | 6.52   | 6.92 | 4.12       | -    | -    |      |       |      |
| Critical Hdwy Stg 1      | -      | -    | -      | -    | 5.52   | -    | -          | -    | -    |      |       |      |
| Critical Hdwy Stg 2      | 6.52   | 5.52 | -      | -    | -      | -    | -          | -    | -    |      |       |      |
| Follow-up Hdwy           | 3.51   | 4.01 | -      | -    | 4.01   | 3.31 | 2.21       | -    | -    |      |       |      |
| Pot Cap-1 Maneuver       | 749    | 560  | 0      | 0    | 564    | 841  | -          | -    | -    |      |       |      |
| Stage 1                  | -      | -    | 0      | 0    | 624    | -    | -          | -    | -    |      |       |      |
| Stage 2                  | 791    | 621  | 0      | 0    | -      | -    | -          | -    | -    |      |       |      |
| Platoon blocked, %       |        |      |        |      |        |      |            | -    | -    |      |       |      |
| Mov Cap-1 Maneuver       | 730    | 560  | -      | -    | 564    | 841  | -          | -    | -    |      |       |      |
| Mov Cap-2 Maneuver       | 730    | 560  | -      | -    | 564    | -    | -          | -    | -    |      |       |      |
| Stage 1                  | -      | -    | -      | -    | 624    | -    | -          | -    | -    |      |       |      |
| Stage 2                  | 769    | 621  | -      | -    | -      | -    | -          | -    | -    |      |       |      |
|                          |        |      |        |      |        |      |            |      |      |      |       |      |
|                          |        |      |        |      |        |      |            |      |      |      |       |      |
| Approach                 | EB     |      | WB     |      | NB     |      |            |      |      |      |       |      |
| HCM Control Delay, s     | 10.9   |      | 10.5   |      |        |      |            |      |      |      |       |      |
| HCM LOS                  | B      |      | B      |      |        |      |            |      |      |      |       |      |
|                          |        |      |        |      |        |      |            |      |      |      |       |      |
| Minor Lane/Major Mvmt    | NBL    |      | NBT    |      | NBR    |      | EBLn1WBLn1 |      |      |      |       |      |
| Capacity (veh/h)         | -      |      | -      |      | -      |      | 634        |      | 675  |      |       |      |
| HCM Lane V/C Ratio       | -      |      | -      |      | -      |      | 0.032      |      | 0.03 |      |       |      |
| HCM Control Delay (s)    | -      |      | -      |      | -      |      | 10.9       |      | 10.5 |      |       |      |
| HCM Lane LOS             | -      |      | -      |      | -      |      | B          |      | B    |      |       |      |
| HCM 95th %tile O(veh)    | -      |      | -      |      | -      |      | 0.1        |      | 0.1  |      |       |      |



| Intersection             |             |      |        |      |      |      |        |       |      |      |      |      |
|--------------------------|-------------|------|--------|------|------|------|--------|-------|------|------|------|------|
| Int Delay, s/veh         | 1.3         |      |        |      |      |      |        |       |      |      |      |      |
| Movement                 | EBL         | EBT  | EBR    | WBL  | WBT  | WBR  | NBL    | NBT   | NBR  | SBL  | SBT  | SBR  |
| Lane Configurations      |             | ↰    |        |      | ↱    |      |        |       |      | ↰↱   |      |      |
| Traffic Vol, veh/h       | 0           | 10   | 10     | 10   | 10   | 0    | 0      | 0     | 0    | 10   | 240  | 10   |
| Future Vol, veh/h        | 0           | 10   | 10     | 10   | 10   | 0    | 0      | 0     | 0    | 10   | 240  | 10   |
| Conflicting Peds, #/hr   | 0           | 0    | 0      | 0    | 0    | 0    | 0      | 0     | 0    | 0    | 0    | 0    |
| Sign Control             | Stop        | Stop | Stop   | Stop | Stop | Stop | Free   | Free  | Free | Free | Free | Free |
| RT Channelized           | -           | -    | None   | -    | -    | None | -      | -     | None | -    | -    | None |
| Storage Length           | -           | -    | -      | -    | -    | -    | -      | -     | -    | -    | -    | -    |
| Veh in Median Storage, # | -           | 0    | -      | -    | 0    | -    | -      | 16974 | -    | -    | 0    | -    |
| Grade, %                 | -           | 0    | -      | -    | 0    | -    | -      | 0     | -    | -    | 0    | -    |
| Peak Hour Factor         | 100         | 100  | 100    | 100  | 100  | 100  | 100    | 100   | 100  | 100  | 100  | 100  |
| Heavy Vehicles, %        | 1           | 1    | 1      | 1    | 1    | 1    | 1      | 1     | 1    | 1    | 1    | 1    |
| Mvmt Flow                | 0           | 10   | 10     | 10   | 10   | 0    | 0      | 0     | 0    | 10   | 240  | 10   |
|                          |             |      |        |      |      |      |        |       |      |      |      |      |
| Major/Minor              | Minor2      |      | Minor1 |      |      |      | Major2 |       |      |      |      |      |
| Conflicting Flow All     | -           | 265  | 125    | 145  | 270  | -    |        |       |      | 0    | 0    | 0    |
| Stage 1                  | -           | 265  | -      | 0    | 0    | -    |        |       |      | -    | -    | -    |
| Stage 2                  | -           | 0    | -      | 145  | 270  | -    |        |       |      | -    | -    | -    |
| Critical Hdwy            | -           | 6.52 | 6.92   | 7.52 | 6.52 | -    |        |       |      | 4.12 | -    | -    |
| Critical Hdwy Stg 1      | -           | 5.52 | -      | -    | -    | -    |        |       |      | -    | -    | -    |
| Critical Hdwy Stg 2      | -           | -    | -      | 6.52 | 5.52 | -    |        |       |      | -    | -    | -    |
| Follow-up Hdwy           | -           | 4.01 | 3.31   | 3.51 | 4.01 | -    |        |       |      | 2.21 | -    | -    |
| Pot Cap-1 Maneuver       | 0           | 642  | 905    | 812  | 637  | 0    |        |       |      | -    | -    | -    |
| Stage 1                  | 0           | 691  | -      | -    | -    | 0    |        |       |      | -    | -    | -    |
| Stage 2                  | 0           | -    | -      | 846  | 687  | 0    |        |       |      | -    | -    | -    |
| Platoon blocked, %       |             |      |        |      |      |      |        |       |      |      | -    | -    |
| Mov Cap-1 Maneuver       | -           | 642  | 905    | 793  | 637  | -    |        |       |      | -    | -    | -    |
| Mov Cap-2 Maneuver       | -           | 642  | -      | 793  | 637  | -    |        |       |      | -    | -    | -    |
| Stage 1                  | -           | 691  | -      | -    | -    | -    |        |       |      | -    | -    | -    |
| Stage 2                  | -           | -    | -      | 825  | 687  | -    |        |       |      | -    | -    | -    |
|                          |             |      |        |      |      |      |        |       |      |      |      |      |
|                          |             |      |        |      |      |      |        |       |      |      |      |      |
| Approach                 | EB          |      | WB     |      |      |      | SB     |       |      |      |      |      |
| HCM Control Delay, s     | 9.9         |      | 10.2   |      |      |      |        |       |      |      |      |      |
| HCM LOS                  | A           |      | B      |      |      |      |        |       |      |      |      |      |
|                          |             |      |        |      |      |      |        |       |      |      |      |      |
|                          |             |      |        |      |      |      |        |       |      |      |      |      |
| Minor Lane/Major Mvmt    | EBLn1WBLn1  |      | SBL    | SBT  | SBR  |      |        |       |      |      |      |      |
| Capacity (veh/h)         | 751 706     |      | -      | -    | -    |      |        |       |      |      |      |      |
| HCM Lane V/C Ratio       | 0.027 0.028 |      | -      | -    | -    |      |        |       |      |      |      |      |
| HCM Control Delay (s)    | 9.9 10.2    |      | -      | -    | -    |      |        |       |      |      |      |      |
| HCM Lane LOS             | A B         |      | -      | -    | -    |      |        |       |      |      |      |      |
| HCM 95th %tile O(veh)    | 0.1 0.1     |      | -      | -    | -    |      |        |       |      |      |      |      |

HCM 6th Signalized Intersection Summary  
33: 5th Street & Grand Ave

Existing Conditions 2021

10/09/2021

|                              |  |                                                                                    |  |  |                                                                                    |  |   |                                                                                      |  |  |  |  |
|------------------------------|-----------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|
| Movement                     | EBL                                                                               | EBT                                                                                                                                                                 | EBR                                                                               | WBL                                                                               | WBT                                                                                                                                                                 | WBR                                                                               | NBL                                                                                 | NBT                                                                                                                                                                     | NBR                                                                                 | SBL                                                                                 | SBT                                                                                 | SBR                                                                                 |
| Lane Configurations          |  |   |                                                                                   |                                                                                   |   |                                                                                   |  |   |  |                                                                                     |                                                                                     |                                                                                     |
| Traffic Volume (veh/h)       | 56                                                                                | 411                                                                                                                                                                 | 0                                                                                 | 0                                                                                 | 530                                                                                                                                                                 | 30                                                                                | 99                                                                                  | 273                                                                                                                                                                     | 69                                                                                  | 0                                                                                   | 0                                                                                   | 0                                                                                   |
| Future Volume (veh/h)        | 56                                                                                | 411                                                                                                                                                                 | 0                                                                                 | 0                                                                                 | 530                                                                                                                                                                 | 30                                                                                | 99                                                                                  | 273                                                                                                                                                                     | 69                                                                                  | 0                                                                                   | 0                                                                                   | 0                                                                                   |
| Initial Q (Qb), veh          | 0                                                                                 | 0                                                                                                                                                                   | 0                                                                                 | 0                                                                                 | 0                                                                                                                                                                   | 0                                                                                 | 0                                                                                   | 0                                                                                                                                                                       | 0                                                                                   |                                                                                     |                                                                                     |                                                                                     |
| Ped-Bike Adj(A_pbT)          | 1.00                                                                              |                                                                                                                                                                     | 1.00                                                                              | 1.00                                                                              |                                                                                                                                                                     | 1.00                                                                              | 1.00                                                                                |                                                                                                                                                                         | 1.00                                                                                |                                                                                     |                                                                                     |                                                                                     |
| Parking Bus, Adj             | 1.00                                                                              | 1.00                                                                                                                                                                | 1.00                                                                              | 1.00                                                                              | 1.00                                                                                                                                                                | 1.00                                                                              | 1.00                                                                                | 1.00                                                                                                                                                                    | 1.00                                                                                |                                                                                     |                                                                                     |                                                                                     |
| Work Zone On Approach        | No                                                                                |                                                                                                                                                                     |                                                                                   | No                                                                                |                                                                                                                                                                     |                                                                                   | No                                                                                  |                                                                                                                                                                         |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Adj Sat Flow, veh/h/ln       | 1885                                                                              | 1885                                                                                                                                                                | 0                                                                                 | 0                                                                                 | 1885                                                                                                                                                                | 1885                                                                              | 1885                                                                                | 1885                                                                                                                                                                    | 1885                                                                                |                                                                                     |                                                                                     |                                                                                     |
| Adj Flow Rate, veh/h         | 56                                                                                | 411                                                                                                                                                                 | 0                                                                                 | 0                                                                                 | 530                                                                                                                                                                 | 30                                                                                | 99                                                                                  | 273                                                                                                                                                                     | 69                                                                                  |                                                                                     |                                                                                     |                                                                                     |
| Peak Hour Factor             | 1.00                                                                              | 1.00                                                                                                                                                                | 1.00                                                                              | 1.00                                                                              | 1.00                                                                                                                                                                | 1.00                                                                              | 1.00                                                                                | 1.00                                                                                                                                                                    | 1.00                                                                                |                                                                                     |                                                                                     |                                                                                     |
| Percent Heavy Veh, %         | 1                                                                                 | 1                                                                                                                                                                   | 0                                                                                 | 0                                                                                 | 1                                                                                                                                                                   | 1                                                                                 | 1                                                                                   | 1                                                                                                                                                                       | 1                                                                                   |                                                                                     |                                                                                     |                                                                                     |
| Cap, veh/h                   | 413                                                                               | 1791                                                                                                                                                                | 0                                                                                 | 0                                                                                 | 1449                                                                                                                                                                | 82                                                                                | 718                                                                                 | 1433                                                                                                                                                                    | 639                                                                                 |                                                                                     |                                                                                     |                                                                                     |
| Arrive On Green              | 0.04                                                                              | 0.50                                                                                                                                                                | 0.00                                                                              | 0.00                                                                              | 0.42                                                                                                                                                                | 0.42                                                                              | 0.13                                                                                | 0.13                                                                                                                                                                    | 0.13                                                                                |                                                                                     |                                                                                     |                                                                                     |
| Sat Flow, veh/h              | 1795                                                                              | 3676                                                                                                                                                                | 0                                                                                 | 0                                                                                 | 3541                                                                                                                                                                | 195                                                                               | 1795                                                                                | 3582                                                                                                                                                                    | 1598                                                                                |                                                                                     |                                                                                     |                                                                                     |
| Grp Volume(v), veh/h         | 56                                                                                | 411                                                                                                                                                                 | 0                                                                                 | 0                                                                                 | 275                                                                                                                                                                 | 285                                                                               | 99                                                                                  | 273                                                                                                                                                                     | 69                                                                                  |                                                                                     |                                                                                     |                                                                                     |
| Grp Sat Flow(s),veh/h/ln     | 1795                                                                              | 1791                                                                                                                                                                | 0                                                                                 | 0                                                                                 | 1791                                                                                                                                                                | 1850                                                                              | 1795                                                                                | 1791                                                                                                                                                                    | 1598                                                                                |                                                                                     |                                                                                     |                                                                                     |
| Q Serve(g_s), s              | 1.7                                                                               | 6.5                                                                                                                                                                 | 0.0                                                                               | 0.0                                                                               | 10.5                                                                                                                                                                | 10.6                                                                              | 4.9                                                                                 | 6.8                                                                                                                                                                     | 3.8                                                                                 |                                                                                     |                                                                                     |                                                                                     |
| Cycle Q Clear(g_c), s        | 1.7                                                                               | 6.5                                                                                                                                                                 | 0.0                                                                               | 0.0                                                                               | 10.5                                                                                                                                                                | 10.6                                                                              | 4.9                                                                                 | 6.8                                                                                                                                                                     | 3.8                                                                                 |                                                                                     |                                                                                     |                                                                                     |
| Prop In Lane                 | 1.00                                                                              |                                                                                                                                                                     | 0.00                                                                              | 0.00                                                                              |                                                                                                                                                                     | 0.11                                                                              | 1.00                                                                                |                                                                                                                                                                         | 1.00                                                                                |                                                                                     |                                                                                     |                                                                                     |
| Lane Grp Cap(c), veh/h       | 413                                                                               | 1791                                                                                                                                                                | 0                                                                                 | 0                                                                                 | 753                                                                                                                                                                 | 778                                                                               | 718                                                                                 | 1433                                                                                                                                                                    | 639                                                                                 |                                                                                     |                                                                                     |                                                                                     |
| V/C Ratio(X)                 | 0.14                                                                              | 0.23                                                                                                                                                                | 0.00                                                                              | 0.00                                                                              | 0.37                                                                                                                                                                | 0.37                                                                              | 0.14                                                                                | 0.19                                                                                                                                                                    | 0.11                                                                                |                                                                                     |                                                                                     |                                                                                     |
| Avail Cap(c_a), veh/h        | 530                                                                               | 1791                                                                                                                                                                | 0                                                                                 | 0                                                                                 | 753                                                                                                                                                                 | 778                                                                               | 718                                                                                 | 1433                                                                                                                                                                    | 639                                                                                 |                                                                                     |                                                                                     |                                                                                     |
| HCM Platoon Ratio            | 1.00                                                                              | 1.00                                                                                                                                                                | 1.00                                                                              | 1.00                                                                              | 1.00                                                                                                                                                                | 1.00                                                                              | 0.33                                                                                | 0.33                                                                                                                                                                    | 0.33                                                                                |                                                                                     |                                                                                     |                                                                                     |
| Upstream Filter(I)           | 0.97                                                                              | 0.97                                                                                                                                                                | 0.00                                                                              | 0.00                                                                              | 1.00                                                                                                                                                                | 1.00                                                                              | 1.00                                                                                | 1.00                                                                                                                                                                    | 1.00                                                                                |                                                                                     |                                                                                     |                                                                                     |
| Uniform Delay (d), s/veh     | 14.8                                                                              | 14.1                                                                                                                                                                | 0.0                                                                               | 0.0                                                                               | 19.8                                                                                                                                                                | 19.8                                                                              | 28.2                                                                                | 29.0                                                                                                                                                                    | 27.7                                                                                |                                                                                     |                                                                                     |                                                                                     |
| Incr Delay (d2), s/veh       | 0.2                                                                               | 0.3                                                                                                                                                                 | 0.0                                                                               | 0.0                                                                               | 1.4                                                                                                                                                                 | 1.3                                                                               | 0.4                                                                                 | 0.3                                                                                                                                                                     | 0.3                                                                                 |                                                                                     |                                                                                     |                                                                                     |
| Initial Q Delay(d3),s/veh    | 0.0                                                                               | 0.0                                                                                                                                                                 | 0.0                                                                               | 0.0                                                                               | 0.0                                                                                                                                                                 | 0.0                                                                               | 0.0                                                                                 | 0.0                                                                                                                                                                     | 0.0                                                                                 |                                                                                     |                                                                                     |                                                                                     |
| %ile BackOfQ(50%),veh/ln     | 0.7                                                                               | 2.6                                                                                                                                                                 | 0.0                                                                               | 0.0                                                                               | 4.6                                                                                                                                                                 | 4.7                                                                               | 2.2                                                                                 | 3.1                                                                                                                                                                     | 1.5                                                                                 |                                                                                     |                                                                                     |                                                                                     |
| Unsig. Movement Delay, s/veh |                                                                                   |                                                                                                                                                                     |                                                                                   |                                                                                   |                                                                                                                                                                     |                                                                                   |                                                                                     |                                                                                                                                                                         |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| LnGrp Delay(d),s/veh         | 15.0                                                                              | 14.4                                                                                                                                                                | 0.0                                                                               | 0.0                                                                               | 21.2                                                                                                                                                                | 21.2                                                                              | 28.6                                                                                | 29.3                                                                                                                                                                    | 28.0                                                                                |                                                                                     |                                                                                     |                                                                                     |
| LnGrp LOS                    | B                                                                                 | B                                                                                                                                                                   | A                                                                                 | A                                                                                 | C                                                                                                                                                                   | C                                                                                 | C                                                                                   | C                                                                                                                                                                       | C                                                                                   |                                                                                     |                                                                                     |                                                                                     |
| Approach Vol, veh/h          | 467                                                                               |                                                                                                                                                                     |                                                                                   | 560                                                                               |                                                                                                                                                                     |                                                                                   | 441                                                                                 |                                                                                                                                                                         |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Approach Delay, s/veh        | 14.5                                                                              |                                                                                                                                                                     |                                                                                   | 21.2                                                                              |                                                                                                                                                                     |                                                                                   | 28.9                                                                                |                                                                                                                                                                         |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Approach LOS                 | B                                                                                 |                                                                                                                                                                     |                                                                                   | C                                                                                 |                                                                                                                                                                     |                                                                                   | C                                                                                   |                                                                                                                                                                         |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Timer - Assigned Phs         | 3                                                                                 |                                                                                                                                                                     |                                                                                   | 4                                                                                 |                                                                                                                                                                     |                                                                                   | 6                                                                                   |                                                                                                                                                                         |                                                                                     | 8                                                                                   |                                                                                     |                                                                                     |
| Phs Duration (G+Y+Rc), s     | 7.9                                                                               |                                                                                                                                                                     |                                                                                   | 47.1                                                                              |                                                                                                                                                                     |                                                                                   | 45.0                                                                                |                                                                                                                                                                         |                                                                                     | 55.0                                                                                |                                                                                     |                                                                                     |
| Change Period (Y+Rc), s      | 4.0                                                                               |                                                                                                                                                                     |                                                                                   | 5.0                                                                               |                                                                                                                                                                     |                                                                                   | 5.0                                                                                 |                                                                                                                                                                         |                                                                                     | 5.0                                                                                 |                                                                                     |                                                                                     |
| Max Green Setting (Gmax), s  | 10.5                                                                              |                                                                                                                                                                     |                                                                                   | 35.5                                                                              |                                                                                                                                                                     |                                                                                   | 40.0                                                                                |                                                                                                                                                                         |                                                                                     | 50.0                                                                                |                                                                                     |                                                                                     |
| Max Q Clear Time (g_c+I1), s | 3.7                                                                               |                                                                                                                                                                     |                                                                                   | 12.6                                                                              |                                                                                                                                                                     |                                                                                   | 8.8                                                                                 |                                                                                                                                                                         |                                                                                     | 8.5                                                                                 |                                                                                     |                                                                                     |
| Green Ext Time (p_c), s      | 0.1                                                                               |                                                                                                                                                                     |                                                                                   | 3.5                                                                               |                                                                                                                                                                     |                                                                                   | 2.3                                                                                 |                                                                                                                                                                         |                                                                                     | 3.0                                                                                 |                                                                                     |                                                                                     |
| Intersection Summary         |                                                                                   |                                                                                                                                                                     |                                                                                   |                                                                                   |                                                                                                                                                                     |                                                                                   |                                                                                     |                                                                                                                                                                         |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| HCM 6th Ctrl Delay           | 21.4                                                                              |                                                                                                                                                                     |                                                                                   |                                                                                   |                                                                                                                                                                     |                                                                                   |                                                                                     |                                                                                                                                                                         |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| HCM 6th LOS                  | C                                                                                 |                                                                                                                                                                     |                                                                                   |                                                                                   |                                                                                                                                                                     |                                                                                   |                                                                                     |                                                                                                                                                                         |                                                                                     |                                                                                     |                                                                                     |                                                                                     |

# HCM 6th Signalized Intersection Summary

## 34: 4th Street & Grand Ave

Existing Conditions 2021

10/09/2021



| Movement                     | EBL  | EBT  | EBR  | WBL  | WBT  | WBR  | NBL  | NBT  | NBR | SBL  | SBT  | SBR  |
|------------------------------|------|------|------|------|------|------|------|------|-----|------|------|------|
| Lane Configurations          |      | ↑↑   | ↑    | ↑    | ↑↑   |      |      |      |     |      | ↑↑   |      |
| Traffic Volume (veh/h)       | 0    | 429  | 51   | 50   | 583  | 0    | 0    | 0    | 0   | 28   | 189  | 53   |
| Future Volume (veh/h)        | 0    | 429  | 51   | 50   | 583  | 0    | 0    | 0    | 0   | 28   | 189  | 53   |
| Initial Q (Qb), veh          | 0    | 0    | 0    | 0    | 0    | 0    |      |      |     | 0    | 0    | 0    |
| Ped-Bike Adj(A_pbT)          | 1.00 |      | 1.00 | 1.00 |      | 1.00 |      |      |     | 1.00 |      | 1.00 |
| Parking Bus, Adj             | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |      |      |     | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach        |      | No   |      |      | No   |      |      |      |     |      | No   |      |
| Adj Sat Flow, veh/h/ln       | 0    | 1885 | 1885 | 1885 | 1885 | 0    |      |      |     | 1885 | 1885 | 1885 |
| Adj Flow Rate, veh/h         | 0    | 429  | 51   | 50   | 583  | 0    |      |      |     | 28   | 189  | 53   |
| Peak Hour Factor             | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |      |      |     | 1.00 | 1.00 | 1.00 |
| Percent Heavy Veh, %         | 0    | 1    | 1    | 1    | 1    | 0    |      |      |     | 1    | 1    | 1    |
| Cap, veh/h                   | 0    | 1397 | 623  | 588  | 2077 | 0    |      |      |     | 117  | 807  | 235  |
| Arrive On Green              | 0.00 | 0.39 | 0.39 | 0.14 | 0.58 | 0.00 |      |      |     | 0.32 | 0.32 | 0.32 |
| Sat Flow, veh/h              | 0    | 3676 | 1598 | 1795 | 3676 | 0    |      |      |     | 364  | 2521 | 734  |
| Grp Volume(v), veh/h         | 0    | 429  | 51   | 50   | 583  | 0    |      |      |     | 143  | 0    | 127  |
| Grp Sat Flow(s),veh/h/ln     | 0    | 1791 | 1598 | 1795 | 1791 | 0    |      |      |     | 1867 | 0    | 1753 |
| Q Serve(g_s), s              | 0.0  | 8.3  | 2.0  | 0.0  | 8.2  | 0.0  |      |      |     | 5.7  | 0.0  | 5.3  |
| Cycle Q Clear(g_c), s        | 0.0  | 8.3  | 2.0  | 0.0  | 8.2  | 0.0  |      |      |     | 5.7  | 0.0  | 5.3  |
| Prop In Lane                 | 0.00 |      | 1.00 | 1.00 |      | 0.00 |      |      |     | 0.20 |      | 0.42 |
| Lane Grp Cap(c), veh/h       | 0    | 1397 | 623  | 588  | 2077 | 0    |      |      |     | 597  | 0    | 561  |
| V/C Ratio(X)                 | 0.00 | 0.31 | 0.08 | 0.09 | 0.28 | 0.00 |      |      |     | 0.24 | 0.00 | 0.23 |
| Avail Cap(c_a), veh/h        | 0    | 1397 | 623  | 606  | 2077 | 0    |      |      |     | 597  | 0    | 561  |
| HCM Platoon Ratio            | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |      |      |     | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I)           | 0.00 | 1.00 | 1.00 | 1.00 | 1.00 | 0.00 |      |      |     | 1.00 | 0.00 | 1.00 |
| Uniform Delay (d), s/veh     | 0.0  | 21.1 | 19.2 | 17.4 | 10.5 | 0.0  |      |      |     | 25.0 | 0.0  | 24.9 |
| Incr Delay (d2), s/veh       | 0.0  | 0.6  | 0.3  | 0.1  | 0.3  | 0.0  |      |      |     | 0.9  | 0.0  | 0.9  |
| Initial Q Delay(d3),s/veh    | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  |      |      |     | 0.0  | 0.0  | 0.0  |
| %ile BackOfQ(50%),veh/ln     | 0.0  | 3.5  | 0.8  | 0.7  | 3.2  | 0.0  |      |      |     | 2.6  | 0.0  | 2.3  |
| Unsig. Movement Delay, s/veh |      |      |      |      |      |      |      |      |     |      |      |      |
| LnGrp Delay(d),s/veh         | 0.0  | 21.7 | 19.5 | 17.4 | 10.9 | 0.0  |      |      |     | 26.0 | 0.0  | 25.9 |
| LnGrp LOS                    | A    | C    | B    | B    | B    | A    |      |      |     | C    | A    | C    |
| Approach Vol, veh/h          |      | 480  |      |      | 633  |      |      |      |     |      | 270  |      |
| Approach Delay, s/veh        |      | 21.5 |      |      | 11.4 |      |      |      |     |      | 25.9 |      |
| Approach LOS                 |      | C    |      |      | B    |      |      |      |     |      | C    |      |
| Timer - Assigned Phs         |      | 2    |      | 4    |      |      | 7    | 8    |     |      |      |      |
| Phs Duration (G+Y+Rc), s     |      | 37.0 |      | 63.0 |      |      | 19.0 | 44.0 |     |      |      |      |
| Change Period (Y+Rc), s      |      | 5.0  |      | 5.0  |      |      | 5.0  | * 5  |     |      |      |      |
| Max Green Setting (Gmax), s  |      | 32.0 |      | 58.0 |      |      | 15.0 | * 39 |     |      |      |      |
| Max Q Clear Time (g_c+I1), s |      | 7.7  |      | 10.2 |      |      | 2.0  | 10.3 |     |      |      |      |
| Green Ext Time (p_c), s      |      | 1.6  |      | 6.7  |      |      | 0.1  | 3.2  |     |      |      |      |

### Intersection Summary

|                    |      |
|--------------------|------|
| HCM 6th Ctrl Delay | 17.7 |
| HCM 6th LOS        | B    |

### Notes

\* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

| Intersection             |      |      |      |      |      |      |      |      |      |      |       |      |
|--------------------------|------|------|------|------|------|------|------|------|------|------|-------|------|
| Int Delay, s/veh         | 1.9  |      |      |      |      |      |      |      |      |      |       |      |
| Movement                 | EBL  | EBT  | EBR  | WBL  | WBT  | WBR  | NBL  | NBT  | NBR  | SBL  | SBT   | SBR  |
| Lane Configurations      |      | ↰    |      |      | ↱    |      |      | ↰↱   |      |      |       |      |
| Traffic Vol, veh/h       | 25   | 14   | 0    | 0    | 15   | 33   | 37   | 380  | 1    | 0    | 0     | 0    |
| Future Vol, veh/h        | 25   | 14   | 0    | 0    | 15   | 33   | 37   | 380  | 1    | 0    | 0     | 0    |
| Conflicting Peds, #/hr   | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0     | 0    |
| Sign Control             | Stop | Stop | Stop | Stop | Stop | Stop | Free | Free | Free | Free | Free  | Free |
| RT Channelized           | -    | -    | None | -    | -    | None | -    | -    | None | -    | -     | None |
| Storage Length           | -    | -    | -    | -    | -    | -    | -    | -    | -    | -    | -     | -    |
| Veh in Median Storage, # | -    | 0    | -    | -    | 0    | -    | -    | 0    | -    | -    | 16965 | -    |
| Grade, %                 | -    | 0    | -    | -    | 0    | -    | -    | 0    | -    | -    | 0     | -    |
| Peak Hour Factor         | 100  | 100  | 100  | 100  | 100  | 100  | 100  | 100  | 100  | 100  | 100   | 100  |
| Heavy Vehicles, %        | 1    | 1    | 1    | 1    | 1    | 1    | 1    | 1    | 1    | 1    | 1     | 1    |
| Mvmt Flow                | 25   | 14   | 0    | 0    | 15   | 33   | 37   | 380  | 1    | 0    | 0     | 0    |

| Major/Minor          | Minor2 |      | Minor1 |   | Major1 |      |      |   |   |  |  |
|----------------------|--------|------|--------|---|--------|------|------|---|---|--|--|
| Conflicting Flow All | 272    | 455  | -      | - | 455    | 191  | 0    | 0 | 0 |  |  |
| Stage 1              | 0      | 0    | -      | - | 455    | -    | -    | - | - |  |  |
| Stage 2              | 272    | 455  | -      | - | 0      | -    | -    | - | - |  |  |
| Critical Hdwy        | 7.52   | 6.52 | -      | - | 6.52   | 6.92 | 4.12 | - | - |  |  |
| Critical Hdwy Stg 1  | -      | -    | -      | - | 5.52   | -    | -    | - | - |  |  |
| Critical Hdwy Stg 2  | 6.52   | 5.52 | -      | - | -      | -    | -    | - | - |  |  |
| Follow-up Hdwy       | 3.51   | 4.01 | -      | - | 4.01   | 3.31 | 2.21 | - | - |  |  |
| Pot Cap-1 Maneuver   | 662    | 502  | 0      | 0 | 502    | 821  | -    | - | - |  |  |
| Stage 1              | -      | -    | 0      | 0 | 570    | -    | -    | - | - |  |  |
| Stage 2              | 713    | 570  | 0      | 0 | -      | -    | -    | - | - |  |  |
| Platoon blocked, %   |        |      |        |   |        |      |      | - | - |  |  |
| Mov Cap-1 Maneuver   | 621    | 502  | -      | - | 502    | 821  | -    | - | - |  |  |
| Mov Cap-2 Maneuver   | 621    | 502  | -      | - | 502    | -    | -    | - | - |  |  |
| Stage 1              | -      | -    | -      | - | 570    | -    | -    | - | - |  |  |
| Stage 2              | 666    | 570  | -      | - | -      | -    | -    | - | - |  |  |

| Approach             | EB   |  | WB   |  | NB |  |  |
|----------------------|------|--|------|--|----|--|--|
| HCM Control Delay, s | 11.8 |  | 10.7 |  |    |  |  |
| HCM LOS              | B    |  | B    |  |    |  |  |

| Minor Lane/Major Mvmt | NBL | NBT | NBR | EBLn1WBLn1 |      |
|-----------------------|-----|-----|-----|------------|------|
| Capacity (veh/h)      | -   | -   | -   | 572        | 685  |
| HCM Lane V/C Ratio    | -   | -   | -   | 0.068      | 0.07 |
| HCM Control Delay (s) | -   | -   | -   | 11.8       | 10.7 |
| HCM Lane LOS          | -   | -   | -   | B          | B    |
| HCM 95th %tile Q(veh) | -   | -   | -   | 0.2        | 0.2  |

HCM 6th Signalized Intersection Summary  
38: 4th Street & White Ave

Existing Conditions 2021

10/09/2021

|                              |  |  |  |  |  |  |  |  |  |  |                                                                                                                                                                                |  |
|------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|
| Movement                     | EBL                                                                               | EBT                                                                               | EBR                                                                               | WBL                                                                               | WBT                                                                               | WBR                                                                               | NBL                                                                                | NBT                                                                                 | NBR                                                                                 | SBL                                                                                 | SBT                                                                                                                                                                                                                                                               | SBR                                                                                 |
| Lane Configurations          |                                                                                   |  |                                                                                   |                                                                                   |  |                                                                                   |                                                                                    |                                                                                     |                                                                                     |                                                                                     | <br><br> |                                                                                     |
| Traffic Volume (veh/h)       | 0                                                                                 | 11                                                                                | 18                                                                                | 30                                                                                | 29                                                                                | 0                                                                                 | 0                                                                                  | 0                                                                                   | 0                                                                                   | 17                                                                                  | 259                                                                                                                                                                                                                                                               | 18                                                                                  |
| Future Volume (veh/h)        | 0                                                                                 | 11                                                                                | 18                                                                                | 30                                                                                | 29                                                                                | 0                                                                                 | 0                                                                                  | 0                                                                                   | 0                                                                                   | 17                                                                                  | 259                                                                                                                                                                                                                                                               | 18                                                                                  |
| Initial Q (Qb), veh          | 0                                                                                 | 0                                                                                 | 0                                                                                 | 0                                                                                 | 0                                                                                 | 0                                                                                 |                                                                                    |                                                                                     |                                                                                     | 0                                                                                   | 0                                                                                                                                                                                                                                                                 | 0                                                                                   |
| Ped-Bike Adj(A_pbT)          | 1.00                                                                              |                                                                                   | 1.00                                                                              | 1.00                                                                              |                                                                                   | 1.00                                                                              |                                                                                    |                                                                                     |                                                                                     | 1.00                                                                                |                                                                                                                                                                                                                                                                   | 1.00                                                                                |
| Parking Bus, Adj             | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              |                                                                                    |                                                                                     |                                                                                     | 1.00                                                                                | 1.00                                                                                                                                                                                                                                                              | 1.00                                                                                |
| Work Zone On Approach        |                                                                                   | No                                                                                |                                                                                   |                                                                                   | No                                                                                |                                                                                   |                                                                                    |                                                                                     |                                                                                     |                                                                                     | No                                                                                                                                                                                                                                                                |                                                                                     |
| Adj Sat Flow, veh/h/ln       | 0                                                                                 | 1885                                                                              | 1885                                                                              | 1885                                                                              | 1885                                                                              | 0                                                                                 |                                                                                    |                                                                                     |                                                                                     | 1885                                                                                | 1885                                                                                                                                                                                                                                                              | 1885                                                                                |
| Adj Flow Rate, veh/h         | 0                                                                                 | 11                                                                                | 18                                                                                | 30                                                                                | 29                                                                                | 0                                                                                 |                                                                                    |                                                                                     |                                                                                     | 17                                                                                  | 259                                                                                                                                                                                                                                                               | 18                                                                                  |
| Peak Hour Factor             | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              |                                                                                    |                                                                                     |                                                                                     | 1.00                                                                                | 1.00                                                                                                                                                                                                                                                              | 1.00                                                                                |
| Percent Heavy Veh, %         | 0                                                                                 | 1                                                                                 | 1                                                                                 | 1                                                                                 | 1                                                                                 | 0                                                                                 |                                                                                    |                                                                                     |                                                                                     | 1                                                                                   | 1                                                                                                                                                                                                                                                                 | 1                                                                                   |
| Cap, veh/h                   | 0                                                                                 | 193                                                                               | 316                                                                               | 282                                                                               | 257                                                                               | 0                                                                                 |                                                                                    |                                                                                     |                                                                                     | 124                                                                                 | 1964                                                                                                                                                                                                                                                              | 143                                                                                 |
| Arrive On Green              | 0.00                                                                              | 0.30                                                                              | 0.30                                                                              | 0.30                                                                              | 0.30                                                                              | 0.00                                                                              |                                                                                    |                                                                                     |                                                                                     | 0.60                                                                                | 0.60                                                                                                                                                                                                                                                              | 0.60                                                                                |
| Sat Flow, veh/h              | 0                                                                                 | 643                                                                               | 1053                                                                              | 760                                                                               | 856                                                                               | 0                                                                                 |                                                                                    |                                                                                     |                                                                                     | 206                                                                                 | 3273                                                                                                                                                                                                                                                              | 238                                                                                 |
| Grp Volume(v), veh/h         | 0                                                                                 | 0                                                                                 | 29                                                                                | 59                                                                                | 0                                                                                 | 0                                                                                 |                                                                                    |                                                                                     |                                                                                     | 155                                                                                 | 0                                                                                                                                                                                                                                                                 | 139                                                                                 |
| Grp Sat Flow(s),veh/h/ln     | 0                                                                                 | 0                                                                                 | 1696                                                                              | 1616                                                                              | 0                                                                                 | 0                                                                                 |                                                                                    |                                                                                     |                                                                                     | 1875                                                                                | 0                                                                                                                                                                                                                                                                 | 1842                                                                                |
| Q Serve(g_s), s              | 0.0                                                                               | 0.0                                                                               | 1.2                                                                               | 0.4                                                                               | 0.0                                                                               | 0.0                                                                               |                                                                                    |                                                                                     |                                                                                     | 3.6                                                                                 | 0.0                                                                                                                                                                                                                                                               | 3.3                                                                                 |
| Cycle Q Clear(g_c), s        | 0.0                                                                               | 0.0                                                                               | 1.2                                                                               | 2.3                                                                               | 0.0                                                                               | 0.0                                                                               |                                                                                    |                                                                                     |                                                                                     | 3.6                                                                                 | 0.0                                                                                                                                                                                                                                                               | 3.3                                                                                 |
| Prop In Lane                 | 0.00                                                                              |                                                                                   | 0.62                                                                              | 0.51                                                                              |                                                                                   | 0.00                                                                              |                                                                                    |                                                                                     |                                                                                     | 0.11                                                                                |                                                                                                                                                                                                                                                                   | 0.13                                                                                |
| Lane Grp Cap(c), veh/h       | 0                                                                                 | 0                                                                                 | 509                                                                               | 539                                                                               | 0                                                                                 | 0                                                                                 |                                                                                    |                                                                                     |                                                                                     | 1125                                                                                | 0                                                                                                                                                                                                                                                                 | 1105                                                                                |
| V/C Ratio(X)                 | 0.00                                                                              | 0.00                                                                              | 0.06                                                                              | 0.11                                                                              | 0.00                                                                              | 0.00                                                                              |                                                                                    |                                                                                     |                                                                                     | 0.14                                                                                | 0.00                                                                                                                                                                                                                                                              | 0.13                                                                                |
| Avail Cap(c_a), veh/h        | 0                                                                                 | 0                                                                                 | 509                                                                               | 539                                                                               | 0                                                                                 | 0                                                                                 |                                                                                    |                                                                                     |                                                                                     | 1125                                                                                | 0                                                                                                                                                                                                                                                                 | 1105                                                                                |
| HCM Platoon Ratio            | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              |                                                                                    |                                                                                     |                                                                                     | 1.00                                                                                | 1.00                                                                                                                                                                                                                                                              | 1.00                                                                                |
| Upstream Filter(I)           | 0.00                                                                              | 0.00                                                                              | 1.00                                                                              | 1.00                                                                              | 0.00                                                                              | 0.00                                                                              |                                                                                    |                                                                                     |                                                                                     | 1.00                                                                                | 0.00                                                                                                                                                                                                                                                              | 1.00                                                                                |
| Uniform Delay (d), s/veh     | 0.0                                                                               | 0.0                                                                               | 24.9                                                                              | 25.3                                                                              | 0.0                                                                               | 0.0                                                                               |                                                                                    |                                                                                     |                                                                                     | 8.7                                                                                 | 0.0                                                                                                                                                                                                                                                               | 8.7                                                                                 |
| Incr Delay (d2), s/veh       | 0.0                                                                               | 0.0                                                                               | 0.2                                                                               | 0.4                                                                               | 0.0                                                                               | 0.0                                                                               |                                                                                    |                                                                                     |                                                                                     | 0.3                                                                                 | 0.0                                                                                                                                                                                                                                                               | 0.2                                                                                 |
| Initial Q Delay(d3),s/veh    | 0.0                                                                               | 0.0                                                                               | 0.0                                                                               | 0.0                                                                               | 0.0                                                                               | 0.0                                                                               |                                                                                    |                                                                                     |                                                                                     | 0.0                                                                                 | 0.0                                                                                                                                                                                                                                                               | 0.0                                                                                 |
| %ile BackOfQ(50%),veh/ln     | 0.0                                                                               | 0.0                                                                               | 0.5                                                                               | 1.1                                                                               | 0.0                                                                               | 0.0                                                                               |                                                                                    |                                                                                     |                                                                                     | 1.5                                                                                 | 0.0                                                                                                                                                                                                                                                               | 1.3                                                                                 |
| Unsig. Movement Delay, s/veh |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                    |                                                                                     |                                                                                     |                                                                                     |                                                                                                                                                                                                                                                                   |                                                                                     |
| LnGrp Delay(d),s/veh         | 0.0                                                                               | 0.0                                                                               | 25.1                                                                              | 25.7                                                                              | 0.0                                                                               | 0.0                                                                               |                                                                                    |                                                                                     |                                                                                     | 9.0                                                                                 | 0.0                                                                                                                                                                                                                                                               | 8.9                                                                                 |
| LnGrp LOS                    | A                                                                                 | A                                                                                 | C                                                                                 | C                                                                                 | A                                                                                 | A                                                                                 |                                                                                    |                                                                                     |                                                                                     | A                                                                                   | A                                                                                                                                                                                                                                                                 | A                                                                                   |
| Approach Vol, veh/h          |                                                                                   | 29                                                                                |                                                                                   |                                                                                   | 59                                                                                |                                                                                   |                                                                                    |                                                                                     |                                                                                     |                                                                                     | 294                                                                                                                                                                                                                                                               |                                                                                     |
| Approach Delay, s/veh        |                                                                                   | 25.1                                                                              |                                                                                   |                                                                                   | 25.7                                                                              |                                                                                   |                                                                                    |                                                                                     |                                                                                     |                                                                                     | 8.9                                                                                                                                                                                                                                                               |                                                                                     |
| Approach LOS                 |                                                                                   | C                                                                                 |                                                                                   |                                                                                   | C                                                                                 |                                                                                   |                                                                                    |                                                                                     |                                                                                     |                                                                                     | A                                                                                                                                                                                                                                                                 |                                                                                     |
| Timer - Assigned Phs         |                                                                                   | 2                                                                                 |                                                                                   | 4                                                                                 |                                                                                   |                                                                                   |                                                                                    | 8                                                                                   |                                                                                     |                                                                                     |                                                                                                                                                                                                                                                                   |                                                                                     |
| Phs Duration (G+Y+Rc), s     |                                                                                   | 65.0                                                                              |                                                                                   | 35.0                                                                              |                                                                                   |                                                                                   |                                                                                    | 35.0                                                                                |                                                                                     |                                                                                     |                                                                                                                                                                                                                                                                   |                                                                                     |
| Change Period (Y+Rc), s      |                                                                                   | 5.0                                                                               |                                                                                   | 5.0                                                                               |                                                                                   |                                                                                   |                                                                                    | 5.0                                                                                 |                                                                                     |                                                                                     |                                                                                                                                                                                                                                                                   |                                                                                     |
| Max Green Setting (Gmax), s  |                                                                                   | 60.0                                                                              |                                                                                   | 30.0                                                                              |                                                                                   |                                                                                   |                                                                                    | 30.0                                                                                |                                                                                     |                                                                                     |                                                                                                                                                                                                                                                                   |                                                                                     |
| Max Q Clear Time (g_c+I1), s |                                                                                   | 5.6                                                                               |                                                                                   | 4.3                                                                               |                                                                                   |                                                                                   |                                                                                    | 3.2                                                                                 |                                                                                     |                                                                                     |                                                                                                                                                                                                                                                                   |                                                                                     |
| Green Ext Time (p_c), s      |                                                                                   | 1.9                                                                               |                                                                                   | 0.2                                                                               |                                                                                   |                                                                                   |                                                                                    | 0.1                                                                                 |                                                                                     |                                                                                     |                                                                                                                                                                                                                                                                   |                                                                                     |
| <b>Intersection Summary</b>  |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                    |                                                                                     |                                                                                     |                                                                                     |                                                                                                                                                                                                                                                                   |                                                                                     |
| HCM 6th Ctrl Delay           |                                                                                   |                                                                                   | 12.8                                                                              |                                                                                   |                                                                                   |                                                                                   |                                                                                    |                                                                                     |                                                                                     |                                                                                     |                                                                                                                                                                                                                                                                   |                                                                                     |
| HCM 6th LOS                  |                                                                                   |                                                                                   | B                                                                                 |                                                                                   |                                                                                   |                                                                                   |                                                                                    |                                                                                     |                                                                                     |                                                                                     |                                                                                                                                                                                                                                                                   |                                                                                     |

HCM 6th Signalized Intersection Summary  
41: 5th Street & Rood Ave

Existing Conditions 2021

10/09/2021



| Movement                     | EBL                                                                               | EBT                                                                               | EBR  | WBL  | WBT                                                                               | WBR  | NBL  | NBT                                                                               | NBR  | SBL | SBT | SBR |  |
|------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|------|------|-----------------------------------------------------------------------------------|------|------|-----------------------------------------------------------------------------------|------|-----|-----|-----|--|
| Lane Configurations          |  |  |      |      |  |      |      |  |      |     |     |     |  |
| Traffic Volume (veh/h)       | 33                                                                                | 43                                                                                | 0    | 0    | 32                                                                                | 30   | 30   | 361                                                                               | 12   | 0   | 0   | 0   |  |
| Future Volume (veh/h)        | 33                                                                                | 43                                                                                | 0    | 0    | 32                                                                                | 30   | 30   | 361                                                                               | 12   | 0   | 0   | 0   |  |
| Initial Q (Qb), veh          | 0                                                                                 | 0                                                                                 | 0    | 0    | 0                                                                                 | 0    | 0    | 0                                                                                 | 0    |     |     |     |  |
| Ped-Bike Adj(A_pbT)          | 1.00                                                                              |                                                                                   | 1.00 | 1.00 |                                                                                   | 1.00 | 1.00 |                                                                                   | 1.00 |     |     |     |  |
| Parking Bus, Adj             | 1.00                                                                              | 1.00                                                                              | 1.00 | 1.00 | 1.00                                                                              | 1.00 | 1.00 | 1.00                                                                              | 1.00 |     |     |     |  |
| Work Zone On Approach        | No                                                                                |                                                                                   |      | No   |                                                                                   |      | No   |                                                                                   |      |     |     |     |  |
| Adj Sat Flow, veh/h/ln       | 1885                                                                              | 1885                                                                              | 0    | 0    | 1885                                                                              | 1885 | 1885 | 1885                                                                              | 1885 |     |     |     |  |
| Adj Flow Rate, veh/h         | 33                                                                                | 43                                                                                | 0    | 0    | 32                                                                                | 30   | 30   | 361                                                                               | 12   |     |     |     |  |
| Peak Hour Factor             | 1.00                                                                              | 1.00                                                                              | 1.00 | 1.00 | 1.00                                                                              | 1.00 | 1.00 | 1.00                                                                              | 1.00 |     |     |     |  |
| Percent Heavy Veh, %         | 1                                                                                 | 1                                                                                 | 0    | 0    | 1                                                                                 | 1    | 1    | 1                                                                                 | 1    |     |     |     |  |
| Cap, veh/h                   | 442                                                                               | 566                                                                               | 0    | 0    | 269                                                                               | 252  | 159  | 2012                                                                              | 70   |     |     |     |  |
| Arrive On Green              | 0.30                                                                              | 0.30                                                                              | 0.00 | 0.00 | 0.30                                                                              | 0.30 | 0.20 | 0.20                                                                              | 0.20 |     |     |     |  |
| Sat Flow, veh/h              | 1351                                                                              | 1885                                                                              | 0    | 0    | 895                                                                               | 839  | 266  | 3354                                                                              | 117  |     |     |     |  |
| Grp Volume(v), veh/h         | 33                                                                                | 43                                                                                | 0    | 0    | 0                                                                                 | 62   | 211  | 0                                                                                 | 192  |     |     |     |  |
| Grp Sat Flow(s),veh/h/ln     | 1351                                                                              | 1885                                                                              | 0    | 0    | 0                                                                                 | 1734 | 1872 | 0                                                                                 | 1864 |     |     |     |  |
| Q Serve(g_s), s              | 1.8                                                                               | 1.6                                                                               | 0.0  | 0.0  | 0.0                                                                               | 2.6  | 9.4  | 0.0                                                                               | 8.5  |     |     |     |  |
| Cycle Q Clear(g_c), s        | 4.4                                                                               | 1.6                                                                               | 0.0  | 0.0  | 0.0                                                                               | 2.6  | 9.4  | 0.0                                                                               | 8.5  |     |     |     |  |
| Prop In Lane                 | 1.00                                                                              |                                                                                   | 0.00 | 0.00 |                                                                                   | 0.48 | 0.14 |                                                                                   | 0.06 |     |     |     |  |
| Lane Grp Cap(c), veh/h       | 442                                                                               | 566                                                                               | 0    | 0    | 0                                                                                 | 520  | 1123 | 0                                                                                 | 1119 |     |     |     |  |
| V/C Ratio(X)                 | 0.07                                                                              | 0.08                                                                              | 0.00 | 0.00 | 0.00                                                                              | 0.12 | 0.19 | 0.00                                                                              | 0.17 |     |     |     |  |
| Avail Cap(c_a), veh/h        | 442                                                                               | 566                                                                               | 0    | 0    | 0                                                                                 | 520  | 1123 | 0                                                                                 | 1119 |     |     |     |  |
| HCM Platoon Ratio            | 1.00                                                                              | 1.00                                                                              | 1.00 | 1.00 | 1.00                                                                              | 1.00 | 0.33 | 0.33                                                                              | 0.33 |     |     |     |  |
| Upstream Filter(I)           | 1.00                                                                              | 1.00                                                                              | 0.00 | 0.00 | 0.00                                                                              | 1.00 | 1.00 | 0.00                                                                              | 1.00 |     |     |     |  |
| Uniform Delay (d), s/veh     | 27.0                                                                              | 25.1                                                                              | 0.0  | 0.0  | 0.0                                                                               | 25.4 | 19.8 | 0.0                                                                               | 19.5 |     |     |     |  |
| Incr Delay (d2), s/veh       | 0.3                                                                               | 0.3                                                                               | 0.0  | 0.0  | 0.0                                                                               | 0.5  | 0.4  | 0.0                                                                               | 0.3  |     |     |     |  |
| Initial Q Delay(d3),s/veh    | 0.0                                                                               | 0.0                                                                               | 0.0  | 0.0  | 0.0                                                                               | 0.0  | 0.0  | 0.0                                                                               | 0.0  |     |     |     |  |
| %ile BackOfQ(50%),veh/ln     | 0.6                                                                               | 0.8                                                                               | 0.0  | 0.0  | 0.0                                                                               | 1.1  | 4.5  | 0.0                                                                               | 4.0  |     |     |     |  |
| Unsig. Movement Delay, s/veh |                                                                                   |                                                                                   |      |      |                                                                                   |      |      |                                                                                   |      |     |     |     |  |
| LnGrp Delay(d),s/veh         | 27.3                                                                              | 25.3                                                                              | 0.0  | 0.0  | 0.0                                                                               | 25.9 | 20.2 | 0.0                                                                               | 19.8 |     |     |     |  |
| LnGrp LOS                    | C                                                                                 | C                                                                                 | A    | A    | A                                                                                 | C    | C    | A                                                                                 | B    |     |     |     |  |
| Approach Vol, veh/h          | 76                                                                                |                                                                                   | 62   |      |                                                                                   | 403  |      |                                                                                   |      |     |     |     |  |
| Approach Delay, s/veh        | 26.2                                                                              |                                                                                   | 25.9 |      |                                                                                   | 20.0 |      |                                                                                   |      |     |     |     |  |
| Approach LOS                 | C                                                                                 |                                                                                   | C    |      |                                                                                   | B    |      |                                                                                   |      |     |     |     |  |
| Timer - Assigned Phs         |                                                                                   |                                                                                   |      |      |                                                                                   |      |      |                                                                                   |      |     |     |     |  |
|                              |                                                                                   |                                                                                   |      | 4    |                                                                                   | 6    |      | 8                                                                                 |      |     |     |     |  |
| Phs Duration (G+Y+Rc), s     |                                                                                   |                                                                                   |      | 35.0 |                                                                                   | 65.0 |      | 35.0                                                                              |      |     |     |     |  |
| Change Period (Y+Rc), s      |                                                                                   |                                                                                   |      | 5.0  |                                                                                   | 5.0  |      | 5.0                                                                               |      |     |     |     |  |
| Max Green Setting (Gmax), s  |                                                                                   |                                                                                   |      | 30.0 |                                                                                   | 60.0 |      | 30.0                                                                              |      |     |     |     |  |
| Max Q Clear Time (g_c+I1), s |                                                                                   |                                                                                   |      | 4.6  |                                                                                   | 11.4 |      | 6.4                                                                               |      |     |     |     |  |
| Green Ext Time (p_c), s      |                                                                                   |                                                                                   |      | 0.3  |                                                                                   | 2.5  |      | 0.2                                                                               |      |     |     |     |  |
| Intersection Summary         |                                                                                   |                                                                                   |      |      |                                                                                   |      |      |                                                                                   |      |     |     |     |  |
| HCM 6th Ctrl Delay           |                                                                                   |                                                                                   | 21.5 |      |                                                                                   |      |      |                                                                                   |      |     |     |     |  |
| HCM 6th LOS                  |                                                                                   |                                                                                   | C    |      |                                                                                   |      |      |                                                                                   |      |     |     |     |  |



HCM 6th Signalized Intersection Summary  
42: 4th Street & Rood Ave

Existing Conditions 2021

10/09/2021



| Movement                     | EBL  | EBT  | EBR  | WBL  | WBT  | WBR  | NBL | NBT  | NBR | SBL  | SBT  | SBR  |
|------------------------------|------|------|------|------|------|------|-----|------|-----|------|------|------|
| Lane Configurations          |      | ↶    |      | ↶    | ↶    |      |     |      |     |      | ↶↶   |      |
| Traffic Volume (veh/h)       | 0    | 35   | 27   | 23   | 54   | 0    | 0   | 0    | 0   | 32   | 233  | 57   |
| Future Volume (veh/h)        | 0    | 35   | 27   | 23   | 54   | 0    | 0   | 0    | 0   | 32   | 233  | 57   |
| Initial Q (Qb), veh          | 0    | 0    | 0    | 0    | 0    | 0    |     |      |     | 0    | 0    | 0    |
| Ped-Bike Adj(A_pbT)          | 1.00 |      | 1.00 | 1.00 |      | 1.00 |     |      |     | 1.00 |      | 1.00 |
| Parking Bus, Adj             | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |     |      |     | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach        |      | No   |      |      | No   |      |     |      |     |      | No   |      |
| Adj Sat Flow, veh/h/ln       | 0    | 1885 | 1885 | 1885 | 1885 | 0    |     |      |     | 1885 | 1885 | 1885 |
| Adj Flow Rate, veh/h         | 0    | 35   | 27   | 23   | 54   | 0    |     |      |     | 32   | 233  | 57   |
| Peak Hour Factor             | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |     |      |     | 1.00 | 1.00 | 1.00 |
| Percent Heavy Veh, %         | 0    | 1    | 1    | 1    | 1    | 0    |     |      |     | 1    | 1    | 1    |
| Cap, veh/h                   | 0    | 296  | 228  | 442  | 566  | 0    |     |      |     | 210  | 1570 | 400  |
| Arrive On Green              | 0.00 | 0.30 | 0.30 | 0.10 | 0.10 | 0.00 |     |      |     | 0.20 | 0.20 | 0.20 |
| Sat Flow, veh/h              | 0    | 987  | 761  | 1351 | 1885 | 0    |     |      |     | 349  | 2617 | 667  |
| Grp Volume(v), veh/h         | 0    | 0    | 62   | 23   | 54   | 0    |     |      |     | 171  | 0    | 151  |
| Grp Sat Flow(s),veh/h/ln     | 0    | 0    | 1748 | 1351 | 1885 | 0    |     |      |     | 1868 | 0    | 1765 |
| Q Serve(g_s), s              | 0.0  | 0.0  | 2.6  | 1.6  | 2.6  | 0.0  |     |      |     | 7.6  | 0.0  | 7.1  |
| Cycle Q Clear(g_c), s        | 0.0  | 0.0  | 2.6  | 4.1  | 2.6  | 0.0  |     |      |     | 7.6  | 0.0  | 7.1  |
| Prop In Lane                 | 0.00 |      | 0.44 | 1.00 |      | 0.00 |     |      |     | 0.19 |      | 0.38 |
| Lane Grp Cap(c), veh/h       | 0    | 0    | 524  | 442  | 566  | 0    |     |      |     | 1121 | 0    | 1059 |
| V/C Ratio(X)                 | 0.00 | 0.00 | 0.12 | 0.05 | 0.10 | 0.00 |     |      |     | 0.15 | 0.00 | 0.14 |
| Avail Cap(c_a), veh/h        | 0    | 0    | 524  | 442  | 566  | 0    |     |      |     | 1121 | 0    | 1059 |
| HCM Platoon Ratio            | 1.00 | 1.00 | 1.00 | 0.33 | 0.33 | 1.00 |     |      |     | 0.33 | 0.33 | 0.33 |
| Upstream Filter(I)           | 0.00 | 0.00 | 1.00 | 1.00 | 1.00 | 0.00 |     |      |     | 1.00 | 0.00 | 1.00 |
| Uniform Delay (d), s/veh     | 0.0  | 0.0  | 25.4 | 34.6 | 32.7 | 0.0  |     |      |     | 19.1 | 0.0  | 18.9 |
| Incr Delay (d2), s/veh       | 0.0  | 0.0  | 0.5  | 0.2  | 0.3  | 0.0  |     |      |     | 0.3  | 0.0  | 0.3  |
| Initial Q Delay(d3),s/veh    | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  |     |      |     | 0.0  | 0.0  | 0.0  |
| %ile BackOfQ(50%),veh/ln     | 0.0  | 0.0  | 1.1  | 0.5  | 1.2  | 0.0  |     |      |     | 3.5  | 0.0  | 3.1  |
| Unsig. Movement Delay, s/veh |      |      |      |      |      |      |     |      |     |      |      |      |
| LnGrp Delay(d),s/veh         | 0.0  | 0.0  | 25.9 | 34.8 | 33.0 | 0.0  |     |      |     | 19.4 | 0.0  | 19.2 |
| LnGrp LOS                    | A    | A    | C    | C    | C    | A    |     |      |     | B    | A    | B    |
| Approach Vol, veh/h          |      | 62   |      |      | 77   |      |     |      |     |      | 322  |      |
| Approach Delay, s/veh        |      | 25.9 |      |      | 33.6 |      |     |      |     |      | 19.3 |      |
| Approach LOS                 |      | C    |      |      | C    |      |     |      |     |      | B    |      |
| Timer - Assigned Phs         |      | 2    |      | 4    |      |      |     | 8    |     |      |      |      |
| Phs Duration (G+Y+Rc), s     |      | 65.0 |      | 35.0 |      |      |     | 35.0 |     |      |      |      |
| Change Period (Y+Rc), s      |      | 5.0  |      | 5.0  |      |      |     | 5.0  |     |      |      |      |
| Max Green Setting (Gmax), s  |      | 60.0 |      | 30.0 |      |      |     | 30.0 |     |      |      |      |
| Max Q Clear Time (g_c+I1), s |      | 9.6  |      | 6.1  |      |      |     | 4.6  |     |      |      |      |
| Green Ext Time (p_c), s      |      | 2.1  |      | 0.3  |      |      |     | 0.3  |     |      |      |      |
| <b>Intersection Summary</b>  |      |      |      |      |      |      |     |      |     |      |      |      |
| HCM 6th Ctrl Delay           |      |      | 22.5 |      |      |      |     |      |     |      |      |      |
| HCM 6th LOS                  |      |      | C    |      |      |      |     |      |     |      |      |      |

HCM 6th Signalized Intersection Summary  
45: 5th Street & Main St

Existing Conditions 2021

10/09/2021



| Movement                     | EBL  | EBT  | EBR  | WBL  | WBT  | WBR  | NBL  | NBT  | NBR  | SBL | SBT | SBR |
|------------------------------|------|------|------|------|------|------|------|------|------|-----|-----|-----|
| Lane Configurations          |      | ↰    |      |      | ↱    |      |      | ↰↱   |      |     |     |     |
| Traffic Volume (veh/h)       | 28   | 98   | 0    | 0    | 63   | 20   | 19   | 348  | 20   | 0   | 0   | 0   |
| Future Volume (veh/h)        | 28   | 98   | 0    | 0    | 63   | 20   | 19   | 348  | 20   | 0   | 0   | 0   |
| Initial Q (Qb), veh          | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    |     |     |     |
| Ped-Bike Adj(A_pbT)          | 1.00 |      | 1.00 | 1.00 |      | 1.00 | 1.00 |      | 1.00 |     |     |     |
| Parking Bus, Adj             | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |     |     |     |
| Work Zone On Approach        | No   |      |      | No   |      |      | No   |      |      |     |     |     |
| Adj Sat Flow, veh/h/ln       | 1885 | 1885 | 0    | 0    | 1885 | 1885 | 1885 | 1885 | 1885 |     |     |     |
| Adj Flow Rate, veh/h         | 28   | 98   | 0    | 0    | 63   | 20   | 19   | 348  | 20   |     |     |     |
| Peak Hour Factor             | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |     |     |     |
| Percent Heavy Veh, %         | 1    | 1    | 0    | 0    | 1    | 1    | 1    | 1    | 1    |     |     |     |
| Cap, veh/h                   | 133  | 439  | 0    | 0    | 411  | 131  | 105  | 2009 | 121  |     |     |     |
| Arrive On Green              | 0.60 | 0.60 | 0.00 | 0.00 | 0.30 | 0.30 | 0.20 | 0.20 | 0.20 |     |     |     |
| Sat Flow, veh/h              | 296  | 1465 | 0    | 0    | 1371 | 435  | 175  | 3349 | 202  |     |     |     |
| Grp Volume(v), veh/h         | 126  | 0    | 0    | 0    | 0    | 83   | 204  | 0    | 183  |     |     |     |
| Grp Sat Flow(s),veh/h/ln     | 760  | 0    | 0    | 0    | 0    | 1807 | 1876 | 0    | 1849 |     |     |     |
| Q Serve(g_s), s              | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 3.4  | 9.0  | 0.0  | 8.2  |     |     |     |
| Cycle Q Clear(g_c), s        | 3.1  | 0.0  | 0.0  | 0.0  | 0.0  | 3.4  | 9.0  | 0.0  | 8.2  |     |     |     |
| Prop In Lane                 | 0.22 |      | 0.00 | 0.00 |      | 0.24 | 0.09 |      | 0.11 |     |     |     |
| Lane Grp Cap(c), veh/h       | 572  | 0    | 0    | 0    | 0    | 542  | 1126 | 0    | 1109 |     |     |     |
| V/C Ratio(X)                 | 0.22 | 0.00 | 0.00 | 0.00 | 0.00 | 0.15 | 0.18 | 0.00 | 0.17 |     |     |     |
| Avail Cap(c_a), veh/h        | 572  | 0    | 0    | 0    | 0    | 542  | 1126 | 0    | 1109 |     |     |     |
| HCM Platoon Ratio            | 2.00 | 2.00 | 1.00 | 1.00 | 1.00 | 1.00 | 0.33 | 0.33 | 0.33 |     |     |     |
| Upstream Filter(I)           | 1.00 | 0.00 | 0.00 | 0.00 | 0.00 | 1.00 | 1.00 | 0.00 | 1.00 |     |     |     |
| Uniform Delay (d), s/veh     | 14.6 | 0.0  | 0.0  | 0.0  | 0.0  | 25.7 | 19.7 | 0.0  | 19.3 |     |     |     |
| Incr Delay (d2), s/veh       | 0.9  | 0.0  | 0.0  | 0.0  | 0.0  | 0.6  | 0.4  | 0.0  | 0.3  |     |     |     |
| Initial Q Delay(d3),s/veh    | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  |     |     |     |
| %ile BackOfQ(50%),veh/ln     | 1.4  | 0.0  | 0.0  | 0.0  | 0.0  | 1.5  | 4.3  | 0.0  | 3.8  |     |     |     |
| Unsig. Movement Delay, s/veh |      |      |      |      |      |      |      |      |      |     |     |     |
| LnGrp Delay(d),s/veh         | 15.5 | 0.0  | 0.0  | 0.0  | 0.0  | 26.3 | 20.0 | 0.0  | 19.7 |     |     |     |
| LnGrp LOS                    | B    | A    | A    | A    | A    | C    | C    | A    | B    |     |     |     |
| Approach Vol, veh/h          | 126  |      |      |      |      | 83   |      | 387  |      |     |     |     |
| Approach Delay, s/veh        | 15.5 |      |      |      |      | 26.3 |      | 19.8 |      |     |     |     |
| Approach LOS                 | B    |      |      |      |      | C    |      | B    |      |     |     |     |
| Timer - Assigned Phs         |      |      |      | 4    |      | 6    |      | 8    |      |     |     |     |
| Phs Duration (G+Y+Rc), s     |      |      |      | 35.0 |      | 65.0 |      | 35.0 |      |     |     |     |
| Change Period (Y+Rc), s      |      |      |      | 5.0  |      | 5.0  |      | 5.0  |      |     |     |     |
| Max Green Setting (Gmax), s  |      |      |      | 30.0 |      | 60.0 |      | 30.0 |      |     |     |     |
| Max Q Clear Time (g_c+I1), s |      |      |      | 5.4  |      | 11.0 |      | 5.1  |      |     |     |     |
| Green Ext Time (p_c), s      |      |      |      | 0.4  |      | 2.4  |      | 0.6  |      |     |     |     |
| Intersection Summary         |      |      |      |      |      |      |      |      |      |     |     |     |
| HCM 6th Ctrl Delay           |      |      | 19.8 |      |      |      |      |      |      |     |     |     |
| HCM 6th LOS                  |      |      | B    |      |      |      |      |      |      |     |     |     |

HCM 6th Signalized Intersection Summary  
46: 4th Street & Main St

Existing Conditions 2021

10/09/2021



| Movement                     | EBL  | EBT  | EBR  | WBL  | WBT  | WBR  | NBL | NBT  | NBR | SBL  | SBT  | SBR  |
|------------------------------|------|------|------|------|------|------|-----|------|-----|------|------|------|
| Lane Configurations          |      | ↶    |      |      | ↷    |      |     |      |     |      | ↶↷   |      |
| Traffic Volume (veh/h)       | 0    | 90   | 21   | 17   | 66   | 0    | 0   | 0    | 0   | 34   | 209  | 33   |
| Future Volume (veh/h)        | 0    | 90   | 21   | 17   | 66   | 0    | 0   | 0    | 0   | 34   | 209  | 33   |
| Initial Q (Qb), veh          | 0    | 0    | 0    | 0    | 0    | 0    |     |      |     | 0    | 0    | 0    |
| Ped-Bike Adj(A_pbT)          | 1.00 |      | 1.00 | 1.00 |      | 1.00 |     |      |     | 1.00 |      | 1.00 |
| Parking Bus, Adj             | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |     |      |     | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach        |      | No   |      |      | No   |      |     |      |     |      | No   |      |
| Adj Sat Flow, veh/h/ln       | 0    | 1885 | 1885 | 1885 | 1885 | 0    |     |      |     | 1885 | 1885 | 1885 |
| Adj Flow Rate, veh/h         | 0    | 90   | 21   | 17   | 66   | 0    |     |      |     | 34   | 209  | 33   |
| Peak Hour Factor             | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |     |      |     | 1.00 | 1.00 | 1.00 |
| Percent Heavy Veh, %         | 0    | 1    | 1    | 1    | 1    | 0    |     |      |     | 1    | 1    | 1    |
| Cap, veh/h                   | 0    | 643  | 150  | 170  | 636  | 0    |     |      |     | 207  | 1318 | 217  |
| Arrive On Green              | 0.00 | 0.44 | 0.44 | 0.87 | 0.87 | 0.00 |     |      |     | 0.16 | 0.16 | 0.16 |
| Sat Flow, veh/h              | 0    | 1478 | 345  | 290  | 1462 | 0    |     |      |     | 435  | 2775 | 456  |
| Grp Volume(v), veh/h         | 0    | 0    | 111  | 83   | 0    | 0    |     |      |     | 146  | 0    | 130  |
| Grp Sat Flow(s),veh/h/ln     | 0    | 0    | 1823 | 1752 | 0    | 0    |     |      |     | 1863 | 0    | 1803 |
| Q Serve(g_s), s              | 0.0  | 0.0  | 3.7  | 0.0  | 0.0  | 0.0  |     |      |     | 6.8  | 0.0  | 6.2  |
| Cycle Q Clear(g_c), s        | 0.0  | 0.0  | 3.7  | 0.6  | 0.0  | 0.0  |     |      |     | 6.8  | 0.0  | 6.2  |
| Prop In Lane                 | 0.00 |      | 0.19 | 0.20 |      | 0.00 |     |      |     | 0.23 |      | 0.25 |
| Lane Grp Cap(c), veh/h       | 0    | 0    | 793  | 805  | 0    | 0    |     |      |     | 885  | 0    | 856  |
| V/C Ratio(X)                 | 0.00 | 0.00 | 0.14 | 0.10 | 0.00 | 0.00 |     |      |     | 0.16 | 0.00 | 0.15 |
| Avail Cap(c_a), veh/h        | 0    | 0    | 793  | 805  | 0    | 0    |     |      |     | 885  | 0    | 856  |
| HCM Platoon Ratio            | 1.00 | 1.00 | 1.00 | 2.00 | 2.00 | 1.00 |     |      |     | 0.33 | 0.33 | 0.33 |
| Upstream Filter(I)           | 0.00 | 0.00 | 1.00 | 1.00 | 0.00 | 0.00 |     |      |     | 1.00 | 0.00 | 1.00 |
| Uniform Delay (d), s/veh     | 0.0  | 0.0  | 17.0 | 3.7  | 0.0  | 0.0  |     |      |     | 25.0 | 0.0  | 24.8 |
| Incr Delay (d2), s/veh       | 0.0  | 0.0  | 0.4  | 0.3  | 0.0  | 0.0  |     |      |     | 0.4  | 0.0  | 0.4  |
| Initial Q Delay(d3),s/veh    | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  |     |      |     | 0.0  | 0.0  | 0.0  |
| %ile BackOfQ(50%),veh/ln     | 0.0  | 0.0  | 1.6  | 0.3  | 0.0  | 0.0  |     |      |     | 3.2  | 0.0  | 2.9  |
| Unsig. Movement Delay, s/veh |      |      |      |      |      |      |     |      |     |      |      |      |
| LnGrp Delay(d),s/veh         | 0.0  | 0.0  | 17.4 | 4.0  | 0.0  | 0.0  |     |      |     | 25.4 | 0.0  | 25.1 |
| LnGrp LOS                    | A    | A    | B    | A    | A    | A    |     |      |     | C    | A    | C    |
| Approach Vol, veh/h          |      | 111  |      |      | 83   |      |     |      |     |      | 276  |      |
| Approach Delay, s/veh        |      | 17.4 |      |      | 4.0  |      |     |      |     |      | 25.3 |      |
| Approach LOS                 |      | B    |      |      | A    |      |     |      |     |      | C    |      |
| Timer - Assigned Phs         |      | 2    |      | 4    |      |      |     | 8    |     |      |      |      |
| Phs Duration (G+Y+Rc), s     |      | 52.0 |      | 48.0 |      |      |     | 48.0 |     |      |      |      |
| Change Period (Y+Rc), s      |      | 4.5  |      | 4.5  |      |      |     | 4.5  |     |      |      |      |
| Max Green Setting (Gmax), s  |      | 47.5 |      | 43.5 |      |      |     | 43.5 |     |      |      |      |
| Max Q Clear Time (g_c+I1), s |      | 8.8  |      | 2.6  |      |      |     | 5.7  |     |      |      |      |
| Green Ext Time (p_c), s      |      | 1.7  |      | 0.5  |      |      |     | 0.6  |     |      |      |      |
| <b>Intersection Summary</b>  |      |      |      |      |      |      |     |      |     |      |      |      |
| HCM 6th Ctrl Delay           |      |      | 19.6 |      |      |      |     |      |     |      |      |      |
| HCM 6th LOS                  |      |      | B    |      |      |      |     |      |     |      |      |      |

| Intersection             |      |      |      |      |      |      |      |      |      |      |       |      |
|--------------------------|------|------|------|------|------|------|------|------|------|------|-------|------|
| Int Delay, s/veh         | 3.1  |      |      |      |      |      |      |      |      |      |       |      |
| Movement                 | EBL  | EBT  | EBR  | WBL  | WBT  | WBR  | NBL  | NBT  | NBR  | SBL  | SBT   | SBR  |
| Lane Configurations      |      | ↰    |      |      | ↱    |      |      | ↰↱   |      |      |       |      |
| Traffic Vol, veh/h       | 33   | 38   | 0    | 0    | 43   | 15   | 12   | 328  | 13   | 0    | 0     | 0    |
| Future Vol, veh/h        | 33   | 38   | 0    | 0    | 43   | 15   | 12   | 328  | 13   | 0    | 0     | 0    |
| Conflicting Peds, #/hr   | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0     | 0    |
| Sign Control             | Stop | Stop | Stop | Stop | Stop | Stop | Free | Free | Free | Free | Free  | Free |
| RT Channelized           | -    | -    | None | -    | -    | None | -    | -    | None | -    | -     | None |
| Storage Length           | -    | -    | -    | -    | -    | -    | -    | -    | -    | -    | -     | -    |
| Veh in Median Storage, # | -    | 0    | -    | -    | 0    | -    | -    | 0    | -    | -    | 16965 | -    |
| Grade, %                 | -    | 0    | -    | -    | 0    | -    | -    | 0    | -    | -    | 0     | -    |
| Peak Hour Factor         | 100  | 100  | 100  | 100  | 100  | 100  | 100  | 100  | 100  | 100  | 100   | 100  |
| Heavy Vehicles, %        | 1    | 1    | 1    | 1    | 1    | 1    | 1    | 1    | 1    | 1    | 1     | 1    |
| Mvmt Flow                | 33   | 38   | 0    | 0    | 43   | 15   | 12   | 328  | 13   | 0    | 0     | 0    |

| Major/Minor          | Minor2 |      | Minor1 |   | Major1 |      |      |   |   |
|----------------------|--------|------|--------|---|--------|------|------|---|---|
| Conflicting Flow All | 210    | 365  | -      | - | 359    | 171  | 0    | 0 | 0 |
| Stage 1              | 0      | 0    | -      | - | 359    | -    | -    | - | - |
| Stage 2              | 210    | 365  | -      | - | 0      | -    | -    | - | - |
| Critical Hdwy        | 7.52   | 6.52 | -      | - | 6.52   | 6.92 | 4.12 | - | - |
| Critical Hdwy Stg 1  | -      | -    | -      | - | 5.52   | -    | -    | - | - |
| Critical Hdwy Stg 2  | 6.52   | 5.52 | -      | - | -      | -    | -    | - | - |
| Follow-up Hdwy       | 3.51   | 4.01 | -      | - | 4.01   | 3.31 | 2.21 | - | - |
| Pot Cap-1 Maneuver   | 731    | 564  | 0      | 0 | 568    | 846  | -    | - | - |
| Stage 1              | -      | -    | 0      | 0 | 628    | -    | -    | - | - |
| Stage 2              | 775    | 624  | 0      | 0 | -      | -    | -    | - | - |
| Platoon blocked, %   |        |      |        |   |        |      |      | - | - |
| Mov Cap-1 Maneuver   | 676    | 564  | -      | - | 568    | 846  | -    | - | - |
| Mov Cap-2 Maneuver   | 676    | 564  | -      | - | 568    | -    | -    | - | - |
| Stage 1              | -      | -    | -      | - | 628    | -    | -    | - | - |
| Stage 2              | 709    | 624  | -      | - | -      | -    | -    | - | - |

| Approach             | EB   |  | WB   |  | NB |  |  |
|----------------------|------|--|------|--|----|--|--|
| HCM Control Delay, s | 11.7 |  | 11.4 |  |    |  |  |
| HCM LOS              | B    |  | B    |  |    |  |  |

| Minor Lane/Major Mvmt | NBL | NBT | NBR | EBLn1WBLn1 |       |
|-----------------------|-----|-----|-----|------------|-------|
| Capacity (veh/h)      | -   | -   | -   | 611        | 621   |
| HCM Lane V/C Ratio    | -   | -   | -   | 0.116      | 0.093 |
| HCM Control Delay (s) | -   | -   | -   | 11.7       | 11.4  |
| HCM Lane LOS          | -   | -   | -   | B          | B     |
| HCM 95th %tile Q(veh) | -   | -   | -   | 0.4        | 0.3   |

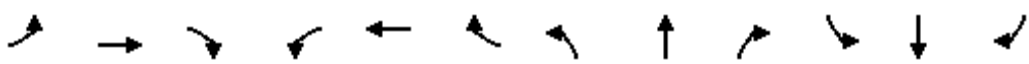
| Intersection             |             |      |        |      |      |      |          |       |      |      |      |      |
|--------------------------|-------------|------|--------|------|------|------|----------|-------|------|------|------|------|
| Int Delay, s/veh         | 3.2         |      |        |      |      |      |          |       |      |      |      |      |
| Movement                 | EBL         | EBT  | EBR    | WBL  | WBT  | WBR  | NBL      | NBT   | NBR  | SBL  | SBT  | SBR  |
| Lane Configurations      |             | ↰    |        |      | ↱    |      |          |       |      | ↰↱   |      |      |
| Traffic Vol, veh/h       | 0           | 42   | 8      | 10   | 42   | 0    | 0        | 0     | 0    | 25   | 204  | 14   |
| Future Vol, veh/h        | 0           | 42   | 8      | 10   | 42   | 0    | 0        | 0     | 0    | 25   | 204  | 14   |
| Conflicting Peds, #/hr   | 0           | 0    | 0      | 0    | 0    | 0    | 0        | 0     | 0    | 0    | 0    | 0    |
| Sign Control             | Stop        | Stop | Stop   | Stop | Stop | Stop | Free     | Free  | Free | Free | Free | Free |
| RT Channelized           | -           | -    | None   | -    | -    | None | -        | -     | None | -    | -    | None |
| Storage Length           | -           | -    | -      | -    | -    | -    | -        | -     | -    | -    | -    | -    |
| Veh in Median Storage, # | -           | 0    | -      | -    | 0    | -    | -        | 16974 | -    | -    | 0    | -    |
| Grade, %                 | -           | 0    | -      | -    | 0    | -    | -        | 0     | -    | -    | 0    | -    |
| Peak Hour Factor         | 100         | 100  | 100    | 100  | 100  | 100  | 100      | 100   | 100  | 100  | 100  | 100  |
| Heavy Vehicles, %        | 1           | 1    | 1      | 1    | 1    | 1    | 1        | 1     | 1    | 1    | 1    | 1    |
| Mvmt Flow                | 0           | 42   | 8      | 10   | 42   | 0    | 0        | 0     | 0    | 25   | 204  | 14   |
|                          |             |      |        |      |      |      |          |       |      |      |      |      |
| Major/Minor              | Minor2      |      | Minor1 |      |      |      | Major2   |       |      |      |      |      |
| Conflicting Flow All     | -           | 261  | 109    | 173  | 268  | -    | 0 0 0    |       |      |      |      |      |
| Stage 1                  | -           | 261  | -      | 0    | 0    | -    | - - -    |       |      |      |      |      |
| Stage 2                  | -           | 0    | -      | 173  | 268  | -    | - - -    |       |      |      |      |      |
| Critical Hdwy            | -           | 6.52 | 6.92   | 7.52 | 6.52 | -    | 4.12 - - |       |      |      |      |      |
| Critical Hdwy Stg 1      | -           | 5.52 | -      | -    | -    | -    | - - -    |       |      |      |      |      |
| Critical Hdwy Stg 2      | -           | -    | -      | 6.52 | 5.52 | -    | - - -    |       |      |      |      |      |
| Follow-up Hdwy           | -           | 4.01 | 3.31   | 3.51 | 4.01 | -    | 2.21 - - |       |      |      |      |      |
| Pot Cap-1 Maneuver       | 0           | 645  | 927    | 777  | 639  | 0    | - - -    |       |      |      |      |      |
| Stage 1                  | 0           | 693  | -      | -    | -    | 0    | - - -    |       |      |      |      |      |
| Stage 2                  | 0           | -    | -      | 815  | 688  | 0    | - - -    |       |      |      |      |      |
| Platoon blocked, %       |             |      |        |      |      |      |          |       |      |      | -    | -    |
| Mov Cap-1 Maneuver       | -           | 645  | 927    | 732  | 639  | -    | - - -    |       |      |      |      |      |
| Mov Cap-2 Maneuver       | -           | 645  | -      | 732  | 639  | -    | - - -    |       |      |      |      |      |
| Stage 1                  | -           | 693  | -      | -    | -    | -    | - - -    |       |      |      |      |      |
| Stage 2                  | -           | -    | -      | 759  | 688  | -    | - - -    |       |      |      |      |      |
|                          |             |      |        |      |      |      |          |       |      |      |      |      |
|                          |             |      |        |      |      |      |          |       |      |      |      |      |
| Approach                 | EB          |      | WB     |      |      |      | SB       |       |      |      |      |      |
| HCM Control Delay, s     | 10.7        |      | 11     |      |      |      |          |       |      |      |      |      |
| HCM LOS                  | B           |      | B      |      |      |      |          |       |      |      |      |      |
|                          |             |      |        |      |      |      |          |       |      |      |      |      |
|                          |             |      |        |      |      |      |          |       |      |      |      |      |
| Minor Lane/Major Mvmt    | EBLn1WBLn1  |      | SBL    | SBT  | SBR  |      |          |       |      |      |      |      |
| Capacity (veh/h)         | 678 655     |      | -      | -    | -    |      |          |       |      |      |      |      |
| HCM Lane V/C Ratio       | 0.074 0.079 |      | -      | -    | -    |      |          |       |      |      |      |      |
| HCM Control Delay (s)    | 10.7 11     |      | -      | -    | -    |      |          |       |      |      |      |      |
| HCM Lane LOS             | B B         |      | -      | -    | -    |      |          |       |      |      |      |      |
| HCM 95th %tile O(veh)    | 0.2 0.3     |      | -      | -    | -    |      |          |       |      |      |      |      |

# HCM 6th Signalized Intersection Summary

## 53: 5th Street & Ute Ave

Existing Conditions 2021

10/09/2021

|                              |  |     |     |                                                                                   |                                                                                   |                                                                                   |                                                                                     |                                                                                     |      |     |     |     |
|------------------------------|------------------------------------------------------------------------------------|-----|-----|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|------|-----|-----|-----|
| Movement                     | EBL                                                                                | EBT | EBR | WBL                                                                               | WBT                                                                               | WBR                                                                               | NBL                                                                                 | NBT                                                                                 | NBR  | SBL | SBT | SBR |
| Lane Configurations          |                                                                                    |     |     |  |  |  |  |  |      |     |     |     |
| Traffic Volume (veh/h)       | 0                                                                                  | 0   | 0   | 415                                                                               | 492                                                                               | 50                                                                                | 177                                                                                 | 286                                                                                 | 0    | 0   | 0   | 0   |
| Future Volume (veh/h)        | 0                                                                                  | 0   | 0   | 415                                                                               | 492                                                                               | 50                                                                                | 177                                                                                 | 286                                                                                 | 0    | 0   | 0   | 0   |
| Initial Q (Qb), veh          |                                                                                    |     |     | 0                                                                                 | 0                                                                                 | 0                                                                                 | 0                                                                                   | 0                                                                                   | 0    |     |     |     |
| Ped-Bike Adj(A_pbT)          |                                                                                    |     |     | 1.00                                                                              |                                                                                   | 1.00                                                                              | 1.00                                                                                |                                                                                     | 1.00 |     |     |     |
| Parking Bus, Adj             |                                                                                    |     |     | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                                | 1.00                                                                                | 1.00 |     |     |     |
| Work Zone On Approach        |                                                                                    |     |     | No                                                                                |                                                                                   |                                                                                   | No                                                                                  |                                                                                     |      |     |     |     |
| Adj Sat Flow, veh/h/ln       |                                                                                    |     |     | 1885                                                                              | 1885                                                                              | 1885                                                                              | 1885                                                                                | 1885                                                                                | 0    |     |     |     |
| Adj Flow Rate, veh/h         |                                                                                    |     |     | 302                                                                               | 650                                                                               | 50                                                                                | 177                                                                                 | 286                                                                                 | 0    |     |     |     |
| Peak Hour Factor             |                                                                                    |     |     | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                                | 1.00                                                                                | 1.00 |     |     |     |
| Percent Heavy Veh, %         |                                                                                    |     |     | 1                                                                                 | 1                                                                                 | 1                                                                                 | 1                                                                                   | 1                                                                                   | 0    |     |     |     |
| Cap, veh/h                   |                                                                                    |     |     | 790                                                                               | 1508                                                                              | 639                                                                               | 970                                                                                 | 1791                                                                                | 0    |     |     |     |
| Arrive On Green              |                                                                                    |     |     | 0.40                                                                              | 0.40                                                                              | 0.40                                                                              | 1.00                                                                                | 1.00                                                                                | 0.00 |     |     |     |
| Sat Flow, veh/h              |                                                                                    |     |     | 1795                                                                              | 3770                                                                              | 1598                                                                              | 1795                                                                                | 3676                                                                                | 0    |     |     |     |
| Grp Volume(v), veh/h         |                                                                                    |     |     | 302                                                                               | 650                                                                               | 50                                                                                | 177                                                                                 | 286                                                                                 | 0    |     |     |     |
| Grp Sat Flow(s),veh/h/ln     |                                                                                    |     |     | 1795                                                                              | 1885                                                                              | 1598                                                                              | 1795                                                                                | 1791                                                                                | 0    |     |     |     |
| Q Serve(g_s), s              |                                                                                    |     |     | 12.1                                                                              | 12.5                                                                              | 1.9                                                                               | 0.0                                                                                 | 0.0                                                                                 | 0.0  |     |     |     |
| Cycle Q Clear(g_c), s        |                                                                                    |     |     | 12.1                                                                              | 12.5                                                                              | 1.9                                                                               | 0.0                                                                                 | 0.0                                                                                 | 0.0  |     |     |     |
| Prop In Lane                 |                                                                                    |     |     | 1.00                                                                              |                                                                                   | 1.00                                                                              | 1.00                                                                                |                                                                                     | 0.00 |     |     |     |
| Lane Grp Cap(c), veh/h       |                                                                                    |     |     | 790                                                                               | 1508                                                                              | 639                                                                               | 970                                                                                 | 1791                                                                                | 0    |     |     |     |
| V/C Ratio(X)                 |                                                                                    |     |     | 0.38                                                                              | 0.43                                                                              | 0.08                                                                              | 0.18                                                                                | 0.16                                                                                | 0.00 |     |     |     |
| Avail Cap(c_a), veh/h        |                                                                                    |     |     | 790                                                                               | 1508                                                                              | 639                                                                               | 970                                                                                 | 1791                                                                                | 0    |     |     |     |
| HCM Platoon Ratio            |                                                                                    |     |     | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 2.00                                                                                | 2.00                                                                                | 1.00 |     |     |     |
| Upstream Filter(I)           |                                                                                    |     |     | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                                | 1.00                                                                                | 0.00 |     |     |     |
| Uniform Delay (d), s/veh     |                                                                                    |     |     | 21.6                                                                              | 21.7                                                                              | 18.6                                                                              | 0.0                                                                                 | 0.0                                                                                 | 0.0  |     |     |     |
| Incr Delay (d2), s/veh       |                                                                                    |     |     | 1.4                                                                               | 0.9                                                                               | 0.2                                                                               | 0.4                                                                                 | 0.2                                                                                 | 0.0  |     |     |     |
| Initial Q Delay(d3),s/veh    |                                                                                    |     |     | 0.0                                                                               | 0.0                                                                               | 0.0                                                                               | 0.0                                                                                 | 0.0                                                                                 | 0.0  |     |     |     |
| %ile BackOfQ(50%),veh/ln     |                                                                                    |     |     | 5.3                                                                               | 5.6                                                                               | 0.8                                                                               | 0.1                                                                                 | 0.0                                                                                 | 0.0  |     |     |     |
| Unsig. Movement Delay, s/veh |                                                                                    |     |     |                                                                                   |                                                                                   |                                                                                   |                                                                                     |                                                                                     |      |     |     |     |
| LnGrp Delay(d),s/veh         |                                                                                    |     |     | 23.0                                                                              | 22.7                                                                              | 18.8                                                                              | 0.4                                                                                 | 0.2                                                                                 | 0.0  |     |     |     |
| LnGrp LOS                    |                                                                                    |     |     | C                                                                                 | C                                                                                 | B                                                                                 | A                                                                                   | A                                                                                   | A    |     |     |     |
| Approach Vol, veh/h          |                                                                                    |     |     |                                                                                   | 1002                                                                              |                                                                                   |                                                                                     | 463                                                                                 |      |     |     |     |
| Approach Delay, s/veh        |                                                                                    |     |     |                                                                                   | 22.6                                                                              |                                                                                   |                                                                                     | 0.3                                                                                 |      |     |     |     |
| Approach LOS                 |                                                                                    |     |     |                                                                                   | C                                                                                 |                                                                                   |                                                                                     | A                                                                                   |      |     |     |     |
| Timer - Assigned Phs         |                                                                                    |     |     | 4                                                                                 |                                                                                   | 6                                                                                 |                                                                                     |                                                                                     |      |     |     |     |
| Phs Duration (G+Y+Rc), s     |                                                                                    |     |     | 45.0                                                                              |                                                                                   | 55.0                                                                              |                                                                                     |                                                                                     |      |     |     |     |
| Change Period (Y+Rc), s      |                                                                                    |     |     | 5.0                                                                               |                                                                                   | 5.0                                                                               |                                                                                     |                                                                                     |      |     |     |     |
| Max Green Setting (Gmax), s  |                                                                                    |     |     | 40.0                                                                              |                                                                                   | 50.0                                                                              |                                                                                     |                                                                                     |      |     |     |     |
| Max Q Clear Time (g_c+I1), s |                                                                                    |     |     | 14.5                                                                              |                                                                                   | 2.0                                                                               |                                                                                     |                                                                                     |      |     |     |     |
| Green Ext Time (p_c), s      |                                                                                    |     |     | 5.9                                                                               |                                                                                   | 2.4                                                                               |                                                                                     |                                                                                     |      |     |     |     |
| <b>Intersection Summary</b>  |                                                                                    |     |     |                                                                                   |                                                                                   |                                                                                   |                                                                                     |                                                                                     |      |     |     |     |
| HCM 6th Ctrl Delay           |                                                                                    |     |     | 15.5                                                                              |                                                                                   |                                                                                   |                                                                                     |                                                                                     |      |     |     |     |
| HCM 6th LOS                  |                                                                                    |     |     | B                                                                                 |                                                                                   |                                                                                   |                                                                                     |                                                                                     |      |     |     |     |

### Notes

User approved volume balancing among the lanes for turning movement.



HCM 6th Signalized Intersection Summary  
54: 4th Street & Ute Ave

Existing Conditions 2021

10/09/2021



| Movement                     | EBL | EBT  | EBR | WBL  | WBT  | WBR  | NBL | NBT | NBR | SBL  | SBT  | SBR  |
|------------------------------|-----|------|-----|------|------|------|-----|-----|-----|------|------|------|
| Lane Configurations          |     |      |     |      | ↔    |      |     |     |     |      | ↔    |      |
| Traffic Volume (veh/h)       | 0   | 0    | 0   | 21   | 652  | 0    | 0   | 0   | 0   | 0    | 189  | 28   |
| Future Volume (veh/h)        | 0   | 0    | 0   | 21   | 652  | 0    | 0   | 0   | 0   | 0    | 189  | 28   |
| Initial Q (Qb), veh          |     |      |     | 0    | 0    | 0    |     |     |     | 0    | 0    | 0    |
| Ped-Bike Adj(A_pbT)          |     |      |     | 1.00 |      | 1.00 |     |     |     | 1.00 |      | 1.00 |
| Parking Bus, Adj             |     |      |     | 1.00 | 1.00 | 1.00 |     |     |     | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach        |     |      |     | No   |      |      |     |     |     | No   |      |      |
| Adj Sat Flow, veh/h/ln       |     |      |     | 1885 | 1885 | 0    |     |     |     | 0    | 1885 | 1885 |
| Adj Flow Rate, veh/h         |     |      |     | 21   | 652  | 0    |     |     |     | 0    | 189  | 28   |
| Peak Hour Factor             |     |      |     | 1.00 | 1.00 | 1.00 |     |     |     | 1.00 | 1.00 | 1.00 |
| Percent Heavy Veh, %         |     |      |     | 1    | 1    | 0    |     |     |     | 0    | 1    | 1    |
| Cap, veh/h                   |     |      |     | 65   | 1722 | 0    |     |     |     | 0    | 1207 | 176  |
| Arrive On Green              |     |      |     | 0.17 | 0.17 | 0.00 |     |     |     | 0.00 | 0.13 | 0.13 |
| Sat Flow, veh/h              |     |      |     | 54   | 3530 | 0    |     |     |     | 0    | 3230 | 458  |
| Grp Volume(v), veh/h         |     |      |     | 360  | 313  | 0    |     |     |     | 0    | 107  | 110  |
| Grp Sat Flow(s),veh/h/ln     |     |      |     | 1868 | 1630 | 0    |     |     |     | 0    | 1791 | 1803 |
| Q Serve(g_s), s              |     |      |     | 0.0  | 17.1 | 0.0  |     |     |     | 0.0  | 5.3  | 5.5  |
| Cycle Q Clear(g_c), s        |     |      |     | 17.0 | 17.1 | 0.0  |     |     |     | 0.0  | 5.3  | 5.5  |
| Prop In Lane                 |     |      |     | 0.06 |      | 0.00 |     |     |     | 0.00 |      | 0.25 |
| Lane Grp Cap(c), veh/h       |     |      |     | 972  | 815  | 0    |     |     |     | 0    | 690  | 694  |
| V/C Ratio(X)                 |     |      |     | 0.37 | 0.38 | 0.00 |     |     |     | 0.00 | 0.15 | 0.16 |
| Avail Cap(c_a), veh/h        |     |      |     | 972  | 815  | 0    |     |     |     | 0    | 690  | 694  |
| HCM Platoon Ratio            |     |      |     | 0.33 | 0.33 | 1.00 |     |     |     | 1.00 | 0.33 | 0.33 |
| Upstream Filter(I)           |     |      |     | 1.00 | 1.00 | 0.00 |     |     |     | 0.00 | 1.00 | 1.00 |
| Uniform Delay (d), s/veh     |     |      |     | 28.0 | 28.0 | 0.0  |     |     |     | 0.0  | 29.2 | 29.2 |
| Incr Delay (d2), s/veh       |     |      |     | 1.1  | 1.4  | 0.0  |     |     |     | 0.0  | 0.5  | 0.5  |
| Initial Q Delay(d3),s/veh    |     |      |     | 0.0  | 0.0  | 0.0  |     |     |     | 0.0  | 0.0  | 0.0  |
| %ile BackOfQ(50%),veh/ln     |     |      |     | 8.8  | 7.7  | 0.0  |     |     |     | 0.0  | 2.4  | 2.5  |
| Unsig. Movement Delay, s/veh |     |      |     |      |      |      |     |     |     |      |      |      |
| LnGrp Delay(d),s/veh         |     |      |     | 29.1 | 29.4 | 0.0  |     |     |     | 0.0  | 29.6 | 29.7 |
| LnGrp LOS                    |     |      |     | C    | C    | A    |     |     |     | A    | C    | C    |
| Approach Vol, veh/h          |     |      |     |      | 673  |      |     |     |     |      | 217  |      |
| Approach Delay, s/veh        |     |      |     |      | 29.2 |      |     |     |     |      | 29.7 |      |
| Approach LOS                 |     |      |     |      | C    |      |     |     |     |      | C    |      |
| Timer - Assigned Phs         |     | 2    |     | 4    |      |      |     |     |     |      |      |      |
| Phs Duration (G+Y+Rc), s     |     | 44.0 |     | 56.0 |      |      |     |     |     |      |      |      |
| Change Period (Y+Rc), s      |     | 5.5  |     | 6.0  |      |      |     |     |     |      |      |      |
| Max Green Setting (Gmax), s  |     | 38.5 |     | 50.0 |      |      |     |     |     |      |      |      |
| Max Q Clear Time (g_c+I1), s |     | 7.5  |     | 19.1 |      |      |     |     |     |      |      |      |
| Green Ext Time (p_c), s      |     | 1.3  |     | 4.6  |      |      |     |     |     |      |      |      |
| <b>Intersection Summary</b>  |     |      |     |      |      |      |     |     |     |      |      |      |
| HCM 6th Ctrl Delay           |     |      |     | 29.3 |      |      |     |     |     |      |      |      |
| HCM 6th LOS                  |     |      |     | C    |      |      |     |     |     |      |      |      |

HCM 6th Signalized Intersection Summary  
57: 5th Street & Pitkin Ave

Existing Conditions 2021

10/09/2021



| Movement                     | EBL  | EBT  | EBR  | WBL | WBT | WBR | NBL  | NBT  | NBR  | SBL  | SBT  | SBR  |
|------------------------------|------|------|------|-----|-----|-----|------|------|------|------|------|------|
| Lane Configurations          |      | ↔↔   | ↗    |     |     |     |      | ↕↕   |      | ↖    | ↕↕   |      |
| Traffic Volume (veh/h)       | 23   | 606  | 472  | 0   | 0   | 0   | 0    | 416  | 105  | 5    | 411  | 0    |
| Future Volume (veh/h)        | 23   | 606  | 472  | 0   | 0   | 0   | 0    | 416  | 105  | 5    | 411  | 0    |
| Initial Q (Qb), veh          | 0    | 0    | 0    |     |     |     | 0    | 0    | 0    | 0    | 0    | 0    |
| Ped-Bike Adj(A_pbT)          | 1.00 |      | 1.00 |     |     |     | 1.00 |      | 1.00 | 1.00 |      | 1.00 |
| Parking Bus, Adj             | 1.00 | 1.00 | 1.00 |     |     |     | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach        | No   |      |      |     |     |     | No   |      |      | No   |      |      |
| Adj Sat Flow, veh/h/ln       | 1885 | 1885 | 1885 |     |     |     | 0    | 1885 | 1885 | 1885 | 1885 | 0    |
| Adj Flow Rate, veh/h         | 23   | 724  | 394  |     |     |     | 0    | 416  | 105  | 5    | 411  | 0    |
| Peak Hour Factor             | 1.00 | 1.00 | 1.00 |     |     |     | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Percent Heavy Veh, %         | 1    | 1    | 1    |     |     |     | 0    | 1    | 1    | 1    | 1    | 0    |
| Cap, veh/h                   | 34   | 1115 | 487  |     |     |     | 0    | 1571 | 393  | 12   | 2167 | 0    |
| Arrive On Green              | 0.10 | 0.10 | 0.10 |     |     |     | 0.00 | 0.55 | 0.55 | 0.01 | 0.61 | 0.00 |
| Sat Flow, veh/h              | 111  | 3654 | 1598 |     |     |     | 0    | 2933 | 710  | 1795 | 3676 | 0    |
| Grp Volume(v), veh/h         | 391  | 356  | 394  |     |     |     | 0    | 261  | 260  | 5    | 411  | 0    |
| Grp Sat Flow(s), veh/h/ln    | 1880 | 1885 | 1598 |     |     |     | 0    | 1791 | 1757 | 1795 | 1791 | 0    |
| Q Serve(g_s), s              | 20.1 | 18.1 | 24.1 |     |     |     | 0.0  | 7.6  | 7.8  | 0.3  | 5.1  | 0.0  |
| Cycle Q Clear(g_c), s        | 20.1 | 18.1 | 24.1 |     |     |     | 0.0  | 7.6  | 7.8  | 0.3  | 5.1  | 0.0  |
| Prop In Lane                 | 0.06 |      | 1.00 |     |     |     | 0.00 |      | 0.40 | 1.00 |      | 0.00 |
| Lane Grp Cap(c), veh/h       | 573  | 575  | 487  |     |     |     | 0    | 991  | 973  | 12   | 2167 | 0    |
| V/C Ratio(X)                 | 0.68 | 0.62 | 0.81 |     |     |     | 0.00 | 0.26 | 0.27 | 0.43 | 0.19 | 0.00 |
| Avail Cap(c_a), veh/h        | 573  | 575  | 487  |     |     |     | 0    | 991  | 973  | 117  | 2167 | 0    |
| HCM Platoon Ratio            | 0.33 | 0.33 | 0.33 |     |     |     | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I)           | 0.94 | 0.94 | 0.94 |     |     |     | 0.00 | 1.00 | 1.00 | 0.89 | 0.89 | 0.00 |
| Uniform Delay (d), s/veh     | 40.3 | 39.4 | 42.1 |     |     |     | 0.0  | 11.7 | 11.7 | 49.5 | 8.8  | 0.0  |
| Incr Delay (d2), s/veh       | 6.1  | 4.7  | 12.8 |     |     |     | 0.0  | 0.6  | 0.7  | 20.7 | 0.2  | 0.0  |
| Initial Q Delay(d3),s/veh    | 0.0  | 0.0  | 0.0  |     |     |     | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  |
| %ile BackOfQ(50%),veh/ln     | 1.0  | 9.9  | 12.0 |     |     |     | 0.0  | 3.0  | 3.0  | 0.2  | 1.9  | 0.0  |
| Unsig. Movement Delay, s/veh |      |      |      |     |     |     |      |      |      |      |      |      |
| LnGrp Delay(d),s/veh         | 46.3 | 44.1 | 54.9 |     |     |     | 0.0  | 12.3 | 12.4 | 70.2 | 9.0  | 0.0  |
| LnGrp LOS                    | D    | D    | D    |     |     |     | A    | B    | B    | E    | A    | A    |
| Approach Vol, veh/h          | 1141 |      |      |     |     |     | 521  |      |      | 416  |      |      |
| Approach Delay, s/veh        | 48.6 |      |      |     |     |     | 12.3 |      |      | 9.7  |      |      |
| Approach LOS                 | D    |      |      |     |     |     | B    |      |      | A    |      |      |
| Timer - Assigned Phs         | 2    |      |      | 5   |     |     | 6    |      |      | 8    |      |      |
| Phs Duration (G+Y+Rc), s     | 65.0 |      |      | 5.1 |     |     | 59.9 |      |      | 35.0 |      |      |
| Change Period (Y+Rc), s      | 4.5  |      |      | 4.5 |     |     | 4.5  |      |      | 4.5  |      |      |
| Max Green Setting (Gmax), s  | 60.5 |      |      | 6.5 |     |     | 49.5 |      |      | 30.5 |      |      |
| Max Q Clear Time (g_c+I1), s | 7.1  |      |      | 2.3 |     |     | 9.8  |      |      | 26.1 |      |      |
| Green Ext Time (p_c), s      | 2.9  |      |      | 0.0 |     |     | 3.4  |      |      | 2.4  |      |      |

Intersection Summary

|                    |      |
|--------------------|------|
| HCM 6th Ctrl Delay | 31.7 |
| HCM 6th LOS        | C    |

Notes

User approved volume balancing among the lanes for turning movement.

HCM 6th Signalized Intersection Summary  
58: 4th Street & Pitkin Ave

Existing Conditions 2021

10/09/2021



| Movement                     | EBL  | EBT  | EBR  | WBL  | WBT | WBR | NBL  | NBT  | NBR  | SBL  | SBT  | SBR  |
|------------------------------|------|------|------|------|-----|-----|------|------|------|------|------|------|
| Lane Configurations          |      | ↑↑↑  |      |      |     |     |      | ↑    |      | ↑    | ↑    |      |
| Traffic Volume (veh/h)       | 0    | 861  | 1    | 0    | 0   | 0   | 0    | 0    | 16   | 213  | 6    | 0    |
| Future Volume (veh/h)        | 0    | 861  | 1    | 0    | 0   | 0   | 0    | 0    | 16   | 213  | 6    | 0    |
| Initial Q (Qb), veh          | 0    | 0    | 0    |      |     |     | 0    | 0    | 0    | 0    | 0    | 0    |
| Ped-Bike Adj(A_pbT)          | 1.00 |      | 1.00 |      |     |     | 1.00 |      | 1.00 | 1.00 |      | 1.00 |
| Parking Bus, Adj             | 1.00 | 1.00 | 1.00 |      |     |     | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach        |      | No   |      |      |     |     |      | No   |      |      | No   |      |
| Adj Sat Flow, veh/h/ln       | 0    | 1885 | 1885 |      |     |     | 0    | 1885 | 1885 | 1885 | 1885 | 0    |
| Adj Flow Rate, veh/h         | 0    | 861  | 1    |      |     |     | 0    | 0    | 16   | 217  | 0    | 0    |
| Peak Hour Factor             | 1.00 | 1.00 | 1.00 |      |     |     | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Percent Heavy Veh, %         | 0    | 1    | 1    |      |     |     | 0    | 1    | 1    | 1    | 1    | 0    |
| Cap, veh/h                   | 0    | 0    | 0    |      |     |     | 0    | 0    | 1438 | 2820 | 1697 | 0    |
| Arrive On Green              | 0.00 | 0.00 | 0.00 |      |     |     | 0.00 | 0.00 | 0.90 | 0.90 | 0.00 | 0.00 |
| Sat Flow, veh/h              |      | 0    |      |      |     |     | 0    | 0    | 1598 | 2817 | 1885 | 0    |
| Grp Volume(v), veh/h         | 0.0  |      |      |      |     |     | 0    | 0    | 16   | 217  | 0    | 0    |
| Grp Sat Flow(s),veh/h/ln     |      |      |      |      |     |     | 0    | 0    | 1598 | 1408 | 1885 | 0    |
| Q Serve(g_s), s              |      |      |      |      |     |     | 0.0  | 0.0  | 0.1  | 0.4  | 0.0  | 0.0  |
| Cycle Q Clear(g_c), s        |      |      |      |      |     |     | 0.0  | 0.0  | 0.1  | 0.5  | 0.0  | 0.0  |
| Prop In Lane                 |      |      |      |      |     |     | 0.00 |      | 1.00 | 1.00 |      | 0.00 |
| Lane Grp Cap(c), veh/h       |      |      |      |      |     |     | 0    | 0    | 1438 | 2820 | 1697 | 0    |
| V/C Ratio(X)                 |      |      |      |      |     |     | 0.00 | 0.00 | 0.01 | 0.08 | 0.00 | 0.00 |
| Avail Cap(c_a), veh/h        |      |      |      |      |     |     | 0    | 0    | 1438 | 2820 | 1697 | 0    |
| HCM Platoon Ratio            |      |      |      |      |     |     | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I)           |      |      |      |      |     |     | 0.00 | 0.00 | 1.00 | 1.00 | 0.00 | 0.00 |
| Uniform Delay (d), s/veh     |      |      |      |      |     |     | 0.0  | 0.0  | 0.3  | 0.3  | 0.0  | 0.0  |
| Incr Delay (d2), s/veh       |      |      |      |      |     |     | 0.0  | 0.0  | 0.0  | 0.1  | 0.0  | 0.0  |
| Initial Q Delay(d3),s/veh    |      |      |      |      |     |     | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  |
| %ile BackOfQ(50%),veh/ln     |      |      |      |      |     |     | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  |
| Unsig. Movement Delay, s/veh |      |      |      |      |     |     |      |      |      |      |      |      |
| LnGrp Delay(d),s/veh         |      |      |      |      |     |     | 0.0  | 0.0  | 0.3  | 0.3  | 0.0  | 0.0  |
| LnGrp LOS                    |      |      |      |      |     |     | A    | A    | A    | A    | A    | A    |
| Approach Vol, veh/h          |      |      |      |      |     |     | 16   |      |      | 217  |      |      |
| Approach Delay, s/veh        |      |      |      |      |     |     | 0.3  |      |      | 0.3  |      |      |
| Approach LOS                 |      |      |      |      |     |     | A    |      |      | A    |      |      |
| Timer - Assigned Phs         | 2    |      |      | 6    |     |     |      |      |      |      |      |      |
| Phs Duration (G+Y+Rc), s     | 50.0 |      |      | 50.0 |     |     |      |      |      |      |      |      |
| Change Period (Y+Rc), s      | 5.0  |      |      | 5.0  |     |     |      |      |      |      |      |      |
| Max Green Setting (Gmax), s  | 45.0 |      |      | 45.0 |     |     |      |      |      |      |      |      |
| Max Q Clear Time (g_c+I1), s | 2.5  |      |      | 2.1  |     |     |      |      |      |      |      |      |
| Green Ext Time (p_c), s      | 0.8  |      |      | 0.1  |     |     |      |      |      |      |      |      |
| Intersection Summary         |      |      |      |      |     |     |      |      |      |      |      |      |
| HCM 6th Ctrl Delay           |      |      | 0.3  |      |     |     |      |      |      |      |      |      |
| HCM 6th LOS                  |      |      | A    |      |     |     |      |      |      |      |      |      |

Notes

User approved volume balancing among the lanes for turning movement.

# HCM 6th Signalized Intersection Summary

## 5: 5th Street & North Ave

2021 Two-Way  
10/09/2021

|                              |  |  |  |  |  |  |   |  |  |  |  |  |
|------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|
| Movement                     | EBL                                                                               | EBT                                                                               | EBR                                                                               | WBL                                                                               | WBT                                                                               | WBR                                                                               | NBL                                                                                 | NBT                                                                                 | NBR                                                                                 | SBL                                                                                 | SBT                                                                                 | SBR                                                                                 |
| Lane Configurations          |  |  |                                                                                   |  |  |                                                                                   |  |  |  |  |  |  |
| Traffic Volume (veh/h)       | 20                                                                                | 967                                                                               | 42                                                                                | 73                                                                                | 942                                                                               | 26                                                                                | 34                                                                                  | 43                                                                                  | 136                                                                                 | 39                                                                                  | 48                                                                                  | 29                                                                                  |
| Future Volume (veh/h)        | 20                                                                                | 967                                                                               | 42                                                                                | 73                                                                                | 942                                                                               | 26                                                                                | 34                                                                                  | 43                                                                                  | 136                                                                                 | 39                                                                                  | 48                                                                                  | 29                                                                                  |
| Initial Q (Qb), veh          | 0                                                                                 | 0                                                                                 | 0                                                                                 | 0                                                                                 | 0                                                                                 | 0                                                                                 | 0                                                                                   | 0                                                                                   | 0                                                                                   | 0                                                                                   | 0                                                                                   | 0                                                                                   |
| Ped-Bike Adj(A_pbT)          | 1.00                                                                              |                                                                                   | 1.00                                                                              | 1.00                                                                              |                                                                                   | 1.00                                                                              | 1.00                                                                                |                                                                                     | 1.00                                                                                | 1.00                                                                                |                                                                                     | 1.00                                                                                |
| Parking Bus, Adj             | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                                | 1.00                                                                                | 1.00                                                                                | 1.00                                                                                | 1.00                                                                                | 1.00                                                                                |
| Work Zone On Approach        | No                                                                                |                                                                                   |                                                                                   | No                                                                                |                                                                                   |                                                                                   | No                                                                                  |                                                                                     |                                                                                     | No                                                                                  |                                                                                     |                                                                                     |
| Adj Sat Flow, veh/h/ln       | 1885                                                                              | 1885                                                                              | 1885                                                                              | 1885                                                                              | 1885                                                                              | 1885                                                                              | 1885                                                                                | 1885                                                                                | 1885                                                                                | 1885                                                                                | 1885                                                                                | 1885                                                                                |
| Adj Flow Rate, veh/h         | 20                                                                                | 967                                                                               | 42                                                                                | 73                                                                                | 942                                                                               | 26                                                                                | 34                                                                                  | 56                                                                                  | 136                                                                                 | 39                                                                                  | 62                                                                                  | 29                                                                                  |
| Peak Hour Factor             | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                                | 1.00                                                                                | 1.00                                                                                | 1.00                                                                                | 1.00                                                                                | 1.00                                                                                |
| Percent Heavy Veh, %         | 1                                                                                 | 1                                                                                 | 1                                                                                 | 1                                                                                 | 1                                                                                 | 1                                                                                 | 1                                                                                   | 1                                                                                   | 1                                                                                   | 1                                                                                   | 1                                                                                   | 1                                                                                   |
| Cap, veh/h                   | 397                                                                               | 1993                                                                              | 87                                                                                | 410                                                                               | 2129                                                                              | 59                                                                                | 267                                                                                 | 217                                                                                 | 184                                                                                 | 262                                                                                 | 223                                                                                 | 189                                                                                 |
| Arrive On Green              | 0.02                                                                              | 0.57                                                                              | 0.57                                                                              | 0.05                                                                              | 0.60                                                                              | 0.60                                                                              | 0.03                                                                                | 0.12                                                                                | 0.12                                                                                | 0.04                                                                                | 0.12                                                                                | 0.12                                                                                |
| Sat Flow, veh/h              | 1795                                                                              | 3497                                                                              | 152                                                                               | 1795                                                                              | 3560                                                                              | 98                                                                                | 1795                                                                                | 1885                                                                                | 1598                                                                                | 1795                                                                                | 1885                                                                                | 1598                                                                                |
| Grp Volume(v), veh/h         | 20                                                                                | 495                                                                               | 514                                                                               | 73                                                                                | 474                                                                               | 494                                                                               | 34                                                                                  | 56                                                                                  | 136                                                                                 | 39                                                                                  | 62                                                                                  | 29                                                                                  |
| Grp Sat Flow(s),veh/h/ln     | 1795                                                                              | 1791                                                                              | 1858                                                                              | 1795                                                                              | 1791                                                                              | 1867                                                                              | 1795                                                                                | 1885                                                                                | 1598                                                                                | 1795                                                                                | 1885                                                                                | 1598                                                                                |
| Q Serve(g_s), s              | 0.4                                                                               | 13.0                                                                              | 13.0                                                                              | 1.3                                                                               | 11.4                                                                              | 11.4                                                                              | 1.3                                                                                 | 2.1                                                                                 | 6.5                                                                                 | 1.5                                                                                 | 2.4                                                                                 | 1.3                                                                                 |
| Cycle Q Clear(g_c), s        | 0.4                                                                               | 13.0                                                                              | 13.0                                                                              | 1.3                                                                               | 11.4                                                                              | 11.4                                                                              | 1.3                                                                                 | 2.1                                                                                 | 6.5                                                                                 | 1.5                                                                                 | 2.4                                                                                 | 1.3                                                                                 |
| Prop In Lane                 | 1.00                                                                              |                                                                                   | 0.08                                                                              | 1.00                                                                              |                                                                                   | 0.05                                                                              | 1.00                                                                                |                                                                                     | 1.00                                                                                | 1.00                                                                                |                                                                                     | 1.00                                                                                |
| Lane Grp Cap(c), veh/h       | 397                                                                               | 1021                                                                              | 1059                                                                              | 410                                                                               | 1071                                                                              | 1117                                                                              | 267                                                                                 | 217                                                                                 | 184                                                                                 | 262                                                                                 | 223                                                                                 | 189                                                                                 |
| V/C Ratio(X)                 | 0.05                                                                              | 0.49                                                                              | 0.49                                                                              | 0.18                                                                              | 0.44                                                                              | 0.44                                                                              | 0.13                                                                                | 0.26                                                                                | 0.74                                                                                | 0.15                                                                                | 0.28                                                                                | 0.15                                                                                |
| Avail Cap(c_a), veh/h        | 493                                                                               | 1021                                                                              | 1059                                                                              | 502                                                                               | 1071                                                                              | 1117                                                                              | 344                                                                                 | 549                                                                                 | 465                                                                                 | 333                                                                                 | 549                                                                                 | 465                                                                                 |
| HCM Platoon Ratio            | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                                | 1.00                                                                                | 1.00                                                                                | 1.00                                                                                | 1.00                                                                                | 1.00                                                                                |
| Upstream Filter(I)           | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                                | 1.00                                                                                | 1.00                                                                                | 1.00                                                                                | 1.00                                                                                | 1.00                                                                                |
| Uniform Delay (d), s/veh     | 7.2                                                                               | 10.1                                                                              | 10.1                                                                              | 7.1                                                                               | 8.7                                                                               | 8.7                                                                               | 29.2                                                                                | 31.9                                                                                | 33.8                                                                                | 29.1                                                                                | 31.7                                                                                | 31.3                                                                                |
| Incr Delay (d2), s/veh       | 0.1                                                                               | 1.6                                                                               | 1.6                                                                               | 0.2                                                                               | 1.3                                                                               | 1.3                                                                               | 0.2                                                                                 | 0.6                                                                                 | 5.7                                                                                 | 0.3                                                                                 | 0.7                                                                                 | 0.4                                                                                 |
| Initial Q Delay(d3),s/veh    | 0.0                                                                               | 0.0                                                                               | 0.0                                                                               | 0.0                                                                               | 0.0                                                                               | 0.0                                                                               | 0.0                                                                                 | 0.0                                                                                 | 0.0                                                                                 | 0.0                                                                                 | 0.0                                                                                 | 0.0                                                                                 |
| %ile BackOfQ(50%),veh/ln     | 0.1                                                                               | 5.0                                                                               | 5.1                                                                               | 0.4                                                                               | 4.2                                                                               | 4.4                                                                               | 0.6                                                                                 | 1.0                                                                                 | 2.7                                                                                 | 0.6                                                                                 | 1.1                                                                                 | 0.5                                                                                 |
| Unsig. Movement Delay, s/veh |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| LnGrp Delay(d),s/veh         | 7.2                                                                               | 11.7                                                                              | 11.7                                                                              | 7.3                                                                               | 10.0                                                                              | 9.9                                                                               | 29.4                                                                                | 32.5                                                                                | 39.5                                                                                | 29.3                                                                                | 32.4                                                                                | 31.6                                                                                |
| LnGrp LOS                    | A                                                                                 | B                                                                                 | B                                                                                 | A                                                                                 | A                                                                                 | A                                                                                 | C                                                                                   | C                                                                                   | D                                                                                   | C                                                                                   | C                                                                                   | C                                                                                   |
| Approach Vol, veh/h          | 1029                                                                              |                                                                                   | 1041                                                                              |                                                                                   |                                                                                   |                                                                                   | 226                                                                                 |                                                                                     |                                                                                     | 130                                                                                 |                                                                                     |                                                                                     |
| Approach Delay, s/veh        | 11.6                                                                              |                                                                                   | 9.8                                                                               |                                                                                   |                                                                                   |                                                                                   | 36.3                                                                                |                                                                                     |                                                                                     | 31.3                                                                                |                                                                                     |                                                                                     |
| Approach LOS                 | B                                                                                 |                                                                                   | A                                                                                 |                                                                                   |                                                                                   |                                                                                   | D                                                                                   |                                                                                     |                                                                                     | C                                                                                   |                                                                                     |                                                                                     |
| Timer - Assigned Phs         | 1                                                                                 | 2                                                                                 | 3                                                                                 | 4                                                                                 | 5                                                                                 | 6                                                                                 | 7                                                                                   | 8                                                                                   |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Phs Duration (G+Y+Rc), s     | 6.6                                                                               | 14.3                                                                              | 5.8                                                                               | 52.2                                                                              | 6.9                                                                               | 14.1                                                                              | 8.0                                                                                 | 50.0                                                                                |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Change Period (Y+Rc), s      | 4.0                                                                               | 5.0                                                                               | 4.0                                                                               | 5.0                                                                               | 4.0                                                                               | 5.0                                                                               | 4.0                                                                                 | 5.0                                                                                 |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Max Green Setting (Gmax), s  | 6.0                                                                               | 23.0                                                                              | 6.0                                                                               | 47.0                                                                              | 6.0                                                                               | 23.0                                                                              | 8.0                                                                                 | 45.0                                                                                |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Max Q Clear Time (g_c+I1), s | 3.3                                                                               | 4.4                                                                               | 2.4                                                                               | 13.4                                                                              | 3.5                                                                               | 8.5                                                                               | 3.3                                                                                 | 15.0                                                                                |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Green Ext Time (p_c), s      | 0.0                                                                               | 0.3                                                                               | 0.0                                                                               | 7.5                                                                               | 0.0                                                                               | 0.6                                                                               | 0.0                                                                                 | 7.7                                                                                 |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Intersection Summary         |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| HCM 6th Ctrl Delay           | 14.2                                                                              |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| HCM 6th LOS                  | B                                                                                 |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |

| Intersection             |                                                                                   |                                                                                   |      |                                                                                   |                                                                                   |      |        |                                                                                   |      |        |                                                                                     |      |
|--------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|------|--------|-----------------------------------------------------------------------------------|------|--------|-------------------------------------------------------------------------------------|------|
| Int Delay, s/veh         | 15.5                                                                              |                                                                                   |      |                                                                                   |                                                                                   |      |        |                                                                                   |      |        |                                                                                     |      |
| Movement                 | EBL                                                                               | EBT                                                                               | EBR  | WBL                                                                               | WBT                                                                               | WBR  | NBL    | NBT                                                                               | NBR  | SBL    | SBT                                                                                 | SBR  |
| Lane Configurations      |  |  |      |  |  |      |        |  |      |        |  |      |
| Traffic Vol, veh/h       | 15                                                                                | 933                                                                               | 28   | 48                                                                                | 943                                                                               | 14   | 20     | 29                                                                                | 91   | 5      | 3                                                                                   | 15   |
| Future Vol, veh/h        | 15                                                                                | 933                                                                               | 28   | 48                                                                                | 943                                                                               | 14   | 20     | 29                                                                                | 91   | 5      | 3                                                                                   | 15   |
| Conflicting Peds, #/hr   | 0                                                                                 | 0                                                                                 | 0    | 0                                                                                 | 0                                                                                 | 0    | 0      | 0                                                                                 | 0    | 0      | 0                                                                                   | 0    |
| Sign Control             | Free                                                                              | Free                                                                              | Free | Free                                                                              | Free                                                                              | Free | Stop   | Stop                                                                              | Stop | Stop   | Stop                                                                                | Stop |
| RT Channelized           | -                                                                                 | -                                                                                 | None | -                                                                                 | -                                                                                 | None | -      | -                                                                                 | None | -      | -                                                                                   | None |
| Storage Length           | 100                                                                               | -                                                                                 | -    | 100                                                                               | -                                                                                 | -    | -      | -                                                                                 | -    | -      | -                                                                                   | -    |
| Veh in Median Storage, # | -                                                                                 | 0                                                                                 | -    | -                                                                                 | 0                                                                                 | -    | -      | 0                                                                                 | -    | -      | 0                                                                                   | -    |
| Grade, %                 | -                                                                                 | 0                                                                                 | -    | -                                                                                 | 0                                                                                 | -    | -      | 0                                                                                 | -    | -      | 0                                                                                   | -    |
| Peak Hour Factor         | 100                                                                               | 100                                                                               | 100  | 100                                                                               | 100                                                                               | 100  | 100    | 100                                                                               | 100  | 100    | 100                                                                                 | 100  |
| Heavy Vehicles, %        | 1                                                                                 | 1                                                                                 | 1    | 1                                                                                 | 1                                                                                 | 1    | 1      | 1                                                                                 | 1    | 1      | 1                                                                                   | 1    |
| Mvmt Flow                | 15                                                                                | 933                                                                               | 28   | 48                                                                                | 943                                                                               | 14   | 20     | 38                                                                                | 91   | 5      | 4                                                                                   | 15   |
|                          |                                                                                   |                                                                                   |      |                                                                                   |                                                                                   |      |        |                                                                                   |      |        |                                                                                     |      |
| Major/Minor              | Major1                                                                            |                                                                                   |      | Major2                                                                            |                                                                                   |      | Minor1 |                                                                                   |      | Minor2 |                                                                                     |      |
| Conflicting Flow All     | 957                                                                               | 0                                                                                 | 0    | 961                                                                               | 0                                                                                 | 0    | 1547   | 2030                                                                              | 481  | 1562   | 2037                                                                                | 479  |
| Stage 1                  | -                                                                                 | -                                                                                 | -    | -                                                                                 | -                                                                                 | -    | 977    | 977                                                                               | -    | 1046   | 1046                                                                                | -    |
| Stage 2                  | -                                                                                 | -                                                                                 | -    | -                                                                                 | -                                                                                 | -    | 570    | 1053                                                                              | -    | 516    | 991                                                                                 | -    |
| Critical Hdwy            | 4.12                                                                              | -                                                                                 | -    | 4.12                                                                              | -                                                                                 | -    | 7.52   | 6.52                                                                              | 6.92 | 7.52   | 6.52                                                                                | 6.92 |
| Critical Hdwy Stg 1      | -                                                                                 | -                                                                                 | -    | -                                                                                 | -                                                                                 | -    | 6.52   | 5.52                                                                              | -    | 6.52   | 5.52                                                                                | -    |
| Critical Hdwy Stg 2      | -                                                                                 | -                                                                                 | -    | -                                                                                 | -                                                                                 | -    | 6.52   | 5.52                                                                              | -    | 6.52   | 5.52                                                                                | -    |
| Follow-up Hdwy           | 2.21                                                                              | -                                                                                 | -    | 2.21                                                                              | -                                                                                 | -    | 3.51   | 4.01                                                                              | 3.31 | 3.51   | 4.01                                                                                | 3.31 |
| Pot Cap-1 Maneuver       | 720                                                                               | -                                                                                 | -    | 718                                                                               | -                                                                                 | -    | 78     | 57                                                                                | 534  | 76     | 57                                                                                  | 535  |
| Stage 1                  | -                                                                                 | -                                                                                 | -    | -                                                                                 | -                                                                                 | -    | 271    | 329                                                                               | -    | 246    | 306                                                                                 | -    |
| Stage 2                  | -                                                                                 | -                                                                                 | -    | -                                                                                 | -                                                                                 | -    | 476    | 303                                                                               | -    | 513    | 324                                                                                 | -    |
| Platoon blocked, %       |                                                                                   | -                                                                                 | -    |                                                                                   | -                                                                                 | -    |        |                                                                                   |      |        |                                                                                     |      |
| Mov Cap-1 Maneuver       | 720                                                                               | -                                                                                 | -    | 718                                                                               | -                                                                                 | -    | 67     | 52                                                                                | 534  | 24     | 52                                                                                  | 535  |
| Mov Cap-2 Maneuver       | -                                                                                 | -                                                                                 | -    | -                                                                                 | -                                                                                 | -    | 67     | 52                                                                                | -    | 24     | 52                                                                                  | -    |
| Stage 1                  | -                                                                                 | -                                                                                 | -    | -                                                                                 | -                                                                                 | -    | 265    | 322                                                                               | -    | 241    | 285                                                                                 | -    |
| Stage 2                  | -                                                                                 | -                                                                                 | -    | -                                                                                 | -                                                                                 | -    | 426    | 283                                                                               | -    | 368    | 317                                                                                 | -    |
|                          |                                                                                   |                                                                                   |      |                                                                                   |                                                                                   |      |        |                                                                                   |      |        |                                                                                     |      |
|                          |                                                                                   |                                                                                   |      |                                                                                   |                                                                                   |      |        |                                                                                   |      |        |                                                                                     |      |
| Approach                 | EB                                                                                |                                                                                   |      | WB                                                                                |                                                                                   |      | NB     |                                                                                   |      | SB     |                                                                                     |      |
| HCM Control Delay, s     | 0.2                                                                               |                                                                                   |      | 0.5                                                                               |                                                                                   |      | 207.8  |                                                                                   |      | 71.5   |                                                                                     |      |
| HCM LOS                  |                                                                                   |                                                                                   |      |                                                                                   |                                                                                   |      | F      |                                                                                   |      | F      |                                                                                     |      |
|                          |                                                                                   |                                                                                   |      |                                                                                   |                                                                                   |      |        |                                                                                   |      |        |                                                                                     |      |
| Minor Lane/Major Mvmt    | NBLn1                                                                             | EBL                                                                               | EBT  | EBR                                                                               | WBL                                                                               | WBT  | WBR    | SBLn1                                                                             |      |        |                                                                                     |      |
| Capacity (veh/h)         | 125                                                                               | 720                                                                               | -    | -                                                                                 | 718                                                                               | -    | -      | 77                                                                                |      |        |                                                                                     |      |
| HCM Lane V/C Ratio       | 1.19                                                                              | 0.021                                                                             | -    | -                                                                                 | 0.067                                                                             | -    | -      | 0.31                                                                              |      |        |                                                                                     |      |
| HCM Control Delay (s)    | 207.8                                                                             | 10.1                                                                              | -    | -                                                                                 | 10.4                                                                              | -    | -      | 71.5                                                                              |      |        |                                                                                     |      |
| HCM Lane LOS             | F                                                                                 | B                                                                                 | -    | -                                                                                 | B                                                                                 | -    | -      | F                                                                                 |      |        |                                                                                     |      |
| HCM 95th %tile Q(veh)    | 9.1                                                                               | 0.1                                                                               | -    | -                                                                                 | 0.2                                                                               | -    | -      | 1.2                                                                               |      |        |                                                                                     |      |

| Intersection             |        |                                                                                   |        |       |                                                                                   |       |        |                                                                                   |      |       |                                                                                     |      |
|--------------------------|--------|-----------------------------------------------------------------------------------|--------|-------|-----------------------------------------------------------------------------------|-------|--------|-----------------------------------------------------------------------------------|------|-------|-------------------------------------------------------------------------------------|------|
| Int Delay, s/veh         | 2.3    |                                                                                   |        |       |                                                                                   |       |        |                                                                                   |      |       |                                                                                     |      |
| Movement                 | EBL    | EBT                                                                               | EBR    | WBL   | WBT                                                                               | WBR   | NBL    | NBT                                                                               | NBR  | SBL   | SBT                                                                                 | SBR  |
| Lane Configurations      |        |  |        |       |  |       |        |  |      |       |  |      |
| Traffic Vol, veh/h       | 10     | 10                                                                                | 8      | 41    | 10                                                                                | 11    | 10     | 197                                                                               | 10   | 10    | 91                                                                                  | 49   |
| Future Vol, veh/h        | 10     | 10                                                                                | 8      | 41    | 10                                                                                | 11    | 10     | 197                                                                               | 10   | 10    | 91                                                                                  | 49   |
| Conflicting Peds, #/hr   | 0      | 0                                                                                 | 0      | 0     | 0                                                                                 | 0     | 0      | 0                                                                                 | 0    | 0     | 0                                                                                   | 0    |
| Sign Control             | Stop   | Stop                                                                              | Stop   | Stop  | Stop                                                                              | Stop  | Free   | Free                                                                              | Free | Free  | Free                                                                                | Free |
| RT Channelized           | -      | -                                                                                 | None   | -     | -                                                                                 | None  | -      | -                                                                                 | None | -     | -                                                                                   | None |
| Storage Length           | -      | -                                                                                 | -      | -     | -                                                                                 | -     | -      | -                                                                                 | -    | -     | -                                                                                   | -    |
| Veh in Median Storage, # | -      | 0                                                                                 | -      | -     | 0                                                                                 | -     | -      | 0                                                                                 | -    | -     | 0                                                                                   | -    |
| Grade, %                 | -      | 0                                                                                 | -      | -     | 0                                                                                 | -     | -      | 0                                                                                 | -    | -     | 0                                                                                   | -    |
| Peak Hour Factor         | 100    | 100                                                                               | 100    | 100   | 100                                                                               | 100   | 100    | 100                                                                               | 100  | 100   | 100                                                                                 | 100  |
| Heavy Vehicles, %        | 1      | 1                                                                                 | 1      | 1     | 1                                                                                 | 1     | 1      | 1                                                                                 | 1    | 1     | 1                                                                                   | 1    |
| Mvmt Flow                | 10     | 10                                                                                | 8      | 41    | 10                                                                                | 11    | 10     | 256                                                                               | 10   | 10    | 118                                                                                 | 49   |
|                          |        |                                                                                   |        |       |                                                                                   |       |        |                                                                                   |      |       |                                                                                     |      |
| Major/Minor              | Minor2 |                                                                                   | Minor1 |       | Major1                                                                            |       | Major2 |                                                                                   |      |       |                                                                                     |      |
| Conflicting Flow All     | 455    | 449                                                                               | 143    | 453   | 468                                                                               | 261   | 167    | 0                                                                                 | 0    | 266   | 0                                                                                   | 0    |
| Stage 1                  | 163    | 163                                                                               | -      | 281   | 281                                                                               | -     | -      | -                                                                                 | -    | -     | -                                                                                   | -    |
| Stage 2                  | 292    | 286                                                                               | -      | 172   | 187                                                                               | -     | -      | -                                                                                 | -    | -     | -                                                                                   | -    |
| Critical Hdwy            | 7.11   | 6.51                                                                              | 6.21   | 7.11  | 6.51                                                                              | 6.21  | 4.11   | -                                                                                 | -    | 4.11  | -                                                                                   | -    |
| Critical Hdwy Stg 1      | 6.11   | 5.51                                                                              | -      | 6.11  | 5.51                                                                              | -     | -      | -                                                                                 | -    | -     | -                                                                                   | -    |
| Critical Hdwy Stg 2      | 6.11   | 5.51                                                                              | -      | 6.11  | 5.51                                                                              | -     | -      | -                                                                                 | -    | -     | -                                                                                   | -    |
| Follow-up Hdwy           | 3.509  | 4.009                                                                             | 3.309  | 3.509 | 4.009                                                                             | 3.309 | 2.209  | -                                                                                 | -    | 2.209 | -                                                                                   | -    |
| Pot Cap-1 Maneuver       | 517    | 507                                                                               | 907    | 519   | 494                                                                               | 780   | 1417   | -                                                                                 | -    | 1304  | -                                                                                   | -    |
| Stage 1                  | 841    | 765                                                                               | -      | 728   | 680                                                                               | -     | -      | -                                                                                 | -    | -     | -                                                                                   | -    |
| Stage 2                  | 718    | 677                                                                               | -      | 832   | 747                                                                               | -     | -      | -                                                                                 | -    | -     | -                                                                                   | -    |
| Platoon blocked, %       |        |                                                                                   |        |       |                                                                                   |       |        | -                                                                                 | -    |       | -                                                                                   | -    |
| Mov Cap-1 Maneuver       | 495    | 498                                                                               | 907    | 500   | 486                                                                               | 780   | 1417   | -                                                                                 | -    | 1304  | -                                                                                   | -    |
| Mov Cap-2 Maneuver       | 495    | 498                                                                               | -      | 500   | 486                                                                               | -     | -      | -                                                                                 | -    | -     | -                                                                                   | -    |
| Stage 1                  | 834    | 758                                                                               | -      | 722   | 675                                                                               | -     | -      | -                                                                                 | -    | -     | -                                                                                   | -    |
| Stage 2                  | 692    | 672                                                                               | -      | 806   | 740                                                                               | -     | -      | -                                                                                 | -    | -     | -                                                                                   | -    |
|                          |        |                                                                                   |        |       |                                                                                   |       |        |                                                                                   |      |       |                                                                                     |      |
|                          |        |                                                                                   |        |       |                                                                                   |       |        |                                                                                   |      |       |                                                                                     |      |
| Approach                 | EB     |                                                                                   | WB     |       | NB                                                                                |       | SB     |                                                                                   |      |       |                                                                                     |      |
| HCM Control Delay, s     | 11.6   |                                                                                   | 12.7   |       | 0.3                                                                               |       | 0.4    |                                                                                   |      |       |                                                                                     |      |
| HCM LOS                  | B      |                                                                                   | B      |       |                                                                                   |       |        |                                                                                   |      |       |                                                                                     |      |
|                          |        |                                                                                   |        |       |                                                                                   |       |        |                                                                                   |      |       |                                                                                     |      |
| Minor Lane/Major Mvmt    | NBL    | NBT                                                                               | NBR    | EBLn1 | WBLn1                                                                             | SBL   | SBT    | SBR                                                                               |      |       |                                                                                     |      |
| Capacity (veh/h)         | 1417   | -                                                                                 | -      | 570   | 531                                                                               | 1304  | -      | -                                                                                 |      |       |                                                                                     |      |
| HCM Lane V/C Ratio       | 0.007  | -                                                                                 | -      | 0.049 | 0.117                                                                             | 0.008 | -      | -                                                                                 |      |       |                                                                                     |      |
| HCM Control Delay (s)    | 7.6    | 0                                                                                 | -      | 11.6  | 12.7                                                                              | 7.8   | 0      | -                                                                                 |      |       |                                                                                     |      |
| HCM Lane LOS             | A      | A                                                                                 | -      | B     | B                                                                                 | A     | A      | -                                                                                 |      |       |                                                                                     |      |
| HCM 95th %tile Q(veh)    | 0      | -                                                                                 | -      | 0.2   | 0.4                                                                               | 0     | -      | -                                                                                 |      |       |                                                                                     |      |



| Intersection             |        |       |        |       |        |       |        |      |      |       |      |      |
|--------------------------|--------|-------|--------|-------|--------|-------|--------|------|------|-------|------|------|
| Int Delay, s/veh         | 2.4    |       |        |       |        |       |        |      |      |       |      |      |
| Movement                 | EBL    | EBT   | EBR    | WBL   | WBT    | WBR   | NBL    | NBT  | NBR  | SBL   | SBT  | SBR  |
| Lane Configurations      |        | ↕     |        |       | ↕      |       |        | ↕    |      |       | ↕    |      |
| Traffic Vol, veh/h       | 10     | 10    | 5      | 28    | 10     | 7     | 10     | 132  | 10   | 10    | 60   | 33   |
| Future Vol, veh/h        | 10     | 10    | 5      | 28    | 10     | 7     | 10     | 132  | 10   | 10    | 60   | 33   |
| Conflicting Peds, #/hr   | 0      | 0     | 0      | 0     | 0      | 0     | 0      | 0    | 0    | 0     | 0    | 0    |
| Sign Control             | Stop   | Stop  | Stop   | Stop  | Stop   | Stop  | Free   | Free | Free | Free  | Free | Free |
| RT Channelized           | -      | -     | None   | -     | -      | None  | -      | -    | None | -     | -    | None |
| Storage Length           | -      | -     | -      | -     | -      | -     | -      | -    | -    | -     | -    | -    |
| Veh in Median Storage, # | -      | 0     | -      | -     | 0      | -     | -      | 0    | -    | -     | 0    | -    |
| Grade, %                 | -      | 0     | -      | -     | 0      | -     | -      | 0    | -    | -     | 0    | -    |
| Peak Hour Factor         | 100    | 100   | 100    | 100   | 100    | 100   | 100    | 100  | 100  | 100   | 100  | 100  |
| Heavy Vehicles, %        | 1      | 1     | 1      | 1     | 1      | 1     | 1      | 1    | 1    | 1     | 1    | 1    |
| Mvmt Flow                | 10     | 10    | 5      | 28    | 10     | 7     | 10     | 172  | 10   | 10    | 78   | 33   |
|                          |        |       |        |       |        |       |        |      |      |       |      |      |
| Major/Minor              | Minor2 |       | Minor1 |       | Major1 |       | Major2 |      |      |       |      |      |
| Conflicting Flow All     | 321    | 317   | 95     | 319   | 328    | 177   | 111    | 0    | 0    | 182   | 0    | 0    |
| Stage 1                  | 115    | 115   | -      | 197   | 197    | -     | -      | -    | -    | -     | -    | -    |
| Stage 2                  | 206    | 202   | -      | 122   | 131    | -     | -      | -    | -    | -     | -    | -    |
| Critical Hdwy            | 7.11   | 6.51  | 6.21   | 7.11  | 6.51   | 6.21  | 4.11   | -    | -    | 4.11  | -    | -    |
| Critical Hdwy Stg 1      | 6.11   | 5.51  | -      | 6.11  | 5.51   | -     | -      | -    | -    | -     | -    | -    |
| Critical Hdwy Stg 2      | 6.11   | 5.51  | -      | 6.11  | 5.51   | -     | -      | -    | -    | -     | -    | -    |
| Follow-up Hdwy           | 3.509  | 4.009 | 3.309  | 3.509 | 4.009  | 3.309 | 2.209  | -    | -    | 2.209 | -    | -    |
| Pot Cap-1 Maneuver       | 634    | 601   | 964    | 636   | 592    | 869   | 1485   | -    | -    | 1399  | -    | -    |
| Stage 1                  | 892    | 802   | -      | 807   | 740    | -     | -      | -    | -    | -     | -    | -    |
| Stage 2                  | 798    | 736   | -      | 885   | 790    | -     | -      | -    | -    | -     | -    | -    |
| Platoon blocked, %       |        |       |        |       |        |       |        | -    | -    |       | -    | -    |
| Mov Cap-1 Maneuver       | 614    | 592   | 964    | 618   | 583    | 869   | 1485   | -    | -    | 1399  | -    | -    |
| Mov Cap-2 Maneuver       | 614    | 592   | -      | 618   | 583    | -     | -      | -    | -    | -     | -    | -    |
| Stage 1                  | 886    | 796   | -      | 801   | 735    | -     | -      | -    | -    | -     | -    | -    |
| Stage 2                  | 775    | 731   | -      | 862   | 784    | -     | -      | -    | -    | -     | -    | -    |
|                          |        |       |        |       |        |       |        |      |      |       |      |      |
|                          |        |       |        |       |        |       |        |      |      |       |      |      |
| Approach                 | EB     |       | WB     |       | NB     |       | SB     |      |      |       |      |      |
| HCM Control Delay, s     | 10.7   |       | 11.1   |       | 0.4    |       | 0.6    |      |      |       |      |      |
| HCM LOS                  | B      |       | B      |       |        |       |        |      |      |       |      |      |
|                          |        |       |        |       |        |       |        |      |      |       |      |      |
| Minor Lane/Major Mvmt    | NBL    | NBT   | NBR    | EBLn1 | WBLn1  | SBL   | SBT    | SBR  |      |       |      |      |
| Capacity (veh/h)         | 1485   | -     | -      | 652   | 638    | 1399  | -      | -    |      |       |      |      |
| HCM Lane V/C Ratio       | 0.007  | -     | -      | 0.038 | 0.071  | 0.007 | -      | -    |      |       |      |      |
| HCM Control Delay (s)    | 7.4    | 0     | -      | 10.7  | 11.1   | 7.6   | 0      | -    |      |       |      |      |
| HCM Lane LOS             | A      | A     | -      | B     | B      | A     | A      | -    |      |       |      |      |
| HCM 95th %tile O(veh)    | 0      | -     | -      | 0.1   | 0.2    | 0     | -      | -    |      |       |      |      |

| Intersection             |        |       |        |            |        |       |        |      |      |       |      |      |
|--------------------------|--------|-------|--------|------------|--------|-------|--------|------|------|-------|------|------|
| Int Delay, s/veh         | 1.7    |       |        |            |        |       |        |      |      |       |      |      |
| Movement                 | EBL    | EBT   | EBR    | WBL        | WBT    | WBR   | NBL    | NBT  | NBR  | SBL   | SBT  | SBR  |
| Lane Configurations      |        | ↕     |        |            | ↕      |       |        | ↕    |      |       | ↕    |      |
| Traffic Vol, veh/h       | 10     | 10    | 10     | 10         | 10     | 10    | 10     | 204  | 10   | 10    | 126  | 10   |
| Future Vol, veh/h        | 10     | 10    | 10     | 10         | 10     | 10    | 10     | 204  | 10   | 10    | 126  | 10   |
| Conflicting Peds, #/hr   | 0      | 0     | 0      | 0          | 0      | 0     | 0      | 0    | 0    | 0     | 0    | 0    |
| Sign Control             | Stop   | Stop  | Stop   | Stop       | Stop   | Stop  | Free   | Free | Free | Free  | Free | Free |
| RT Channelized           | -      | -     | None   | -          | -      | None  | -      | -    | None | -     | -    | None |
| Storage Length           | -      | -     | -      | -          | -      | -     | -      | -    | -    | -     | -    | -    |
| Veh in Median Storage, # | -      | 0     | -      | -          | 0      | -     | -      | 0    | -    | -     | 0    | -    |
| Grade, %                 | -      | 0     | -      | -          | 0      | -     | -      | 0    | -    | -     | 0    | -    |
| Peak Hour Factor         | 100    | 100   | 100    | 100        | 100    | 100   | 100    | 100  | 100  | 100   | 100  | 100  |
| Heavy Vehicles, %        | 1      | 1     | 1      | 1          | 1      | 1     | 1      | 1    | 1    | 1     | 1    | 1    |
| Mvmt Flow                | 10     | 10    | 10     | 10         | 10     | 10    | 10     | 265  | 10   | 10    | 164  | 10   |
| Major/Minor              | Minor2 |       | Minor1 |            | Major1 |       | Major2 |      |      |       |      |      |
| Conflicting Flow All     | 489    | 484   | 169    | 489        | 484    | 270   | 174    | 0    | 0    | 275   | 0    | 0    |
| Stage 1                  | 189    | 189   | -      | 290        | 290    | -     | -      | -    | -    | -     | -    | -    |
| Stage 2                  | 300    | 295   | -      | 199        | 194    | -     | -      | -    | -    | -     | -    | -    |
| Critical Hdwy            | 7.11   | 6.51  | 6.21   | 7.11       | 6.51   | 6.21  | 4.11   | -    | -    | 4.11  | -    | -    |
| Critical Hdwy Stg 1      | 6.11   | 5.51  | -      | 6.11       | 5.51   | -     | -      | -    | -    | -     | -    | -    |
| Critical Hdwy Stg 2      | 6.11   | 5.51  | -      | 6.11       | 5.51   | -     | -      | -    | -    | -     | -    | -    |
| Follow-up Hdwy           | 3.509  | 4.009 | 3.309  | 3.509      | 4.009  | 3.309 | 2.209  | -    | -    | 2.209 | -    | -    |
| Pot Cap-1 Maneuver       | 491    | 484   | 878    | 491        | 484    | 771   | 1409   | -    | -    | 1294  | -    | -    |
| Stage 1                  | 815    | 746   | -      | 720        | 674    | -     | -      | -    | -    | -     | -    | -    |
| Stage 2                  | 711    | 671   | -      | 805        | 742    | -     | -      | -    | -    | -     | -    | -    |
| Platoon blocked, %       |        |       |        |            |        |       |        | -    | -    | -     | -    | -    |
| Mov Cap-1 Maneuver       | 471    | 476   | 878    | 471        | 476    | 771   | 1409   | -    | -    | 1294  | -    | -    |
| Mov Cap-2 Maneuver       | 471    | 476   | -      | 471        | 476    | -     | -      | -    | -    | -     | -    | -    |
| Stage 1                  | 808    | 739   | -      | 714        | 669    | -     | -      | -    | -    | -     | -    | -    |
| Stage 2                  | 686    | 666   | -      | 778        | 735    | -     | -      | -    | -    | -     | -    | -    |
| Approach                 | EB     |       | WB     |            | NB     |       | SB     |      |      |       |      |      |
| HCM Control Delay, s     | 11.8   |       | 12     |            | 0.3    |       | 0.4    |      |      |       |      |      |
| HCM LOS                  | B      |       | B      |            |        |       |        |      |      |       |      |      |
| Minor Lane/Major Mvmt    | NBL    | NBT   | NBR    | EBLn1WBLn1 | SBL    | SBT   | SBR    |      |      |       |      |      |
| Capacity (veh/h)         | 1409   | -     | -      | 559        | 543    | 1294  | -      | -    |      |       |      |      |
| HCM Lane V/C Ratio       | 0.007  | -     | -      | 0.054      | 0.055  | 0.008 | -      | -    |      |       |      |      |
| HCM Control Delay (s)    | 7.6    | 0     | -      | 11.8       | 12     | 7.8   | 0      | -    |      |       |      |      |
| HCM Lane LOS             | A      | A     | -      | B          | B      | A     | A      | -    |      |       |      |      |
| HCM 95th %tile Q(veh)    | 0      | -     | -      | 0.2        | 0.2    | 0     | -      | -    |      |       |      |      |

| Intersection             |        |       |        |            |        |       |        |      |      |       |      |      |
|--------------------------|--------|-------|--------|------------|--------|-------|--------|------|------|-------|------|------|
| Int Delay, s/veh         | 2.1    |       |        |            |        |       |        |      |      |       |      |      |
| Movement                 | EBL    | EBT   | EBR    | WBL        | WBT    | WBR   | NBL    | NBT  | NBR  | SBL   | SBT  | SBR  |
| Lane Configurations      |        | ↔     |        |            | ↔      |       |        | ↔    |      |       | ↔    |      |
| Traffic Vol, veh/h       | 10     | 10    | 10     | 10         | 10     | 10    | 10     | 136  | 10   | 10    | 84   | 10   |
| Future Vol, veh/h        | 10     | 10    | 10     | 10         | 10     | 10    | 10     | 136  | 10   | 10    | 84   | 10   |
| Conflicting Peds, #/hr   | 0      | 0     | 0      | 0          | 0      | 0     | 0      | 0    | 0    | 0     | 0    | 0    |
| Sign Control             | Stop   | Stop  | Stop   | Stop       | Stop   | Stop  | Free   | Free | Free | Free  | Free | Free |
| RT Channelized           | -      | -     | None   | -          | -      | None  | -      | -    | None | -     | -    | None |
| Storage Length           | -      | -     | -      | -          | -      | -     | -      | -    | -    | -     | -    | -    |
| Veh in Median Storage, # | -      | 0     | -      | -          | 0      | -     | -      | 0    | -    | -     | 0    | -    |
| Grade, %                 | -      | 0     | -      | -          | 0      | -     | -      | 0    | -    | -     | 0    | -    |
| Peak Hour Factor         | 100    | 100   | 100    | 100        | 100    | 100   | 100    | 100  | 100  | 100   | 100  | 100  |
| Heavy Vehicles, %        | 1      | 1     | 1      | 1          | 1      | 1     | 1      | 1    | 1    | 1     | 1    | 1    |
| Mvmt Flow                | 10     | 10    | 10     | 10         | 10     | 10    | 10     | 177  | 10   | 10    | 109  | 10   |
|                          |        |       |        |            |        |       |        |      |      |       |      |      |
| Major/Minor              | Minor2 |       | Minor1 |            | Major1 |       | Major2 |      |      |       |      |      |
| Conflicting Flow All     | 346    | 341   | 114    | 346        | 341    | 182   | 119    | 0    | 0    | 187   | 0    | 0    |
| Stage 1                  | 134    | 134   | -      | 202        | 202    | -     | -      | -    | -    | -     | -    | -    |
| Stage 2                  | 212    | 207   | -      | 144        | 139    | -     | -      | -    | -    | -     | -    | -    |
| Critical Hdwy            | 7.11   | 6.51  | 6.21   | 7.11       | 6.51   | 6.21  | 4.11   | -    | -    | 4.11  | -    | -    |
| Critical Hdwy Stg 1      | 6.11   | 5.51  | -      | 6.11       | 5.51   | -     | -      | -    | -    | -     | -    | -    |
| Critical Hdwy Stg 2      | 6.11   | 5.51  | -      | 6.11       | 5.51   | -     | -      | -    | -    | -     | -    | -    |
| Follow-up Hdwy           | 3.509  | 4.009 | 3.309  | 3.509      | 4.009  | 3.309 | 2.209  | -    | -    | 2.209 | -    | -    |
| Pot Cap-1 Maneuver       | 610    | 583   | 941    | 610        | 583    | 863   | 1475   | -    | -    | 1393  | -    | -    |
| Stage 1                  | 872    | 787   | -      | 802        | 736    | -     | -      | -    | -    | -     | -    | -    |
| Stage 2                  | 792    | 732   | -      | 861        | 784    | -     | -      | -    | -    | -     | -    | -    |
| Platoon blocked, %       |        |       |        |            |        |       |        | -    | -    |       | -    | -    |
| Mov Cap-1 Maneuver       | 587    | 574   | 941    | 588        | 574    | 863   | 1475   | -    | -    | 1393  | -    | -    |
| Mov Cap-2 Maneuver       | 587    | 574   | -      | 588        | 574    | -     | -      | -    | -    | -     | -    | -    |
| Stage 1                  | 865    | 781   | -      | 796        | 730    | -     | -      | -    | -    | -     | -    | -    |
| Stage 2                  | 766    | 726   | -      | 834        | 778    | -     | -      | -    | -    | -     | -    | -    |
|                          |        |       |        |            |        |       |        |      |      |       |      |      |
|                          |        |       |        |            |        |       |        |      |      |       |      |      |
| Approach                 | EB     |       | WB     |            | NB     |       | SB     |      |      |       |      |      |
| HCM Control Delay, s     | 10.7   |       | 10.8   |            | 0.4    |       | 0.6    |      |      |       |      |      |
| HCM LOS                  | B      |       | B      |            |        |       |        |      |      |       |      |      |
|                          |        |       |        |            |        |       |        |      |      |       |      |      |
| Minor Lane/Major Mvmt    | NBL    | NBT   | NBR    | EBLn1WBLn1 | SBL    | SBT   | SBR    |      |      |       |      |      |
| Capacity (veh/h)         | 1475   | -     | -      | 665        | 652    | 1393  | -      | -    |      |       |      |      |
| HCM Lane V/C Ratio       | 0.007  | -     | -      | 0.045      | 0.046  | 0.007 | -      | -    |      |       |      |      |
| HCM Control Delay (s)    | 7.5    | 0     | -      | 10.7       | 10.8   | 7.6   | 0      | -    |      |       |      |      |
| HCM Lane LOS             | A      | A     | -      | B          | B      | A     | A      | -    |      |       |      |      |
| HCM 95th %tile O(veh)    | 0      | -     | -      | 0.1        | 0.1    | 0     | -      | -    |      |       |      |      |

| Intersection             |        |       |        |       |       |        |       |      |        |       |      |      |
|--------------------------|--------|-------|--------|-------|-------|--------|-------|------|--------|-------|------|------|
| Int Delay, s/veh         | 1.7    |       |        |       |       |        |       |      |        |       |      |      |
| Movement                 | EBL    | EBT   | EBR    | WBL   | WBT   | WBR    | NBL   | NBT  | NBR    | SBL   | SBT  | SBR  |
| Lane Configurations      |        | ↕     |        |       | ↕     |        |       | ↕    |        |       | ↕    |      |
| Traffic Vol, veh/h       | 10     | 10    | 10     | 10    | 10    | 10     | 10    | 204  | 10     | 10    | 126  | 10   |
| Future Vol, veh/h        | 10     | 10    | 10     | 10    | 10    | 10     | 10    | 204  | 10     | 10    | 126  | 10   |
| Conflicting Peds, #/hr   | 0      | 0     | 0      | 0     | 0     | 0      | 0     | 0    | 0      | 0     | 0    | 0    |
| Sign Control             | Stop   | Stop  | Stop   | Stop  | Stop  | Stop   | Free  | Free | Free   | Free  | Free | Free |
| RT Channelized           | -      | -     | None   | -     | -     | None   | -     | -    | None   | -     | -    | None |
| Storage Length           | -      | -     | -      | -     | -     | -      | -     | -    | -      | -     | -    | -    |
| Veh in Median Storage, # | -      | 0     | -      | -     | 0     | -      | -     | 0    | -      | -     | 0    | -    |
| Grade, %                 | -      | 0     | -      | -     | 0     | -      | -     | 0    | -      | -     | 0    | -    |
| Peak Hour Factor         | 100    | 100   | 100    | 100   | 100   | 100    | 100   | 100  | 100    | 100   | 100  | 100  |
| Heavy Vehicles, %        | 1      | 1     | 1      | 1     | 1     | 1      | 1     | 1    | 1      | 1     | 1    | 1    |
| Mvmt Flow                | 10     | 10    | 10     | 10    | 10    | 10     | 10    | 265  | 10     | 10    | 164  | 10   |
|                          |        |       |        |       |       |        |       |      |        |       |      |      |
| Major/Minor              | Minor2 |       | Minor1 |       |       | Major1 |       |      | Major2 |       |      |      |
| Conflicting Flow All     | 489    | 484   | 169    | 489   | 484   | 270    | 174   | 0    | 0      | 275   | 0    | 0    |
| Stage 1                  | 189    | 189   | -      | 290   | 290   | -      | -     | -    | -      | -     | -    | -    |
| Stage 2                  | 300    | 295   | -      | 199   | 194   | -      | -     | -    | -      | -     | -    | -    |
| Critical Hdwy            | 7.11   | 6.51  | 6.21   | 7.11  | 6.51  | 6.21   | 4.11  | -    | -      | 4.11  | -    | -    |
| Critical Hdwy Stg 1      | 6.11   | 5.51  | -      | 6.11  | 5.51  | -      | -     | -    | -      | -     | -    | -    |
| Critical Hdwy Stg 2      | 6.11   | 5.51  | -      | 6.11  | 5.51  | -      | -     | -    | -      | -     | -    | -    |
| Follow-up Hdwy           | 3.509  | 4.009 | 3.309  | 3.509 | 4.009 | 3.309  | 2.209 | -    | -      | 2.209 | -    | -    |
| Pot Cap-1 Maneuver       | 491    | 484   | 878    | 491   | 484   | 771    | 1409  | -    | -      | 1294  | -    | -    |
| Stage 1                  | 815    | 746   | -      | 720   | 674   | -      | -     | -    | -      | -     | -    | -    |
| Stage 2                  | 711    | 671   | -      | 805   | 742   | -      | -     | -    | -      | -     | -    | -    |
| Platoon blocked, %       |        |       |        |       |       |        |       | -    | -      |       | -    | -    |
| Mov Cap-1 Maneuver       | 471    | 476   | 878    | 471   | 476   | 771    | 1409  | -    | -      | 1294  | -    | -    |
| Mov Cap-2 Maneuver       | 471    | 476   | -      | 471   | 476   | -      | -     | -    | -      | -     | -    | -    |
| Stage 1                  | 808    | 739   | -      | 714   | 669   | -      | -     | -    | -      | -     | -    | -    |
| Stage 2                  | 686    | 666   | -      | 778   | 735   | -      | -     | -    | -      | -     | -    | -    |
|                          |        |       |        |       |       |        |       |      |        |       |      |      |
|                          |        |       |        |       |       |        |       |      |        |       |      |      |
| Approach                 | EB     |       | WB     |       |       | NB     |       |      | SB     |       |      |      |
| HCM Control Delay, s     | 11.8   |       | 12     |       |       | 0.3    |       |      | 0.4    |       |      |      |
| HCM LOS                  | B      |       | B      |       |       |        |       |      |        |       |      |      |
|                          |        |       |        |       |       |        |       |      |        |       |      |      |
| Minor Lane/Major Mvmt    | NBL    | NBT   | NBR    | EBLn1 | WBLn1 | SBL    | SBT   | SBR  |        |       |      |      |
| Capacity (veh/h)         | 1409   | -     | -      | 559   | 543   | 1294   | -     | -    |        |       |      |      |
| HCM Lane V/C Ratio       | 0.007  | -     | -      | 0.054 | 0.055 | 0.008  | -     | -    |        |       |      |      |
| HCM Control Delay (s)    | 7.6    | 0     | -      | 11.8  | 12    | 7.8    | 0     | -    |        |       |      |      |
| HCM Lane LOS             | A      | A     | -      | B     | B     | A      | A     | -    |        |       |      |      |
| HCM 95th %tile O(veh)    | 0      | -     | -      | 0.2   | 0.2   | 0      | -     | -    |        |       |      |      |

| Intersection             |        |       |        |       |       |        |       |      |        |       |      |      |
|--------------------------|--------|-------|--------|-------|-------|--------|-------|------|--------|-------|------|------|
| Int Delay, s/veh         | 2.1    |       |        |       |       |        |       |      |        |       |      |      |
| Movement                 | EBL    | EBT   | EBR    | WBL   | WBT   | WBR    | NBL   | NBT  | NBR    | SBL   | SBT  | SBR  |
| Lane Configurations      |        | ↕     |        |       | ↕     |        |       | ↕    |        |       | ↕    |      |
| Traffic Vol, veh/h       | 10     | 10    | 10     | 10    | 10    | 10     | 10    | 136  | 10     | 10    | 84   | 10   |
| Future Vol, veh/h        | 10     | 10    | 10     | 10    | 10    | 10     | 10    | 136  | 10     | 10    | 84   | 10   |
| Conflicting Peds, #/hr   | 0      | 0     | 0      | 0     | 0     | 0      | 0     | 0    | 0      | 0     | 0    | 0    |
| Sign Control             | Stop   | Stop  | Stop   | Stop  | Stop  | Stop   | Free  | Free | Free   | Free  | Free | Free |
| RT Channelized           | -      | -     | None   | -     | -     | None   | -     | -    | None   | -     | -    | None |
| Storage Length           | -      | -     | -      | -     | -     | -      | -     | -    | -      | -     | -    | -    |
| Veh in Median Storage, # | -      | 0     | -      | -     | 0     | -      | -     | 0    | -      | -     | 0    | -    |
| Grade, %                 | -      | 0     | -      | -     | 0     | -      | -     | 0    | -      | -     | 0    | -    |
| Peak Hour Factor         | 100    | 100   | 100    | 100   | 100   | 100    | 100   | 100  | 100    | 100   | 100  | 100  |
| Heavy Vehicles, %        | 1      | 1     | 1      | 1     | 1     | 1      | 1     | 1    | 1      | 1     | 1    | 1    |
| Mvmt Flow                | 10     | 10    | 10     | 10    | 10    | 10     | 10    | 177  | 10     | 10    | 109  | 10   |
|                          |        |       |        |       |       |        |       |      |        |       |      |      |
| Major/Minor              | Minor2 |       | Minor1 |       |       | Major1 |       |      | Major2 |       |      |      |
| Conflicting Flow All     | 346    | 341   | 114    | 346   | 341   | 182    | 119   | 0    | 0      | 187   | 0    | 0    |
| Stage 1                  | 134    | 134   | -      | 202   | 202   | -      | -     | -    | -      | -     | -    | -    |
| Stage 2                  | 212    | 207   | -      | 144   | 139   | -      | -     | -    | -      | -     | -    | -    |
| Critical Hdwy            | 7.11   | 6.51  | 6.21   | 7.11  | 6.51  | 6.21   | 4.11  | -    | -      | 4.11  | -    | -    |
| Critical Hdwy Stg 1      | 6.11   | 5.51  | -      | 6.11  | 5.51  | -      | -     | -    | -      | -     | -    | -    |
| Critical Hdwy Stg 2      | 6.11   | 5.51  | -      | 6.11  | 5.51  | -      | -     | -    | -      | -     | -    | -    |
| Follow-up Hdwy           | 3.509  | 4.009 | 3.309  | 3.509 | 4.009 | 3.309  | 2.209 | -    | -      | 2.209 | -    | -    |
| Pot Cap-1 Maneuver       | 610    | 583   | 941    | 610   | 583   | 863    | 1475  | -    | -      | 1393  | -    | -    |
| Stage 1                  | 872    | 787   | -      | 802   | 736   | -      | -     | -    | -      | -     | -    | -    |
| Stage 2                  | 792    | 732   | -      | 861   | 784   | -      | -     | -    | -      | -     | -    | -    |
| Platoon blocked, %       |        |       |        |       |       |        |       | -    | -      |       | -    | -    |
| Mov Cap-1 Maneuver       | 587    | 574   | 941    | 588   | 574   | 863    | 1475  | -    | -      | 1393  | -    | -    |
| Mov Cap-2 Maneuver       | 587    | 574   | -      | 588   | 574   | -      | -     | -    | -      | -     | -    | -    |
| Stage 1                  | 865    | 781   | -      | 796   | 730   | -      | -     | -    | -      | -     | -    | -    |
| Stage 2                  | 766    | 726   | -      | 834   | 778   | -      | -     | -    | -      | -     | -    | -    |
|                          |        |       |        |       |       |        |       |      |        |       |      |      |
|                          |        |       |        |       |       |        |       |      |        |       |      |      |
| Approach                 | EB     |       | WB     |       |       | NB     |       |      | SB     |       |      |      |
| HCM Control Delay, s     | 10.7   |       | 10.8   |       |       | 0.4    |       |      | 0.6    |       |      |      |
| HCM LOS                  | B      |       | B      |       |       |        |       |      |        |       |      |      |
|                          |        |       |        |       |       |        |       |      |        |       |      |      |
| Minor Lane/Major Mvmt    | NBL    | NBT   | NBR    | EBLn1 | WBLn1 | SBL    | SBT   | SBR  |        |       |      |      |
| Capacity (veh/h)         | 1475   | -     | -      | 665   | 652   | 1393   | -     | -    |        |       |      |      |
| HCM Lane V/C Ratio       | 0.007  | -     | -      | 0.045 | 0.046 | 0.007  | -     | -    |        |       |      |      |
| HCM Control Delay (s)    | 7.5    | 0     | -      | 10.7  | 10.8  | 7.6    | 0     | -    |        |       |      |      |
| HCM Lane LOS             | A      | A     | -      | B     | B     | A      | A     | -    |        |       |      |      |
| HCM 95th %tile O(veh)    | 0      | -     | -      | 0.1   | 0.1   | 0      | -     | -    |        |       |      |      |

| Intersection             |        |                                                                                   |        |       |                                                                                   |       |        |                                                                                   |      |       |                                                                                     |      |
|--------------------------|--------|-----------------------------------------------------------------------------------|--------|-------|-----------------------------------------------------------------------------------|-------|--------|-----------------------------------------------------------------------------------|------|-------|-------------------------------------------------------------------------------------|------|
| Int Delay, s/veh         | 2.5    |                                                                                   |        |       |                                                                                   |       |        |                                                                                   |      |       |                                                                                     |      |
| Movement                 | EBL    | EBT                                                                               | EBR    | WBL   | WBT                                                                               | WBR   | NBL    | NBT                                                                               | NBR  | SBL   | SBT                                                                                 | SBR  |
| Lane Configurations      |        |  |        |       |  |       |        |  |      |       |  |      |
| Traffic Vol, veh/h       | 4      | 37                                                                                | 9      | 5     | 45                                                                                | 8     | 2      | 202                                                                               | 11   | 3     | 133                                                                                 | 7    |
| Future Vol, veh/h        | 4      | 37                                                                                | 9      | 5     | 45                                                                                | 8     | 2      | 202                                                                               | 11   | 3     | 133                                                                                 | 7    |
| Conflicting Peds, #/hr   | 0      | 0                                                                                 | 0      | 0     | 0                                                                                 | 0     | 0      | 0                                                                                 | 0    | 0     | 0                                                                                   | 0    |
| Sign Control             | Stop   | Stop                                                                              | Stop   | Stop  | Stop                                                                              | Stop  | Free   | Free                                                                              | Free | Free  | Free                                                                                | Free |
| RT Channelized           | -      | -                                                                                 | None   | -     | -                                                                                 | None  | -      | -                                                                                 | None | -     | -                                                                                   | None |
| Storage Length           | -      | -                                                                                 | -      | -     | -                                                                                 | -     | -      | -                                                                                 | -    | -     | -                                                                                   | -    |
| Veh in Median Storage, # | -      | 0                                                                                 | -      | -     | 0                                                                                 | -     | -      | 0                                                                                 | -    | -     | 0                                                                                   | -    |
| Grade, %                 | -      | 0                                                                                 | -      | -     | 0                                                                                 | -     | -      | 0                                                                                 | -    | -     | 0                                                                                   | -    |
| Peak Hour Factor         | 100    | 100                                                                               | 100    | 100   | 100                                                                               | 100   | 100    | 100                                                                               | 100  | 100   | 100                                                                                 | 100  |
| Heavy Vehicles, %        | 1      | 1                                                                                 | 1      | 1     | 1                                                                                 | 1     | 1      | 1                                                                                 | 1    | 1     | 1                                                                                   | 1    |
| Mvmt Flow                | 4      | 37                                                                                | 9      | 5     | 45                                                                                | 8     | 2      | 263                                                                               | 11   | 3     | 173                                                                                 | 7    |
|                          |        |                                                                                   |        |       |                                                                                   |       |        |                                                                                   |      |       |                                                                                     |      |
| Major/Minor              | Minor2 |                                                                                   | Minor1 |       | Major1                                                                            |       | Major2 |                                                                                   |      |       |                                                                                     |      |
| Conflicting Flow All     | 482    | 461                                                                               | 177    | 479   | 459                                                                               | 269   | 180    | 0                                                                                 | 0    | 274   | 0                                                                                   | 0    |
| Stage 1                  | 183    | 183                                                                               | -      | 273   | 273                                                                               | -     | -      | -                                                                                 | -    | -     | -                                                                                   | -    |
| Stage 2                  | 299    | 278                                                                               | -      | 206   | 186                                                                               | -     | -      | -                                                                                 | -    | -     | -                                                                                   | -    |
| Critical Hdwy            | 7.11   | 6.51                                                                              | 6.21   | 7.11  | 6.51                                                                              | 6.21  | 4.11   | -                                                                                 | -    | 4.11  | -                                                                                   | -    |
| Critical Hdwy Stg 1      | 6.11   | 5.51                                                                              | -      | 6.11  | 5.51                                                                              | -     | -      | -                                                                                 | -    | -     | -                                                                                   | -    |
| Critical Hdwy Stg 2      | 6.11   | 5.51                                                                              | -      | 6.11  | 5.51                                                                              | -     | -      | -                                                                                 | -    | -     | -                                                                                   | -    |
| Follow-up Hdwy           | 3.509  | 4.009                                                                             | 3.309  | 3.509 | 4.009                                                                             | 3.309 | 2.209  | -                                                                                 | -    | 2.209 | -                                                                                   | -    |
| Pot Cap-1 Maneuver       | 496    | 499                                                                               | 869    | 499   | 500                                                                               | 772   | 1402   | -                                                                                 | -    | 1295  | -                                                                                   | -    |
| Stage 1                  | 821    | 750                                                                               | -      | 735   | 686                                                                               | -     | -      | -                                                                                 | -    | -     | -                                                                                   | -    |
| Stage 2                  | 712    | 682                                                                               | -      | 798   | 748                                                                               | -     | -      | -                                                                                 | -    | -     | -                                                                                   | -    |
| Platoon blocked, %       |        |                                                                                   |        |       |                                                                                   |       |        | -                                                                                 | -    |       | -                                                                                   | -    |
| Mov Cap-1 Maneuver       | 455    | 497                                                                               | 869    | 464   | 498                                                                               | 772   | 1402   | -                                                                                 | -    | 1295  | -                                                                                   | -    |
| Mov Cap-2 Maneuver       | 455    | 497                                                                               | -      | 464   | 498                                                                               | -     | -      | -                                                                                 | -    | -     | -                                                                                   | -    |
| Stage 1                  | 819    | 748                                                                               | -      | 734   | 685                                                                               | -     | -      | -                                                                                 | -    | -     | -                                                                                   | -    |
| Stage 2                  | 657    | 681                                                                               | -      | 748   | 746                                                                               | -     | -      | -                                                                                 | -    | -     | -                                                                                   | -    |
|                          |        |                                                                                   |        |       |                                                                                   |       |        |                                                                                   |      |       |                                                                                     |      |
|                          |        |                                                                                   |        |       |                                                                                   |       |        |                                                                                   |      |       |                                                                                     |      |
| Approach                 | EB     |                                                                                   | WB     |       | NB                                                                                |       | SB     |                                                                                   |      |       |                                                                                     |      |
| HCM Control Delay, s     | 12.4   |                                                                                   | 12.8   |       | 0.1                                                                               |       | 0.1    |                                                                                   |      |       |                                                                                     |      |
| HCM LOS                  | B      |                                                                                   | B      |       |                                                                                   |       |        |                                                                                   |      |       |                                                                                     |      |
|                          |        |                                                                                   |        |       |                                                                                   |       |        |                                                                                   |      |       |                                                                                     |      |
| Minor Lane/Major Mvmt    | NBL    | NBT                                                                               | NBR    | EBLn1 | WBLn1                                                                             | SBL   | SBT    | SBR                                                                               |      |       |                                                                                     |      |
| Capacity (veh/h)         | 1402   | -                                                                                 | -      | 534   | 520                                                                               | 1295  | -      | -                                                                                 |      |       |                                                                                     |      |
| HCM Lane V/C Ratio       | 0.001  | -                                                                                 | -      | 0.094 | 0.112                                                                             | 0.002 | -      | -                                                                                 |      |       |                                                                                     |      |
| HCM Control Delay (s)    | 7.6    | 0                                                                                 | -      | 12.4  | 12.8                                                                              | 7.8   | 0      | -                                                                                 |      |       |                                                                                     |      |
| HCM Lane LOS             | A      | A                                                                                 | -      | B     | B                                                                                 | A     | A      | -                                                                                 |      |       |                                                                                     |      |
| HCM 95th %tile O(veh)    | 0      | -                                                                                 | -      | 0.3   | 0.4                                                                               | 0     | -      | -                                                                                 |      |       |                                                                                     |      |



| Intersection             |        |                                                                                   |        |            |                                                                                   |        |       |                                                                                   |        |       |                                                                                     |      |
|--------------------------|--------|-----------------------------------------------------------------------------------|--------|------------|-----------------------------------------------------------------------------------|--------|-------|-----------------------------------------------------------------------------------|--------|-------|-------------------------------------------------------------------------------------|------|
| Int Delay, s/veh         | 2.9    |                                                                                   |        |            |                                                                                   |        |       |                                                                                   |        |       |                                                                                     |      |
| Movement                 | EBL    | EBT                                                                               | EBR    | WBL        | WBT                                                                               | WBR    | NBL   | NBT                                                                               | NBR    | SBL   | SBT                                                                                 | SBR  |
| Lane Configurations      |        |  |        |            |  |        |       |  |        |       |  |      |
| Traffic Vol, veh/h       | 3      | 41                                                                                | 6      | 4          | 44                                                                                | 6      | 1     | 134                                                                               | 7      | 2     | 89                                                                                  | 4    |
| Future Vol, veh/h        | 3      | 41                                                                                | 6      | 4          | 44                                                                                | 6      | 1     | 134                                                                               | 7      | 2     | 89                                                                                  | 4    |
| Conflicting Peds, #/hr   | 0      | 0                                                                                 | 0      | 0          | 0                                                                                 | 0      | 0     | 0                                                                                 | 0      | 0     | 0                                                                                   | 0    |
| Sign Control             | Stop   | Stop                                                                              | Stop   | Stop       | Stop                                                                              | Stop   | Free  | Free                                                                              | Free   | Free  | Free                                                                                | Free |
| RT Channelized           | -      | -                                                                                 | None   | -          | -                                                                                 | None   | -     | -                                                                                 | None   | -     | -                                                                                   | None |
| Storage Length           | -      | -                                                                                 | -      | -          | -                                                                                 | -      | -     | -                                                                                 | -      | -     | -                                                                                   | -    |
| Veh in Median Storage, # | -      | 0                                                                                 | -      | -          | 0                                                                                 | -      | -     | 0                                                                                 | -      | -     | 0                                                                                   | -    |
| Grade, %                 | -      | 0                                                                                 | -      | -          | 0                                                                                 | -      | -     | 0                                                                                 | -      | -     | 0                                                                                   | -    |
| Peak Hour Factor         | 100    | 100                                                                               | 100    | 100        | 100                                                                               | 100    | 100   | 100                                                                               | 100    | 100   | 100                                                                                 | 100  |
| Heavy Vehicles, %        | 1      | 1                                                                                 | 1      | 1          | 1                                                                                 | 1      | 1     | 1                                                                                 | 1      | 1     | 1                                                                                   | 1    |
| Mvmt Flow                | 3      | 41                                                                                | 6      | 4          | 44                                                                                | 6      | 1     | 174                                                                               | 7      | 2     | 116                                                                                 | 4    |
|                          |        |                                                                                   |        |            |                                                                                   |        |       |                                                                                   |        |       |                                                                                     |      |
| Major/Minor              | Minor2 |                                                                                   | Minor1 |            |                                                                                   | Major1 |       |                                                                                   | Major2 |       |                                                                                     |      |
| Conflicting Flow All     | 327    | 305                                                                               | 118    | 326        | 304                                                                               | 178    | 120   | 0                                                                                 | 0      | 181   | 0                                                                                   | 0    |
| Stage 1                  | 122    | 122                                                                               | -      | 180        | 180                                                                               | -      | -     | -                                                                                 | -      | -     | -                                                                                   | -    |
| Stage 2                  | 205    | 183                                                                               | -      | 146        | 124                                                                               | -      | -     | -                                                                                 | -      | -     | -                                                                                   | -    |
| Critical Hdwy            | 7.11   | 6.51                                                                              | 6.21   | 7.11       | 6.51                                                                              | 6.21   | 4.11  | -                                                                                 | -      | 4.11  | -                                                                                   | -    |
| Critical Hdwy Stg 1      | 6.11   | 5.51                                                                              | -      | 6.11       | 5.51                                                                              | -      | -     | -                                                                                 | -      | -     | -                                                                                   | -    |
| Critical Hdwy Stg 2      | 6.11   | 5.51                                                                              | -      | 6.11       | 5.51                                                                              | -      | -     | -                                                                                 | -      | -     | -                                                                                   | -    |
| Follow-up Hdwy           | 3.509  | 4.009                                                                             | 3.309  | 3.509      | 4.009                                                                             | 3.309  | 2.209 | -                                                                                 | -      | 2.209 | -                                                                                   | -    |
| Pot Cap-1 Maneuver       | 628    | 610                                                                               | 937    | 629        | 611                                                                               | 868    | 1474  | -                                                                                 | -      | 1400  | -                                                                                   | -    |
| Stage 1                  | 885    | 797                                                                               | -      | 824        | 752                                                                               | -      | -     | -                                                                                 | -      | -     | -                                                                                   | -    |
| Stage 2                  | 799    | 750                                                                               | -      | 859        | 795                                                                               | -      | -     | -                                                                                 | -      | -     | -                                                                                   | -    |
| Platoon blocked, %       |        |                                                                                   |        |            |                                                                                   |        |       | -                                                                                 | -      |       | -                                                                                   | -    |
| Mov Cap-1 Maneuver       | 588    | 608                                                                               | 937    | 591        | 609                                                                               | 868    | 1474  | -                                                                                 | -      | 1400  | -                                                                                   | -    |
| Mov Cap-2 Maneuver       | 588    | 608                                                                               | -      | 591        | 609                                                                               | -      | -     | -                                                                                 | -      | -     | -                                                                                   | -    |
| Stage 1                  | 884    | 795                                                                               | -      | 823        | 751                                                                               | -      | -     | -                                                                                 | -      | -     | -                                                                                   | -    |
| Stage 2                  | 746    | 749                                                                               | -      | 808        | 793                                                                               | -      | -     | -                                                                                 | -      | -     | -                                                                                   | -    |
|                          |        |                                                                                   |        |            |                                                                                   |        |       |                                                                                   |        |       |                                                                                     |      |
|                          |        |                                                                                   |        |            |                                                                                   |        |       |                                                                                   |        |       |                                                                                     |      |
| Approach                 | EB     |                                                                                   | WB     |            |                                                                                   | NB     |       |                                                                                   | SB     |       |                                                                                     |      |
| HCM Control Delay, s     | 11.2   |                                                                                   | 11.3   |            |                                                                                   | 0      |       |                                                                                   | 0.1    |       |                                                                                     |      |
| HCM LOS                  | B      |                                                                                   | B      |            |                                                                                   |        |       |                                                                                   |        |       |                                                                                     |      |
|                          |        |                                                                                   |        |            |                                                                                   |        |       |                                                                                   |        |       |                                                                                     |      |
| Minor Lane/Major Mvmt    | NBL    | NBT                                                                               | NBR    | EBLn1WBLn1 | SBL                                                                               | SBT    | SBR   |                                                                                   |        |       |                                                                                     |      |
| Capacity (veh/h)         | 1474   | -                                                                                 | -      | 633        | 628                                                                               | 1400   | -     | -                                                                                 |        |       |                                                                                     |      |
| HCM Lane V/C Ratio       | 0.001  | -                                                                                 | -      | 0.079      | 0.086                                                                             | 0.001  | -     | -                                                                                 |        |       |                                                                                     |      |
| HCM Control Delay (s)    | 7.4    | 0                                                                                 | -      | 11.2       | 11.3                                                                              | 7.6    | 0     | -                                                                                 |        |       |                                                                                     |      |
| HCM Lane LOS             | A      | A                                                                                 | -      | B          | B                                                                                 | A      | A     | -                                                                                 |        |       |                                                                                     |      |
| HCM 95th %tile O(veh)    | 0      | -                                                                                 | -      | 0.3        | 0.3                                                                               | 0      | -     | -                                                                                 |        |       |                                                                                     |      |

| Intersection             |        |       |        |       |       |        |       |      |        |       |      |      |
|--------------------------|--------|-------|--------|-------|-------|--------|-------|------|--------|-------|------|------|
| Int Delay, s/veh         | 1.6    |       |        |       |       |        |       |      |        |       |      |      |
| Movement                 | EBL    | EBT   | EBR    | WBL   | WBT   | WBR    | NBL   | NBT  | NBR    | SBL   | SBT  | SBR  |
| Lane Configurations      |        | ↕     |        |       | ↕     |        |       | ↕    |        |       | ↕    |      |
| Traffic Vol, veh/h       | 10     | 10    | 10     | 10    | 10    | 10     | 10    | 204  | 10     | 10    | 138  | 10   |
| Future Vol, veh/h        | 10     | 10    | 10     | 10    | 10    | 10     | 10    | 204  | 10     | 10    | 138  | 10   |
| Conflicting Peds, #/hr   | 0      | 0     | 0      | 0     | 0     | 0      | 0     | 0    | 0      | 0     | 0    | 0    |
| Sign Control             | Stop   | Stop  | Stop   | Stop  | Stop  | Stop   | Free  | Free | Free   | Free  | Free | Free |
| RT Channelized           | -      | -     | None   | -     | -     | None   | -     | -    | None   | -     | -    | None |
| Storage Length           | -      | -     | -      | -     | -     | -      | -     | -    | -      | -     | -    | -    |
| Veh in Median Storage, # | -      | 0     | -      | -     | 0     | -      | -     | 0    | -      | -     | 0    | -    |
| Grade, %                 | -      | 0     | -      | -     | 0     | -      | -     | 0    | -      | -     | 0    | -    |
| Peak Hour Factor         | 100    | 100   | 100    | 100   | 100   | 100    | 100   | 100  | 100    | 100   | 100  | 100  |
| Heavy Vehicles, %        | 1      | 1     | 1      | 1     | 1     | 1      | 1     | 1    | 1      | 1     | 1    | 1    |
| Mvmt Flow                | 10     | 10    | 10     | 10    | 10    | 10     | 10    | 265  | 10     | 10    | 179  | 10   |
|                          |        |       |        |       |       |        |       |      |        |       |      |      |
| Major/Minor              | Minor2 |       | Minor1 |       |       | Major1 |       |      | Major2 |       |      |      |
| Conflicting Flow All     | 504    | 499   | 184    | 504   | 499   | 270    | 189   | 0    | 0      | 275   | 0    | 0    |
| Stage 1                  | 204    | 204   | -      | 290   | 290   | -      | -     | -    | -      | -     | -    | -    |
| Stage 2                  | 300    | 295   | -      | 214   | 209   | -      | -     | -    | -      | -     | -    | -    |
| Critical Hdwy            | 7.11   | 6.51  | 6.21   | 7.11  | 6.51  | 6.21   | 4.11  | -    | -      | 4.11  | -    | -    |
| Critical Hdwy Stg 1      | 6.11   | 5.51  | -      | 6.11  | 5.51  | -      | -     | -    | -      | -     | -    | -    |
| Critical Hdwy Stg 2      | 6.11   | 5.51  | -      | 6.11  | 5.51  | -      | -     | -    | -      | -     | -    | -    |
| Follow-up Hdwy           | 3.509  | 4.009 | 3.309  | 3.509 | 4.009 | 3.309  | 2.209 | -    | -      | 2.209 | -    | -    |
| Pot Cap-1 Maneuver       | 480    | 475   | 861    | 480   | 475   | 771    | 1391  | -    | -      | 1294  | -    | -    |
| Stage 1                  | 800    | 735   | -      | 720   | 674   | -      | -     | -    | -      | -     | -    | -    |
| Stage 2                  | 711    | 671   | -      | 790   | 731   | -      | -     | -    | -      | -     | -    | -    |
| Platoon blocked, %       |        |       |        |       |       |        |       | -    | -      |       | -    | -    |
| Mov Cap-1 Maneuver       | 460    | 467   | 861    | 461   | 467   | 771    | 1391  | -    | -      | 1294  | -    | -    |
| Mov Cap-2 Maneuver       | 460    | 467   | -      | 461   | 467   | -      | -     | -    | -      | -     | -    | -    |
| Stage 1                  | 794    | 728   | -      | 714   | 669   | -      | -     | -    | -      | -     | -    | -    |
| Stage 2                  | 686    | 666   | -      | 763   | 724   | -      | -     | -    | -      | -     | -    | -    |
|                          |        |       |        |       |       |        |       |      |        |       |      |      |
|                          |        |       |        |       |       |        |       |      |        |       |      |      |
| Approach                 | EB     |       | WB     |       |       | NB     |       |      | SB     |       |      |      |
| HCM Control Delay, s     | 11.9   |       | 12.1   |       |       | 0.3    |       |      | 0.4    |       |      |      |
| HCM LOS                  | B      |       | B      |       |       |        |       |      |        |       |      |      |
|                          |        |       |        |       |       |        |       |      |        |       |      |      |
| Minor Lane/Major Mvmt    | NBL    | NBT   | NBR    | EBLn1 | WBLn1 | SBL    | SBT   | SBR  |        |       |      |      |
| Capacity (veh/h)         | 1391   | -     | -      | 548   | 535   | 1294   | -     | -    |        |       |      |      |
| HCM Lane V/C Ratio       | 0.007  | -     | -      | 0.055 | 0.056 | 0.008  | -     | -    |        |       |      |      |
| HCM Control Delay (s)    | 7.6    | 0     | -      | 11.9  | 12.1  | 7.8    | 0     | -    |        |       |      |      |
| HCM Lane LOS             | A      | A     | -      | B     | B     | A      | A     | -    |        |       |      |      |
| HCM 95th %tile Q(veh)    | 0      | -     | -      | 0.2   | 0.2   | 0      | -     | -    |        |       |      |      |

| Intersection             |        |       |        |       |       |            |       |      |        |       |      |      |
|--------------------------|--------|-------|--------|-------|-------|------------|-------|------|--------|-------|------|------|
| Int Delay, s/veh         | 2      |       |        |       |       |            |       |      |        |       |      |      |
| Movement                 | EBL    | EBT   | EBR    | WBL   | WBT   | WBR        | NBL   | NBT  | NBR    | SBL   | SBT  | SBR  |
| Lane Configurations      |        | ↕     |        |       | ↕     |            |       | ↕    |        |       | ↕    |      |
| Traffic Vol, veh/h       | 10     | 10    | 10     | 10    | 10    | 10         | 10    | 136  | 10     | 10    | 92   | 10   |
| Future Vol, veh/h        | 10     | 10    | 10     | 10    | 10    | 10         | 10    | 136  | 10     | 10    | 92   | 10   |
| Conflicting Peds, #/hr   | 0      | 0     | 0      | 0     | 0     | 0          | 0     | 0    | 0      | 0     | 0    | 0    |
| Sign Control             | Stop   | Stop  | Stop   | Stop  | Stop  | Stop       | Free  | Free | Free   | Free  | Free | Free |
| RT Channelized           | -      | -     | None   | -     | -     | None       | -     | -    | None   | -     | -    | None |
| Storage Length           | -      | -     | -      | -     | -     | -          | -     | -    | -      | -     | -    | -    |
| Veh in Median Storage, # | -      | 0     | -      | -     | 0     | -          | -     | 0    | -      | -     | 0    | -    |
| Grade, %                 | -      | 0     | -      | -     | 0     | -          | -     | 0    | -      | -     | 0    | -    |
| Peak Hour Factor         | 100    | 100   | 100    | 100   | 100   | 100        | 100   | 100  | 100    | 100   | 100  | 100  |
| Heavy Vehicles, %        | 1      | 1     | 1      | 1     | 1     | 1          | 1     | 1    | 1      | 1     | 1    | 1    |
| Mvmt Flow                | 10     | 10    | 10     | 10    | 10    | 10         | 10    | 177  | 10     | 10    | 120  | 10   |
|                          |        |       |        |       |       |            |       |      |        |       |      |      |
| Major/Minor              | Minor2 |       | Minor1 |       |       | Major1     |       |      | Major2 |       |      |      |
| Conflicting Flow All     | 357    | 352   | 125    | 357   | 352   | 182        | 130   | 0    | 0      | 187   | 0    | 0    |
| Stage 1                  | 145    | 145   | -      | 202   | 202   | -          | -     | -    | -      | -     | -    | -    |
| Stage 2                  | 212    | 207   | -      | 155   | 150   | -          | -     | -    | -      | -     | -    | -    |
| Critical Hdwy            | 7.11   | 6.51  | 6.21   | 7.11  | 6.51  | 6.21       | 4.11  | -    | -      | 4.11  | -    | -    |
| Critical Hdwy Stg 1      | 6.11   | 5.51  | -      | 6.11  | 5.51  | -          | -     | -    | -      | -     | -    | -    |
| Critical Hdwy Stg 2      | 6.11   | 5.51  | -      | 6.11  | 5.51  | -          | -     | -    | -      | -     | -    | -    |
| Follow-up Hdwy           | 3.509  | 4.009 | 3.309  | 3.509 | 4.009 | 3.309      | 2.209 | -    | -      | 2.209 | -    | -    |
| Pot Cap-1 Maneuver       | 600    | 574   | 928    | 600   | 574   | 863        | 1462  | -    | -      | 1393  | -    | -    |
| Stage 1                  | 860    | 779   | -      | 802   | 736   | -          | -     | -    | -      | -     | -    | -    |
| Stage 2                  | 792    | 732   | -      | 850   | 775   | -          | -     | -    | -      | -     | -    | -    |
| Platoon blocked, %       |        |       |        |       |       |            |       | -    | -      |       | -    | -    |
| Mov Cap-1 Maneuver       | 578    | 565   | 928    | 578   | 565   | 863        | 1462  | -    | -      | 1393  | -    | -    |
| Mov Cap-2 Maneuver       | 578    | 565   | -      | 578   | 565   | -          | -     | -    | -      | -     | -    | -    |
| Stage 1                  | 853    | 773   | -      | 796   | 730   | -          | -     | -    | -      | -     | -    | -    |
| Stage 2                  | 766    | 726   | -      | 823   | 769   | -          | -     | -    | -      | -     | -    | -    |
|                          |        |       |        |       |       |            |       |      |        |       |      |      |
|                          |        |       |        |       |       |            |       |      |        |       |      |      |
| Approach                 | EB     |       | WB     |       |       | NB         |       |      | SB     |       |      |      |
| HCM Control Delay, s     | 10.8   |       | 10.9   |       |       | 0.4        |       |      | 0.5    |       |      |      |
| HCM LOS                  | B      |       | B      |       |       |            |       |      |        |       |      |      |
|                          |        |       |        |       |       |            |       |      |        |       |      |      |
| Minor Lane/Major Mvmt    | NBL    |       | NBT    | NBR   |       | EBLn1WBLn1 | SBL   | SBT  | SBR    |       |      |      |
| Capacity (veh/h)         | 1462   |       | -      | -     | 655   | 644        | 1393  | -    | -      |       |      |      |
| HCM Lane V/C Ratio       | 0.007  |       | -      | -     | 0.046 | 0.047      | 0.007 | -    | -      |       |      |      |
| HCM Control Delay (s)    | 7.5    |       | 0      | -     | 10.8  | 10.9       | 7.6   | 0    | -      |       |      |      |
| HCM Lane LOS             | A      |       | A      | -     | B     | B          | A     | A    | -      |       |      |      |
| HCM 95th %tile O(veh)    | 0      |       | -      | -     | 0.1   | 0.1        | 0     | -    | -      |       |      |      |

| Intersection             |        |       |        |       |        |       |        |      |      |       |      |      |
|--------------------------|--------|-------|--------|-------|--------|-------|--------|------|------|-------|------|------|
| Int Delay, s/veh         | 1.6    |       |        |       |        |       |        |      |      |       |      |      |
| Movement                 | EBL    | EBT   | EBR    | WBL   | WBT    | WBR   | NBL    | NBT  | NBR  | SBL   | SBT  | SBR  |
| Lane Configurations      |        | ↕     |        |       | ↕      |       |        | ↕    |      |       | ↕    |      |
| Traffic Vol, veh/h       | 10     | 10    | 10     | 10    | 10     | 10    | 10     | 204  | 10   | 10    | 144  | 10   |
| Future Vol, veh/h        | 10     | 10    | 10     | 10    | 10     | 10    | 10     | 204  | 10   | 10    | 144  | 10   |
| Conflicting Peds, #/hr   | 0      | 0     | 0      | 0     | 0      | 0     | 0      | 0    | 0    | 0     | 0    | 0    |
| Sign Control             | Stop   | Stop  | Stop   | Stop  | Stop   | Stop  | Free   | Free | Free | Free  | Free | Free |
| RT Channelized           | -      | -     | None   | -     | -      | None  | -      | -    | None | -     | -    | None |
| Storage Length           | -      | -     | -      | -     | -      | -     | -      | -    | -    | -     | -    | -    |
| Veh in Median Storage, # | -      | 0     | -      | -     | 0      | -     | -      | 0    | -    | -     | 0    | -    |
| Grade, %                 | -      | 0     | -      | -     | 0      | -     | -      | 0    | -    | -     | 0    | -    |
| Peak Hour Factor         | 100    | 100   | 100    | 100   | 100    | 100   | 100    | 100  | 100  | 100   | 100  | 100  |
| Heavy Vehicles, %        | 1      | 1     | 1      | 1     | 1      | 1     | 1      | 1    | 1    | 1     | 1    | 1    |
| Mvmt Flow                | 10     | 10    | 10     | 10    | 10     | 10    | 10     | 265  | 10   | 10    | 187  | 10   |
|                          |        |       |        |       |        |       |        |      |      |       |      |      |
| Major/Minor              | Minor2 |       | Minor1 |       | Major1 |       | Major2 |      |      |       |      |      |
| Conflicting Flow All     | 512    | 507   | 192    | 512   | 507    | 270   | 197    | 0    | 0    | 275   | 0    | 0    |
| Stage 1                  | 212    | 212   | -      | 290   | 290    | -     | -      | -    | -    | -     | -    | -    |
| Stage 2                  | 300    | 295   | -      | 222   | 217    | -     | -      | -    | -    | -     | -    | -    |
| Critical Hdwy            | 7.11   | 6.51  | 6.21   | 7.11  | 6.51   | 6.21  | 4.11   | -    | -    | 4.11  | -    | -    |
| Critical Hdwy Stg 1      | 6.11   | 5.51  | -      | 6.11  | 5.51   | -     | -      | -    | -    | -     | -    | -    |
| Critical Hdwy Stg 2      | 6.11   | 5.51  | -      | 6.11  | 5.51   | -     | -      | -    | -    | -     | -    | -    |
| Follow-up Hdwy           | 3.509  | 4.009 | 3.309  | 3.509 | 4.009  | 3.309 | 2.209  | -    | -    | 2.209 | -    | -    |
| Pot Cap-1 Maneuver       | 474    | 470   | 852    | 474   | 470    | 771   | 1382   | -    | -    | 1294  | -    | -    |
| Stage 1                  | 792    | 729   | -      | 720   | 674    | -     | -      | -    | -    | -     | -    | -    |
| Stage 2                  | 711    | 671   | -      | 783   | 725    | -     | -      | -    | -    | -     | -    | -    |
| Platoon blocked, %       |        |       |        |       |        |       |        | -    | -    |       | -    | -    |
| Mov Cap-1 Maneuver       | 454    | 462   | 852    | 455   | 462    | 771   | 1382   | -    | -    | 1294  | -    | -    |
| Mov Cap-2 Maneuver       | 454    | 462   | -      | 455   | 462    | -     | -      | -    | -    | -     | -    | -    |
| Stage 1                  | 785    | 722   | -      | 714   | 668    | -     | -      | -    | -    | -     | -    | -    |
| Stage 2                  | 685    | 665   | -      | 756   | 718    | -     | -      | -    | -    | -     | -    | -    |
|                          |        |       |        |       |        |       |        |      |      |       |      |      |
|                          |        |       |        |       |        |       |        |      |      |       |      |      |
| Approach                 | EB     |       | WB     |       | NB     |       | SB     |      |      |       |      |      |
| HCM Control Delay, s     | 12     |       | 12.2   |       | 0.3    |       | 0.4    |      |      |       |      |      |
| HCM LOS                  | B      |       | B      |       |        |       |        |      |      |       |      |      |
|                          |        |       |        |       |        |       |        |      |      |       |      |      |
| Minor Lane/Major Mvmt    | NBL    | NBT   | NBR    | EBLn1 | WBLn1  | SBL   | SBT    | SBR  |      |       |      |      |
| Capacity (veh/h)         | 1382   | -     | -      | 541   | 530    | 1294  | -      | -    |      |       |      |      |
| HCM Lane V/C Ratio       | 0.007  | -     | -      | 0.055 | 0.057  | 0.008 | -      | -    |      |       |      |      |
| HCM Control Delay (s)    | 7.6    | 0     | -      | 12    | 12.2   | 7.8   | 0      | -    |      |       |      |      |
| HCM Lane LOS             | A      | A     | -      | B     | B      | A     | A      | -    |      |       |      |      |
| HCM 95th %tile O(veh)    | 0      | -     | -      | 0.2   | 0.2    | 0     | -      | -    |      |       |      |      |

| Intersection             |        |       |        |            |        |       |        |      |      |       |      |      |
|--------------------------|--------|-------|--------|------------|--------|-------|--------|------|------|-------|------|------|
| Int Delay, s/veh         | 2      |       |        |            |        |       |        |      |      |       |      |      |
| Movement                 | EBL    | EBT   | EBR    | WBL        | WBT    | WBR   | NBL    | NBT  | NBR  | SBL   | SBT  | SBR  |
| Lane Configurations      |        | ↕     |        |            | ↕      |       |        | ↕    |      |       | ↕    |      |
| Traffic Vol, veh/h       | 10     | 10    | 10     | 10         | 10     | 10    | 10     | 136  | 10   | 10    | 96   | 10   |
| Future Vol, veh/h        | 10     | 10    | 10     | 10         | 10     | 10    | 10     | 136  | 10   | 10    | 96   | 10   |
| Conflicting Peds, #/hr   | 0      | 0     | 0      | 0          | 0      | 0     | 0      | 0    | 0    | 0     | 0    | 0    |
| Sign Control             | Stop   | Stop  | Stop   | Stop       | Stop   | Stop  | Free   | Free | Free | Free  | Free | Free |
| RT Channelized           | -      | -     | None   | -          | -      | None  | -      | -    | None | -     | -    | None |
| Storage Length           | -      | -     | -      | -          | -      | -     | -      | -    | -    | -     | -    | -    |
| Veh in Median Storage, # | -      | 0     | -      | -          | 0      | -     | -      | 0    | -    | -     | 0    | -    |
| Grade, %                 | -      | 0     | -      | -          | 0      | -     | -      | 0    | -    | -     | 0    | -    |
| Peak Hour Factor         | 100    | 100   | 100    | 100        | 100    | 100   | 100    | 100  | 100  | 100   | 100  | 100  |
| Heavy Vehicles, %        | 1      | 1     | 1      | 1          | 1      | 1     | 1      | 1    | 1    | 1     | 1    | 1    |
| Mvmt Flow                | 10     | 10    | 10     | 10         | 10     | 10    | 10     | 177  | 10   | 10    | 125  | 10   |
|                          |        |       |        |            |        |       |        |      |      |       |      |      |
| Major/Minor              | Minor2 |       | Minor1 |            | Major1 |       | Major2 |      |      |       |      |      |
| Conflicting Flow All     | 362    | 357   | 130    | 362        | 357    | 182   | 135    | 0    | 0    | 187   | 0    | 0    |
| Stage 1                  | 150    | 150   | -      | 202        | 202    | -     | -      | -    | -    | -     | -    | -    |
| Stage 2                  | 212    | 207   | -      | 160        | 155    | -     | -      | -    | -    | -     | -    | -    |
| Critical Hdwy            | 7.11   | 6.51  | 6.21   | 7.11       | 6.51   | 6.21  | 4.11   | -    | -    | 4.11  | -    | -    |
| Critical Hdwy Stg 1      | 6.11   | 5.51  | -      | 6.11       | 5.51   | -     | -      | -    | -    | -     | -    | -    |
| Critical Hdwy Stg 2      | 6.11   | 5.51  | -      | 6.11       | 5.51   | -     | -      | -    | -    | -     | -    | -    |
| Follow-up Hdwy           | 3.509  | 4.009 | 3.309  | 3.509      | 4.009  | 3.309 | 2.209  | -    | -    | 2.209 | -    | -    |
| Pot Cap-1 Maneuver       | 596    | 571   | 922    | 596        | 571    | 863   | 1456   | -    | -    | 1393  | -    | -    |
| Stage 1                  | 855    | 775   | -      | 802        | 736    | -     | -      | -    | -    | -     | -    | -    |
| Stage 2                  | 792    | 732   | -      | 845        | 771    | -     | -      | -    | -    | -     | -    | -    |
| Platoon blocked, %       |        |       |        |            |        |       |        | -    | -    |       | -    | -    |
| Mov Cap-1 Maneuver       | 574    | 562   | 922    | 575        | 562    | 863   | 1456   | -    | -    | 1393  | -    | -    |
| Mov Cap-2 Maneuver       | 574    | 562   | -      | 575        | 562    | -     | -      | -    | -    | -     | -    | -    |
| Stage 1                  | 848    | 769   | -      | 796        | 730    | -     | -      | -    | -    | -     | -    | -    |
| Stage 2                  | 766    | 726   | -      | 818        | 765    | -     | -      | -    | -    | -     | -    | -    |
|                          |        |       |        |            |        |       |        |      |      |       |      |      |
|                          |        |       |        |            |        |       |        |      |      |       |      |      |
| Approach                 | EB     |       | WB     |            | NB     |       | SB     |      |      |       |      |      |
| HCM Control Delay, s     | 10.8   |       | 10.9   |            | 0.4    |       | 0.5    |      |      |       |      |      |
| HCM LOS                  | B      |       | B      |            |        |       |        |      |      |       |      |      |
|                          |        |       |        |            |        |       |        |      |      |       |      |      |
| Minor Lane/Major Mvmt    | NBL    | NBT   | NBR    | EBLn1WBLn1 | SBL    | SBT   | SBR    |      |      |       |      |      |
| Capacity (veh/h)         | 1456   | -     | -      | 651        | 641    | 1393  | -      | -    |      |       |      |      |
| HCM Lane V/C Ratio       | 0.007  | -     | -      | 0.046      | 0.047  | 0.007 | -      | -    |      |       |      |      |
| HCM Control Delay (s)    | 7.5    | 0     | -      | 10.8       | 10.9   | 7.6   | 0      | -    |      |       |      |      |
| HCM Lane LOS             | A      | A     | -      | B          | B      | A     | A      | -    |      |       |      |      |
| HCM 95th %tile O(veh)    | 0      | -     | -      | 0.1        | 0.1    | 0     | -      | -    |      |       |      |      |

HCM 6th Signalized Intersection Summary  
33: 5th Street & Grand Ave

2021 Two-Way  
10/09/2021

|                              |  |  |  |  |  |  |   |  |  |  |  |  |
|------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|
| Movement                     | EBL                                                                               | EBT                                                                               | EBR                                                                               | WBL                                                                               | WBT                                                                               | WBR                                                                               | NBL                                                                                 | NBT                                                                                 | NBR                                                                                 | SBL                                                                                 | SBT                                                                                 | SBR                                                                                 |
| Lane Configurations          |  |  |                                                                                   |  |  |                                                                                   |  |  |  |  |  |  |
| Traffic Volume (veh/h)       | 34                                                                                | 418                                                                               | 31                                                                                | 30                                                                                | 512                                                                               | 18                                                                                | 59                                                                                  | 164                                                                                 | 41                                                                                  | 11                                                                                  | 113                                                                                 | 32                                                                                  |
| Future Volume (veh/h)        | 34                                                                                | 418                                                                               | 31                                                                                | 30                                                                                | 512                                                                               | 18                                                                                | 59                                                                                  | 164                                                                                 | 41                                                                                  | 11                                                                                  | 113                                                                                 | 32                                                                                  |
| Initial Q (Qb), veh          | 0                                                                                 | 0                                                                                 | 0                                                                                 | 0                                                                                 | 0                                                                                 | 0                                                                                 | 0                                                                                   | 0                                                                                   | 0                                                                                   | 0                                                                                   | 0                                                                                   | 0                                                                                   |
| Ped-Bike Adj(A_pbT)          | 1.00                                                                              |                                                                                   | 1.00                                                                              | 1.00                                                                              |                                                                                   | 1.00                                                                              | 1.00                                                                                |                                                                                     | 1.00                                                                                | 1.00                                                                                |                                                                                     | 1.00                                                                                |
| Parking Bus, Adj             | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                                | 1.00                                                                                | 1.00                                                                                | 1.00                                                                                | 1.00                                                                                | 1.00                                                                                |
| Work Zone On Approach        |                                                                                   | No                                                                                |                                                                                   |                                                                                   | No                                                                                |                                                                                   |                                                                                     | No                                                                                  |                                                                                     |                                                                                     | No                                                                                  |                                                                                     |
| Adj Sat Flow, veh/h/ln       | 1885                                                                              | 1885                                                                              | 1885                                                                              | 1885                                                                              | 1885                                                                              | 1885                                                                              | 1885                                                                                | 1885                                                                                | 1885                                                                                | 1885                                                                                | 1885                                                                                | 1885                                                                                |
| Adj Flow Rate, veh/h         | 34                                                                                | 418                                                                               | 31                                                                                | 30                                                                                | 512                                                                               | 18                                                                                | 59                                                                                  | 213                                                                                 | 41                                                                                  | 11                                                                                  | 147                                                                                 | 32                                                                                  |
| Peak Hour Factor             | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                                | 1.00                                                                                | 1.00                                                                                | 1.00                                                                                | 1.00                                                                                | 1.00                                                                                |
| Percent Heavy Veh, %         | 1                                                                                 | 1                                                                                 | 1                                                                                 | 1                                                                                 | 1                                                                                 | 1                                                                                 | 1                                                                                   | 1                                                                                   | 1                                                                                   | 1                                                                                   | 1                                                                                   | 1                                                                                   |
| Cap, veh/h                   | 448                                                                               | 1724                                                                              | 127                                                                               | 556                                                                               | 1800                                                                              | 63                                                                                | 465                                                                                 | 735                                                                                 | 623                                                                                 | 398                                                                                 | 585                                                                                 | 127                                                                                 |
| Arrive On Green              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 0.51                                                                              | 0.51                                                                              | 0.51                                                                              | 0.13                                                                                | 0.13                                                                                | 0.13                                                                                | 0.39                                                                                | 0.39                                                                                | 0.39                                                                                |
| Sat Flow, veh/h              | 880                                                                               | 3381                                                                              | 250                                                                               | 949                                                                               | 3530                                                                              | 124                                                                               | 1215                                                                                | 1885                                                                                | 1598                                                                                | 1135                                                                                | 1500                                                                                | 327                                                                                 |
| Grp Volume(v), veh/h         | 34                                                                                | 221                                                                               | 228                                                                               | 30                                                                                | 259                                                                               | 271                                                                               | 59                                                                                  | 213                                                                                 | 41                                                                                  | 11                                                                                  | 0                                                                                   | 179                                                                                 |
| Grp Sat Flow(s),veh/h/ln     | 880                                                                               | 1791                                                                              | 1840                                                                              | 949                                                                               | 1791                                                                              | 1863                                                                              | 1215                                                                                | 1885                                                                                | 1598                                                                                | 1135                                                                                | 0                                                                                   | 1826                                                                                |
| Q Serve(g_s), s              | 0.7                                                                               | 0.0                                                                               | 0.0                                                                               | 1.6                                                                               | 8.3                                                                               | 8.3                                                                               | 4.4                                                                                 | 10.2                                                                                | 2.3                                                                                 | 0.7                                                                                 | 0.0                                                                                 | 6.6                                                                                 |
| Cycle Q Clear(g_c), s        | 9.0                                                                               | 0.0                                                                               | 0.0                                                                               | 1.6                                                                               | 8.3                                                                               | 8.3                                                                               | 11.0                                                                                | 10.2                                                                                | 2.3                                                                                 | 10.9                                                                                | 0.0                                                                                 | 6.6                                                                                 |
| Prop In Lane                 | 1.00                                                                              |                                                                                   | 0.14                                                                              | 1.00                                                                              |                                                                                   | 0.07                                                                              | 1.00                                                                                |                                                                                     | 1.00                                                                                | 1.00                                                                                |                                                                                     | 0.18                                                                                |
| Lane Grp Cap(c), veh/h       | 448                                                                               | 913                                                                               | 939                                                                               | 556                                                                               | 913                                                                               | 950                                                                               | 465                                                                                 | 735                                                                                 | 623                                                                                 | 398                                                                                 | 0                                                                                   | 712                                                                                 |
| V/C Ratio(X)                 | 0.08                                                                              | 0.24                                                                              | 0.24                                                                              | 0.05                                                                              | 0.28                                                                              | 0.28                                                                              | 0.13                                                                                | 0.29                                                                                | 0.07                                                                                | 0.03                                                                                | 0.00                                                                                | 0.25                                                                                |
| Avail Cap(c_a), veh/h        | 448                                                                               | 913                                                                               | 939                                                                               | 556                                                                               | 913                                                                               | 950                                                                               | 465                                                                                 | 735                                                                                 | 623                                                                                 | 398                                                                                 | 0                                                                                   | 712                                                                                 |
| HCM Platoon Ratio            | 2.00                                                                              | 2.00                                                                              | 2.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 0.33                                                                                | 0.33                                                                                | 0.33                                                                                | 1.00                                                                                | 1.00                                                                                | 1.00                                                                                |
| Upstream Filter(I)           | 0.98                                                                              | 0.98                                                                              | 0.98                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                                | 1.00                                                                                | 1.00                                                                                | 1.00                                                                                | 0.00                                                                                | 1.00                                                                                |
| Uniform Delay (d), s/veh     | 0.7                                                                               | 0.0                                                                               | 0.0                                                                               | 12.4                                                                              | 14.0                                                                              | 14.0                                                                              | 34.4                                                                                | 31.0                                                                                | 27.6                                                                                | 25.6                                                                                | 0.0                                                                                 | 20.6                                                                                |
| Incr Delay (d2), s/veh       | 0.3                                                                               | 0.6                                                                               | 0.6                                                                               | 0.0                                                                               | 0.2                                                                               | 0.2                                                                               | 0.6                                                                                 | 1.0                                                                                 | 0.2                                                                                 | 0.1                                                                                 | 0.0                                                                                 | 0.8                                                                                 |
| Initial Q Delay(d3),s/veh    | 0.0                                                                               | 0.0                                                                               | 0.0                                                                               | 0.0                                                                               | 0.0                                                                               | 0.0                                                                               | 0.0                                                                                 | 0.0                                                                                 | 0.0                                                                                 | 0.0                                                                                 | 0.0                                                                                 | 0.0                                                                                 |
| %ile BackOfQ(50%),veh/ln     | 0.0                                                                               | 0.2                                                                               | 0.2                                                                               | 0.3                                                                               | 3.3                                                                               | 3.4                                                                               | 1.5                                                                                 | 5.3                                                                                 | 0.9                                                                                 | 0.2                                                                                 | 0.0                                                                                 | 3.0                                                                                 |
| Unsig. Movement Delay, s/veh |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| LnGrp Delay(d),s/veh         | 1.1                                                                               | 0.6                                                                               | 0.6                                                                               | 12.4                                                                              | 14.2                                                                              | 14.2                                                                              | 35.0                                                                                | 32.0                                                                                | 27.8                                                                                | 25.7                                                                                | 0.0                                                                                 | 21.5                                                                                |
| LnGrp LOS                    | A                                                                                 | A                                                                                 | A                                                                                 | B                                                                                 | B                                                                                 | B                                                                                 | C                                                                                   | C                                                                                   | C                                                                                   | C                                                                                   | A                                                                                   | C                                                                                   |
| Approach Vol, veh/h          |                                                                                   | 483                                                                               |                                                                                   |                                                                                   | 560                                                                               |                                                                                   |                                                                                     | 313                                                                                 |                                                                                     |                                                                                     | 190                                                                                 |                                                                                     |
| Approach Delay, s/veh        |                                                                                   | 0.6                                                                               |                                                                                   |                                                                                   | 14.1                                                                              |                                                                                   |                                                                                     | 32.0                                                                                |                                                                                     |                                                                                     | 21.7                                                                                |                                                                                     |
| Approach LOS                 |                                                                                   | A                                                                                 |                                                                                   |                                                                                   | B                                                                                 |                                                                                   |                                                                                     | C                                                                                   |                                                                                     |                                                                                     | C                                                                                   |                                                                                     |
| Timer - Assigned Phs         |                                                                                   | 2                                                                                 |                                                                                   | 4                                                                                 |                                                                                   | 6                                                                                 |                                                                                     | 8                                                                                   |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Phs Duration (G+Y+Rc), s     |                                                                                   | 44.0                                                                              |                                                                                   | 56.0                                                                              |                                                                                   | 44.0                                                                              |                                                                                     | 56.0                                                                                |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Change Period (Y+Rc), s      |                                                                                   | 5.0                                                                               |                                                                                   | 5.0                                                                               |                                                                                   | 5.0                                                                               |                                                                                     | 5.0                                                                                 |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Max Green Setting (Gmax), s  |                                                                                   | 39.0                                                                              |                                                                                   | 51.0                                                                              |                                                                                   | 39.0                                                                              |                                                                                     | 51.0                                                                                |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Max Q Clear Time (g_c+I1), s |                                                                                   | 12.9                                                                              |                                                                                   | 10.3                                                                              |                                                                                   | 13.0                                                                              |                                                                                     | 11.0                                                                                |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Green Ext Time (p_c), s      |                                                                                   | 1.1                                                                               |                                                                                   | 3.7                                                                               |                                                                                   | 1.6                                                                               |                                                                                     | 3.2                                                                                 |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| <b>Intersection Summary</b>  |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| HCM 6th Ctrl Delay           |                                                                                   |                                                                                   |                                                                                   | 14.5                                                                              |                                                                                   |                                                                                   |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| HCM 6th LOS                  |                                                                                   |                                                                                   |                                                                                   | B                                                                                 |                                                                                   |                                                                                   |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |



# HCM 6th Signalized Intersection Summary

## 34: 4th Street & Grand Ave

2021 Two-Way  
10/09/2021



| Movement                     | EBL                                                                               | EBT                                                                               | EBR                                                                               | WBL                                                                               | WBT                                                                               | WBR  | NBL                                                                               | NBT                                                                               | NBR  | SBL                                                                               | SBT                                                                               | SBR  |
|------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|------|
| Lane Configurations          |  |  |  |  |  |      |  |  |      |  |  |      |
| Traffic Volume (veh/h)       | 22                                                                                | 438                                                                               | 20                                                                                | 20                                                                                | 571                                                                               | 12   | 40                                                                                | 109                                                                               | 28   | 17                                                                                | 76                                                                                | 21   |
| Future Volume (veh/h)        | 22                                                                                | 438                                                                               | 20                                                                                | 20                                                                                | 571                                                                               | 12   | 40                                                                                | 109                                                                               | 28   | 17                                                                                | 76                                                                                | 21   |
| Initial Q (Qb), veh          | 0                                                                                 | 0                                                                                 | 0                                                                                 | 0                                                                                 | 0                                                                                 | 0    | 0                                                                                 | 0                                                                                 | 0    | 0                                                                                 | 0                                                                                 | 0    |
| Ped-Bike Adj(A_pbT)          | 1.00                                                                              |                                                                                   | 1.00                                                                              | 1.00                                                                              |                                                                                   | 1.00 | 1.00                                                                              |                                                                                   | 1.00 | 1.00                                                                              |                                                                                   | 1.00 |
| Parking Bus, Adj             | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00 | 1.00                                                                              | 1.00                                                                              | 1.00 | 1.00                                                                              | 1.00                                                                              | 1.00 |
| Work Zone On Approach        | No                                                                                |                                                                                   |                                                                                   | No                                                                                |                                                                                   |      | No                                                                                |                                                                                   |      | No                                                                                |                                                                                   |      |
| Adj Sat Flow, veh/h/ln       | 1885                                                                              | 1885                                                                              | 1885                                                                              | 1885                                                                              | 1885                                                                              | 1885 | 1885                                                                              | 1885                                                                              | 1885 | 1885                                                                              | 1885                                                                              | 1885 |
| Adj Flow Rate, veh/h         | 22                                                                                | 438                                                                               | 20                                                                                | 20                                                                                | 571                                                                               | 12   | 40                                                                                | 142                                                                               | 28   | 17                                                                                | 99                                                                                | 21   |
| Peak Hour Factor             | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00 | 1.00                                                                              | 1.00                                                                              | 1.00 | 1.00                                                                              | 1.00                                                                              | 1.00 |
| Percent Heavy Veh, %         | 1                                                                                 | 1                                                                                 | 1                                                                                 | 1                                                                                 | 1                                                                                 | 1    | 1                                                                                 | 1                                                                                 | 1    | 1                                                                                 | 1                                                                                 | 1    |
| Cap, veh/h                   | 462                                                                               | 1970                                                                              | 879                                                                               | 531                                                                               | 1973                                                                              | 41   | 462                                                                               | 535                                                                               | 106  | 397                                                                               | 528                                                                               | 112  |
| Arrive On Green              | 0.55                                                                              | 0.55                                                                              | 0.55                                                                              | 0.55                                                                              | 0.55                                                                              | 0.55 | 0.12                                                                              | 0.12                                                                              | 0.12 | 0.35                                                                              | 0.35                                                                              | 0.35 |
| Sat Flow, veh/h              | 838                                                                               | 3582                                                                              | 1598                                                                              | 941                                                                               | 3587                                                                              | 75   | 1282                                                                              | 1529                                                                              | 302  | 1225                                                                              | 1508                                                                              | 320  |
| Grp Volume(v), veh/h         | 22                                                                                | 438                                                                               | 20                                                                                | 20                                                                                | 285                                                                               | 298  | 40                                                                                | 0                                                                                 | 170  | 17                                                                                | 0                                                                                 | 120  |
| Grp Sat Flow(s),veh/h/ln     | 838                                                                               | 1791                                                                              | 1598                                                                              | 941                                                                               | 1791                                                                              | 1872 | 1282                                                                              | 0                                                                                 | 1831 | 1225                                                                              | 0                                                                                 | 1828 |
| Q Serve(g_s), s              | 1.4                                                                               | 6.3                                                                               | 0.6                                                                               | 1.1                                                                               | 8.5                                                                               | 8.5  | 2.8                                                                               | 0.0                                                                               | 8.5  | 1.0                                                                               | 0.0                                                                               | 4.6  |
| Cycle Q Clear(g_c), s        | 10.0                                                                              | 6.3                                                                               | 0.6                                                                               | 7.4                                                                               | 8.5                                                                               | 8.5  | 7.4                                                                               | 0.0                                                                               | 8.5  | 9.5                                                                               | 0.0                                                                               | 4.6  |
| Prop In Lane                 | 1.00                                                                              |                                                                                   | 1.00                                                                              | 1.00                                                                              |                                                                                   | 0.04 | 1.00                                                                              |                                                                                   | 0.16 | 1.00                                                                              |                                                                                   | 0.17 |
| Lane Grp Cap(c), veh/h       | 462                                                                               | 1970                                                                              | 879                                                                               | 531                                                                               | 985                                                                               | 1029 | 462                                                                               | 0                                                                                 | 641  | 397                                                                               | 0                                                                                 | 640  |
| V/C Ratio(X)                 | 0.05                                                                              | 0.22                                                                              | 0.02                                                                              | 0.04                                                                              | 0.29                                                                              | 0.29 | 0.09                                                                              | 0.00                                                                              | 0.27 | 0.04                                                                              | 0.00                                                                              | 0.19 |
| Avail Cap(c_a), veh/h        | 462                                                                               | 1970                                                                              | 879                                                                               | 531                                                                               | 985                                                                               | 1029 | 462                                                                               | 0                                                                                 | 641  | 397                                                                               | 0                                                                                 | 640  |
| HCM Platoon Ratio            | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00 | 0.33                                                                              | 0.33                                                                              | 0.33 | 1.00                                                                              | 1.00                                                                              | 1.00 |
| Upstream Filter(I)           | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 0.97                                                                              | 0.97                                                                              | 0.97 | 1.00                                                                              | 0.00                                                                              | 1.00 | 1.00                                                                              | 0.00                                                                              | 1.00 |
| Uniform Delay (d), s/veh     | 14.7                                                                              | 11.5                                                                              | 10.3                                                                              | 13.4                                                                              | 12.0                                                                              | 12.0 | 34.1                                                                              | 0.0                                                                               | 32.5 | 27.4                                                                              | 0.0                                                                               | 22.6 |
| Incr Delay (d2), s/veh       | 0.2                                                                               | 0.3                                                                               | 0.0                                                                               | 0.1                                                                               | 0.7                                                                               | 0.7  | 0.4                                                                               | 0.0                                                                               | 1.0  | 0.2                                                                               | 0.0                                                                               | 0.6  |
| Initial Q Delay(d3),s/veh    | 0.0                                                                               | 0.0                                                                               | 0.0                                                                               | 0.0                                                                               | 0.0                                                                               | 0.0  | 0.0                                                                               | 0.0                                                                               | 0.0  | 0.0                                                                               | 0.0                                                                               | 0.0  |
| %ile BackOfQ(50%),veh/ln     | 0.3                                                                               | 2.5                                                                               | 0.2                                                                               | 0.3                                                                               | 3.4                                                                               | 3.6  | 1.0                                                                               | 0.0                                                                               | 4.2  | 0.3                                                                               | 0.0                                                                               | 2.1  |
| Unsig. Movement Delay, s/veh |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |      |                                                                                   |                                                                                   |      |                                                                                   |                                                                                   |      |
| LnGrp Delay(d),s/veh         | 14.9                                                                              | 11.8                                                                              | 10.3                                                                              | 13.6                                                                              | 12.8                                                                              | 12.7 | 34.5                                                                              | 0.0                                                                               | 33.5 | 27.6                                                                              | 0.0                                                                               | 23.3 |
| LnGrp LOS                    | B                                                                                 | B                                                                                 | B                                                                                 | B                                                                                 | B                                                                                 | B    | C                                                                                 | A                                                                                 | C    | C                                                                                 | A                                                                                 | C    |
| Approach Vol, veh/h          | 480                                                                               |                                                                                   | 603                                                                               |                                                                                   |                                                                                   | 210  |                                                                                   |                                                                                   | 137  |                                                                                   |                                                                                   |      |
| Approach Delay, s/veh        | 11.9                                                                              |                                                                                   | 12.8                                                                              |                                                                                   |                                                                                   | 33.7 |                                                                                   |                                                                                   | 23.8 |                                                                                   |                                                                                   |      |
| Approach LOS                 | B                                                                                 |                                                                                   | B                                                                                 |                                                                                   |                                                                                   | C    |                                                                                   |                                                                                   | C    |                                                                                   |                                                                                   |      |
| Timer - Assigned Phs         | 2                                                                                 |                                                                                   | 4                                                                                 |                                                                                   |                                                                                   | 6    |                                                                                   |                                                                                   | 8    |                                                                                   |                                                                                   |      |
| Phs Duration (G+Y+Rc), s     | 40.0                                                                              |                                                                                   | 60.0                                                                              |                                                                                   |                                                                                   | 40.0 |                                                                                   |                                                                                   | 60.0 |                                                                                   |                                                                                   |      |
| Change Period (Y+Rc), s      | 5.0                                                                               |                                                                                   | 5.0                                                                               |                                                                                   |                                                                                   | 5.0  |                                                                                   |                                                                                   | 5.0  |                                                                                   |                                                                                   |      |
| Max Green Setting (Gmax), s  | 35.0                                                                              |                                                                                   | 55.0                                                                              |                                                                                   |                                                                                   | 35.0 |                                                                                   |                                                                                   | 55.0 |                                                                                   |                                                                                   |      |
| Max Q Clear Time (g_c+I1), s | 11.5                                                                              |                                                                                   | 10.5                                                                              |                                                                                   |                                                                                   | 10.5 |                                                                                   |                                                                                   | 12.0 |                                                                                   |                                                                                   |      |
| Green Ext Time (p_c), s      | 0.7                                                                               |                                                                                   | 4.1                                                                               |                                                                                   |                                                                                   | 1.1  |                                                                                   |                                                                                   | 3.5  |                                                                                   |                                                                                   |      |
| Intersection Summary         |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |      |                                                                                   |                                                                                   |      |                                                                                   |                                                                                   |      |
| HCM 6th Ctrl Delay           |                                                                                   |                                                                                   | 16.6                                                                              |                                                                                   |                                                                                   |      |                                                                                   |                                                                                   |      |                                                                                   |                                                                                   |      |
| HCM 6th LOS                  |                                                                                   |                                                                                   | B                                                                                 |                                                                                   |                                                                                   |      |                                                                                   |                                                                                   |      |                                                                                   |                                                                                   |      |

| Intersection             |        |                                                                                   |        |       |                                                                                   |       |        |                                                                                   |      |       |                                                                                     |      |
|--------------------------|--------|-----------------------------------------------------------------------------------|--------|-------|-----------------------------------------------------------------------------------|-------|--------|-----------------------------------------------------------------------------------|------|-------|-------------------------------------------------------------------------------------|------|
| Int Delay, s/veh         | 1.9    |                                                                                   |        |       |                                                                                   |       |        |                                                                                   |      |       |                                                                                     |      |
| Movement                 | EBL    | EBT                                                                               | EBR    | WBL   | WBT                                                                               | WBR   | NBL    | NBT                                                                               | NBR  | SBL   | SBT                                                                                 | SBR  |
| Lane Configurations      |        |  |        |       |  |       |        |  |      |       |  |      |
| Traffic Vol, veh/h       | 15     | 0                                                                                 | 11     | 18    | 10                                                                                | 20    | 22     | 228                                                                               | 1    | 10    | 155                                                                                 | 11   |
| Future Vol, veh/h        | 15     | 0                                                                                 | 11     | 18    | 10                                                                                | 20    | 22     | 228                                                                               | 1    | 10    | 155                                                                                 | 11   |
| Conflicting Peds, #/hr   | 0      | 0                                                                                 | 0      | 0     | 0                                                                                 | 0     | 0      | 0                                                                                 | 0    | 0     | 0                                                                                   | 0    |
| Sign Control             | Stop   | Stop                                                                              | Stop   | Stop  | Stop                                                                              | Stop  | Free   | Free                                                                              | Free | Free  | Free                                                                                | Free |
| RT Channelized           | -      | -                                                                                 | None   | -     | -                                                                                 | None  | -      | -                                                                                 | None | -     | -                                                                                   | None |
| Storage Length           | -      | -                                                                                 | -      | -     | -                                                                                 | -     | -      | -                                                                                 | -    | -     | -                                                                                   | -    |
| Veh in Median Storage, # | -      | 0                                                                                 | -      | -     | 0                                                                                 | -     | -      | 0                                                                                 | -    | -     | 0                                                                                   | -    |
| Grade, %                 | -      | 0                                                                                 | -      | -     | 0                                                                                 | -     | -      | 0                                                                                 | -    | -     | 0                                                                                   | -    |
| Peak Hour Factor         | 100    | 100                                                                               | 100    | 100   | 100                                                                               | 100   | 100    | 100                                                                               | 100  | 100   | 100                                                                                 | 100  |
| Heavy Vehicles, %        | 1      | 1                                                                                 | 1      | 1     | 1                                                                                 | 1     | 1      | 1                                                                                 | 1    | 1     | 1                                                                                   | 1    |
| Mvmt Flow                | 15     | 0                                                                                 | 11     | 18    | 10                                                                                | 20    | 22     | 296                                                                               | 1    | 10    | 202                                                                                 | 11   |
|                          |        |                                                                                   |        |       |                                                                                   |       |        |                                                                                   |      |       |                                                                                     |      |
| Major/Minor              | Minor2 |                                                                                   | Minor1 |       | Major1                                                                            |       | Major2 |                                                                                   |      |       |                                                                                     |      |
| Conflicting Flow All     | 584    | 569                                                                               | 208    | 574   | 574                                                                               | 297   | 213    | 0                                                                                 | 0    | 297   | 0                                                                                   | 0    |
| Stage 1                  | 228    | 228                                                                               | -      | 341   | 341                                                                               | -     | -      | -                                                                                 | -    | -     | -                                                                                   | -    |
| Stage 2                  | 356    | 341                                                                               | -      | 233   | 233                                                                               | -     | -      | -                                                                                 | -    | -     | -                                                                                   | -    |
| Critical Hdwy            | 7.11   | 6.51                                                                              | 6.21   | 7.11  | 6.51                                                                              | 6.21  | 4.11   | -                                                                                 | -    | 4.11  | -                                                                                   | -    |
| Critical Hdwy Stg 1      | 6.11   | 5.51                                                                              | -      | 6.11  | 5.51                                                                              | -     | -      | -                                                                                 | -    | -     | -                                                                                   | -    |
| Critical Hdwy Stg 2      | 6.11   | 5.51                                                                              | -      | 6.11  | 5.51                                                                              | -     | -      | -                                                                                 | -    | -     | -                                                                                   | -    |
| Follow-up Hdwy           | 3.509  | 4.009                                                                             | 3.309  | 3.509 | 4.009                                                                             | 3.309 | 2.209  | -                                                                                 | -    | 2.209 | -                                                                                   | -    |
| Pot Cap-1 Maneuver       | 425    | 433                                                                               | 835    | 431   | 430                                                                               | 745   | 1363   | -                                                                                 | -    | 1270  | -                                                                                   | -    |
| Stage 1                  | 777    | 717                                                                               | -      | 676   | 640                                                                               | -     | -      | -                                                                                 | -    | -     | -                                                                                   | -    |
| Stage 2                  | 664    | 640                                                                               | -      | 772   | 714                                                                               | -     | -      | -                                                                                 | -    | -     | -                                                                                   | -    |
| Platoon blocked, %       |        |                                                                                   |        |       |                                                                                   |       |        | -                                                                                 | -    |       | -                                                                                   | -    |
| Mov Cap-1 Maneuver       | 397    | 421                                                                               | 835    | 416   | 418                                                                               | 745   | 1363   | -                                                                                 | -    | 1270  | -                                                                                   | -    |
| Mov Cap-2 Maneuver       | 397    | 421                                                                               | -      | 416   | 418                                                                               | -     | -      | -                                                                                 | -    | -     | -                                                                                   | -    |
| Stage 1                  | 762    | 711                                                                               | -      | 663   | 628                                                                               | -     | -      | -                                                                                 | -    | -     | -                                                                                   | -    |
| Stage 2                  | 624    | 628                                                                               | -      | 755   | 708                                                                               | -     | -      | -                                                                                 | -    | -     | -                                                                                   | -    |
|                          |        |                                                                                   |        |       |                                                                                   |       |        |                                                                                   |      |       |                                                                                     |      |
|                          |        |                                                                                   |        |       |                                                                                   |       |        |                                                                                   |      |       |                                                                                     |      |
| Approach                 | EB     |                                                                                   | WB     |       | NB                                                                                |       | SB     |                                                                                   |      |       |                                                                                     |      |
| HCM Control Delay, s     | 12.4   |                                                                                   | 12.8   |       | 0.5                                                                               |       | 0.4    |                                                                                   |      |       |                                                                                     |      |
| HCM LOS                  | B      |                                                                                   | B      |       |                                                                                   |       |        |                                                                                   |      |       |                                                                                     |      |
|                          |        |                                                                                   |        |       |                                                                                   |       |        |                                                                                   |      |       |                                                                                     |      |
| Minor Lane/Major Mvmt    | NBL    | NBT                                                                               | NBR    | EBLn1 | WBLn1                                                                             | SBL   | SBT    | SBR                                                                               |      |       |                                                                                     |      |
| Capacity (veh/h)         | 1363   | -                                                                                 | -      | 510   | 510                                                                               | 1270  | -      | -                                                                                 |      |       |                                                                                     |      |
| HCM Lane V/C Ratio       | 0.016  | -                                                                                 | -      | 0.051 | 0.094                                                                             | 0.008 | -      | -                                                                                 |      |       |                                                                                     |      |
| HCM Control Delay (s)    | 7.7    | 0                                                                                 | -      | 12.4  | 12.8                                                                              | 7.9   | 0      | -                                                                                 |      |       |                                                                                     |      |
| HCM Lane LOS             | A      | A                                                                                 | -      | B     | B                                                                                 | A     | A      | -                                                                                 |      |       |                                                                                     |      |
| HCM 95th %tile Q(veh)    | 0      | -                                                                                 | -      | 0.2   | 0.3                                                                               | 0     | -      | -                                                                                 |      |       |                                                                                     |      |

| Intersection             |        |                                                                                   |        |       |                                                                                   |        |       |                                                                                   |        |       |                                                                                     |      |
|--------------------------|--------|-----------------------------------------------------------------------------------|--------|-------|-----------------------------------------------------------------------------------|--------|-------|-----------------------------------------------------------------------------------|--------|-------|-------------------------------------------------------------------------------------|------|
| Int Delay, s/veh         | 2.3    |                                                                                   |        |       |                                                                                   |        |       |                                                                                   |        |       |                                                                                     |      |
| Movement                 | EBL    | EBT                                                                               | EBR    | WBL   | WBT                                                                               | WBR    | NBL   | NBT                                                                               | NBR    | SBL   | SBT                                                                                 | SBR  |
| Lane Configurations      |        |  |        |       |  |        |       |  |        |       |  |      |
| Traffic Vol, veh/h       | 10     | 12                                                                                | 7      | 12    | 18                                                                                | 13     | 15    | 152                                                                               | 1      | 7     | 104                                                                                 | 7    |
| Future Vol, veh/h        | 10     | 12                                                                                | 7      | 12    | 18                                                                                | 13     | 15    | 152                                                                               | 1      | 7     | 104                                                                                 | 7    |
| Conflicting Peds, #/hr   | 0      | 0                                                                                 | 0      | 0     | 0                                                                                 | 0      | 0     | 0                                                                                 | 0      | 0     | 0                                                                                   | 0    |
| Sign Control             | Stop   | Stop                                                                              | Stop   | Stop  | Stop                                                                              | Stop   | Free  | Free                                                                              | Free   | Free  | Free                                                                                | Free |
| RT Channelized           | -      | -                                                                                 | None   | -     | -                                                                                 | None   | -     | -                                                                                 | None   | -     | -                                                                                   | None |
| Storage Length           | -      | -                                                                                 | -      | -     | -                                                                                 | -      | -     | -                                                                                 | -      | -     | -                                                                                   | -    |
| Veh in Median Storage, # | -      | 0                                                                                 | -      | -     | 0                                                                                 | -      | -     | 0                                                                                 | -      | -     | 0                                                                                   | -    |
| Grade, %                 | -      | 0                                                                                 | -      | -     | 0                                                                                 | -      | -     | 0                                                                                 | -      | -     | 0                                                                                   | -    |
| Peak Hour Factor         | 100    | 100                                                                               | 100    | 100   | 100                                                                               | 100    | 100   | 100                                                                               | 100    | 100   | 100                                                                                 | 100  |
| Heavy Vehicles, %        | 1      | 1                                                                                 | 1      | 1     | 1                                                                                 | 1      | 1     | 1                                                                                 | 1      | 1     | 1                                                                                   | 1    |
| Mvmt Flow                | 10     | 12                                                                                | 7      | 12    | 18                                                                                | 13     | 15    | 198                                                                               | 1      | 7     | 135                                                                                 | 7    |
|                          |        |                                                                                   |        |       |                                                                                   |        |       |                                                                                   |        |       |                                                                                     |      |
| Major/Minor              | Minor2 |                                                                                   | Minor1 |       |                                                                                   | Major1 |       |                                                                                   | Major2 |       |                                                                                     |      |
| Conflicting Flow All     | 397    | 382                                                                               | 139    | 391   | 385                                                                               | 199    | 142   | 0                                                                                 | 0      | 199   | 0                                                                                   | 0    |
| Stage 1                  | 153    | 153                                                                               | -      | 229   | 229                                                                               | -      | -     | -                                                                                 | -      | -     | -                                                                                   | -    |
| Stage 2                  | 244    | 229                                                                               | -      | 162   | 156                                                                               | -      | -     | -                                                                                 | -      | -     | -                                                                                   | -    |
| Critical Hdwy            | 7.11   | 6.51                                                                              | 6.21   | 7.11  | 6.51                                                                              | 6.21   | 4.11  | -                                                                                 | -      | 4.11  | -                                                                                   | -    |
| Critical Hdwy Stg 1      | 6.11   | 5.51                                                                              | -      | 6.11  | 5.51                                                                              | -      | -     | -                                                                                 | -      | -     | -                                                                                   | -    |
| Critical Hdwy Stg 2      | 6.11   | 5.51                                                                              | -      | 6.11  | 5.51                                                                              | -      | -     | -                                                                                 | -      | -     | -                                                                                   | -    |
| Follow-up Hdwy           | 3.509  | 4.009                                                                             | 3.309  | 3.509 | 4.009                                                                             | 3.309  | 2.209 | -                                                                                 | -      | 2.209 | -                                                                                   | -    |
| Pot Cap-1 Maneuver       | 565    | 553                                                                               | 912    | 570   | 550                                                                               | 845    | 1447  | -                                                                                 | -      | 1379  | -                                                                                   | -    |
| Stage 1                  | 852    | 773                                                                               | -      | 776   | 717                                                                               | -      | -     | -                                                                                 | -      | -     | -                                                                                   | -    |
| Stage 2                  | 762    | 717                                                                               | -      | 842   | 770                                                                               | -      | -     | -                                                                                 | -      | -     | -                                                                                   | -    |
| Platoon blocked, %       |        |                                                                                   |        |       |                                                                                   |        |       | -                                                                                 | -      |       | -                                                                                   | -    |
| Mov Cap-1 Maneuver       | 535    | 543                                                                               | 912    | 548   | 540                                                                               | 845    | 1447  | -                                                                                 | -      | 1379  | -                                                                                   | -    |
| Mov Cap-2 Maneuver       | 535    | 543                                                                               | -      | 548   | 540                                                                               | -      | -     | -                                                                                 | -      | -     | -                                                                                   | -    |
| Stage 1                  | 842    | 768                                                                               | -      | 767   | 708                                                                               | -      | -     | -                                                                                 | -      | -     | -                                                                                   | -    |
| Stage 2                  | 722    | 708                                                                               | -      | 818   | 765                                                                               | -      | -     | -                                                                                 | -      | -     | -                                                                                   | -    |
|                          |        |                                                                                   |        |       |                                                                                   |        |       |                                                                                   |        |       |                                                                                     |      |
|                          |        |                                                                                   |        |       |                                                                                   |        |       |                                                                                   |        |       |                                                                                     |      |
| Approach                 | EB     |                                                                                   | WB     |       |                                                                                   | NB     |       |                                                                                   | SB     |       |                                                                                     |      |
| HCM Control Delay, s     | 11.3   |                                                                                   | 11.4   |       |                                                                                   | 0.5    |       |                                                                                   | 0.4    |       |                                                                                     |      |
| HCM LOS                  | B      |                                                                                   | B      |       |                                                                                   |        |       |                                                                                   |        |       |                                                                                     |      |
|                          |        |                                                                                   |        |       |                                                                                   |        |       |                                                                                   |        |       |                                                                                     |      |
| Minor Lane/Major Mvmt    | NBL    | NBT                                                                               | NBR    | EBLn1 | WBLn1                                                                             | SBL    | SBT   | SBR                                                                               |        |       |                                                                                     |      |
| Capacity (veh/h)         | 1447   | -                                                                                 | -      | 598   | 609                                                                               | 1379   | -     | -                                                                                 |        |       |                                                                                     |      |
| HCM Lane V/C Ratio       | 0.01   | -                                                                                 | -      | 0.048 | 0.071                                                                             | 0.005  | -     | -                                                                                 |        |       |                                                                                     |      |
| HCM Control Delay (s)    | 7.5    | 0                                                                                 | -      | 11.3  | 11.4                                                                              | 7.6    | 0     | -                                                                                 |        |       |                                                                                     |      |
| HCM Lane LOS             | A      | A                                                                                 | -      | B     | B                                                                                 | A      | A     | -                                                                                 |        |       |                                                                                     |      |
| HCM 95th %tile Q(veh)    | 0      | -                                                                                 | -      | 0.2   | 0.2                                                                               | 0      | -     | -                                                                                 |        |       |                                                                                     |      |

| Intersection             |                                                                                   |                                                                                   |        |       |                                                                                   |       |        |                                                                                   |      |       |                                                                                     |      |
|--------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|--------|-------|-----------------------------------------------------------------------------------|-------|--------|-----------------------------------------------------------------------------------|------|-------|-------------------------------------------------------------------------------------|------|
| Int Delay, s/veh         | 2.9                                                                               |                                                                                   |        |       |                                                                                   |       |        |                                                                                   |      |       |                                                                                     |      |
| Movement                 | EBL                                                                               | EBT                                                                               | EBR    | WBL   | WBT                                                                               | WBR   | NBL    | NBT                                                                               | NBR  | SBL   | SBT                                                                                 | SBR  |
| Lane Configurations      |  |  |        |       |  |       |        |  |      |       |  |      |
| Traffic Vol, veh/h       | 20                                                                                | 20                                                                                | 16     | 14    | 30                                                                                | 18    | 18     | 217                                                                               | 7    | 19    | 140                                                                                 | 34   |
| Future Vol, veh/h        | 20                                                                                | 20                                                                                | 16     | 14    | 30                                                                                | 18    | 18     | 217                                                                               | 7    | 19    | 140                                                                                 | 34   |
| Conflicting Peds, #/hr   | 0                                                                                 | 0                                                                                 | 0      | 0     | 0                                                                                 | 0     | 0      | 0                                                                                 | 0    | 0     | 0                                                                                   | 0    |
| Sign Control             | Stop                                                                              | Stop                                                                              | Stop   | Stop  | Stop                                                                              | Stop  | Free   | Free                                                                              | Free | Free  | Free                                                                                | Free |
| RT Channelized           | -                                                                                 | -                                                                                 | None   | -     | -                                                                                 | None  | -      | -                                                                                 | None | -     | -                                                                                   | None |
| Storage Length           | 70                                                                                | -                                                                                 | -      | -     | -                                                                                 | -     | -      | -                                                                                 | -    | -     | -                                                                                   | -    |
| Veh in Median Storage, # | -                                                                                 | 0                                                                                 | -      | -     | 0                                                                                 | -     | -      | 0                                                                                 | -    | -     | 0                                                                                   | -    |
| Grade, %                 | -                                                                                 | 0                                                                                 | -      | -     | 0                                                                                 | -     | -      | 0                                                                                 | -    | -     | 0                                                                                   | -    |
| Peak Hour Factor         | 100                                                                               | 100                                                                               | 100    | 100   | 100                                                                               | 100   | 100    | 100                                                                               | 100  | 100   | 100                                                                                 | 100  |
| Heavy Vehicles, %        | 1                                                                                 | 1                                                                                 | 1      | 1     | 1                                                                                 | 1     | 1      | 1                                                                                 | 1    | 1     | 1                                                                                   | 1    |
| Mvmt Flow                | 20                                                                                | 20                                                                                | 16     | 14    | 30                                                                                | 18    | 18     | 282                                                                               | 7    | 19    | 182                                                                                 | 34   |
|                          |                                                                                   |                                                                                   |        |       |                                                                                   |       |        |                                                                                   |      |       |                                                                                     |      |
| Major/Minor              | Minor2                                                                            |                                                                                   | Minor1 |       | Major1                                                                            |       | Major2 |                                                                                   |      |       |                                                                                     |      |
| Conflicting Flow All     | 583                                                                               | 562                                                                               | 199    | 577   | 576                                                                               | 286   | 216    | 0                                                                                 | 0    | 289   | 0                                                                                   | 0    |
| Stage 1                  | 237                                                                               | 237                                                                               | -      | 322   | 322                                                                               | -     | -      | -                                                                                 | -    | -     | -                                                                                   | -    |
| Stage 2                  | 346                                                                               | 325                                                                               | -      | 255   | 254                                                                               | -     | -      | -                                                                                 | -    | -     | -                                                                                   | -    |
| Critical Hdwy            | 7.11                                                                              | 6.51                                                                              | 6.21   | 7.11  | 6.51                                                                              | 6.21  | 4.11   | -                                                                                 | -    | 4.11  | -                                                                                   | -    |
| Critical Hdwy Stg 1      | 6.11                                                                              | 5.51                                                                              | -      | 6.11  | 5.51                                                                              | -     | -      | -                                                                                 | -    | -     | -                                                                                   | -    |
| Critical Hdwy Stg 2      | 6.11                                                                              | 5.51                                                                              | -      | 6.11  | 5.51                                                                              | -     | -      | -                                                                                 | -    | -     | -                                                                                   | -    |
| Follow-up Hdwy           | 3.509                                                                             | 4.009                                                                             | 3.309  | 3.509 | 4.009                                                                             | 3.309 | 2.209  | -                                                                                 | -    | 2.209 | -                                                                                   | -    |
| Pot Cap-1 Maneuver       | 425                                                                               | 437                                                                               | 845    | 429   | 429                                                                               | 755   | 1360   | -                                                                                 | -    | 1279  | -                                                                                   | -    |
| Stage 1                  | 768                                                                               | 711                                                                               | -      | 692   | 653                                                                               | -     | -      | -                                                                                 | -    | -     | -                                                                                   | -    |
| Stage 2                  | 672                                                                               | 651                                                                               | -      | 752   | 699                                                                               | -     | -      | -                                                                                 | -    | -     | -                                                                                   | -    |
| Platoon blocked, %       |                                                                                   |                                                                                   |        |       |                                                                                   |       |        | -                                                                                 | -    |       | -                                                                                   | -    |
| Mov Cap-1 Maneuver       | 382                                                                               | 423                                                                               | 845    | 396   | 415                                                                               | 755   | 1360   | -                                                                                 | -    | 1279  | -                                                                                   | -    |
| Mov Cap-2 Maneuver       | 382                                                                               | 423                                                                               | -      | 396   | 415                                                                               | -     | -      | -                                                                                 | -    | -     | -                                                                                   | -    |
| Stage 1                  | 756                                                                               | 699                                                                               | -      | 681   | 643                                                                               | -     | -      | -                                                                                 | -    | -     | -                                                                                   | -    |
| Stage 2                  | 615                                                                               | 641                                                                               | -      | 704   | 687                                                                               | -     | -      | -                                                                                 | -    | -     | -                                                                                   | -    |
|                          |                                                                                   |                                                                                   |        |       |                                                                                   |       |        |                                                                                   |      |       |                                                                                     |      |
|                          |                                                                                   |                                                                                   |        |       |                                                                                   |       |        |                                                                                   |      |       |                                                                                     |      |
| Approach                 | EB                                                                                |                                                                                   | WB     |       | NB                                                                                |       | SB     |                                                                                   |      |       |                                                                                     |      |
| HCM Control Delay, s     | 13.1                                                                              |                                                                                   | 13.8   |       | 0.5                                                                               |       | 0.6    |                                                                                   |      |       |                                                                                     |      |
| HCM LOS                  | B                                                                                 |                                                                                   | B      |       |                                                                                   |       |        |                                                                                   |      |       |                                                                                     |      |
|                          |                                                                                   |                                                                                   |        |       |                                                                                   |       |        |                                                                                   |      |       |                                                                                     |      |
| Minor Lane/Major Mvmt    | NBL                                                                               | NBT                                                                               | NBR    | EBLn1 | EBLn2                                                                             | WBLn1 | SBL    | SBT                                                                               | SBR  |       |                                                                                     |      |
| Capacity (veh/h)         | 1360                                                                              | -                                                                                 | -      | 382   | 544                                                                               | 472   | 1279   | -                                                                                 | -    |       |                                                                                     |      |
| HCM Lane V/C Ratio       | 0.013                                                                             | -                                                                                 | -      | 0.052 | 0.066                                                                             | 0.131 | 0.015  | -                                                                                 | -    |       |                                                                                     |      |
| HCM Control Delay (s)    | 7.7                                                                               | 0                                                                                 | -      | 14.9  | 12.1                                                                              | 13.8  | 7.9    | 0                                                                                 | -    |       |                                                                                     |      |
| HCM Lane LOS             | A                                                                                 | A                                                                                 | -      | B     | B                                                                                 | B     | A      | A                                                                                 | -    |       |                                                                                     |      |
| HCM 95th %tile Q(veh)    | 0                                                                                 | -                                                                                 | -      | 0.2   | 0.2                                                                               | 0.5   | 0      | -                                                                                 | -    |       |                                                                                     |      |

| Intersection             |        |                                                                                   |        |                                                                                   |                                                                                   |       |        |                                                                                   |      |       |                                                                                     |      |
|--------------------------|--------|-----------------------------------------------------------------------------------|--------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-------|--------|-----------------------------------------------------------------------------------|------|-------|-------------------------------------------------------------------------------------|------|
| Int Delay, s/veh         | 3.8    |                                                                                   |        |                                                                                   |                                                                                   |       |        |                                                                                   |      |       |                                                                                     |      |
| Movement                 | EBL    | EBT                                                                               | EBR    | WBL                                                                               | WBT                                                                               | WBR   | NBL    | NBT                                                                               | NBR  | SBL   | SBT                                                                                 | SBR  |
| Lane Configurations      |        |  |        |  |  |       |        |  |      |       |  |      |
| Traffic Vol, veh/h       | 13     | 38                                                                                | 11     | 9                                                                                 | 61                                                                                | 12    | 12     | 144                                                                               | 5    | 13    | 93                                                                                  | 23   |
| Future Vol, veh/h        | 13     | 38                                                                                | 11     | 9                                                                                 | 61                                                                                | 12    | 12     | 144                                                                               | 5    | 13    | 93                                                                                  | 23   |
| Conflicting Peds, #/hr   | 0      | 0                                                                                 | 0      | 0                                                                                 | 0                                                                                 | 0     | 0      | 0                                                                                 | 0    | 0     | 0                                                                                   | 0    |
| Sign Control             | Stop   | Stop                                                                              | Stop   | Stop                                                                              | Stop                                                                              | Stop  | Free   | Free                                                                              | Free | Free  | Free                                                                                | Free |
| RT Channelized           | -      | -                                                                                 | None   | -                                                                                 | -                                                                                 | None  | -      | -                                                                                 | None | -     | -                                                                                   | None |
| Storage Length           | -      | -                                                                                 | -      | 65                                                                                | -                                                                                 | -     | -      | -                                                                                 | -    | -     | -                                                                                   | -    |
| Veh in Median Storage, # | -      | 0                                                                                 | -      | -                                                                                 | 0                                                                                 | -     | -      | 0                                                                                 | -    | -     | 0                                                                                   | -    |
| Grade, %                 | -      | 0                                                                                 | -      | -                                                                                 | 0                                                                                 | -     | -      | 0                                                                                 | -    | -     | 0                                                                                   | -    |
| Peak Hour Factor         | 100    | 100                                                                               | 100    | 100                                                                               | 100                                                                               | 100   | 100    | 100                                                                               | 100  | 100   | 100                                                                                 | 100  |
| Heavy Vehicles, %        | 1      | 1                                                                                 | 1      | 1                                                                                 | 1                                                                                 | 1     | 1      | 1                                                                                 | 1    | 1     | 1                                                                                   | 1    |
| Mvmt Flow                | 13     | 38                                                                                | 11     | 9                                                                                 | 61                                                                                | 12    | 12     | 187                                                                               | 5    | 13    | 121                                                                                 | 23   |
|                          |        |                                                                                   |        |                                                                                   |                                                                                   |       |        |                                                                                   |      |       |                                                                                     |      |
| Major/Minor              | Minor2 |                                                                                   | Minor1 |                                                                                   | Major1                                                                            |       | Major2 |                                                                                   |      |       |                                                                                     |      |
| Conflicting Flow All     | 409    | 375                                                                               | 133    | 397                                                                               | 384                                                                               | 190   | 144    | 0                                                                                 | 0    | 192   | 0                                                                                   | 0    |
| Stage 1                  | 159    | 159                                                                               | -      | 214                                                                               | 214                                                                               | -     | -      | -                                                                                 | -    | -     | -                                                                                   | -    |
| Stage 2                  | 250    | 216                                                                               | -      | 183                                                                               | 170                                                                               | -     | -      | -                                                                                 | -    | -     | -                                                                                   | -    |
| Critical Hdwy            | 7.11   | 6.51                                                                              | 6.21   | 7.11                                                                              | 6.51                                                                              | 6.21  | 4.11   | -                                                                                 | -    | 4.11  | -                                                                                   | -    |
| Critical Hdwy Stg 1      | 6.11   | 5.51                                                                              | -      | 6.11                                                                              | 5.51                                                                              | -     | -      | -                                                                                 | -    | -     | -                                                                                   | -    |
| Critical Hdwy Stg 2      | 6.11   | 5.51                                                                              | -      | 6.11                                                                              | 5.51                                                                              | -     | -      | -                                                                                 | -    | -     | -                                                                                   | -    |
| Follow-up Hdwy           | 3.509  | 4.009                                                                             | 3.309  | 3.509                                                                             | 4.009                                                                             | 3.309 | 2.209  | -                                                                                 | -    | 2.209 | -                                                                                   | -    |
| Pot Cap-1 Maneuver       | 555    | 558                                                                               | 919    | 565                                                                               | 551                                                                               | 854   | 1445   | -                                                                                 | -    | 1388  | -                                                                                   | -    |
| Stage 1                  | 846    | 768                                                                               | -      | 790                                                                               | 727                                                                               | -     | -      | -                                                                                 | -    | -     | -                                                                                   | -    |
| Stage 2                  | 756    | 726                                                                               | -      | 821                                                                               | 760                                                                               | -     | -      | -                                                                                 | -    | -     | -                                                                                   | -    |
| Platoon blocked, %       |        |                                                                                   |        |                                                                                   |                                                                                   |       |        | -                                                                                 | -    |       | -                                                                                   | -    |
| Mov Cap-1 Maneuver       | 493    | 547                                                                               | 919    | 521                                                                               | 541                                                                               | 854   | 1445   | -                                                                                 | -    | 1388  | -                                                                                   | -    |
| Mov Cap-2 Maneuver       | 493    | 547                                                                               | -      | 521                                                                               | 541                                                                               | -     | -      | -                                                                                 | -    | -     | -                                                                                   | -    |
| Stage 1                  | 838    | 760                                                                               | -      | 783                                                                               | 720                                                                               | -     | -      | -                                                                                 | -    | -     | -                                                                                   | -    |
| Stage 2                  | 676    | 719                                                                               | -      | 763                                                                               | 752                                                                               | -     | -      | -                                                                                 | -    | -     | -                                                                                   | -    |
|                          |        |                                                                                   |        |                                                                                   |                                                                                   |       |        |                                                                                   |      |       |                                                                                     |      |
|                          |        |                                                                                   |        |                                                                                   |                                                                                   |       |        |                                                                                   |      |       |                                                                                     |      |
| Approach                 | EB     |                                                                                   | WB     |                                                                                   | NB                                                                                |       | SB     |                                                                                   |      |       |                                                                                     |      |
| HCM Control Delay, s     | 12     |                                                                                   | 12.2   |                                                                                   | 0.4                                                                               |       | 0.6    |                                                                                   |      |       |                                                                                     |      |
| HCM LOS                  | B      |                                                                                   | B      |                                                                                   |                                                                                   |       |        |                                                                                   |      |       |                                                                                     |      |
|                          |        |                                                                                   |        |                                                                                   |                                                                                   |       |        |                                                                                   |      |       |                                                                                     |      |
| Minor Lane/Major Mvmt    | NBL    | NBT                                                                               | NBR    | EBLn1WBLn1WBLn2                                                                   | SBL                                                                               | SBT   | SBR    |                                                                                   |      |       |                                                                                     |      |
| Capacity (veh/h)         | 1445   | -                                                                                 | -      | 575                                                                               | 521                                                                               | 576   | 1388   | -                                                                                 | -    |       |                                                                                     |      |
| HCM Lane V/C Ratio       | 0.008  | -                                                                                 | -      | 0.108                                                                             | 0.017                                                                             | 0.127 | 0.009  | -                                                                                 | -    |       |                                                                                     |      |
| HCM Control Delay (s)    | 7.5    | 0                                                                                 | -      | 12                                                                                | 12                                                                                | 12.2  | 7.6    | 0                                                                                 | -    |       |                                                                                     |      |
| HCM Lane LOS             | A      | A                                                                                 | -      | B                                                                                 | B                                                                                 | B     | A      | A                                                                                 | -    |       |                                                                                     |      |
| HCM 95th %tile Q(veh)    | 0      | -                                                                                 | -      | 0.4                                                                               | 0.1                                                                               | 0.4   | 0      | -                                                                                 | -    |       |                                                                                     |      |

HCM 6th Signalized Intersection Summary  
45: 5th Street & Main St

2021 Two-Way  
10/09/2021

|                              |  |  |  |  |  |  |  |  |  |  |  |  |
|------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|
| Movement                     | EBL                                                                               | EBT                                                                               | EBR                                                                               | WBL                                                                               | WBT                                                                               | WBR                                                                               | NBL                                                                                | NBT                                                                                 | NBR                                                                                 | SBL                                                                                 | SBT                                                                                 | SBR                                                                                 |
| Lane Configurations          |                                                                                   |  |                                                                                   |                                                                                   |  |                                                                                   |                                                                                    |  |                                                                                     |                                                                                     |  |                                                                                     |
| Traffic Volume (veh/h)       | 17                                                                                | 94                                                                                | 12                                                                                | 10                                                                                | 61                                                                                | 14                                                                                | 12                                                                                 | 209                                                                                 | 12                                                                                  | 20                                                                                  | 125                                                                                 | 20                                                                                  |
| Future Volume (veh/h)        | 17                                                                                | 94                                                                                | 12                                                                                | 10                                                                                | 61                                                                                | 14                                                                                | 12                                                                                 | 209                                                                                 | 12                                                                                  | 20                                                                                  | 125                                                                                 | 20                                                                                  |
| Initial Q (Qb), veh          | 0                                                                                 | 0                                                                                 | 0                                                                                 | 0                                                                                 | 0                                                                                 | 0                                                                                 | 0                                                                                  | 0                                                                                   | 0                                                                                   | 0                                                                                   | 0                                                                                   | 0                                                                                   |
| Ped-Bike Adj(A_pbT)          | 1.00                                                                              |                                                                                   | 1.00                                                                              | 1.00                                                                              |                                                                                   | 1.00                                                                              | 1.00                                                                               |                                                                                     | 1.00                                                                                | 1.00                                                                                |                                                                                     | 1.00                                                                                |
| Parking Bus, Adj             | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                               | 1.00                                                                                | 1.00                                                                                | 1.00                                                                                | 1.00                                                                                | 1.00                                                                                |
| Work Zone On Approach        |                                                                                   | No                                                                                |                                                                                   |                                                                                   | No                                                                                |                                                                                   |                                                                                    | No                                                                                  |                                                                                     |                                                                                     | No                                                                                  |                                                                                     |
| Adj Sat Flow, veh/h/ln       | 1885                                                                              | 1885                                                                              | 1885                                                                              | 1885                                                                              | 1885                                                                              | 1885                                                                              | 1885                                                                               | 1885                                                                                | 1885                                                                                | 1885                                                                                | 1885                                                                                | 1885                                                                                |
| Adj Flow Rate, veh/h         | 17                                                                                | 94                                                                                | 12                                                                                | 10                                                                                | 61                                                                                | 14                                                                                | 12                                                                                 | 272                                                                                 | 12                                                                                  | 20                                                                                  | 162                                                                                 | 20                                                                                  |
| Peak Hour Factor             | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                               | 1.00                                                                                | 1.00                                                                                | 1.00                                                                                | 1.00                                                                                | 1.00                                                                                |
| Percent Heavy Veh, %         | 1                                                                                 | 1                                                                                 | 1                                                                                 | 1                                                                                 | 1                                                                                 | 1                                                                                 | 1                                                                                  | 1                                                                                   | 1                                                                                   | 1                                                                                   | 1                                                                                   | 1                                                                                   |
| Cap, veh/h                   | 55                                                                                | 133                                                                               | 16                                                                                | 51                                                                                | 126                                                                               | 27                                                                                | 70                                                                                 | 1423                                                                                | 61                                                                                  | 149                                                                                 | 1189                                                                                | 143                                                                                 |
| Arrive On Green              | 0.18                                                                              | 0.18                                                                              | 0.18                                                                              | 0.09                                                                              | 0.09                                                                              | 0.09                                                                              | 1.00                                                                               | 1.00                                                                                | 1.00                                                                                | 0.82                                                                                | 0.82                                                                                | 0.82                                                                                |
| Sat Flow, veh/h              | 157                                                                               | 1472                                                                              | 176                                                                               | 115                                                                               | 1402                                                                              | 299                                                                               | 39                                                                                 | 1736                                                                                | 75                                                                                  | 134                                                                                 | 1451                                                                                | 174                                                                                 |
| Grp Volume(v), veh/h         | 123                                                                               | 0                                                                                 | 0                                                                                 | 85                                                                                | 0                                                                                 | 0                                                                                 | 296                                                                                | 0                                                                                   | 0                                                                                   | 202                                                                                 | 0                                                                                   | 0                                                                                   |
| Grp Sat Flow(s),veh/h/ln     | 1805                                                                              | 0                                                                                 | 0                                                                                 | 1815                                                                              | 0                                                                                 | 0                                                                                 | 1850                                                                               | 0                                                                                   | 0                                                                                   | 1759                                                                                | 0                                                                                   | 0                                                                                   |
| Q Serve(g_s), s              | 2.0                                                                               | 0.0                                                                               | 0.0                                                                               | 0.0                                                                               | 0.0                                                                               | 0.0                                                                               | 0.0                                                                                | 0.0                                                                                 | 0.0                                                                                 | 0.0                                                                                 | 0.0                                                                                 | 0.0                                                                                 |
| Cycle Q Clear(g_c), s        | 6.4                                                                               | 0.0                                                                               | 0.0                                                                               | 4.4                                                                               | 0.0                                                                               | 0.0                                                                               | 0.0                                                                                | 0.0                                                                                 | 0.0                                                                                 | 2.2                                                                                 | 0.0                                                                                 | 0.0                                                                                 |
| Prop In Lane                 | 0.14                                                                              |                                                                                   | 0.10                                                                              | 0.12                                                                              |                                                                                   | 0.16                                                                              | 0.04                                                                               |                                                                                     | 0.04                                                                                | 0.10                                                                                |                                                                                     | 0.10                                                                                |
| Lane Grp Cap(c), veh/h       | 204                                                                               | 0                                                                                 | 0                                                                                 | 204                                                                               | 0                                                                                 | 0                                                                                 | 1554                                                                               | 0                                                                                   | 0                                                                                   | 1482                                                                                | 0                                                                                   | 0                                                                                   |
| V/C Ratio(X)                 | 0.60                                                                              | 0.00                                                                              | 0.00                                                                              | 0.42                                                                              | 0.00                                                                              | 0.00                                                                              | 0.19                                                                               | 0.00                                                                                | 0.00                                                                                | 0.14                                                                                | 0.00                                                                                | 0.00                                                                                |
| Avail Cap(c_a), veh/h        | 703                                                                               | 0                                                                                 | 0                                                                                 | 700                                                                               | 0                                                                                 | 0                                                                                 | 1554                                                                               | 0                                                                                   | 0                                                                                   | 1482                                                                                | 0                                                                                   | 0                                                                                   |
| HCM Platoon Ratio            | 2.00                                                                              | 2.00                                                                              | 2.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 2.00                                                                               | 2.00                                                                                | 2.00                                                                                | 1.00                                                                                | 1.00                                                                                | 1.00                                                                                |
| Upstream Filter(I)           | 0.83                                                                              | 0.00                                                                              | 0.00                                                                              | 1.00                                                                              | 0.00                                                                              | 0.00                                                                              | 1.00                                                                               | 0.00                                                                                | 0.00                                                                                | 1.00                                                                                | 0.00                                                                                | 0.00                                                                                |
| Uniform Delay (d), s/veh     | 39.9                                                                              | 0.0                                                                               | 0.0                                                                               | 43.4                                                                              | 0.0                                                                               | 0.0                                                                               | 0.0                                                                                | 0.0                                                                                 | 0.0                                                                                 | 1.8                                                                                 | 0.0                                                                                 | 0.0                                                                                 |
| Incr Delay (d2), s/veh       | 2.4                                                                               | 0.0                                                                               | 0.0                                                                               | 1.4                                                                               | 0.0                                                                               | 0.0                                                                               | 0.3                                                                                | 0.0                                                                                 | 0.0                                                                                 | 0.2                                                                                 | 0.0                                                                                 | 0.0                                                                                 |
| Initial Q Delay(d3),s/veh    | 0.0                                                                               | 0.0                                                                               | 0.0                                                                               | 0.0                                                                               | 0.0                                                                               | 0.0                                                                               | 0.0                                                                                | 0.0                                                                                 | 0.0                                                                                 | 0.0                                                                                 | 0.0                                                                                 | 0.0                                                                                 |
| %ile BackOfQ(50%),veh/ln     | 2.8                                                                               | 0.0                                                                               | 0.0                                                                               | 2.1                                                                               | 0.0                                                                               | 0.0                                                                               | 0.1                                                                                | 0.0                                                                                 | 0.0                                                                                 | 0.6                                                                                 | 0.0                                                                                 | 0.0                                                                                 |
| Unsig. Movement Delay, s/veh |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                    |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| LnGrp Delay(d),s/veh         | 42.3                                                                              | 0.0                                                                               | 0.0                                                                               | 44.8                                                                              | 0.0                                                                               | 0.0                                                                               | 0.3                                                                                | 0.0                                                                                 | 0.0                                                                                 | 2.0                                                                                 | 0.0                                                                                 | 0.0                                                                                 |
| LnGrp LOS                    | D                                                                                 | A                                                                                 | A                                                                                 | D                                                                                 | A                                                                                 | A                                                                                 | A                                                                                  | A                                                                                   | A                                                                                   | A                                                                                   | A                                                                                   | A                                                                                   |
| Approach Vol, veh/h          |                                                                                   | 123                                                                               |                                                                                   |                                                                                   | 85                                                                                |                                                                                   |                                                                                    | 296                                                                                 |                                                                                     |                                                                                     | 202                                                                                 |                                                                                     |
| Approach Delay, s/veh        |                                                                                   | 42.3                                                                              |                                                                                   |                                                                                   | 44.8                                                                              |                                                                                   |                                                                                    | 0.3                                                                                 |                                                                                     |                                                                                     | 2.0                                                                                 |                                                                                     |
| Approach LOS                 |                                                                                   | D                                                                                 |                                                                                   |                                                                                   | D                                                                                 |                                                                                   |                                                                                    | A                                                                                   |                                                                                     |                                                                                     | A                                                                                   |                                                                                     |
| Timer - Assigned Phs         |                                                                                   | 2                                                                                 |                                                                                   | 4                                                                                 |                                                                                   | 6                                                                                 |                                                                                    | 8                                                                                   |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Phs Duration (G+Y+Rc), s     |                                                                                   | 86.5                                                                              |                                                                                   | 13.5                                                                              |                                                                                   | 86.5                                                                              |                                                                                    | 13.5                                                                                |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Change Period (Y+Rc), s      |                                                                                   | 4.5                                                                               |                                                                                   | 4.5                                                                               |                                                                                   | 4.5                                                                               |                                                                                    | 4.5                                                                                 |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Max Green Setting (Gmax), s  |                                                                                   | 53.5                                                                              |                                                                                   | 37.5                                                                              |                                                                                   | 53.5                                                                              |                                                                                    | 37.5                                                                                |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Max Q Clear Time (g_c+I1), s |                                                                                   | 4.2                                                                               |                                                                                   | 6.4                                                                               |                                                                                   | 2.0                                                                               |                                                                                    | 8.4                                                                                 |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Green Ext Time (p_c), s      |                                                                                   | 1.3                                                                               |                                                                                   | 0.4                                                                               |                                                                                   | 2.0                                                                               |                                                                                    | 0.7                                                                                 |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| <b>Intersection Summary</b>  |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                    |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| HCM 6th Ctrl Delay           |                                                                                   |                                                                                   |                                                                                   | 13.4                                                                              |                                                                                   |                                                                                   |                                                                                    |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| HCM 6th LOS                  |                                                                                   |                                                                                   |                                                                                   | B                                                                                 |                                                                                   |                                                                                   |                                                                                    |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |



HCM 6th Signalized Intersection Summary  
46: 4th Street & Main St

2021 Two-Way  
10/09/2021



| Movement                     | EBL  | EBT  | EBR  | WBL  | WBT  | WBR  | NBL  | NBT  | NBR  | SBL  | SBT  | SBR  |
|------------------------------|------|------|------|------|------|------|------|------|------|------|------|------|
| Lane Configurations          |      | ↕    |      |      | ↕    |      |      | ↕    |      |      | ↕    |      |
| Traffic Volume (veh/h)       | 11   | 91   | 9    | 7    | 78   | 8    | 7    | 139  | 8    | 14   | 84   | 13   |
| Future Volume (veh/h)        | 11   | 91   | 9    | 7    | 78   | 8    | 7    | 139  | 8    | 14   | 84   | 13   |
| Initial Q (Qb), veh          | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    |
| Ped-Bike Adj(A_pbT)          | 1.00 |      | 1.00 | 1.00 |      | 1.00 | 1.00 |      | 1.00 | 1.00 |      | 1.00 |
| Parking Bus, Adj             | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach        |      | No   |      |      | No   |      |      | No   |      |      | No   |      |
| Adj Sat Flow, veh/h/ln       | 1885 | 1885 | 1885 | 1885 | 1885 | 1885 | 1885 | 1885 | 1885 | 1885 | 1885 | 1885 |
| Adj Flow Rate, veh/h         | 11   | 91   | 9    | 7    | 78   | 8    | 7    | 181  | 8    | 14   | 109  | 13   |
| Peak Hour Factor             | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Percent Heavy Veh, %         | 1    | 1    | 1    | 1    | 1    | 1    | 1    | 1    | 1    | 1    | 1    | 1    |
| Cap, veh/h                   | 48   | 133  | 13   | 45   | 136  | 13   | 64   | 1444 | 63   | 158  | 1207 | 140  |
| Arrive On Green              | 0.08 | 0.08 | 0.08 | 0.03 | 0.03 | 0.03 | 1.00 | 1.00 | 1.00 | 0.27 | 0.27 | 0.27 |
| Sat Flow, veh/h              | 103  | 1579 | 148  | 69   | 1615 | 158  | 32   | 1748 | 76   | 143  | 1461 | 170  |
| Grp Volume(v), veh/h         | 111  | 0    | 0    | 93   | 0    | 0    | 196  | 0    | 0    | 136  | 0    | 0    |
| Grp Sat Flow(s),veh/h/ln     | 1830 | 0    | 0    | 1843 | 0    | 0    | 1856 | 0    | 0    | 1774 | 0    | 0    |
| Q Serve(g_s), s              | 0.9  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  |
| Cycle Q Clear(g_c), s        | 5.8  | 0.0  | 0.0  | 4.9  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 5.5  | 0.0  | 0.0  |
| Prop In Lane                 | 0.10 |      | 0.08 | 0.08 |      | 0.09 | 0.04 |      | 0.04 | 0.10 |      | 0.10 |
| Lane Grp Cap(c), veh/h       | 194  | 0    | 0    | 194  | 0    | 0    | 1570 | 0    | 0    | 1504 | 0    | 0    |
| V/C Ratio(X)                 | 0.57 | 0.00 | 0.00 | 0.48 | 0.00 | 0.00 | 0.12 | 0.00 | 0.00 | 0.09 | 0.00 | 0.00 |
| Avail Cap(c_a), veh/h        | 784  | 0    | 0    | 788  | 0    | 0    | 1570 | 0    | 0    | 1504 | 0    | 0    |
| HCM Platoon Ratio            | 1.00 | 1.00 | 1.00 | 0.33 | 0.33 | 0.33 | 2.00 | 2.00 | 2.00 | 0.33 | 0.33 | 0.33 |
| Upstream Filter(I)           | 1.00 | 0.00 | 0.00 | 0.93 | 0.00 | 0.00 | 1.00 | 0.00 | 0.00 | 1.00 | 0.00 | 0.00 |
| Uniform Delay (d), s/veh     | 44.6 | 0.0  | 0.0  | 46.9 | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 8.3  | 0.0  | 0.0  |
| Incr Delay (d2), s/veh       | 2.7  | 0.0  | 0.0  | 1.7  | 0.0  | 0.0  | 0.2  | 0.0  | 0.0  | 0.1  | 0.0  | 0.0  |
| Initial Q Delay(d3),s/veh    | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  |
| %ile BackOfQ(50%),veh/ln     | 2.8  | 0.0  | 0.0  | 2.4  | 0.0  | 0.0  | 0.1  | 0.0  | 0.0  | 1.7  | 0.0  | 0.0  |
| Unsig. Movement Delay, s/veh |      |      |      |      |      |      |      |      |      |      |      |      |
| LnGrp Delay(d),s/veh         | 47.2 | 0.0  | 0.0  | 48.6 | 0.0  | 0.0  | 0.2  | 0.0  | 0.0  | 8.4  | 0.0  | 0.0  |
| LnGrp LOS                    | D    | A    | A    | D    | A    | A    | A    | A    | A    | A    | A    | A    |
| Approach Vol, veh/h          | 111  |      |      |      |      | 93   |      | 196  |      | 136  |      |      |
| Approach Delay, s/veh        | 47.2 |      |      |      |      | 48.6 |      | 0.2  |      | 8.4  |      |      |
| Approach LOS                 | D    |      |      |      |      | D    |      | A    |      | A    |      |      |
| Timer - Assigned Phs         | 2    |      | 4    |      |      | 6    |      | 8    |      |      |      |      |
| Phs Duration (G+Y+Rc), s     | 87.1 |      | 12.9 |      |      | 87.1 |      | 12.9 |      |      |      |      |
| Change Period (Y+Rc), s      | 4.5  |      | 4.5  |      |      | 4.5  |      | 4.5  |      |      |      |      |
| Max Green Setting (Gmax), s  | 49.5 |      | 41.5 |      |      | 49.5 |      | 41.5 |      |      |      |      |
| Max Q Clear Time (g_c+I1), s | 7.5  |      | 6.9  |      |      | 2.0  |      | 7.8  |      |      |      |      |
| Green Ext Time (p_c), s      | 0.8  |      | 0.5  |      |      | 1.2  |      | 0.6  |      |      |      |      |
| Intersection Summary         |      |      |      |      |      |      |      |      |      |      |      |      |
| HCM 6th Ctrl Delay           |      |      | 20.4 |      |      |      |      |      |      |      |      |      |
| HCM 6th LOS                  |      |      | C    |      |      |      |      |      |      |      |      |      |

| Intersection             |        |       |        |            |       |        |       |      |        |       |      |      |
|--------------------------|--------|-------|--------|------------|-------|--------|-------|------|--------|-------|------|------|
| Int Delay, s/veh         | 2.8    |       |        |            |       |        |       |      |        |       |      |      |
| Movement                 | EBL    | EBT   | EBR    | WBL        | WBT   | WBR    | NBL   | NBT  | NBR    | SBL   | SBT  | SBR  |
| Lane Configurations      |        | ↕     |        |            | ↕     |        |       | ↕    |        |       | ↕    |      |
| Traffic Vol, veh/h       | 20     | 24    | 5      | 6          | 43    | 9      | 7     | 197  | 8      | 15    | 122  | 8    |
| Future Vol, veh/h        | 20     | 24    | 5      | 6          | 43    | 9      | 7     | 197  | 8      | 15    | 122  | 8    |
| Conflicting Peds, #/hr   | 0      | 0     | 0      | 0          | 0     | 0      | 0     | 0    | 0      | 0     | 0    | 0    |
| Sign Control             | Stop   | Stop  | Stop   | Stop       | Stop  | Stop   | Free  | Free | Free   | Free  | Free | Free |
| RT Channelized           | -      | -     | None   | -          | -     | None   | -     | -    | None   | -     | -    | None |
| Storage Length           | -      | -     | -      | -          | -     | -      | -     | -    | -      | -     | -    | -    |
| Veh in Median Storage, # | -      | 0     | -      | -          | 0     | -      | -     | 0    | -      | -     | 0    | -    |
| Grade, %                 | -      | 0     | -      | -          | 0     | -      | -     | 0    | -      | -     | 0    | -    |
| Peak Hour Factor         | 100    | 100   | 100    | 100        | 100   | 100    | 100   | 100  | 100    | 100   | 100  | 100  |
| Heavy Vehicles, %        | 1      | 1     | 1      | 1          | 1     | 1      | 1     | 1    | 1      | 1     | 1    | 1    |
| Mvmt Flow                | 20     | 24    | 5      | 6          | 43    | 9      | 7     | 256  | 8      | 15    | 159  | 8    |
|                          |        |       |        |            |       |        |       |      |        |       |      |      |
| Major/Minor              | Minor2 |       | Minor1 |            |       | Major1 |       |      | Major2 |       |      |      |
| Conflicting Flow All     | 493    | 471   | 163    | 482        | 471   | 260    | 167   | 0    | 0      | 264   | 0    | 0    |
| Stage 1                  | 193    | 193   | -      | 274        | 274   | -      | -     | -    | -      | -     | -    | -    |
| Stage 2                  | 300    | 278   | -      | 208        | 197   | -      | -     | -    | -      | -     | -    | -    |
| Critical Hdwy            | 7.11   | 6.51  | 6.21   | 7.11       | 6.51  | 6.21   | 4.11  | -    | -      | 4.11  | -    | -    |
| Critical Hdwy Stg 1      | 6.11   | 5.51  | -      | 6.11       | 5.51  | -      | -     | -    | -      | -     | -    | -    |
| Critical Hdwy Stg 2      | 6.11   | 5.51  | -      | 6.11       | 5.51  | -      | -     | -    | -      | -     | -    | -    |
| Follow-up Hdwy           | 3.509  | 4.009 | 3.309  | 3.509      | 4.009 | 3.309  | 2.209 | -    | -      | 2.209 | -    | -    |
| Pot Cap-1 Maneuver       | 488    | 492   | 884    | 496        | 492   | 781    | 1417  | -    | -      | 1306  | -    | -    |
| Stage 1                  | 811    | 743   | -      | 734        | 685   | -      | -     | -    | -      | -     | -    | -    |
| Stage 2                  | 711    | 682   | -      | 796        | 740   | -      | -     | -    | -      | -     | -    | -    |
| Platoon blocked, %       |        |       |        |            |       |        |       | -    | -      |       | -    | -    |
| Mov Cap-1 Maneuver       | 443    | 483   | 884    | 468        | 483   | 781    | 1417  | -    | -      | 1306  | -    | -    |
| Mov Cap-2 Maneuver       | 443    | 483   | -      | 468        | 483   | -      | -     | -    | -      | -     | -    | -    |
| Stage 1                  | 806    | 733   | -      | 730        | 681   | -      | -     | -    | -      | -     | -    | -    |
| Stage 2                  | 654    | 678   | -      | 756        | 730   | -      | -     | -    | -      | -     | -    | -    |
|                          |        |       |        |            |       |        |       |      |        |       |      |      |
|                          |        |       |        |            |       |        |       |      |        |       |      |      |
| Approach                 | EB     |       | WB     |            |       | NB     |       |      | SB     |       |      |      |
| HCM Control Delay, s     | 13.2   |       | 12.9   |            |       | 0.2    |       |      | 0.6    |       |      |      |
| HCM LOS                  | B      |       | B      |            |       |        |       |      |        |       |      |      |
|                          |        |       |        |            |       |        |       |      |        |       |      |      |
| Minor Lane/Major Mvmt    | NBL    | NBT   | NBR    | EBLn1WBLn1 | SBL   | SBT    | SBR   |      |        |       |      |      |
| Capacity (veh/h)         | 1417   | -     | -      | 488        | 512   | 1306   | -     | -    |        |       |      |      |
| HCM Lane V/C Ratio       | 0.005  | -     | -      | 0.1        | 0.113 | 0.011  | -     | -    |        |       |      |      |
| HCM Control Delay (s)    | 7.6    | 0     | -      | 13.2       | 12.9  | 7.8    | 0     | -    |        |       |      |      |
| HCM Lane LOS             | A      | A     | -      | B          | B     | A      | A     | -    |        |       |      |      |
| HCM 95th %tile Q(veh)    | 0      | -     | -      | 0.3        | 0.4   | 0      | -     | -    |        |       |      |      |

| Intersection             |        |                                                                                   |        |       |                                                                                   |       |       |                                                                                   |      |       |                                                                                     |      |
|--------------------------|--------|-----------------------------------------------------------------------------------|--------|-------|-----------------------------------------------------------------------------------|-------|-------|-----------------------------------------------------------------------------------|------|-------|-------------------------------------------------------------------------------------|------|
| Int Delay, s/veh         | 3.3    |                                                                                   |        |       |                                                                                   |       |       |                                                                                   |      |       |                                                                                     |      |
| Movement                 | EBL    | EBT                                                                               | EBR    | WBL   | WBT                                                                               | WBR   | NBL   | NBT                                                                               | NBR  | SBL   | SBT                                                                                 | SBR  |
| Lane Configurations      |        |  |        |       |  |       |       |  |      |       |  |      |
| Traffic Vol, veh/h       | 13     | 34                                                                                | 3      | 4     | 48                                                                                | 6     | 5     | 131                                                                               | 5    | 10    | 82                                                                                  | 6    |
| Future Vol, veh/h        | 13     | 34                                                                                | 3      | 4     | 48                                                                                | 6     | 5     | 131                                                                               | 5    | 10    | 82                                                                                  | 6    |
| Conflicting Peds, #/hr   | 0      | 0                                                                                 | 0      | 0     | 0                                                                                 | 0     | 0     | 0                                                                                 | 0    | 0     | 0                                                                                   | 0    |
| Sign Control             | Stop   | Stop                                                                              | Stop   | Stop  | Stop                                                                              | Stop  | Free  | Free                                                                              | Free | Free  | Free                                                                                | Free |
| RT Channelized           | -      | -                                                                                 | None   | -     | -                                                                                 | None  | -     | -                                                                                 | None | -     | -                                                                                   | None |
| Storage Length           | -      | -                                                                                 | -      | -     | -                                                                                 | -     | -     | -                                                                                 | -    | -     | -                                                                                   | -    |
| Veh in Median Storage, # | -      | 0                                                                                 | -      | -     | 0                                                                                 | -     | -     | 0                                                                                 | -    | -     | 0                                                                                   | -    |
| Grade, %                 | -      | 0                                                                                 | -      | -     | 0                                                                                 | -     | -     | 0                                                                                 | -    | -     | 0                                                                                   | -    |
| Peak Hour Factor         | 100    | 100                                                                               | 100    | 100   | 100                                                                               | 100   | 100   | 100                                                                               | 100  | 100   | 100                                                                                 | 100  |
| Heavy Vehicles, %        | 1      | 1                                                                                 | 1      | 1     | 1                                                                                 | 1     | 1     | 1                                                                                 | 1    | 1     | 1                                                                                   | 1    |
| Mvmt Flow                | 13     | 34                                                                                | 3      | 4     | 48                                                                                | 6     | 5     | 170                                                                               | 5    | 10    | 107                                                                                 | 6    |
|                          |        |                                                                                   |        |       |                                                                                   |       |       |                                                                                   |      |       |                                                                                     |      |
| Major/Minor              | Minor2 |                                                                                   | Minor1 |       | Major1                                                                            |       |       | Major2                                                                            |      |       |                                                                                     |      |
| Conflicting Flow All     | 340    | 315                                                                               | 110    | 332   | 316                                                                               | 173   | 113   | 0                                                                                 | 0    | 175   | 0                                                                                   | 0    |
| Stage 1                  | 130    | 130                                                                               | -      | 183   | 183                                                                               | -     | -     | -                                                                                 | -    | -     | -                                                                                   | -    |
| Stage 2                  | 210    | 185                                                                               | -      | 149   | 133                                                                               | -     | -     | -                                                                                 | -    | -     | -                                                                                   | -    |
| Critical Hdwy            | 7.11   | 6.51                                                                              | 6.21   | 7.11  | 6.51                                                                              | 6.21  | 4.11  | -                                                                                 | -    | 4.11  | -                                                                                   | -    |
| Critical Hdwy Stg 1      | 6.11   | 5.51                                                                              | -      | 6.11  | 5.51                                                                              | -     | -     | -                                                                                 | -    | -     | -                                                                                   | -    |
| Critical Hdwy Stg 2      | 6.11   | 5.51                                                                              | -      | 6.11  | 5.51                                                                              | -     | -     | -                                                                                 | -    | -     | -                                                                                   | -    |
| Follow-up Hdwy           | 3.509  | 4.009                                                                             | 3.309  | 3.509 | 4.009                                                                             | 3.309 | 2.209 | -                                                                                 | -    | 2.209 | -                                                                                   | -    |
| Pot Cap-1 Maneuver       | 616    | 602                                                                               | 946    | 623   | 602                                                                               | 873   | 1483  | -                                                                                 | -    | 1407  | -                                                                                   | -    |
| Stage 1                  | 876    | 791                                                                               | -      | 821   | 750                                                                               | -     | -     | -                                                                                 | -    | -     | -                                                                                   | -    |
| Stage 2                  | 794    | 749                                                                               | -      | 856   | 788                                                                               | -     | -     | -                                                                                 | -    | -     | -                                                                                   | -    |
| Platoon blocked, %       |        |                                                                                   |        |       |                                                                                   |       |       | -                                                                                 | -    |       | -                                                                                   | -    |
| Mov Cap-1 Maneuver       | 569    | 595                                                                               | 946    | 589   | 595                                                                               | 873   | 1483  | -                                                                                 | -    | 1407  | -                                                                                   | -    |
| Mov Cap-2 Maneuver       | 569    | 595                                                                               | -      | 589   | 595                                                                               | -     | -     | -                                                                                 | -    | -     | -                                                                                   | -    |
| Stage 1                  | 872    | 785                                                                               | -      | 818   | 747                                                                               | -     | -     | -                                                                                 | -    | -     | -                                                                                   | -    |
| Stage 2                  | 735    | 746                                                                               | -      | 810   | 782                                                                               | -     | -     | -                                                                                 | -    | -     | -                                                                                   | -    |
|                          |        |                                                                                   |        |       |                                                                                   |       |       |                                                                                   |      |       |                                                                                     |      |
|                          |        |                                                                                   |        |       |                                                                                   |       |       |                                                                                   |      |       |                                                                                     |      |
| Approach                 | EB     |                                                                                   | WB     |       | NB                                                                                |       |       | SB                                                                                |      |       |                                                                                     |      |
| HCM Control Delay, s     | 11.5   |                                                                                   | 11.5   |       | 0.2                                                                               |       |       | 0.6                                                                               |      |       |                                                                                     |      |
| HCM LOS                  | B      |                                                                                   | B      |       |                                                                                   |       |       |                                                                                   |      |       |                                                                                     |      |
|                          |        |                                                                                   |        |       |                                                                                   |       |       |                                                                                   |      |       |                                                                                     |      |
| Minor Lane/Major Mvmt    | NBL    | NBT                                                                               | NBR    | EBLn1 | WBLn1                                                                             | SBL   | SBT   | SBR                                                                               |      |       |                                                                                     |      |
| Capacity (veh/h)         | 1483   | -                                                                                 | -      | 601   | 615                                                                               | 1407  | -     | -                                                                                 |      |       |                                                                                     |      |
| HCM Lane V/C Ratio       | 0.003  | -                                                                                 | -      | 0.083 | 0.094                                                                             | 0.007 | -     | -                                                                                 |      |       |                                                                                     |      |
| HCM Control Delay (s)    | 7.4    | 0                                                                                 | -      | 11.5  | 11.5                                                                              | 7.6   | 0     | -                                                                                 |      |       |                                                                                     |      |
| HCM Lane LOS             | A      | A                                                                                 | -      | B     | B                                                                                 | A     | A     | -                                                                                 |      |       |                                                                                     |      |
| HCM 95th %tile Q(veh)    | 0      | -                                                                                 | -      | 0.3   | 0.3                                                                               | 0     | -     | -                                                                                 |      |       |                                                                                     |      |

HCM 6th Signalized Intersection Summary  
53: 5th Street & Ute Ave

2021 Two-Way  
10/09/2021

|                                                                                                    |  |      |     |      |      |      |      |      |      |      |      |      |
|----------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------|------|-----|------|------|------|------|------|------|------|------|------|
| Movement                                                                                           | EBL                                                                                | EBT  | EBR | WBL  | WBT  | WBR  | NBL  | NBT  | NBR  | SBL  | SBT  | SBR  |
| Lane Configurations                                                                                |                                                                                    |      |     | ↰    | ↱↰   | ↱    | ↰↰   | ↱    |      |      | ↱    | ↰↰   |
| Traffic Volume (veh/h)                                                                             | 0                                                                                  | 0    | 0   | 415  | 512  | 30   | 177  | 277  | 0    | 0    | 113  | 17   |
| Future Volume (veh/h)                                                                              | 0                                                                                  | 0    | 0   | 415  | 512  | 30   | 177  | 277  | 0    | 0    | 113  | 17   |
| Initial Q (Qb), veh                                                                                |                                                                                    |      |     | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    |
| Ped-Bike Adj(A_pbT)                                                                                |                                                                                    |      |     | 1.00 |      | 1.00 | 1.00 |      | 1.00 | 1.00 |      | 1.00 |
| Parking Bus, Adj                                                                                   |                                                                                    |      |     | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach                                                                              |                                                                                    |      |     | No   |      |      | No   |      |      |      | No   |      |
| Adj Sat Flow, veh/h/ln                                                                             |                                                                                    |      |     | 1885 | 1885 | 1885 | 1885 | 1885 | 0    | 0    | 1885 | 1885 |
| Adj Flow Rate, veh/h                                                                               |                                                                                    |      |     | 309  | 660  | 30   | 177  | 360  | 0    | 0    | 147  | 17   |
| Peak Hour Factor                                                                                   |                                                                                    |      |     | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Percent Heavy Veh, %                                                                               |                                                                                    |      |     | 1    | 1    | 1    | 1    | 1    | 0    | 0    | 1    | 1    |
| Cap, veh/h                                                                                         |                                                                                    |      |     | 434  | 911  | 386  | 1214 | 1241 | 0    | 0    | 490  | 415  |
| Arrive On Green                                                                                    |                                                                                    |      |     | 0.24 | 0.24 | 0.24 | 0.70 | 1.00 | 0.00 | 0.00 | 0.52 | 0.52 |
| Sat Flow, veh/h                                                                                    |                                                                                    |      |     | 1795 | 3770 | 1598 | 3483 | 1885 | 0    | 0    | 1885 | 1598 |
| Grp Volume(v), veh/h                                                                               |                                                                                    |      |     | 309  | 660  | 30   | 177  | 360  | 0    | 0    | 147  | 17   |
| Grp Sat Flow(s),veh/h/ln                                                                           |                                                                                    |      |     | 1795 | 1885 | 1598 | 1742 | 1885 | 0    | 0    | 1885 | 1598 |
| Q Serve(g_s), s                                                                                    |                                                                                    |      |     | 15.8 | 16.1 | 1.5  | 1.7  | 0.0  | 0.0  | 0.0  | 4.4  | 0.5  |
| Cycle Q Clear(g_c), s                                                                              |                                                                                    |      |     | 15.8 | 16.1 | 1.5  | 1.7  | 0.0  | 0.0  | 0.0  | 4.4  | 0.5  |
| Prop In Lane                                                                                       |                                                                                    |      |     | 1.00 |      | 1.00 | 1.00 |      | 0.00 | 0.00 |      | 1.00 |
| Lane Grp Cap(c), veh/h                                                                             |                                                                                    |      |     | 434  | 911  | 386  | 1214 | 1241 | 0    | 0    | 490  | 415  |
| V/C Ratio(X)                                                                                       |                                                                                    |      |     | 0.71 | 0.72 | 0.08 | 0.15 | 0.29 | 0.00 | 0.00 | 0.30 | 0.04 |
| Avail Cap(c_a), veh/h                                                                              |                                                                                    |      |     | 790  | 1659 | 703  | 1214 | 1241 | 0    | 0    | 490  | 415  |
| HCM Platoon Ratio                                                                                  |                                                                                    |      |     | 1.00 | 1.00 | 1.00 | 2.00 | 2.00 | 1.00 | 1.00 | 2.00 | 2.00 |
| Upstream Filter(I)                                                                                 |                                                                                    |      |     | 1.00 | 1.00 | 1.00 | 0.97 | 0.97 | 0.00 | 0.00 | 1.00 | 1.00 |
| Uniform Delay (d), s/veh                                                                           |                                                                                    |      |     | 34.7 | 34.9 | 29.3 | 10.1 | 0.0  | 0.0  | 0.0  | 18.8 | 17.9 |
| Incr Delay (d2), s/veh                                                                             |                                                                                    |      |     | 2.2  | 1.1  | 0.1  | 0.1  | 0.6  | 0.0  | 0.0  | 1.6  | 0.2  |
| Initial Q Delay(d3),s/veh                                                                          |                                                                                    |      |     | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  |
| %ile BackOfQ(50%),veh/ln                                                                           |                                                                                    |      |     | 7.1  | 7.4  | 0.6  | 0.7  | 0.2  | 0.0  | 0.0  | 2.0  | 0.2  |
| Unsig. Movement Delay, s/veh                                                                       |                                                                                    |      |     |      |      |      |      |      |      |      |      |      |
| LnGrp Delay(d),s/veh                                                                               |                                                                                    |      |     | 36.9 | 36.0 | 29.4 | 10.2 | 0.6  | 0.0  | 0.0  | 20.4 | 18.1 |
| LnGrp LOS                                                                                          |                                                                                    |      |     | D    | D    | C    | B    | A    | A    | A    | C    | B    |
| Approach Vol, veh/h                                                                                |                                                                                    |      |     |      | 999  |      |      | 537  |      |      | 164  |      |
| Approach Delay, s/veh                                                                              |                                                                                    |      |     |      | 36.1 |      |      | 3.7  |      |      | 20.1 |      |
| Approach LOS                                                                                       |                                                                                    |      |     |      | D    |      |      | A    |      |      | C    |      |
| Timer - Assigned Phs                                                                               | 1                                                                                  | 2    |     | 4    |      | 6    |      |      |      |      |      |      |
| Phs Duration (G+Y+Rc), s                                                                           | 39.8                                                                               | 31.0 |     | 29.2 |      | 70.8 |      |      |      |      |      |      |
| Change Period (Y+Rc), s                                                                            | 5.0                                                                                | * 5  |     | 5.0  |      | 5.0  |      |      |      |      |      |      |
| Max Green Setting (Gmax), s                                                                        | 15.5                                                                               | * 26 |     | 44.0 |      | 46.0 |      |      |      |      |      |      |
| Max Q Clear Time (g_c+I1), s                                                                       | 3.7                                                                                | 6.4  |     | 18.1 |      | 2.0  |      |      |      |      |      |      |
| Green Ext Time (p_c), s                                                                            | 0.4                                                                                | 0.7  |     | 6.1  |      | 2.4  |      |      |      |      |      |      |
| <b>Intersection Summary</b>                                                                        |                                                                                    |      |     |      |      |      |      |      |      |      |      |      |
| HCM 6th Ctrl Delay                                                                                 |                                                                                    |      |     | 24.3 |      |      |      |      |      |      |      |      |
| HCM 6th LOS                                                                                        |                                                                                    |      |     | C    |      |      |      |      |      |      |      |      |
| <b>Notes</b>                                                                                       |                                                                                    |      |     |      |      |      |      |      |      |      |      |      |
| User approved volume balancing among the lanes for turning movement.                               |                                                                                    |      |     |      |      |      |      |      |      |      |      |      |
| * HCM 6th computational engine requires equal clearance times for the phases crossing the barrier. |                                                                                    |      |     |      |      |      |      |      |      |      |      |      |

HCM 6th Signalized Intersection Summary  
54: 4th Street & Ute Ave

2021 Two-Way  
10/09/2021



| Movement                     | EBL | EBT  | EBR | WBL  | WBT  | WBR  | NBL  | NBT  | NBR  | SBL  | SBT  | SBR  |
|------------------------------|-----|------|-----|------|------|------|------|------|------|------|------|------|
| Lane Configurations          |     |      |     |      | ↔    |      |      | ↔    |      |      | ↔    |      |
| Traffic Volume (veh/h)       | 0   | 0    | 0   | 21   | 652  | 20   | 1    | 15   | 0    | 0    | 76   | 11   |
| Future Volume (veh/h)        | 0   | 0    | 0   | 21   | 652  | 20   | 1    | 15   | 0    | 0    | 76   | 11   |
| Initial Q (Qb), veh          |     |      |     | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    |
| Ped-Bike Adj(A_pbT)          |     |      |     | 1.00 |      | 1.00 | 1.00 |      | 1.00 | 1.00 |      | 1.00 |
| Parking Bus, Adj             |     |      |     | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach        |     |      |     | No   |      | No   |      | No   |      | No   |      |      |
| Adj Sat Flow, veh/h/ln       |     |      |     | 1885 | 1885 | 1885 | 1885 | 1885 | 0    | 0    | 1885 | 1885 |
| Adj Flow Rate, veh/h         |     |      |     | 21   | 652  | 20   | 1    | 20   | 0    | 0    | 99   | 11   |
| Peak Hour Factor             |     |      |     | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Percent Heavy Veh, %         |     |      |     | 1    | 1    | 1    | 1    | 1    | 0    | 0    | 1    | 1    |
| Cap, veh/h                   |     |      |     | 28   | 908  | 29   | 65   | 1134 | 0    | 0    | 1037 | 115  |
| Arrive On Green              |     |      |     | 0.09 | 0.09 | 0.09 | 0.62 | 0.62 | 0.00 | 0.00 | 1.00 | 1.00 |
| Sat Flow, veh/h              |     |      |     | 108  | 3523 | 113  | 44   | 1821 | 0    | 0    | 1667 | 185  |
| Grp Volume(v), veh/h         |     |      |     | 364  | 0    | 329  | 21   | 0    | 0    | 0    | 0    | 110  |
| Grp Sat Flow(s),veh/h/ln     |     |      |     | 1880 | 0    | 1865 | 1865 | 0    | 0    | 0    | 0    | 1852 |
| Q Serve(g_s), s              |     |      |     | 18.9 | 0.0  | 17.1 | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  |
| Cycle Q Clear(g_c), s        |     |      |     | 18.9 | 0.0  | 17.1 | 0.4  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  |
| Prop In Lane                 |     |      |     | 0.06 |      | 0.06 | 0.05 |      | 0.00 | 0.00 |      | 0.10 |
| Lane Grp Cap(c), veh/h       |     |      |     | 484  | 0    | 480  | 1198 | 0    | 0    | 0    | 0    | 1152 |
| V/C Ratio(X)                 |     |      |     | 0.75 | 0.00 | 0.68 | 0.02 | 0.00 | 0.00 | 0.00 | 0.00 | 0.10 |
| Avail Cap(c_a), veh/h        |     |      |     | 1053 | 0    | 1044 | 1198 | 0    | 0    | 0    | 0    | 1152 |
| HCM Platoon Ratio            |     |      |     | 0.33 | 0.33 | 0.33 | 1.00 | 1.00 | 1.00 | 1.00 | 2.00 | 2.00 |
| Upstream Filter(I)           |     |      |     | 0.80 | 0.00 | 0.80 | 1.00 | 0.00 | 0.00 | 0.00 | 0.00 | 1.00 |
| Uniform Delay (d), s/veh     |     |      |     | 42.6 | 0.0  | 41.8 | 7.2  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  |
| Incr Delay (d2), s/veh       |     |      |     | 1.9  | 0.0  | 1.4  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.2  |
| Initial Q Delay(d3),s/veh    |     |      |     | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  |
| %ile BackOfQ(50%),veh/ln     |     |      |     | 9.8  | 0.0  | 8.7  | 0.2  | 0.0  | 0.0  | 0.0  | 0.0  | 0.1  |
| Unsig. Movement Delay, s/veh |     |      |     |      |      |      |      |      |      |      |      |      |
| LnGrp Delay(d),s/veh         |     |      |     | 44.5 | 0.0  | 43.2 | 7.2  | 0.0  | 0.0  | 0.0  | 0.0  | 0.2  |
| LnGrp LOS                    |     |      |     | D    | A    | D    | A    | A    | A    | A    | A    | A    |
| Approach Vol, veh/h          |     |      |     |      | 693  |      |      | 21   |      |      | 110  |      |
| Approach Delay, s/veh        |     |      |     |      | 43.9 |      |      | 7.2  |      |      | 0.2  |      |
| Approach LOS                 |     |      |     |      | D    |      |      | A    |      |      | A    |      |
| Timer - Assigned Phs         |     | 2    |     | 4    |      | 6    |      |      |      |      |      |      |
| Phs Duration (G+Y+Rc), s     |     | 68.2 |     | 31.8 |      | 68.2 |      |      |      |      |      |      |
| Change Period (Y+Rc), s      |     | 6.0  |     | 6.0  |      | 6.0  |      |      |      |      |      |      |
| Max Green Setting (Gmax), s  |     | 32.0 |     | 56.0 |      | 32.0 |      |      |      |      |      |      |
| Max Q Clear Time (g_c+I1), s |     | 2.0  |     | 20.9 |      | 2.4  |      |      |      |      |      |      |
| Green Ext Time (p_c), s      |     | 0.6  |     | 4.8  |      | 0.1  |      |      |      |      |      |      |
| <b>Intersection Summary</b>  |     |      |     |      |      |      |      |      |      |      |      |      |
| HCM 6th Ctrl Delay           |     |      |     |      | 37.1 |      |      |      |      |      |      |      |
| HCM 6th LOS                  |     |      |     |      | D    |      |      |      |      |      |      |      |

HCM 6th Signalized Intersection Summary  
57: 5th Street & Pitkin Ave

2021 Two-Way  
10/09/2021



| Movement                     | EBL  | EBT  | EBR  | WBL  | WBT | WBR | NBL  | NBT  | NBR  | SBL  | SBT  | SBR  |
|------------------------------|------|------|------|------|-----|-----|------|------|------|------|------|------|
| Lane Configurations          |      | ↕↕   | ↗    |      |     |     |      | ↕↕   |      | ↖    | ↕↕   |      |
| Traffic Volume (veh/h)       | 14   | 528  | 411  | 0    | 0   | 0   | 0    | 416  | 105  | 5    | 523  | 0    |
| Future Volume (veh/h)        | 14   | 528  | 411  | 0    | 0   | 0   | 0    | 416  | 105  | 5    | 523  | 0    |
| Initial Q (Qb), veh          | 0    | 0    | 0    |      |     |     | 0    | 0    | 0    | 0    | 0    | 0    |
| Ped-Bike Adj(A_pbT)          | 1.00 |      | 1.00 |      |     |     | 1.00 |      | 1.00 | 1.00 |      | 1.00 |
| Parking Bus, Adj             | 1.00 | 1.00 | 1.00 |      |     |     | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach        |      | No   |      |      |     |     |      | No   |      |      | No   |      |
| Adj Sat Flow, veh/h/ln       | 1885 | 1885 | 1885 |      |     |     | 0    | 1885 | 1885 | 1885 | 1885 | 0    |
| Adj Flow Rate, veh/h         | 14   | 626  | 346  |      |     |     | 0    | 541  | 105  | 5    | 680  | 0    |
| Peak Hour Factor             | 1.00 | 1.00 | 1.00 |      |     |     | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Percent Heavy Veh, %         | 1    | 1    | 1    |      |     |     | 0    | 1    | 1    | 1    | 1    | 0    |
| Cap, veh/h                   | 23   | 1060 | 459  |      |     |     | 0    | 1864 | 360  | 498  | 2230 | 0    |
| Arrive On Green              | 0.09 | 0.09 | 0.09 |      |     |     | 0.00 | 0.62 | 0.62 | 1.00 | 1.00 | 0.00 |
| Sat Flow, veh/h              | 79   | 3688 | 1598 |      |     |     | 0    | 3087 | 579  | 791  | 3676 | 0    |
| Grp Volume(v), veh/h         | 335  | 305  | 346  |      |     |     | 0    | 323  | 323  | 5    | 680  | 0    |
| Grp Sat Flow(s),veh/h/ln     | 1881 | 1885 | 1598 |      |     |     | 0    | 1791 | 1781 | 791  | 1791 | 0    |
| Q Serve(g_s), s              | 17.1 | 15.5 | 21.1 |      |     |     | 0.0  | 8.3  | 8.4  | 0.1  | 0.0  | 0.0  |
| Cycle Q Clear(g_c), s        | 17.1 | 15.5 | 21.1 |      |     |     | 0.0  | 8.3  | 8.4  | 8.5  | 0.0  | 0.0  |
| Prop In Lane                 | 0.04 |      | 1.00 |      |     |     | 0.00 |      | 0.32 | 1.00 |      | 0.00 |
| Lane Grp Cap(c), veh/h       | 541  | 542  | 459  |      |     |     | 0    | 1115 | 1109 | 498  | 2230 | 0    |
| V/C Ratio(X)                 | 0.62 | 0.56 | 0.75 |      |     |     | 0.00 | 0.29 | 0.29 | 0.01 | 0.30 | 0.00 |
| Avail Cap(c_a), veh/h        | 931  | 933  | 791  |      |     |     | 0    | 1115 | 1109 | 498  | 2230 | 0    |
| HCM Platoon Ratio            | 0.33 | 0.33 | 0.33 |      |     |     | 1.00 | 1.00 | 1.00 | 2.00 | 2.00 | 1.00 |
| Upstream Filter(I)           | 0.70 | 0.70 | 0.70 |      |     |     | 0.00 | 1.00 | 1.00 | 0.86 | 0.86 | 0.00 |
| Uniform Delay (d), s/veh     | 40.0 | 39.3 | 41.8 |      |     |     | 0.0  | 8.7  | 8.7  | 0.6  | 0.0  | 0.0  |
| Incr Delay (d2), s/veh       | 0.8  | 0.6  | 1.8  |      |     |     | 0.0  | 0.7  | 0.7  | 0.0  | 0.3  | 0.0  |
| Initial Q Delay(d3),s/veh    | 0.0  | 0.0  | 0.0  |      |     |     | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  |
| %ile BackOfQ(50%),veh/ln     | 8.7  | 7.9  | 9.2  |      |     |     | 0.0  | 3.2  | 3.2  | 0.0  | 0.1  | 0.0  |
| Unsig. Movement Delay, s/veh |      |      |      |      |     |     |      |      |      |      |      |      |
| LnGrp Delay(d),s/veh         | 40.8 | 39.9 | 43.6 |      |     |     | 0.0  | 9.3  | 9.4  | 0.6  | 0.3  | 0.0  |
| LnGrp LOS                    | D    | D    | D    |      |     |     | A    | A    | A    | A    | A    | A    |
| Approach Vol, veh/h          | 986  |      |      |      |     |     | 646  |      |      | 685  |      |      |
| Approach Delay, s/veh        | 41.5 |      |      |      |     |     | 9.4  |      |      | 0.3  |      |      |
| Approach LOS                 | D    |      |      |      |     |     | A    |      |      | A    |      |      |
| Timer - Assigned Phs         | 2    |      |      | 6    |     |     | 8    |      |      |      |      |      |
| Phs Duration (G+Y+Rc), s     | 66.8 |      |      | 66.8 |     |     | 33.2 |      |      |      |      |      |
| Change Period (Y+Rc), s      | 4.5  |      |      | 4.5  |     |     | 4.5  |      |      |      |      |      |
| Max Green Setting (Gmax), s  | 41.5 |      |      | 41.5 |     |     | 49.5 |      |      |      |      |      |
| Max Q Clear Time (g_c+I1), s | 10.5 |      |      | 10.4 |     |     | 23.1 |      |      |      |      |      |
| Green Ext Time (p_c), s      | 5.3  |      |      | 4.4  |     |     | 5.6  |      |      |      |      |      |
| Intersection Summary         |      |      |      |      |     |     |      |      |      |      |      |      |
| HCM 6th Ctrl Delay           |      |      | 20.4 |      |     |     |      |      |      |      |      |      |
| HCM 6th LOS                  |      |      | C    |      |     |     |      |      |      |      |      |      |
| Notes                        |      |      |      |      |     |     |      |      |      |      |      |      |



HCM 6th Signalized Intersection Summary  
58: 4th Street & Pitkin Ave

2021 Two-Way  
10/09/2021



| Movement                     | EBL  | EBT  | EBR  | WBL  | WBT | WBR | NBL  | NBT  | NBR  | SBL  | SBT  | SBR  |
|------------------------------|------|------|------|------|-----|-----|------|------|------|------|------|------|
| Lane Configurations          | ↰↰↰  |      |      |      |     |     | ↱    |      |      | ↱    |      |      |
| Traffic Volume (veh/h)       | 9    | 852  | 1    | 0    | 0   | 0   | 0    | 6    | 10   | 91   | 6    | 0    |
| Future Volume (veh/h)        | 9    | 852  | 1    | 0    | 0   | 0   | 0    | 6    | 10   | 91   | 6    | 0    |
| Initial Q (Qb), veh          | 0    | 0    | 0    |      |     |     | 0    | 0    | 0    | 0    | 0    | 0    |
| Ped-Bike Adj(A_pbT)          | 1.00 |      | 1.00 |      |     |     | 1.00 |      | 1.00 | 1.00 |      | 1.00 |
| Parking Bus, Adj             | 1.00 | 1.00 | 1.00 |      |     |     | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach        | No   |      |      |      |     |     | No   |      |      | No   |      |      |
| Adj Sat Flow, veh/h/ln       | 1885 | 1885 | 1885 |      |     |     | 0    | 1885 | 1885 | 1885 | 1885 | 0    |
| Adj Flow Rate, veh/h         | 9    | 852  | 1    |      |     |     | 0    | 8    | 10   | 91   | 8    | 0    |
| Peak Hour Factor             | 1.00 | 1.00 | 1.00 |      |     |     | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Percent Heavy Veh, %         | 1    | 1    | 1    |      |     |     | 0    | 1    | 1    | 1    | 1    | 0    |
| Cap, veh/h                   | 13   | 1270 | 2    |      |     |     | 0    | 507  | 634  | 943  | 80   | 0    |
| Arrive On Green              | 0.23 | 0.23 | 0.23 |      |     |     | 0.00 | 0.67 | 0.67 | 0.67 | 0.67 | 0.00 |
| Sat Flow, veh/h              | 54   | 5422 | 7    |      |     |     | 0    | 762  | 952  | 1312 | 120  | 0    |
| Grp Volume(v), veh/h         | 315  | 261  | 287  |      |     |     | 0    | 0    | 18   | 99   | 0    | 0    |
| Grp Sat Flow(s),veh/h/ln     | 1882 | 1716 | 1884 |      |     |     | 0    | 0    | 1714 | 1433 | 0    | 0    |
| Q Serve(g_s), s              | 15.4 | 13.7 | 13.7 |      |     |     | 0.0  | 0.0  | 0.4  | 2.3  | 0.0  | 0.0  |
| Cycle Q Clear(g_c), s        | 15.4 | 13.7 | 13.7 |      |     |     | 0.0  | 0.0  | 0.4  | 2.6  | 0.0  | 0.0  |
| Prop In Lane                 | 0.03 |      | 0.00 |      |     |     | 0.00 |      | 0.56 | 0.92 |      | 0.00 |
| Lane Grp Cap(c), veh/h       | 441  | 402  | 441  |      |     |     | 0    | 0    | 1141 | 1023 | 0    | 0    |
| V/C Ratio(X)                 | 0.71 | 0.65 | 0.65 |      |     |     | 0.00 | 0.00 | 0.02 | 0.10 | 0.00 | 0.00 |
| Avail Cap(c_a), veh/h        | 998  | 909  | 999  |      |     |     | 0    | 0    | 1141 | 1023 | 0    | 0    |
| HCM Platoon Ratio            | 1.00 | 1.00 | 1.00 |      |     |     | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I)           | 1.00 | 1.00 | 1.00 |      |     |     | 0.00 | 0.00 | 1.00 | 1.00 | 0.00 | 0.00 |
| Uniform Delay (d), s/veh     | 35.2 | 34.6 | 34.6 |      |     |     | 0.0  | 0.0  | 5.6  | 6.0  | 0.0  | 0.0  |
| Incr Delay (d2), s/veh       | 2.2  | 1.8  | 1.6  |      |     |     | 0.0  | 0.0  | 0.0  | 0.2  | 0.0  | 0.0  |
| Initial Q Delay(d3),s/veh    | 0.0  | 0.0  | 0.0  |      |     |     | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  |
| %ile BackOfQ(50%),veh/ln     | 7.2  | 5.8  | 6.4  |      |     |     | 0.0  | 0.0  | 0.1  | 0.7  | 0.0  | 0.0  |
| Unsig. Movement Delay, s/veh |      |      |      |      |     |     |      |      |      |      |      |      |
| LnGrp Delay(d),s/veh         | 37.4 | 36.4 | 36.2 |      |     |     | 0.0  | 0.0  | 5.7  | 6.2  | 0.0  | 0.0  |
| LnGrp LOS                    | D    | D    | D    |      |     |     | A    | A    | A    | A    | A    | A    |
| Approach Vol, veh/h          | 862  |      |      |      |     |     | 18   |      |      | 99   |      |      |
| Approach Delay, s/veh        | 36.7 |      |      |      |     |     | 5.7  |      |      | 6.2  |      |      |
| Approach LOS                 | D    |      |      |      |     |     | A    |      |      | A    |      |      |
| Timer - Assigned Phs         | 2    |      |      | 6    |     |     | 8    |      |      |      |      |      |
| Phs Duration (G+Y+Rc), s     | 71.6 |      |      | 71.6 |     |     | 28.4 |      |      |      |      |      |
| Change Period (Y+Rc), s      | 5.0  |      |      | 5.0  |     |     | 5.0  |      |      |      |      |      |
| Max Green Setting (Gmax), s  | 37.0 |      |      | 37.0 |     |     | 53.0 |      |      |      |      |      |
| Max Q Clear Time (g_c+I1), s | 4.6  |      |      | 2.4  |     |     | 17.4 |      |      |      |      |      |
| Green Ext Time (p_c), s      | 0.5  |      |      | 0.1  |     |     | 6.0  |      |      |      |      |      |
| Intersection Summary         |      |      |      |      |     |     |      |      |      |      |      |      |
| HCM 6th Ctrl Delay           |      |      | 33.0 |      |     |     |      |      |      |      |      |      |
| HCM 6th LOS                  |      |      | C    |      |     |     |      |      |      |      |      |      |

# HCM 6th Signalized Intersection Summary

## 5: 5th Street & North Ave

Forecast Year 2045  
(Existing Volumes x 1.5)

|                              |  |  |  |  |  |  |   |  |  |  |  |  |
|------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|
| Movement                     | EBL                                                                               | EBT                                                                               | EBR                                                                               | WBL                                                                               | WBT                                                                               | WBR                                                                               | NBL                                                                                 | NBT                                                                                 | NBR                                                                                 | SBL                                                                                 | SBT                                                                                 | SBR                                                                                 |
| Lane Configurations          |  |  |                                                                                   |  |  |                                                                                   |  |  |  |  |  |  |
| Traffic Volume (veh/h)       | 20                                                                                | 895                                                                               | 7                                                                                 | 22                                                                                | 993                                                                               | 26                                                                                | 54                                                                                  | 71                                                                                  | 217                                                                                 | 39                                                                                  | 48                                                                                  | 29                                                                                  |
| Future Volume (veh/h)        | 20                                                                                | 895                                                                               | 7                                                                                 | 22                                                                                | 993                                                                               | 26                                                                                | 54                                                                                  | 71                                                                                  | 217                                                                                 | 39                                                                                  | 48                                                                                  | 29                                                                                  |
| Initial Q (Qb), veh          | 0                                                                                 | 0                                                                                 | 0                                                                                 | 0                                                                                 | 0                                                                                 | 0                                                                                 | 0                                                                                   | 0                                                                                   | 0                                                                                   | 0                                                                                   | 0                                                                                   | 0                                                                                   |
| Ped-Bike Adj(A_pbT)          | 1.00                                                                              |                                                                                   | 1.00                                                                              | 1.00                                                                              |                                                                                   | 1.00                                                                              | 1.00                                                                                |                                                                                     | 1.00                                                                                | 1.00                                                                                |                                                                                     | 1.00                                                                                |
| Parking Bus, Adj             | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                                | 1.00                                                                                | 1.00                                                                                | 1.00                                                                                | 1.00                                                                                | 1.00                                                                                |
| Work Zone On Approach        | No                                                                                |                                                                                   |                                                                                   | No                                                                                |                                                                                   |                                                                                   | No                                                                                  |                                                                                     |                                                                                     | No                                                                                  |                                                                                     |                                                                                     |
| Adj Sat Flow, veh/h/ln       | 1885                                                                              | 1885                                                                              | 1885                                                                              | 1885                                                                              | 1885                                                                              | 1885                                                                              | 1885                                                                                | 1885                                                                                | 1885                                                                                | 1885                                                                                | 1885                                                                                | 1885                                                                                |
| Adj Flow Rate, veh/h         | 30                                                                                | 1342                                                                              | 10                                                                                | 33                                                                                | 1490                                                                              | 39                                                                                | 81                                                                                  | 106                                                                                 | 326                                                                                 | 58                                                                                  | 72                                                                                  | 44                                                                                  |
| Peak Hour Factor             | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                                | 1.00                                                                                | 1.00                                                                                | 1.00                                                                                | 1.00                                                                                | 1.00                                                                                |
| Percent Heavy Veh, %         | 1                                                                                 | 1                                                                                 | 1                                                                                 | 1                                                                                 | 1                                                                                 | 1                                                                                 | 1                                                                                   | 1                                                                                   | 1                                                                                   | 1                                                                                   | 1                                                                                   | 1                                                                                   |
| Cap, veh/h                   | 187                                                                               | 1883                                                                              | 14                                                                                | 226                                                                               | 1849                                                                              | 48                                                                                | 399                                                                                 | 418                                                                                 | 354                                                                                 | 319                                                                                 | 403                                                                                 | 341                                                                                 |
| Arrive On Green              | 0.03                                                                              | 0.52                                                                              | 0.52                                                                              | 0.03                                                                              | 0.52                                                                              | 0.52                                                                              | 0.05                                                                                | 0.22                                                                                | 0.22                                                                                | 0.04                                                                                | 0.21                                                                                | 0.21                                                                                |
| Sat Flow, veh/h              | 1795                                                                              | 3644                                                                              | 27                                                                                | 1795                                                                              | 3566                                                                              | 93                                                                                | 1795                                                                                | 1885                                                                                | 1598                                                                                | 1795                                                                                | 1885                                                                                | 1598                                                                                |
| Grp Volume(v), veh/h         | 30                                                                                | 659                                                                               | 693                                                                               | 33                                                                                | 747                                                                               | 782                                                                               | 81                                                                                  | 106                                                                                 | 326                                                                                 | 58                                                                                  | 72                                                                                  | 44                                                                                  |
| Grp Sat Flow(s),veh/h/ln     | 1795                                                                              | 1791                                                                              | 1880                                                                              | 1795                                                                              | 1791                                                                              | 1868                                                                              | 1795                                                                                | 1885                                                                                | 1598                                                                                | 1795                                                                                | 1885                                                                                | 1598                                                                                |
| Q Serve(g_s), s              | 0.7                                                                               | 26.7                                                                              | 26.7                                                                              | 0.8                                                                               | 32.7                                                                              | 32.9                                                                              | 3.3                                                                                 | 4.4                                                                                 | 18.9                                                                                | 2.4                                                                                 | 3.0                                                                                 | 2.1                                                                                 |
| Cycle Q Clear(g_c), s        | 0.7                                                                               | 26.7                                                                              | 26.7                                                                              | 0.8                                                                               | 32.7                                                                              | 32.9                                                                              | 3.3                                                                                 | 4.4                                                                                 | 18.9                                                                                | 2.4                                                                                 | 3.0                                                                                 | 2.1                                                                                 |
| Prop In Lane                 | 1.00                                                                              |                                                                                   | 0.01                                                                              | 1.00                                                                              |                                                                                   | 0.05                                                                              | 1.00                                                                                |                                                                                     | 1.00                                                                                | 1.00                                                                                |                                                                                     | 1.00                                                                                |
| Lane Grp Cap(c), veh/h       | 187                                                                               | 925                                                                               | 971                                                                               | 226                                                                               | 929                                                                               | 969                                                                               | 399                                                                                 | 418                                                                                 | 354                                                                                 | 319                                                                                 | 403                                                                                 | 341                                                                                 |
| V/C Ratio(X)                 | 0.16                                                                              | 0.71                                                                              | 0.71                                                                              | 0.15                                                                              | 0.80                                                                              | 0.81                                                                              | 0.20                                                                                | 0.25                                                                                | 0.92                                                                                | 0.18                                                                                | 0.18                                                                                | 0.13                                                                                |
| Avail Cap(c_a), veh/h        | 248                                                                               | 925                                                                               | 971                                                                               | 285                                                                               | 929                                                                               | 969                                                                               | 424                                                                                 | 425                                                                                 | 360                                                                                 | 351                                                                                 | 417                                                                                 | 354                                                                                 |
| HCM Platoon Ratio            | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                                | 1.00                                                                                | 1.00                                                                                | 1.00                                                                                | 1.00                                                                                | 1.00                                                                                |
| Upstream Filter(I)           | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                                | 1.00                                                                                | 1.00                                                                                | 1.00                                                                                | 1.00                                                                                | 1.00                                                                                |
| Uniform Delay (d), s/veh     | 16.1                                                                              | 17.5                                                                              | 17.5                                                                              | 14.0                                                                              | 18.9                                                                              | 18.9                                                                              | 27.0                                                                                | 30.4                                                                                | 36.1                                                                                | 27.3                                                                                | 30.5                                                                                | 30.2                                                                                |
| Incr Delay (d2), s/veh       | 0.4                                                                               | 4.7                                                                               | 4.4                                                                               | 0.3                                                                               | 7.4                                                                               | 7.2                                                                               | 0.2                                                                                 | 0.3                                                                                 | 28.0                                                                                | 0.3                                                                                 | 0.2                                                                                 | 0.2                                                                                 |
| Initial Q Delay(d3),s/veh    | 0.0                                                                               | 0.0                                                                               | 0.0                                                                               | 0.0                                                                               | 0.0                                                                               | 0.0                                                                               | 0.0                                                                                 | 0.0                                                                                 | 0.0                                                                                 | 0.0                                                                                 | 0.0                                                                                 | 0.0                                                                                 |
| %ile BackOfQ(50%),veh/ln     | 0.3                                                                               | 11.5                                                                              | 12.0                                                                              | 0.3                                                                               | 14.5                                                                              | 15.1                                                                              | 1.4                                                                                 | 2.0                                                                                 | 10.0                                                                                | 1.0                                                                                 | 1.4                                                                                 | 0.8                                                                                 |
| Unsig. Movement Delay, s/veh |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| LnGrp Delay(d),s/veh         | 16.5                                                                              | 22.2                                                                              | 22.0                                                                              | 14.3                                                                              | 26.2                                                                              | 26.1                                                                              | 27.3                                                                                | 30.8                                                                                | 64.1                                                                                | 27.6                                                                                | 30.7                                                                                | 30.3                                                                                |
| LnGrp LOS                    | B                                                                                 | C                                                                                 | C                                                                                 | B                                                                                 | C                                                                                 | C                                                                                 | C                                                                                   | C                                                                                   | E                                                                                   | C                                                                                   | C                                                                                   | C                                                                                   |
| Approach Vol, veh/h          | 1382                                                                              |                                                                                   | 1562                                                                              |                                                                                   |                                                                                   |                                                                                   | 513                                                                                 |                                                                                     | 174                                                                                 |                                                                                     |                                                                                     |                                                                                     |
| Approach Delay, s/veh        | 22.0                                                                              |                                                                                   | 25.9                                                                              |                                                                                   |                                                                                   |                                                                                   | 51.4                                                                                |                                                                                     | 29.6                                                                                |                                                                                     |                                                                                     |                                                                                     |
| Approach LOS                 | C                                                                                 |                                                                                   | C                                                                                 |                                                                                   |                                                                                   |                                                                                   | D                                                                                   |                                                                                     | C                                                                                   |                                                                                     |                                                                                     |                                                                                     |
| Timer - Assigned Phs         | 1                                                                                 | 2                                                                                 | 3                                                                                 | 4                                                                                 | 5                                                                                 | 6                                                                                 | 7                                                                                   | 8                                                                                   |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Phs Duration (G+Y+Rc), s     | 8.7                                                                               | 25.3                                                                              | 6.7                                                                               | 54.2                                                                              | 7.9                                                                               | 26.0                                                                              | 6.9                                                                                 | 54.0                                                                                |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Change Period (Y+Rc), s      | 4.0                                                                               | 5.0                                                                               | 4.0                                                                               | 5.0                                                                               | 4.0                                                                               | 5.0                                                                               | 4.0                                                                                 | 5.0                                                                                 |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Max Green Setting (Gmax), s  | 6.0                                                                               | 21.0                                                                              | 6.0                                                                               | 49.0                                                                              | 5.6                                                                               | 21.4                                                                              | 6.0                                                                                 | 49.0                                                                                |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Max Q Clear Time (g_c+I1), s | 5.3                                                                               | 5.0                                                                               | 2.7                                                                               | 34.9                                                                              | 4.4                                                                               | 20.9                                                                              | 2.8                                                                                 | 28.7                                                                                |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Green Ext Time (p_c), s      | 0.0                                                                               | 0.4                                                                               | 0.0                                                                               | 9.0                                                                               | 0.0                                                                               | 0.1                                                                               | 0.0                                                                                 | 9.8                                                                                 |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Intersection Summary         |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| HCM 6th Ctrl Delay           | 28.2                                                                              |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| HCM 6th LOS                  | C                                                                                 |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |

| Intersection               |                                                                                   |                                                                                   |      |                                                                                   |                                                                                   |                            |          |                                                                                   |      |                                |                                                                                     |      |
|----------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|----------------------------|----------|-----------------------------------------------------------------------------------|------|--------------------------------|-------------------------------------------------------------------------------------|------|
| Int Delay, s/veh           | 9.3                                                                               |                                                                                   |      |                                                                                   |                                                                                   |                            |          |                                                                                   |      |                                |                                                                                     |      |
| Movement                   | EBL                                                                               | EBT                                                                               | EBR  | WBL                                                                               | WBT                                                                               | WBR                        | NBL      | NBT                                                                               | NBR  | SBL                            | SBT                                                                                 | SBR  |
| Lane Configurations        |  |  |      |  |  |                            |          |  |      |                                |  |      |
| Traffic Vol, veh/h         | 15                                                                                | 898                                                                               | 63   | 99                                                                                | 937                                                                               | 14                         | 2        | 1                                                                                 | 10   | 5                              | 3                                                                                   | 15   |
| Future Vol, veh/h          | 15                                                                                | 898                                                                               | 63   | 99                                                                                | 937                                                                               | 14                         | 2        | 1                                                                                 | 10   | 5                              | 3                                                                                   | 15   |
| Conflicting Peds, #/hr     | 0                                                                                 | 0                                                                                 | 0    | 0                                                                                 | 0                                                                                 | 0                          | 0        | 0                                                                                 | 0    | 0                              | 0                                                                                   | 0    |
| Sign Control               | Free                                                                              | Free                                                                              | Free | Free                                                                              | Free                                                                              | Free                       | Stop     | Stop                                                                              | Stop | Stop                           | Stop                                                                                | Stop |
| RT Channelized             | -                                                                                 | -                                                                                 | None | -                                                                                 | -                                                                                 | None                       | -        | -                                                                                 | None | -                              | -                                                                                   | None |
| Storage Length             | 100                                                                               | -                                                                                 | -    | 100                                                                               | -                                                                                 | -                          | -        | -                                                                                 | -    | -                              | -                                                                                   | -    |
| Veh in Median Storage, #   | -                                                                                 | 0                                                                                 | -    | -                                                                                 | 0                                                                                 | -                          | -        | 0                                                                                 | -    | -                              | 0                                                                                   | -    |
| Grade, %                   | -                                                                                 | 0                                                                                 | -    | -                                                                                 | 0                                                                                 | -                          | -        | 0                                                                                 | -    | -                              | 0                                                                                   | -    |
| Peak Hour Factor           | 100                                                                               | 100                                                                               | 100  | 100                                                                               | 100                                                                               | 100                        | 100      | 100                                                                               | 100  | 100                            | 100                                                                                 | 100  |
| Heavy Vehicles, %          | 1                                                                                 | 1                                                                                 | 1    | 1                                                                                 | 1                                                                                 | 1                          | 1        | 1                                                                                 | 1    | 1                              | 1                                                                                   | 1    |
| Mvmt Flow                  | 23                                                                                | 1347                                                                              | 95   | 149                                                                               | 1406                                                                              | 21                         | 3        | 2                                                                                 | 15   | 8                              | 5                                                                                   | 23   |
|                            |                                                                                   |                                                                                   |      |                                                                                   |                                                                                   |                            |          |                                                                                   |      |                                |                                                                                     |      |
| Major/Minor                | Major1                                                                            |                                                                                   |      | Major2                                                                            |                                                                                   |                            | Minor1   |                                                                                   |      | Minor2                         |                                                                                     |      |
| Conflicting Flow All       | 1427                                                                              | 0                                                                                 | 0    | 1442                                                                              | 0                                                                                 | 0                          | 2445     | 3166                                                                              | 721  | 2436                           | 3203                                                                                | 714  |
| Stage 1                    | -                                                                                 | -                                                                                 | -    | -                                                                                 | -                                                                                 | -                          | 1441     | 1441                                                                              | -    | 1715                           | 1715                                                                                | -    |
| Stage 2                    | -                                                                                 | -                                                                                 | -    | -                                                                                 | -                                                                                 | -                          | 1004     | 1725                                                                              | -    | 721                            | 1488                                                                                | -    |
| Critical Hdwy              | 4.12                                                                              | -                                                                                 | -    | 4.12                                                                              | -                                                                                 | -                          | 7.52     | 6.52                                                                              | 6.92 | 7.52                           | 6.52                                                                                | 6.92 |
| Critical Hdwy Stg 1        | -                                                                                 | -                                                                                 | -    | -                                                                                 | -                                                                                 | -                          | 6.52     | 5.52                                                                              | -    | 6.52                           | 5.52                                                                                | -    |
| Critical Hdwy Stg 2        | -                                                                                 | -                                                                                 | -    | -                                                                                 | -                                                                                 | -                          | 6.52     | 5.52                                                                              | -    | 6.52                           | 5.52                                                                                | -    |
| Follow-up Hdwy             | 2.21                                                                              | -                                                                                 | -    | 2.21                                                                              | -                                                                                 | -                          | 3.51     | 4.01                                                                              | 3.31 | 3.51                           | 4.01                                                                                | 3.31 |
| Pot Cap-1 Maneuver         | 478                                                                               | -                                                                                 | -    | 471                                                                               | -                                                                                 | -                          | 16       | 11                                                                                | 372  | 17                             | 10                                                                                  | 376  |
| Stage 1                    | -                                                                                 | -                                                                                 | -    | -                                                                                 | -                                                                                 | -                          | 140      | 198                                                                               | -    | 95                             | 145                                                                                 | -    |
| Stage 2                    | -                                                                                 | -                                                                                 | -    | -                                                                                 | -                                                                                 | -                          | 261      | 143                                                                               | -    | 387                            | 188                                                                                 | -    |
| Platoon blocked, %         |                                                                                   | -                                                                                 | -    |                                                                                   | -                                                                                 | -                          |          |                                                                                   |      |                                |                                                                                     |      |
| Mov Cap-1 Maneuver         | 478                                                                               | -                                                                                 | -    | 471                                                                               | -                                                                                 | -                          | 6        | 7                                                                                 | 372  | 10                             | 7                                                                                   | 376  |
| Mov Cap-2 Maneuver         | -                                                                                 | -                                                                                 | -    | -                                                                                 | -                                                                                 | -                          | 6        | 7                                                                                 | -    | 10                             | 7                                                                                   | -    |
| Stage 1                    | -                                                                                 | -                                                                                 | -    | -                                                                                 | -                                                                                 | -                          | 133      | 188                                                                               | -    | 90                             | 99                                                                                  | -    |
| Stage 2                    | -                                                                                 | -                                                                                 | -    | -                                                                                 | -                                                                                 | -                          | 160      | 98                                                                                | -    | 351                            | 179                                                                                 | -    |
|                            |                                                                                   |                                                                                   |      |                                                                                   |                                                                                   |                            |          |                                                                                   |      |                                |                                                                                     |      |
|                            |                                                                                   |                                                                                   |      |                                                                                   |                                                                                   |                            |          |                                                                                   |      |                                |                                                                                     |      |
| Approach                   | EB                                                                                |                                                                                   |      | WB                                                                                |                                                                                   |                            | NB       |                                                                                   |      | SB                             |                                                                                     |      |
| HCM Control Delay, s       | 0.2                                                                               |                                                                                   |      | 1.5                                                                               |                                                                                   |                            | \$ 310.6 |                                                                                   |      | \$ 580.1                       |                                                                                     |      |
| HCM LOS                    |                                                                                   |                                                                                   |      |                                                                                   |                                                                                   |                            | F        |                                                                                   |      | F                              |                                                                                     |      |
|                            |                                                                                   |                                                                                   |      |                                                                                   |                                                                                   |                            |          |                                                                                   |      |                                |                                                                                     |      |
| Minor Lane/Major Mvmt      | NBLn1                                                                             | EBL                                                                               | EBT  | EBR                                                                               | WBL                                                                               | WBT                        | WBR      | SBLn1                                                                             |      |                                |                                                                                     |      |
| Capacity (veh/h)           | 26                                                                                | 478                                                                               | -    | -                                                                                 | 471                                                                               | -                          | -        | 24                                                                                |      |                                |                                                                                     |      |
| HCM Lane V/C Ratio         | 0.75                                                                              | 0.047                                                                             | -    | -                                                                                 | 0.315                                                                             | -                          | -        | 1.438                                                                             |      |                                |                                                                                     |      |
| HCM Control Delay (s)      | \$ 310.6                                                                          | 12.9                                                                              | -    | -                                                                                 | 16.1                                                                              | -                          | -        | \$ 580.1                                                                          |      |                                |                                                                                     |      |
| HCM Lane LOS               | F                                                                                 | B                                                                                 | -    | -                                                                                 | C                                                                                 | -                          | -        | F                                                                                 |      |                                |                                                                                     |      |
| HCM 95th %tile Q(veh)      | 2.3                                                                               | 0.1                                                                               | -    | -                                                                                 | 1.3                                                                               | -                          | -        | 4.3                                                                               |      |                                |                                                                                     |      |
| Notes                      |                                                                                   |                                                                                   |      |                                                                                   |                                                                                   |                            |          |                                                                                   |      |                                |                                                                                     |      |
| ~: Volume exceeds capacity |                                                                                   | \$: Delay exceeds 300s                                                            |      |                                                                                   |                                                                                   | +: Computation Not Defined |          |                                                                                   |      | *: All major volume in platoon |                                                                                     |      |

| Intersection             |      |      |      |      |      |      |      |      |      |      |       |      |
|--------------------------|------|------|------|------|------|------|------|------|------|------|-------|------|
| Int Delay, s/veh         | 0.5  |      |      |      |      |      |      |      |      |      |       |      |
| Movement                 | EBL  | EBT  | EBR  | WBL  | WBT  | WBR  | NBL  | NBT  | NBR  | SBL  | SBT   | SBR  |
| Lane Configurations      |      |      |      |      |      |      |      |      |      |      |       |      |
| Traffic Vol, veh/h       | 0    | 0    | 0    | 0    | 3    | 15   | 10   | 329  | 2    | 0    | 0     | 75   |
| Future Vol, veh/h        | 0    | 0    | 0    | 0    | 3    | 15   | 10   | 329  | 2    | 0    | 0     | 75   |
| Conflicting Peds, #/hr   | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0     | 0    |
| Sign Control             | Stop | Stop | Stop | Stop | Stop | Stop | Free | Free | Free | Free | Free  | Free |
| RT Channelized           | -    | -    | None | -    | -    | None | -    | -    | None | -    | -     | Free |
| Storage Length           | -    | -    | -    | -    | -    | -    | -    | -    | -    | -    | -     | 0    |
| Veh in Median Storage, # | -    | 2    | -    | -    | 0    | -    | -    | 0    | -    | -    | 16965 | -    |
| Grade, %                 | -    | 0    | -    | -    | 0    | -    | -    | 0    | -    | -    | 0     | -    |
| Peak Hour Factor         | 100  | 100  | 100  | 100  | 100  | 100  | 100  | 100  | 100  | 100  | 100   | 100  |
| Heavy Vehicles, %        | 1    | 1    | 1    | 1    | 1    | 1    | 1    | 1    | 1    | 1    | 1     | 1    |
| Mvmt Flow                | 0    | 0    | 0    | 0    | 5    | 23   | 15   | 494  | 3    | 0    | 0     | 113  |

| Major/Minor          | Minor1 |      | Major1 |      |
|----------------------|--------|------|--------|------|
| Conflicting Flow All | -      | 526  | 249    | 0    |
| Stage 1              | -      | 526  | -      | -    |
| Stage 2              | -      | 0    | -      | -    |
| Critical Hdwy        | -      | 6.52 | 6.92   | 4.12 |
| Critical Hdwy Stg 1  | -      | 5.52 | -      | -    |
| Critical Hdwy Stg 2  | -      | -    | -      | -    |
| Follow-up Hdwy       | -      | 4.01 | 3.31   | 2.21 |
| Pot Cap-1 Maneuver   | 0      | 458  | 754    | -    |
| Stage 1              | 0      | 530  | -      | -    |
| Stage 2              | 0      | -    | -      | -    |
| Platoon blocked, %   |        |      |        | -    |
| Mov Cap-1 Maneuver   | -      | 0    | 754    | -    |
| Mov Cap-2 Maneuver   | -      | 0    | -      | -    |
| Stage 1              | -      | 0    | -      | -    |
| Stage 2              | -      | 0    | -      | -    |

| Approach             | WB | NB |
|----------------------|----|----|
| HCM Control Delay, s | 10 |    |
| HCM LOS              | B  |    |

| Minor Lane/Major Mvmt | NBL | NBT | NBRWBLn1 |
|-----------------------|-----|-----|----------|
| Capacity (veh/h)      | -   | -   | 754      |
| HCM Lane V/C Ratio    | -   | -   | 0.036    |
| HCM Control Delay (s) | -   | -   | 10       |
| HCM Lane LOS          | -   | -   | B        |
| HCM 95th %tile Q(veh) | -   | -   | 0.1      |

| Intersection             |      |      |      |      |      |      |      |       |      |      |      |      |
|--------------------------|------|------|------|------|------|------|------|-------|------|------|------|------|
| Int Delay, s/veh         | 0.5  |      |      |      |      |      |      |       |      |      |      |      |
| Movement                 | EBL  | EBT  | EBR  | WBL  | WBT  | WBR  | NBL  | NBT   | NBR  | SBL  | SBT  | SBR  |
| Lane Configurations      |      |      |      |      |      |      |      |       |      |      |      |      |
| Traffic Vol, veh/h       | 0    | 0    | 13   | 69   | 10   | 3    | 0    | 0     | 0    | 0    | 151  | 7    |
| Future Vol, veh/h        | 0    | 0    | 13   | 69   | 10   | 3    | 0    | 0     | 0    | 0    | 151  | 7    |
| Conflicting Peds, #/hr   | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0     | 0    | 0    | 0    | 0    |
| Sign Control             | Stop | Stop | Stop | Stop | Stop | Stop | Free | Free  | Free | Free | Free | Free |
| RT Channelized           | -    | -    | None | -    | -    | Free | -    | -     | None | -    | -    | None |
| Storage Length           | -    | -    | 0    | 0    | -    | -    | -    | -     | -    | -    | -    | -    |
| Veh in Median Storage, # | -    | 0    | -    | -    | 0    | -    | -    | 16974 | -    | -    | 0    | -    |
| Grade, %                 | -    | 0    | -    | -    | 0    | -    | -    | 0     | -    | -    | 0    | -    |
| Peak Hour Factor         | 100  | 100  | 100  | 100  | 100  | 100  | 100  | 100   | 100  | 100  | 100  | 100  |
| Heavy Vehicles, %        | 1    | 1    | 1    | 1    | 1    | 1    | 1    | 1     | 1    | 1    | 1    | 1    |
| Mvmt Flow                | 0    | 0    | 20   | 104  | 15   | 5    | 0    | 0     | 0    | 0    | 227  | 11   |

| Major/Minor          | Minor2 |   | Minor1 |       |       | Major2 |   |   |
|----------------------|--------|---|--------|-------|-------|--------|---|---|
| Conflicting Flow All | -      | - | 233    | 243   | 238   | -      | - | 0 |
| Stage 1              | -      | - | -      | 0     | 0     | -      | - | - |
| Stage 2              | -      | - | -      | 243   | 238   | -      | - | - |
| Critical Hdwy        | -      | - | 6.21   | 7.11  | 6.51  | -      | - | - |
| Critical Hdwy Stg 1  | -      | - | -      | -     | -     | -      | - | - |
| Critical Hdwy Stg 2  | -      | - | -      | 6.11  | 5.51  | -      | - | - |
| Follow-up Hdwy       | -      | - | 3.309  | 3.509 | 4.009 | -      | - | - |
| Pot Cap-1 Maneuver   | 0      | 0 | 809    | 713   | 665   | 0      | 0 | - |
| Stage 1              | 0      | 0 | -      | -     | 0     | 0      | - | - |
| Stage 2              | 0      | 0 | -      | 763   | 710   | 0      | 0 | - |
| Platoon blocked, %   |        |   |        |       |       |        | - | - |
| Mov Cap-1 Maneuver   | -      | - | 809    | 696   | 665   | -      | - | - |
| Mov Cap-2 Maneuver   | -      | - | -      | 696   | 665   | -      | - | - |
| Stage 1              | -      | - | -      | -     | -     | -      | - | - |
| Stage 2              | -      | - | -      | 745   | 710   | -      | - | - |

| Approach             | EB  | WB | SB |
|----------------------|-----|----|----|
| HCM Control Delay, s | 9.6 |    | 0  |
| HCM LOS              | A   | -  |    |

| Minor Lane/Major Mvmt | EBLn1WBLn1WBLn2 | SBT | SBR |
|-----------------------|-----------------|-----|-----|
| Capacity (veh/h)      | 809 696         | -   | -   |
| HCM Lane V/C Ratio    | 0.024 0.149     | -   | -   |
| HCM Control Delay (s) | 9.6 11.1        | -   | -   |
| HCM Lane LOS          | A B             | -   | -   |
| HCM 95th %tile Q(veh) | 0.1 0.5         | -   | -   |

| Intersection             |      |      |      |      |      |      |      |      |      |      |       |      |
|--------------------------|------|------|------|------|------|------|------|------|------|------|-------|------|
| Int Delay, s/veh         | 1.2  |      |      |      |      |      |      |      |      |      |       |      |
| Movement                 | EBL  | EBT  | EBR  | WBL  | WBT  | WBR  | NBL  | NBT  | NBR  | SBL  | SBT   | SBR  |
| Lane Configurations      |      | ↰    |      |      | ↱    |      |      | ↰↱   |      |      |       |      |
| Traffic Vol, veh/h       | 10   | 10   | 0    | 0    | 10   | 10   | 10   | 340  | 10   | 0    | 0     | 0    |
| Future Vol, veh/h        | 10   | 10   | 0    | 0    | 10   | 10   | 10   | 340  | 10   | 0    | 0     | 0    |
| Conflicting Peds, #/hr   | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0     | 0    |
| Sign Control             | Stop | Stop | Stop | Stop | Stop | Stop | Free | Free | Free | Free | Free  | Free |
| RT Channelized           | -    | -    | None | -    | -    | None | -    | -    | None | -    | -     | None |
| Storage Length           | -    | -    | -    | -    | -    | -    | -    | -    | -    | -    | -     | -    |
| Veh in Median Storage, # | -    | 0    | -    | -    | 0    | -    | -    | 0    | -    | -    | 16965 | -    |
| Grade, %                 | -    | 0    | -    | -    | 0    | -    | -    | 0    | -    | -    | 0     | -    |
| Peak Hour Factor         | 100  | 100  | 100  | 100  | 100  | 100  | 100  | 100  | 100  | 100  | 100   | 100  |
| Heavy Vehicles, %        | 1    | 1    | 1    | 1    | 1    | 1    | 1    | 1    | 1    | 1    | 1     | 1    |
| Mvmt Flow                | 15   | 15   | 0    | 0    | 15   | 15   | 15   | 510  | 15   | 0    | 0     | 0    |

| Major/Minor          | Minor2 |      | Minor1 |   | Major1 |      |      |   |   |  |  |
|----------------------|--------|------|--------|---|--------|------|------|---|---|--|--|
| Conflicting Flow All | 293    | 555  | -      | - | 548    | 263  | 0    | 0 | 0 |  |  |
| Stage 1              | 0      | 0    | -      | - | 548    | -    | -    | - | - |  |  |
| Stage 2              | 293    | 555  | -      | - | 0      | -    | -    | - | - |  |  |
| Critical Hdwy        | 7.52   | 6.52 | -      | - | 6.52   | 6.92 | 4.12 | - | - |  |  |
| Critical Hdwy Stg 1  | -      | -    | -      | - | 5.52   | -    | -    | - | - |  |  |
| Critical Hdwy Stg 2  | 6.52   | 5.52 | -      | - | -      | -    | -    | - | - |  |  |
| Follow-up Hdwy       | 3.51   | 4.01 | -      | - | 4.01   | 3.31 | 2.21 | - | - |  |  |
| Pot Cap-1 Maneuver   | 639    | 441  | 0      | 0 | 445    | 739  | -    | - | - |  |  |
| Stage 1              | -      | -    | 0      | 0 | 518    | -    | -    | - | - |  |  |
| Stage 2              | 694    | 514  | 0      | 0 | -      | -    | -    | - | - |  |  |
| Platoon blocked, %   |        |      |        |   |        |      |      | - | - |  |  |
| Mov Cap-1 Maneuver   | 610    | 441  | -      | - | 445    | 739  | -    | - | - |  |  |
| Mov Cap-2 Maneuver   | 610    | 441  | -      | - | 445    | -    | -    | - | - |  |  |
| Stage 1              | -      | -    | -      | - | 518    | -    | -    | - | - |  |  |
| Stage 2              | 660    | 514  | -      | - | -      | -    | -    | - | - |  |  |

| Approach             | EB   |  | WB   |  | NB |  |  |
|----------------------|------|--|------|--|----|--|--|
| HCM Control Delay, s | 12.5 |  | 11.9 |  |    |  |  |
| HCM LOS              | B    |  | B    |  |    |  |  |

| Minor Lane/Major Mvmt | NBL | NBT | NBR | EBLn1WBLn1 |       |
|-----------------------|-----|-----|-----|------------|-------|
| Capacity (veh/h)      | -   | -   | -   | 512        | 555   |
| HCM Lane V/C Ratio    | -   | -   | -   | 0.059      | 0.054 |
| HCM Control Delay (s) | -   | -   | -   | 12.5       | 11.9  |
| HCM Lane LOS          | -   | -   | -   | B          | B     |
| HCM 95th %tile Q(veh) | -   | -   | -   | 0.2        | 0.2   |



| Intersection             |             |      |        |      |      |      |          |       |      |      |      |      |
|--------------------------|-------------|------|--------|------|------|------|----------|-------|------|------|------|------|
| Int Delay, s/veh         | 1.6         |      |        |      |      |      |          |       |      |      |      |      |
| Movement                 | EBL         | EBT  | EBR    | WBL  | WBT  | WBR  | NBL      | NBT   | NBR  | SBL  | SBT  | SBR  |
| Lane Configurations      |             | ↱    |        |      | ↱    |      |          |       |      | ↱↲   |      |      |
| Traffic Vol, veh/h       | 0           | 10   | 10     | 10   | 10   | 0    | 0        | 0     | 0    | 10   | 210  | 10   |
| Future Vol, veh/h        | 0           | 10   | 10     | 10   | 10   | 0    | 0        | 0     | 0    | 10   | 210  | 10   |
| Conflicting Peds, #/hr   | 0           | 0    | 0      | 0    | 0    | 0    | 0        | 0     | 0    | 0    | 0    | 0    |
| Sign Control             | Stop        | Stop | Stop   | Stop | Stop | Stop | Free     | Free  | Free | Free | Free | Free |
| RT Channelized           | -           | -    | None   | -    | -    | None | -        | -     | None | -    | -    | None |
| Storage Length           | -           | -    | -      | -    | -    | -    | -        | -     | -    | -    | -    | -    |
| Veh in Median Storage, # | -           | 0    | -      | -    | 0    | -    | -        | 16974 | -    | -    | 0    | -    |
| Grade, %                 | -           | 0    | -      | -    | 0    | -    | -        | 0     | -    | -    | 0    | -    |
| Peak Hour Factor         | 100         | 100  | 100    | 100  | 100  | 100  | 100      | 100   | 100  | 100  | 100  | 100  |
| Heavy Vehicles, %        | 1           | 1    | 1      | 1    | 1    | 1    | 1        | 1     | 1    | 1    | 1    | 1    |
| Mvmt Flow                | 0           | 15   | 15     | 15   | 15   | 0    | 0        | 0     | 0    | 15   | 315  | 15   |
|                          |             |      |        |      |      |      |          |       |      |      |      |      |
| Major/Minor              | Minor2      |      | Minor1 |      |      |      | Major2   |       |      |      |      |      |
| Conflicting Flow All     | -           | 353  | 165    | 195  | 360  | -    | 0 0 0    |       |      |      |      |      |
| Stage 1                  | -           | 353  | -      | 0    | 0    | -    | - - -    |       |      |      |      |      |
| Stage 2                  | -           | 0    | -      | 195  | 360  | -    | - - -    |       |      |      |      |      |
| Critical Hdwy            | -           | 6.52 | 6.92   | 7.52 | 6.52 | -    | 4.12 - - |       |      |      |      |      |
| Critical Hdwy Stg 1      | -           | 5.52 | -      | -    | -    | -    | - - -    |       |      |      |      |      |
| Critical Hdwy Stg 2      | -           | -    | -      | 6.52 | 5.52 | -    | - - -    |       |      |      |      |      |
| Follow-up Hdwy           | -           | 4.01 | 3.31   | 3.51 | 4.01 | -    | 2.21 - - |       |      |      |      |      |
| Pot Cap-1 Maneuver       | 0           | 573  | 854    | 749  | 568  | 0    | - - -    |       |      |      |      |      |
| Stage 1                  | 0           | 632  | -      | -    | -    | 0    | - - -    |       |      |      |      |      |
| Stage 2                  | 0           | -    | -      | 791  | 627  | 0    | - - -    |       |      |      |      |      |
| Platoon blocked, %       |             |      |        |      |      |      |          |       |      |      | -    | -    |
| Mov Cap-1 Maneuver       | -           | 573  | 854    | 721  | 568  | -    | - - -    |       |      |      |      |      |
| Mov Cap-2 Maneuver       | -           | 573  | -      | 721  | 568  | -    | - - -    |       |      |      |      |      |
| Stage 1                  | -           | 632  | -      | -    | -    | -    | - - -    |       |      |      |      |      |
| Stage 2                  | -           | -    | -      | 759  | 627  | -    | - - -    |       |      |      |      |      |
|                          |             |      |        |      |      |      |          |       |      |      |      |      |
|                          |             |      |        |      |      |      |          |       |      |      |      |      |
| Approach                 | EB          |      | WB     |      |      |      | SB       |       |      |      |      |      |
| HCM Control Delay, s     | 10.5        |      | 11     |      |      |      |          |       |      |      |      |      |
| HCM LOS                  | B           |      | B      |      |      |      |          |       |      |      |      |      |
|                          |             |      |        |      |      |      |          |       |      |      |      |      |
|                          |             |      |        |      |      |      |          |       |      |      |      |      |
| Minor Lane/Major Mvmt    | EBLn1WBLn1  |      | SBL    | SBT  | SBR  |      |          |       |      |      |      |      |
| Capacity (veh/h)         | 686 635     |      | -      | -    | -    |      |          |       |      |      |      |      |
| HCM Lane V/C Ratio       | 0.044 0.047 |      | -      | -    | -    |      |          |       |      |      |      |      |
| HCM Control Delay (s)    | 10.5 11     |      | -      | -    | -    |      |          |       |      |      |      |      |
| HCM Lane LOS             | B B         |      | -      | -    | -    |      |          |       |      |      |      |      |
| HCM 95th %tile O(veh)    | 0.1 0.1     |      | -      | -    | -    |      |          |       |      |      |      |      |

| Intersection             |      |      |      |      |      |      |      |      |      |      |       |      |
|--------------------------|------|------|------|------|------|------|------|------|------|------|-------|------|
| Int Delay, s/veh         | 1.2  |      |      |      |      |      |      |      |      |      |       |      |
| Movement                 | EBL  | EBT  | EBR  | WBL  | WBT  | WBR  | NBL  | NBT  | NBR  | SBL  | SBT   | SBR  |
| Lane Configurations      |      | ↰    |      |      | ↱    |      |      | ↰↱   |      |      |       |      |
| Traffic Vol, veh/h       | 10   | 10   | 0    | 0    | 10   | 10   | 10   | 340  | 10   | 0    | 0     | 0    |
| Future Vol, veh/h        | 10   | 10   | 0    | 0    | 10   | 10   | 10   | 340  | 10   | 0    | 0     | 0    |
| Conflicting Peds, #/hr   | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0     | 0    |
| Sign Control             | Stop | Stop | Stop | Stop | Stop | Stop | Free | Free | Free | Free | Free  | Free |
| RT Channelized           | -    | -    | None | -    | -    | None | -    | -    | None | -    | -     | None |
| Storage Length           | -    | -    | -    | -    | -    | -    | -    | -    | -    | -    | -     | -    |
| Veh in Median Storage, # | -    | 0    | -    | -    | 0    | -    | -    | 0    | -    | -    | 16965 | -    |
| Grade, %                 | -    | 0    | -    | -    | 0    | -    | -    | 0    | -    | -    | 0     | -    |
| Peak Hour Factor         | 100  | 100  | 100  | 100  | 100  | 100  | 100  | 100  | 100  | 100  | 100   | 100  |
| Heavy Vehicles, %        | 1    | 1    | 1    | 1    | 1    | 1    | 1    | 1    | 1    | 1    | 1     | 1    |
| Mvmt Flow                | 15   | 15   | 0    | 0    | 15   | 15   | 15   | 510  | 15   | 0    | 0     | 0    |

| Major/Minor          | Minor2 |      | Minor1 |   | Major1 |      |      |   |   |  |  |
|----------------------|--------|------|--------|---|--------|------|------|---|---|--|--|
| Conflicting Flow All | 293    | 555  | -      | - | 548    | 263  | 0    | 0 | 0 |  |  |
| Stage 1              | 0      | 0    | -      | - | 548    | -    | -    | - | - |  |  |
| Stage 2              | 293    | 555  | -      | - | 0      | -    | -    | - | - |  |  |
| Critical Hdwy        | 7.52   | 6.52 | -      | - | 6.52   | 6.92 | 4.12 | - | - |  |  |
| Critical Hdwy Stg 1  | -      | -    | -      | - | 5.52   | -    | -    | - | - |  |  |
| Critical Hdwy Stg 2  | 6.52   | 5.52 | -      | - | -      | -    | -    | - | - |  |  |
| Follow-up Hdwy       | 3.51   | 4.01 | -      | - | 4.01   | 3.31 | 2.21 | - | - |  |  |
| Pot Cap-1 Maneuver   | 639    | 441  | 0      | 0 | 445    | 739  | -    | - | - |  |  |
| Stage 1              | -      | -    | 0      | 0 | 518    | -    | -    | - | - |  |  |
| Stage 2              | 694    | 514  | 0      | 0 | -      | -    | -    | - | - |  |  |
| Platoon blocked, %   |        |      |        |   |        |      |      | - | - |  |  |
| Mov Cap-1 Maneuver   | 610    | 441  | -      | - | 445    | 739  | -    | - | - |  |  |
| Mov Cap-2 Maneuver   | 610    | 441  | -      | - | 445    | -    | -    | - | - |  |  |
| Stage 1              | -      | -    | -      | - | 518    | -    | -    | - | - |  |  |
| Stage 2              | 660    | 514  | -      | - | -      | -    | -    | - | - |  |  |

| Approach             | EB   |  | WB   |  | NB |  |  |
|----------------------|------|--|------|--|----|--|--|
| HCM Control Delay, s | 12.5 |  | 11.9 |  |    |  |  |
| HCM LOS              | B    |  | B    |  |    |  |  |

| Minor Lane/Major Mvmt | NBL | NBT | NBR | EBLn1WBLn1 |       |
|-----------------------|-----|-----|-----|------------|-------|
| Capacity (veh/h)      | -   | -   | -   | 512        | 555   |
| HCM Lane V/C Ratio    | -   | -   | -   | 0.059      | 0.054 |
| HCM Control Delay (s) | -   | -   | -   | 12.5       | 11.9  |
| HCM Lane LOS          | -   | -   | -   | B          | B     |
| HCM 95th %tile Q(veh) | -   | -   | -   | 0.2        | 0.2   |

| Intersection             |             |      |        |      |      |      |        |       |      |      |      |      |   |
|--------------------------|-------------|------|--------|------|------|------|--------|-------|------|------|------|------|---|
| Int Delay, s/veh         | 1.6         |      |        |      |      |      |        |       |      |      |      |      |   |
| Movement                 | EBL         | EBT  | EBR    | WBL  | WBT  | WBR  | NBL    | NBT   | NBR  | SBL  | SBT  | SBR  |   |
| Lane Configurations      |             | ↰    |        |      | ↱    |      |        |       |      |      | ↰↱   |      |   |
| Traffic Vol, veh/h       | 0           | 10   | 10     | 10   | 10   | 0    | 0      | 0     | 0    | 10   | 210  | 10   |   |
| Future Vol, veh/h        | 0           | 10   | 10     | 10   | 10   | 0    | 0      | 0     | 0    | 10   | 210  | 10   |   |
| Conflicting Peds, #/hr   | 0           | 0    | 0      | 0    | 0    | 0    | 0      | 0     | 0    | 0    | 0    | 0    |   |
| Sign Control             | Stop        | Stop | Stop   | Stop | Stop | Stop | Free   | Free  | Free | Free | Free | Free |   |
| RT Channelized           | -           | -    | None   | -    | -    | None | -      | -     | None | -    | -    | None |   |
| Storage Length           | -           | -    | -      | -    | -    | -    | -      | -     | -    | -    | -    | -    |   |
| Veh in Median Storage, # | -           | 0    | -      | -    | 0    | -    | -      | 16974 | -    | -    | 0    | -    |   |
| Grade, %                 | -           | 0    | -      | -    | 0    | -    | -      | 0     | -    | -    | 0    | -    |   |
| Peak Hour Factor         | 100         | 100  | 100    | 100  | 100  | 100  | 100    | 100   | 100  | 100  | 100  | 100  |   |
| Heavy Vehicles, %        | 1           | 1    | 1      | 1    | 1    | 1    | 1      | 1     | 1    | 1    | 1    | 1    |   |
| Mvmt Flow                | 0           | 15   | 15     | 15   | 15   | 0    | 0      | 0     | 0    | 15   | 315  | 15   |   |
|                          |             |      |        |      |      |      |        |       |      |      |      |      |   |
| Major/Minor              | Minor2      |      | Minor1 |      |      |      | Major2 |       |      |      |      |      |   |
| Conflicting Flow All     | -           | 353  | 165    | 195  | 360  | -    |        |       |      |      | 0    | 0    | 0 |
| Stage 1                  | -           | 353  | -      | 0    | 0    | -    |        |       |      |      | -    | -    | - |
| Stage 2                  | -           | 0    | -      | 195  | 360  | -    |        |       |      |      | -    | -    | - |
| Critical Hdwy            | -           | 6.52 | 6.92   | 7.52 | 6.52 | -    |        |       |      |      | 4.12 | -    | - |
| Critical Hdwy Stg 1      | -           | 5.52 | -      | -    | -    | -    |        |       |      |      | -    | -    | - |
| Critical Hdwy Stg 2      | -           | -    | -      | 6.52 | 5.52 | -    |        |       |      |      | -    | -    | - |
| Follow-up Hdwy           | -           | 4.01 | 3.31   | 3.51 | 4.01 | -    |        |       |      |      | 2.21 | -    | - |
| Pot Cap-1 Maneuver       | 0           | 573  | 854    | 749  | 568  | 0    |        |       |      |      | -    | -    | - |
| Stage 1                  | 0           | 632  | -      | -    | -    | 0    |        |       |      |      | -    | -    | - |
| Stage 2                  | 0           | -    | -      | 791  | 627  | 0    |        |       |      |      | -    | -    | - |
| Platoon blocked, %       |             |      |        |      |      |      |        |       |      |      | -    | -    |   |
| Mov Cap-1 Maneuver       | -           | 573  | 854    | 721  | 568  | -    |        |       |      |      | -    | -    | - |
| Mov Cap-2 Maneuver       | -           | 573  | -      | 721  | 568  | -    |        |       |      |      | -    | -    | - |
| Stage 1                  | -           | 632  | -      | -    | -    | -    |        |       |      |      | -    | -    | - |
| Stage 2                  | -           | -    | -      | 759  | 627  | -    |        |       |      |      | -    | -    | - |
|                          |             |      |        |      |      |      |        |       |      |      |      |      |   |
|                          |             |      |        |      |      |      |        |       |      |      |      |      |   |
| Approach                 | EB          |      | WB     |      |      |      | SB     |       |      |      |      |      |   |
| HCM Control Delay, s     | 10.5        |      | 11     |      |      |      |        |       |      |      |      |      |   |
| HCM LOS                  | B           |      | B      |      |      |      |        |       |      |      |      |      |   |
|                          |             |      |        |      |      |      |        |       |      |      |      |      |   |
| Minor Lane/Major Mvmt    | EBLn1WBLn1  |      | SBL    | SBT  | SBR  |      |        |       |      |      |      |      |   |
| Capacity (veh/h)         | 686 635     |      | -      | -    | -    |      |        |       |      |      |      |      |   |
| HCM Lane V/C Ratio       | 0.044 0.047 |      | -      | -    | -    |      |        |       |      |      |      |      |   |
| HCM Control Delay (s)    | 10.5 11     |      | -      | -    | -    |      |        |       |      |      |      |      |   |
| HCM Lane LOS             | B B         |      | -      | -    | -    |      |        |       |      |      |      |      |   |
| HCM 95th %tile O(veh)    | 0.1 0.1     |      | -      | -    | -    |      |        |       |      |      |      |      |   |

| Intersection             |      |      |      |      |      |      |      |      |      |      |       |      |
|--------------------------|------|------|------|------|------|------|------|------|------|------|-------|------|
| Int Delay, s/veh         | 3.1  |      |      |      |      |      |      |      |      |      |       |      |
| Movement                 | EBL  | EBT  | EBR  | WBL  | WBT  | WBR  | NBL  | NBT  | NBR  | SBL  | SBT   | SBR  |
| Lane Configurations      |      | ↰    |      |      | ↱    |      |      | ↰↱   |      |      |       |      |
| Traffic Vol, veh/h       | 7    | 37   | 0    | 0    | 44   | 14   | 3    | 336  | 18   | 0    | 0     | 0    |
| Future Vol, veh/h        | 7    | 37   | 0    | 0    | 44   | 14   | 3    | 336  | 18   | 0    | 0     | 0    |
| Conflicting Peds, #/hr   | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0     | 0    |
| Sign Control             | Stop | Stop | Stop | Stop | Stop | Stop | Free | Free | Free | Free | Free  | Free |
| RT Channelized           | -    | -    | None | -    | -    | None | -    | -    | None | -    | -     | None |
| Storage Length           | -    | -    | -    | -    | -    | -    | -    | -    | -    | -    | -     | -    |
| Veh in Median Storage, # | -    | 0    | -    | -    | 0    | -    | -    | 0    | -    | -    | 16965 | -    |
| Grade, %                 | -    | 0    | -    | -    | 0    | -    | -    | 0    | -    | -    | 0     | -    |
| Peak Hour Factor         | 100  | 100  | 100  | 100  | 100  | 100  | 100  | 100  | 100  | 100  | 100   | 100  |
| Heavy Vehicles, %        | 1    | 1    | 1    | 1    | 1    | 1    | 1    | 1    | 1    | 1    | 1     | 1    |
| Mvmt Flow                | 11   | 56   | 0    | 0    | 66   | 21   | 5    | 504  | 27   | 0    | 0     | 0    |

| Major/Minor          | Minor2 |      | Minor1 |   | Major1 |      |      |   |   |  |  |
|----------------------|--------|------|--------|---|--------|------|------|---|---|--|--|
| Conflicting Flow All | 295    | 541  | -      | - | 528    | 266  | 0    | 0 | 0 |  |  |
| Stage 1              | 0      | 0    | -      | - | 528    | -    | -    | - | - |  |  |
| Stage 2              | 295    | 541  | -      | - | 0      | -    | -    | - | - |  |  |
| Critical Hdwy        | 7.52   | 6.52 | -      | - | 6.52   | 6.92 | 4.12 | - | - |  |  |
| Critical Hdwy Stg 1  | -      | -    | -      | - | 5.52   | -    | -    | - | - |  |  |
| Critical Hdwy Stg 2  | 6.52   | 5.52 | -      | - | -      | -    | -    | - | - |  |  |
| Follow-up Hdwy       | 3.51   | 4.01 | -      | - | 4.01   | 3.31 | 2.21 | - | - |  |  |
| Pot Cap-1 Maneuver   | 637    | 449  | 0      | 0 | 456    | 735  | -    | - | - |  |  |
| Stage 1              | -      | -    | 0      | 0 | 528    | -    | -    | - | - |  |  |
| Stage 2              | 692    | 521  | 0      | 0 | -      | -    | -    | - | - |  |  |
| Platoon blocked, %   |        |      |        |   |        |      |      | - | - |  |  |
| Mov Cap-1 Maneuver   | 550    | 449  | -      | - | 456    | 735  | -    | - | - |  |  |
| Mov Cap-2 Maneuver   | 550    | 449  | -      | - | 456    | -    | -    | - | - |  |  |
| Stage 1              | -      | -    | -      | - | 528    | -    | -    | - | - |  |  |
| Stage 2              | 588    | 521  | -      | - | -      | -    | -    | - | - |  |  |

| Approach             | EB   |  | WB   |  | NB |  |  |
|----------------------|------|--|------|--|----|--|--|
| HCM Control Delay, s | 14.1 |  | 13.7 |  |    |  |  |
| HCM LOS              | B    |  | B    |  |    |  |  |

| Minor Lane/Major Mvmt | NBL | NBT | NBR | EBLn1WBLn1 |       |
|-----------------------|-----|-----|-----|------------|-------|
| Capacity (veh/h)      | -   | -   | -   | 463        | 502   |
| HCM Lane V/C Ratio    | -   | -   | -   | 0.143      | 0.173 |
| HCM Control Delay (s) | -   | -   | -   | 14.1       | 13.7  |
| HCM Lane LOS          | -   | -   | -   | B          | B     |
| HCM 95th %tile Q(veh) | -   | -   | -   | 0.5        | 0.6   |

| Intersection             |            |      |        |      |      |      |        |       |      |      |      |      |  |
|--------------------------|------------|------|--------|------|------|------|--------|-------|------|------|------|------|--|
| Int Delay, s/veh         | 3.4        |      |        |      |      |      |        |       |      |      |      |      |  |
| Movement                 | EBL        | EBT  | EBR    | WBL  | WBT  | WBR  | NBL    | NBT   | NBR  | SBL  | SBT  | SBR  |  |
| Lane Configurations      |            | ↻    |        |      | ↻    |      |        |       |      | ↻↻   |      |      |  |
| Traffic Vol, veh/h       | 0          | 35   | 15     | 9    | 38   | 0    | 0      | 0     | 0    | 5    | 222  | 11   |  |
| Future Vol, veh/h        | 0          | 35   | 15     | 9    | 38   | 0    | 0      | 0     | 0    | 5    | 222  | 11   |  |
| Conflicting Peds, #/hr   | 0          | 0    | 0      | 0    | 0    | 0    | 0      | 0     | 0    | 0    | 0    | 0    |  |
| Sign Control             | Stop       | Stop | Stop   | Stop | Stop | Stop | Free   | Free  | Free | Free | Free | Free |  |
| RT Channelized           | -          | -    | None   | -    | -    | None | -      | -     | None | -    | -    | None |  |
| Storage Length           | -          | -    | -      | -    | -    | -    | -      | -     | -    | -    | -    | -    |  |
| Veh in Median Storage, # | -          | 0    | -      | -    | 0    | -    | -      | 16974 | -    | -    | 0    | -    |  |
| Grade, %                 | -          | 0    | -      | -    | 0    | -    | -      | 0     | -    | -    | 0    | -    |  |
| Peak Hour Factor         | 100        | 100  | 100    | 100  | 100  | 100  | 100    | 100   | 100  | 100  | 100  | 100  |  |
| Heavy Vehicles, %        | 1          | 1    | 1      | 1    | 1    | 1    | 1      | 1     | 1    | 1    | 1    | 1    |  |
| Mvmt Flow                | 0          | 53   | 23     | 14   | 57   | 0    | 0      | 0     | 0    | 8    | 333  | 17   |  |
|                          |            |      |        |      |      |      |        |       |      |      |      |      |  |
| Major/Minor              | Minor2     |      | Minor1 |      |      |      | Major2 |       |      |      |      |      |  |
| Conflicting Flow All     | -          | 358  | 175    | 209  | 366  | -    |        |       |      | 0    | 0    | 0    |  |
| Stage 1                  | -          | 358  | -      | 0    | 0    | -    |        |       |      | -    | -    | -    |  |
| Stage 2                  | -          | 0    | -      | 209  | 366  | -    |        |       |      | -    | -    | -    |  |
| Critical Hdwy            | -          | 6.52 | 6.92   | 7.52 | 6.52 | -    |        |       |      | 4.12 | -    | -    |  |
| Critical Hdwy Stg 1      | -          | 5.52 | -      | -    | -    | -    |        |       |      | -    | -    | -    |  |
| Critical Hdwy Stg 2      | -          | -    | -      | 6.52 | 5.52 | -    |        |       |      | -    | -    | -    |  |
| Follow-up Hdwy           | -          | 4.01 | 3.31   | 3.51 | 4.01 | -    |        |       |      | 2.21 | -    | -    |  |
| Pot Cap-1 Maneuver       | 0          | 569  | 841    | 733  | 563  | 0    |        |       |      | -    | -    | -    |  |
| Stage 1                  | 0          | 629  | -      | -    | -    | 0    |        |       |      | -    | -    | -    |  |
| Stage 2                  | 0          | -    | -      | 776  | 624  | 0    |        |       |      | -    | -    | -    |  |
| Platoon blocked, %       |            |      |        |      |      |      |        |       |      |      | -    | -    |  |
| Mov Cap-1 Maneuver       | -          | 569  | 841    | 663  | 563  | -    |        |       |      | -    | -    | -    |  |
| Mov Cap-2 Maneuver       | -          | 569  | -      | 663  | 563  | -    |        |       |      | -    | -    | -    |  |
| Stage 1                  | -          | 629  | -      | -    | -    | -    |        |       |      | -    | -    | -    |  |
| Stage 2                  | -          | -    | -      | 692  | 624  | -    |        |       |      | -    | -    | -    |  |
|                          |            |      |        |      |      |      |        |       |      |      |      |      |  |
| Approach                 | EB         |      | WB     |      |      |      | SB     |       |      |      |      |      |  |
| HCM Control Delay, s     | 11.5       |      | 12.1   |      |      |      |        |       |      |      |      |      |  |
| HCM LOS                  | B          |      | B      |      |      |      |        |       |      |      |      |      |  |
|                          |            |      |        |      |      |      |        |       |      |      |      |      |  |
| Minor Lane/Major Mvmt    | EBLn1WBLn1 |      | SBL    | SBT  | SBR  |      |        |       |      |      |      |      |  |
| Capacity (veh/h)         | 630        |      | 580    | -    | -    | -    |        |       |      |      |      |      |  |
| HCM Lane V/C Ratio       | 0.119      |      | 0.122  | -    | -    | -    |        |       |      |      |      |      |  |
| HCM Control Delay (s)    | 11.5       |      | 12.1   | -    | -    | -    |        |       |      |      |      |      |  |
| HCM Lane LOS             | B          |      | B      | -    | -    | -    |        |       |      |      |      |      |  |
| HCM 95th %tile Q(veh)    | 0.4        |      | 0.4    | -    | -    | -    |        |       |      |      |      |      |  |

| Intersection             |      |      |      |      |      |      |      |      |      |      |       |      |
|--------------------------|------|------|------|------|------|------|------|------|------|------|-------|------|
| Int Delay, s/veh         | 1.2  |      |      |      |      |      |      |      |      |      |       |      |
| Movement                 | EBL  | EBT  | EBR  | WBL  | WBT  | WBR  | NBL  | NBT  | NBR  | SBL  | SBT   | SBR  |
| Lane Configurations      |      | ↰    |      |      | ↱    |      |      | ↰↱   |      |      |       |      |
| Traffic Vol, veh/h       | 10   | 10   | 0    | 0    | 10   | 10   | 10   | 340  | 10   | 0    | 0     | 0    |
| Future Vol, veh/h        | 10   | 10   | 0    | 0    | 10   | 10   | 10   | 340  | 10   | 0    | 0     | 0    |
| Conflicting Peds, #/hr   | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0     | 0    |
| Sign Control             | Stop | Stop | Stop | Stop | Stop | Stop | Free | Free | Free | Free | Free  | Free |
| RT Channelized           | -    | -    | None | -    | -    | None | -    | -    | None | -    | -     | None |
| Storage Length           | -    | -    | -    | -    | -    | -    | -    | -    | -    | -    | -     | -    |
| Veh in Median Storage, # | -    | 0    | -    | -    | 0    | -    | -    | 0    | -    | -    | 16965 | -    |
| Grade, %                 | -    | 0    | -    | -    | 0    | -    | -    | 0    | -    | -    | 0     | -    |
| Peak Hour Factor         | 100  | 100  | 100  | 100  | 100  | 100  | 100  | 100  | 100  | 100  | 100   | 100  |
| Heavy Vehicles, %        | 1    | 1    | 1    | 1    | 1    | 1    | 1    | 1    | 1    | 1    | 1     | 1    |
| Mvmt Flow                | 15   | 15   | 0    | 0    | 15   | 15   | 15   | 510  | 15   | 0    | 0     | 0    |

| Major/Minor          | Minor2 |      | Minor1 |   | Major1 |      |      |   |   |  |  |
|----------------------|--------|------|--------|---|--------|------|------|---|---|--|--|
| Conflicting Flow All | 293    | 555  | -      | - | 548    | 263  | 0    | 0 | 0 |  |  |
| Stage 1              | 0      | 0    | -      | - | 548    | -    | -    | - | - |  |  |
| Stage 2              | 293    | 555  | -      | - | 0      | -    | -    | - | - |  |  |
| Critical Hdwy        | 7.52   | 6.52 | -      | - | 6.52   | 6.92 | 4.12 | - | - |  |  |
| Critical Hdwy Stg 1  | -      | -    | -      | - | 5.52   | -    | -    | - | - |  |  |
| Critical Hdwy Stg 2  | 6.52   | 5.52 | -      | - | -      | -    | -    | - | - |  |  |
| Follow-up Hdwy       | 3.51   | 4.01 | -      | - | 4.01   | 3.31 | 2.21 | - | - |  |  |
| Pot Cap-1 Maneuver   | 639    | 441  | 0      | 0 | 445    | 739  | -    | - | - |  |  |
| Stage 1              | -      | -    | 0      | 0 | 518    | -    | -    | - | - |  |  |
| Stage 2              | 694    | 514  | 0      | 0 | -      | -    | -    | - | - |  |  |
| Platoon blocked, %   |        |      |        |   |        |      |      | - | - |  |  |
| Mov Cap-1 Maneuver   | 610    | 441  | -      | - | 445    | 739  | -    | - | - |  |  |
| Mov Cap-2 Maneuver   | 610    | 441  | -      | - | 445    | -    | -    | - | - |  |  |
| Stage 1              | -      | -    | -      | - | 518    | -    | -    | - | - |  |  |
| Stage 2              | 660    | 514  | -      | - | -      | -    | -    | - | - |  |  |

| Approach             | EB   |  | WB   |  | NB |  |  |
|----------------------|------|--|------|--|----|--|--|
| HCM Control Delay, s | 12.5 |  | 11.9 |  |    |  |  |
| HCM LOS              | B    |  | B    |  |    |  |  |

| Minor Lane/Major Mvmt | NBL | NBT | NBR | EBLn1WBLn1 |       |
|-----------------------|-----|-----|-----|------------|-------|
| Capacity (veh/h)      | -   | -   | -   | 512        | 555   |
| HCM Lane V/C Ratio    | -   | -   | -   | 0.059      | 0.054 |
| HCM Control Delay (s) | -   | -   | -   | 12.5       | 11.9  |
| HCM Lane LOS          | -   | -   | -   | B          | B     |
| HCM 95th %tile Q(veh) | -   | -   | -   | 0.2        | 0.2   |



| Intersection             |             |      |        |      |      |      |        |       |      |      |      |      |
|--------------------------|-------------|------|--------|------|------|------|--------|-------|------|------|------|------|
| Int Delay, s/veh         | 1.5         |      |        |      |      |      |        |       |      |      |      |      |
| Movement                 | EBL         | EBT  | EBR    | WBL  | WBT  | WBR  | NBL    | NBT   | NBR  | SBL  | SBT  | SBR  |
| Lane Configurations      |             | ↻    |        |      | ↻    |      |        |       |      | ↻↻   |      |      |
| Traffic Vol, veh/h       | 0           | 10   | 10     | 10   | 10   | 0    | 0      | 0     | 0    | 10   | 230  | 10   |
| Future Vol, veh/h        | 0           | 10   | 10     | 10   | 10   | 0    | 0      | 0     | 0    | 10   | 230  | 10   |
| Conflicting Peds, #/hr   | 0           | 0    | 0      | 0    | 0    | 0    | 0      | 0     | 0    | 0    | 0    | 0    |
| Sign Control             | Stop        | Stop | Stop   | Stop | Stop | Stop | Free   | Free  | Free | Free | Free | Free |
| RT Channelized           | -           | -    | None   | -    | -    | None | -      | -     | None | -    | -    | None |
| Storage Length           | -           | -    | -      | -    | -    | -    | -      | -     | -    | -    | -    | -    |
| Veh in Median Storage, # | -           | 0    | -      | -    | 0    | -    | -      | 16974 | -    | -    | 0    | -    |
| Grade, %                 | -           | 0    | -      | -    | 0    | -    | -      | 0     | -    | -    | 0    | -    |
| Peak Hour Factor         | 100         | 100  | 100    | 100  | 100  | 100  | 100    | 100   | 100  | 100  | 100  | 100  |
| Heavy Vehicles, %        | 1           | 1    | 1      | 1    | 1    | 1    | 1      | 1     | 1    | 1    | 1    | 1    |
| Mvmt Flow                | 0           | 15   | 15     | 15   | 15   | 0    | 0      | 0     | 0    | 15   | 345  | 15   |
|                          |             |      |        |      |      |      |        |       |      |      |      |      |
| Major/Minor              | Minor2      |      | Minor1 |      |      |      | Major2 |       |      |      |      |      |
| Conflicting Flow All     | -           | 383  | 180    | 210  | 390  | -    |        |       | 0    | 0    | 0    |      |
| Stage 1                  | -           | 383  | -      | 0    | 0    | -    |        |       | -    | -    | -    |      |
| Stage 2                  | -           | 0    | -      | 210  | 390  | -    |        |       | -    | -    | -    |      |
| Critical Hdwy            | -           | 6.52 | 6.92   | 7.52 | 6.52 | -    |        |       | 4.12 | -    | -    |      |
| Critical Hdwy Stg 1      | -           | 5.52 | -      | -    | -    | -    |        |       | -    | -    | -    |      |
| Critical Hdwy Stg 2      | -           | -    | -      | 6.52 | 5.52 | -    |        |       | -    | -    | -    |      |
| Follow-up Hdwy           | -           | 4.01 | 3.31   | 3.51 | 4.01 | -    |        |       | 2.21 | -    | -    |      |
| Pot Cap-1 Maneuver       | 0           | 551  | 835    | 731  | 546  | 0    |        |       | -    | -    | -    |      |
| Stage 1                  | 0           | 613  | -      | -    | -    | 0    |        |       | -    | -    | -    |      |
| Stage 2                  | 0           | -    | -      | 775  | 609  | 0    |        |       | -    | -    | -    |      |
| Platoon blocked, %       |             |      |        |      |      |      |        |       |      |      | -    | -    |
| Mov Cap-1 Maneuver       | -           | 551  | 835    | 703  | 546  | -    |        |       | -    | -    | -    |      |
| Mov Cap-2 Maneuver       | -           | 551  | -      | 703  | 546  | -    |        |       | -    | -    | -    |      |
| Stage 1                  | -           | 613  | -      | -    | -    | -    |        |       | -    | -    | -    |      |
| Stage 2                  | -           | -    | -      | 742  | 609  | -    |        |       | -    | -    | -    |      |
|                          |             |      |        |      |      |      |        |       |      |      |      |      |
| Approach                 | EB          |      | WB     |      |      |      | SB     |       |      |      |      |      |
| HCM Control Delay, s     | 10.7        |      | 11.2   |      |      |      |        |       |      |      |      |      |
| HCM LOS                  | B           |      | B      |      |      |      |        |       |      |      |      |      |
|                          |             |      |        |      |      |      |        |       |      |      |      |      |
| Minor Lane/Major Mvmt    | EBLn1WBLn1  |      | SBL    | SBT  | SBR  |      |        |       |      |      |      |      |
| Capacity (veh/h)         | 664 615     |      | -      | -    | -    |      |        |       |      |      |      |      |
| HCM Lane V/C Ratio       | 0.045 0.049 |      | -      | -    | -    |      |        |       |      |      |      |      |
| HCM Control Delay (s)    | 10.7 11.2   |      | -      | -    | -    |      |        |       |      |      |      |      |
| HCM Lane LOS             | B B         |      | -      | -    | -    |      |        |       |      |      |      |      |
| HCM 95th %tile Q(veh)    | 0.1 0.2     |      | -      | -    | -    |      |        |       |      |      |      |      |

| Intersection             |      |      |      |      |      |      |      |      |      |      |       |      |
|--------------------------|------|------|------|------|------|------|------|------|------|------|-------|------|
| Int Delay, s/veh         | 1.2  |      |      |      |      |      |      |      |      |      |       |      |
| Movement                 | EBL  | EBT  | EBR  | WBL  | WBT  | WBR  | NBL  | NBT  | NBR  | SBL  | SBT   | SBR  |
| Lane Configurations      |      | ↰    |      |      | ↱    |      |      | ↰↱   |      |      |       |      |
| Traffic Vol, veh/h       | 10   | 10   | 0    | 0    | 10   | 10   | 10   | 340  | 10   | 0    | 0     | 0    |
| Future Vol, veh/h        | 10   | 10   | 0    | 0    | 10   | 10   | 10   | 340  | 10   | 0    | 0     | 0    |
| Conflicting Peds, #/hr   | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0     | 0    |
| Sign Control             | Stop | Stop | Stop | Stop | Stop | Stop | Free | Free | Free | Free | Free  | Free |
| RT Channelized           | -    | -    | None | -    | -    | None | -    | -    | None | -    | -     | None |
| Storage Length           | -    | -    | -    | -    | -    | -    | -    | -    | -    | -    | -     | -    |
| Veh in Median Storage, # | -    | 0    | -    | -    | 0    | -    | -    | 0    | -    | -    | 16965 | -    |
| Grade, %                 | -    | 0    | -    | -    | 0    | -    | -    | 0    | -    | -    | 0     | -    |
| Peak Hour Factor         | 100  | 100  | 100  | 100  | 100  | 100  | 100  | 100  | 100  | 100  | 100   | 100  |
| Heavy Vehicles, %        | 1    | 1    | 1    | 1    | 1    | 1    | 1    | 1    | 1    | 1    | 1     | 1    |
| Mvmt Flow                | 15   | 15   | 0    | 0    | 15   | 15   | 15   | 510  | 15   | 0    | 0     | 0    |

| Major/Minor          | Minor2 |      | Minor1 |   | Major1 |      |      |   |   |
|----------------------|--------|------|--------|---|--------|------|------|---|---|
| Conflicting Flow All | 293    | 555  | -      | - | 548    | 263  | 0    | 0 | 0 |
| Stage 1              | 0      | 0    | -      | - | 548    | -    | -    | - | - |
| Stage 2              | 293    | 555  | -      | - | 0      | -    | -    | - | - |
| Critical Hdwy        | 7.52   | 6.52 | -      | - | 6.52   | 6.92 | 4.12 | - | - |
| Critical Hdwy Stg 1  | -      | -    | -      | - | 5.52   | -    | -    | - | - |
| Critical Hdwy Stg 2  | 6.52   | 5.52 | -      | - | -      | -    | -    | - | - |
| Follow-up Hdwy       | 3.51   | 4.01 | -      | - | 4.01   | 3.31 | 2.21 | - | - |
| Pot Cap-1 Maneuver   | 639    | 441  | 0      | 0 | 445    | 739  | -    | - | - |
| Stage 1              | -      | -    | 0      | 0 | 518    | -    | -    | - | - |
| Stage 2              | 694    | 514  | 0      | 0 | -      | -    | -    | - | - |
| Platoon blocked, %   |        |      |        |   |        |      |      | - | - |
| Mov Cap-1 Maneuver   | 610    | 441  | -      | - | 445    | 739  | -    | - | - |
| Mov Cap-2 Maneuver   | 610    | 441  | -      | - | 445    | -    | -    | - | - |
| Stage 1              | -      | -    | -      | - | 518    | -    | -    | - | - |
| Stage 2              | 660    | 514  | -      | - | -      | -    | -    | - | - |

| Approach             | EB   |  | WB   |  | NB |  |  |
|----------------------|------|--|------|--|----|--|--|
| HCM Control Delay, s | 12.5 |  | 11.9 |  |    |  |  |
| HCM LOS              | B    |  | B    |  |    |  |  |

| Minor Lane/Major Mvmt | NBL | NBT | NBR | EBLn1WBLn1 |       |
|-----------------------|-----|-----|-----|------------|-------|
| Capacity (veh/h)      | -   | -   | -   | 512        | 555   |
| HCM Lane V/C Ratio    | -   | -   | -   | 0.059      | 0.054 |
| HCM Control Delay (s) | -   | -   | -   | 12.5       | 11.9  |
| HCM Lane LOS          | -   | -   | -   | B          | B     |
| HCM 95th %tile Q(veh) | -   | -   | -   | 0.2        | 0.2   |

| Intersection             |            |      |        |      |      |      |          |       |      |      |      |      |
|--------------------------|------------|------|--------|------|------|------|----------|-------|------|------|------|------|
| Int Delay, s/veh         | 1.5        |      |        |      |      |      |          |       |      |      |      |      |
| Movement                 | EBL        | EBT  | EBR    | WBL  | WBT  | WBR  | NBL      | NBT   | NBR  | SBL  | SBT  | SBR  |
| Lane Configurations      |            | ↱    |        |      | ↱    |      |          |       |      | ↱↲   |      |      |
| Traffic Vol, veh/h       | 0          | 10   | 10     | 10   | 10   | 0    | 0        | 0     | 0    | 10   | 240  | 10   |
| Future Vol, veh/h        | 0          | 10   | 10     | 10   | 10   | 0    | 0        | 0     | 0    | 10   | 240  | 10   |
| Conflicting Peds, #/hr   | 0          | 0    | 0      | 0    | 0    | 0    | 0        | 0     | 0    | 0    | 0    | 0    |
| Sign Control             | Stop       | Stop | Stop   | Stop | Stop | Stop | Free     | Free  | Free | Free | Free | Free |
| RT Channelized           | -          | -    | None   | -    | -    | None | -        | -     | None | -    | -    | None |
| Storage Length           | -          | -    | -      | -    | -    | -    | -        | -     | -    | -    | -    | -    |
| Veh in Median Storage, # | -          | 0    | -      | -    | 0    | -    | -        | 16974 | -    | -    | 0    | -    |
| Grade, %                 | -          | 0    | -      | -    | 0    | -    | -        | 0     | -    | -    | 0    | -    |
| Peak Hour Factor         | 100        | 100  | 100    | 100  | 100  | 100  | 100      | 100   | 100  | 100  | 100  | 100  |
| Heavy Vehicles, %        | 1          | 1    | 1      | 1    | 1    | 1    | 1        | 1     | 1    | 1    | 1    | 1    |
| Mvmt Flow                | 0          | 15   | 15     | 15   | 15   | 0    | 0        | 0     | 0    | 15   | 360  | 15   |
|                          |            |      |        |      |      |      |          |       |      |      |      |      |
| Major/Minor              | Minor2     |      | Minor1 |      |      |      | Major2   |       |      |      |      |      |
| Conflicting Flow All     | -          | 398  | 188    | 218  | 405  | -    | 0 0 0    |       |      |      |      |      |
| Stage 1                  | -          | 398  | -      | 0    | 0    | -    | - - -    |       |      |      |      |      |
| Stage 2                  | -          | 0    | -      | 218  | 405  | -    | - - -    |       |      |      |      |      |
| Critical Hdwy            | -          | 6.52 | 6.92   | 7.52 | 6.52 | -    | 4.12 - - |       |      |      |      |      |
| Critical Hdwy Stg 1      | -          | 5.52 | -      | -    | -    | -    | - - -    |       |      |      |      |      |
| Critical Hdwy Stg 2      | -          | -    | -      | 6.52 | 5.52 | -    | - - -    |       |      |      |      |      |
| Follow-up Hdwy           | -          | 4.01 | 3.31   | 3.51 | 4.01 | -    | 2.21 - - |       |      |      |      |      |
| Pot Cap-1 Maneuver       | 0          | 541  | 825    | 722  | 536  | 0    | - - -    |       |      |      |      |      |
| Stage 1                  | 0          | 604  | -      | -    | -    | 0    | - - -    |       |      |      |      |      |
| Stage 2                  | 0          | -    | -      | 767  | 599  | 0    | - - -    |       |      |      |      |      |
| Platoon blocked, %       |            |      |        |      |      |      |          |       |      |      | -    | -    |
| Mov Cap-1 Maneuver       | -          | 541  | 825    | 694  | 536  | -    | - - -    |       |      |      |      |      |
| Mov Cap-2 Maneuver       | -          | 541  | -      | 694  | 536  | -    | - - -    |       |      |      |      |      |
| Stage 1                  | -          | 604  | -      | -    | -    | -    | - - -    |       |      |      |      |      |
| Stage 2                  | -          | -    | -      | 734  | 599  | -    | - - -    |       |      |      |      |      |
|                          |            |      |        |      |      |      |          |       |      |      |      |      |
|                          |            |      |        |      |      |      |          |       |      |      |      |      |
| Approach                 | EB         |      | WB     |      |      |      | SB       |       |      |      |      |      |
| HCM Control Delay, s     | 10.8       |      | 11.3   |      |      |      |          |       |      |      |      |      |
| HCM LOS                  | B          |      | B      |      |      |      |          |       |      |      |      |      |
|                          |            |      |        |      |      |      |          |       |      |      |      |      |
|                          |            |      |        |      |      |      |          |       |      |      |      |      |
| Minor Lane/Major Mvmt    | EBLn1WBLn1 |      | SBL    | SBT  | SBR  |      |          |       |      |      |      |      |
| Capacity (veh/h)         | 653 605    |      | -      | -    | -    |      |          |       |      |      |      |      |
| HCM Lane V/C Ratio       | 0.046 0.05 |      | -      | -    | -    |      |          |       |      |      |      |      |
| HCM Control Delay (s)    | 10.8 11.3  |      | -      | -    | -    |      |          |       |      |      |      |      |
| HCM Lane LOS             | B B        |      | -      | -    | -    |      |          |       |      |      |      |      |
| HCM 95th %tile O(veh)    | 0.1 0.2    |      | -      | -    | -    |      |          |       |      |      |      |      |

# HCM 6th Signalized Intersection Summary

## 33: 5th Street & Grand Ave

Forecast Year 2045  
(Existing Volumes x 1.5)

|                              |  |  |  |  |  |  |   |  |  |  |  |  |
|------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|
| Movement                     | EBL                                                                               | EBT                                                                               | EBR                                                                               | WBL                                                                               | WBT                                                                               | WBR                                                                               | NBL                                                                                 | NBT                                                                                 | NBR                                                                                 | SBL                                                                                 | SBT                                                                                 | SBR                                                                                 |
| Lane Configurations          |  |  |                                                                                   |                                                                                   |  |                                                                                   |  |  |  |                                                                                     |                                                                                     |                                                                                     |
| Traffic Volume (veh/h)       | 56                                                                                | 411                                                                               | 0                                                                                 | 0                                                                                 | 530                                                                               | 30                                                                                | 99                                                                                  | 273                                                                                 | 69                                                                                  | 0                                                                                   | 0                                                                                   | 0                                                                                   |
| Future Volume (veh/h)        | 56                                                                                | 411                                                                               | 0                                                                                 | 0                                                                                 | 530                                                                               | 30                                                                                | 99                                                                                  | 273                                                                                 | 69                                                                                  | 0                                                                                   | 0                                                                                   | 0                                                                                   |
| Initial Q (Qb), veh          | 0                                                                                 | 0                                                                                 | 0                                                                                 | 0                                                                                 | 0                                                                                 | 0                                                                                 | 0                                                                                   | 0                                                                                   | 0                                                                                   |                                                                                     |                                                                                     |                                                                                     |
| Ped-Bike Adj(A_pbT)          | 1.00                                                                              |                                                                                   | 1.00                                                                              | 1.00                                                                              |                                                                                   | 1.00                                                                              | 1.00                                                                                |                                                                                     | 1.00                                                                                |                                                                                     |                                                                                     |                                                                                     |
| Parking Bus, Adj             | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                                | 1.00                                                                                | 1.00                                                                                |                                                                                     |                                                                                     |                                                                                     |
| Work Zone On Approach        | No                                                                                |                                                                                   |                                                                                   | No                                                                                |                                                                                   |                                                                                   | No                                                                                  |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Adj Sat Flow, veh/h/ln       | 1885                                                                              | 1885                                                                              | 0                                                                                 | 0                                                                                 | 1885                                                                              | 1885                                                                              | 1885                                                                                | 1885                                                                                | 1885                                                                                |                                                                                     |                                                                                     |                                                                                     |
| Adj Flow Rate, veh/h         | 84                                                                                | 616                                                                               | 0                                                                                 | 0                                                                                 | 795                                                                               | 45                                                                                | 148                                                                                 | 410                                                                                 | 104                                                                                 |                                                                                     |                                                                                     |                                                                                     |
| Peak Hour Factor             | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                                | 1.00                                                                                | 1.00                                                                                |                                                                                     |                                                                                     |                                                                                     |
| Percent Heavy Veh, %         | 1                                                                                 | 1                                                                                 | 0                                                                                 | 0                                                                                 | 1                                                                                 | 1                                                                                 | 1                                                                                   | 1                                                                                   | 1                                                                                   |                                                                                     |                                                                                     |                                                                                     |
| Cap, veh/h                   | 311                                                                               | 1791                                                                              | 0                                                                                 | 0                                                                                 | 1430                                                                              | 81                                                                                | 718                                                                                 | 1433                                                                                | 639                                                                                 |                                                                                     |                                                                                     |                                                                                     |
| Arrive On Green              | 0.05                                                                              | 0.50                                                                              | 0.00                                                                              | 0.00                                                                              | 0.41                                                                              | 0.41                                                                              | 0.13                                                                                | 0.13                                                                                | 0.13                                                                                |                                                                                     |                                                                                     |                                                                                     |
| Sat Flow, veh/h              | 1795                                                                              | 3676                                                                              | 0                                                                                 | 0                                                                                 | 3540                                                                              | 195                                                                               | 1795                                                                                | 3582                                                                                | 1598                                                                                |                                                                                     |                                                                                     |                                                                                     |
| Grp Volume(v), veh/h         | 84                                                                                | 616                                                                               | 0                                                                                 | 0                                                                                 | 413                                                                               | 427                                                                               | 148                                                                                 | 410                                                                                 | 104                                                                                 |                                                                                     |                                                                                     |                                                                                     |
| Grp Sat Flow(s),veh/h/ln     | 1795                                                                              | 1791                                                                              | 0                                                                                 | 0                                                                                 | 1791                                                                              | 1850                                                                              | 1795                                                                                | 1791                                                                                | 1598                                                                                |                                                                                     |                                                                                     |                                                                                     |
| Q Serve(g_s), s              | 2.6                                                                               | 10.4                                                                              | 0.0                                                                               | 0.0                                                                               | 17.5                                                                              | 17.6                                                                              | 7.4                                                                                 | 10.3                                                                                | 5.8                                                                                 |                                                                                     |                                                                                     |                                                                                     |
| Cycle Q Clear(g_c), s        | 2.6                                                                               | 10.4                                                                              | 0.0                                                                               | 0.0                                                                               | 17.5                                                                              | 17.6                                                                              | 7.4                                                                                 | 10.3                                                                                | 5.8                                                                                 |                                                                                     |                                                                                     |                                                                                     |
| Prop In Lane                 | 1.00                                                                              |                                                                                   | 0.00                                                                              | 0.00                                                                              |                                                                                   | 0.11                                                                              | 1.00                                                                                |                                                                                     | 1.00                                                                                |                                                                                     |                                                                                     |                                                                                     |
| Lane Grp Cap(c), veh/h       | 311                                                                               | 1791                                                                              | 0                                                                                 | 0                                                                                 | 743                                                                               | 768                                                                               | 718                                                                                 | 1433                                                                                | 639                                                                                 |                                                                                     |                                                                                     |                                                                                     |
| V/C Ratio(X)                 | 0.27                                                                              | 0.34                                                                              | 0.00                                                                              | 0.00                                                                              | 0.56                                                                              | 0.56                                                                              | 0.21                                                                                | 0.29                                                                                | 0.16                                                                                |                                                                                     |                                                                                     |                                                                                     |
| Avail Cap(c_a), veh/h        | 418                                                                               | 1791                                                                              | 0                                                                                 | 0                                                                                 | 743                                                                               | 768                                                                               | 718                                                                                 | 1433                                                                                | 639                                                                                 |                                                                                     |                                                                                     |                                                                                     |
| HCM Platoon Ratio            | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 0.33                                                                                | 0.33                                                                                | 0.33                                                                                |                                                                                     |                                                                                     |                                                                                     |
| Upstream Filter(I)           | 0.91                                                                              | 0.91                                                                              | 0.00                                                                              | 0.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                                | 1.00                                                                                | 1.00                                                                                |                                                                                     |                                                                                     |                                                                                     |
| Uniform Delay (d), s/veh     | 16.4                                                                              | 15.1                                                                              | 0.0                                                                               | 0.0                                                                               | 22.3                                                                              | 22.3                                                                              | 29.2                                                                                | 30.5                                                                                | 28.5                                                                                |                                                                                     |                                                                                     |                                                                                     |
| Incr Delay (d2), s/veh       | 0.6                                                                               | 0.5                                                                               | 0.0                                                                               | 0.0                                                                               | 3.0                                                                               | 2.9                                                                               | 0.6                                                                                 | 0.5                                                                                 | 0.5                                                                                 |                                                                                     |                                                                                     |                                                                                     |
| Initial Q Delay(d3),s/veh    | 0.0                                                                               | 0.0                                                                               | 0.0                                                                               | 0.0                                                                               | 0.0                                                                               | 0.0                                                                               | 0.0                                                                                 | 0.0                                                                                 | 0.0                                                                                 |                                                                                     |                                                                                     |                                                                                     |
| %ile BackOfQ(50%),veh/ln     | 1.1                                                                               | 4.2                                                                               | 0.0                                                                               | 0.0                                                                               | 7.8                                                                               | 8.0                                                                               | 3.4                                                                                 | 4.9                                                                                 | 2.3                                                                                 |                                                                                     |                                                                                     |                                                                                     |
| Unsig. Movement Delay, s/veh |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| LnGrp Delay(d),s/veh         | 17.0                                                                              | 15.6                                                                              | 0.0                                                                               | 0.0                                                                               | 25.2                                                                              | 25.2                                                                              | 29.9                                                                                | 31.0                                                                                | 29.1                                                                                |                                                                                     |                                                                                     |                                                                                     |
| LnGrp LOS                    | B                                                                                 | B                                                                                 | A                                                                                 | A                                                                                 | C                                                                                 | C                                                                                 | C                                                                                   | C                                                                                   | C                                                                                   |                                                                                     |                                                                                     |                                                                                     |
| Approach Vol, veh/h          | 700                                                                               |                                                                                   |                                                                                   | 840                                                                               |                                                                                   |                                                                                   | 662                                                                                 |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Approach Delay, s/veh        | 15.7                                                                              |                                                                                   |                                                                                   | 25.2                                                                              |                                                                                   |                                                                                   | 30.5                                                                                |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Approach LOS                 | B                                                                                 |                                                                                   |                                                                                   | C                                                                                 |                                                                                   |                                                                                   | C                                                                                   |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Timer - Assigned Phs         | 3                                                                                 |                                                                                   |                                                                                   | 4                                                                                 |                                                                                   |                                                                                   | 6                                                                                   |                                                                                     |                                                                                     | 8                                                                                   |                                                                                     |                                                                                     |
| Phs Duration (G+Y+Rc), s     | 8.5                                                                               |                                                                                   |                                                                                   | 46.5                                                                              |                                                                                   |                                                                                   | 45.0                                                                                |                                                                                     |                                                                                     | 55.0                                                                                |                                                                                     |                                                                                     |
| Change Period (Y+Rc), s      | 4.0                                                                               |                                                                                   |                                                                                   | 5.0                                                                               |                                                                                   |                                                                                   | 5.0                                                                                 |                                                                                     |                                                                                     | 5.0                                                                                 |                                                                                     |                                                                                     |
| Max Green Setting (Gmax), s  | 10.5                                                                              |                                                                                   |                                                                                   | 35.5                                                                              |                                                                                   |                                                                                   | 40.0                                                                                |                                                                                     |                                                                                     | 50.0                                                                                |                                                                                     |                                                                                     |
| Max Q Clear Time (g_c+l1), s | 4.6                                                                               |                                                                                   |                                                                                   | 19.6                                                                              |                                                                                   |                                                                                   | 12.3                                                                                |                                                                                     |                                                                                     | 12.4                                                                                |                                                                                     |                                                                                     |
| Green Ext Time (p_c), s      | 0.1                                                                               |                                                                                   |                                                                                   | 4.9                                                                               |                                                                                   |                                                                                   | 3.5                                                                                 |                                                                                     |                                                                                     | 4.8                                                                                 |                                                                                     |                                                                                     |
| Intersection Summary         |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| HCM 6th Ctrl Delay           | 23.8                                                                              |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| HCM 6th LOS                  | C                                                                                 |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |

# HCM 6th Signalized Intersection Summary

## 34: 4th Street & Grand Ave

Forecast Year 2045  
(Existing Volumes x 1.5)



| Movement                     | EBL  | EBT  | EBR  | WBL  | WBT  | WBR  | NBL  | NBT  | NBR | SBL  | SBT  | SBR  |
|------------------------------|------|------|------|------|------|------|------|------|-----|------|------|------|
| Lane Configurations          |      | ↑↑   | ↑    | ↑    | ↑↑   |      |      |      |     |      | ↑↑   |      |
| Traffic Volume (veh/h)       | 0    | 429  | 51   | 50   | 583  | 0    | 0    | 0    | 0   | 28   | 189  | 53   |
| Future Volume (veh/h)        | 0    | 429  | 51   | 50   | 583  | 0    | 0    | 0    | 0   | 28   | 189  | 53   |
| Initial Q (Qb), veh          | 0    | 0    | 0    | 0    | 0    | 0    |      |      |     | 0    | 0    | 0    |
| Ped-Bike Adj(A_pbT)          | 1.00 |      | 1.00 | 1.00 |      | 1.00 |      |      |     | 1.00 |      | 1.00 |
| Parking Bus, Adj             | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |      |      |     | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach        |      | No   |      |      | No   |      |      |      |     |      | No   |      |
| Adj Sat Flow, veh/h/ln       | 0    | 1885 | 1885 | 1885 | 1885 | 0    |      |      |     | 1885 | 1885 | 1885 |
| Adj Flow Rate, veh/h         | 0    | 644  | 76   | 75   | 874  | 0    |      |      |     | 42   | 284  | 80   |
| Peak Hour Factor             | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |      |      |     | 1.00 | 1.00 | 1.00 |
| Percent Heavy Veh, %         | 0    | 1    | 1    | 1    | 1    | 0    |      |      |     | 1    | 1    | 1    |
| Cap, veh/h                   | 0    | 1397 | 623  | 498  | 2077 | 0    |      |      |     | 116  | 805  | 237  |
| Arrive On Green              | 0.00 | 0.39 | 0.39 | 0.14 | 0.58 | 0.00 |      |      |     | 0.32 | 0.32 | 0.32 |
| Sat Flow, veh/h              | 0    | 3676 | 1598 | 1795 | 3676 | 0    |      |      |     | 362  | 2516 | 741  |
| Grp Volume(v), veh/h         | 0    | 644  | 76   | 75   | 874  | 0    |      |      |     | 217  | 0    | 189  |
| Grp Sat Flow(s),veh/h/ln     | 0    | 1791 | 1598 | 1795 | 1791 | 0    |      |      |     | 1867 | 0    | 1752 |
| Q Serve(g_s), s              | 0.0  | 13.4 | 3.0  | 0.0  | 13.6 | 0.0  |      |      |     | 8.9  | 0.0  | 8.2  |
| Cycle Q Clear(g_c), s        | 0.0  | 13.4 | 3.0  | 0.0  | 13.6 | 0.0  |      |      |     | 8.9  | 0.0  | 8.2  |
| Prop In Lane                 | 0.00 |      | 1.00 | 1.00 |      | 0.00 |      |      |     | 0.19 |      | 0.42 |
| Lane Grp Cap(c), veh/h       | 0    | 1397 | 623  | 498  | 2077 | 0    |      |      |     | 597  | 0    | 561  |
| V/C Ratio(X)                 | 0.00 | 0.46 | 0.12 | 0.15 | 0.42 | 0.00 |      |      |     | 0.36 | 0.00 | 0.34 |
| Avail Cap(c_a), veh/h        | 0    | 1397 | 623  | 516  | 2077 | 0    |      |      |     | 597  | 0    | 561  |
| HCM Platoon Ratio            | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |      |      |     | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I)           | 0.00 | 1.00 | 1.00 | 1.00 | 1.00 | 0.00 |      |      |     | 1.00 | 0.00 | 1.00 |
| Uniform Delay (d), s/veh     | 0.0  | 22.7 | 19.5 | 21.7 | 11.7 | 0.0  |      |      |     | 26.2 | 0.0  | 25.9 |
| Incr Delay (d2), s/veh       | 0.0  | 1.1  | 0.4  | 0.1  | 0.6  | 0.0  |      |      |     | 1.7  | 0.0  | 1.6  |
| Initial Q Delay(d3),s/veh    | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  |      |      |     | 0.0  | 0.0  | 0.0  |
| %ile BackOfQ(50%),veh/ln     | 0.0  | 5.7  | 1.2  | 1.2  | 5.2  | 0.0  |      |      |     | 4.2  | 0.0  | 3.6  |
| Unsig. Movement Delay, s/veh |      |      |      |      |      |      |      |      |     |      |      |      |
| LnGrp Delay(d),s/veh         | 0.0  | 23.8 | 19.9 | 21.8 | 12.3 | 0.0  |      |      |     | 27.9 | 0.0  | 27.5 |
| LnGrp LOS                    | A    | C    | B    | C    | B    | A    |      |      |     | C    | A    | C    |
| Approach Vol, veh/h          |      | 720  |      |      | 949  |      |      |      |     |      | 406  |      |
| Approach Delay, s/veh        |      | 23.4 |      |      | 13.0 |      |      |      |     |      | 27.7 |      |
| Approach LOS                 |      | C    |      |      | B    |      |      |      |     |      | C    |      |
| Timer - Assigned Phs         |      | 2    |      | 4    |      |      | 7    | 8    |     |      |      |      |
| Phs Duration (G+Y+Rc), s     |      | 37.0 |      | 63.0 |      |      | 19.0 | 44.0 |     |      |      |      |
| Change Period (Y+Rc), s      |      | 5.0  |      | 5.0  |      |      | 5.0  | * 5  |     |      |      |      |
| Max Green Setting (Gmax), s  |      | 32.0 |      | 58.0 |      |      | 15.0 | * 39 |     |      |      |      |
| Max Q Clear Time (g_c+I1), s |      | 10.9 |      | 15.6 |      |      | 2.0  | 15.4 |     |      |      |      |
| Green Ext Time (p_c), s      |      | 2.4  |      | 11.0 |      |      | 0.1  | 4.9  |     |      |      |      |

### Intersection Summary

|                    |      |
|--------------------|------|
| HCM 6th Ctrl Delay | 19.5 |
| HCM 6th LOS        | B    |

### Notes

\* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

| Intersection             |        |      |        |       |        |      |      |      |      |      |       |      |
|--------------------------|--------|------|--------|-------|--------|------|------|------|------|------|-------|------|
| Int Delay, s/veh         | 2.3    |      |        |       |        |      |      |      |      |      |       |      |
| Movement                 | EBL    | EBT  | EBR    | WBL   | WBT    | WBR  | NBL  | NBT  | NBR  | SBL  | SBT   | SBR  |
| Lane Configurations      |        | ↕    |        |       | ↕      |      |      | ↕↕   |      |      |       |      |
| Traffic Vol, veh/h       | 25     | 14   | 0      | 0     | 15     | 33   | 37   | 380  | 1    | 0    | 0     | 0    |
| Future Vol, veh/h        | 25     | 14   | 0      | 0     | 15     | 33   | 37   | 380  | 1    | 0    | 0     | 0    |
| Conflicting Peds, #/hr   | 0      | 0    | 0      | 0     | 0      | 0    | 0    | 0    | 0    | 0    | 0     | 0    |
| Sign Control             | Stop   | Stop | Stop   | Stop  | Stop   | Stop | Free | Free | Free | Free | Free  | Free |
| RT Channelized           | -      | -    | None   | -     | -      | None | -    | -    | None | -    | -     | None |
| Storage Length           | -      | -    | -      | -     | -      | -    | -    | -    | -    | -    | -     | -    |
| Veh in Median Storage, # | -      | 0    | -      | -     | 0      | -    | -    | 0    | -    | -    | 16965 | -    |
| Grade, %                 | -      | 0    | -      | -     | 0      | -    | -    | 0    | -    | -    | 0     | -    |
| Peak Hour Factor         | 100    | 100  | 100    | 100   | 100    | 100  | 100  | 100  | 100  | 100  | 100   | 100  |
| Heavy Vehicles, %        | 1      | 1    | 1      | 1     | 1      | 1    | 1    | 1    | 1    | 1    | 1     | 1    |
| Mvmt Flow                | 38     | 21   | 0      | 0     | 23     | 50   | 56   | 570  | 2    | 0    | 0     | 0    |
|                          |        |      |        |       |        |      |      |      |      |      |       |      |
| Major/Minor              | Minor2 |      | Minor1 |       | Major1 |      |      |      |      |      |       |      |
| Conflicting Flow All     | 409    | 684  | -      | -     | 683    | 286  | 0    | 0    | 0    |      |       |      |
| Stage 1                  | 0      | 0    | -      | -     | 683    | -    | -    | -    | -    |      |       |      |
| Stage 2                  | 409    | 684  | -      | -     | 0      | -    | -    | -    | -    |      |       |      |
| Critical Hdwy            | 7.52   | 6.52 | -      | -     | 6.52   | 6.92 | 4.12 | -    | -    |      |       |      |
| Critical Hdwy Stg 1      | -      | -    | -      | -     | 5.52   | -    | -    | -    | -    |      |       |      |
| Critical Hdwy Stg 2      | 6.52   | 5.52 | -      | -     | -      | -    | -    | -    | -    |      |       |      |
| Follow-up Hdwy           | 3.51   | 4.01 | -      | -     | 4.01   | 3.31 | 2.21 | -    | -    |      |       |      |
| Pot Cap-1 Maneuver       | 529    | 372  | 0      | 0     | 372    | 714  | -    | -    | -    |      |       |      |
| Stage 1                  | -      | -    | 0      | 0     | 450    | -    | -    | -    | -    |      |       |      |
| Stage 2                  | 593    | 449  | 0      | 0     | -      | -    | -    | -    | -    |      |       |      |
| Platoon blocked, %       |        |      |        |       |        |      |      | -    | -    |      |       |      |
| Mov Cap-1 Maneuver       | 470    | 372  | -      | -     | 372    | 714  | -    | -    | -    |      |       |      |
| Mov Cap-2 Maneuver       | 470    | 372  | -      | -     | 372    | -    | -    | -    | -    |      |       |      |
| Stage 1                  | -      | -    | -      | -     | 450    | -    | -    | -    | -    |      |       |      |
| Stage 2                  | 524    | 449  | -      | -     | -      | -    | -    | -    | -    |      |       |      |
|                          |        |      |        |       |        |      |      |      |      |      |       |      |
|                          |        |      |        |       |        |      |      |      |      |      |       |      |
| Approach                 | EB     |      | WB     |       | NB     |      |      |      |      |      |       |      |
| HCM Control Delay, s     | 14.7   |      | 12.5   |       |        |      |      |      |      |      |       |      |
| HCM LOS                  | B      |      | B      |       |        |      |      |      |      |      |       |      |
|                          |        |      |        |       |        |      |      |      |      |      |       |      |
| Minor Lane/Major Mvmt    | NBL    | NBT  | NBR    | EBLn1 | WBLn1  |      |      |      |      |      |       |      |
| Capacity (veh/h)         | -      | -    | -      | 429   | 555    |      |      |      |      |      |       |      |
| HCM Lane V/C Ratio       | -      | -    | -      | 0.136 | 0.13   |      |      |      |      |      |       |      |
| HCM Control Delay (s)    | -      | -    | -      | 14.7  | 12.5   |      |      |      |      |      |       |      |
| HCM Lane LOS             | -      | -    | -      | B     | B      |      |      |      |      |      |       |      |
| HCM 95th %tile Q(veh)    | -      | -    | -      | 0.5   | 0.4    |      |      |      |      |      |       |      |



HCM 6th Signalized Intersection Summary  
38: 4th Street & White Ave

Forecast Year 2045  
(Existing Volumes x 1.5)

|                              |  |  |  |  |  |  |  |  |  |  |  |  |
|------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|
| Movement                     | EBL                                                                               | EBT                                                                               | EBR                                                                               | WBL                                                                               | WBT                                                                               | WBR                                                                               | NBL                                                                                | NBT                                                                                 | NBR                                                                                 | SBL                                                                                 | SBT                                                                                 | SBR                                                                                 |
| Lane Configurations          |                                                                                   |  |                                                                                   |                                                                                   |  |                                                                                   |                                                                                    |                                                                                     |                                                                                     |                                                                                     |  |  |
| Traffic Volume (veh/h)       | 0                                                                                 | 11                                                                                | 18                                                                                | 30                                                                                | 29                                                                                | 0                                                                                 | 0                                                                                  | 0                                                                                   | 0                                                                                   | 17                                                                                  | 259                                                                                 | 18                                                                                  |
| Future Volume (veh/h)        | 0                                                                                 | 11                                                                                | 18                                                                                | 30                                                                                | 29                                                                                | 0                                                                                 | 0                                                                                  | 0                                                                                   | 0                                                                                   | 17                                                                                  | 259                                                                                 | 18                                                                                  |
| Initial Q (Qb), veh          | 0                                                                                 | 0                                                                                 | 0                                                                                 | 0                                                                                 | 0                                                                                 | 0                                                                                 |                                                                                    |                                                                                     |                                                                                     | 0                                                                                   | 0                                                                                   | 0                                                                                   |
| Ped-Bike Adj(A_pbT)          | 1.00                                                                              |                                                                                   | 1.00                                                                              | 1.00                                                                              |                                                                                   | 1.00                                                                              |                                                                                    |                                                                                     |                                                                                     | 1.00                                                                                |                                                                                     | 1.00                                                                                |
| Parking Bus, Adj             | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              |                                                                                    |                                                                                     |                                                                                     | 1.00                                                                                | 1.00                                                                                | 1.00                                                                                |
| Work Zone On Approach        |                                                                                   | No                                                                                |                                                                                   |                                                                                   | No                                                                                |                                                                                   |                                                                                    |                                                                                     |                                                                                     |                                                                                     | No                                                                                  |                                                                                     |
| Adj Sat Flow, veh/h/ln       | 0                                                                                 | 1885                                                                              | 1885                                                                              | 1885                                                                              | 1885                                                                              | 0                                                                                 |                                                                                    |                                                                                     |                                                                                     | 1885                                                                                | 1885                                                                                | 1885                                                                                |
| Adj Flow Rate, veh/h         | 0                                                                                 | 16                                                                                | 27                                                                                | 45                                                                                | 44                                                                                | 0                                                                                 |                                                                                    |                                                                                     |                                                                                     | 26                                                                                  | 388                                                                                 | 27                                                                                  |
| Peak Hour Factor             | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              |                                                                                    |                                                                                     |                                                                                     | 1.00                                                                                | 1.00                                                                                | 1.00                                                                                |
| Percent Heavy Veh, %         | 0                                                                                 | 1                                                                                 | 1                                                                                 | 1                                                                                 | 1                                                                                 | 0                                                                                 |                                                                                    |                                                                                     |                                                                                     | 1                                                                                   | 1                                                                                   | 1                                                                                   |
| Cap, veh/h                   | 0                                                                                 | 189                                                                               | 319                                                                               | 279                                                                               | 257                                                                               | 0                                                                                 |                                                                                    |                                                                                     |                                                                                     | 126                                                                                 | 1961                                                                                | 143                                                                                 |
| Arrive On Green              | 0.00                                                                              | 0.30                                                                              | 0.30                                                                              | 0.30                                                                              | 0.30                                                                              | 0.00                                                                              |                                                                                    |                                                                                     |                                                                                     | 0.60                                                                                | 0.60                                                                                | 0.60                                                                                |
| Sat Flow, veh/h              | 0                                                                                 | 630                                                                               | 1064                                                                              | 750                                                                               | 856                                                                               | 0                                                                                 |                                                                                    |                                                                                     |                                                                                     | 210                                                                                 | 3269                                                                                | 238                                                                                 |
| Grp Volume(v), veh/h         | 0                                                                                 | 0                                                                                 | 43                                                                                | 89                                                                                | 0                                                                                 | 0                                                                                 |                                                                                    |                                                                                     |                                                                                     | 232                                                                                 | 0                                                                                   | 209                                                                                 |
| Grp Sat Flow(s),veh/h/ln     | 0                                                                                 | 0                                                                                 | 1694                                                                              | 1606                                                                              | 0                                                                                 | 0                                                                                 |                                                                                    |                                                                                     |                                                                                     | 1875                                                                                | 0                                                                                   | 1842                                                                                |
| Q Serve(g_s), s              | 0.0                                                                               | 0.0                                                                               | 1.8                                                                               | 1.8                                                                               | 0.0                                                                               | 0.0                                                                               |                                                                                    |                                                                                     |                                                                                     | 5.7                                                                                 | 0.0                                                                                 | 5.1                                                                                 |
| Cycle Q Clear(g_c), s        | 0.0                                                                               | 0.0                                                                               | 1.8                                                                               | 3.8                                                                               | 0.0                                                                               | 0.0                                                                               |                                                                                    |                                                                                     |                                                                                     | 5.7                                                                                 | 0.0                                                                                 | 5.1                                                                                 |
| Prop In Lane                 | 0.00                                                                              |                                                                                   | 0.63                                                                              | 0.51                                                                              |                                                                                   | 0.00                                                                              |                                                                                    |                                                                                     |                                                                                     | 0.11                                                                                |                                                                                     | 0.13                                                                                |
| Lane Grp Cap(c), veh/h       | 0                                                                                 | 0                                                                                 | 508                                                                               | 536                                                                               | 0                                                                                 | 0                                                                                 |                                                                                    |                                                                                     |                                                                                     | 1125                                                                                | 0                                                                                   | 1105                                                                                |
| V/C Ratio(X)                 | 0.00                                                                              | 0.00                                                                              | 0.08                                                                              | 0.17                                                                              | 0.00                                                                              | 0.00                                                                              |                                                                                    |                                                                                     |                                                                                     | 0.21                                                                                | 0.00                                                                                | 0.19                                                                                |
| Avail Cap(c_a), veh/h        | 0                                                                                 | 0                                                                                 | 508                                                                               | 536                                                                               | 0                                                                                 | 0                                                                                 |                                                                                    |                                                                                     |                                                                                     | 1125                                                                                | 0                                                                                   | 1105                                                                                |
| HCM Platoon Ratio            | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              |                                                                                    |                                                                                     |                                                                                     | 1.00                                                                                | 1.00                                                                                | 1.00                                                                                |
| Upstream Filter(I)           | 0.00                                                                              | 0.00                                                                              | 1.00                                                                              | 1.00                                                                              | 0.00                                                                              | 0.00                                                                              |                                                                                    |                                                                                     |                                                                                     | 1.00                                                                                | 0.00                                                                                | 1.00                                                                                |
| Uniform Delay (d), s/veh     | 0.0                                                                               | 0.0                                                                               | 25.1                                                                              | 25.8                                                                              | 0.0                                                                               | 0.0                                                                               |                                                                                    |                                                                                     |                                                                                     | 9.1                                                                                 | 0.0                                                                                 | 9.0                                                                                 |
| Incr Delay (d2), s/veh       | 0.0                                                                               | 0.0                                                                               | 0.3                                                                               | 0.7                                                                               | 0.0                                                                               | 0.0                                                                               |                                                                                    |                                                                                     |                                                                                     | 0.4                                                                                 | 0.0                                                                                 | 0.4                                                                                 |
| Initial Q Delay(d3),s/veh    | 0.0                                                                               | 0.0                                                                               | 0.0                                                                               | 0.0                                                                               | 0.0                                                                               | 0.0                                                                               |                                                                                    |                                                                                     |                                                                                     | 0.0                                                                                 | 0.0                                                                                 | 0.0                                                                                 |
| %ile BackOfQ(50%),veh/ln     | 0.0                                                                               | 0.0                                                                               | 0.8                                                                               | 1.6                                                                               | 0.0                                                                               | 0.0                                                                               |                                                                                    |                                                                                     |                                                                                     | 2.3                                                                                 | 0.0                                                                                 | 2.0                                                                                 |
| Unsig. Movement Delay, s/veh |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                    |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| LnGrp Delay(d),s/veh         | 0.0                                                                               | 0.0                                                                               | 25.5                                                                              | 26.4                                                                              | 0.0                                                                               | 0.0                                                                               |                                                                                    |                                                                                     |                                                                                     | 9.5                                                                                 | 0.0                                                                                 | 9.4                                                                                 |
| LnGrp LOS                    | A                                                                                 | A                                                                                 | C                                                                                 | C                                                                                 | A                                                                                 | A                                                                                 |                                                                                    |                                                                                     |                                                                                     | A                                                                                   | A                                                                                   | A                                                                                   |
| Approach Vol, veh/h          |                                                                                   | 43                                                                                |                                                                                   |                                                                                   | 89                                                                                |                                                                                   |                                                                                    |                                                                                     |                                                                                     |                                                                                     | 441                                                                                 |                                                                                     |
| Approach Delay, s/veh        |                                                                                   | 25.5                                                                              |                                                                                   |                                                                                   | 26.4                                                                              |                                                                                   |                                                                                    |                                                                                     |                                                                                     |                                                                                     | 9.5                                                                                 |                                                                                     |
| Approach LOS                 |                                                                                   | C                                                                                 |                                                                                   |                                                                                   | C                                                                                 |                                                                                   |                                                                                    |                                                                                     |                                                                                     |                                                                                     | A                                                                                   |                                                                                     |
| Timer - Assigned Phs         |                                                                                   | 2                                                                                 |                                                                                   | 4                                                                                 |                                                                                   |                                                                                   |                                                                                    | 8                                                                                   |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Phs Duration (G+Y+Rc), s     |                                                                                   | 65.0                                                                              |                                                                                   | 35.0                                                                              |                                                                                   |                                                                                   |                                                                                    | 35.0                                                                                |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Change Period (Y+Rc), s      |                                                                                   | 5.0                                                                               |                                                                                   | 5.0                                                                               |                                                                                   |                                                                                   |                                                                                    | 5.0                                                                                 |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Max Green Setting (Gmax), s  |                                                                                   | 60.0                                                                              |                                                                                   | 30.0                                                                              |                                                                                   |                                                                                   |                                                                                    | 30.0                                                                                |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Max Q Clear Time (g_c+I1), s |                                                                                   | 7.7                                                                               |                                                                                   | 5.8                                                                               |                                                                                   |                                                                                   |                                                                                    | 3.8                                                                                 |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Green Ext Time (p_c), s      |                                                                                   | 2.9                                                                               |                                                                                   | 0.4                                                                               |                                                                                   |                                                                                   |                                                                                    | 0.2                                                                                 |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| <b>Intersection Summary</b>  |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                    |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| HCM 6th Ctrl Delay           |                                                                                   |                                                                                   | 13.3                                                                              |                                                                                   |                                                                                   |                                                                                   |                                                                                    |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| HCM 6th LOS                  |                                                                                   |                                                                                   | B                                                                                 |                                                                                   |                                                                                   |                                                                                   |                                                                                    |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |

# HCM 6th Signalized Intersection Summary

## 41: 5th Street & Rood Ave

Forecast Year 2045  
(Existing Volumes x 1.5)



| Movement                     | EBL                                                                               | EBT                                                                               | EBR  | WBL  | WBT                                                                               | WBR  | NBL  | NBT                                                                               | NBR  | SBL | SBT | SBR |  |
|------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|------|------|-----------------------------------------------------------------------------------|------|------|-----------------------------------------------------------------------------------|------|-----|-----|-----|--|
| Lane Configurations          |  |  |      |      |  |      |      |  |      |     |     |     |  |
| Traffic Volume (veh/h)       | 33                                                                                | 43                                                                                | 0    | 0    | 32                                                                                | 30   | 30   | 361                                                                               | 12   | 0   | 0   | 0   |  |
| Future Volume (veh/h)        | 33                                                                                | 43                                                                                | 0    | 0    | 32                                                                                | 30   | 30   | 361                                                                               | 12   | 0   | 0   | 0   |  |
| Initial Q (Qb), veh          | 0                                                                                 | 0                                                                                 | 0    | 0    | 0                                                                                 | 0    | 0    | 0                                                                                 | 0    |     |     |     |  |
| Ped-Bike Adj(A_pbT)          | 1.00                                                                              |                                                                                   | 1.00 | 1.00 |                                                                                   | 1.00 | 1.00 |                                                                                   | 1.00 |     |     |     |  |
| Parking Bus, Adj             | 1.00                                                                              | 1.00                                                                              | 1.00 | 1.00 | 1.00                                                                              | 1.00 | 1.00 | 1.00                                                                              | 1.00 |     |     |     |  |
| Work Zone On Approach        | No                                                                                |                                                                                   |      | No   |                                                                                   |      | No   |                                                                                   |      |     |     |     |  |
| Adj Sat Flow, veh/h/ln       | 1885                                                                              | 1885                                                                              | 0    | 0    | 1885                                                                              | 1885 | 1885 | 1885                                                                              | 1885 |     |     |     |  |
| Adj Flow Rate, veh/h         | 50                                                                                | 64                                                                                | 0    | 0    | 48                                                                                | 45   | 45   | 542                                                                               | 18   |     |     |     |  |
| Peak Hour Factor             | 1.00                                                                              | 1.00                                                                              | 1.00 | 1.00 | 1.00                                                                              | 1.00 | 1.00 | 1.00                                                                              | 1.00 |     |     |     |  |
| Percent Heavy Veh, %         | 1                                                                                 | 1                                                                                 | 0    | 0    | 1                                                                                 | 1    | 1    | 1                                                                                 | 1    |     |     |     |  |
| Cap, veh/h                   | 414                                                                               | 566                                                                               | 0    | 0    | 269                                                                               | 252  | 159  | 2012                                                                              | 70   |     |     |     |  |
| Arrive On Green              | 0.30                                                                              | 0.30                                                                              | 0.00 | 0.00 | 0.30                                                                              | 0.30 | 0.20 | 0.20                                                                              | 0.20 |     |     |     |  |
| Sat Flow, veh/h              | 1313                                                                              | 1885                                                                              | 0    | 0    | 895                                                                               | 839  | 265  | 3354                                                                              | 117  |     |     |     |  |
| Grp Volume(v), veh/h         | 50                                                                                | 64                                                                                | 0    | 0    | 0                                                                                 | 93   | 317  | 0                                                                                 | 288  |     |     |     |  |
| Grp Sat Flow(s),veh/h/ln     | 1313                                                                              | 1885                                                                              | 0    | 0    | 0                                                                                 | 1734 | 1872 | 0                                                                                 | 1864 |     |     |     |  |
| Q Serve(g_s), s              | 2.9                                                                               | 2.5                                                                               | 0.0  | 0.0  | 0.0                                                                               | 4.0  | 14.4 | 0.0                                                                               | 13.0 |     |     |     |  |
| Cycle Q Clear(g_c), s        | 6.9                                                                               | 2.5                                                                               | 0.0  | 0.0  | 0.0                                                                               | 4.0  | 14.4 | 0.0                                                                               | 13.0 |     |     |     |  |
| Prop In Lane                 | 1.00                                                                              |                                                                                   | 0.00 | 0.00 |                                                                                   | 0.48 | 0.14 |                                                                                   | 0.06 |     |     |     |  |
| Lane Grp Cap(c), veh/h       | 414                                                                               | 566                                                                               | 0    | 0    | 0                                                                                 | 520  | 1123 | 0                                                                                 | 1119 |     |     |     |  |
| V/C Ratio(X)                 | 0.12                                                                              | 0.11                                                                              | 0.00 | 0.00 | 0.00                                                                              | 0.18 | 0.28 | 0.00                                                                              | 0.26 |     |     |     |  |
| Avail Cap(c_a), veh/h        | 414                                                                               | 566                                                                               | 0    | 0    | 0                                                                                 | 520  | 1123 | 0                                                                                 | 1119 |     |     |     |  |
| HCM Platoon Ratio            | 1.00                                                                              | 1.00                                                                              | 1.00 | 1.00 | 1.00                                                                              | 1.00 | 0.33 | 0.33                                                                              | 0.33 |     |     |     |  |
| Upstream Filter(I)           | 1.00                                                                              | 1.00                                                                              | 0.00 | 0.00 | 0.00                                                                              | 1.00 | 1.00 | 0.00                                                                              | 1.00 |     |     |     |  |
| Uniform Delay (d), s/veh     | 28.4                                                                              | 25.4                                                                              | 0.0  | 0.0  | 0.0                                                                               | 25.9 | 21.8 | 0.0                                                                               | 21.3 |     |     |     |  |
| Incr Delay (d2), s/veh       | 0.6                                                                               | 0.4                                                                               | 0.0  | 0.0  | 0.0                                                                               | 0.8  | 0.6  | 0.0                                                                               | 0.6  |     |     |     |  |
| Initial Q Delay(d3),s/veh    | 0.0                                                                               | 0.0                                                                               | 0.0  | 0.0  | 0.0                                                                               | 0.0  | 0.0  | 0.0                                                                               | 0.0  |     |     |     |  |
| %ile BackOfQ(50%),veh/ln     | 1.0                                                                               | 1.2                                                                               | 0.0  | 0.0  | 0.0                                                                               | 1.7  | 7.3  | 0.0                                                                               | 6.6  |     |     |     |  |
| Unsig. Movement Delay, s/veh |                                                                                   |                                                                                   |      |      |                                                                                   |      |      |                                                                                   |      |     |     |     |  |
| LnGrp Delay(d),s/veh         | 29.0                                                                              | 25.8                                                                              | 0.0  | 0.0  | 0.0                                                                               | 26.6 | 22.4 | 0.0                                                                               | 21.8 |     |     |     |  |
| LnGrp LOS                    | C                                                                                 | C                                                                                 | A    | A    | A                                                                                 | C    | C    | A                                                                                 | C    |     |     |     |  |
| Approach Vol, veh/h          | 114                                                                               |                                                                                   | 93   |      |                                                                                   | 605  |      |                                                                                   |      |     |     |     |  |
| Approach Delay, s/veh        | 27.2                                                                              |                                                                                   | 26.6 |      |                                                                                   | 22.2 |      |                                                                                   |      |     |     |     |  |
| Approach LOS                 | C                                                                                 |                                                                                   | C    |      |                                                                                   | C    |      |                                                                                   |      |     |     |     |  |
| Timer - Assigned Phs         |                                                                                   |                                                                                   |      |      |                                                                                   |      |      |                                                                                   |      |     |     |     |  |
|                              |                                                                                   |                                                                                   |      | 4    |                                                                                   | 6    |      | 8                                                                                 |      |     |     |     |  |
| Phs Duration (G+Y+Rc), s     |                                                                                   |                                                                                   |      | 35.0 |                                                                                   | 65.0 |      | 35.0                                                                              |      |     |     |     |  |
| Change Period (Y+Rc), s      |                                                                                   |                                                                                   |      | 5.0  |                                                                                   | 5.0  |      | 5.0                                                                               |      |     |     |     |  |
| Max Green Setting (Gmax), s  |                                                                                   |                                                                                   |      | 30.0 |                                                                                   | 60.0 |      | 30.0                                                                              |      |     |     |     |  |
| Max Q Clear Time (g_c+I1), s |                                                                                   |                                                                                   |      | 6.0  |                                                                                   | 16.4 |      | 8.9                                                                               |      |     |     |     |  |
| Green Ext Time (p_c), s      |                                                                                   |                                                                                   |      | 0.4  |                                                                                   | 3.9  |      | 0.4                                                                               |      |     |     |     |  |
| Intersection Summary         |                                                                                   |                                                                                   |      |      |                                                                                   |      |      |                                                                                   |      |     |     |     |  |
| HCM 6th Ctrl Delay           |                                                                                   |                                                                                   | 23.4 |      |                                                                                   |      |      |                                                                                   |      |     |     |     |  |
| HCM 6th LOS                  |                                                                                   |                                                                                   | C    |      |                                                                                   |      |      |                                                                                   |      |     |     |     |  |

# HCM 6th Signalized Intersection Summary 42: 4th Street & Rood Ave

Forecast Year 2045  
(Existing Volumes x 1.5)



| Movement                     | EBL  | EBT  | EBR  | WBL  | WBT  | WBR  | NBL | NBT  | NBR | SBL  | SBT  | SBR  |
|------------------------------|------|------|------|------|------|------|-----|------|-----|------|------|------|
| Lane Configurations          |      | ↻    |      | ↻    | ↻    |      |     |      |     |      | ↻↻   |      |
| Traffic Volume (veh/h)       | 0    | 35   | 27   | 23   | 54   | 0    | 0   | 0    | 0   | 32   | 233  | 57   |
| Future Volume (veh/h)        | 0    | 35   | 27   | 23   | 54   | 0    | 0   | 0    | 0   | 32   | 233  | 57   |
| Initial Q (Qb), veh          | 0    | 0    | 0    | 0    | 0    | 0    |     |      |     | 0    | 0    | 0    |
| Ped-Bike Adj(A_pbT)          | 1.00 |      | 1.00 | 1.00 |      | 1.00 |     |      |     | 1.00 |      | 1.00 |
| Parking Bus, Adj             | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |     |      |     | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach        |      | No   |      |      | No   |      |     |      |     |      | No   |      |
| Adj Sat Flow, veh/h/ln       | 0    | 1885 | 1885 | 1885 | 1885 | 0    |     |      |     | 1885 | 1885 | 1885 |
| Adj Flow Rate, veh/h         | 0    | 52   | 40   | 34   | 81   | 0    |     |      |     | 48   | 350  | 86   |
| Peak Hour Factor             | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |     |      |     | 1.00 | 1.00 | 1.00 |
| Percent Heavy Veh, %         | 0    | 1    | 1    | 1    | 1    | 0    |     |      |     | 1    | 1    | 1    |
| Cap, veh/h                   | 0    | 296  | 228  | 415  | 566  | 0    |     |      |     | 208  | 1567 | 404  |
| Arrive On Green              | 0.00 | 0.30 | 0.30 | 0.10 | 0.10 | 0.00 |     |      |     | 0.20 | 0.20 | 0.20 |
| Sat Flow, veh/h              | 0    | 988  | 760  | 1315 | 1885 | 0    |     |      |     | 347  | 2612 | 673  |
| Grp Volume(v), veh/h         | 0    | 0    | 92   | 34   | 81   | 0    |     |      |     | 259  | 0    | 225  |
| Grp Sat Flow(s),veh/h/ln     | 0    | 0    | 1748 | 1315 | 1885 | 0    |     |      |     | 1868 | 0    | 1764 |
| Q Serve(g_s), s              | 0.0  | 0.0  | 3.9  | 2.4  | 3.9  | 0.0  |     |      |     | 11.6 | 0.0  | 10.7 |
| Cycle Q Clear(g_c), s        | 0.0  | 0.0  | 3.9  | 6.3  | 3.9  | 0.0  |     |      |     | 11.6 | 0.0  | 10.7 |
| Prop In Lane                 | 0.00 |      | 0.43 | 1.00 |      | 0.00 |     |      |     | 0.19 |      | 0.38 |
| Lane Grp Cap(c), veh/h       | 0    | 0    | 525  | 415  | 566  | 0    |     |      |     | 1121 | 0    | 1058 |
| V/C Ratio(X)                 | 0.00 | 0.00 | 0.18 | 0.08 | 0.14 | 0.00 |     |      |     | 0.23 | 0.00 | 0.21 |
| Avail Cap(c_a), veh/h        | 0    | 0    | 525  | 415  | 566  | 0    |     |      |     | 1121 | 0    | 1058 |
| HCM Platoon Ratio            | 1.00 | 1.00 | 1.00 | 0.33 | 0.33 | 1.00 |     |      |     | 0.33 | 0.33 | 0.33 |
| Upstream Filter(I)           | 0.00 | 0.00 | 1.00 | 1.00 | 1.00 | 0.00 |     |      |     | 1.00 | 0.00 | 1.00 |
| Uniform Delay (d), s/veh     | 0.0  | 0.0  | 25.9 | 36.2 | 33.3 | 0.0  |     |      |     | 20.7 | 0.0  | 20.3 |
| Incr Delay (d2), s/veh       | 0.0  | 0.0  | 0.7  | 0.4  | 0.5  | 0.0  |     |      |     | 0.5  | 0.0  | 0.5  |
| Initial Q Delay(d3),s/veh    | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  |     |      |     | 0.0  | 0.0  | 0.0  |
| %ile BackOfQ(50%),veh/ln     | 0.0  | 0.0  | 1.7  | 0.8  | 1.9  | 0.0  |     |      |     | 5.9  | 0.0  | 5.1  |
| Unsig. Movement Delay, s/veh |      |      |      |      |      |      |     |      |     |      |      |      |
| LnGrp Delay(d),s/veh         | 0.0  | 0.0  | 26.6 | 36.5 | 33.8 | 0.0  |     |      |     | 21.2 | 0.0  | 20.8 |
| LnGrp LOS                    | A    | A    | C    | D    | C    | A    |     |      |     | C    | A    | C    |
| Approach Vol, veh/h          |      | 92   |      |      | 115  |      |     |      |     |      | 484  |      |
| Approach Delay, s/veh        |      | 26.6 |      |      | 34.6 |      |     |      |     |      | 21.0 |      |
| Approach LOS                 |      | C    |      |      | C    |      |     |      |     |      | C    |      |
| Timer - Assigned Phs         |      | 2    |      | 4    |      |      |     | 8    |     |      |      |      |
| Phs Duration (G+Y+Rc), s     |      | 65.0 |      | 35.0 |      |      |     | 35.0 |     |      |      |      |
| Change Period (Y+Rc), s      |      | 5.0  |      | 5.0  |      |      |     | 5.0  |     |      |      |      |
| Max Green Setting (Gmax), s  |      | 60.0 |      | 30.0 |      |      |     | 30.0 |     |      |      |      |
| Max Q Clear Time (g_c+I1), s |      | 13.6 |      | 8.3  |      |      |     | 5.9  |     |      |      |      |
| Green Ext Time (p_c), s      |      | 3.3  |      | 0.4  |      |      |     | 0.4  |     |      |      |      |
| <b>Intersection Summary</b>  |      |      |      |      |      |      |     |      |     |      |      |      |
| HCM 6th Ctrl Delay           |      |      | 24.0 |      |      |      |     |      |     |      |      |      |
| HCM 6th LOS                  |      |      | C    |      |      |      |     |      |     |      |      |      |

# HCM 6th Signalized Intersection Summary

## 45: 5th Street & Main St

Forecast Year 2045  
(Existing Volumes x 1.5)



| Movement                     | EBL  | EBT                                                                               | EBR  | WBL  | WBT                                                                               | WBR  | NBL  | NBT                                                                               | NBR  | SBL | SBT | SBR |
|------------------------------|------|-----------------------------------------------------------------------------------|------|------|-----------------------------------------------------------------------------------|------|------|-----------------------------------------------------------------------------------|------|-----|-----|-----|
| Lane Configurations          |      |  |      |      |  |      |      |  |      |     |     |     |
| Traffic Volume (veh/h)       | 28   | 98                                                                                | 0    | 0    | 63                                                                                | 20   | 19   | 348                                                                               | 20   | 0   | 0   | 0   |
| Future Volume (veh/h)        | 28   | 98                                                                                | 0    | 0    | 63                                                                                | 20   | 19   | 348                                                                               | 20   | 0   | 0   | 0   |
| Initial Q (Qb), veh          | 0    | 0                                                                                 | 0    | 0    | 0                                                                                 | 0    | 0    | 0                                                                                 | 0    |     |     |     |
| Ped-Bike Adj(A_pbT)          | 1.00 |                                                                                   | 1.00 | 1.00 |                                                                                   | 1.00 | 1.00 |                                                                                   | 1.00 |     |     |     |
| Parking Bus, Adj             | 1.00 | 1.00                                                                              | 1.00 | 1.00 | 1.00                                                                              | 1.00 | 1.00 | 1.00                                                                              | 1.00 |     |     |     |
| Work Zone On Approach        | No   |                                                                                   |      | No   |                                                                                   |      | No   |                                                                                   |      |     |     |     |
| Adj Sat Flow, veh/h/ln       | 1885 | 1885                                                                              | 0    | 0    | 1885                                                                              | 1885 | 1885 | 1885                                                                              | 1885 |     |     |     |
| Adj Flow Rate, veh/h         | 42   | 147                                                                               | 0    | 0    | 94                                                                                | 30   | 28   | 522                                                                               | 30   |     |     |     |
| Peak Hour Factor             | 1.00 | 1.00                                                                              | 1.00 | 1.00 | 1.00                                                                              | 1.00 | 1.00 | 1.00                                                                              | 1.00 |     |     |     |
| Percent Heavy Veh, %         | 1    | 1                                                                                 | 0    | 0    | 1                                                                                 | 1    | 1    | 1                                                                                 | 1    |     |     |     |
| Cap, veh/h                   | 132  | 436                                                                               | 0    | 0    | 411                                                                               | 131  | 103  | 2011                                                                              | 121  |     |     |     |
| Arrive On Green              | 0.60 | 0.60                                                                              | 0.00 | 0.00 | 0.30                                                                              | 0.30 | 0.20 | 0.20                                                                              | 0.20 |     |     |     |
| Sat Flow, veh/h              | 292  | 1453                                                                              | 0    | 0    | 1369                                                                              | 437  | 172  | 3351                                                                              | 202  |     |     |     |
| Grp Volume(v), veh/h         | 189  | 0                                                                                 | 0    | 0    | 0                                                                                 | 124  | 305  | 0                                                                                 | 275  |     |     |     |
| Grp Sat Flow(s),veh/h/ln     | 1746 | 0                                                                                 | 0    | 0    | 0                                                                                 | 1807 | 1877 | 0                                                                                 | 1849 |     |     |     |
| Q Serve(g_s), s              | 0.0  | 0.0                                                                               | 0.0  | 0.0  | 0.0                                                                               | 5.2  | 13.8 | 0.0                                                                               | 12.5 |     |     |     |
| Cycle Q Clear(g_c), s        | 5.0  | 0.0                                                                               | 0.0  | 0.0  | 0.0                                                                               | 5.2  | 13.8 | 0.0                                                                               | 12.5 |     |     |     |
| Prop In Lane                 | 0.22 |                                                                                   | 0.00 | 0.00 |                                                                                   | 0.24 | 0.09 |                                                                                   | 0.11 |     |     |     |
| Lane Grp Cap(c), veh/h       | 568  | 0                                                                                 | 0    | 0    | 0                                                                                 | 542  | 1126 | 0                                                                                 | 1109 |     |     |     |
| V/C Ratio(X)                 | 0.33 | 0.00                                                                              | 0.00 | 0.00 | 0.00                                                                              | 0.23 | 0.27 | 0.00                                                                              | 0.25 |     |     |     |
| Avail Cap(c_a), veh/h        | 568  | 0                                                                                 | 0    | 0    | 0                                                                                 | 542  | 1126 | 0                                                                                 | 1109 |     |     |     |
| HCM Platoon Ratio            | 2.00 | 2.00                                                                              | 1.00 | 1.00 | 1.00                                                                              | 1.00 | 0.33 | 0.33                                                                              | 0.33 |     |     |     |
| Upstream Filter(I)           | 1.00 | 0.00                                                                              | 0.00 | 0.00 | 0.00                                                                              | 1.00 | 1.00 | 0.00                                                                              | 1.00 |     |     |     |
| Uniform Delay (d), s/veh     | 15.0 | 0.0                                                                               | 0.0  | 0.0  | 0.0                                                                               | 26.3 | 21.6 | 0.0                                                                               | 21.1 |     |     |     |
| Incr Delay (d2), s/veh       | 1.6  | 0.0                                                                               | 0.0  | 0.0  | 0.0                                                                               | 1.0  | 0.6  | 0.0                                                                               | 0.5  |     |     |     |
| Initial Q Delay(d3),s/veh    | 0.0  | 0.0                                                                               | 0.0  | 0.0  | 0.0                                                                               | 0.0  | 0.0  | 0.0                                                                               | 0.0  |     |     |     |
| %ile BackOfQ(50%),veh/ln     | 2.1  | 0.0                                                                               | 0.0  | 0.0  | 0.0                                                                               | 2.3  | 7.0  | 0.0                                                                               | 6.3  |     |     |     |
| Unsig. Movement Delay, s/veh |      |                                                                                   |      |      |                                                                                   |      |      |                                                                                   |      |     |     |     |
| LnGrp Delay(d),s/veh         | 16.6 | 0.0                                                                               | 0.0  | 0.0  | 0.0                                                                               | 27.3 | 22.2 | 0.0                                                                               | 21.6 |     |     |     |
| LnGrp LOS                    | B    | A                                                                                 | A    | A    | A                                                                                 | C    | C    | A                                                                                 | C    |     |     |     |
| Approach Vol, veh/h          | 189  |                                                                                   |      |      |                                                                                   | 124  |      | 580                                                                               |      |     |     |     |
| Approach Delay, s/veh        | 16.6 |                                                                                   |      |      |                                                                                   | 27.3 |      | 21.9                                                                              |      |     |     |     |
| Approach LOS                 | B    |                                                                                   |      |      |                                                                                   | C    |      | C                                                                                 |      |     |     |     |
| Timer - Assigned Phs         |      |                                                                                   |      | 4    |                                                                                   | 6    |      | 8                                                                                 |      |     |     |     |
| Phs Duration (G+Y+Rc), s     |      |                                                                                   |      | 35.0 |                                                                                   | 65.0 |      | 35.0                                                                              |      |     |     |     |
| Change Period (Y+Rc), s      |      |                                                                                   |      | 5.0  |                                                                                   | 5.0  |      | 5.0                                                                               |      |     |     |     |
| Max Green Setting (Gmax), s  |      |                                                                                   |      | 30.0 |                                                                                   | 60.0 |      | 30.0                                                                              |      |     |     |     |
| Max Q Clear Time (g_c+I1), s |      |                                                                                   |      | 7.2  |                                                                                   | 15.8 |      | 7.0                                                                               |      |     |     |     |
| Green Ext Time (p_c), s      |      |                                                                                   |      | 0.6  |                                                                                   | 3.8  |      | 1.0                                                                               |      |     |     |     |
| Intersection Summary         |      |                                                                                   |      |      |                                                                                   |      |      |                                                                                   |      |     |     |     |
| HCM 6th Ctrl Delay           |      |                                                                                   | 21.5 |      |                                                                                   |      |      |                                                                                   |      |     |     |     |
| HCM 6th LOS                  |      |                                                                                   | C    |      |                                                                                   |      |      |                                                                                   |      |     |     |     |

HCM 6th Signalized Intersection Summary  
46: 4th Street & Main St

Forecast Year 2045  
(Existing Volumes x 1.5)



| Movement                     | EBL  | EBT  | EBR  | WBL  | WBT  | WBR  | NBL | NBT  | NBR | SBL  | SBT  | SBR  |
|------------------------------|------|------|------|------|------|------|-----|------|-----|------|------|------|
| Lane Configurations          |      | ↶    |      |      | ↷    |      |     |      |     |      | ↶↷   |      |
| Traffic Volume (veh/h)       | 0    | 90   | 21   | 17   | 66   | 0    | 0   | 0    | 0   | 34   | 209  | 33   |
| Future Volume (veh/h)        | 0    | 90   | 21   | 17   | 66   | 0    | 0   | 0    | 0   | 34   | 209  | 33   |
| Initial Q (Qb), veh          | 0    | 0    | 0    | 0    | 0    | 0    |     |      |     | 0    | 0    | 0    |
| Ped-Bike Adj(A_pbT)          | 1.00 |      | 1.00 | 1.00 |      | 1.00 |     |      |     | 1.00 |      | 1.00 |
| Parking Bus, Adj             | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |     |      |     | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach        |      | No   |      |      | No   |      |     |      |     |      | No   |      |
| Adj Sat Flow, veh/h/ln       | 0    | 1885 | 1885 | 1885 | 1885 | 0    |     |      |     | 1885 | 1885 | 1885 |
| Adj Flow Rate, veh/h         | 0    | 135  | 32   | 26   | 99   | 0    |     |      |     | 51   | 314  | 50   |
| Peak Hour Factor             | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |     |      |     | 1.00 | 1.00 | 1.00 |
| Percent Heavy Veh, %         | 0    | 1    | 1    | 1    | 1    | 0    |     |      |     | 1    | 1    | 1    |
| Cap, veh/h                   | 0    | 641  | 152  | 170  | 625  | 0    |     |      |     | 206  | 1317 | 219  |
| Arrive On Green              | 0.00 | 0.44 | 0.44 | 0.87 | 0.87 | 0.00 |     |      |     | 0.16 | 0.16 | 0.16 |
| Sat Flow, veh/h              | 0    | 1473 | 349  | 291  | 1438 | 0    |     |      |     | 433  | 2772 | 461  |
| Grp Volume(v), veh/h         | 0    | 0    | 167  | 125  | 0    | 0    |     |      |     | 220  | 0    | 195  |
| Grp Sat Flow(s),veh/h/ln     | 0    | 0    | 1822 | 1729 | 0    | 0    |     |      |     | 1864 | 0    | 1802 |
| Q Serve(g_s), s              | 0.0  | 0.0  | 5.7  | 0.0  | 0.0  | 0.0  |     |      |     | 10.3 | 0.0  | 9.5  |
| Cycle Q Clear(g_c), s        | 0.0  | 0.0  | 5.7  | 1.0  | 0.0  | 0.0  |     |      |     | 10.3 | 0.0  | 9.5  |
| Prop In Lane                 | 0.00 |      | 0.19 | 0.21 |      | 0.00 |     |      |     | 0.23 |      | 0.26 |
| Lane Grp Cap(c), veh/h       | 0    | 0    | 793  | 796  | 0    | 0    |     |      |     | 885  | 0    | 856  |
| V/C Ratio(X)                 | 0.00 | 0.00 | 0.21 | 0.16 | 0.00 | 0.00 |     |      |     | 0.25 | 0.00 | 0.23 |
| Avail Cap(c_a), veh/h        | 0    | 0    | 793  | 796  | 0    | 0    |     |      |     | 885  | 0    | 856  |
| HCM Platoon Ratio            | 1.00 | 1.00 | 1.00 | 2.00 | 2.00 | 1.00 |     |      |     | 0.33 | 0.33 | 0.33 |
| Upstream Filter(I)           | 0.00 | 0.00 | 1.00 | 1.00 | 0.00 | 0.00 |     |      |     | 1.00 | 0.00 | 1.00 |
| Uniform Delay (d), s/veh     | 0.0  | 0.0  | 17.6 | 3.7  | 0.0  | 0.0  |     |      |     | 26.5 | 0.0  | 26.1 |
| Incr Delay (d2), s/veh       | 0.0  | 0.0  | 0.6  | 0.4  | 0.0  | 0.0  |     |      |     | 0.7  | 0.0  | 0.6  |
| Initial Q Delay(d3),s/veh    | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  |     |      |     | 0.0  | 0.0  | 0.0  |
| %ile BackOfQ(50%),veh/ln     | 0.0  | 0.0  | 2.5  | 0.5  | 0.0  | 0.0  |     |      |     | 5.3  | 0.0  | 4.6  |
| Unsig. Movement Delay, s/veh |      |      |      |      |      |      |     |      |     |      |      |      |
| LnGrp Delay(d),s/veh         | 0.0  | 0.0  | 18.2 | 4.2  | 0.0  | 0.0  |     |      |     | 27.2 | 0.0  | 26.8 |
| LnGrp LOS                    | A    | A    | B    | A    | A    | A    |     |      |     | C    | A    | C    |
| Approach Vol, veh/h          |      | 167  |      |      | 125  |      |     |      |     |      | 415  |      |
| Approach Delay, s/veh        |      | 18.2 |      |      | 4.2  |      |     |      |     |      | 27.0 |      |
| Approach LOS                 |      | B    |      |      | A    |      |     |      |     |      | C    |      |
| Timer - Assigned Phs         |      | 2    |      | 4    |      |      |     | 8    |     |      |      |      |
| Phs Duration (G+Y+Rc), s     |      | 52.0 |      | 48.0 |      |      |     | 48.0 |     |      |      |      |
| Change Period (Y+Rc), s      |      | 4.5  |      | 4.5  |      |      |     | 4.5  |     |      |      |      |
| Max Green Setting (Gmax), s  |      | 47.5 |      | 43.5 |      |      |     | 43.5 |     |      |      |      |
| Max Q Clear Time (g_c+I1), s |      | 12.3 |      | 3.0  |      |      |     | 7.7  |     |      |      |      |
| Green Ext Time (p_c), s      |      | 2.7  |      | 0.7  |      |      |     | 1.0  |     |      |      |      |
| <b>Intersection Summary</b>  |      |      |      |      |      |      |     |      |     |      |      |      |
| HCM 6th Ctrl Delay           |      |      | 20.9 |      |      |      |     |      |     |      |      |      |
| HCM 6th LOS                  |      |      | C    |      |      |      |     |      |     |      |      |      |

| Intersection             |      |      |      |      |      |      |      |      |      |      |       |      |
|--------------------------|------|------|------|------|------|------|------|------|------|------|-------|------|
| Int Delay, s/veh         | 3.8  |      |      |      |      |      |      |      |      |      |       |      |
| Movement                 | EBL  | EBT  | EBR  | WBL  | WBT  | WBR  | NBL  | NBT  | NBR  | SBL  | SBT   | SBR  |
| Lane Configurations      |      | ↰    |      |      | ↱    |      |      | ↰↱   |      |      |       |      |
| Traffic Vol, veh/h       | 33   | 38   | 0    | 0    | 43   | 15   | 12   | 328  | 13   | 0    | 0     | 0    |
| Future Vol, veh/h        | 33   | 38   | 0    | 0    | 43   | 15   | 12   | 328  | 13   | 0    | 0     | 0    |
| Conflicting Peds, #/hr   | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0     | 0    |
| Sign Control             | Stop | Stop | Stop | Stop | Stop | Stop | Free | Free | Free | Free | Free  | Free |
| RT Channelized           | -    | -    | None | -    | -    | None | -    | -    | None | -    | -     | None |
| Storage Length           | -    | -    | -    | -    | -    | -    | -    | -    | -    | -    | -     | -    |
| Veh in Median Storage, # | -    | 0    | -    | -    | 0    | -    | -    | 0    | -    | -    | 16965 | -    |
| Grade, %                 | -    | 0    | -    | -    | 0    | -    | -    | 0    | -    | -    | 0     | -    |
| Peak Hour Factor         | 100  | 100  | 100  | 100  | 100  | 100  | 100  | 100  | 100  | 100  | 100   | 100  |
| Heavy Vehicles, %        | 1    | 1    | 1    | 1    | 1    | 1    | 1    | 1    | 1    | 1    | 1     | 1    |
| Mvmt Flow                | 50   | 57   | 0    | 0    | 65   | 23   | 18   | 492  | 20   | 0    | 0     | 0    |

| Major/Minor          | Minor2 |      | Minor1 |   | Major1 |      |      |   |   |
|----------------------|--------|------|--------|---|--------|------|------|---|---|
| Conflicting Flow All | 315    | 548  | -      | - | 538    | 256  | 0    | 0 | 0 |
| Stage 1              | 0      | 0    | -      | - | 538    | -    | -    | - | - |
| Stage 2              | 315    | 548  | -      | - | 0      | -    | -    | - | - |
| Critical Hdwy        | 7.52   | 6.52 | -      | - | 6.52   | 6.92 | 4.12 | - | - |
| Critical Hdwy Stg 1  | -      | -    | -      | - | 5.52   | -    | -    | - | - |
| Critical Hdwy Stg 2  | 6.52   | 5.52 | -      | - | -      | -    | -    | - | - |
| Follow-up Hdwy       | 3.51   | 4.01 | -      | - | 4.01   | 3.31 | 2.21 | - | - |
| Pot Cap-1 Maneuver   | 617    | 445  | 0      | 0 | 450    | 746  | -    | - | - |
| Stage 1              | -      | -    | 0      | 0 | 523    | -    | -    | - | - |
| Stage 2              | 673    | 518  | 0      | 0 | -      | -    | -    | - | - |
| Platoon blocked, %   |        |      |        |   |        |      |      | - | - |
| Mov Cap-1 Maneuver   | 532    | 445  | -      | - | 450    | 746  | -    | - | - |
| Mov Cap-2 Maneuver   | 532    | 445  | -      | - | 450    | -    | -    | - | - |
| Stage 1              | -      | -    | -      | - | 523    | -    | -    | - | - |
| Stage 2              | 572    | 518  | -      | - | -      | -    | -    | - | - |

| Approach             | EB   |  | WB   |  | NB |  |  |
|----------------------|------|--|------|--|----|--|--|
| HCM Control Delay, s | 14.6 |  | 13.7 |  |    |  |  |
| HCM LOS              | B    |  | B    |  |    |  |  |

| Minor Lane/Major Mvmt | NBL | NBT | NBR | EBLn1WBLn1 |       |  |  |
|-----------------------|-----|-----|-----|------------|-------|--|--|
| Capacity (veh/h)      | -   | -   | -   | 482        | 501   |  |  |
| HCM Lane V/C Ratio    | -   | -   | -   | 0.221      | 0.174 |  |  |
| HCM Control Delay (s) | -   | -   | -   | 14.6       | 13.7  |  |  |
| HCM Lane LOS          | -   | -   | -   | B          | B     |  |  |
| HCM 95th %tile Q(veh) | -   | -   | -   | 0.8        | 0.6   |  |  |

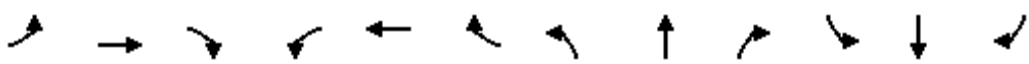


| Intersection             |            |      |        |      |      |      |          |       |      |      |      |      |
|--------------------------|------------|------|--------|------|------|------|----------|-------|------|------|------|------|
| Int Delay, s/veh         | 3.7        |      |        |      |      |      |          |       |      |      |      |      |
| Movement                 | EBL        | EBT  | EBR    | WBL  | WBT  | WBR  | NBL      | NBT   | NBR  | SBL  | SBT  | SBR  |
| Lane Configurations      |            | ↱    |        |      | ↱    |      |          |       |      | ↱↲   |      |      |
| Traffic Vol, veh/h       | 0          | 42   | 8      | 10   | 42   | 0    | 0        | 0     | 0    | 25   | 204  | 14   |
| Future Vol, veh/h        | 0          | 42   | 8      | 10   | 42   | 0    | 0        | 0     | 0    | 25   | 204  | 14   |
| Conflicting Peds, #/hr   | 0          | 0    | 0      | 0    | 0    | 0    | 0        | 0     | 0    | 0    | 0    | 0    |
| Sign Control             | Stop       | Stop | Stop   | Stop | Stop | Stop | Free     | Free  | Free | Free | Free | Free |
| RT Channelized           | -          | -    | None   | -    | -    | None | -        | -     | None | -    | -    | None |
| Storage Length           | -          | -    | -      | -    | -    | -    | -        | -     | -    | -    | -    | -    |
| Veh in Median Storage, # | -          | 0    | -      | -    | 0    | -    | -        | 16974 | -    | -    | 0    | -    |
| Grade, %                 | -          | 0    | -      | -    | 0    | -    | -        | 0     | -    | -    | 0    | -    |
| Peak Hour Factor         | 100        | 100  | 100    | 100  | 100  | 100  | 100      | 100   | 100  | 100  | 100  | 100  |
| Heavy Vehicles, %        | 1          | 1    | 1      | 1    | 1    | 1    | 1        | 1     | 1    | 1    | 1    | 1    |
| Mvmt Flow                | 0          | 63   | 12     | 15   | 63   | 0    | 0        | 0     | 0    | 38   | 306  | 21   |
|                          |            |      |        |      |      |      |          |       |      |      |      |      |
| Major/Minor              | Minor2     |      | Minor1 |      |      |      | Major2   |       |      |      |      |      |
| Conflicting Flow All     | -          | 393  | 164    | 261  | 403  | -    | 0 0 0    |       |      |      |      |      |
| Stage 1                  | -          | 393  | -      | 0    | 0    | -    | - - -    |       |      |      |      |      |
| Stage 2                  | -          | 0    | -      | 261  | 403  | -    | - - -    |       |      |      |      |      |
| Critical Hdwy            | -          | 6.52 | 6.92   | 7.52 | 6.52 | -    | 4.12 - - |       |      |      |      |      |
| Critical Hdwy Stg 1      | -          | 5.52 | -      | -    | -    | -    | - - -    |       |      |      |      |      |
| Critical Hdwy Stg 2      | -          | -    | -      | 6.52 | 5.52 | -    | - - -    |       |      |      |      |      |
| Follow-up Hdwy           | -          | 4.01 | 3.31   | 3.51 | 4.01 | -    | 2.21 - - |       |      |      |      |      |
| Pot Cap-1 Maneuver       | 0          | 544  | 855    | 673  | 537  | 0    | - - -    |       |      |      |      |      |
| Stage 1                  | 0          | 607  | -      | -    | -    | 0    | - - -    |       |      |      |      |      |
| Stage 2                  | 0          | -    | -      | 724  | 601  | 0    | - - -    |       |      |      |      |      |
| Platoon blocked, %       |            |      |        |      |      |      |          |       |      |      | -    | -    |
| Mov Cap-1 Maneuver       | -          | 544  | 855    | 604  | 537  | -    | - - -    |       |      |      |      |      |
| Mov Cap-2 Maneuver       | -          | 544  | -      | 604  | 537  | -    | - - -    |       |      |      |      |      |
| Stage 1                  | -          | 607  | -      | -    | -    | -    | - - -    |       |      |      |      |      |
| Stage 2                  | -          | -    | -      | 640  | 601  | -    | - - -    |       |      |      |      |      |
|                          |            |      |        |      |      |      |          |       |      |      |      |      |
|                          |            |      |        |      |      |      |          |       |      |      |      |      |
| Approach                 | EB         |      | WB     |      |      |      | SB       |       |      |      |      |      |
| HCM Control Delay, s     | 12.2       |      | 12.6   |      |      |      |          |       |      |      |      |      |
| HCM LOS                  | B          |      | B      |      |      |      |          |       |      |      |      |      |
|                          |            |      |        |      |      |      |          |       |      |      |      |      |
|                          |            |      |        |      |      |      |          |       |      |      |      |      |
| Minor Lane/Major Mvmt    | EBLn1WBLn1 |      | SBL    | SBT  | SBR  |      |          |       |      |      |      |      |
| Capacity (veh/h)         | 578 549    |      | -      | -    | -    |      |          |       |      |      |      |      |
| HCM Lane V/C Ratio       | 0.13 0.142 |      | -      | -    | -    |      |          |       |      |      |      |      |
| HCM Control Delay (s)    | 12.2 12.6  |      | -      | -    | -    |      |          |       |      |      |      |      |
| HCM Lane LOS             | B B        |      | -      | -    | -    |      |          |       |      |      |      |      |
| HCM 95th %tile O(veh)    | 0.4 0.5    |      | -      | -    | -    |      |          |       |      |      |      |      |

# HCM 6th Signalized Intersection Summary

## 53: 5th Street & Ute Ave

Forecast Year 2045  
(Existing Volumes x 1.5)

|                              |  |     |     |                                                                                   |                                                                                   |                                                                                   |                                                                                     |                                                                                     |      |     |     |     |
|------------------------------|------------------------------------------------------------------------------------|-----|-----|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|------|-----|-----|-----|
| Movement                     | EBL                                                                                | EBT | EBR | WBL                                                                               | WBT                                                                               | WBR                                                                               | NBL                                                                                 | NBT                                                                                 | NBR  | SBL | SBT | SBR |
| Lane Configurations          |                                                                                    |     |     |  |  |  |  |  |      |     |     |     |
| Traffic Volume (veh/h)       | 0                                                                                  | 0   | 0   | 415                                                                               | 492                                                                               | 50                                                                                | 177                                                                                 | 286                                                                                 | 0    | 0   | 0   | 0   |
| Future Volume (veh/h)        | 0                                                                                  | 0   | 0   | 415                                                                               | 492                                                                               | 50                                                                                | 177                                                                                 | 286                                                                                 | 0    | 0   | 0   | 0   |
| Initial Q (Qb), veh          |                                                                                    |     |     | 0                                                                                 | 0                                                                                 | 0                                                                                 | 0                                                                                   | 0                                                                                   | 0    |     |     |     |
| Ped-Bike Adj(A_pbT)          |                                                                                    |     |     | 1.00                                                                              |                                                                                   | 1.00                                                                              | 1.00                                                                                |                                                                                     | 1.00 |     |     |     |
| Parking Bus, Adj             |                                                                                    |     |     | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                                | 1.00                                                                                | 1.00 |     |     |     |
| Work Zone On Approach        |                                                                                    |     |     | No                                                                                |                                                                                   |                                                                                   | No                                                                                  |                                                                                     |      |     |     |     |
| Adj Sat Flow, veh/h/ln       |                                                                                    |     |     | 1885                                                                              | 1885                                                                              | 1885                                                                              | 1885                                                                                | 1885                                                                                | 0    |     |     |     |
| Adj Flow Rate, veh/h         |                                                                                    |     |     | 453                                                                               | 974                                                                               | 75                                                                                | 266                                                                                 | 429                                                                                 | 0    |     |     |     |
| Peak Hour Factor             |                                                                                    |     |     | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                                | 1.00                                                                                | 1.00 |     |     |     |
| Percent Heavy Veh, %         |                                                                                    |     |     | 1                                                                                 | 1                                                                                 | 1                                                                                 | 1                                                                                   | 1                                                                                   | 0    |     |     |     |
| Cap, veh/h                   |                                                                                    |     |     | 1059                                                                              | 2074                                                                              | 879                                                                               | 700                                                                                 | 1254                                                                                | 0    |     |     |     |
| Arrive On Green              |                                                                                    |     |     | 0.55                                                                              | 0.55                                                                              | 0.55                                                                              | 0.70                                                                                | 0.70                                                                                | 0.00 |     |     |     |
| Sat Flow, veh/h              |                                                                                    |     |     | 1795                                                                              | 3770                                                                              | 1598                                                                              | 1795                                                                                | 3676                                                                                | 0    |     |     |     |
| Grp Volume(v), veh/h         |                                                                                    |     |     | 453                                                                               | 974                                                                               | 75                                                                                | 266                                                                                 | 429                                                                                 | 0    |     |     |     |
| Grp Sat Flow(s),veh/h/ln     |                                                                                    |     |     | 1795                                                                              | 1885                                                                              | 1598                                                                              | 1795                                                                                | 1791                                                                                | 0    |     |     |     |
| Q Serve(g_s), s              |                                                                                    |     |     | 15.2                                                                              | 15.7                                                                              | 2.2                                                                               | 6.3                                                                                 | 4.7                                                                                 | 0.0  |     |     |     |
| Cycle Q Clear(g_c), s        |                                                                                    |     |     | 15.2                                                                              | 15.7                                                                              | 2.2                                                                               | 6.3                                                                                 | 4.7                                                                                 | 0.0  |     |     |     |
| Prop In Lane                 |                                                                                    |     |     | 1.00                                                                              |                                                                                   | 1.00                                                                              | 1.00                                                                                |                                                                                     | 0.00 |     |     |     |
| Lane Grp Cap(c), veh/h       |                                                                                    |     |     | 1059                                                                              | 2074                                                                              | 879                                                                               | 700                                                                                 | 1254                                                                                | 0    |     |     |     |
| V/C Ratio(X)                 |                                                                                    |     |     | 0.43                                                                              | 0.47                                                                              | 0.09                                                                              | 0.38                                                                                | 0.34                                                                                | 0.00 |     |     |     |
| Avail Cap(c_a), veh/h        |                                                                                    |     |     | 1059                                                                              | 2074                                                                              | 879                                                                               | 700                                                                                 | 1254                                                                                | 0    |     |     |     |
| HCM Platoon Ratio            |                                                                                    |     |     | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 2.00                                                                                | 2.00                                                                                | 1.00 |     |     |     |
| Upstream Filter(I)           |                                                                                    |     |     | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                                | 1.00                                                                                | 0.00 |     |     |     |
| Uniform Delay (d), s/veh     |                                                                                    |     |     | 13.5                                                                              | 13.7                                                                              | 10.6                                                                              | 10.7                                                                                | 10.5                                                                                | 0.0  |     |     |     |
| Incr Delay (d2), s/veh       |                                                                                    |     |     | 1.3                                                                               | 0.8                                                                               | 0.2                                                                               | 1.6                                                                                 | 0.7                                                                                 | 0.0  |     |     |     |
| Initial Q Delay(d3),s/veh    |                                                                                    |     |     | 0.0                                                                               | 0.0                                                                               | 0.0                                                                               | 0.0                                                                                 | 0.0                                                                                 | 0.0  |     |     |     |
| %ile BackOfQ(50%),veh/ln     |                                                                                    |     |     | 6.2                                                                               | 6.5                                                                               | 0.8                                                                               | 2.3                                                                                 | 1.7                                                                                 | 0.0  |     |     |     |
| Unsig. Movement Delay, s/veh |                                                                                    |     |     |                                                                                   |                                                                                   |                                                                                   |                                                                                     |                                                                                     |      |     |     |     |
| LnGrp Delay(d),s/veh         |                                                                                    |     |     | 14.8                                                                              | 14.4                                                                              | 10.8                                                                              | 12.3                                                                                | 11.2                                                                                | 0.0  |     |     |     |
| LnGrp LOS                    |                                                                                    |     |     | B                                                                                 | B                                                                                 | B                                                                                 | B                                                                                   | B                                                                                   | A    |     |     |     |
| Approach Vol, veh/h          |                                                                                    |     |     |                                                                                   | 1502                                                                              |                                                                                   |                                                                                     | 695                                                                                 |      |     |     |     |
| Approach Delay, s/veh        |                                                                                    |     |     |                                                                                   | 14.4                                                                              |                                                                                   |                                                                                     | 11.6                                                                                |      |     |     |     |
| Approach LOS                 |                                                                                    |     |     |                                                                                   | B                                                                                 |                                                                                   |                                                                                     | B                                                                                   |      |     |     |     |
| Timer - Assigned Phs         |                                                                                    |     |     | 4                                                                                 |                                                                                   | 6                                                                                 |                                                                                     |                                                                                     |      |     |     |     |
| Phs Duration (G+Y+Rc), s     |                                                                                    |     |     | 60.0                                                                              |                                                                                   | 40.0                                                                              |                                                                                     |                                                                                     |      |     |     |     |
| Change Period (Y+Rc), s      |                                                                                    |     |     | 5.0                                                                               |                                                                                   | 5.0                                                                               |                                                                                     |                                                                                     |      |     |     |     |
| Max Green Setting (Gmax), s  |                                                                                    |     |     | 55.0                                                                              |                                                                                   | 35.0                                                                              |                                                                                     |                                                                                     |      |     |     |     |
| Max Q Clear Time (g_c+I1), s |                                                                                    |     |     | 17.7                                                                              |                                                                                   | 8.3                                                                               |                                                                                     |                                                                                     |      |     |     |     |
| Green Ext Time (p_c), s      |                                                                                    |     |     | 11.2                                                                              |                                                                                   | 3.6                                                                               |                                                                                     |                                                                                     |      |     |     |     |
| <b>Intersection Summary</b>  |                                                                                    |     |     |                                                                                   |                                                                                   |                                                                                   |                                                                                     |                                                                                     |      |     |     |     |
| HCM 6th Ctrl Delay           |                                                                                    |     |     | 13.5                                                                              |                                                                                   |                                                                                   |                                                                                     |                                                                                     |      |     |     |     |
| HCM 6th LOS                  |                                                                                    |     |     | B                                                                                 |                                                                                   |                                                                                   |                                                                                     |                                                                                     |      |     |     |     |

### Notes

User approved volume balancing among the lanes for turning movement.

# HCM 6th Signalized Intersection Summary 54: 4th Street & Ute Ave

Forecast Year 2045  
(Existing Volumes x 1.5)



| Movement                     | EBL | EBT  | EBR | WBL  | WBT  | WBR  | NBL | NBT | NBR | SBL  | SBT  | SBR  |
|------------------------------|-----|------|-----|------|------|------|-----|-----|-----|------|------|------|
| Lane Configurations          |     |      |     |      | ↔    |      |     |     |     |      | ↔    |      |
| Traffic Volume (veh/h)       | 0   | 0    | 0   | 21   | 652  | 0    | 0   | 0   | 0   | 0    | 189  | 28   |
| Future Volume (veh/h)        | 0   | 0    | 0   | 21   | 652  | 0    | 0   | 0   | 0   | 0    | 189  | 28   |
| Initial Q (Qb), veh          |     |      |     | 0    | 0    | 0    |     |     |     | 0    | 0    | 0    |
| Ped-Bike Adj(A_pbT)          |     |      |     | 1.00 |      | 1.00 |     |     |     | 1.00 |      | 1.00 |
| Parking Bus, Adj             |     |      |     | 1.00 | 1.00 | 1.00 |     |     |     | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach        |     |      |     | No   |      |      |     |     |     | No   |      |      |
| Adj Sat Flow, veh/h/ln       |     |      |     | 1885 | 1885 | 0    |     |     |     | 0    | 1885 | 1885 |
| Adj Flow Rate, veh/h         |     |      |     | 32   | 978  | 0    |     |     |     | 0    | 284  | 42   |
| Peak Hour Factor             |     |      |     | 1.00 | 1.00 | 1.00 |     |     |     | 1.00 | 1.00 | 1.00 |
| Percent Heavy Veh, %         |     |      |     | 1    | 1    | 0    |     |     |     | 0    | 1    | 1    |
| Cap, veh/h                   |     |      |     | 71   | 1714 | 0    |     |     |     | 0    | 1207 | 177  |
| Arrive On Green              |     |      |     | 0.17 | 0.17 | 0.00 |     |     |     | 0.00 | 0.13 | 0.13 |
| Sat Flow, veh/h              |     |      |     | 65   | 3514 | 0    |     |     |     | 0    | 3229 | 459  |
| Grp Volume(v), veh/h         |     |      |     | 540  | 470  | 0    |     |     |     | 0    | 161  | 165  |
| Grp Sat Flow(s),veh/h/ln     |     |      |     | 1864 | 1630 | 0    |     |     |     | 0    | 1791 | 1803 |
| Q Serve(g_s), s              |     |      |     | 6.3  | 26.6 | 0.0  |     |     |     | 0.0  | 8.1  | 8.2  |
| Cycle Q Clear(g_c), s        |     |      |     | 26.5 | 26.6 | 0.0  |     |     |     | 0.0  | 8.1  | 8.2  |
| Prop In Lane                 |     |      |     | 0.06 |      | 0.00 |     |     |     | 0.00 |      | 0.25 |
| Lane Grp Cap(c), veh/h       |     |      |     | 970  | 815  | 0    |     |     |     | 0    | 690  | 694  |
| V/C Ratio(X)                 |     |      |     | 0.56 | 0.58 | 0.00 |     |     |     | 0.00 | 0.23 | 0.24 |
| Avail Cap(c_a), veh/h        |     |      |     | 970  | 815  | 0    |     |     |     | 0    | 690  | 694  |
| HCM Platoon Ratio            |     |      |     | 0.33 | 0.33 | 1.00 |     |     |     | 1.00 | 0.33 | 0.33 |
| Upstream Filter(I)           |     |      |     | 1.00 | 1.00 | 0.00 |     |     |     | 0.00 | 1.00 | 1.00 |
| Uniform Delay (d), s/veh     |     |      |     | 31.9 | 32.0 | 0.0  |     |     |     | 0.0  | 30.4 | 30.4 |
| Incr Delay (d2), s/veh       |     |      |     | 2.3  | 3.0  | 0.0  |     |     |     | 0.0  | 0.8  | 0.8  |
| Initial Q Delay(d3),s/veh    |     |      |     | 0.0  | 0.0  | 0.0  |     |     |     | 0.0  | 0.0  | 0.0  |
| %ile BackOfQ(50%),veh/ln     |     |      |     | 13.9 | 12.2 | 0.0  |     |     |     | 0.0  | 3.9  | 4.0  |
| Unsig. Movement Delay, s/veh |     |      |     |      |      |      |     |     |     |      |      |      |
| LnGrp Delay(d),s/veh         |     |      |     | 34.2 | 35.0 | 0.0  |     |     |     | 0.0  | 31.2 | 31.3 |
| LnGrp LOS                    |     |      |     | C    | C    | A    |     |     |     | A    | C    | C    |
| Approach Vol, veh/h          |     |      |     |      | 1010 |      |     |     |     |      | 326  |      |
| Approach Delay, s/veh        |     |      |     |      | 34.6 |      |     |     |     |      | 31.2 |      |
| Approach LOS                 |     |      |     |      | C    |      |     |     |     |      | C    |      |
| Timer - Assigned Phs         |     | 2    |     | 4    |      |      |     |     |     |      |      |      |
| Phs Duration (G+Y+Rc), s     |     | 44.0 |     | 56.0 |      |      |     |     |     |      |      |      |
| Change Period (Y+Rc), s      |     | 5.5  |     | 6.0  |      |      |     |     |     |      |      |      |
| Max Green Setting (Gmax), s  |     | 38.5 |     | 50.0 |      |      |     |     |     |      |      |      |
| Max Q Clear Time (g_c+I1), s |     | 10.2 |     | 28.6 |      |      |     |     |     |      |      |      |
| Green Ext Time (p_c), s      |     | 2.0  |     | 6.9  |      |      |     |     |     |      |      |      |
| <b>Intersection Summary</b>  |     |      |     |      |      |      |     |     |     |      |      |      |
| HCM 6th Ctrl Delay           |     |      |     | 33.7 |      |      |     |     |     |      |      |      |
| HCM 6th LOS                  |     |      |     | C    |      |      |     |     |     |      |      |      |

# HCM 6th Signalized Intersection Summary

## 57: 5th Street & Pitkin Ave

Forecast Year 2045  
(Existing Volumes x 1.5)



| Movement                                                             | EBL  | EBT  | EBR  | WBL | WBT | WBR  | NBL  | NBT  | NBR  | SBL  | SBT  | SBR  |
|----------------------------------------------------------------------|------|------|------|-----|-----|------|------|------|------|------|------|------|
| Lane Configurations                                                  |      | ↔↔   | ↗    |     |     |      |      | ↕↕   |      | ↖    | ↕↕   |      |
| Traffic Volume (veh/h)                                               | 23   | 606  | 472  | 0   | 0   | 0    | 0    | 416  | 105  | 5    | 411  | 0    |
| Future Volume (veh/h)                                                | 23   | 606  | 472  | 0   | 0   | 0    | 0    | 416  | 105  | 5    | 411  | 0    |
| Initial Q (Qb), veh                                                  | 0    | 0    | 0    |     |     |      | 0    | 0    | 0    | 0    | 0    | 0    |
| Ped-Bike Adj(A_pbT)                                                  | 1.00 |      | 1.00 |     |     |      | 1.00 |      | 1.00 | 1.00 |      | 1.00 |
| Parking Bus, Adj                                                     | 1.00 | 1.00 | 1.00 |     |     |      | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach                                                |      | No   |      |     |     |      |      | No   |      |      | No   |      |
| Adj Sat Flow, veh/h/ln                                               | 1885 | 1885 | 1885 |     |     |      | 0    | 1885 | 1885 | 1885 | 1885 | 0    |
| Adj Flow Rate, veh/h                                                 | 34   | 1085 | 590  |     |     |      | 0    | 624  | 158  | 8    | 616  | 0    |
| Peak Hour Factor                                                     | 1.00 | 1.00 | 1.00 |     |     |      | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Percent Heavy Veh, %                                                 | 1    | 1    | 1    |     |     |      | 0    | 1    | 1    | 1    | 1    | 0    |
| Cap, veh/h                                                           | 51   | 1700 | 743  |     |     |      | 0    | 1104 | 279  | 18   | 1594 | 0    |
| Arrive On Green                                                      | 0.15 | 0.15 | 0.15 |     |     |      | 0.00 | 0.39 | 0.39 | 0.01 | 0.44 | 0.00 |
| Sat Flow, veh/h                                                      | 109  | 3656 | 1598 |     |     |      | 0    | 2926 | 716  | 1795 | 3676 | 0    |
| Grp Volume(v), veh/h                                                 | 586  | 533  | 590  |     |     |      | 0    | 394  | 388  | 8    | 616  | 0    |
| Grp Sat Flow(s),veh/h/ln                                             | 1880 | 1885 | 1598 |     |     |      | 0    | 1791 | 1756 | 1795 | 1791 | 0    |
| Q Serve(g_s), s                                                      | 29.4 | 26.4 | 35.6 |     |     |      | 0.0  | 17.2 | 17.3 | 0.4  | 11.5 | 0.0  |
| Cycle Q Clear(g_c), s                                                | 29.4 | 26.4 | 35.6 |     |     |      | 0.0  | 17.2 | 17.3 | 0.4  | 11.5 | 0.0  |
| Prop In Lane                                                         | 0.06 |      | 1.00 |     |     |      | 0.00 |      | 0.41 | 1.00 |      | 0.00 |
| Lane Grp Cap(c), veh/h                                               | 874  | 877  | 743  |     |     |      | 0    | 699  | 685  | 18   | 1594 | 0    |
| V/C Ratio(X)                                                         | 0.67 | 0.61 | 0.79 |     |     |      | 0.00 | 0.56 | 0.57 | 0.45 | 0.39 | 0.00 |
| Avail Cap(c_a), veh/h                                                | 874  | 877  | 743  |     |     |      | 0    | 699  | 685  | 95   | 1594 | 0    |
| HCM Platoon Ratio                                                    | 0.33 | 0.33 | 0.33 |     |     |      | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I)                                                   | 0.84 | 0.84 | 0.84 |     |     |      | 0.00 | 1.00 | 1.00 | 0.86 | 0.86 | 0.00 |
| Uniform Delay (d), s/veh                                             | 35.1 | 33.8 | 37.7 |     |     |      | 0.0  | 23.9 | 23.9 | 49.2 | 18.6 | 0.0  |
| Incr Delay (d2), s/veh                                               | 3.4  | 2.6  | 7.3  |     |     |      | 0.0  | 3.3  | 3.4  | 14.3 | 0.6  | 0.0  |
| Initial Q Delay(d3),s/veh                                            | 0.0  | 0.0  | 0.0  |     |     |      | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  |
| %ile BackOfQ(50%),veh/ln                                             | 15.6 | 13.9 | 16.7 |     |     |      | 0.0  | 7.6  | 7.5  | 0.3  | 4.7  | 0.0  |
| Unsig. Movement Delay, s/veh                                         |      |      |      |     |     |      |      |      |      |      |      |      |
| LnGrp Delay(d),s/veh                                                 | 38.5 | 36.5 | 45.0 |     |     |      | 0.0  | 27.1 | 27.2 | 63.5 | 19.2 | 0.0  |
| LnGrp LOS                                                            | D    | D    | D    |     |     |      | A    | C    | C    | E    | B    | A    |
| Approach Vol, veh/h                                                  |      | 1709 |      |     |     |      |      | 782  |      |      | 624  |      |
| Approach Delay, s/veh                                                |      | 40.1 |      |     |     |      |      | 27.2 |      |      | 19.8 |      |
| Approach LOS                                                         |      | D    |      |     |     |      |      | C    |      |      | B    |      |
| Timer - Assigned Phs                                                 |      | 2    |      |     | 5   | 6    |      | 8    |      |      |      |      |
| Phs Duration (G+Y+Rc), s                                             |      | 49.0 |      |     | 5.5 | 43.5 |      | 51.0 |      |      |      |      |
| Change Period (Y+Rc), s                                              |      | 4.5  |      |     | 4.5 | 4.5  |      | 4.5  |      |      |      |      |
| Max Green Setting (Gmax), s                                          |      | 44.5 |      |     | 5.3 | 34.7 |      | 46.5 |      |      |      |      |
| Max Q Clear Time (g_c+I1), s                                         |      | 13.5 |      |     | 2.4 | 19.3 |      | 37.6 |      |      |      |      |
| Green Ext Time (p_c), s                                              |      | 4.4  |      |     | 0.0 | 4.3  |      | 5.9  |      |      |      |      |
| <b>Intersection Summary</b>                                          |      |      |      |     |     |      |      |      |      |      |      |      |
| HCM 6th Ctrl Delay                                                   |      |      | 32.8 |     |     |      |      |      |      |      |      |      |
| HCM 6th LOS                                                          |      |      | C    |     |     |      |      |      |      |      |      |      |
| <b>Notes</b>                                                         |      |      |      |     |     |      |      |      |      |      |      |      |
| User approved volume balancing among the lanes for turning movement. |      |      |      |     |     |      |      |      |      |      |      |      |

HCM 6th Signalized Intersection Summary  
58: 4th Street & Pitkin Ave

Forecast Year 2045  
(Existing Volumes x 1.5)



| Movement                     | EBL  | EBT  | EBR  | WBL | WBT  | WBR | NBL  | NBT  | NBR  | SBL  | SBT  | SBR  |
|------------------------------|------|------|------|-----|------|-----|------|------|------|------|------|------|
| Lane Configurations          |      | ↑↑↑  |      |     |      |     |      | ↑    |      | ↑    | ↑    |      |
| Traffic Volume (veh/h)       | 0    | 861  | 1    | 0   | 0    | 0   | 0    | 0    | 16   | 213  | 6    | 0    |
| Future Volume (veh/h)        | 0    | 861  | 1    | 0   | 0    | 0   | 0    | 0    | 16   | 213  | 6    | 0    |
| Initial Q (Qb), veh          | 0    | 0    | 0    |     |      |     | 0    | 0    | 0    | 0    | 0    | 0    |
| Ped-Bike Adj(A_pbT)          | 1.00 |      | 1.00 |     |      |     | 1.00 |      | 1.00 | 1.00 |      | 1.00 |
| Parking Bus, Adj             | 1.00 | 1.00 | 1.00 |     |      |     | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach        |      | No   |      |     |      |     |      | No   |      |      | No   |      |
| Adj Sat Flow, veh/h/ln       | 0    | 1885 | 1885 |     |      |     | 0    | 1885 | 1885 | 1885 | 1885 | 0    |
| Adj Flow Rate, veh/h         | 0    | 1292 | 2    |     |      |     | 0    | 0    | 24   | 326  | 0    | 0    |
| Peak Hour Factor             | 1.00 | 1.00 | 1.00 |     |      |     | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Percent Heavy Veh, %         | 0    | 1    | 1    |     |      |     | 0    | 1    | 1    | 1    | 1    | 0    |
| Cap, veh/h                   | 0    | 0    | 0    |     |      |     | 0    | 0    | 1438 | 2800 | 1697 | 0    |
| Arrive On Green              | 0.00 | 0.00 | 0.00 |     |      |     | 0.00 | 0.00 | 0.90 | 0.90 | 0.00 | 0.00 |
| Sat Flow, veh/h              |      | 0    |      |     |      |     | 0    | 0    | 1598 | 2796 | 1885 | 0    |
| Grp Volume(v), veh/h         | 0.0  |      |      |     |      |     | 0    | 0    | 24   | 326  | 0    | 0    |
| Grp Sat Flow(s),veh/h/ln     |      |      |      |     |      |     | 0    | 0    | 1598 | 1398 | 1885 | 0    |
| Q Serve(g_s), s              |      |      |      |     |      |     | 0.0  | 0.0  | 0.1  | 0.7  | 0.0  | 0.0  |
| Cycle Q Clear(g_c), s        |      |      |      |     |      |     | 0.0  | 0.0  | 0.1  | 0.7  | 0.0  | 0.0  |
| Prop In Lane                 |      |      |      |     |      |     | 0.00 |      | 1.00 | 1.00 |      | 0.00 |
| Lane Grp Cap(c), veh/h       |      |      |      |     |      |     | 0    | 0    | 1438 | 2800 | 1697 | 0    |
| V/C Ratio(X)                 |      |      |      |     |      |     | 0.00 | 0.00 | 0.02 | 0.12 | 0.00 | 0.00 |
| Avail Cap(c_a), veh/h        |      |      |      |     |      |     | 0    | 0    | 1438 | 2800 | 1697 | 0    |
| HCM Platoon Ratio            |      |      |      |     |      |     | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I)           |      |      |      |     |      |     | 0.00 | 0.00 | 1.00 | 1.00 | 0.00 | 0.00 |
| Uniform Delay (d), s/veh     |      |      |      |     |      |     | 0.0  | 0.0  | 0.3  | 0.3  | 0.0  | 0.0  |
| Incr Delay (d2), s/veh       |      |      |      |     |      |     | 0.0  | 0.0  | 0.0  | 0.1  | 0.0  | 0.0  |
| Initial Q Delay(d3),s/veh    |      |      |      |     |      |     | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  |
| %ile BackOfQ(50%),veh/ln     |      |      |      |     |      |     | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  |
| Unsig. Movement Delay, s/veh |      |      |      |     |      |     |      |      |      |      |      |      |
| LnGrp Delay(d),s/veh         |      |      |      |     |      |     | 0.0  | 0.0  | 0.3  | 0.4  | 0.0  | 0.0  |
| LnGrp LOS                    |      |      |      |     |      |     | A    | A    | A    | A    | A    | A    |
| Approach Vol, veh/h          |      |      |      |     |      |     | 24   |      |      |      | 326  |      |
| Approach Delay, s/veh        |      |      |      |     |      |     | 0.3  |      |      |      | 0.4  |      |
| Approach LOS                 |      |      |      |     |      |     | A    |      |      |      | A    |      |
| Timer - Assigned Phs         | 2    |      |      |     | 6    |     |      |      |      |      |      |      |
| Phs Duration (G+Y+Rc), s     | 50.0 |      |      |     | 50.0 |     |      |      |      |      |      |      |
| Change Period (Y+Rc), s      | 5.0  |      |      |     | 5.0  |     |      |      |      |      |      |      |
| Max Green Setting (Gmax), s  | 45.0 |      |      |     | 45.0 |     |      |      |      |      |      |      |
| Max Q Clear Time (g_c+I1), s | 2.7  |      |      |     | 2.1  |     |      |      |      |      |      |      |
| Green Ext Time (p_c), s      | 1.2  |      |      |     | 0.1  |     |      |      |      |      |      |      |
| Intersection Summary         |      |      |      |     |      |     |      |      |      |      |      |      |
| HCM 6th Ctrl Delay           |      | 0.4  |      |     |      |     |      |      |      |      |      |      |
| HCM 6th LOS                  |      | A    |      |     |      |     |      |      |      |      |      |      |

Notes

User approved volume balancing among the lanes for turning movement.

HCM 6th Signalized Intersection Summary  
5: 5th Street & North Ave

2045 Two-Way  
10/09/2021

|                              |  |  |  |  |  |  |   |  |  |  |  |  |
|------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|
| Movement                     | EBL                                                                               | EBT                                                                               | EBR                                                                               | WBL                                                                               | WBT                                                                               | WBR                                                                               | NBL                                                                                 | NBT                                                                                 | NBR                                                                                 | SBL                                                                                 | SBT                                                                                 | SBR                                                                                 |
| Lane Configurations          |  |  |                                                                                   |  |  |                                                                                   |  |  |  |  |  |  |
| Traffic Volume (veh/h)       | 20                                                                                | 967                                                                               | 42                                                                                | 73                                                                                | 942                                                                               | 26                                                                                | 34                                                                                  | 43                                                                                  | 136                                                                                 | 39                                                                                  | 48                                                                                  | 29                                                                                  |
| Future Volume (veh/h)        | 20                                                                                | 967                                                                               | 42                                                                                | 73                                                                                | 942                                                                               | 26                                                                                | 34                                                                                  | 43                                                                                  | 136                                                                                 | 39                                                                                  | 48                                                                                  | 29                                                                                  |
| Initial Q (Qb), veh          | 0                                                                                 | 0                                                                                 | 0                                                                                 | 0                                                                                 | 0                                                                                 | 0                                                                                 | 0                                                                                   | 0                                                                                   | 0                                                                                   | 0                                                                                   | 0                                                                                   | 0                                                                                   |
| Ped-Bike Adj(A_pbT)          | 1.00                                                                              |                                                                                   | 1.00                                                                              | 1.00                                                                              |                                                                                   | 1.00                                                                              | 1.00                                                                                |                                                                                     | 1.00                                                                                | 1.00                                                                                |                                                                                     | 1.00                                                                                |
| Parking Bus, Adj             | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                                | 1.00                                                                                | 1.00                                                                                | 1.00                                                                                | 1.00                                                                                | 1.00                                                                                |
| Work Zone On Approach        | No                                                                                |                                                                                   |                                                                                   | No                                                                                |                                                                                   |                                                                                   | No                                                                                  |                                                                                     |                                                                                     | No                                                                                  |                                                                                     |                                                                                     |
| Adj Sat Flow, veh/h/ln       | 1885                                                                              | 1885                                                                              | 1885                                                                              | 1885                                                                              | 1885                                                                              | 1885                                                                              | 1885                                                                                | 1885                                                                                | 1885                                                                                | 1885                                                                                | 1885                                                                                | 1885                                                                                |
| Adj Flow Rate, veh/h         | 30                                                                                | 1450                                                                              | 63                                                                                | 110                                                                               | 1413                                                                              | 39                                                                                | 51                                                                                  | 82                                                                                  | 204                                                                                 | 58                                                                                  | 91                                                                                  | 44                                                                                  |
| Peak Hour Factor             | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                                | 1.00                                                                                | 1.00                                                                                | 1.00                                                                                | 1.00                                                                                | 1.00                                                                                |
| Percent Heavy Veh, %         | 1                                                                                 | 1                                                                                 | 1                                                                                 | 1                                                                                 | 1                                                                                 | 1                                                                                 | 1                                                                                   | 1                                                                                   | 1                                                                                   | 1                                                                                   | 1                                                                                   | 1                                                                                   |
| Cap, veh/h                   | 242                                                                               | 1937                                                                              | 84                                                                                | 255                                                                               | 2052                                                                              | 57                                                                                | 293                                                                                 | 288                                                                                 | 244                                                                                 | 282                                                                                 | 292                                                                                 | 248                                                                                 |
| Arrive On Green              | 0.03                                                                              | 0.55                                                                              | 0.55                                                                              | 0.05                                                                              | 0.58                                                                              | 0.58                                                                              | 0.04                                                                                | 0.15                                                                                | 0.15                                                                                | 0.04                                                                                | 0.16                                                                                | 0.16                                                                                |
| Sat Flow, veh/h              | 1795                                                                              | 3497                                                                              | 152                                                                               | 1795                                                                              | 3560                                                                              | 98                                                                                | 1795                                                                                | 1885                                                                                | 1598                                                                                | 1795                                                                                | 1885                                                                                | 1598                                                                                |
| Grp Volume(v), veh/h         | 30                                                                                | 741                                                                               | 772                                                                               | 110                                                                               | 710                                                                               | 742                                                                               | 51                                                                                  | 82                                                                                  | 204                                                                                 | 58                                                                                  | 91                                                                                  | 44                                                                                  |
| Grp Sat Flow(s),veh/h/ln     | 1795                                                                              | 1791                                                                              | 1858                                                                              | 1795                                                                              | 1791                                                                              | 1868                                                                              | 1795                                                                                | 1885                                                                                | 1598                                                                                | 1795                                                                                | 1885                                                                                | 1598                                                                                |
| Q Serve(g_s), s              | 0.6                                                                               | 28.4                                                                              | 28.7                                                                              | 2.3                                                                               | 25.1                                                                              | 25.2                                                                              | 2.1                                                                                 | 3.5                                                                                 | 11.2                                                                                | 2.4                                                                                 | 3.9                                                                                 | 2.2                                                                                 |
| Cycle Q Clear(g_c), s        | 0.6                                                                               | 28.4                                                                              | 28.7                                                                              | 2.3                                                                               | 25.1                                                                              | 25.2                                                                              | 2.1                                                                                 | 3.5                                                                                 | 11.2                                                                                | 2.4                                                                                 | 3.9                                                                                 | 2.2                                                                                 |
| Prop In Lane                 | 1.00                                                                              |                                                                                   | 0.08                                                                              | 1.00                                                                              |                                                                                   | 0.05                                                                              | 1.00                                                                                |                                                                                     | 1.00                                                                                | 1.00                                                                                |                                                                                     | 1.00                                                                                |
| Lane Grp Cap(c), veh/h       | 242                                                                               | 992                                                                               | 1029                                                                              | 255                                                                               | 1032                                                                              | 1076                                                                              | 293                                                                                 | 288                                                                                 | 244                                                                                 | 282                                                                                 | 292                                                                                 | 248                                                                                 |
| V/C Ratio(X)                 | 0.12                                                                              | 0.75                                                                              | 0.75                                                                              | 0.43                                                                              | 0.69                                                                              | 0.69                                                                              | 0.17                                                                                | 0.29                                                                                | 0.84                                                                                | 0.21                                                                                | 0.31                                                                                | 0.18                                                                                |
| Avail Cap(c_a), veh/h        | 309                                                                               | 992                                                                               | 1029                                                                              | 301                                                                               | 1032                                                                              | 1076                                                                              | 333                                                                                 | 405                                                                                 | 343                                                                                 | 317                                                                                 | 405                                                                                 | 343                                                                                 |
| HCM Platoon Ratio            | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                                | 1.00                                                                                | 1.00                                                                                | 1.00                                                                                | 1.00                                                                                | 1.00                                                                                |
| Upstream Filter(I)           | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                                | 1.00                                                                                | 1.00                                                                                | 1.00                                                                                | 1.00                                                                                | 1.00                                                                                |
| Uniform Delay (d), s/veh     | 11.2                                                                              | 15.3                                                                              | 15.4                                                                              | 14.1                                                                              | 13.4                                                                              | 13.4                                                                              | 30.4                                                                                | 33.9                                                                                | 37.2                                                                                | 30.3                                                                                | 33.9                                                                                | 33.1                                                                                |
| Incr Delay (d2), s/veh       | 0.2                                                                               | 5.1                                                                               | 5.0                                                                               | 1.1                                                                               | 3.7                                                                               | 3.6                                                                               | 0.3                                                                                 | 0.5                                                                                 | 11.9                                                                                | 0.4                                                                                 | 0.6                                                                                 | 0.3                                                                                 |
| Initial Q Delay(d3),s/veh    | 0.0                                                                               | 0.0                                                                               | 0.0                                                                               | 0.0                                                                               | 0.0                                                                               | 0.0                                                                               | 0.0                                                                                 | 0.0                                                                                 | 0.0                                                                                 | 0.0                                                                                 | 0.0                                                                                 | 0.0                                                                                 |
| %ile BackOfQ(50%),veh/ln     | 0.2                                                                               | 11.9                                                                              | 12.4                                                                              | 0.9                                                                               | 10.2                                                                              | 10.6                                                                              | 0.9                                                                                 | 1.6                                                                                 | 5.1                                                                                 | 1.1                                                                                 | 1.8                                                                                 | 0.8                                                                                 |
| Unsig. Movement Delay, s/veh |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| LnGrp Delay(d),s/veh         | 11.4                                                                              | 20.5                                                                              | 20.4                                                                              | 15.3                                                                              | 17.2                                                                              | 17.1                                                                              | 30.7                                                                                | 34.4                                                                                | 49.0                                                                                | 30.7                                                                                | 34.5                                                                                | 33.5                                                                                |
| LnGrp LOS                    | B                                                                                 | C                                                                                 | C                                                                                 | B                                                                                 | B                                                                                 | B                                                                                 | C                                                                                   | C                                                                                   | D                                                                                   | C                                                                                   | C                                                                                   | C                                                                                   |
| Approach Vol, veh/h          | 1543                                                                              |                                                                                   | 1562                                                                              |                                                                                   |                                                                                   |                                                                                   | 337                                                                                 |                                                                                     |                                                                                     | 193                                                                                 |                                                                                     |                                                                                     |
| Approach Delay, s/veh        | 20.3                                                                              |                                                                                   | 17.0                                                                              |                                                                                   |                                                                                   |                                                                                   | 42.7                                                                                |                                                                                     |                                                                                     | 33.1                                                                                |                                                                                     |                                                                                     |
| Approach LOS                 | C                                                                                 |                                                                                   | B                                                                                 |                                                                                   |                                                                                   |                                                                                   | D                                                                                   |                                                                                     |                                                                                     | C                                                                                   |                                                                                     |                                                                                     |
| Timer - Assigned Phs         | 1                                                                                 | 2                                                                                 | 3                                                                                 | 4                                                                                 | 5                                                                                 | 6                                                                                 | 7                                                                                   | 8                                                                                   |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Phs Duration (G+Y+Rc), s     | 7.6                                                                               | 19.0                                                                              | 6.6                                                                               | 57.0                                                                              | 7.8                                                                               | 18.8                                                                              | 8.7                                                                                 | 55.0                                                                                |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Change Period (Y+Rc), s      | 4.0                                                                               | 5.0                                                                               | 4.0                                                                               | 5.0                                                                               | 4.0                                                                               | 5.0                                                                               | 4.0                                                                                 | 5.0                                                                                 |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Max Green Setting (Gmax), s  | 5.6                                                                               | 19.4                                                                              | 6.0                                                                               | 51.0                                                                              | 5.6                                                                               | 19.4                                                                              | 7.0                                                                                 | 50.0                                                                                |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Max Q Clear Time (g_c+I1), s | 4.1                                                                               | 5.9                                                                               | 2.6                                                                               | 27.2                                                                              | 4.4                                                                               | 13.2                                                                              | 4.3                                                                                 | 30.7                                                                                |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Green Ext Time (p_c), s      | 0.0                                                                               | 0.4                                                                               | 0.0                                                                               | 11.7                                                                              | 0.0                                                                               | 0.6                                                                               | 0.1                                                                                 | 11.0                                                                                |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Intersection Summary         |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| HCM 6th Ctrl Delay           |                                                                                   |                                                                                   | 21.6                                                                              |                                                                                   |                                                                                   |                                                                                   |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| HCM 6th LOS                  |                                                                                   |                                                                                   | C                                                                                 |                                                                                   |                                                                                   |                                                                                   |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |



| Intersection               |                                                                                   |                                                                                   |      |                                                                                   |                                                                                   |      |           |                                                                                   |                                |        |                                                                                     |      |
|----------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|------|-----------|-----------------------------------------------------------------------------------|--------------------------------|--------|-------------------------------------------------------------------------------------|------|
| Int Delay, s/veh           | 276.4                                                                             |                                                                                   |      |                                                                                   |                                                                                   |      |           |                                                                                   |                                |        |                                                                                     |      |
| Movement                   | EBL                                                                               | EBT                                                                               | EBR  | WBL                                                                               | WBT                                                                               | WBR  | NBL       | NBT                                                                               | NBR                            | SBL    | SBT                                                                                 | SBR  |
| Lane Configurations        |  |  |      |  |  |      |           |  |                                |        |  |      |
| Traffic Vol, veh/h         | 15                                                                                | 933                                                                               | 28   | 48                                                                                | 943                                                                               | 14   | 20        | 29                                                                                | 91                             | 5      | 3                                                                                   | 15   |
| Future Vol, veh/h          | 15                                                                                | 933                                                                               | 28   | 48                                                                                | 943                                                                               | 14   | 20        | 29                                                                                | 91                             | 5      | 3                                                                                   | 15   |
| Conflicting Peds, #/hr     | 0                                                                                 | 0                                                                                 | 0    | 0                                                                                 | 0                                                                                 | 0    | 0         | 0                                                                                 | 0                              | 0      | 0                                                                                   | 0    |
| Sign Control               | Free                                                                              | Free                                                                              | Free | Free                                                                              | Free                                                                              | Free | Stop      | Stop                                                                              | Stop                           | Stop   | Stop                                                                                | Stop |
| RT Channelized             | -                                                                                 | -                                                                                 | None | -                                                                                 | -                                                                                 | None | -         | -                                                                                 | None                           | -      | -                                                                                   | None |
| Storage Length             | 100                                                                               | -                                                                                 | -    | 100                                                                               | -                                                                                 | -    | -         | -                                                                                 | -                              | -      | -                                                                                   | -    |
| Veh in Median Storage, #   | -                                                                                 | 0                                                                                 | -    | -                                                                                 | 0                                                                                 | -    | -         | 0                                                                                 | -                              | -      | 0                                                                                   | -    |
| Grade, %                   | -                                                                                 | 0                                                                                 | -    | -                                                                                 | 0                                                                                 | -    | -         | 0                                                                                 | -                              | -      | 0                                                                                   | -    |
| Peak Hour Factor           | 100                                                                               | 100                                                                               | 100  | 100                                                                               | 100                                                                               | 100  | 100       | 100                                                                               | 100                            | 100    | 100                                                                                 | 100  |
| Heavy Vehicles, %          | 1                                                                                 | 1                                                                                 | 1    | 1                                                                                 | 1                                                                                 | 1    | 1         | 1                                                                                 | 1                              | 1      | 1                                                                                   | 1    |
| Mvmt Flow                  | 23                                                                                | 1400                                                                              | 42   | 72                                                                                | 1415                                                                              | 21   | 30        | 55                                                                                | 137                            | 8      | 6                                                                                   | 23   |
|                            |                                                                                   |                                                                                   |      |                                                                                   |                                                                                   |      |           |                                                                                   |                                |        |                                                                                     |      |
| Major/Minor                | Major1                                                                            |                                                                                   |      | Major2                                                                            |                                                                                   |      | Minor1    |                                                                                   |                                | Minor2 |                                                                                     |      |
| Conflicting Flow All       | 1436                                                                              | 0                                                                                 | 0    | 1442                                                                              | 0                                                                                 | 0    | 2322      | 3047                                                                              | 721                            | 2344   | 3058                                                                                | 718  |
| Stage 1                    | -                                                                                 | -                                                                                 | -    | -                                                                                 | -                                                                                 | -    | 1467      | 1467                                                                              | -                              | 1570   | 1570                                                                                | -    |
| Stage 2                    | -                                                                                 | -                                                                                 | -    | -                                                                                 | -                                                                                 | -    | 855       | 1580                                                                              | -                              | 774    | 1488                                                                                | -    |
| Critical Hdwy              | 4.12                                                                              | -                                                                                 | -    | 4.12                                                                              | -                                                                                 | -    | 7.52      | 6.52                                                                              | 6.92                           | 7.52   | 6.52                                                                                | 6.92 |
| Critical Hdwy Stg 1        | -                                                                                 | -                                                                                 | -    | -                                                                                 | -                                                                                 | -    | 6.52      | 5.52                                                                              | -                              | 6.52   | 5.52                                                                                | -    |
| Critical Hdwy Stg 2        | -                                                                                 | -                                                                                 | -    | -                                                                                 | -                                                                                 | -    | 6.52      | 5.52                                                                              | -                              | 6.52   | 5.52                                                                                | -    |
| Follow-up Hdwy             | 2.21                                                                              | -                                                                                 | -    | 2.21                                                                              | -                                                                                 | -    | 3.51      | 4.01                                                                              | 3.31                           | 3.51   | 4.01                                                                                | 3.31 |
| Pot Cap-1 Maneuver         | 474                                                                               | -                                                                                 | -    | 471                                                                               | -                                                                                 | -    | ~ 20      | ~ 13                                                                              | 372                            | 20     | 12                                                                                  | 374  |
| Stage 1                    | -                                                                                 | -                                                                                 | -    | -                                                                                 | -                                                                                 | -    | 135       | 192                                                                               | -                              | 117    | 171                                                                                 | -    |
| Stage 2                    | -                                                                                 | -                                                                                 | -    | -                                                                                 | -                                                                                 | -    | 321       | 169                                                                               | -                              | 360    | 188                                                                                 | -    |
| Platoon blocked, %         |                                                                                   | -                                                                                 | -    |                                                                                   | -                                                                                 | -    |           |                                                                                   |                                |        |                                                                                     |      |
| Mov Cap-1 Maneuver         | 474                                                                               | -                                                                                 | -    | 471                                                                               | -                                                                                 | -    | ~ 9       | ~ 10                                                                              | 372                            | -      | 10                                                                                  | 374  |
| Mov Cap-2 Maneuver         | -                                                                                 | -                                                                                 | -    | -                                                                                 | -                                                                                 | -    | ~ 9       | ~ 10                                                                              | -                              | -      | 10                                                                                  | -    |
| Stage 1                    | -                                                                                 | -                                                                                 | -    | -                                                                                 | -                                                                                 | -    | 128       | 183                                                                               | -                              | 111    | 145                                                                                 | -    |
| Stage 2                    | -                                                                                 | -                                                                                 | -    | -                                                                                 | -                                                                                 | -    | 246       | 143                                                                               | -                              | 152    | 179                                                                                 | -    |
|                            |                                                                                   |                                                                                   |      |                                                                                   |                                                                                   |      |           |                                                                                   |                                |        |                                                                                     |      |
|                            |                                                                                   |                                                                                   |      |                                                                                   |                                                                                   |      |           |                                                                                   |                                |        |                                                                                     |      |
| Approach                   | EB                                                                                |                                                                                   |      | WB                                                                                |                                                                                   |      | NB        |                                                                                   |                                | SB     |                                                                                     |      |
| HCM Control Delay, s       | 0.2                                                                               |                                                                                   |      | 0.7                                                                               |                                                                                   |      | \$ 4021.2 |                                                                                   |                                |        |                                                                                     |      |
| HCM LOS                    |                                                                                   |                                                                                   |      |                                                                                   |                                                                                   |      | F         |                                                                                   |                                | -      |                                                                                     |      |
|                            |                                                                                   |                                                                                   |      |                                                                                   |                                                                                   |      |           |                                                                                   |                                |        |                                                                                     |      |
| Minor Lane/Major Mvmt      | NBLn1                                                                             | EBL                                                                               | EBT  | EBR                                                                               | WBL                                                                               | WBT  | WBR       | SBLn1                                                                             |                                |        |                                                                                     |      |
| Capacity (veh/h)           | 24                                                                                | 474                                                                               | -    | -                                                                                 | 471                                                                               | -    | -         | -                                                                                 |                                |        |                                                                                     |      |
| HCM Lane V/C Ratio         | 9.233                                                                             | 0.047                                                                             | -    | -                                                                                 | 0.153                                                                             | -    | -         | -                                                                                 |                                |        |                                                                                     |      |
| HCM Control Delay (s)      | \$ 4021.2                                                                         | 13                                                                                | -    | -                                                                                 | 14                                                                                | -    | -         | -                                                                                 |                                |        |                                                                                     |      |
| HCM Lane LOS               | F                                                                                 | B                                                                                 | -    | -                                                                                 | B                                                                                 | -    | -         | -                                                                                 |                                |        |                                                                                     |      |
| HCM 95th %tile Q(veh)      | 27.7                                                                              | 0.1                                                                               | -    | -                                                                                 | 0.5                                                                               | -    | -         | -                                                                                 |                                |        |                                                                                     |      |
| Notes                      |                                                                                   |                                                                                   |      |                                                                                   |                                                                                   |      |           |                                                                                   |                                |        |                                                                                     |      |
| ~: Volume exceeds capacity |                                                                                   | \$: Delay exceeds 300s                                                            |      |                                                                                   | +: Computation Not Defined                                                        |      |           |                                                                                   | *: All major volume in platoon |        |                                                                                     |      |

| Intersection             |        |                                                                                   |        |       |                                                                                   |       |        |                                                                                   |      |       |                                                                                     |      |
|--------------------------|--------|-----------------------------------------------------------------------------------|--------|-------|-----------------------------------------------------------------------------------|-------|--------|-----------------------------------------------------------------------------------|------|-------|-------------------------------------------------------------------------------------|------|
| Int Delay, s/veh         | 3.1    |                                                                                   |        |       |                                                                                   |       |        |                                                                                   |      |       |                                                                                     |      |
| Movement                 | EBL    | EBT                                                                               | EBR    | WBL   | WBT                                                                               | WBR   | NBL    | NBT                                                                               | NBR  | SBL   | SBT                                                                                 | SBR  |
| Lane Configurations      |        |  |        |       |  |       |        |  |      |       |  |      |
| Traffic Vol, veh/h       | 10     | 10                                                                                | 8      | 41    | 10                                                                                | 11    | 10     | 197                                                                               | 10   | 10    | 91                                                                                  | 49   |
| Future Vol, veh/h        | 10     | 10                                                                                | 8      | 41    | 10                                                                                | 11    | 10     | 197                                                                               | 10   | 10    | 91                                                                                  | 49   |
| Conflicting Peds, #/hr   | 0      | 0                                                                                 | 0      | 0     | 0                                                                                 | 0     | 0      | 0                                                                                 | 0    | 0     | 0                                                                                   | 0    |
| Sign Control             | Stop   | Stop                                                                              | Stop   | Stop  | Stop                                                                              | Stop  | Free   | Free                                                                              | Free | Free  | Free                                                                                | Free |
| RT Channelized           | -      | -                                                                                 | None   | -     | -                                                                                 | None  | -      | -                                                                                 | None | -     | -                                                                                   | None |
| Storage Length           | -      | -                                                                                 | -      | -     | -                                                                                 | -     | -      | -                                                                                 | -    | -     | -                                                                                   | -    |
| Veh in Median Storage, # | -      | 0                                                                                 | -      | -     | 0                                                                                 | -     | -      | 0                                                                                 | -    | -     | 0                                                                                   | -    |
| Grade, %                 | -      | 0                                                                                 | -      | -     | 0                                                                                 | -     | -      | 0                                                                                 | -    | -     | 0                                                                                   | -    |
| Peak Hour Factor         | 100    | 100                                                                               | 100    | 100   | 100                                                                               | 100   | 100    | 100                                                                               | 100  | 100   | 100                                                                                 | 100  |
| Heavy Vehicles, %        | 1      | 1                                                                                 | 1      | 1     | 1                                                                                 | 1     | 1      | 1                                                                                 | 1    | 1     | 1                                                                                   | 1    |
| Mvmt Flow                | 15     | 15                                                                                | 12     | 62    | 15                                                                                | 17    | 15     | 374                                                                               | 15   | 15    | 173                                                                                 | 74   |
|                          |        |                                                                                   |        |       |                                                                                   |       |        |                                                                                   |      |       |                                                                                     |      |
| Major/Minor              | Minor2 |                                                                                   | Minor1 |       | Major1                                                                            |       | Major2 |                                                                                   |      |       |                                                                                     |      |
| Conflicting Flow All     | 668    | 659                                                                               | 210    | 666   | 689                                                                               | 382   | 247    | 0                                                                                 | 0    | 389   | 0                                                                                   | 0    |
| Stage 1                  | 240    | 240                                                                               | -      | 412   | 412                                                                               | -     | -      | -                                                                                 | -    | -     | -                                                                                   | -    |
| Stage 2                  | 428    | 419                                                                               | -      | 254   | 277                                                                               | -     | -      | -                                                                                 | -    | -     | -                                                                                   | -    |
| Critical Hdwy            | 7.11   | 6.51                                                                              | 6.21   | 7.11  | 6.51                                                                              | 6.21  | 4.11   | -                                                                                 | -    | 4.11  | -                                                                                   | -    |
| Critical Hdwy Stg 1      | 6.11   | 5.51                                                                              | -      | 6.11  | 5.51                                                                              | -     | -      | -                                                                                 | -    | -     | -                                                                                   | -    |
| Critical Hdwy Stg 2      | 6.11   | 5.51                                                                              | -      | 6.11  | 5.51                                                                              | -     | -      | -                                                                                 | -    | -     | -                                                                                   | -    |
| Follow-up Hdwy           | 3.509  | 4.009                                                                             | 3.309  | 3.509 | 4.009                                                                             | 3.309 | 2.209  | -                                                                                 | -    | 2.209 | -                                                                                   | -    |
| Pot Cap-1 Maneuver       | 373    | 385                                                                               | 833    | 374   | 370                                                                               | 667   | 1325   | -                                                                                 | -    | 1175  | -                                                                                   | -    |
| Stage 1                  | 766    | 709                                                                               | -      | 619   | 596                                                                               | -     | -      | -                                                                                 | -    | -     | -                                                                                   | -    |
| Stage 2                  | 607    | 592                                                                               | -      | 753   | 683                                                                               | -     | -      | -                                                                                 | -    | -     | -                                                                                   | -    |
| Platoon blocked, %       |        |                                                                                   |        |       |                                                                                   |       |        | -                                                                                 | -    |       | -                                                                                   | -    |
| Mov Cap-1 Maneuver       | 345    | 374                                                                               | 833    | 350   | 359                                                                               | 667   | 1325   | -                                                                                 | -    | 1175  | -                                                                                   | -    |
| Mov Cap-2 Maneuver       | 345    | 374                                                                               | -      | 350   | 359                                                                               | -     | -      | -                                                                                 | -    | -     | -                                                                                   | -    |
| Stage 1                  | 755    | 698                                                                               | -      | 610   | 588                                                                               | -     | -      | -                                                                                 | -    | -     | -                                                                                   | -    |
| Stage 2                  | 569    | 584                                                                               | -      | 715   | 673                                                                               | -     | -      | -                                                                                 | -    | -     | -                                                                                   | -    |
|                          |        |                                                                                   |        |       |                                                                                   |       |        |                                                                                   |      |       |                                                                                     |      |
|                          |        |                                                                                   |        |       |                                                                                   |       |        |                                                                                   |      |       |                                                                                     |      |
| Approach                 | EB     |                                                                                   | WB     |       | NB                                                                                |       | SB     |                                                                                   |      |       |                                                                                     |      |
| HCM Control Delay, s     | 14.3   |                                                                                   | 17.3   |       | 0.3                                                                               |       | 0.5    |                                                                                   |      |       |                                                                                     |      |
| HCM LOS                  | B      |                                                                                   | C      |       |                                                                                   |       |        |                                                                                   |      |       |                                                                                     |      |
|                          |        |                                                                                   |        |       |                                                                                   |       |        |                                                                                   |      |       |                                                                                     |      |
| Minor Lane/Major Mvmt    | NBL    | NBT                                                                               | NBR    | EBLn1 | WBLn1                                                                             | SBL   | SBT    | SBR                                                                               |      |       |                                                                                     |      |
| Capacity (veh/h)         | 1325   | -                                                                                 | -      | 429   | 384                                                                               | 1175  | -      | -                                                                                 |      |       |                                                                                     |      |
| HCM Lane V/C Ratio       | 0.011  | -                                                                                 | -      | 0.098 | 0.242                                                                             | 0.013 | -      | -                                                                                 |      |       |                                                                                     |      |
| HCM Control Delay (s)    | 7.7    | 0                                                                                 | -      | 14.3  | 17.3                                                                              | 8.1   | 0      | -                                                                                 |      |       |                                                                                     |      |
| HCM Lane LOS             | A      | A                                                                                 | -      | B     | C                                                                                 | A     | A      | -                                                                                 |      |       |                                                                                     |      |
| HCM 95th %tile O(veh)    | 0      | -                                                                                 | -      | 0.3   | 0.9                                                                               | 0     | -      | -                                                                                 |      |       |                                                                                     |      |

| Intersection             |      |      |      |      |      |      |      |      |      |      |      |      |
|--------------------------|------|------|------|------|------|------|------|------|------|------|------|------|
| Int Delay, s/veh         | 2.8  |      |      |      |      |      |      |      |      |      |      |      |
| Movement                 | EBL  | EBT  | EBR  | WBL  | WBT  | WBR  | NBL  | NBT  | NBR  | SBL  | SBT  | SBR  |
| Lane Configurations      |      | ↕    |      |      | ↕    |      |      | ↕    |      |      | ↕    |      |
| Traffic Vol, veh/h       | 10   | 10   | 5    | 28   | 10   | 7    | 10   | 132  | 10   | 10   | 60   | 33   |
| Future Vol, veh/h        | 10   | 10   | 5    | 28   | 10   | 7    | 10   | 132  | 10   | 10   | 60   | 33   |
| Conflicting Peds, #/hr   | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    |
| Sign Control             | Stop | Stop | Stop | Stop | Stop | Stop | Free | Free | Free | Free | Free | Free |
| RT Channelized           | -    | -    | None | -    | -    | None | -    | -    | None | -    | -    | None |
| Storage Length           | -    | -    | -    | -    | -    | -    | -    | -    | -    | -    | -    | -    |
| Veh in Median Storage, # | -    | 0    | -    | -    | 0    | -    | -    | 0    | -    | -    | 0    | -    |
| Grade, %                 | -    | 0    | -    | -    | 0    | -    | -    | 0    | -    | -    | 0    | -    |
| Peak Hour Factor         | 100  | 100  | 100  | 100  | 100  | 100  | 100  | 100  | 100  | 100  | 100  | 100  |
| Heavy Vehicles, %        | 1    | 1    | 1    | 1    | 1    | 1    | 1    | 1    | 1    | 1    | 1    | 1    |
| Mvmt Flow                | 15   | 15   | 8    | 42   | 15   | 11   | 15   | 251  | 15   | 15   | 114  | 50   |

| Major/Minor          | Minor2 |       | Minor1 |       | Major1 |       | Major2 |   |   |       |   |   |
|----------------------|--------|-------|--------|-------|--------|-------|--------|---|---|-------|---|---|
| Conflicting Flow All | 471    | 465   | 139    | 470   | 483    | 259   | 164    | 0 | 0 | 266   | 0 | 0 |
| Stage 1              | 169    | 169   | -      | 289   | 289    | -     | -      | - | - | -     | - | - |
| Stage 2              | 302    | 296   | -      | 181   | 194    | -     | -      | - | - | -     | - | - |
| Critical Hdwy        | 7.11   | 6.51  | 6.21   | 7.11  | 6.51   | 6.21  | 4.11   | - | - | 4.11  | - | - |
| Critical Hdwy Stg 1  | 6.11   | 5.51  | -      | 6.11  | 5.51   | -     | -      | - | - | -     | - | - |
| Critical Hdwy Stg 2  | 6.11   | 5.51  | -      | 6.11  | 5.51   | -     | -      | - | - | -     | - | - |
| Follow-up Hdwy       | 3.509  | 4.009 | 3.309  | 3.509 | 4.009  | 3.309 | 2.209  | - | - | 2.209 | - | - |
| Pot Cap-1 Maneuver   | 505    | 496   | 912    | 505   | 485    | 782   | 1421   | - | - | 1304  | - | - |
| Stage 1              | 835    | 761   | -      | 721   | 675    | -     | -      | - | - | -     | - | - |
| Stage 2              | 709    | 670   | -      | 823   | 742    | -     | -      | - | - | -     | - | - |
| Platoon blocked, %   |        |       |        |       |        |       |        | - | - | -     | - | - |
| Mov Cap-1 Maneuver   | 477    | 484   | 912    | 480   | 473    | 782   | 1421   | - | - | 1304  | - | - |
| Mov Cap-2 Maneuver   | 477    | 484   | -      | 480   | 473    | -     | -      | - | - | -     | - | - |
| Stage 1              | 825    | 751   | -      | 712   | 667    | -     | -      | - | - | -     | - | - |
| Stage 2              | 676    | 662   | -      | 790   | 732    | -     | -      | - | - | -     | - | - |

| Approach             | EB   |  | WB   |  | NB  |  | SB  |  |
|----------------------|------|--|------|--|-----|--|-----|--|
| HCM Control Delay, s | 12.3 |  | 13.2 |  | 0.4 |  | 0.7 |  |
| HCM LOS              | B    |  | B    |  |     |  |     |  |

| Minor Lane/Major Mvmt | NBL   | NBT | NBR | EBLn1WBLn1 | SBL   | SBT   | SBR |
|-----------------------|-------|-----|-----|------------|-------|-------|-----|
| Capacity (veh/h)      | 1421  | -   | -   | 531        | 509   | 1304  | -   |
| HCM Lane V/C Ratio    | 0.011 | -   | -   | 0.071      | 0.133 | 0.012 | -   |
| HCM Control Delay (s) | 7.6   | 0   | -   | 12.3       | 13.2  | 7.8   | 0   |
| HCM Lane LOS          | A     | A   | -   | B          | B     | A     | A   |
| HCM 95th %tile Q(veh) | 0     | -   | -   | 0.2        | 0.5   | 0     | -   |

| Intersection             |        |                                                                                   |        |       |                                                                                   |        |       |                                                                                   |        |       |                                                                                     |      |
|--------------------------|--------|-----------------------------------------------------------------------------------|--------|-------|-----------------------------------------------------------------------------------|--------|-------|-----------------------------------------------------------------------------------|--------|-------|-------------------------------------------------------------------------------------|------|
| Int Delay, s/veh         | 2.1    |                                                                                   |        |       |                                                                                   |        |       |                                                                                   |        |       |                                                                                     |      |
| Movement                 | EBL    | EBT                                                                               | EBR    | WBL   | WBT                                                                               | WBR    | NBL   | NBT                                                                               | NBR    | SBL   | SBT                                                                                 | SBR  |
| Lane Configurations      |        |  |        |       |  |        |       |  |        |       |  |      |
| Traffic Vol, veh/h       | 10     | 10                                                                                | 10     | 10    | 10                                                                                | 10     | 10    | 204                                                                               | 10     | 10    | 126                                                                                 | 10   |
| Future Vol, veh/h        | 10     | 10                                                                                | 10     | 10    | 10                                                                                | 10     | 10    | 204                                                                               | 10     | 10    | 126                                                                                 | 10   |
| Conflicting Peds, #/hr   | 0      | 0                                                                                 | 0      | 0     | 0                                                                                 | 0      | 0     | 0                                                                                 | 0      | 0     | 0                                                                                   | 0    |
| Sign Control             | Stop   | Stop                                                                              | Stop   | Stop  | Stop                                                                              | Stop   | Free  | Free                                                                              | Free   | Free  | Free                                                                                | Free |
| RT Channelized           | -      | -                                                                                 | None   | -     | -                                                                                 | None   | -     | -                                                                                 | None   | -     | -                                                                                   | None |
| Storage Length           | -      | -                                                                                 | -      | -     | -                                                                                 | -      | -     | -                                                                                 | -      | -     | -                                                                                   | -    |
| Veh in Median Storage, # | -      | 0                                                                                 | -      | -     | 0                                                                                 | -      | -     | 0                                                                                 | -      | -     | 0                                                                                   | -    |
| Grade, %                 | -      | 0                                                                                 | -      | -     | 0                                                                                 | -      | -     | 0                                                                                 | -      | -     | 0                                                                                   | -    |
| Peak Hour Factor         | 100    | 100                                                                               | 100    | 100   | 100                                                                               | 100    | 100   | 100                                                                               | 100    | 100   | 100                                                                                 | 100  |
| Heavy Vehicles, %        | 1      | 1                                                                                 | 1      | 1     | 1                                                                                 | 1      | 1     | 1                                                                                 | 1      | 1     | 1                                                                                   | 1    |
| Mvmt Flow                | 15     | 15                                                                                | 15     | 15    | 15                                                                                | 15     | 15    | 388                                                                               | 15     | 15    | 239                                                                                 | 15   |
|                          |        |                                                                                   |        |       |                                                                                   |        |       |                                                                                   |        |       |                                                                                     |      |
| Major/Minor              | Minor2 |                                                                                   | Minor1 |       |                                                                                   | Major1 |       |                                                                                   | Major2 |       |                                                                                     |      |
| Conflicting Flow All     | 718    | 710                                                                               | 247    | 718   | 710                                                                               | 396    | 254   | 0                                                                                 | 0      | 403   | 0                                                                                   | 0    |
| Stage 1                  | 277    | 277                                                                               | -      | 426   | 426                                                                               | -      | -     | -                                                                                 | -      | -     | -                                                                                   | -    |
| Stage 2                  | 441    | 433                                                                               | -      | 292   | 284                                                                               | -      | -     | -                                                                                 | -      | -     | -                                                                                   | -    |
| Critical Hdwy            | 7.11   | 6.51                                                                              | 6.21   | 7.11  | 6.51                                                                              | 6.21   | 4.11  | -                                                                                 | -      | 4.11  | -                                                                                   | -    |
| Critical Hdwy Stg 1      | 6.11   | 5.51                                                                              | -      | 6.11  | 5.51                                                                              | -      | -     | -                                                                                 | -      | -     | -                                                                                   | -    |
| Critical Hdwy Stg 2      | 6.11   | 5.51                                                                              | -      | 6.11  | 5.51                                                                              | -      | -     | -                                                                                 | -      | -     | -                                                                                   | -    |
| Follow-up Hdwy           | 3.509  | 4.009                                                                             | 3.309  | 3.509 | 4.009                                                                             | 3.309  | 2.209 | -                                                                                 | -      | 2.209 | -                                                                                   | -    |
| Pot Cap-1 Maneuver       | 345    | 360                                                                               | 794    | 345   | 360                                                                               | 656    | 1317  | -                                                                                 | -      | 1161  | -                                                                                   | -    |
| Stage 1                  | 732    | 683                                                                               | -      | 608   | 588                                                                               | -      | -     | -                                                                                 | -      | -     | -                                                                                   | -    |
| Stage 2                  | 597    | 583                                                                               | -      | 718   | 678                                                                               | -      | -     | -                                                                                 | -      | -     | -                                                                                   | -    |
| Platoon blocked, %       |        |                                                                                   |        |       |                                                                                   |        |       | -                                                                                 | -      |       | -                                                                                   | -    |
| Mov Cap-1 Maneuver       | 319    | 349                                                                               | 794    | 320   | 349                                                                               | 656    | 1317  | -                                                                                 | -      | 1161  | -                                                                                   | -    |
| Mov Cap-2 Maneuver       | 319    | 349                                                                               | -      | 320   | 349                                                                               | -      | -     | -                                                                                 | -      | -     | -                                                                                   | -    |
| Stage 1                  | 721    | 673                                                                               | -      | 599   | 579                                                                               | -      | -     | -                                                                                 | -      | -     | -                                                                                   | -    |
| Stage 2                  | 560    | 574                                                                               | -      | 678   | 668                                                                               | -      | -     | -                                                                                 | -      | -     | -                                                                                   | -    |
|                          |        |                                                                                   |        |       |                                                                                   |        |       |                                                                                   |        |       |                                                                                     |      |
|                          |        |                                                                                   |        |       |                                                                                   |        |       |                                                                                   |        |       |                                                                                     |      |
| Approach                 | EB     |                                                                                   | WB     |       |                                                                                   | NB     |       |                                                                                   | SB     |       |                                                                                     |      |
| HCM Control Delay, s     | 14.8   |                                                                                   | 15.2   |       |                                                                                   | 0.3    |       |                                                                                   | 0.5    |       |                                                                                     |      |
| HCM LOS                  | B      |                                                                                   | C      |       |                                                                                   |        |       |                                                                                   |        |       |                                                                                     |      |
|                          |        |                                                                                   |        |       |                                                                                   |        |       |                                                                                   |        |       |                                                                                     |      |
| Minor Lane/Major Mvmt    | NBL    | NBT                                                                               | NBR    | EBLn1 | WBLn1                                                                             | SBL    | SBT   | SBR                                                                               |        |       |                                                                                     |      |
| Capacity (veh/h)         | 1317   | -                                                                                 | -      | 413   | 399                                                                               | 1161   | -     | -                                                                                 |        |       |                                                                                     |      |
| HCM Lane V/C Ratio       | 0.011  | -                                                                                 | -      | 0.109 | 0.113                                                                             | 0.013  | -     | -                                                                                 |        |       |                                                                                     |      |
| HCM Control Delay (s)    | 7.8    | 0                                                                                 | -      | 14.8  | 15.2                                                                              | 8.1    | 0     | -                                                                                 |        |       |                                                                                     |      |
| HCM Lane LOS             | A      | A                                                                                 | -      | B     | C                                                                                 | A      | A     | -                                                                                 |        |       |                                                                                     |      |
| HCM 95th %tile O(veh)    | 0      | -                                                                                 | -      | 0.4   | 0.4                                                                               | 0      | -     | -                                                                                 |        |       |                                                                                     |      |

| Intersection             |      |      |      |      |      |      |      |      |      |      |      |      |
|--------------------------|------|------|------|------|------|------|------|------|------|------|------|------|
| Int Delay, s/veh         | 2.4  |      |      |      |      |      |      |      |      |      |      |      |
| Movement                 | EBL  | EBT  | EBR  | WBL  | WBT  | WBR  | NBL  | NBT  | NBR  | SBL  | SBT  | SBR  |
| Lane Configurations      |      | ↕    |      |      | ↕    |      |      | ↕    |      |      | ↕    |      |
| Traffic Vol, veh/h       | 10   | 10   | 10   | 10   | 10   | 10   | 10   | 136  | 10   | 10   | 84   | 10   |
| Future Vol, veh/h        | 10   | 10   | 10   | 10   | 10   | 10   | 10   | 136  | 10   | 10   | 84   | 10   |
| Conflicting Peds, #/hr   | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    |
| Sign Control             | Stop | Stop | Stop | Stop | Stop | Stop | Free | Free | Free | Free | Free | Free |
| RT Channelized           | -    | -    | None | -    | -    | None | -    | -    | None | -    | -    | None |
| Storage Length           | -    | -    | -    | -    | -    | -    | -    | -    | -    | -    | -    | -    |
| Veh in Median Storage, # | -    | 0    | -    | -    | 0    | -    | -    | 0    | -    | -    | 0    | -    |
| Grade, %                 | -    | 0    | -    | -    | 0    | -    | -    | 0    | -    | -    | 0    | -    |
| Peak Hour Factor         | 100  | 100  | 100  | 100  | 100  | 100  | 100  | 100  | 100  | 100  | 100  | 100  |
| Heavy Vehicles, %        | 1    | 1    | 1    | 1    | 1    | 1    | 1    | 1    | 1    | 1    | 1    | 1    |
| Mvmt Flow                | 15   | 15   | 15   | 15   | 15   | 15   | 15   | 258  | 15   | 15   | 160  | 15   |

| Major/Minor          | Minor2 |       | Minor1 |       | Major1 |       | Major2 |   |   |       |   |   |
|----------------------|--------|-------|--------|-------|--------|-------|--------|---|---|-------|---|---|
| Conflicting Flow All | 509    | 501   | 168    | 509   | 501    | 266   | 175    | 0 | 0 | 273   | 0 | 0 |
| Stage 1              | 198    | 198   | -      | 296   | 296    | -     | -      | - | - | -     | - | - |
| Stage 2              | 311    | 303   | -      | 213   | 205    | -     | -      | - | - | -     | - | - |
| Critical Hdwy        | 7.11   | 6.51  | 6.21   | 7.11  | 6.51   | 6.21  | 4.11   | - | - | 4.11  | - | - |
| Critical Hdwy Stg 1  | 6.11   | 5.51  | -      | 6.11  | 5.51   | -     | -      | - | - | -     | - | - |
| Critical Hdwy Stg 2  | 6.11   | 5.51  | -      | 6.11  | 5.51   | -     | -      | - | - | -     | - | - |
| Follow-up Hdwy       | 3.509  | 4.009 | 3.309  | 3.509 | 4.009  | 3.309 | 2.209  | - | - | 2.209 | - | - |
| Pot Cap-1 Maneuver   | 476    | 474   | 879    | 476   | 474    | 775   | 1407   | - | - | 1296  | - | - |
| Stage 1              | 806    | 739   | -      | 715   | 670    | -     | -      | - | - | -     | - | - |
| Stage 2              | 702    | 665   | -      | 791   | 734    | -     | -      | - | - | -     | - | - |
| Platoon blocked, %   |        |       |        |       |        |       |        | - | - | -     | - | - |
| Mov Cap-1 Maneuver   | 446    | 462   | 879    | 447   | 462    | 775   | 1407   | - | - | 1296  | - | - |
| Mov Cap-2 Maneuver   | 446    | 462   | -      | 447   | 462    | -     | -      | - | - | -     | - | - |
| Stage 1              | 796    | 729   | -      | 706   | 661    | -     | -      | - | - | -     | - | - |
| Stage 2              | 664    | 656   | -      | 752   | 724    | -     | -      | - | - | -     | - | - |

| Approach             | EB   |  | WB   |  | NB  |  | SB  |  |
|----------------------|------|--|------|--|-----|--|-----|--|
| HCM Control Delay, s | 12.3 |  | 12.5 |  | 0.4 |  | 0.6 |  |
| HCM LOS              | B    |  | B    |  |     |  |     |  |

| Minor Lane/Major Mvmt | NBL   | NBT | NBR | EBLn1WBLn1 | SBL   | SBT   | SBR |
|-----------------------|-------|-----|-----|------------|-------|-------|-----|
| Capacity (veh/h)      | 1407  | -   | -   | 541        | 527   | 1296  | -   |
| HCM Lane V/C Ratio    | 0.011 | -   | -   | 0.083      | 0.085 | 0.012 | -   |
| HCM Control Delay (s) | 7.6   | 0   | -   | 12.3       | 12.5  | 7.8   | 0   |
| HCM Lane LOS          | A     | A   | -   | B          | B     | A     | A   |
| HCM 95th %tile Q(veh) | 0     | -   | -   | 0.3        | 0.3   | 0     | -   |

| Intersection             |      |      |      |      |      |      |      |      |      |      |      |      |
|--------------------------|------|------|------|------|------|------|------|------|------|------|------|------|
| Int Delay, s/veh         | 2.1  |      |      |      |      |      |      |      |      |      |      |      |
| Movement                 | EBL  | EBT  | EBR  | WBL  | WBT  | WBR  | NBL  | NBT  | NBR  | SBL  | SBT  | SBR  |
| Lane Configurations      |      | ↕    |      |      | ↕    |      |      | ↕    |      |      | ↕    |      |
| Traffic Vol, veh/h       | 10   | 10   | 10   | 10   | 10   | 10   | 10   | 204  | 10   | 10   | 126  | 10   |
| Future Vol, veh/h        | 10   | 10   | 10   | 10   | 10   | 10   | 10   | 204  | 10   | 10   | 126  | 10   |
| Conflicting Peds, #/hr   | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    |
| Sign Control             | Stop | Stop | Stop | Stop | Stop | Stop | Free | Free | Free | Free | Free | Free |
| RT Channelized           | -    | -    | None | -    | -    | None | -    | -    | None | -    | -    | None |
| Storage Length           | -    | -    | -    | -    | -    | -    | -    | -    | -    | -    | -    | -    |
| Veh in Median Storage, # | -    | 0    | -    | -    | 0    | -    | -    | 0    | -    | -    | 0    | -    |
| Grade, %                 | -    | 0    | -    | -    | 0    | -    | -    | 0    | -    | -    | 0    | -    |
| Peak Hour Factor         | 100  | 100  | 100  | 100  | 100  | 100  | 100  | 100  | 100  | 100  | 100  | 100  |
| Heavy Vehicles, %        | 1    | 1    | 1    | 1    | 1    | 1    | 1    | 1    | 1    | 1    | 1    | 1    |
| Mvmt Flow                | 15   | 15   | 15   | 15   | 15   | 15   | 15   | 388  | 15   | 15   | 239  | 15   |

| Major/Minor          | Minor2 |       | Minor1 |       | Major1 |       | Major2 |   |   |       |   |   |
|----------------------|--------|-------|--------|-------|--------|-------|--------|---|---|-------|---|---|
| Conflicting Flow All | 718    | 710   | 247    | 718   | 710    | 396   | 254    | 0 | 0 | 403   | 0 | 0 |
| Stage 1              | 277    | 277   | -      | 426   | 426    | -     | -      | - | - | -     | - | - |
| Stage 2              | 441    | 433   | -      | 292   | 284    | -     | -      | - | - | -     | - | - |
| Critical Hdwy        | 7.11   | 6.51  | 6.21   | 7.11  | 6.51   | 6.21  | 4.11   | - | - | 4.11  | - | - |
| Critical Hdwy Stg 1  | 6.11   | 5.51  | -      | 6.11  | 5.51   | -     | -      | - | - | -     | - | - |
| Critical Hdwy Stg 2  | 6.11   | 5.51  | -      | 6.11  | 5.51   | -     | -      | - | - | -     | - | - |
| Follow-up Hdwy       | 3.509  | 4.009 | 3.309  | 3.509 | 4.009  | 3.309 | 2.209  | - | - | 2.209 | - | - |
| Pot Cap-1 Maneuver   | 345    | 360   | 794    | 345   | 360    | 656   | 1317   | - | - | 1161  | - | - |
| Stage 1              | 732    | 683   | -      | 608   | 588    | -     | -      | - | - | -     | - | - |
| Stage 2              | 597    | 583   | -      | 718   | 678    | -     | -      | - | - | -     | - | - |
| Platoon blocked, %   |        |       |        |       |        |       |        | - | - | -     | - | - |
| Mov Cap-1 Maneuver   | 319    | 349   | 794    | 320   | 349    | 656   | 1317   | - | - | 1161  | - | - |
| Mov Cap-2 Maneuver   | 319    | 349   | -      | 320   | 349    | -     | -      | - | - | -     | - | - |
| Stage 1              | 721    | 673   | -      | 599   | 579    | -     | -      | - | - | -     | - | - |
| Stage 2              | 560    | 574   | -      | 678   | 668    | -     | -      | - | - | -     | - | - |

| Approach             | EB   |  | WB   |  | NB  |  | SB  |  |
|----------------------|------|--|------|--|-----|--|-----|--|
| HCM Control Delay, s | 14.8 |  | 15.2 |  | 0.3 |  | 0.5 |  |
| HCM LOS              | B    |  | C    |  |     |  |     |  |

| Minor Lane/Major Mvmt | NBL   | NBT | NBR | EBLn1WBLn1 | SBL   | SBT   | SBR |
|-----------------------|-------|-----|-----|------------|-------|-------|-----|
| Capacity (veh/h)      | 1317  | -   | -   | 413        | 399   | 1161  | -   |
| HCM Lane V/C Ratio    | 0.011 | -   | -   | 0.109      | 0.113 | 0.013 | -   |
| HCM Control Delay (s) | 7.8   | 0   | -   | 14.8       | 15.2  | 8.1   | 0   |
| HCM Lane LOS          | A     | A   | -   | B          | C     | A     | A   |
| HCM 95th %tile Q(veh) | 0     | -   | -   | 0.4        | 0.4   | 0     | -   |



| Intersection             |        |       |        |       |       |        |       |      |        |       |      |      |
|--------------------------|--------|-------|--------|-------|-------|--------|-------|------|--------|-------|------|------|
| Int Delay, s/veh         | 2.4    |       |        |       |       |        |       |      |        |       |      |      |
| Movement                 | EBL    | EBT   | EBR    | WBL   | WBT   | WBR    | NBL   | NBT  | NBR    | SBL   | SBT  | SBR  |
| Lane Configurations      |        | ↕     |        |       | ↕     |        |       | ↕    |        |       | ↕    |      |
| Traffic Vol, veh/h       | 10     | 10    | 10     | 10    | 10    | 10     | 10    | 136  | 10     | 10    | 84   | 10   |
| Future Vol, veh/h        | 10     | 10    | 10     | 10    | 10    | 10     | 10    | 136  | 10     | 10    | 84   | 10   |
| Conflicting Peds, #/hr   | 0      | 0     | 0      | 0     | 0     | 0      | 0     | 0    | 0      | 0     | 0    | 0    |
| Sign Control             | Stop   | Stop  | Stop   | Stop  | Stop  | Stop   | Free  | Free | Free   | Free  | Free | Free |
| RT Channelized           | -      | -     | None   | -     | -     | None   | -     | -    | None   | -     | -    | None |
| Storage Length           | -      | -     | -      | -     | -     | -      | -     | -    | -      | -     | -    | -    |
| Veh in Median Storage, # | -      | 0     | -      | -     | 0     | -      | -     | 0    | -      | -     | 0    | -    |
| Grade, %                 | -      | 0     | -      | -     | 0     | -      | -     | 0    | -      | -     | 0    | -    |
| Peak Hour Factor         | 100    | 100   | 100    | 100   | 100   | 100    | 100   | 100  | 100    | 100   | 100  | 100  |
| Heavy Vehicles, %        | 1      | 1     | 1      | 1     | 1     | 1      | 1     | 1    | 1      | 1     | 1    | 1    |
| Mvmt Flow                | 15     | 15    | 15     | 15    | 15    | 15     | 15    | 258  | 15     | 15    | 160  | 15   |
|                          |        |       |        |       |       |        |       |      |        |       |      |      |
| Major/Minor              | Minor2 |       | Minor1 |       |       | Major1 |       |      | Major2 |       |      |      |
| Conflicting Flow All     | 509    | 501   | 168    | 509   | 501   | 266    | 175   | 0    | 0      | 273   | 0    | 0    |
| Stage 1                  | 198    | 198   | -      | 296   | 296   | -      | -     | -    | -      | -     | -    | -    |
| Stage 2                  | 311    | 303   | -      | 213   | 205   | -      | -     | -    | -      | -     | -    | -    |
| Critical Hdwy            | 7.11   | 6.51  | 6.21   | 7.11  | 6.51  | 6.21   | 4.11  | -    | -      | 4.11  | -    | -    |
| Critical Hdwy Stg 1      | 6.11   | 5.51  | -      | 6.11  | 5.51  | -      | -     | -    | -      | -     | -    | -    |
| Critical Hdwy Stg 2      | 6.11   | 5.51  | -      | 6.11  | 5.51  | -      | -     | -    | -      | -     | -    | -    |
| Follow-up Hdwy           | 3.509  | 4.009 | 3.309  | 3.509 | 4.009 | 3.309  | 2.209 | -    | -      | 2.209 | -    | -    |
| Pot Cap-1 Maneuver       | 476    | 474   | 879    | 476   | 474   | 775    | 1407  | -    | -      | 1296  | -    | -    |
| Stage 1                  | 806    | 739   | -      | 715   | 670   | -      | -     | -    | -      | -     | -    | -    |
| Stage 2                  | 702    | 665   | -      | 791   | 734   | -      | -     | -    | -      | -     | -    | -    |
| Platoon blocked, %       |        |       |        |       |       |        |       | -    | -      |       | -    | -    |
| Mov Cap-1 Maneuver       | 446    | 462   | 879    | 447   | 462   | 775    | 1407  | -    | -      | 1296  | -    | -    |
| Mov Cap-2 Maneuver       | 446    | 462   | -      | 447   | 462   | -      | -     | -    | -      | -     | -    | -    |
| Stage 1                  | 796    | 729   | -      | 706   | 661   | -      | -     | -    | -      | -     | -    | -    |
| Stage 2                  | 664    | 656   | -      | 752   | 724   | -      | -     | -    | -      | -     | -    | -    |
|                          |        |       |        |       |       |        |       |      |        |       |      |      |
|                          |        |       |        |       |       |        |       |      |        |       |      |      |
| Approach                 | EB     |       | WB     |       |       | NB     |       |      | SB     |       |      |      |
| HCM Control Delay, s     | 12.3   |       | 12.5   |       |       | 0.4    |       |      | 0.6    |       |      |      |
| HCM LOS                  | B      |       | B      |       |       |        |       |      |        |       |      |      |
|                          |        |       |        |       |       |        |       |      |        |       |      |      |
| Minor Lane/Major Mvmt    | NBL    | NBT   | NBR    | EBLn1 | WBLn1 | SBL    | SBT   | SBR  |        |       |      |      |
| Capacity (veh/h)         | 1407   | -     | -      | 541   | 527   | 1296   | -     | -    |        |       |      |      |
| HCM Lane V/C Ratio       | 0.011  | -     | -      | 0.083 | 0.085 | 0.012  | -     | -    |        |       |      |      |
| HCM Control Delay (s)    | 7.6    | 0     | -      | 12.3  | 12.5  | 7.8    | 0     | -    |        |       |      |      |
| HCM Lane LOS             | A      | A     | -      | B     | B     | A      | A     | -    |        |       |      |      |
| HCM 95th %tile O(veh)    | 0      | -     | -      | 0.3   | 0.3   | 0      | -     | -    |        |       |      |      |

| Intersection             |        |                                                                                   |        |       |                                                                                   |        |       |                                                                                   |        |       |                                                                                     |      |
|--------------------------|--------|-----------------------------------------------------------------------------------|--------|-------|-----------------------------------------------------------------------------------|--------|-------|-----------------------------------------------------------------------------------|--------|-------|-------------------------------------------------------------------------------------|------|
| Int Delay, s/veh         | 3.3    |                                                                                   |        |       |                                                                                   |        |       |                                                                                   |        |       |                                                                                     |      |
| Movement                 | EBL    | EBT                                                                               | EBR    | WBL   | WBT                                                                               | WBR    | NBL   | NBT                                                                               | NBR    | SBL   | SBT                                                                                 | SBR  |
| Lane Configurations      |        |  |        |       |  |        |       |  |        |       |  |      |
| Traffic Vol, veh/h       | 4      | 37                                                                                | 9      | 5     | 45                                                                                | 8      | 2     | 202                                                                               | 11     | 3     | 133                                                                                 | 7    |
| Future Vol, veh/h        | 4      | 37                                                                                | 9      | 5     | 45                                                                                | 8      | 2     | 202                                                                               | 11     | 3     | 133                                                                                 | 7    |
| Conflicting Peds, #/hr   | 0      | 0                                                                                 | 0      | 0     | 0                                                                                 | 0      | 0     | 0                                                                                 | 0      | 0     | 0                                                                                   | 0    |
| Sign Control             | Stop   | Stop                                                                              | Stop   | Stop  | Stop                                                                              | Stop   | Free  | Free                                                                              | Free   | Free  | Free                                                                                | Free |
| RT Channelized           | -      | -                                                                                 | None   | -     | -                                                                                 | None   | -     | -                                                                                 | None   | -     | -                                                                                   | None |
| Storage Length           | -      | -                                                                                 | -      | -     | -                                                                                 | -      | -     | -                                                                                 | -      | -     | -                                                                                   | -    |
| Veh in Median Storage, # | -      | 0                                                                                 | -      | -     | 0                                                                                 | -      | -     | 0                                                                                 | -      | -     | 0                                                                                   | -    |
| Grade, %                 | -      | 0                                                                                 | -      | -     | 0                                                                                 | -      | -     | 0                                                                                 | -      | -     | 0                                                                                   | -    |
| Peak Hour Factor         | 100    | 100                                                                               | 100    | 100   | 100                                                                               | 100    | 100   | 100                                                                               | 100    | 100   | 100                                                                                 | 100  |
| Heavy Vehicles, %        | 1      | 1                                                                                 | 1      | 1     | 1                                                                                 | 1      | 1     | 1                                                                                 | 1      | 1     | 1                                                                                   | 1    |
| Mvmt Flow                | 6      | 56                                                                                | 14     | 8     | 68                                                                                | 12     | 3     | 384                                                                               | 17     | 5     | 253                                                                                 | 11   |
|                          |        |                                                                                   |        |       |                                                                                   |        |       |                                                                                   |        |       |                                                                                     |      |
| Major/Minor              | Minor2 |                                                                                   | Minor1 |       |                                                                                   | Major1 |       |                                                                                   | Major2 |       |                                                                                     |      |
| Conflicting Flow All     | 708    | 676                                                                               | 259    | 703   | 673                                                                               | 393    | 264   | 0                                                                                 | 0      | 401   | 0                                                                                   | 0    |
| Stage 1                  | 269    | 269                                                                               | -      | 399   | 399                                                                               | -      | -     | -                                                                                 | -      | -     | -                                                                                   | -    |
| Stage 2                  | 439    | 407                                                                               | -      | 304   | 274                                                                               | -      | -     | -                                                                                 | -      | -     | -                                                                                   | -    |
| Critical Hdwy            | 7.11   | 6.51                                                                              | 6.21   | 7.11  | 6.51                                                                              | 6.21   | 4.11  | -                                                                                 | -      | 4.11  | -                                                                                   | -    |
| Critical Hdwy Stg 1      | 6.11   | 5.51                                                                              | -      | 6.11  | 5.51                                                                              | -      | -     | -                                                                                 | -      | -     | -                                                                                   | -    |
| Critical Hdwy Stg 2      | 6.11   | 5.51                                                                              | -      | 6.11  | 5.51                                                                              | -      | -     | -                                                                                 | -      | -     | -                                                                                   | -    |
| Follow-up Hdwy           | 3.509  | 4.009                                                                             | 3.309  | 3.509 | 4.009                                                                             | 3.309  | 2.209 | -                                                                                 | -      | 2.209 | -                                                                                   | -    |
| Pot Cap-1 Maneuver       | 351    | 376                                                                               | 782    | 354   | 378                                                                               | 658    | 1306  | -                                                                                 | -      | 1163  | -                                                                                   | -    |
| Stage 1                  | 739    | 688                                                                               | -      | 629   | 604                                                                               | -      | -     | -                                                                                 | -      | -     | -                                                                                   | -    |
| Stage 2                  | 599    | 599                                                                               | -      | 708   | 685                                                                               | -      | -     | -                                                                                 | -      | -     | -                                                                                   | -    |
| Platoon blocked, %       |        |                                                                                   |        |       |                                                                                   |        |       | -                                                                                 | -      |       | -                                                                                   | -    |
| Mov Cap-1 Maneuver       | 295    | 373                                                                               | 782    | 306   | 375                                                                               | 658    | 1306  | -                                                                                 | -      | 1163  | -                                                                                   | -    |
| Mov Cap-2 Maneuver       | 295    | 373                                                                               | -      | 306   | 375                                                                               | -      | -     | -                                                                                 | -      | -     | -                                                                                   | -    |
| Stage 1                  | 737    | 685                                                                               | -      | 627   | 602                                                                               | -      | -     | -                                                                                 | -      | -     | -                                                                                   | -    |
| Stage 2                  | 521    | 597                                                                               | -      | 636   | 682                                                                               | -      | -     | -                                                                                 | -      | -     | -                                                                                   | -    |
|                          |        |                                                                                   |        |       |                                                                                   |        |       |                                                                                   |        |       |                                                                                     |      |
|                          |        |                                                                                   |        |       |                                                                                   |        |       |                                                                                   |        |       |                                                                                     |      |
| Approach                 | EB     |                                                                                   | WB     |       |                                                                                   | NB     |       |                                                                                   | SB     |       |                                                                                     |      |
| HCM Control Delay, s     | 16     |                                                                                   | 16.8   |       |                                                                                   | 0.1    |       |                                                                                   | 0.1    |       |                                                                                     |      |
| HCM LOS                  | C      |                                                                                   | C      |       |                                                                                   |        |       |                                                                                   |        |       |                                                                                     |      |
|                          |        |                                                                                   |        |       |                                                                                   |        |       |                                                                                   |        |       |                                                                                     |      |
| Minor Lane/Major Mvmt    | NBL    |                                                                                   | NBT    | NBR   | EBLn1WBLn1                                                                        | SBL    | SBT   | SBR                                                                               |        |       |                                                                                     |      |
| Capacity (veh/h)         | 1306   |                                                                                   | -      | -     | 402                                                                               | 391    | 1163  | -                                                                                 |        | -     |                                                                                     |      |
| HCM Lane V/C Ratio       | 0.002  |                                                                                   | -      | -     | 0.187                                                                             | 0.223  | 0.004 | -                                                                                 |        | -     |                                                                                     |      |
| HCM Control Delay (s)    | 7.8    |                                                                                   | 0      | -     | 16                                                                                | 16.8   | 8.1   | 0                                                                                 |        | -     |                                                                                     |      |
| HCM Lane LOS             | A      |                                                                                   | A      | -     | C                                                                                 | C      | A     | A                                                                                 |        | -     |                                                                                     |      |
| HCM 95th %tile O(veh)    | 0      |                                                                                   | -      | -     | 0.7                                                                               | 0.8    | 0     | -                                                                                 |        | -     |                                                                                     |      |

| Intersection             |        |                                                                                   |        |            |                                                                                   |       |        |                                                                                   |      |       |                                                                                     |      |
|--------------------------|--------|-----------------------------------------------------------------------------------|--------|------------|-----------------------------------------------------------------------------------|-------|--------|-----------------------------------------------------------------------------------|------|-------|-------------------------------------------------------------------------------------|------|
| Int Delay, s/veh         | 3.4    |                                                                                   |        |            |                                                                                   |       |        |                                                                                   |      |       |                                                                                     |      |
| Movement                 | EBL    | EBT                                                                               | EBR    | WBL        | WBT                                                                               | WBR   | NBL    | NBT                                                                               | NBR  | SBL   | SBT                                                                                 | SBR  |
| Lane Configurations      |        |  |        |            |  |       |        |  |      |       |  |      |
| Traffic Vol, veh/h       | 3      | 41                                                                                | 6      | 4          | 44                                                                                | 6     | 1      | 134                                                                               | 7    | 2     | 89                                                                                  | 4    |
| Future Vol, veh/h        | 3      | 41                                                                                | 6      | 4          | 44                                                                                | 6     | 1      | 134                                                                               | 7    | 2     | 89                                                                                  | 4    |
| Conflicting Peds, #/hr   | 0      | 0                                                                                 | 0      | 0          | 0                                                                                 | 0     | 0      | 0                                                                                 | 0    | 0     | 0                                                                                   | 0    |
| Sign Control             | Stop   | Stop                                                                              | Stop   | Stop       | Stop                                                                              | Stop  | Free   | Free                                                                              | Free | Free  | Free                                                                                | Free |
| RT Channelized           | -      | -                                                                                 | None   | -          | -                                                                                 | None  | -      | -                                                                                 | None | -     | -                                                                                   | None |
| Storage Length           | -      | -                                                                                 | -      | -          | -                                                                                 | -     | -      | -                                                                                 | -    | -     | -                                                                                   | -    |
| Veh in Median Storage, # | -      | 0                                                                                 | -      | -          | 0                                                                                 | -     | -      | 0                                                                                 | -    | -     | 0                                                                                   | -    |
| Grade, %                 | -      | 0                                                                                 | -      | -          | 0                                                                                 | -     | -      | 0                                                                                 | -    | -     | 0                                                                                   | -    |
| Peak Hour Factor         | 100    | 100                                                                               | 100    | 100        | 100                                                                               | 100   | 100    | 100                                                                               | 100  | 100   | 100                                                                                 | 100  |
| Heavy Vehicles, %        | 1      | 1                                                                                 | 1      | 1          | 1                                                                                 | 1     | 1      | 1                                                                                 | 1    | 1     | 1                                                                                   | 1    |
| Mvmt Flow                | 5      | 62                                                                                | 9      | 6          | 66                                                                                | 9     | 2      | 255                                                                               | 11   | 3     | 169                                                                                 | 6    |
|                          |        |                                                                                   |        |            |                                                                                   |       |        |                                                                                   |      |       |                                                                                     |      |
| Major/Minor              | Minor2 |                                                                                   | Minor1 |            | Major1                                                                            |       | Major2 |                                                                                   |      |       |                                                                                     |      |
| Conflicting Flow All     | 480    | 448                                                                               | 172    | 479        | 446                                                                               | 261   | 175    | 0                                                                                 | 0    | 266   | 0                                                                                   | 0    |
| Stage 1                  | 178    | 178                                                                               | -      | 265        | 265                                                                               | -     | -      | -                                                                                 | -    | -     | -                                                                                   | -    |
| Stage 2                  | 302    | 270                                                                               | -      | 214        | 181                                                                               | -     | -      | -                                                                                 | -    | -     | -                                                                                   | -    |
| Critical Hdwy            | 7.11   | 6.51                                                                              | 6.21   | 7.11       | 6.51                                                                              | 6.21  | 4.11   | -                                                                                 | -    | 4.11  | -                                                                                   | -    |
| Critical Hdwy Stg 1      | 6.11   | 5.51                                                                              | -      | 6.11       | 5.51                                                                              | -     | -      | -                                                                                 | -    | -     | -                                                                                   | -    |
| Critical Hdwy Stg 2      | 6.11   | 5.51                                                                              | -      | 6.11       | 5.51                                                                              | -     | -      | -                                                                                 | -    | -     | -                                                                                   | -    |
| Follow-up Hdwy           | 3.509  | 4.009                                                                             | 3.309  | 3.509      | 4.009                                                                             | 3.309 | 2.209  | -                                                                                 | -    | 2.209 | -                                                                                   | -    |
| Pot Cap-1 Maneuver       | 498    | 507                                                                               | 874    | 499        | 509                                                                               | 780   | 1407   | -                                                                                 | -    | 1304  | -                                                                                   | -    |
| Stage 1                  | 826    | 754                                                                               | -      | 742        | 691                                                                               | -     | -      | -                                                                                 | -    | -     | -                                                                                   | -    |
| Stage 2                  | 709    | 688                                                                               | -      | 790        | 752                                                                               | -     | -      | -                                                                                 | -    | -     | -                                                                                   | -    |
| Platoon blocked, %       |        |                                                                                   |        |            |                                                                                   |       |        | -                                                                                 | -    |       | -                                                                                   | -    |
| Mov Cap-1 Maneuver       | 441    | 504                                                                               | 874    | 446        | 506                                                                               | 780   | 1407   | -                                                                                 | -    | 1304  | -                                                                                   | -    |
| Mov Cap-2 Maneuver       | 441    | 504                                                                               | -      | 446        | 506                                                                               | -     | -      | -                                                                                 | -    | -     | -                                                                                   | -    |
| Stage 1                  | 824    | 752                                                                               | -      | 741        | 690                                                                               | -     | -      | -                                                                                 | -    | -     | -                                                                                   | -    |
| Stage 2                  | 633    | 687                                                                               | -      | 716        | 750                                                                               | -     | -      | -                                                                                 | -    | -     | -                                                                                   | -    |
|                          |        |                                                                                   |        |            |                                                                                   |       |        |                                                                                   |      |       |                                                                                     |      |
|                          |        |                                                                                   |        |            |                                                                                   |       |        |                                                                                   |      |       |                                                                                     |      |
| Approach                 | EB     |                                                                                   | WB     |            | NB                                                                                |       | SB     |                                                                                   |      |       |                                                                                     |      |
| HCM Control Delay, s     | 13     |                                                                                   | 13.2   |            | 0                                                                                 |       | 0.1    |                                                                                   |      |       |                                                                                     |      |
| HCM LOS                  | B      |                                                                                   | B      |            |                                                                                   |       |        |                                                                                   |      |       |                                                                                     |      |
|                          |        |                                                                                   |        |            |                                                                                   |       |        |                                                                                   |      |       |                                                                                     |      |
| Minor Lane/Major Mvmt    | NBL    | NBT                                                                               | NBR    | EBLn1WBLn1 | SBL                                                                               | SBT   | SBR    |                                                                                   |      |       |                                                                                     |      |
| Capacity (veh/h)         | 1407   | -                                                                                 | -      | 526        | 521                                                                               | 1304  | -      | -                                                                                 |      |       |                                                                                     |      |
| HCM Lane V/C Ratio       | 0.001  | -                                                                                 | -      | 0.143      | 0.155                                                                             | 0.002 | -      | -                                                                                 |      |       |                                                                                     |      |
| HCM Control Delay (s)    | 7.6    | 0                                                                                 | -      | 13         | 13.2                                                                              | 7.8   | 0      | -                                                                                 |      |       |                                                                                     |      |
| HCM Lane LOS             | A      | A                                                                                 | -      | B          | B                                                                                 | A     | A      | -                                                                                 |      |       |                                                                                     |      |
| HCM 95th %tile O(veh)    | 0      | -                                                                                 | -      | 0.5        | 0.5                                                                               | 0     | -      | -                                                                                 |      |       |                                                                                     |      |

| Intersection             |        |       |        |       |       |        |       |      |        |       |      |      |
|--------------------------|--------|-------|--------|-------|-------|--------|-------|------|--------|-------|------|------|
| Int Delay, s/veh         | 2      |       |        |       |       |        |       |      |        |       |      |      |
| Movement                 | EBL    | EBT   | EBR    | WBL   | WBT   | WBR    | NBL   | NBT  | NBR    | SBL   | SBT  | SBR  |
| Lane Configurations      |        | ↕     |        |       | ↕     |        |       | ↕    |        |       | ↕    |      |
| Traffic Vol, veh/h       | 10     | 10    | 10     | 10    | 10    | 10     | 10    | 204  | 10     | 10    | 138  | 10   |
| Future Vol, veh/h        | 10     | 10    | 10     | 10    | 10    | 10     | 10    | 204  | 10     | 10    | 138  | 10   |
| Conflicting Peds, #/hr   | 0      | 0     | 0      | 0     | 0     | 0      | 0     | 0    | 0      | 0     | 0    | 0    |
| Sign Control             | Stop   | Stop  | Stop   | Stop  | Stop  | Stop   | Free  | Free | Free   | Free  | Free | Free |
| RT Channelized           | -      | -     | None   | -     | -     | None   | -     | -    | None   | -     | -    | None |
| Storage Length           | -      | -     | -      | -     | -     | -      | -     | -    | -      | -     | -    | -    |
| Veh in Median Storage, # | -      | 0     | -      | -     | 0     | -      | -     | 0    | -      | -     | 0    | -    |
| Grade, %                 | -      | 0     | -      | -     | 0     | -      | -     | 0    | -      | -     | 0    | -    |
| Peak Hour Factor         | 100    | 100   | 100    | 100   | 100   | 100    | 100   | 100  | 100    | 100   | 100  | 100  |
| Heavy Vehicles, %        | 1      | 1     | 1      | 1     | 1     | 1      | 1     | 1    | 1      | 1     | 1    | 1    |
| Mvmt Flow                | 15     | 15    | 15     | 15    | 15    | 15     | 15    | 388  | 15     | 15    | 262  | 15   |
|                          |        |       |        |       |       |        |       |      |        |       |      |      |
| Major/Minor              | Minor2 |       | Minor1 |       |       | Major1 |       |      | Major2 |       |      |      |
| Conflicting Flow All     | 741    | 733   | 270    | 741   | 733   | 396    | 277   | 0    | 0      | 403   | 0    | 0    |
| Stage 1                  | 300    | 300   | -      | 426   | 426   | -      | -     | -    | -      | -     | -    | -    |
| Stage 2                  | 441    | 433   | -      | 315   | 307   | -      | -     | -    | -      | -     | -    | -    |
| Critical Hdwy            | 7.11   | 6.51  | 6.21   | 7.11  | 6.51  | 6.21   | 4.11  | -    | -      | 4.11  | -    | -    |
| Critical Hdwy Stg 1      | 6.11   | 5.51  | -      | 6.11  | 5.51  | -      | -     | -    | -      | -     | -    | -    |
| Critical Hdwy Stg 2      | 6.11   | 5.51  | -      | 6.11  | 5.51  | -      | -     | -    | -      | -     | -    | -    |
| Follow-up Hdwy           | 3.509  | 4.009 | 3.309  | 3.509 | 4.009 | 3.309  | 2.209 | -    | -      | 2.209 | -    | -    |
| Pot Cap-1 Maneuver       | 333    | 349   | 771    | 333   | 349   | 656    | 1292  | -    | -      | 1161  | -    | -    |
| Stage 1                  | 711    | 667   | -      | 608   | 588   | -      | -     | -    | -      | -     | -    | -    |
| Stage 2                  | 597    | 583   | -      | 698   | 663   | -      | -     | -    | -      | -     | -    | -    |
| Platoon blocked, %       |        |       |        |       |       |        |       | -    | -      |       | -    | -    |
| Mov Cap-1 Maneuver       | 307    | 339   | 771    | 308   | 339   | 656    | 1292  | -    | -      | 1161  | -    | -    |
| Mov Cap-2 Maneuver       | 307    | 339   | -      | 308   | 339   | -      | -     | -    | -      | -     | -    | -    |
| Stage 1                  | 700    | 657   | -      | 599   | 579   | -      | -     | -    | -      | -     | -    | -    |
| Stage 2                  | 560    | 574   | -      | 659   | 653   | -      | -     | -    | -      | -     | -    | -    |
|                          |        |       |        |       |       |        |       |      |        |       |      |      |
|                          |        |       |        |       |       |        |       |      |        |       |      |      |
| Approach                 | EB     |       | WB     |       |       | NB     |       |      | SB     |       |      |      |
| HCM Control Delay, s     | 15.1   |       | 15.5   |       |       | 0.3    |       |      | 0.4    |       |      |      |
| HCM LOS                  | C      |       | C      |       |       |        |       |      |        |       |      |      |
|                          |        |       |        |       |       |        |       |      |        |       |      |      |
| Minor Lane/Major Mvmt    | NBL    | NBT   | NBR    | EBLn1 | WBLn1 | SBL    | SBT   | SBR  |        |       |      |      |
| Capacity (veh/h)         | 1292   | -     | -      | 400   | 389   | 1161   | -     | -    |        |       |      |      |
| HCM Lane V/C Ratio       | 0.012  | -     | -      | 0.113 | 0.116 | 0.013  | -     | -    |        |       |      |      |
| HCM Control Delay (s)    | 7.8    | 0     | -      | 15.1  | 15.5  | 8.1    | 0     | -    |        |       |      |      |
| HCM Lane LOS             | A      | A     | -      | C     | C     | A      | A     | -    |        |       |      |      |
| HCM 95th %tile O(veh)    | 0      | -     | -      | 0.4   | 0.4   | 0      | -     | -    |        |       |      |      |

| Intersection             |      |      |      |      |      |      |      |      |      |      |      |      |
|--------------------------|------|------|------|------|------|------|------|------|------|------|------|------|
| Int Delay, s/veh         | 2.3  |      |      |      |      |      |      |      |      |      |      |      |
| Movement                 | EBL  | EBT  | EBR  | WBL  | WBT  | WBR  | NBL  | NBT  | NBR  | SBL  | SBT  | SBR  |
| Lane Configurations      |      | ↕    |      |      | ↕    |      |      | ↕    |      |      | ↕    |      |
| Traffic Vol, veh/h       | 10   | 10   | 10   | 10   | 10   | 10   | 10   | 136  | 10   | 10   | 92   | 10   |
| Future Vol, veh/h        | 10   | 10   | 10   | 10   | 10   | 10   | 10   | 136  | 10   | 10   | 92   | 10   |
| Conflicting Peds, #/hr   | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    |
| Sign Control             | Stop | Stop | Stop | Stop | Stop | Stop | Free | Free | Free | Free | Free | Free |
| RT Channelized           | -    | -    | None | -    | -    | None | -    | -    | None | -    | -    | None |
| Storage Length           | -    | -    | -    | -    | -    | -    | -    | -    | -    | -    | -    | -    |
| Veh in Median Storage, # | -    | 0    | -    | -    | 0    | -    | -    | 0    | -    | -    | 0    | -    |
| Grade, %                 | -    | 0    | -    | -    | 0    | -    | -    | 0    | -    | -    | 0    | -    |
| Peak Hour Factor         | 100  | 100  | 100  | 100  | 100  | 100  | 100  | 100  | 100  | 100  | 100  | 100  |
| Heavy Vehicles, %        | 1    | 1    | 1    | 1    | 1    | 1    | 1    | 1    | 1    | 1    | 1    | 1    |
| Mvmt Flow                | 15   | 15   | 15   | 15   | 15   | 15   | 15   | 258  | 15   | 15   | 175  | 15   |

| Major/Minor          | Minor2 |       | Minor1 |       | Major1 |       | Major2 |   |   |       |   |   |
|----------------------|--------|-------|--------|-------|--------|-------|--------|---|---|-------|---|---|
| Conflicting Flow All | 524    | 516   | 183    | 524   | 516    | 266   | 190    | 0 | 0 | 273   | 0 | 0 |
| Stage 1              | 213    | 213   | -      | 296   | 296    | -     | -      | - | - | -     | - | - |
| Stage 2              | 311    | 303   | -      | 228   | 220    | -     | -      | - | - | -     | - | - |
| Critical Hdwy        | 7.11   | 6.51  | 6.21   | 7.11  | 6.51   | 6.21  | 4.11   | - | - | 4.11  | - | - |
| Critical Hdwy Stg 1  | 6.11   | 5.51  | -      | 6.11  | 5.51   | -     | -      | - | - | -     | - | - |
| Critical Hdwy Stg 2  | 6.11   | 5.51  | -      | 6.11  | 5.51   | -     | -      | - | - | -     | - | - |
| Follow-up Hdwy       | 3.509  | 4.009 | 3.309  | 3.509 | 4.009  | 3.309 | 2.209  | - | - | 2.209 | - | - |
| Pot Cap-1 Maneuver   | 465    | 464   | 862    | 465   | 464    | 775   | 1390   | - | - | 1296  | - | - |
| Stage 1              | 791    | 728   | -      | 715   | 670    | -     | -      | - | - | -     | - | - |
| Stage 2              | 702    | 665   | -      | 777   | 723    | -     | -      | - | - | -     | - | - |
| Platoon blocked, %   |        |       |        |       |        |       |        | - | - | -     | - | - |
| Mov Cap-1 Maneuver   | 436    | 452   | 862    | 437   | 452    | 775   | 1390   | - | - | 1296  | - | - |
| Mov Cap-2 Maneuver   | 436    | 452   | -      | 437   | 452    | -     | -      | - | - | -     | - | - |
| Stage 1              | 781    | 719   | -      | 706   | 661    | -     | -      | - | - | -     | - | - |
| Stage 2              | 664    | 656   | -      | 738   | 714    | -     | -      | - | - | -     | - | - |

| Approach             | EB   |  | WB   |  | NB  |  | SB  |  |
|----------------------|------|--|------|--|-----|--|-----|--|
| HCM Control Delay, s | 12.4 |  | 12.6 |  | 0.4 |  | 0.6 |  |
| HCM LOS              | B    |  | B    |  |     |  |     |  |

| Minor Lane/Major Mvmt | NBL   | NBT | NBR | EBLn1WBLn1 | SBL   | SBT   | SBR |
|-----------------------|-------|-----|-----|------------|-------|-------|-----|
| Capacity (veh/h)      | 1390  | -   | -   | 529        | 518   | 1296  | -   |
| HCM Lane V/C Ratio    | 0.011 | -   | -   | 0.085      | 0.087 | 0.012 | -   |
| HCM Control Delay (s) | 7.6   | 0   | -   | 12.4       | 12.6  | 7.8   | 0   |
| HCM Lane LOS          | A     | A   | -   | B          | B     | A     | A   |
| HCM 95th %tile Q(veh) | 0     | -   | -   | 0.3        | 0.3   | 0     | -   |

| Intersection             |        |                                                                                   |        |       |                                                                                   |        |       |                                                                                   |        |       |                                                                                     |      |
|--------------------------|--------|-----------------------------------------------------------------------------------|--------|-------|-----------------------------------------------------------------------------------|--------|-------|-----------------------------------------------------------------------------------|--------|-------|-------------------------------------------------------------------------------------|------|
| Int Delay, s/veh         | 2      |                                                                                   |        |       |                                                                                   |        |       |                                                                                   |        |       |                                                                                     |      |
| Movement                 | EBL    | EBT                                                                               | EBR    | WBL   | WBT                                                                               | WBR    | NBL   | NBT                                                                               | NBR    | SBL   | SBT                                                                                 | SBR  |
| Lane Configurations      |        |  |        |       |  |        |       |  |        |       |  |      |
| Traffic Vol, veh/h       | 10     | 10                                                                                | 10     | 10    | 10                                                                                | 10     | 10    | 204                                                                               | 10     | 10    | 144                                                                                 | 10   |
| Future Vol, veh/h        | 10     | 10                                                                                | 10     | 10    | 10                                                                                | 10     | 10    | 204                                                                               | 10     | 10    | 144                                                                                 | 10   |
| Conflicting Peds, #/hr   | 0      | 0                                                                                 | 0      | 0     | 0                                                                                 | 0      | 0     | 0                                                                                 | 0      | 0     | 0                                                                                   | 0    |
| Sign Control             | Stop   | Stop                                                                              | Stop   | Stop  | Stop                                                                              | Stop   | Free  | Free                                                                              | Free   | Free  | Free                                                                                | Free |
| RT Channelized           | -      | -                                                                                 | None   | -     | -                                                                                 | None   | -     | -                                                                                 | None   | -     | -                                                                                   | None |
| Storage Length           | -      | -                                                                                 | -      | -     | -                                                                                 | -      | -     | -                                                                                 | -      | -     | -                                                                                   | -    |
| Veh in Median Storage, # | -      | 0                                                                                 | -      | -     | 0                                                                                 | -      | -     | 0                                                                                 | -      | -     | 0                                                                                   | -    |
| Grade, %                 | -      | 0                                                                                 | -      | -     | 0                                                                                 | -      | -     | 0                                                                                 | -      | -     | 0                                                                                   | -    |
| Peak Hour Factor         | 100    | 100                                                                               | 100    | 100   | 100                                                                               | 100    | 100   | 100                                                                               | 100    | 100   | 100                                                                                 | 100  |
| Heavy Vehicles, %        | 1      | 1                                                                                 | 1      | 1     | 1                                                                                 | 1      | 1     | 1                                                                                 | 1      | 1     | 1                                                                                   | 1    |
| Mvmt Flow                | 15     | 15                                                                                | 15     | 15    | 15                                                                                | 15     | 15    | 388                                                                               | 15     | 15    | 274                                                                                 | 15   |
|                          |        |                                                                                   |        |       |                                                                                   |        |       |                                                                                   |        |       |                                                                                     |      |
| Major/Minor              | Minor2 |                                                                                   | Minor1 |       |                                                                                   | Major1 |       |                                                                                   | Major2 |       |                                                                                     |      |
| Conflicting Flow All     | 753    | 745                                                                               | 282    | 753   | 745                                                                               | 396    | 289   | 0                                                                                 | 0      | 403   | 0                                                                                   | 0    |
| Stage 1                  | 312    | 312                                                                               | -      | 426   | 426                                                                               | -      | -     | -                                                                                 | -      | -     | -                                                                                   | -    |
| Stage 2                  | 441    | 433                                                                               | -      | 327   | 319                                                                               | -      | -     | -                                                                                 | -      | -     | -                                                                                   | -    |
| Critical Hdwy            | 7.11   | 6.51                                                                              | 6.21   | 7.11  | 6.51                                                                              | 6.21   | 4.11  | -                                                                                 | -      | 4.11  | -                                                                                   | -    |
| Critical Hdwy Stg 1      | 6.11   | 5.51                                                                              | -      | 6.11  | 5.51                                                                              | -      | -     | -                                                                                 | -      | -     | -                                                                                   | -    |
| Critical Hdwy Stg 2      | 6.11   | 5.51                                                                              | -      | 6.11  | 5.51                                                                              | -      | -     | -                                                                                 | -      | -     | -                                                                                   | -    |
| Follow-up Hdwy           | 3.509  | 4.009                                                                             | 3.309  | 3.509 | 4.009                                                                             | 3.309  | 2.209 | -                                                                                 | -      | 2.209 | -                                                                                   | -    |
| Pot Cap-1 Maneuver       | 327    | 344                                                                               | 759    | 327   | 344                                                                               | 656    | 1279  | -                                                                                 | -      | 1161  | -                                                                                   | -    |
| Stage 1                  | 701    | 659                                                                               | -      | 608   | 588                                                                               | -      | -     | -                                                                                 | -      | -     | -                                                                                   | -    |
| Stage 2                  | 597    | 583                                                                               | -      | 688   | 655                                                                               | -      | -     | -                                                                                 | -      | -     | -                                                                                   | -    |
| Platoon blocked, %       |        |                                                                                   |        |       |                                                                                   |        |       | -                                                                                 | -      |       | -                                                                                   | -    |
| Mov Cap-1 Maneuver       | 301    | 334                                                                               | 759    | 302   | 334                                                                               | 656    | 1279  | -                                                                                 | -      | 1161  | -                                                                                   | -    |
| Mov Cap-2 Maneuver       | 301    | 334                                                                               | -      | 302   | 334                                                                               | -      | -     | -                                                                                 | -      | -     | -                                                                                   | -    |
| Stage 1                  | 690    | 649                                                                               | -      | 599   | 579                                                                               | -      | -     | -                                                                                 | -      | -     | -                                                                                   | -    |
| Stage 2                  | 560    | 574                                                                               | -      | 649   | 645                                                                               | -      | -     | -                                                                                 | -      | -     | -                                                                                   | -    |
|                          |        |                                                                                   |        |       |                                                                                   |        |       |                                                                                   |        |       |                                                                                     |      |
|                          |        |                                                                                   |        |       |                                                                                   |        |       |                                                                                   |        |       |                                                                                     |      |
| Approach                 | EB     |                                                                                   | WB     |       |                                                                                   | NB     |       |                                                                                   | SB     |       |                                                                                     |      |
| HCM Control Delay, s     | 15.3   |                                                                                   | 15.6   |       |                                                                                   | 0.3    |       |                                                                                   | 0.4    |       |                                                                                     |      |
| HCM LOS                  | C      |                                                                                   | C      |       |                                                                                   |        |       |                                                                                   |        |       |                                                                                     |      |
|                          |        |                                                                                   |        |       |                                                                                   |        |       |                                                                                   |        |       |                                                                                     |      |
| Minor Lane/Major Mvmt    | NBL    | NBT                                                                               | NBR    | EBLn1 | WBLn1                                                                             | SBL    | SBT   | SBR                                                                               |        |       |                                                                                     |      |
| Capacity (veh/h)         | 1279   | -                                                                                 | -      | 393   | 383                                                                               | 1161   | -     | -                                                                                 |        |       |                                                                                     |      |
| HCM Lane V/C Ratio       | 0.012  | -                                                                                 | -      | 0.115 | 0.117                                                                             | 0.013  | -     | -                                                                                 |        |       |                                                                                     |      |
| HCM Control Delay (s)    | 7.8    | 0                                                                                 | -      | 15.3  | 15.6                                                                              | 8.1    | 0     | -                                                                                 |        |       |                                                                                     |      |
| HCM Lane LOS             | A      | A                                                                                 | -      | C     | C                                                                                 | A      | A     | -                                                                                 |        |       |                                                                                     |      |
| HCM 95th %tile O(veh)    | 0      | -                                                                                 | -      | 0.4   | 0.4                                                                               | 0      | -     | -                                                                                 |        |       |                                                                                     |      |



| Intersection             |        |       |        |       |       |        |       |      |        |       |      |      |
|--------------------------|--------|-------|--------|-------|-------|--------|-------|------|--------|-------|------|------|
| Int Delay, s/veh         | 2.3    |       |        |       |       |        |       |      |        |       |      |      |
| Movement                 | EBL    | EBT   | EBR    | WBL   | WBT   | WBR    | NBL   | NBT  | NBR    | SBL   | SBT  | SBR  |
| Lane Configurations      |        | ↕     |        |       | ↕     |        |       | ↕    |        |       | ↕    |      |
| Traffic Vol, veh/h       | 10     | 10    | 10     | 10    | 10    | 10     | 10    | 136  | 10     | 10    | 96   | 10   |
| Future Vol, veh/h        | 10     | 10    | 10     | 10    | 10    | 10     | 10    | 136  | 10     | 10    | 96   | 10   |
| Conflicting Peds, #/hr   | 0      | 0     | 0      | 0     | 0     | 0      | 0     | 0    | 0      | 0     | 0    | 0    |
| Sign Control             | Stop   | Stop  | Stop   | Stop  | Stop  | Stop   | Free  | Free | Free   | Free  | Free | Free |
| RT Channelized           | -      | -     | None   | -     | -     | None   | -     | -    | None   | -     | -    | None |
| Storage Length           | -      | -     | -      | -     | -     | -      | -     | -    | -      | -     | -    | -    |
| Veh in Median Storage, # | -      | 0     | -      | -     | 0     | -      | -     | 0    | -      | -     | 0    | -    |
| Grade, %                 | -      | 0     | -      | -     | 0     | -      | -     | 0    | -      | -     | 0    | -    |
| Peak Hour Factor         | 100    | 100   | 100    | 100   | 100   | 100    | 100   | 100  | 100    | 100   | 100  | 100  |
| Heavy Vehicles, %        | 1      | 1     | 1      | 1     | 1     | 1      | 1     | 1    | 1      | 1     | 1    | 1    |
| Mvmt Flow                | 15     | 15    | 15     | 15    | 15    | 15     | 15    | 258  | 15     | 15    | 182  | 15   |
|                          |        |       |        |       |       |        |       |      |        |       |      |      |
| Major/Minor              | Minor2 |       | Minor1 |       |       | Major1 |       |      | Major2 |       |      |      |
| Conflicting Flow All     | 531    | 523   | 190    | 531   | 523   | 266    | 197   | 0    | 0      | 273   | 0    | 0    |
| Stage 1                  | 220    | 220   | -      | 296   | 296   | -      | -     | -    | -      | -     | -    | -    |
| Stage 2                  | 311    | 303   | -      | 235   | 227   | -      | -     | -    | -      | -     | -    | -    |
| Critical Hdwy            | 7.11   | 6.51  | 6.21   | 7.11  | 6.51  | 6.21   | 4.11  | -    | -      | 4.11  | -    | -    |
| Critical Hdwy Stg 1      | 6.11   | 5.51  | -      | 6.11  | 5.51  | -      | -     | -    | -      | -     | -    | -    |
| Critical Hdwy Stg 2      | 6.11   | 5.51  | -      | 6.11  | 5.51  | -      | -     | -    | -      | -     | -    | -    |
| Follow-up Hdwy           | 3.509  | 4.009 | 3.309  | 3.509 | 4.009 | 3.309  | 2.209 | -    | -      | 2.209 | -    | -    |
| Pot Cap-1 Maneuver       | 460    | 460   | 854    | 460   | 460   | 775    | 1382  | -    | -      | 1296  | -    | -    |
| Stage 1                  | 785    | 723   | -      | 715   | 670   | -      | -     | -    | -      | -     | -    | -    |
| Stage 2                  | 702    | 665   | -      | 770   | 718   | -      | -     | -    | -      | -     | -    | -    |
| Platoon blocked, %       |        |       |        |       |       |        |       | -    | -      |       | -    | -    |
| Mov Cap-1 Maneuver       | 431    | 448   | 854    | 432   | 448   | 775    | 1382  | -    | -      | 1296  | -    | -    |
| Mov Cap-2 Maneuver       | 431    | 448   | -      | 432   | 448   | -      | -     | -    | -      | -     | -    | -    |
| Stage 1                  | 775    | 714   | -      | 706   | 661   | -      | -     | -    | -      | -     | -    | -    |
| Stage 2                  | 664    | 656   | -      | 731   | 709   | -      | -     | -    | -      | -     | -    | -    |
|                          |        |       |        |       |       |        |       |      |        |       |      |      |
|                          |        |       |        |       |       |        |       |      |        |       |      |      |
| Approach                 | EB     |       | WB     |       |       | NB     |       |      | SB     |       |      |      |
| HCM Control Delay, s     | 12.5   |       | 12.7   |       |       | 0.4    |       |      | 0.6    |       |      |      |
| HCM LOS                  | B      |       | B      |       |       |        |       |      |        |       |      |      |
|                          |        |       |        |       |       |        |       |      |        |       |      |      |
| Minor Lane/Major Mvmt    | NBL    | NBT   | NBR    | EBLn1 | WBLn1 | SBL    | SBT   | SBR  |        |       |      |      |
| Capacity (veh/h)         | 1382   | -     | -      | 524   | 514   | 1296   | -     | -    |        |       |      |      |
| HCM Lane V/C Ratio       | 0.011  | -     | -      | 0.086 | 0.088 | 0.012  | -     | -    |        |       |      |      |
| HCM Control Delay (s)    | 7.6    | 0     | -      | 12.5  | 12.7  | 7.8    | 0     | -    |        |       |      |      |
| HCM Lane LOS             | A      | A     | -      | B     | B     | A      | A     | -    |        |       |      |      |
| HCM 95th %tile Q(veh)    | 0      | -     | -      | 0.3   | 0.3   | 0      | -     | -    |        |       |      |      |

HCM 6th Signalized Intersection Summary  
33: 5th Street & Grand Ave

2045 Two-Way  
10/09/2021

|                              |  |  |  |  |  |  |   |  |  |  |  |  |
|------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|
| Movement                     | EBL                                                                               | EBT                                                                               | EBR                                                                               | WBL                                                                               | WBT                                                                               | WBR                                                                               | NBL                                                                                 | NBT                                                                                 | NBR                                                                                 | SBL                                                                                 | SBT                                                                                 | SBR                                                                                 |
| Lane Configurations          |  |  |                                                                                   |  |  |                                                                                   |  |  |  |  |  |  |
| Traffic Volume (veh/h)       | 34                                                                                | 418                                                                               | 31                                                                                | 30                                                                                | 512                                                                               | 18                                                                                | 59                                                                                  | 164                                                                                 | 41                                                                                  | 11                                                                                  | 113                                                                                 | 32                                                                                  |
| Future Volume (veh/h)        | 34                                                                                | 418                                                                               | 31                                                                                | 30                                                                                | 512                                                                               | 18                                                                                | 59                                                                                  | 164                                                                                 | 41                                                                                  | 11                                                                                  | 113                                                                                 | 32                                                                                  |
| Initial Q (Qb), veh          | 0                                                                                 | 0                                                                                 | 0                                                                                 | 0                                                                                 | 0                                                                                 | 0                                                                                 | 0                                                                                   | 0                                                                                   | 0                                                                                   | 0                                                                                   | 0                                                                                   | 0                                                                                   |
| Ped-Bike Adj(A_pbT)          | 1.00                                                                              |                                                                                   | 1.00                                                                              | 1.00                                                                              |                                                                                   | 1.00                                                                              | 1.00                                                                                |                                                                                     | 1.00                                                                                | 1.00                                                                                |                                                                                     | 1.00                                                                                |
| Parking Bus, Adj             | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                                | 1.00                                                                                | 1.00                                                                                | 1.00                                                                                | 1.00                                                                                | 1.00                                                                                |
| Work Zone On Approach        | No                                                                                |                                                                                   |                                                                                   | No                                                                                |                                                                                   |                                                                                   | No                                                                                  |                                                                                     |                                                                                     | No                                                                                  |                                                                                     |                                                                                     |
| Adj Sat Flow, veh/h/ln       | 1885                                                                              | 1885                                                                              | 1885                                                                              | 1885                                                                              | 1885                                                                              | 1885                                                                              | 1885                                                                                | 1885                                                                                | 1885                                                                                | 1885                                                                                | 1885                                                                                | 1885                                                                                |
| Adj Flow Rate, veh/h         | 51                                                                                | 627                                                                               | 46                                                                                | 45                                                                                | 768                                                                               | 27                                                                                | 88                                                                                  | 312                                                                                 | 62                                                                                  | 16                                                                                  | 215                                                                                 | 48                                                                                  |
| Peak Hour Factor             | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                                | 1.00                                                                                | 1.00                                                                                | 1.00                                                                                | 1.00                                                                                | 1.00                                                                                |
| Percent Heavy Veh, %         | 1                                                                                 | 1                                                                                 | 1                                                                                 | 1                                                                                 | 1                                                                                 | 1                                                                                 | 1                                                                                   | 1                                                                                   | 1                                                                                   | 1                                                                                   | 1                                                                                   | 1                                                                                   |
| Cap, veh/h                   | 312                                                                               | 1658                                                                              | 121                                                                               | 445                                                                               | 1730                                                                              | 61                                                                                | 422                                                                                 | 773                                                                                 | 655                                                                                 | 335                                                                                 | 612                                                                                 | 137                                                                                 |
| Arrive On Green              | 0.98                                                                              | 0.98                                                                              | 0.98                                                                              | 0.49                                                                              | 0.49                                                                              | 0.49                                                                              | 0.14                                                                                | 0.14                                                                                | 0.14                                                                                | 0.41                                                                                | 0.41                                                                                | 0.41                                                                                |
| Sat Flow, veh/h              | 688                                                                               | 3384                                                                              | 248                                                                               | 771                                                                               | 3530                                                                              | 124                                                                               | 1125                                                                                | 1885                                                                                | 1598                                                                                | 1016                                                                                | 1492                                                                                | 333                                                                                 |
| Grp Volume(v), veh/h         | 51                                                                                | 332                                                                               | 341                                                                               | 45                                                                                | 390                                                                               | 405                                                                               | 88                                                                                  | 312                                                                                 | 62                                                                                  | 16                                                                                  | 0                                                                                   | 263                                                                                 |
| Grp Sat Flow(s),veh/h/ln     | 688                                                                               | 1791                                                                              | 1841                                                                              | 771                                                                               | 1791                                                                              | 1863                                                                              | 1125                                                                                | 1885                                                                                | 1598                                                                                | 1016                                                                                | 0                                                                                   | 1825                                                                                |
| Q Serve(g_s), s              | 2.6                                                                               | 0.6                                                                               | 0.6                                                                               | 3.2                                                                               | 14.2                                                                              | 14.2                                                                              | 7.2                                                                                 | 15.1                                                                                | 3.4                                                                                 | 1.2                                                                                 | 0.0                                                                                 | 9.9                                                                                 |
| Cycle Q Clear(g_c), s        | 16.8                                                                              | 0.6                                                                               | 0.6                                                                               | 3.8                                                                               | 14.2                                                                              | 14.2                                                                              | 17.1                                                                                | 15.1                                                                                | 3.4                                                                                 | 16.3                                                                                | 0.0                                                                                 | 9.9                                                                                 |
| Prop In Lane                 | 1.00                                                                              |                                                                                   | 0.13                                                                              | 1.00                                                                              |                                                                                   | 0.07                                                                              | 1.00                                                                                |                                                                                     | 1.00                                                                                | 1.00                                                                                |                                                                                     | 0.18                                                                                |
| Lane Grp Cap(c), veh/h       | 312                                                                               | 878                                                                               | 902                                                                               | 445                                                                               | 878                                                                               | 913                                                                               | 422                                                                                 | 773                                                                                 | 655                                                                                 | 335                                                                                 | 0                                                                                   | 748                                                                                 |
| V/C Ratio(X)                 | 0.16                                                                              | 0.38                                                                              | 0.38                                                                              | 0.10                                                                              | 0.44                                                                              | 0.44                                                                              | 0.21                                                                                | 0.40                                                                                | 0.09                                                                                | 0.05                                                                                | 0.00                                                                                | 0.35                                                                                |
| Avail Cap(c_a), veh/h        | 312                                                                               | 878                                                                               | 902                                                                               | 445                                                                               | 878                                                                               | 913                                                                               | 422                                                                                 | 773                                                                                 | 655                                                                                 | 335                                                                                 | 0                                                                                   | 748                                                                                 |
| HCM Platoon Ratio            | 2.00                                                                              | 2.00                                                                              | 2.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 0.33                                                                                | 0.33                                                                                | 0.33                                                                                | 1.00                                                                                | 1.00                                                                                | 1.00                                                                                |
| Upstream Filter(I)           | 0.96                                                                              | 0.96                                                                              | 0.96                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                                | 1.00                                                                                | 1.00                                                                                | 1.00                                                                                | 0.00                                                                                | 1.00                                                                                |
| Uniform Delay (d), s/veh     | 3.2                                                                               | 0.5                                                                               | 0.5                                                                               | 14.1                                                                              | 16.6                                                                              | 16.6                                                                              | 37.5                                                                                | 32.1                                                                                | 27.0                                                                                | 27.9                                                                                | 0.0                                                                                 | 20.3                                                                                |
| Incr Delay (d2), s/veh       | 1.1                                                                               | 1.2                                                                               | 1.2                                                                               | 0.1                                                                               | 0.4                                                                               | 0.3                                                                               | 1.1                                                                                 | 1.6                                                                                 | 0.3                                                                                 | 0.3                                                                                 | 0.0                                                                                 | 1.3                                                                                 |
| Initial Q Delay(d3),s/veh    | 0.0                                                                               | 0.0                                                                               | 0.0                                                                               | 0.0                                                                               | 0.0                                                                               | 0.0                                                                               | 0.0                                                                                 | 0.0                                                                                 | 0.0                                                                                 | 0.0                                                                                 | 0.0                                                                                 | 0.0                                                                                 |
| %ile BackOfQ(50%),veh/ln     | 0.3                                                                               | 0.4                                                                               | 0.4                                                                               | 0.6                                                                               | 5.7                                                                               | 5.9                                                                               | 2.3                                                                                 | 7.9                                                                                 | 1.4                                                                                 | 0.3                                                                                 | 0.0                                                                                 | 4.4                                                                                 |
| Unsig. Movement Delay, s/veh |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| LnGrp Delay(d),s/veh         | 4.3                                                                               | 1.7                                                                               | 1.7                                                                               | 14.2                                                                              | 17.0                                                                              | 17.0                                                                              | 38.6                                                                                | 33.6                                                                                | 27.3                                                                                | 28.2                                                                                | 0.0                                                                                 | 21.6                                                                                |
| LnGrp LOS                    | A                                                                                 | A                                                                                 | A                                                                                 | B                                                                                 | B                                                                                 | B                                                                                 | D                                                                                   | C                                                                                   | C                                                                                   | C                                                                                   | A                                                                                   | C                                                                                   |
| Approach Vol, veh/h          | 724                                                                               |                                                                                   |                                                                                   | 840                                                                               |                                                                                   |                                                                                   | 462                                                                                 |                                                                                     |                                                                                     | 279                                                                                 |                                                                                     |                                                                                     |
| Approach Delay, s/veh        | 1.9                                                                               |                                                                                   |                                                                                   | 16.8                                                                              |                                                                                   |                                                                                   | 33.7                                                                                |                                                                                     |                                                                                     | 22.0                                                                                |                                                                                     |                                                                                     |
| Approach LOS                 | A                                                                                 |                                                                                   |                                                                                   | B                                                                                 |                                                                                   |                                                                                   | C                                                                                   |                                                                                     |                                                                                     | C                                                                                   |                                                                                     |                                                                                     |
| Timer - Assigned Phs         | 2                                                                                 |                                                                                   |                                                                                   | 4                                                                                 |                                                                                   |                                                                                   | 6                                                                                   |                                                                                     |                                                                                     | 8                                                                                   |                                                                                     |                                                                                     |
| Phs Duration (G+Y+Rc), s     | 46.0                                                                              |                                                                                   |                                                                                   | 54.0                                                                              |                                                                                   |                                                                                   | 46.0                                                                                |                                                                                     |                                                                                     | 54.0                                                                                |                                                                                     |                                                                                     |
| Change Period (Y+Rc), s      | 5.0                                                                               |                                                                                   |                                                                                   | 5.0                                                                               |                                                                                   |                                                                                   | 5.0                                                                                 |                                                                                     |                                                                                     | 5.0                                                                                 |                                                                                     |                                                                                     |
| Max Green Setting (Gmax), s  | 41.0                                                                              |                                                                                   |                                                                                   | 49.0                                                                              |                                                                                   |                                                                                   | 41.0                                                                                |                                                                                     |                                                                                     | 49.0                                                                                |                                                                                     |                                                                                     |
| Max Q Clear Time (g_c+I1), s | 18.3                                                                              |                                                                                   |                                                                                   | 16.2                                                                              |                                                                                   |                                                                                   | 19.1                                                                                |                                                                                     |                                                                                     | 18.8                                                                                |                                                                                     |                                                                                     |
| Green Ext Time (p_c), s      | 1.6                                                                               |                                                                                   |                                                                                   | 6.1                                                                               |                                                                                   |                                                                                   | 2.4                                                                                 |                                                                                     |                                                                                     | 5.1                                                                                 |                                                                                     |                                                                                     |
| Intersection Summary         |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| HCM 6th Ctrl Delay           | 16.1                                                                              |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| HCM 6th LOS                  | B                                                                                 |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |

HCM 6th Signalized Intersection Summary  
34: 4th Street & Grand Ave

2045 Two-Way  
10/09/2021



| Movement                     | EBL                                                                               | EBT                                                                               | EBR                                                                               | WBL                                                                               | WBT                                                                               | WBR  | NBL                                                                               | NBT                                                                               | NBR  | SBL                                                                               | SBT                                                                               | SBR  |
|------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|------|
| Lane Configurations          |  |  |  |  |  |      |  |  |      |  |  |      |
| Traffic Volume (veh/h)       | 22                                                                                | 438                                                                               | 20                                                                                | 20                                                                                | 571                                                                               | 12   | 40                                                                                | 109                                                                               | 28   | 17                                                                                | 76                                                                                | 21   |
| Future Volume (veh/h)        | 22                                                                                | 438                                                                               | 20                                                                                | 20                                                                                | 571                                                                               | 12   | 40                                                                                | 109                                                                               | 28   | 17                                                                                | 76                                                                                | 21   |
| Initial Q (Qb), veh          | 0                                                                                 | 0                                                                                 | 0                                                                                 | 0                                                                                 | 0                                                                                 | 0    | 0                                                                                 | 0                                                                                 | 0    | 0                                                                                 | 0                                                                                 | 0    |
| Ped-Bike Adj(A_pbT)          | 1.00                                                                              |                                                                                   | 1.00                                                                              | 1.00                                                                              |                                                                                   | 1.00 | 1.00                                                                              |                                                                                   | 1.00 | 1.00                                                                              |                                                                                   | 1.00 |
| Parking Bus, Adj             | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00 | 1.00                                                                              | 1.00                                                                              | 1.00 | 1.00                                                                              | 1.00                                                                              | 1.00 |
| Work Zone On Approach        | No                                                                                |                                                                                   |                                                                                   | No                                                                                |                                                                                   |      | No                                                                                |                                                                                   |      | No                                                                                |                                                                                   |      |
| Adj Sat Flow, veh/h/ln       | 1885                                                                              | 1885                                                                              | 1885                                                                              | 1885                                                                              | 1885                                                                              | 1885 | 1885                                                                              | 1885                                                                              | 1885 | 1885                                                                              | 1885                                                                              | 1885 |
| Adj Flow Rate, veh/h         | 33                                                                                | 657                                                                               | 30                                                                                | 30                                                                                | 856                                                                               | 18   | 60                                                                                | 207                                                                               | 42   | 26                                                                                | 144                                                                               | 32   |
| Peak Hour Factor             | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00 | 1.00                                                                              | 1.00                                                                              | 1.00 | 1.00                                                                              | 1.00                                                                              | 1.00 |
| Percent Heavy Veh, %         | 1                                                                                 | 1                                                                                 | 1                                                                                 | 1                                                                                 | 1                                                                                 | 1    | 1                                                                                 | 1                                                                                 | 1    | 1                                                                                 | 1                                                                                 | 1    |
| Cap, veh/h                   | 333                                                                               | 1970                                                                              | 879                                                                               | 414                                                                               | 1973                                                                              | 41   | 455                                                                               | 532                                                                               | 108  | 327                                                                               | 523                                                                               | 116  |
| Arrive On Green              | 0.55                                                                              | 0.55                                                                              | 0.55                                                                              | 0.55                                                                              | 0.55                                                                              | 0.55 | 0.12                                                                              | 0.12                                                                              | 0.12 | 0.70                                                                              | 0.70                                                                              | 0.70 |
| Sat Flow, veh/h              | 639                                                                               | 3582                                                                              | 1598                                                                              | 761                                                                               | 3587                                                                              | 75   | 1218                                                                              | 1521                                                                              | 309  | 1140                                                                              | 1494                                                                              | 332  |
| Grp Volume(v), veh/h         | 33                                                                                | 657                                                                               | 30                                                                                | 30                                                                                | 427                                                                               | 447  | 60                                                                                | 0                                                                                 | 249  | 26                                                                                | 0                                                                                 | 176  |
| Grp Sat Flow(s),veh/h/ln     | 639                                                                               | 1791                                                                              | 1598                                                                              | 761                                                                               | 1791                                                                              | 1872 | 1218                                                                              | 0                                                                                 | 1830 | 1140                                                                              | 0                                                                                 | 1825 |
| Q Serve(g_s), s              | 3.2                                                                               | 10.1                                                                              | 0.9                                                                               | 2.3                                                                               | 14.1                                                                              | 14.1 | 4.5                                                                               | 0.0                                                                               | 12.6 | 1.3                                                                               | 0.0                                                                               | 3.6  |
| Cycle Q Clear(g_c), s        | 17.3                                                                              | 10.1                                                                              | 0.9                                                                               | 12.4                                                                              | 14.1                                                                              | 14.1 | 8.1                                                                               | 0.0                                                                               | 12.6 | 13.9                                                                              | 0.0                                                                               | 3.6  |
| Prop In Lane                 | 1.00                                                                              |                                                                                   | 1.00                                                                              | 1.00                                                                              |                                                                                   | 0.04 | 1.00                                                                              |                                                                                   | 0.17 | 1.00                                                                              |                                                                                   | 0.18 |
| Lane Grp Cap(c), veh/h       | 333                                                                               | 1970                                                                              | 879                                                                               | 414                                                                               | 985                                                                               | 1029 | 455                                                                               | 0                                                                                 | 640  | 327                                                                               | 0                                                                                 | 639  |
| V/C Ratio(X)                 | 0.10                                                                              | 0.33                                                                              | 0.03                                                                              | 0.07                                                                              | 0.43                                                                              | 0.43 | 0.13                                                                              | 0.00                                                                              | 0.39 | 0.08                                                                              | 0.00                                                                              | 0.28 |
| Avail Cap(c_a), veh/h        | 333                                                                               | 1970                                                                              | 879                                                                               | 414                                                                               | 985                                                                               | 1029 | 455                                                                               | 0                                                                                 | 640  | 327                                                                               | 0                                                                                 | 639  |
| HCM Platoon Ratio            | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00 | 0.33                                                                              | 0.33                                                                              | 0.33 | 2.00                                                                              | 2.00                                                                              | 2.00 |
| Upstream Filter(I)           | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 0.90                                                                              | 0.90                                                                              | 0.90 | 1.00                                                                              | 0.00                                                                              | 1.00 | 1.00                                                                              | 0.00                                                                              | 1.00 |
| Uniform Delay (d), s/veh     | 18.4                                                                              | 12.4                                                                              | 10.3                                                                              | 15.8                                                                              | 13.3                                                                              | 13.3 | 33.9                                                                              | 0.0                                                                               | 34.3 | 15.5                                                                              | 0.0                                                                               | 10.3 |
| Incr Delay (d2), s/veh       | 0.6                                                                               | 0.5                                                                               | 0.1                                                                               | 0.3                                                                               | 1.3                                                                               | 1.2  | 0.6                                                                               | 0.0                                                                               | 1.8  | 0.5                                                                               | 0.0                                                                               | 1.1  |
| Initial Q Delay(d3),s/veh    | 0.0                                                                               | 0.0                                                                               | 0.0                                                                               | 0.0                                                                               | 0.0                                                                               | 0.0  | 0.0                                                                               | 0.0                                                                               | 0.0  | 0.0                                                                               | 0.0                                                                               | 0.0  |
| %ile BackOfQ(50%),veh/ln     | 0.5                                                                               | 4.0                                                                               | 0.3                                                                               | 0.4                                                                               | 5.7                                                                               | 6.0  | 1.5                                                                               | 0.0                                                                               | 6.5  | 0.3                                                                               | 0.0                                                                               | 1.5  |
| Unsig. Movement Delay, s/veh |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |      |                                                                                   |                                                                                   |      |                                                                                   |                                                                                   |      |
| LnGrp Delay(d),s/veh         | 19.0                                                                              | 12.9                                                                              | 10.4                                                                              | 16.1                                                                              | 14.6                                                                              | 14.5 | 34.5                                                                              | 0.0                                                                               | 36.1 | 16.0                                                                              | 0.0                                                                               | 11.4 |
| LnGrp LOS                    | B                                                                                 | B                                                                                 | B                                                                                 | B                                                                                 | B                                                                                 | B    | C                                                                                 | A                                                                                 | D    | B                                                                                 | A                                                                                 | B    |
| Approach Vol, veh/h          | 720                                                                               |                                                                                   |                                                                                   |                                                                                   |                                                                                   | 904  |                                                                                   | 309                                                                               |      | 202                                                                               |                                                                                   |      |
| Approach Delay, s/veh        | 13.0                                                                              |                                                                                   |                                                                                   |                                                                                   |                                                                                   | 14.6 |                                                                                   | 35.8                                                                              |      | 11.9                                                                              |                                                                                   |      |
| Approach LOS                 | B                                                                                 |                                                                                   |                                                                                   |                                                                                   |                                                                                   | B    |                                                                                   | D                                                                                 |      | B                                                                                 |                                                                                   |      |
| Timer - Assigned Phs         | 2                                                                                 |                                                                                   | 4                                                                                 |                                                                                   |                                                                                   | 6    |                                                                                   | 8                                                                                 |      |                                                                                   |                                                                                   |      |
| Phs Duration (G+Y+Rc), s     | 40.0                                                                              |                                                                                   | 60.0                                                                              |                                                                                   |                                                                                   | 40.0 |                                                                                   | 60.0                                                                              |      |                                                                                   |                                                                                   |      |
| Change Period (Y+Rc), s      | 5.0                                                                               |                                                                                   | 5.0                                                                               |                                                                                   |                                                                                   | 5.0  |                                                                                   | 5.0                                                                               |      |                                                                                   |                                                                                   |      |
| Max Green Setting (Gmax), s  | 35.0                                                                              |                                                                                   | 55.0                                                                              |                                                                                   |                                                                                   | 35.0 |                                                                                   | 55.0                                                                              |      |                                                                                   |                                                                                   |      |
| Max Q Clear Time (g_c+I1), s | 15.9                                                                              |                                                                                   | 16.1                                                                              |                                                                                   |                                                                                   | 14.6 |                                                                                   | 19.3                                                                              |      |                                                                                   |                                                                                   |      |
| Green Ext Time (p_c), s      | 1.0                                                                               |                                                                                   | 6.9                                                                               |                                                                                   |                                                                                   | 1.6  |                                                                                   | 5.7                                                                               |      |                                                                                   |                                                                                   |      |
| Intersection Summary         |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |      |                                                                                   |                                                                                   |      |                                                                                   |                                                                                   |      |
| HCM 6th Ctrl Delay           | 16.9                                                                              |                                                                                   |                                                                                   |                                                                                   |                                                                                   |      |                                                                                   |                                                                                   |      |                                                                                   |                                                                                   |      |
| HCM 6th LOS                  | B                                                                                 |                                                                                   |                                                                                   |                                                                                   |                                                                                   |      |                                                                                   |                                                                                   |      |                                                                                   |                                                                                   |      |

| Intersection             |        |                                                                                   |        |       |                                                                                   |       |        |                                                                                   |      |       |                                                                                     |      |
|--------------------------|--------|-----------------------------------------------------------------------------------|--------|-------|-----------------------------------------------------------------------------------|-------|--------|-----------------------------------------------------------------------------------|------|-------|-------------------------------------------------------------------------------------|------|
| Int Delay, s/veh         | 2.6    |                                                                                   |        |       |                                                                                   |       |        |                                                                                   |      |       |                                                                                     |      |
| Movement                 | EBL    | EBT                                                                               | EBR    | WBL   | WBT                                                                               | WBR   | NBL    | NBT                                                                               | NBR  | SBL   | SBT                                                                                 | SBR  |
| Lane Configurations      |        |  |        |       |  |       |        |  |      |       |  |      |
| Traffic Vol, veh/h       | 15     | 0                                                                                 | 11     | 18    | 10                                                                                | 20    | 22     | 228                                                                               | 1    | 10    | 155                                                                                 | 11   |
| Future Vol, veh/h        | 15     | 0                                                                                 | 11     | 18    | 10                                                                                | 20    | 22     | 228                                                                               | 1    | 10    | 155                                                                                 | 11   |
| Conflicting Peds, #/hr   | 0      | 0                                                                                 | 0      | 0     | 0                                                                                 | 0     | 0      | 0                                                                                 | 0    | 0     | 0                                                                                   | 0    |
| Sign Control             | Stop   | Stop                                                                              | Stop   | Stop  | Stop                                                                              | Stop  | Free   | Free                                                                              | Free | Free  | Free                                                                                | Free |
| RT Channelized           | -      | -                                                                                 | None   | -     | -                                                                                 | None  | -      | -                                                                                 | None | -     | -                                                                                   | None |
| Storage Length           | -      | -                                                                                 | -      | -     | -                                                                                 | -     | -      | -                                                                                 | -    | -     | -                                                                                   | -    |
| Veh in Median Storage, # | -      | 0                                                                                 | -      | -     | 0                                                                                 | -     | -      | 0                                                                                 | -    | -     | 0                                                                                   | -    |
| Grade, %                 | -      | 0                                                                                 | -      | -     | 0                                                                                 | -     | -      | 0                                                                                 | -    | -     | 0                                                                                   | -    |
| Peak Hour Factor         | 100    | 100                                                                               | 100    | 100   | 100                                                                               | 100   | 100    | 100                                                                               | 100  | 100   | 100                                                                                 | 100  |
| Heavy Vehicles, %        | 1      | 1                                                                                 | 1      | 1     | 1                                                                                 | 1     | 1      | 1                                                                                 | 1    | 1     | 1                                                                                   | 1    |
| Mvmt Flow                | 23     | 0                                                                                 | 17     | 27    | 15                                                                                | 30    | 33     | 433                                                                               | 2    | 15    | 295                                                                                 | 17   |
|                          |        |                                                                                   |        |       |                                                                                   |       |        |                                                                                   |      |       |                                                                                     |      |
| Major/Minor              | Minor2 |                                                                                   | Minor1 |       | Major1                                                                            |       | Major2 |                                                                                   |      |       |                                                                                     |      |
| Conflicting Flow All     | 857    | 835                                                                               | 304    | 842   | 842                                                                               | 434   | 312    | 0                                                                                 | 0    | 435   | 0                                                                                   | 0    |
| Stage 1                  | 334    | 334                                                                               | -      | 500   | 500                                                                               | -     | -      | -                                                                                 | -    | -     | -                                                                                   | -    |
| Stage 2                  | 523    | 501                                                                               | -      | 342   | 342                                                                               | -     | -      | -                                                                                 | -    | -     | -                                                                                   | -    |
| Critical Hdwy            | 7.11   | 6.51                                                                              | 6.21   | 7.11  | 6.51                                                                              | 6.21  | 4.11   | -                                                                                 | -    | 4.11  | -                                                                                   | -    |
| Critical Hdwy Stg 1      | 6.11   | 5.51                                                                              | -      | 6.11  | 5.51                                                                              | -     | -      | -                                                                                 | -    | -     | -                                                                                   | -    |
| Critical Hdwy Stg 2      | 6.11   | 5.51                                                                              | -      | 6.11  | 5.51                                                                              | -     | -      | -                                                                                 | -    | -     | -                                                                                   | -    |
| Follow-up Hdwy           | 3.509  | 4.009                                                                             | 3.309  | 3.509 | 4.009                                                                             | 3.309 | 2.209  | -                                                                                 | -    | 2.209 | -                                                                                   | -    |
| Pot Cap-1 Maneuver       | 279    | 305                                                                               | 738    | 285   | 302                                                                               | 624   | 1254   | -                                                                                 | -    | 1130  | -                                                                                   | -    |
| Stage 1                  | 682    | 645                                                                               | -      | 555   | 545                                                                               | -     | -      | -                                                                                 | -    | -     | -                                                                                   | -    |
| Stage 2                  | 539    | 544                                                                               | -      | 675   | 640                                                                               | -     | -      | -                                                                                 | -    | -     | -                                                                                   | -    |
| Platoon blocked, %       |        |                                                                                   |        |       |                                                                                   |       |        | -                                                                                 | -    |       | -                                                                                   | -    |
| Mov Cap-1 Maneuver       | 245    | 290                                                                               | 738    | 268   | 287                                                                               | 624   | 1254   | -                                                                                 | -    | 1130  | -                                                                                   | -    |
| Mov Cap-2 Maneuver       | 245    | 290                                                                               | -      | 268   | 287                                                                               | -     | -      | -                                                                                 | -    | -     | -                                                                                   | -    |
| Stage 1                  | 658    | 635                                                                               | -      | 536   | 526                                                                               | -     | -      | -                                                                                 | -    | -     | -                                                                                   | -    |
| Stage 2                  | 481    | 525                                                                               | -      | 649   | 630                                                                               | -     | -      | -                                                                                 | -    | -     | -                                                                                   | -    |
|                          |        |                                                                                   |        |       |                                                                                   |       |        |                                                                                   |      |       |                                                                                     |      |
|                          |        |                                                                                   |        |       |                                                                                   |       |        |                                                                                   |      |       |                                                                                     |      |
| Approach                 | EB     |                                                                                   | WB     |       | NB                                                                                |       | SB     |                                                                                   |      |       |                                                                                     |      |
| HCM Control Delay, s     | 16.9   |                                                                                   | 17.6   |       | 0.6                                                                               |       | 0.4    |                                                                                   |      |       |                                                                                     |      |
| HCM LOS                  | C      |                                                                                   | C      |       |                                                                                   |       |        |                                                                                   |      |       |                                                                                     |      |
|                          |        |                                                                                   |        |       |                                                                                   |       |        |                                                                                   |      |       |                                                                                     |      |
| Minor Lane/Major Mvmt    | NBL    | NBT                                                                               | NBR    | EBLn1 | WBLn1                                                                             | SBL   | SBT    | SBR                                                                               |      |       |                                                                                     |      |
| Capacity (veh/h)         | 1254   | -                                                                                 | -      | 342   | 358                                                                               | 1130  | -      | -                                                                                 |      |       |                                                                                     |      |
| HCM Lane V/C Ratio       | 0.026  | -                                                                                 | -      | 0.114 | 0.201                                                                             | 0.013 | -      | -                                                                                 |      |       |                                                                                     |      |
| HCM Control Delay (s)    | 7.9    | 0                                                                                 | -      | 16.9  | 17.6                                                                              | 8.2   | 0      | -                                                                                 |      |       |                                                                                     |      |
| HCM Lane LOS             | A      | A                                                                                 | -      | C     | C                                                                                 | A     | A      | -                                                                                 |      |       |                                                                                     |      |
| HCM 95th %tile Q(veh)    | 0.1    | -                                                                                 | -      | 0.4   | 0.7                                                                               | 0     | -      | -                                                                                 |      |       |                                                                                     |      |

| Intersection             |        |                                                                                   |        |       |                                                                                   |        |       |                                                                                   |        |       |                                                                                     |      |
|--------------------------|--------|-----------------------------------------------------------------------------------|--------|-------|-----------------------------------------------------------------------------------|--------|-------|-----------------------------------------------------------------------------------|--------|-------|-------------------------------------------------------------------------------------|------|
| Int Delay, s/veh         | 2.7    |                                                                                   |        |       |                                                                                   |        |       |                                                                                   |        |       |                                                                                     |      |
| Movement                 | EBL    | EBT                                                                               | EBR    | WBL   | WBT                                                                               | WBR    | NBL   | NBT                                                                               | NBR    | SBL   | SBT                                                                                 | SBR  |
| Lane Configurations      |        |  |        |       |  |        |       |  |        |       |  |      |
| Traffic Vol, veh/h       | 10     | 12                                                                                | 7      | 12    | 18                                                                                | 13     | 15    | 152                                                                               | 1      | 7     | 104                                                                                 | 7    |
| Future Vol, veh/h        | 10     | 12                                                                                | 7      | 12    | 18                                                                                | 13     | 15    | 152                                                                               | 1      | 7     | 104                                                                                 | 7    |
| Conflicting Peds, #/hr   | 0      | 0                                                                                 | 0      | 0     | 0                                                                                 | 0      | 0     | 0                                                                                 | 0      | 0     | 0                                                                                   | 0    |
| Sign Control             | Stop   | Stop                                                                              | Stop   | Stop  | Stop                                                                              | Stop   | Free  | Free                                                                              | Free   | Free  | Free                                                                                | Free |
| RT Channelized           | -      | -                                                                                 | None   | -     | -                                                                                 | None   | -     | -                                                                                 | None   | -     | -                                                                                   | None |
| Storage Length           | -      | -                                                                                 | -      | -     | -                                                                                 | -      | -     | -                                                                                 | -      | -     | -                                                                                   | -    |
| Veh in Median Storage, # | -      | 0                                                                                 | -      | -     | 0                                                                                 | -      | -     | 0                                                                                 | -      | -     | 0                                                                                   | -    |
| Grade, %                 | -      | 0                                                                                 | -      | -     | 0                                                                                 | -      | -     | 0                                                                                 | -      | -     | 0                                                                                   | -    |
| Peak Hour Factor         | 100    | 100                                                                               | 100    | 100   | 100                                                                               | 100    | 100   | 100                                                                               | 100    | 100   | 100                                                                                 | 100  |
| Heavy Vehicles, %        | 1      | 1                                                                                 | 1      | 1     | 1                                                                                 | 1      | 1     | 1                                                                                 | 1      | 1     | 1                                                                                   | 1    |
| Mvmt Flow                | 15     | 18                                                                                | 11     | 18    | 27                                                                                | 20     | 23    | 289                                                                               | 2      | 11    | 198                                                                                 | 11   |
|                          |        |                                                                                   |        |       |                                                                                   |        |       |                                                                                   |        |       |                                                                                     |      |
| Major/Minor              | Minor2 |                                                                                   | Minor1 |       |                                                                                   | Major1 |       |                                                                                   | Major2 |       |                                                                                     |      |
| Conflicting Flow All     | 586    | 563                                                                               | 204    | 576   | 567                                                                               | 290    | 209   | 0                                                                                 | 0      | 291   | 0                                                                                   | 0    |
| Stage 1                  | 226    | 226                                                                               | -      | 336   | 336                                                                               | -      | -     | -                                                                                 | -      | -     | -                                                                                   | -    |
| Stage 2                  | 360    | 337                                                                               | -      | 240   | 231                                                                               | -      | -     | -                                                                                 | -      | -     | -                                                                                   | -    |
| Critical Hdwy            | 7.11   | 6.51                                                                              | 6.21   | 7.11  | 6.51                                                                              | 6.21   | 4.11  | -                                                                                 | -      | 4.11  | -                                                                                   | -    |
| Critical Hdwy Stg 1      | 6.11   | 5.51                                                                              | -      | 6.11  | 5.51                                                                              | -      | -     | -                                                                                 | -      | -     | -                                                                                   | -    |
| Critical Hdwy Stg 2      | 6.11   | 5.51                                                                              | -      | 6.11  | 5.51                                                                              | -      | -     | -                                                                                 | -      | -     | -                                                                                   | -    |
| Follow-up Hdwy           | 3.509  | 4.009                                                                             | 3.309  | 3.509 | 4.009                                                                             | 3.309  | 2.209 | -                                                                                 | -      | 2.209 | -                                                                                   | -    |
| Pot Cap-1 Maneuver       | 423    | 437                                                                               | 839    | 430   | 434                                                                               | 752    | 1368  | -                                                                                 | -      | 1276  | -                                                                                   | -    |
| Stage 1                  | 779    | 719                                                                               | -      | 680   | 644                                                                               | -      | -     | -                                                                                 | -      | -     | -                                                                                   | -    |
| Stage 2                  | 660    | 643                                                                               | -      | 766   | 715                                                                               | -      | -     | -                                                                                 | -      | -     | -                                                                                   | -    |
| Platoon blocked, %       |        |                                                                                   |        |       |                                                                                   |        |       | -                                                                                 | -      |       | -                                                                                   | -    |
| Mov Cap-1 Maneuver       | 383    | 424                                                                               | 839    | 402   | 421                                                                               | 752    | 1368  | -                                                                                 | -      | 1276  | -                                                                                   | -    |
| Mov Cap-2 Maneuver       | 383    | 424                                                                               | -      | 402   | 421                                                                               | -      | -     | -                                                                                 | -      | -     | -                                                                                   | -    |
| Stage 1                  | 763    | 712                                                                               | -      | 666   | 631                                                                               | -      | -     | -                                                                                 | -      | -     | -                                                                                   | -    |
| Stage 2                  | 603    | 630                                                                               | -      | 730   | 708                                                                               | -      | -     | -                                                                                 | -      | -     | -                                                                                   | -    |
|                          |        |                                                                                   |        |       |                                                                                   |        |       |                                                                                   |        |       |                                                                                     |      |
|                          |        |                                                                                   |        |       |                                                                                   |        |       |                                                                                   |        |       |                                                                                     |      |
| Approach                 | EB     |                                                                                   | WB     |       |                                                                                   | NB     |       |                                                                                   | SB     |       |                                                                                     |      |
| HCM Control Delay, s     | 13.6   |                                                                                   | 13.7   |       |                                                                                   | 0.6    |       |                                                                                   | 0.4    |       |                                                                                     |      |
| HCM LOS                  | B      |                                                                                   | B      |       |                                                                                   |        |       |                                                                                   |        |       |                                                                                     |      |
|                          |        |                                                                                   |        |       |                                                                                   |        |       |                                                                                   |        |       |                                                                                     |      |
| Minor Lane/Major Mvmt    | NBL    | NBT                                                                               | NBR    | EBLn1 | WBLn1                                                                             | SBL    | SBT   | SBR                                                                               |        |       |                                                                                     |      |
| Capacity (veh/h)         | 1368   | -                                                                                 | -      | 462   | 478                                                                               | 1276   | -     | -                                                                                 |        |       |                                                                                     |      |
| HCM Lane V/C Ratio       | 0.016  | -                                                                                 | -      | 0.094 | 0.135                                                                             | 0.008  | -     | -                                                                                 |        |       |                                                                                     |      |
| HCM Control Delay (s)    | 7.7    | 0                                                                                 | -      | 13.6  | 13.7                                                                              | 7.8    | 0     | -                                                                                 |        |       |                                                                                     |      |
| HCM Lane LOS             | A      | A                                                                                 | -      | B     | B                                                                                 | A      | A     | -                                                                                 |        |       |                                                                                     |      |
| HCM 95th %tile O(veh)    | 0.1    | -                                                                                 | -      | 0.3   | 0.5                                                                               | 0      | -     | -                                                                                 |        |       |                                                                                     |      |

| Intersection             |                                                                                   |                                                                                   |        |       |                                                                                   |       |        |                                                                                   |      |       |                                                                                     |      |
|--------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|--------|-------|-----------------------------------------------------------------------------------|-------|--------|-----------------------------------------------------------------------------------|------|-------|-------------------------------------------------------------------------------------|------|
| Int Delay, s/veh         | 4                                                                                 |                                                                                   |        |       |                                                                                   |       |        |                                                                                   |      |       |                                                                                     |      |
| Movement                 | EBL                                                                               | EBT                                                                               | EBR    | WBL   | WBT                                                                               | WBR   | NBL    | NBT                                                                               | NBR  | SBL   | SBT                                                                                 | SBR  |
| Lane Configurations      |  |  |        |       |  |       |        |  |      |       |  |      |
| Traffic Vol, veh/h       | 20                                                                                | 20                                                                                | 16     | 14    | 30                                                                                | 18    | 18     | 217                                                                               | 7    | 19    | 140                                                                                 | 34   |
| Future Vol, veh/h        | 20                                                                                | 20                                                                                | 16     | 14    | 30                                                                                | 18    | 18     | 217                                                                               | 7    | 19    | 140                                                                                 | 34   |
| Conflicting Peds, #/hr   | 0                                                                                 | 0                                                                                 | 0      | 0     | 0                                                                                 | 0     | 0      | 0                                                                                 | 0    | 0     | 0                                                                                   | 0    |
| Sign Control             | Stop                                                                              | Stop                                                                              | Stop   | Stop  | Stop                                                                              | Stop  | Free   | Free                                                                              | Free | Free  | Free                                                                                | Free |
| RT Channelized           | -                                                                                 | -                                                                                 | None   | -     | -                                                                                 | None  | -      | -                                                                                 | None | -     | -                                                                                   | None |
| Storage Length           | 70                                                                                | -                                                                                 | -      | -     | -                                                                                 | -     | -      | -                                                                                 | -    | -     | -                                                                                   | -    |
| Veh in Median Storage, # | -                                                                                 | 0                                                                                 | -      | -     | 0                                                                                 | -     | -      | 0                                                                                 | -    | -     | 0                                                                                   | -    |
| Grade, %                 | -                                                                                 | 0                                                                                 | -      | -     | 0                                                                                 | -     | -      | 0                                                                                 | -    | -     | 0                                                                                   | -    |
| Peak Hour Factor         | 100                                                                               | 100                                                                               | 100    | 100   | 100                                                                               | 100   | 100    | 100                                                                               | 100  | 100   | 100                                                                                 | 100  |
| Heavy Vehicles, %        | 1                                                                                 | 1                                                                                 | 1      | 1     | 1                                                                                 | 1     | 1      | 1                                                                                 | 1    | 1     | 1                                                                                   | 1    |
| Mvmt Flow                | 30                                                                                | 30                                                                                | 24     | 21    | 45                                                                                | 27    | 27     | 412                                                                               | 11   | 29    | 266                                                                                 | 51   |
|                          |                                                                                   |                                                                                   |        |       |                                                                                   |       |        |                                                                                   |      |       |                                                                                     |      |
| Major/Minor              | Minor2                                                                            |                                                                                   | Minor1 |       | Major1                                                                            |       | Major2 |                                                                                   |      |       |                                                                                     |      |
| Conflicting Flow All     | 858                                                                               | 827                                                                               | 292    | 849   | 847                                                                               | 418   | 317    | 0                                                                                 | 0    | 423   | 0                                                                                   | 0    |
| Stage 1                  | 350                                                                               | 350                                                                               | -      | 472   | 472                                                                               | -     | -      | -                                                                                 | -    | -     | -                                                                                   | -    |
| Stage 2                  | 508                                                                               | 477                                                                               | -      | 377   | 375                                                                               | -     | -      | -                                                                                 | -    | -     | -                                                                                   | -    |
| Critical Hdwy            | 7.11                                                                              | 6.51                                                                              | 6.21   | 7.11  | 6.51                                                                              | 6.21  | 4.11   | -                                                                                 | -    | 4.11  | -                                                                                   | -    |
| Critical Hdwy Stg 1      | 6.11                                                                              | 5.51                                                                              | -      | 6.11  | 5.51                                                                              | -     | -      | -                                                                                 | -    | -     | -                                                                                   | -    |
| Critical Hdwy Stg 2      | 6.11                                                                              | 5.51                                                                              | -      | 6.11  | 5.51                                                                              | -     | -      | -                                                                                 | -    | -     | -                                                                                   | -    |
| Follow-up Hdwy           | 3.509                                                                             | 4.009                                                                             | 3.309  | 3.509 | 4.009                                                                             | 3.309 | 2.209  | -                                                                                 | -    | 2.209 | -                                                                                   | -    |
| Pot Cap-1 Maneuver       | 278                                                                               | 308                                                                               | 750    | 282   | 300                                                                               | 637   | 1249   | -                                                                                 | -    | 1142  | -                                                                                   | -    |
| Stage 1                  | 669                                                                               | 635                                                                               | -      | 574   | 561                                                                               | -     | -      | -                                                                                 | -    | -     | -                                                                                   | -    |
| Stage 2                  | 549                                                                               | 558                                                                               | -      | 647   | 619                                                                               | -     | -      | -                                                                                 | -    | -     | -                                                                                   | -    |
| Platoon blocked, %       |                                                                                   |                                                                                   |        |       |                                                                                   |       |        | -                                                                                 | -    |       | -                                                                                   | -    |
| Mov Cap-1 Maneuver       | 224                                                                               | 290                                                                               | 750    | 240   | 283                                                                               | 637   | 1249   | -                                                                                 | -    | 1142  | -                                                                                   | -    |
| Mov Cap-2 Maneuver       | 224                                                                               | 290                                                                               | -      | 240   | 283                                                                               | -     | -      | -                                                                                 | -    | -     | -                                                                                   | -    |
| Stage 1                  | 650                                                                               | 615                                                                               | -      | 558   | 545                                                                               | -     | -      | -                                                                                 | -    | -     | -                                                                                   | -    |
| Stage 2                  | 469                                                                               | 542                                                                               | -      | 577   | 600                                                                               | -     | -      | -                                                                                 | -    | -     | -                                                                                   | -    |
|                          |                                                                                   |                                                                                   |        |       |                                                                                   |       |        |                                                                                   |      |       |                                                                                     |      |
|                          |                                                                                   |                                                                                   |        |       |                                                                                   |       |        |                                                                                   |      |       |                                                                                     |      |
| Approach                 | EB                                                                                |                                                                                   | WB     |       | NB                                                                                |       | SB     |                                                                                   |      |       |                                                                                     |      |
| HCM Control Delay, s     | 18.3                                                                              |                                                                                   | 20.7   |       | 0.5                                                                               |       | 0.7    |                                                                                   |      |       |                                                                                     |      |
| HCM LOS                  | C                                                                                 |                                                                                   | C      |       |                                                                                   |       |        |                                                                                   |      |       |                                                                                     |      |
|                          |                                                                                   |                                                                                   |        |       |                                                                                   |       |        |                                                                                   |      |       |                                                                                     |      |
| Minor Lane/Major Mvmt    | NBL                                                                               | NBT                                                                               | NBR    | EBLn1 | EBLn2                                                                             | WBLn1 | SBL    | SBT                                                                               | SBR  |       |                                                                                     |      |
| Capacity (veh/h)         | 1249                                                                              | -                                                                                 | -      | 224   | 399                                                                               | 322   | 1142   | -                                                                                 | -    |       |                                                                                     |      |
| HCM Lane V/C Ratio       | 0.022                                                                             | -                                                                                 | -      | 0.134 | 0.135                                                                             | 0.289 | 0.025  | -                                                                                 | -    |       |                                                                                     |      |
| HCM Control Delay (s)    | 7.9                                                                               | 0                                                                                 | -      | 23.5  | 15.4                                                                              | 20.7  | 8.2    | 0                                                                                 | -    |       |                                                                                     |      |
| HCM Lane LOS             | A                                                                                 | A                                                                                 | -      | C     | C                                                                                 | C     | A      | A                                                                                 | -    |       |                                                                                     |      |
| HCM 95th %tile O(veh)    | 0.1                                                                               | -                                                                                 | -      | 0.5   | 0.5                                                                               | 1.2   | 0.1    | -                                                                                 | -    |       |                                                                                     |      |



| Intersection             |        |                                                                                   |        |                                                                                   |                                                                                   |        |       |                                                                                   |        |       |                                                                                     |      |
|--------------------------|--------|-----------------------------------------------------------------------------------|--------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|--------|-------|-----------------------------------------------------------------------------------|--------|-------|-------------------------------------------------------------------------------------|------|
| Int Delay, s/veh         | 4.9    |                                                                                   |        |                                                                                   |                                                                                   |        |       |                                                                                   |        |       |                                                                                     |      |
| Movement                 | EBL    | EBT                                                                               | EBR    | WBL                                                                               | WBT                                                                               | WBR    | NBL   | NBT                                                                               | NBR    | SBL   | SBT                                                                                 | SBR  |
| Lane Configurations      |        |  |        |  |  |        |       |  |        |       |  |      |
| Traffic Vol, veh/h       | 13     | 38                                                                                | 11     | 9                                                                                 | 61                                                                                | 12     | 12    | 144                                                                               | 5      | 13    | 93                                                                                  | 23   |
| Future Vol, veh/h        | 13     | 38                                                                                | 11     | 9                                                                                 | 61                                                                                | 12     | 12    | 144                                                                               | 5      | 13    | 93                                                                                  | 23   |
| Conflicting Peds, #/hr   | 0      | 0                                                                                 | 0      | 0                                                                                 | 0                                                                                 | 0      | 0     | 0                                                                                 | 0      | 0     | 0                                                                                   | 0    |
| Sign Control             | Stop   | Stop                                                                              | Stop   | Stop                                                                              | Stop                                                                              | Stop   | Free  | Free                                                                              | Free   | Free  | Free                                                                                | Free |
| RT Channelized           | -      | -                                                                                 | None   | -                                                                                 | -                                                                                 | None   | -     | -                                                                                 | None   | -     | -                                                                                   | None |
| Storage Length           | -      | -                                                                                 | -      | 65                                                                                | -                                                                                 | -      | -     | -                                                                                 | -      | -     | -                                                                                   | -    |
| Veh in Median Storage, # | -      | 0                                                                                 | -      | -                                                                                 | 0                                                                                 | -      | -     | 0                                                                                 | -      | -     | 0                                                                                   | -    |
| Grade, %                 | -      | 0                                                                                 | -      | -                                                                                 | 0                                                                                 | -      | -     | 0                                                                                 | -      | -     | 0                                                                                   | -    |
| Peak Hour Factor         | 100    | 100                                                                               | 100    | 100                                                                               | 100                                                                               | 100    | 100   | 100                                                                               | 100    | 100   | 100                                                                                 | 100  |
| Heavy Vehicles, %        | 1      | 1                                                                                 | 1      | 1                                                                                 | 1                                                                                 | 1      | 1     | 1                                                                                 | 1      | 1     | 1                                                                                   | 1    |
| Mvmt Flow                | 20     | 57                                                                                | 17     | 14                                                                                | 92                                                                                | 18     | 18    | 274                                                                               | 8      | 20    | 177                                                                                 | 35   |
|                          |        |                                                                                   |        |                                                                                   |                                                                                   |        |       |                                                                                   |        |       |                                                                                     |      |
| Major/Minor              | Minor2 |                                                                                   | Minor1 |                                                                                   |                                                                                   | Major1 |       |                                                                                   | Major2 |       |                                                                                     |      |
| Conflicting Flow All     | 604    | 553                                                                               | 195    | 586                                                                               | 566                                                                               | 278    | 212   | 0                                                                                 | 0      | 282   | 0                                                                                   | 0    |
| Stage 1                  | 235    | 235                                                                               | -      | 314                                                                               | 314                                                                               | -      | -     | -                                                                                 | -      | -     | -                                                                                   | -    |
| Stage 2                  | 369    | 318                                                                               | -      | 272                                                                               | 252                                                                               | -      | -     | -                                                                                 | -      | -     | -                                                                                   | -    |
| Critical Hdwy            | 7.11   | 6.51                                                                              | 6.21   | 7.11                                                                              | 6.51                                                                              | 6.21   | 4.11  | -                                                                                 | -      | 4.11  | -                                                                                   | -    |
| Critical Hdwy Stg 1      | 6.11   | 5.51                                                                              | -      | 6.11                                                                              | 5.51                                                                              | -      | -     | -                                                                                 | -      | -     | -                                                                                   | -    |
| Critical Hdwy Stg 2      | 6.11   | 5.51                                                                              | -      | 6.11                                                                              | 5.51                                                                              | -      | -     | -                                                                                 | -      | -     | -                                                                                   | -    |
| Follow-up Hdwy           | 3.509  | 4.009                                                                             | 3.309  | 3.509                                                                             | 4.009                                                                             | 3.309  | 2.209 | -                                                                                 | -      | 2.209 | -                                                                                   | -    |
| Pot Cap-1 Maneuver       | 412    | 442                                                                               | 849    | 423                                                                               | 435                                                                               | 763    | 1364  | -                                                                                 | -      | 1286  | -                                                                                   | -    |
| Stage 1                  | 770    | 712                                                                               | -      | 699                                                                               | 658                                                                               | -      | -     | -                                                                                 | -      | -     | -                                                                                   | -    |
| Stage 2                  | 653    | 655                                                                               | -      | 736                                                                               | 700                                                                               | -      | -     | -                                                                                 | -      | -     | -                                                                                   | -    |
| Platoon blocked, %       |        |                                                                                   |        |                                                                                   |                                                                                   |        |       | -                                                                                 | -      |       | -                                                                                   | -    |
| Mov Cap-1 Maneuver       | 326    | 427                                                                               | 849    | 363                                                                               | 420                                                                               | 763    | 1364  | -                                                                                 | -      | 1286  | -                                                                                   | -    |
| Mov Cap-2 Maneuver       | 326    | 427                                                                               | -      | 363                                                                               | 420                                                                               | -      | -     | -                                                                                 | -      | -     | -                                                                                   | -    |
| Stage 1                  | 758    | 699                                                                               | -      | 688                                                                               | 647                                                                               | -      | -     | -                                                                                 | -      | -     | -                                                                                   | -    |
| Stage 2                  | 539    | 645                                                                               | -      | 651                                                                               | 687                                                                               | -      | -     | -                                                                                 | -      | -     | -                                                                                   | -    |
|                          |        |                                                                                   |        |                                                                                   |                                                                                   |        |       |                                                                                   |        |       |                                                                                     |      |
|                          |        |                                                                                   |        |                                                                                   |                                                                                   |        |       |                                                                                   |        |       |                                                                                     |      |
| Approach                 | EB     |                                                                                   | WB     |                                                                                   |                                                                                   | NB     |       |                                                                                   | SB     |       |                                                                                     |      |
| HCM Control Delay, s     | 15.5   |                                                                                   | 15.4   |                                                                                   |                                                                                   | 0.5    |       |                                                                                   | 0.7    |       |                                                                                     |      |
| HCM LOS                  | C      |                                                                                   | C      |                                                                                   |                                                                                   |        |       |                                                                                   |        |       |                                                                                     |      |
|                          |        |                                                                                   |        |                                                                                   |                                                                                   |        |       |                                                                                   |        |       |                                                                                     |      |
| Minor Lane/Major Mvmt    | NBL    | NBT                                                                               | NBR    | EBLn1WBLn1WBLn2                                                                   | SBL                                                                               | SBT    | SBR   |                                                                                   |        |       |                                                                                     |      |
| Capacity (veh/h)         | 1364   | -                                                                                 | -      | 437                                                                               | 363                                                                               | 454    | 1286  | -                                                                                 | -      |       |                                                                                     |      |
| HCM Lane V/C Ratio       | 0.013  | -                                                                                 | -      | 0.213                                                                             | 0.037                                                                             | 0.241  | 0.015 | -                                                                                 | -      |       |                                                                                     |      |
| HCM Control Delay (s)    | 7.7    | 0                                                                                 | -      | 15.5                                                                              | 15.3                                                                              | 15.4   | 7.8   | 0                                                                                 | -      |       |                                                                                     |      |
| HCM Lane LOS             | A      | A                                                                                 | -      | C                                                                                 | C                                                                                 | C      | A     | A                                                                                 | -      |       |                                                                                     |      |
| HCM 95th %tile Q(veh)    | 0      | -                                                                                 | -      | 0.8                                                                               | 0.1                                                                               | 0.9    | 0     | -                                                                                 | -      |       |                                                                                     |      |

HCM 6th Signalized Intersection Summary  
45: 5th Street & Main St

2045 Two-Way  
10/09/2021

|                              |  |  |  |  |  |  |  |  |  |  |  |  |
|------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|
| Movement                     | EBL                                                                               | EBT                                                                               | EBR                                                                               | WBL                                                                               | WBT                                                                               | WBR                                                                               | NBL                                                                                | NBT                                                                                 | NBR                                                                                 | SBL                                                                                 | SBT                                                                                 | SBR                                                                                 |
| Lane Configurations          |                                                                                   |  |                                                                                   |                                                                                   |  |                                                                                   |                                                                                    |  |                                                                                     |                                                                                     |  |                                                                                     |
| Traffic Volume (veh/h)       | 17                                                                                | 94                                                                                | 12                                                                                | 10                                                                                | 61                                                                                | 14                                                                                | 12                                                                                 | 209                                                                                 | 12                                                                                  | 20                                                                                  | 125                                                                                 | 20                                                                                  |
| Future Volume (veh/h)        | 17                                                                                | 94                                                                                | 12                                                                                | 10                                                                                | 61                                                                                | 14                                                                                | 12                                                                                 | 209                                                                                 | 12                                                                                  | 20                                                                                  | 125                                                                                 | 20                                                                                  |
| Initial Q (Qb), veh          | 0                                                                                 | 0                                                                                 | 0                                                                                 | 0                                                                                 | 0                                                                                 | 0                                                                                 | 0                                                                                  | 0                                                                                   | 0                                                                                   | 0                                                                                   | 0                                                                                   | 0                                                                                   |
| Ped-Bike Adj(A_pbT)          | 1.00                                                                              |                                                                                   | 1.00                                                                              | 1.00                                                                              |                                                                                   | 1.00                                                                              | 1.00                                                                               |                                                                                     | 1.00                                                                                | 1.00                                                                                |                                                                                     | 1.00                                                                                |
| Parking Bus, Adj             | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                               | 1.00                                                                                | 1.00                                                                                | 1.00                                                                                | 1.00                                                                                | 1.00                                                                                |
| Work Zone On Approach        |                                                                                   | No                                                                                |                                                                                   |                                                                                   | No                                                                                |                                                                                   |                                                                                    | No                                                                                  |                                                                                     |                                                                                     | No                                                                                  |                                                                                     |
| Adj Sat Flow, veh/h/ln       | 1885                                                                              | 1885                                                                              | 1885                                                                              | 1885                                                                              | 1885                                                                              | 1885                                                                              | 1885                                                                               | 1885                                                                                | 1885                                                                                | 1885                                                                                | 1885                                                                                | 1885                                                                                |
| Adj Flow Rate, veh/h         | 26                                                                                | 141                                                                               | 18                                                                                | 15                                                                                | 92                                                                                | 21                                                                                | 18                                                                                 | 397                                                                                 | 18                                                                                  | 30                                                                                  | 238                                                                                 | 30                                                                                  |
| Peak Hour Factor             | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                               | 1.00                                                                                | 1.00                                                                                | 1.00                                                                                | 1.00                                                                                | 1.00                                                                                |
| Percent Heavy Veh, %         | 1                                                                                 | 1                                                                                 | 1                                                                                 | 1                                                                                 | 1                                                                                 | 1                                                                                 | 1                                                                                  | 1                                                                                   | 1                                                                                   | 1                                                                                   | 1                                                                                   | 1                                                                                   |
| Cap, veh/h                   | 62                                                                                | 183                                                                               | 22                                                                                | 55                                                                                | 175                                                                               | 37                                                                                | 69                                                                                 | 1356                                                                                | 60                                                                                  | 144                                                                                 | 1118                                                                                | 137                                                                                 |
| Arrive On Green              | 0.25                                                                              | 0.25                                                                              | 0.25                                                                              | 0.13                                                                              | 0.13                                                                              | 0.13                                                                              | 1.00                                                                               | 1.00                                                                                | 1.00                                                                                | 0.78                                                                                | 0.78                                                                                | 0.78                                                                                |
| Sat Flow, veh/h              | 166                                                                               | 1462                                                                              | 175                                                                               | 117                                                                               | 1403                                                                              | 298                                                                               | 40                                                                                 | 1728                                                                                | 77                                                                                  | 133                                                                                 | 1424                                                                                | 174                                                                                 |
| Grp Volume(v), veh/h         | 185                                                                               | 0                                                                                 | 0                                                                                 | 128                                                                               | 0                                                                                 | 0                                                                                 | 433                                                                                | 0                                                                                   | 0                                                                                   | 298                                                                                 | 0                                                                                   | 0                                                                                   |
| Grp Sat Flow(s),veh/h/ln     | 1804                                                                              | 0                                                                                 | 0                                                                                 | 1818                                                                              | 0                                                                                 | 0                                                                                 | 1844                                                                               | 0                                                                                   | 0                                                                                   | 1731                                                                                | 0                                                                                   | 0                                                                                   |
| Q Serve(g_s), s              | 3.0                                                                               | 0.0                                                                               | 0.0                                                                               | 0.0                                                                               | 0.0                                                                               | 0.0                                                                               | 0.0                                                                                | 0.0                                                                                 | 0.0                                                                                 | 0.0                                                                                 | 0.0                                                                                 | 0.0                                                                                 |
| Cycle Q Clear(g_c), s        | 9.6                                                                               | 0.0                                                                               | 0.0                                                                               | 6.6                                                                               | 0.0                                                                               | 0.0                                                                               | 0.0                                                                                | 0.0                                                                                 | 0.0                                                                                 | 4.1                                                                                 | 0.0                                                                                 | 0.0                                                                                 |
| Prop In Lane                 | 0.14                                                                              |                                                                                   | 0.10                                                                              | 0.12                                                                              |                                                                                   | 0.16                                                                              | 0.04                                                                               |                                                                                     | 0.04                                                                                | 0.10                                                                                |                                                                                     | 0.10                                                                                |
| Lane Grp Cap(c), veh/h       | 267                                                                               | 0                                                                                 | 0                                                                                 | 267                                                                               | 0                                                                                 | 0                                                                                 | 1485                                                                               | 0                                                                                   | 0                                                                                   | 1399                                                                                | 0                                                                                   | 0                                                                                   |
| V/C Ratio(X)                 | 0.69                                                                              | 0.00                                                                              | 0.00                                                                              | 0.48                                                                              | 0.00                                                                              | 0.00                                                                              | 0.29                                                                               | 0.00                                                                                | 0.00                                                                                | 0.21                                                                                | 0.00                                                                                | 0.00                                                                                |
| Avail Cap(c_a), veh/h        | 597                                                                               | 0                                                                                 | 0                                                                                 | 596                                                                               | 0                                                                                 | 0                                                                                 | 1485                                                                               | 0                                                                                   | 0                                                                                   | 1399                                                                                | 0                                                                                   | 0                                                                                   |
| HCM Platoon Ratio            | 2.00                                                                              | 2.00                                                                              | 2.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 2.00                                                                               | 2.00                                                                                | 2.00                                                                                | 1.00                                                                                | 1.00                                                                                | 1.00                                                                                |
| Upstream Filter(I)           | 0.72                                                                              | 0.00                                                                              | 0.00                                                                              | 1.00                                                                              | 0.00                                                                              | 0.00                                                                              | 1.00                                                                               | 0.00                                                                                | 0.00                                                                                | 1.00                                                                                | 0.00                                                                                | 0.00                                                                                |
| Uniform Delay (d), s/veh     | 36.3                                                                              | 0.0                                                                               | 0.0                                                                               | 41.2                                                                              | 0.0                                                                               | 0.0                                                                               | 0.0                                                                                | 0.0                                                                                 | 0.0                                                                                 | 2.8                                                                                 | 0.0                                                                                 | 0.0                                                                                 |
| Incr Delay (d2), s/veh       | 2.3                                                                               | 0.0                                                                               | 0.0                                                                               | 1.3                                                                               | 0.0                                                                               | 0.0                                                                               | 0.5                                                                                | 0.0                                                                                 | 0.0                                                                                 | 0.3                                                                                 | 0.0                                                                                 | 0.0                                                                                 |
| Initial Q Delay(d3),s/veh    | 0.0                                                                               | 0.0                                                                               | 0.0                                                                               | 0.0                                                                               | 0.0                                                                               | 0.0                                                                               | 0.0                                                                                | 0.0                                                                                 | 0.0                                                                                 | 0.0                                                                                 | 0.0                                                                                 | 0.0                                                                                 |
| %ile BackOfQ(50%),veh/ln     | 3.9                                                                               | 0.0                                                                               | 0.0                                                                               | 3.0                                                                               | 0.0                                                                               | 0.0                                                                               | 0.2                                                                                | 0.0                                                                                 | 0.0                                                                                 | 1.2                                                                                 | 0.0                                                                                 | 0.0                                                                                 |
| Unsig. Movement Delay, s/veh |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                    |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| LnGrp Delay(d),s/veh         | 38.7                                                                              | 0.0                                                                               | 0.0                                                                               | 42.5                                                                              | 0.0                                                                               | 0.0                                                                               | 0.5                                                                                | 0.0                                                                                 | 0.0                                                                                 | 3.1                                                                                 | 0.0                                                                                 | 0.0                                                                                 |
| LnGrp LOS                    | D                                                                                 | A                                                                                 | A                                                                                 | D                                                                                 | A                                                                                 | A                                                                                 | A                                                                                  | A                                                                                   | A                                                                                   | A                                                                                   | A                                                                                   | A                                                                                   |
| Approach Vol, veh/h          |                                                                                   | 185                                                                               |                                                                                   |                                                                                   | 128                                                                               |                                                                                   |                                                                                    | 433                                                                                 |                                                                                     |                                                                                     | 298                                                                                 |                                                                                     |
| Approach Delay, s/veh        |                                                                                   | 38.7                                                                              |                                                                                   |                                                                                   | 42.5                                                                              |                                                                                   |                                                                                    | 0.5                                                                                 |                                                                                     |                                                                                     | 3.1                                                                                 |                                                                                     |
| Approach LOS                 |                                                                                   | D                                                                                 |                                                                                   |                                                                                   | D                                                                                 |                                                                                   |                                                                                    | A                                                                                   |                                                                                     |                                                                                     | A                                                                                   |                                                                                     |
| Timer - Assigned Phs         |                                                                                   | 2                                                                                 |                                                                                   | 4                                                                                 |                                                                                   | 6                                                                                 |                                                                                    | 8                                                                                   |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Phs Duration (G+Y+Rc), s     |                                                                                   | 83.0                                                                              |                                                                                   | 17.0                                                                              |                                                                                   | 83.0                                                                              |                                                                                    | 17.0                                                                                |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Change Period (Y+Rc), s      |                                                                                   | 4.5                                                                               |                                                                                   | 4.5                                                                               |                                                                                   | 4.5                                                                               |                                                                                    | 4.5                                                                                 |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Max Green Setting (Gmax), s  |                                                                                   | 59.5                                                                              |                                                                                   | 31.5                                                                              |                                                                                   | 59.5                                                                              |                                                                                    | 31.5                                                                                |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Max Q Clear Time (g_c+I1), s |                                                                                   | 6.1                                                                               |                                                                                   | 8.6                                                                               |                                                                                   | 2.0                                                                               |                                                                                    | 11.6                                                                                |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Green Ext Time (p_c), s      |                                                                                   | 2.1                                                                               |                                                                                   | 0.6                                                                               |                                                                                   | 3.1                                                                               |                                                                                    | 1.0                                                                                 |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| <b>Intersection Summary</b>  |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                    |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| HCM 6th Ctrl Delay           |                                                                                   |                                                                                   |                                                                                   | 13.2                                                                              |                                                                                   |                                                                                   |                                                                                    |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| HCM 6th LOS                  |                                                                                   |                                                                                   |                                                                                   | B                                                                                 |                                                                                   |                                                                                   |                                                                                    |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |

HCM 6th Signalized Intersection Summary  
46: 4th Street & Main St

2045 Two-Way  
10/09/2021



| Movement                     | EBL  | EBT  | EBR  | WBL  | WBT  | WBR  | NBL  | NBT  | NBR  | SBL  | SBT  | SBR  |
|------------------------------|------|------|------|------|------|------|------|------|------|------|------|------|
| Lane Configurations          |      | ↕    |      |      | ↕    |      |      | ↕    |      |      | ↕    |      |
| Traffic Volume (veh/h)       | 11   | 91   | 9    | 7    | 78   | 8    | 7    | 139  | 8    | 14   | 84   | 13   |
| Future Volume (veh/h)        | 11   | 91   | 9    | 7    | 78   | 8    | 7    | 139  | 8    | 14   | 84   | 13   |
| Initial Q (Qb), veh          | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    |
| Ped-Bike Adj(A_pbT)          | 1.00 |      | 1.00 | 1.00 |      | 1.00 | 1.00 |      | 1.00 | 1.00 |      | 1.00 |
| Parking Bus, Adj             | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach        |      | No   |      |      | No   |      |      | No   |      |      | No   |      |
| Adj Sat Flow, veh/h/ln       | 1885 | 1885 | 1885 | 1885 | 1885 | 1885 | 1885 | 1885 | 1885 | 1885 | 1885 | 1885 |
| Adj Flow Rate, veh/h         | 16   | 136  | 14   | 10   | 117  | 12   | 10   | 264  | 12   | 21   | 160  | 20   |
| Peak Hour Factor             | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Percent Heavy Veh, %         | 1    | 1    | 1    | 1    | 1    | 1    | 1    | 1    | 1    | 1    | 1    | 1    |
| Cap, veh/h                   | 51   | 183  | 18   | 46   | 189  | 19   | 61   | 1386 | 62   | 153  | 1141 | 139  |
| Arrive On Green              | 0.12 | 0.12 | 0.12 | 0.08 | 0.08 | 0.08 | 1.00 | 1.00 | 1.00 | 0.26 | 0.26 | 0.26 |
| Sat Flow, veh/h              | 100  | 1575 | 154  | 65   | 1621 | 159  | 30   | 1746 | 78   | 142  | 1438 | 175  |
| Grp Volume(v), veh/h         | 166  | 0    | 0    | 139  | 0    | 0    | 286  | 0    | 0    | 201  | 0    | 0    |
| Grp Sat Flow(s),veh/h/ln     | 1830 | 0    | 0    | 1845 | 0    | 0    | 1854 | 0    | 0    | 1755 | 0    | 0    |
| Q Serve(g_s), s              | 1.5  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  |
| Cycle Q Clear(g_c), s        | 8.7  | 0.0  | 0.0  | 7.3  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 8.3  | 0.0  | 0.0  |
| Prop In Lane                 | 0.10 |      | 0.08 | 0.07 |      | 0.09 | 0.03 |      | 0.04 | 0.10 |      | 0.10 |
| Lane Grp Cap(c), veh/h       | 253  | 0    | 0    | 253  | 0    | 0    | 1509 | 0    | 0    | 1432 | 0    | 0    |
| V/C Ratio(X)                 | 0.66 | 0.00 | 0.00 | 0.55 | 0.00 | 0.00 | 0.19 | 0.00 | 0.00 | 0.14 | 0.00 | 0.00 |
| Avail Cap(c_a), veh/h        | 712  | 0    | 0    | 717  | 0    | 0    | 1509 | 0    | 0    | 1432 | 0    | 0    |
| HCM Platoon Ratio            | 1.00 | 1.00 | 1.00 | 0.67 | 0.67 | 0.67 | 2.00 | 2.00 | 2.00 | 0.33 | 0.33 | 0.33 |
| Upstream Filter(I)           | 1.00 | 0.00 | 0.00 | 0.88 | 0.00 | 0.00 | 1.00 | 0.00 | 0.00 | 1.00 | 0.00 | 0.00 |
| Uniform Delay (d), s/veh     | 42.9 | 0.0  | 0.0  | 44.1 | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 10.7 | 0.0  | 0.0  |
| Incr Delay (d2), s/veh       | 2.9  | 0.0  | 0.0  | 1.6  | 0.0  | 0.0  | 0.3  | 0.0  | 0.0  | 0.2  | 0.0  | 0.0  |
| Initial Q Delay(d3),s/veh    | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  |
| %ile BackOfQ(50%),veh/ln     | 4.2  | 0.0  | 0.0  | 3.5  | 0.0  | 0.0  | 0.1  | 0.0  | 0.0  | 3.4  | 0.0  | 0.0  |
| Unsig. Movement Delay, s/veh |      |      |      |      |      |      |      |      |      |      |      |      |
| LnGrp Delay(d),s/veh         | 45.8 | 0.0  | 0.0  | 45.7 | 0.0  | 0.0  | 0.3  | 0.0  | 0.0  | 10.9 | 0.0  | 0.0  |
| LnGrp LOS                    | D    | A    | A    | D    | A    | A    | A    | A    | A    | B    | A    | A    |
| Approach Vol, veh/h          | 166  |      | 139  |      |      | 286  |      |      | 201  |      |      |      |
| Approach Delay, s/veh        | 45.8 |      | 45.7 |      |      | 0.3  |      |      | 10.9 |      |      |      |
| Approach LOS                 | D    |      | D    |      |      | A    |      |      | B    |      |      |      |
| Timer - Assigned Phs         | 2    |      | 4    |      | 6    |      | 8    |      |      |      |      |      |
| Phs Duration (G+Y+Rc), s     | 83.9 |      | 16.1 |      | 83.9 |      | 16.1 |      |      |      |      |      |
| Change Period (Y+Rc), s      | 4.5  |      | 4.5  |      | 4.5  |      | 4.5  |      |      |      |      |      |
| Max Green Setting (Gmax), s  | 53.5 |      | 37.5 |      | 53.5 |      | 37.5 |      |      |      |      |      |
| Max Q Clear Time (g_c+I1), s | 10.3 |      | 9.3  |      | 2.0  |      | 10.7 |      |      |      |      |      |
| Green Ext Time (p_c), s      | 1.3  |      | 0.8  |      | 1.9  |      | 0.9  |      |      |      |      |      |
| Intersection Summary         |      |      |      |      |      |      |      |      |      |      |      |      |
| HCM 6th Ctrl Delay           | 20.5 |      |      |      |      |      |      |      |      |      |      |      |
| HCM 6th LOS                  | C    |      |      |      |      |      |      |      |      |      |      |      |

| Intersection             |      |      |      |      |      |      |      |      |      |      |      |      |
|--------------------------|------|------|------|------|------|------|------|------|------|------|------|------|
| Int Delay, s/veh         | 3.8  |      |      |      |      |      |      |      |      |      |      |      |
| Movement                 | EBL  | EBT  | EBR  | WBL  | WBT  | WBR  | NBL  | NBT  | NBR  | SBL  | SBT  | SBR  |
| Lane Configurations      |      | ↔    |      |      | ↔    |      |      | ↔    |      |      | ↔    |      |
| Traffic Vol, veh/h       | 20   | 24   | 5    | 6    | 43   | 9    | 7    | 197  | 8    | 15   | 122  | 8    |
| Future Vol, veh/h        | 20   | 24   | 5    | 6    | 43   | 9    | 7    | 197  | 8    | 15   | 122  | 8    |
| Conflicting Peds, #/hr   | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    |
| Sign Control             | Stop | Stop | Stop | Stop | Stop | Stop | Free | Free | Free | Free | Free | Free |
| RT Channelized           | -    | -    | None | -    | -    | None | -    | -    | None | -    | -    | None |
| Storage Length           | -    | -    | -    | -    | -    | -    | -    | -    | -    | -    | -    | -    |
| Veh in Median Storage, # | -    | 0    | -    | -    | 0    | -    | -    | 0    | -    | -    | 0    | -    |
| Grade, %                 | -    | 0    | -    | -    | 0    | -    | -    | 0    | -    | -    | 0    | -    |
| Peak Hour Factor         | 100  | 100  | 100  | 100  | 100  | 100  | 100  | 100  | 100  | 100  | 100  | 100  |
| Heavy Vehicles, %        | 1    | 1    | 1    | 1    | 1    | 1    | 1    | 1    | 1    | 1    | 1    | 1    |
| Mvmt Flow                | 30   | 36   | 8    | 9    | 65   | 14   | 11   | 374  | 12   | 23   | 232  | 12   |

| Major/Minor          | Minor2 |       | Minor1 |       | Major1 |       | Major2 |   |   |       |   |   |
|----------------------|--------|-------|--------|-------|--------|-------|--------|---|---|-------|---|---|
| Conflicting Flow All | 726    | 692   | 238    | 708   | 692    | 380   | 244    | 0 | 0 | 386   | 0 | 0 |
| Stage 1              | 284    | 284   | -      | 402   | 402    | -     | -      | - | - | -     | - | - |
| Stage 2              | 442    | 408   | -      | 306   | 290    | -     | -      | - | - | -     | - | - |
| Critical Hdwy        | 7.11   | 6.51  | 6.21   | 7.11  | 6.51   | 6.21  | 4.11   | - | - | 4.11  | - | - |
| Critical Hdwy Stg 1  | 6.11   | 5.51  | -      | 6.11  | 5.51   | -     | -      | - | - | -     | - | - |
| Critical Hdwy Stg 2  | 6.11   | 5.51  | -      | 6.11  | 5.51   | -     | -      | - | - | -     | - | - |
| Follow-up Hdwy       | 3.509  | 4.009 | 3.309  | 3.509 | 4.009  | 3.309 | 2.209  | - | - | 2.209 | - | - |
| Pot Cap-1 Maneuver   | 341    | 369   | 803    | 351   | 369    | 669   | 1328   | - | - | 1178  | - | - |
| Stage 1              | 725    | 678   | -      | 627   | 602    | -     | -      | - | - | -     | - | - |
| Stage 2              | 596    | 598   | -      | 706   | 674    | -     | -      | - | - | -     | - | - |
| Platoon blocked, %   |        |       |        |       |        |       |        | - | - | -     | - | - |
| Mov Cap-1 Maneuver   | 280    | 356   | 803    | 313   | 356    | 669   | 1328   | - | - | 1178  | - | - |
| Mov Cap-2 Maneuver   | 280    | 356   | -      | 313   | 356    | -     | -      | - | - | -     | - | - |
| Stage 1              | 717    | 662   | -      | 620   | 595    | -     | -      | - | - | -     | - | - |
| Stage 2              | 515    | 591   | -      | 646   | 658    | -     | -      | - | - | -     | - | - |

| Approach             | EB   |  | WB   |  | NB  |  | SB  |  |
|----------------------|------|--|------|--|-----|--|-----|--|
| HCM Control Delay, s | 18.6 |  | 17.3 |  | 0.2 |  | 0.7 |  |
| HCM LOS              | C    |  | C    |  |     |  |     |  |

| Minor Lane/Major Mvmt | NBL   | NBT | NBR | EBLn1WBLn1 | SBL  | SBT   | SBR |
|-----------------------|-------|-----|-----|------------|------|-------|-----|
| Capacity (veh/h)      | 1328  | -   | -   | 338        | 378  | 1178  | -   |
| HCM Lane V/C Ratio    | 0.008 | -   | -   | 0.217      | 0.23 | 0.019 | -   |
| HCM Control Delay (s) | 7.7   | 0   | -   | 18.6       | 17.3 | 8.1   | 0   |
| HCM Lane LOS          | A     | A   | -   | C          | C    | A     | A   |
| HCM 95th %tile Q(veh) | 0     | -   | -   | 0.8        | 0.9  | 0.1   | -   |

| Intersection             |        |                                                                                   |        |       |                                                                                   |       |        |                                                                                   |      |       |                                                                                     |      |
|--------------------------|--------|-----------------------------------------------------------------------------------|--------|-------|-----------------------------------------------------------------------------------|-------|--------|-----------------------------------------------------------------------------------|------|-------|-------------------------------------------------------------------------------------|------|
| Int Delay, s/veh         | 3.9    |                                                                                   |        |       |                                                                                   |       |        |                                                                                   |      |       |                                                                                     |      |
| Movement                 | EBL    | EBT                                                                               | EBR    | WBL   | WBT                                                                               | WBR   | NBL    | NBT                                                                               | NBR  | SBL   | SBT                                                                                 | SBR  |
| Lane Configurations      |        |  |        |       |  |       |        |  |      |       |  |      |
| Traffic Vol, veh/h       | 13     | 34                                                                                | 3      | 4     | 48                                                                                | 6     | 5      | 131                                                                               | 5    | 10    | 82                                                                                  | 6    |
| Future Vol, veh/h        | 13     | 34                                                                                | 3      | 4     | 48                                                                                | 6     | 5      | 131                                                                               | 5    | 10    | 82                                                                                  | 6    |
| Conflicting Peds, #/hr   | 0      | 0                                                                                 | 0      | 0     | 0                                                                                 | 0     | 0      | 0                                                                                 | 0    | 0     | 0                                                                                   | 0    |
| Sign Control             | Stop   | Stop                                                                              | Stop   | Stop  | Stop                                                                              | Stop  | Free   | Free                                                                              | Free | Free  | Free                                                                                | Free |
| RT Channelized           | -      | -                                                                                 | None   | -     | -                                                                                 | None  | -      | -                                                                                 | None | -     | -                                                                                   | None |
| Storage Length           | -      | -                                                                                 | -      | -     | -                                                                                 | -     | -      | -                                                                                 | -    | -     | -                                                                                   | -    |
| Veh in Median Storage, # | -      | 0                                                                                 | -      | -     | 0                                                                                 | -     | -      | 0                                                                                 | -    | -     | 0                                                                                   | -    |
| Grade, %                 | -      | 0                                                                                 | -      | -     | 0                                                                                 | -     | -      | 0                                                                                 | -    | -     | 0                                                                                   | -    |
| Peak Hour Factor         | 100    | 100                                                                               | 100    | 100   | 100                                                                               | 100   | 100    | 100                                                                               | 100  | 100   | 100                                                                                 | 100  |
| Heavy Vehicles, %        | 1      | 1                                                                                 | 1      | 1     | 1                                                                                 | 1     | 1      | 1                                                                                 | 1    | 1     | 1                                                                                   | 1    |
| Mvmt Flow                | 20     | 51                                                                                | 5      | 6     | 72                                                                                | 9     | 8      | 249                                                                               | 8    | 15    | 156                                                                                 | 9    |
|                          |        |                                                                                   |        |       |                                                                                   |       |        |                                                                                   |      |       |                                                                                     |      |
| Major/Minor              | Minor2 |                                                                                   | Minor1 |       | Major1                                                                            |       | Major2 |                                                                                   |      |       |                                                                                     |      |
| Conflicting Flow All     | 501    | 464                                                                               | 161    | 488   | 464                                                                               | 253   | 165    | 0                                                                                 | 0    | 257   | 0                                                                                   | 0    |
| Stage 1                  | 191    | 191                                                                               | -      | 269   | 269                                                                               | -     | -      | -                                                                                 | -    | -     | -                                                                                   | -    |
| Stage 2                  | 310    | 273                                                                               | -      | 219   | 195                                                                               | -     | -      | -                                                                                 | -    | -     | -                                                                                   | -    |
| Critical Hdwy            | 7.11   | 6.51                                                                              | 6.21   | 7.11  | 6.51                                                                              | 6.21  | 4.11   | -                                                                                 | -    | 4.11  | -                                                                                   | -    |
| Critical Hdwy Stg 1      | 6.11   | 5.51                                                                              | -      | 6.11  | 5.51                                                                              | -     | -      | -                                                                                 | -    | -     | -                                                                                   | -    |
| Critical Hdwy Stg 2      | 6.11   | 5.51                                                                              | -      | 6.11  | 5.51                                                                              | -     | -      | -                                                                                 | -    | -     | -                                                                                   | -    |
| Follow-up Hdwy           | 3.509  | 4.009                                                                             | 3.309  | 3.509 | 4.009                                                                             | 3.309 | 2.209  | -                                                                                 | -    | 2.209 | -                                                                                   | -    |
| Pot Cap-1 Maneuver       | 482    | 497                                                                               | 887    | 492   | 497                                                                               | 788   | 1419   | -                                                                                 | -    | 1314  | -                                                                                   | -    |
| Stage 1                  | 813    | 744                                                                               | -      | 739   | 688                                                                               | -     | -      | -                                                                                 | -    | -     | -                                                                                   | -    |
| Stage 2                  | 702    | 686                                                                               | -      | 786   | 741                                                                               | -     | -      | -                                                                                 | -    | -     | -                                                                                   | -    |
| Platoon blocked, %       |        |                                                                                   |        |       |                                                                                   |       |        | -                                                                                 | -    |       | -                                                                                   | -    |
| Mov Cap-1 Maneuver       | 416    | 487                                                                               | 887    | 443   | 487                                                                               | 788   | 1419   | -                                                                                 | -    | 1314  | -                                                                                   | -    |
| Mov Cap-2 Maneuver       | 416    | 487                                                                               | -      | 443   | 487                                                                               | -     | -      | -                                                                                 | -    | -     | -                                                                                   | -    |
| Stage 1                  | 807    | 734                                                                               | -      | 734   | 683                                                                               | -     | -      | -                                                                                 | -    | -     | -                                                                                   | -    |
| Stage 2                  | 616    | 681                                                                               | -      | 718   | 731                                                                               | -     | -      | -                                                                                 | -    | -     | -                                                                                   | -    |
|                          |        |                                                                                   |        |       |                                                                                   |       |        |                                                                                   |      |       |                                                                                     |      |
|                          |        |                                                                                   |        |       |                                                                                   |       |        |                                                                                   |      |       |                                                                                     |      |
| Approach                 | EB     |                                                                                   | WB     |       | NB                                                                                |       | SB     |                                                                                   |      |       |                                                                                     |      |
| HCM Control Delay, s     | 13.9   |                                                                                   | 13.6   |       | 0.2                                                                               |       | 0.6    |                                                                                   |      |       |                                                                                     |      |
| HCM LOS                  | B      |                                                                                   | B      |       |                                                                                   |       |        |                                                                                   |      |       |                                                                                     |      |
|                          |        |                                                                                   |        |       |                                                                                   |       |        |                                                                                   |      |       |                                                                                     |      |
| Minor Lane/Major Mvmt    | NBL    | NBT                                                                               | NBR    | EBLn1 | WBLn1                                                                             | SBL   | SBT    | SBR                                                                               |      |       |                                                                                     |      |
| Capacity (veh/h)         | 1419   | -                                                                                 | -      | 479   | 503                                                                               | 1314  | -      | -                                                                                 |      |       |                                                                                     |      |
| HCM Lane V/C Ratio       | 0.005  | -                                                                                 | -      | 0.157 | 0.173                                                                             | 0.011 | -      | -                                                                                 |      |       |                                                                                     |      |
| HCM Control Delay (s)    | 7.5    | 0                                                                                 | -      | 13.9  | 13.6                                                                              | 7.8   | 0      | -                                                                                 |      |       |                                                                                     |      |
| HCM Lane LOS             | A      | A                                                                                 | -      | B     | B                                                                                 | A     | A      | -                                                                                 |      |       |                                                                                     |      |
| HCM 95th %tile Q(veh)    | 0      | -                                                                                 | -      | 0.6   | 0.6                                                                               | 0     | -      | -                                                                                 |      |       |                                                                                     |      |

# HCM 6th Signalized Intersection Summary

## 53: 5th Street & Ute Ave

2045 Two-Way  
10/09/2021

|                                                                                                    |  |  |  |  |  |  |  |  |  |  |  |  |
|----------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|
| Movement                                                                                           | EBL                                                                               | EBT                                                                               | EBR                                                                               | WBL                                                                               | WBT                                                                               | WBR                                                                               | NBL                                                                                | NBT                                                                                 | NBR                                                                                 | SBL                                                                                 | SBT                                                                                 | SBR                                                                                 |
| Lane Configurations                                                                                |                                                                                   |                                                                                   |                                                                                   |  |  |  |  |  |                                                                                     |                                                                                     |  |  |
| Traffic Volume (veh/h)                                                                             | 0                                                                                 | 0                                                                                 | 0                                                                                 | 415                                                                               | 512                                                                               | 30                                                                                | 177                                                                                | 277                                                                                 | 0                                                                                   | 0                                                                                   | 113                                                                                 | 17                                                                                  |
| Future Volume (veh/h)                                                                              | 0                                                                                 | 0                                                                                 | 0                                                                                 | 415                                                                               | 512                                                                               | 30                                                                                | 177                                                                                | 277                                                                                 | 0                                                                                   | 0                                                                                   | 113                                                                                 | 17                                                                                  |
| Initial Q (Qb), veh                                                                                |                                                                                   |                                                                                   |                                                                                   | 0                                                                                 | 0                                                                                 | 0                                                                                 | 0                                                                                  | 0                                                                                   | 0                                                                                   | 0                                                                                   | 0                                                                                   | 0                                                                                   |
| Ped-Bike Adj(A_pbT)                                                                                |                                                                                   |                                                                                   |                                                                                   | 1.00                                                                              |                                                                                   | 1.00                                                                              | 1.00                                                                               |                                                                                     | 1.00                                                                                | 1.00                                                                                |                                                                                     | 1.00                                                                                |
| Parking Bus, Adj                                                                                   |                                                                                   |                                                                                   |                                                                                   | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                               | 1.00                                                                                | 1.00                                                                                | 1.00                                                                                | 1.00                                                                                | 1.00                                                                                |
| Work Zone On Approach                                                                              |                                                                                   |                                                                                   |                                                                                   | No                                                                                |                                                                                   |                                                                                   | No                                                                                 |                                                                                     |                                                                                     |                                                                                     | No                                                                                  |                                                                                     |
| Adj Sat Flow, veh/h/ln                                                                             |                                                                                   |                                                                                   |                                                                                   | 1885                                                                              | 1885                                                                              | 1885                                                                              | 1885                                                                               | 1885                                                                                | 0                                                                                   | 0                                                                                   | 1885                                                                                | 1885                                                                                |
| Adj Flow Rate, veh/h                                                                               |                                                                                   |                                                                                   |                                                                                   | 463                                                                               | 990                                                                               | 45                                                                                | 266                                                                                | 526                                                                                 | 0                                                                                   | 0                                                                                   | 215                                                                                 | 26                                                                                  |
| Peak Hour Factor                                                                                   |                                                                                   |                                                                                   |                                                                                   | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                               | 1.00                                                                                | 1.00                                                                                | 1.00                                                                                | 1.00                                                                                | 1.00                                                                                |
| Percent Heavy Veh, %                                                                               |                                                                                   |                                                                                   |                                                                                   | 1                                                                                 | 1                                                                                 | 1                                                                                 | 1                                                                                  | 1                                                                                   | 0                                                                                   | 0                                                                                   | 1                                                                                   | 1                                                                                   |
| Cap, veh/h                                                                                         |                                                                                   |                                                                                   |                                                                                   | 617                                                                               | 1295                                                                              | 549                                                                               | 824                                                                                | 1049                                                                                | 0                                                                                   | 0                                                                                   | 509                                                                                 | 431                                                                                 |
| Arrive On Green                                                                                    |                                                                                   |                                                                                   |                                                                                   | 0.34                                                                              | 0.34                                                                              | 0.34                                                                              | 0.47                                                                               | 1.00                                                                                | 0.00                                                                                | 0.00                                                                                | 0.54                                                                                | 0.54                                                                                |
| Sat Flow, veh/h                                                                                    |                                                                                   |                                                                                   |                                                                                   | 1795                                                                              | 3770                                                                              | 1598                                                                              | 3483                                                                               | 1885                                                                                | 0                                                                                   | 0                                                                                   | 1885                                                                                | 1598                                                                                |
| Grp Volume(v), veh/h                                                                               |                                                                                   |                                                                                   |                                                                                   | 463                                                                               | 990                                                                               | 45                                                                                | 266                                                                                | 526                                                                                 | 0                                                                                   | 0                                                                                   | 215                                                                                 | 26                                                                                  |
| Grp Sat Flow(s),veh/h/ln                                                                           |                                                                                   |                                                                                   |                                                                                   | 1795                                                                              | 1885                                                                              | 1598                                                                              | 1742                                                                               | 1885                                                                                | 0                                                                                   | 0                                                                                   | 1885                                                                                | 1598                                                                                |
| Q Serve(g_s), s                                                                                    |                                                                                   |                                                                                   |                                                                                   | 22.8                                                                              | 23.4                                                                              | 1.9                                                                               | 4.8                                                                                | 0.0                                                                                 | 0.0                                                                                 | 0.0                                                                                 | 6.8                                                                                 | 0.8                                                                                 |
| Cycle Q Clear(g_c), s                                                                              |                                                                                   |                                                                                   |                                                                                   | 22.8                                                                              | 23.4                                                                              | 1.9                                                                               | 4.8                                                                                | 0.0                                                                                 | 0.0                                                                                 | 0.0                                                                                 | 6.8                                                                                 | 0.8                                                                                 |
| Prop In Lane                                                                                       |                                                                                   |                                                                                   |                                                                                   | 1.00                                                                              |                                                                                   | 1.00                                                                              | 1.00                                                                               |                                                                                     | 0.00                                                                                | 0.00                                                                                |                                                                                     | 1.00                                                                                |
| Lane Grp Cap(c), veh/h                                                                             |                                                                                   |                                                                                   |                                                                                   | 617                                                                               | 1295                                                                              | 549                                                                               | 824                                                                                | 1049                                                                                | 0                                                                                   | 0                                                                                   | 509                                                                                 | 431                                                                                 |
| V/C Ratio(X)                                                                                       |                                                                                   |                                                                                   |                                                                                   | 0.75                                                                              | 0.76                                                                              | 0.08                                                                              | 0.32                                                                               | 0.50                                                                                | 0.00                                                                                | 0.00                                                                                | 0.42                                                                                | 0.06                                                                                |
| Avail Cap(c_a), veh/h                                                                              |                                                                                   |                                                                                   |                                                                                   | 808                                                                               | 1697                                                                              | 719                                                                               | 824                                                                                | 1049                                                                                | 0                                                                                   | 0                                                                                   | 509                                                                                 | 431                                                                                 |
| HCM Platoon Ratio                                                                                  |                                                                                   |                                                                                   |                                                                                   | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 2.00                                                                               | 2.00                                                                                | 1.00                                                                                | 1.00                                                                                | 2.00                                                                                | 2.00                                                                                |
| Upstream Filter(I)                                                                                 |                                                                                   |                                                                                   |                                                                                   | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 0.82                                                                               | 0.82                                                                                | 0.00                                                                                | 0.00                                                                                | 1.00                                                                                | 1.00                                                                                |
| Uniform Delay (d), s/veh                                                                           |                                                                                   |                                                                                   |                                                                                   | 29.0                                                                              | 29.2                                                                              | 22.2                                                                              | 21.4                                                                               | 0.0                                                                                 | 0.0                                                                                 | 0.0                                                                                 | 18.4                                                                                | 17.0                                                                                |
| Incr Delay (d2), s/veh                                                                             |                                                                                   |                                                                                   |                                                                                   | 2.8                                                                               | 1.5                                                                               | 0.1                                                                               | 0.2                                                                                | 1.4                                                                                 | 0.0                                                                                 | 0.0                                                                                 | 2.6                                                                                 | 0.3                                                                                 |
| Initial Q Delay(d3),s/veh                                                                          |                                                                                   |                                                                                   |                                                                                   | 0.0                                                                               | 0.0                                                                               | 0.0                                                                               | 0.0                                                                                | 0.0                                                                                 | 0.0                                                                                 | 0.0                                                                                 | 0.0                                                                                 | 0.0                                                                                 |
| %ile BackOfQ(50%),veh/ln                                                                           |                                                                                   |                                                                                   |                                                                                   | 10.1                                                                              | 10.6                                                                              | 0.7                                                                               | 1.8                                                                                | 0.4                                                                                 | 0.0                                                                                 | 0.0                                                                                 | 2.9                                                                                 | 0.3                                                                                 |
| Unsig. Movement Delay, s/veh                                                                       |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                    |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| LnGrp Delay(d),s/veh                                                                               |                                                                                   |                                                                                   |                                                                                   | 31.9                                                                              | 30.8                                                                              | 22.2                                                                              | 21.6                                                                               | 1.4                                                                                 | 0.0                                                                                 | 0.0                                                                                 | 20.9                                                                                | 17.2                                                                                |
| LnGrp LOS                                                                                          |                                                                                   |                                                                                   |                                                                                   | C                                                                                 | C                                                                                 | C                                                                                 | C                                                                                  | A                                                                                   | A                                                                                   | A                                                                                   | C                                                                                   | B                                                                                   |
| Approach Vol, veh/h                                                                                |                                                                                   |                                                                                   |                                                                                   |                                                                                   | 1498                                                                              |                                                                                   |                                                                                    | 792                                                                                 |                                                                                     |                                                                                     | 241                                                                                 |                                                                                     |
| Approach Delay, s/veh                                                                              |                                                                                   |                                                                                   |                                                                                   |                                                                                   | 30.8                                                                              |                                                                                   |                                                                                    | 8.2                                                                                 |                                                                                     |                                                                                     | 20.5                                                                                |                                                                                     |
| Approach LOS                                                                                       |                                                                                   |                                                                                   |                                                                                   |                                                                                   | C                                                                                 |                                                                                   |                                                                                    | A                                                                                   |                                                                                     |                                                                                     | C                                                                                   |                                                                                     |
| Timer - Assigned Phs                                                                               | 1                                                                                 | 2                                                                                 |                                                                                   | 4                                                                                 |                                                                                   | 6                                                                                 |                                                                                    |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Phs Duration (G+Y+Rc), s                                                                           | 28.6                                                                              | 32.0                                                                              |                                                                                   | 39.4                                                                              |                                                                                   | 60.6                                                                              |                                                                                    |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Change Period (Y+Rc), s                                                                            | 5.0                                                                               | * 5                                                                               |                                                                                   | 5.0                                                                               |                                                                                   | 5.0                                                                               |                                                                                    |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Max Green Setting (Gmax), s                                                                        | 13.5                                                                              | * 27                                                                              |                                                                                   | 45.0                                                                              |                                                                                   | 45.0                                                                              |                                                                                    |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Max Q Clear Time (g_c+I1), s                                                                       | 6.8                                                                               | 8.8                                                                               |                                                                                   | 25.4                                                                              |                                                                                   | 2.0                                                                               |                                                                                    |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Green Ext Time (p_c), s                                                                            | 0.5                                                                               | 1.2                                                                               |                                                                                   | 9.0                                                                               |                                                                                   | 3.9                                                                               |                                                                                    |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Intersection Summary                                                                               |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                    |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| HCM 6th Ctrl Delay                                                                                 |                                                                                   |                                                                                   |                                                                                   | 22.8                                                                              |                                                                                   |                                                                                   |                                                                                    |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| HCM 6th LOS                                                                                        |                                                                                   |                                                                                   |                                                                                   | C                                                                                 |                                                                                   |                                                                                   |                                                                                    |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Notes                                                                                              |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                    |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| User approved volume balancing among the lanes for turning movement.                               |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                    |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| * HCM 6th computational engine requires equal clearance times for the phases crossing the barrier. |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                    |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |



HCM 6th Signalized Intersection Summary  
54: 4th Street & Ute Ave

2045 Two-Way  
10/09/2021



| Movement                     | EBL | EBT  | EBR | WBL  | WBT  | WBR  | NBL  | NBT  | NBR  | SBL  | SBT  | SBR  |
|------------------------------|-----|------|-----|------|------|------|------|------|------|------|------|------|
| Lane Configurations          |     |      |     |      | ↔    |      |      | ↔    |      |      | ↔    |      |
| Traffic Volume (veh/h)       | 0   | 0    | 0   | 21   | 652  | 20   | 1    | 15   | 0    | 0    | 76   | 11   |
| Future Volume (veh/h)        | 0   | 0    | 0   | 21   | 652  | 20   | 1    | 15   | 0    | 0    | 76   | 11   |
| Initial Q (Qb), veh          |     |      |     | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    |
| Ped-Bike Adj(A_pbT)          |     |      |     | 1.00 |      | 1.00 | 1.00 |      | 1.00 | 1.00 |      | 1.00 |
| Parking Bus, Adj             |     |      |     | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach        |     |      |     | No   |      | No   |      | No   |      | No   |      |      |
| Adj Sat Flow, veh/h/ln       |     |      |     | 1885 | 1885 | 1885 | 1885 | 1885 | 0    | 0    | 1885 | 1885 |
| Adj Flow Rate, veh/h         |     |      |     | 32   | 978  | 30   | 2    | 28   | 0    | 0    | 144  | 16   |
| Peak Hour Factor             |     |      |     | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Percent Heavy Veh, %         |     |      |     | 1    | 1    | 1    | 1    | 1    | 0    | 0    | 1    | 1    |
| Cap, veh/h                   |     |      |     | 42   | 1338 | 43   | 71   | 892  | 0    | 0    | 833  | 93   |
| Arrive On Green              |     |      |     | 0.13 | 0.13 | 0.13 | 0.50 | 0.50 | 0.00 | 0.00 | 1.00 | 1.00 |
| Sat Flow, veh/h              |     |      |     | 110  | 3521 | 113  | 66   | 1785 | 0    | 0    | 1667 | 185  |
| Grp Volume(v), veh/h         |     |      |     | 547  | 0    | 493  | 30   | 0    | 0    | 0    | 0    | 160  |
| Grp Sat Flow(s),veh/h/ln     |     |      |     | 1880 | 0    | 1865 | 1851 | 0    | 0    | 0    | 0    | 1852 |
| Q Serve(g_s), s              |     |      |     | 28.1 | 0.0  | 25.4 | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  |
| Cycle Q Clear(g_c), s        |     |      |     | 28.1 | 0.0  | 25.4 | 0.8  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  |
| Prop In Lane                 |     |      |     | 0.06 |      | 0.06 | 0.07 |      | 0.00 | 0.00 |      | 0.10 |
| Lane Grp Cap(c), veh/h       |     |      |     | 715  | 0    | 709  | 964  | 0    | 0    | 0    | 0    | 926  |
| V/C Ratio(X)                 |     |      |     | 0.76 | 0.00 | 0.70 | 0.03 | 0.00 | 0.00 | 0.00 | 0.00 | 0.17 |
| Avail Cap(c_a), veh/h        |     |      |     | 1090 | 0    | 1082 | 964  | 0    | 0    | 0    | 0    | 926  |
| HCM Platoon Ratio            |     |      |     | 0.33 | 0.33 | 0.33 | 1.00 | 1.00 | 1.00 | 1.00 | 2.00 | 2.00 |
| Upstream Filter(I)           |     |      |     | 0.70 | 0.00 | 0.70 | 1.00 | 0.00 | 0.00 | 0.00 | 0.00 | 1.00 |
| Uniform Delay (d), s/veh     |     |      |     | 39.4 | 0.0  | 38.2 | 12.7 | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  |
| Incr Delay (d2), s/veh       |     |      |     | 1.2  | 0.0  | 0.9  | 0.1  | 0.0  | 0.0  | 0.0  | 0.0  | 0.4  |
| Initial Q Delay(d3),s/veh    |     |      |     | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  |
| %ile BackOfQ(50%),veh/ln     |     |      |     | 14.4 | 0.0  | 12.8 | 0.4  | 0.0  | 0.0  | 0.0  | 0.0  | 0.1  |
| Unsig. Movement Delay, s/veh |     |      |     |      |      |      |      |      |      |      |      |      |
| LnGrp Delay(d),s/veh         |     |      |     | 40.6 | 0.0  | 39.1 | 12.8 | 0.0  | 0.0  | 0.0  | 0.0  | 0.4  |
| LnGrp LOS                    |     |      |     | D    | A    | D    | B    | A    | A    | A    | A    | A    |
| Approach Vol, veh/h          |     |      |     |      | 1040 |      |      | 30   |      |      | 160  |      |
| Approach Delay, s/veh        |     |      |     |      | 39.9 |      |      | 12.8 |      |      | 0.4  |      |
| Approach LOS                 |     |      |     |      | D    |      |      | B    |      |      | A    |      |
| Timer - Assigned Phs         |     | 2    |     | 4    |      | 6    |      |      |      |      |      |      |
| Phs Duration (G+Y+Rc), s     |     | 56.0 |     | 44.0 |      | 56.0 |      |      |      |      |      |      |
| Change Period (Y+Rc), s      |     | 6.0  |     | 6.0  |      | 6.0  |      |      |      |      |      |      |
| Max Green Setting (Gmax), s  |     | 30.0 |     | 58.0 |      | 30.0 |      |      |      |      |      |      |
| Max Q Clear Time (g_c+I1), s |     | 2.0  |     | 30.1 |      | 2.8  |      |      |      |      |      |      |
| Green Ext Time (p_c), s      |     | 0.9  |     | 7.9  |      | 0.1  |      |      |      |      |      |      |
| Intersection Summary         |     |      |     |      |      |      |      |      |      |      |      |      |
| HCM 6th Ctrl Delay           |     |      |     |      | 34.1 |      |      |      |      |      |      |      |
| HCM 6th LOS                  |     |      |     |      | C    |      |      |      |      |      |      |      |

HCM 6th Signalized Intersection Summary  
57: 5th Street & Pitkin Ave

2045 Two-Way  
10/09/2021



| Movement                     | EBL  | EBT  | EBR  | WBL  | WBT | WBR | NBL  | NBT  | NBR  | SBL  | SBT  | SBR  |
|------------------------------|------|------|------|------|-----|-----|------|------|------|------|------|------|
| Lane Configurations          |      | ↔↔   | ↗    |      |     |     |      | ↕↕   |      | ↖    | ↕↕   |      |
| Traffic Volume (veh/h)       | 14   | 528  | 411  | 0    | 0   | 0   | 0    | 416  | 105  | 5    | 523  | 0    |
| Future Volume (veh/h)        | 14   | 528  | 411  | 0    | 0   | 0   | 0    | 416  | 105  | 5    | 523  | 0    |
| Initial Q (Qb), veh          | 0    | 0    | 0    |      |     |     | 0    | 0    | 0    | 0    | 0    | 0    |
| Ped-Bike Adj(A_pbT)          | 1.00 |      | 1.00 |      |     |     | 1.00 |      | 1.00 | 1.00 |      | 1.00 |
| Parking Bus, Adj             | 1.00 | 1.00 | 1.00 |      |     |     | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach        | No   |      |      |      |     |     | No   |      |      | No   |      |      |
| Adj Sat Flow, veh/h/ln       | 1885 | 1885 | 1885 |      |     |     | 0    | 1885 | 1885 | 1885 | 1885 | 0    |
| Adj Flow Rate, veh/h         | 21   | 940  | 518  |      |     |     | 0    | 790  | 158  | 8    | 994  | 0    |
| Peak Hour Factor             | 1.00 | 1.00 | 1.00 |      |     |     | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Percent Heavy Veh, %         | 1    | 1    | 1    |      |     |     | 0    | 1    | 1    | 1    | 1    | 0    |
| Cap, veh/h                   | 32   | 1495 | 648  |      |     |     | 0    | 1501 | 300  | 266  | 1807 | 0    |
| Arrive On Green              | 0.13 | 0.13 | 0.13 |      |     |     | 0.00 | 0.50 | 0.50 | 1.00 | 1.00 | 0.00 |
| Sat Flow, veh/h              | 79   | 3688 | 1598 |      |     |     | 0    | 3068 | 595  | 596  | 3676 | 0    |
| Grp Volume(v), veh/h         | 503  | 458  | 518  |      |     |     | 0    | 476  | 472  | 8    | 994  | 0    |
| Grp Sat Flow(s),veh/h/ln     | 1881 | 1885 | 1598 |      |     |     | 0    | 1791 | 1778 | 596  | 1791 | 0    |
| Q Serve(g_s), s              | 25.4 | 22.9 | 31.5 |      |     |     | 0.0  | 17.9 | 17.9 | 0.5  | 0.0  | 0.0  |
| Cycle Q Clear(g_c), s        | 25.4 | 22.9 | 31.5 |      |     |     | 0.0  | 17.9 | 17.9 | 18.4 | 0.0  | 0.0  |
| Prop In Lane                 | 0.04 |      | 1.00 |      |     |     | 0.00 |      | 0.33 | 1.00 |      | 0.00 |
| Lane Grp Cap(c), veh/h       | 763  | 764  | 648  |      |     |     | 0    | 904  | 897  | 266  | 1807 | 0    |
| V/C Ratio(X)                 | 0.66 | 0.60 | 0.80 |      |     |     | 0.00 | 0.53 | 0.53 | 0.03 | 0.55 | 0.00 |
| Avail Cap(c_a), veh/h        | 894  | 895  | 759  |      |     |     | 0    | 904  | 897  | 266  | 1807 | 0    |
| HCM Platoon Ratio            | 0.33 | 0.33 | 0.33 |      |     |     | 1.00 | 1.00 | 1.00 | 2.00 | 2.00 | 1.00 |
| Upstream Filter(I)           | 0.70 | 0.70 | 0.70 |      |     |     | 0.00 | 1.00 | 1.00 | 0.78 | 0.78 | 0.00 |
| Uniform Delay (d), s/veh     | 36.7 | 35.7 | 39.4 |      |     |     | 0.0  | 16.7 | 16.7 | 3.3  | 0.0  | 0.0  |
| Incr Delay (d2), s/veh       | 1.0  | 0.6  | 3.7  |      |     |     | 0.0  | 2.2  | 2.2  | 0.2  | 0.9  | 0.0  |
| Initial Q Delay(d3),s/veh    | 0.0  | 0.0  | 0.0  |      |     |     | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  |
| %ile BackOfQ(50%),veh/ln     | 18.0 | 11.6 | 14.1 |      |     |     | 0.0  | 7.6  | 7.5  | 0.0  | 0.2  | 0.0  |
| Unsig. Movement Delay, s/veh |      |      |      |      |     |     |      |      |      |      |      |      |
| LnGrp Delay(d),s/veh         | 37.7 | 36.2 | 43.1 |      |     |     | 0.0  | 18.9 | 18.9 | 3.4  | 0.9  | 0.0  |
| LnGrp LOS                    | D    | D    | D    |      |     |     | A    | B    | B    | A    | A    | A    |
| Approach Vol, veh/h          | 1479 |      |      |      |     |     | 948  |      |      | 1002 |      |      |
| Approach Delay, s/veh        | 39.2 |      |      |      |     |     | 18.9 |      |      | 1.0  |      |      |
| Approach LOS                 | D    |      |      |      |     |     | B    |      |      | A    |      |      |
| Timer - Assigned Phs         | 2    |      |      | 6    |     |     | 8    |      |      |      |      |      |
| Phs Duration (G+Y+Rc), s     | 55.0 |      |      | 55.0 |     |     | 45.0 |      |      |      |      |      |
| Change Period (Y+Rc), s      | 4.5  |      |      | 4.5  |     |     | 4.5  |      |      |      |      |      |
| Max Green Setting (Gmax), s  | 43.5 |      |      | 43.5 |     |     | 47.5 |      |      |      |      |      |
| Max Q Clear Time (g_c+I1), s | 20.4 |      |      | 19.9 |     |     | 33.5 |      |      |      |      |      |
| Green Ext Time (p_c), s      | 7.8  |      |      | 6.7  |     |     | 7.1  |      |      |      |      |      |

Intersection Summary

|                    |      |
|--------------------|------|
| HCM 6th Ctrl Delay | 22.4 |
| HCM 6th LOS        | C    |

Notes

User approved volume balancing among the lanes for turning movement.

HCM 6th Signalized Intersection Summary  
58: 4th Street & Pitkin Ave

2045 Two-Way  
10/09/2021



| Movement                     | EBL  | EBT  | EBR  | WBL  | WBT | WBR | NBL  | NBT  | NBR  | SBL  | SBT  | SBR  |
|------------------------------|------|------|------|------|-----|-----|------|------|------|------|------|------|
| Lane Configurations          | ↕↕↕  |      |      |      |     |     | ↕    |      |      | ↕    |      |      |
| Traffic Volume (veh/h)       | 9    | 852  | 1    | 0    | 0   | 0   | 0    | 6    | 10   | 91   | 6    | 0    |
| Future Volume (veh/h)        | 9    | 852  | 1    | 0    | 0   | 0   | 0    | 6    | 10   | 91   | 6    | 0    |
| Initial Q (Qb), veh          | 0    | 0    | 0    |      |     |     | 0    | 0    | 0    | 0    | 0    | 0    |
| Ped-Bike Adj(A_pbT)          | 1.00 |      | 1.00 |      |     |     | 1.00 |      | 1.00 | 1.00 |      | 1.00 |
| Parking Bus, Adj             | 1.00 | 1.00 | 1.00 |      |     |     | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach        | No   |      |      |      |     |     | No   |      |      | No   |      |      |
| Adj Sat Flow, veh/h/ln       | 1885 | 1885 | 1885 |      |     |     | 0    | 1885 | 1885 | 1885 | 1885 | 0    |
| Adj Flow Rate, veh/h         | 14   | 1278 | 2    |      |     |     | 0    | 11   | 15   | 136  | 11   | 0    |
| Peak Hour Factor             | 1.00 | 1.00 | 1.00 |      |     |     | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Percent Heavy Veh, %         | 1    | 1    | 1    |      |     |     | 0    | 1    | 1    | 1    | 1    | 0    |
| Cap, veh/h                   | 19   | 1850 | 3    |      |     |     | 0    | 403  | 550  | 796  | 62   | 0    |
| Arrive On Green              | 0.34 | 0.34 | 0.34 |      |     |     | 0.00 | 0.56 | 0.56 | 0.56 | 0.56 | 0.00 |
| Sat Flow, veh/h              | 56   | 5417 | 9    |      |     |     | 0    | 723  | 985  | 1301 | 111  | 0    |
| Grp Volume(v), veh/h         | 472  | 392  | 430  |      |     |     | 0    | 0    | 26   | 147  | 0    | 0    |
| Grp Sat Flow(s),veh/h/ln     | 1882 | 1716 | 1884 |      |     |     | 0    | 0    | 1708 | 1411 | 0    | 0    |
| Q Serve(g_s), s              | 22.1 | 19.5 | 19.5 |      |     |     | 0.0  | 0.0  | 0.7  | 4.9  | 0.0  | 0.0  |
| Cycle Q Clear(g_c), s        | 22.1 | 19.5 | 19.5 |      |     |     | 0.0  | 0.0  | 0.7  | 5.6  | 0.0  | 0.0  |
| Prop In Lane                 | 0.03 |      | 0.00 |      |     |     | 0.00 |      | 0.58 | 0.93 |      | 0.00 |
| Lane Grp Cap(c), veh/h       | 643  | 586  | 643  |      |     |     | 0    | 0    | 954  | 857  | 0    | 0    |
| V/C Ratio(X)                 | 0.73 | 0.67 | 0.67 |      |     |     | 0.00 | 0.00 | 0.03 | 0.17 | 0.00 | 0.00 |
| Avail Cap(c_a), veh/h        | 1035 | 944  | 1036 |      |     |     | 0    | 0    | 954  | 857  | 0    | 0    |
| HCM Platoon Ratio            | 1.00 | 1.00 | 1.00 |      |     |     | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I)           | 1.00 | 1.00 | 1.00 |      |     |     | 0.00 | 0.00 | 1.00 | 0.99 | 0.00 | 0.00 |
| Uniform Delay (d), s/veh     | 28.9 | 28.1 | 28.1 |      |     |     | 0.0  | 0.0  | 9.9  | 11.1 | 0.0  | 0.0  |
| Incr Delay (d2), s/veh       | 1.7  | 1.3  | 1.2  |      |     |     | 0.0  | 0.0  | 0.1  | 0.4  | 0.0  | 0.0  |
| Initial Q Delay(d3),s/veh    | 0.0  | 0.0  | 0.0  |      |     |     | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  |
| %ile BackOfQ(50%),veh/ln     | 10.0 | 8.0  | 8.8  |      |     |     | 0.0  | 0.0  | 0.3  | 1.7  | 0.0  | 0.0  |
| Unsig. Movement Delay, s/veh |      |      |      |      |     |     |      |      |      |      |      |      |
| LnGrp Delay(d),s/veh         | 30.6 | 29.4 | 29.3 |      |     |     | 0.0  | 0.0  | 10.0 | 11.5 | 0.0  | 0.0  |
| LnGrp LOS                    | C    | C    | C    |      |     |     | A    | A    | A    | B    | A    | A    |
| Approach Vol, veh/h          | 1294 |      |      |      |     |     | 26   |      |      | 147  |      |      |
| Approach Delay, s/veh        | 29.8 |      |      |      |     |     | 10.0 |      |      | 11.5 |      |      |
| Approach LOS                 | C    |      |      |      |     |     | A    |      |      | B    |      |      |
| Timer - Assigned Phs         | 2    |      |      | 6    |     |     | 8    |      |      |      |      |      |
| Phs Duration (G+Y+Rc), s     | 60.8 |      |      | 60.8 |     |     | 39.2 |      |      |      |      |      |
| Change Period (Y+Rc), s      | 5.0  |      |      | 5.0  |     |     | 5.0  |      |      |      |      |      |
| Max Green Setting (Gmax), s  | 35.0 |      |      | 35.0 |     |     | 55.0 |      |      |      |      |      |
| Max Q Clear Time (g_c+I1), s | 7.6  |      |      | 2.7  |     |     | 24.1 |      |      |      |      |      |
| Green Ext Time (p_c), s      | 0.8  |      |      | 0.1  |     |     | 10.1 |      |      |      |      |      |
| Intersection Summary         |      |      |      |      |     |     |      |      |      |      |      |      |
| HCM 6th Ctrl Delay           | 27.6 |      |      |      |     |     |      |      |      |      |      |      |
| HCM 6th LOS                  | C    |      |      |      |     |     |      |      |      |      |      |      |

## Appendix C – Queueing Analysis Worksheets

---

Intersection: 4: 4th St/4th Street & South Ave

| Movement              | EB  | WB  | NB  | SB  |
|-----------------------|-----|-----|-----|-----|
| Directions Served     | LTR | LTR | LTR | LTR |
| Maximum Queue (ft)    | 24  | 9   | 35  | 38  |
| Average Queue (ft)    | 2   | 0   | 18  | 20  |
| 95th Queue (ft)       | 13  | 6   | 43  | 45  |
| Link Distance (ft)    | 752 | 387 | 207 | 273 |
| Upstream Blk Time (%) |     |     |     |     |
| Queuing Penalty (veh) |     |     |     |     |
| Storage Bay Dist (ft) |     |     |     |     |
| Storage Blk Time (%)  |     |     |     |     |
| Queuing Penalty (veh) |     |     |     |     |

Intersection: 5: 5th Street & North Ave

| Movement              | EB  | EB  | EB  | WB  | WB  | WB  | NB | NB  | NB  | SB | SB  | SB |
|-----------------------|-----|-----|-----|-----|-----|-----|----|-----|-----|----|-----|----|
| Directions Served     | L   | T   | TR  | L   | T   | TR  | L  | T   | R   | L  | T   | R  |
| Maximum Queue (ft)    | 83  | 191 | 173 | 69  | 236 | 207 | 85 | 104 | 136 | 60 | 76  | 58 |
| Average Queue (ft)    | 14  | 99  | 86  | 15  | 125 | 91  | 32 | 44  | 64  | 25 | 30  | 19 |
| 95th Queue (ft)       | 51  | 164 | 154 | 48  | 202 | 180 | 69 | 85  | 110 | 55 | 65  | 48 |
| Link Distance (ft)    |     | 386 | 386 |     | 972 | 972 |    | 299 | 299 |    | 607 |    |
| Upstream Blk Time (%) |     |     |     |     |     |     |    |     |     |    |     |    |
| Queuing Penalty (veh) |     |     |     |     |     |     |    |     |     |    |     |    |
| Storage Bay Dist (ft) | 125 |     |     | 125 |     |     | 85 |     |     | 75 |     | 75 |
| Storage Blk Time (%)  |     | 3   |     |     | 5   |     | 0  | 1   |     | 0  | 1   | 0  |
| Queuing Penalty (veh) |     | 1   |     |     | 1   |     | 0  | 1   |     | 0  | 1   | 0  |

Intersection: 6: 4th Street & North Ave

| Movement              | EB  | EB  | EB  | WB  | NB  | SB  |
|-----------------------|-----|-----|-----|-----|-----|-----|
| Directions Served     | L   | T   | TR  | L   | LTR | LTR |
| Maximum Queue (ft)    | 35  | 5   | 13  | 81  | 42  | 51  |
| Average Queue (ft)    | 8   | 0   | 1   | 37  | 12  | 16  |
| 95th Queue (ft)       | 30  | 5   | 8   | 69  | 38  | 44  |
| Link Distance (ft)    |     | 973 | 973 |     | 305 | 613 |
| Upstream Blk Time (%) |     |     |     |     |     |     |
| Queuing Penalty (veh) |     |     |     |     |     |     |
| Storage Bay Dist (ft) | 100 |     |     | 100 |     |     |
| Storage Blk Time (%)  |     |     |     | 0   |     |     |
| Queuing Penalty (veh) |     |     |     | 0   |     |     |

Intersection: 9: 5th Street & Belford Ave

| Movement              | WB  |
|-----------------------|-----|
| Directions Served     | TR  |
| Maximum Queue (ft)    | 38  |
| Average Queue (ft)    | 14  |
| 95th Queue (ft)       | 39  |
| Link Distance (ft)    | 939 |
| Upstream Blk Time (%) |     |
| Queuing Penalty (veh) |     |
| Storage Bay Dist (ft) |     |
| Storage Blk Time (%)  |     |
| Queuing Penalty (veh) |     |

Intersection: 10: 4th Street & Belford Ave

| Movement              | EB  | WB  | WB  |
|-----------------------|-----|-----|-----|
| Directions Served     | R   | L   | TR  |
| Maximum Queue (ft)    | 31  | 57  | 33  |
| Average Queue (ft)    | 8   | 23  | 7   |
| 95th Queue (ft)       | 30  | 42  | 28  |
| Link Distance (ft)    | 940 | 407 | 407 |
| Upstream Blk Time (%) |     |     |     |
| Queuing Penalty (veh) |     |     |     |
| Storage Bay Dist (ft) |     |     |     |
| Storage Blk Time (%)  |     |     |     |
| Queuing Penalty (veh) |     |     |     |

Intersection: 13: 5th Street & Teller Ave

| Movement              | EB  | WB  |
|-----------------------|-----|-----|
| Directions Served     | LT  | TR  |
| Maximum Queue (ft)    | 34  | 35  |
| Average Queue (ft)    | 14  | 16  |
| 95th Queue (ft)       | 40  | 42  |
| Link Distance (ft)    | 426 | 942 |
| Upstream Blk Time (%) |     |     |
| Queuing Penalty (veh) |     |     |
| Storage Bay Dist (ft) |     |     |
| Storage Blk Time (%)  |     |     |
| Queuing Penalty (veh) |     |     |



Intersection: 14: 4th Street & Teller Ave

| Movement              | EB  | WB  |
|-----------------------|-----|-----|
| Directions Served     | TR  | LT  |
| Maximum Queue (ft)    | 38  | 33  |
| Average Queue (ft)    | 15  | 16  |
| 95th Queue (ft)       | 41  | 42  |
| Link Distance (ft)    | 941 | 426 |
| Upstream Blk Time (%) |     |     |
| Queuing Penalty (veh) |     |     |
| Storage Bay Dist (ft) |     |     |
| Storage Blk Time (%)  |     |     |
| Queuing Penalty (veh) |     |     |

Intersection: 17: 5th Street & Hill Ave

| Movement              | EB  | WB  |
|-----------------------|-----|-----|
| Directions Served     | LT  | TR  |
| Maximum Queue (ft)    | 38  | 40  |
| Average Queue (ft)    | 14  | 17  |
| 95th Queue (ft)       | 40  | 43  |
| Link Distance (ft)    | 425 | 954 |
| Upstream Blk Time (%) |     |     |
| Queuing Penalty (veh) |     |     |
| Storage Bay Dist (ft) |     |     |
| Storage Blk Time (%)  |     |     |
| Queuing Penalty (veh) |     |     |

Intersection: 18: 4th Street & Hill Ave

| Movement              | EB  | WB  |
|-----------------------|-----|-----|
| Directions Served     | TR  | LT  |
| Maximum Queue (ft)    | 36  | 31  |
| Average Queue (ft)    | 14  | 15  |
| 95th Queue (ft)       | 40  | 40  |
| Link Distance (ft)    | 934 | 425 |
| Upstream Blk Time (%) |     |     |
| Queuing Penalty (veh) |     |     |
| Storage Bay Dist (ft) |     |     |
| Storage Blk Time (%)  |     |     |
| Queuing Penalty (veh) |     |     |

Intersection: 21: 5th Street & Gunnison Ave

| Movement              | EB  | WB  |
|-----------------------|-----|-----|
| Directions Served     | LT  | TR  |
| Maximum Queue (ft)    | 51  | 52  |
| Average Queue (ft)    | 25  | 27  |
| 95th Queue (ft)       | 49  | 50  |
| Link Distance (ft)    | 423 | 955 |
| Upstream Blk Time (%) |     |     |
| Queuing Penalty (veh) |     |     |
| Storage Bay Dist (ft) |     |     |
| Storage Blk Time (%)  |     |     |
| Queuing Penalty (veh) |     |     |

Intersection: 22: 4th Street & Gunnison Ave

| Movement              | EB  | WB  |
|-----------------------|-----|-----|
| Directions Served     | TR  | LT  |
| Maximum Queue (ft)    | 50  | 40  |
| Average Queue (ft)    | 26  | 24  |
| 95th Queue (ft)       | 48  | 46  |
| Link Distance (ft)    | 946 | 423 |
| Upstream Blk Time (%) |     |     |
| Queuing Penalty (veh) |     |     |
| Storage Bay Dist (ft) |     |     |
| Storage Blk Time (%)  |     |     |
| Queuing Penalty (veh) |     |     |

Intersection: 25: 5th Street & Chipeta Ave

| Movement              | EB  | WB  | NB  |
|-----------------------|-----|-----|-----|
| Directions Served     | LT  | TR  | LT  |
| Maximum Queue (ft)    | 31  | 43  | 5   |
| Average Queue (ft)    | 15  | 16  | 0   |
| 95th Queue (ft)       | 40  | 42  | 5   |
| Link Distance (ft)    | 421 | 946 | 289 |
| Upstream Blk Time (%) |     |     |     |
| Queuing Penalty (veh) |     |     |     |
| Storage Bay Dist (ft) |     |     |     |
| Storage Blk Time (%)  |     |     |     |
| Queuing Penalty (veh) |     |     |     |

Intersection: 26: 4th Street & Chipeta Ave

| Movement              | EB  | WB  | SB  |
|-----------------------|-----|-----|-----|
| Directions Served     | TR  | LT  | LT  |
| Maximum Queue (ft)    | 36  | 34  | 3   |
| Average Queue (ft)    | 15  | 15  | 0   |
| 95th Queue (ft)       | 41  | 41  | 3   |
| Link Distance (ft)    | 947 | 421 | 338 |
| Upstream Blk Time (%) |     |     |     |
| Queuing Penalty (veh) |     |     |     |
| Storage Bay Dist (ft) |     |     |     |
| Storage Blk Time (%)  |     |     |     |
| Queuing Penalty (veh) |     |     |     |

Intersection: 29: 5th Street & Ouray Ave

| Movement              | EB  | WB  | NB  |
|-----------------------|-----|-----|-----|
| Directions Served     | LT  | TR  | LT  |
| Maximum Queue (ft)    | 38  | 39  | 3   |
| Average Queue (ft)    | 16  | 16  | 0   |
| 95th Queue (ft)       | 42  | 41  | 3   |
| Link Distance (ft)    | 420 | 953 | 314 |
| Upstream Blk Time (%) |     |     |     |
| Queuing Penalty (veh) |     |     |     |
| Storage Bay Dist (ft) |     |     |     |
| Storage Blk Time (%)  |     |     |     |
| Queuing Penalty (veh) |     |     |     |

Intersection: 30: 4th Street & Ouray Ave

| Movement              | EB  | WB  |
|-----------------------|-----|-----|
| Directions Served     | TR  | LT  |
| Maximum Queue (ft)    | 36  | 33  |
| Average Queue (ft)    | 15  | 14  |
| 95th Queue (ft)       | 41  | 40  |
| Link Distance (ft)    | 961 | 420 |
| Upstream Blk Time (%) |     |     |
| Queuing Penalty (veh) |     |     |
| Storage Bay Dist (ft) |     |     |
| Storage Blk Time (%)  |     |     |
| Queuing Penalty (veh) |     |     |

Intersection: 33: 5th Street & Grand Ave

| Movement              | EB | EB       | EB  | WB  | WB  | NB  | NB  | NB  | NB |
|-----------------------|----|----------|-----|-----|-----|-----|-----|-----|----|
| Directions Served     | L  | T        | T   | T   | TR  | L   | T   | T   | R  |
| Maximum Queue (ft)    | 76 | 98       | 88  | 211 | 185 | 78  | 70  | 71  | 65 |
| Average Queue (ft)    | 27 | 48       | 37  | 120 | 81  | 25  | 27  | 30  | 18 |
| 95th Queue (ft)       | 59 | 86       | 82  | 189 | 164 | 62  | 61  | 64  | 53 |
| Link Distance (ft)    |    | 424      | 424 | 956 | 956 |     | 301 | 301 |    |
| Upstream Blk Time (%) |    |          |     |     |     |     |     |     |    |
| Queuing Penalty (veh) |    |          |     |     |     |     |     |     |    |
| Storage Bay Dist (ft) | 75 | NA-TWLTL |     |     |     | 100 |     |     | 50 |
| Storage Blk Time (%)  | 0  | 5        |     |     |     | 0   | 0   | 5   | 0  |
| Queuing Penalty (veh) | 1  | 3        |     |     |     | 0   | 0   | 4   | 0  |

Intersection: 34: 4th Street & Grand Ave

| Movement              | EB  | EB  | EB  | WB  | WB  | WB  | SB  | SB  |
|-----------------------|-----|-----|-----|-----|-----|-----|-----|-----|
| Directions Served     | T   | T   | R   | L   | T   | T   | LT  | TR  |
| Maximum Queue (ft)    | 181 | 144 | 67  | 64  | 72  | 75  | 130 | 152 |
| Average Queue (ft)    | 92  | 43  | 16  | 23  | 35  | 30  | 59  | 69  |
| 95th Queue (ft)       | 153 | 105 | 46  | 54  | 64  | 68  | 106 | 124 |
| Link Distance (ft)    | 962 | 962 |     |     | 424 | 424 | 319 | 319 |
| Upstream Blk Time (%) |     |     |     |     |     |     |     |     |
| Queuing Penalty (veh) |     |     |     |     |     |     |     |     |
| Storage Bay Dist (ft) |     |     | 100 | 150 |     |     |     |     |
| Storage Blk Time (%)  |     | 0   | 0   |     |     |     |     |     |
| Queuing Penalty (veh) |     | 0   | 0   |     |     |     |     |     |

Intersection: 37: 5th Street & White Ave

| Movement              | EB  | WB  | NB  | NB  |
|-----------------------|-----|-----|-----|-----|
| Directions Served     | LT  | TR  | LT  | TR  |
| Maximum Queue (ft)    | 51  | 48  | 3   | 6   |
| Average Queue (ft)    | 24  | 25  | 0   | 0   |
| 95th Queue (ft)       | 48  | 48  | 3   | 5   |
| Link Distance (ft)    | 437 | 960 | 300 | 300 |
| Upstream Blk Time (%) |     |     |     |     |
| Queuing Penalty (veh) |     |     |     |     |
| Storage Bay Dist (ft) |     |     |     |     |
| Storage Blk Time (%)  |     |     |     |     |
| Queuing Penalty (veh) |     |     |     |     |

Intersection: 38: 4th Street & White Ave

| Movement              | EB  | WB  | SB  | SB  |
|-----------------------|-----|-----|-----|-----|
| Directions Served     | TR  | LT  | LT  | TR  |
| Maximum Queue (ft)    | 47  | 90  | 117 | 140 |
| Average Queue (ft)    | 18  | 32  | 58  | 74  |
| 95th Queue (ft)       | 46  | 73  | 102 | 125 |
| Link Distance (ft)    | 944 | 437 | 293 | 293 |
| Upstream Blk Time (%) |     |     |     |     |
| Queuing Penalty (veh) |     |     |     |     |
| Storage Bay Dist (ft) |     |     |     |     |
| Storage Blk Time (%)  |     |     |     |     |
| Queuing Penalty (veh) |     |     |     |     |

Intersection: 41: 5th Street & Rood Ave

| Movement              | EB | EB  | WB  | NB  | NB  |
|-----------------------|----|-----|-----|-----|-----|
| Directions Served     | L  | T   | TR  | LT  | TR  |
| Maximum Queue (ft)    | 72 | 76  | 72  | 66  | 69  |
| Average Queue (ft)    | 21 | 22  | 30  | 25  | 19  |
| 95th Queue (ft)       | 55 | 59  | 63  | 60  | 54  |
| Link Distance (ft)    |    | 440 | 971 | 305 | 305 |
| Upstream Blk Time (%) |    |     |     |     |     |
| Queuing Penalty (veh) |    |     |     |     |     |
| Storage Bay Dist (ft) | 70 |     |     |     |     |
| Storage Blk Time (%)  | 1  | 1   |     |     |     |
| Queuing Penalty (veh) | 0  | 0   |     |     |     |

Intersection: 42: 4th Street & Rood Ave

| Movement              | EB   | WB | WB  | SB  | SB  |
|-----------------------|------|----|-----|-----|-----|
| Directions Served     | TR   | L  | T   | LT  | TR  |
| Maximum Queue (ft)    | 89   | 55 | 82  | 59  | 64  |
| Average Queue (ft)    | 33   | 14 | 26  | 20  | 19  |
| 95th Queue (ft)       | 74   | 43 | 66  | 52  | 51  |
| Link Distance (ft)    | 1007 |    | 440 | 297 | 297 |
| Upstream Blk Time (%) |      |    |     |     |     |
| Queuing Penalty (veh) |      |    |     |     |     |
| Storage Bay Dist (ft) |      | 65 |     |     |     |
| Storage Blk Time (%)  |      | 0  | 1   |     |     |
| Queuing Penalty (veh) |      | 0  | 0   |     |     |

Intersection: 45: 5th Street & Main St

| Movement              | EB  | WB  | NB  | NB  |
|-----------------------|-----|-----|-----|-----|
| Directions Served     | LT  | TR  | LT  | TR  |
| Maximum Queue (ft)    | 134 | 115 | 158 | 144 |
| Average Queue (ft)    | 59  | 48  | 85  | 77  |
| 95th Queue (ft)       | 110 | 96  | 140 | 131 |
| Link Distance (ft)    | 429 | 967 | 311 | 311 |
| Upstream Blk Time (%) |     |     |     |     |
| Queuing Penalty (veh) |     |     |     |     |
| Storage Bay Dist (ft) |     |     |     |     |
| Storage Blk Time (%)  |     |     |     |     |
| Queuing Penalty (veh) |     |     |     |     |

Intersection: 46: 4th Street & Main St

| Movement              | EB  | WB  | SB  | SB  |
|-----------------------|-----|-----|-----|-----|
| Directions Served     | TR  | LT  | LT  | TR  |
| Maximum Queue (ft)    | 118 | 59  | 119 | 143 |
| Average Queue (ft)    | 48  | 14  | 50  | 71  |
| 95th Queue (ft)       | 99  | 45  | 98  | 126 |
| Link Distance (ft)    | 900 | 429 | 309 | 309 |
| Upstream Blk Time (%) |     |     |     |     |
| Queuing Penalty (veh) |     |     |     |     |
| Storage Bay Dist (ft) |     |     |     |     |
| Storage Blk Time (%)  |     |     |     |     |
| Queuing Penalty (veh) |     |     |     |     |

Intersection: 49: 5th Street & Colorado Ave

| Movement              | EB  | WB  | NB  | NB  |
|-----------------------|-----|-----|-----|-----|
| Directions Served     | LT  | TR  | LT  | TR  |
| Maximum Queue (ft)    | 57  | 52  | 3   | 4   |
| Average Queue (ft)    | 30  | 29  | 0   | 0   |
| 95th Queue (ft)       | 51  | 49  | 3   | 3   |
| Link Distance (ft)    | 430 | 972 | 263 | 263 |
| Upstream Blk Time (%) |     |     |     |     |
| Queuing Penalty (veh) |     |     |     |     |
| Storage Bay Dist (ft) |     |     |     |     |
| Storage Blk Time (%)  |     |     |     |     |
| Queuing Penalty (veh) |     |     |     |     |

Intersection: 50: 4th Street & Colorado Ave

| Movement              | EB  | WB  | SB  |
|-----------------------|-----|-----|-----|
| Directions Served     | TR  | LT  | LT  |
| Maximum Queue (ft)    | 54  | 46  | 10  |
| Average Queue (ft)    | 27  | 27  | 0   |
| 95th Queue (ft)       | 49  | 47  | 6   |
| Link Distance (ft)    | 940 | 430 | 306 |
| Upstream Blk Time (%) |     |     |     |
| Queuing Penalty (veh) |     |     |     |
| Storage Bay Dist (ft) |     |     |     |
| Storage Blk Time (%)  |     |     |     |
| Queuing Penalty (veh) |     |     |     |

Intersection: 53: 5th Street & Ute Ave

| Movement              | WB  | WB  | WB  | WB | NB  | NB  | NB  |
|-----------------------|-----|-----|-----|----|-----|-----|-----|
| Directions Served     | L   | LT  | T   | R  | L   | T   | T   |
| Maximum Queue (ft)    | 236 | 263 | 237 | 74 | 78  | 74  | 54  |
| Average Queue (ft)    | 144 | 171 | 122 | 28 | 29  | 24  | 13  |
| 95th Queue (ft)       | 213 | 235 | 211 | 73 | 67  | 58  | 41  |
| Link Distance (ft)    | 971 | 971 | 971 |    |     | 320 | 320 |
| Upstream Blk Time (%) |     |     |     |    |     |     |     |
| Queuing Penalty (veh) |     |     |     |    |     |     |     |
| Storage Bay Dist (ft) |     |     |     | 50 | 100 |     |     |
| Storage Blk Time (%)  |     |     | 22  | 0  | 0   | 0   |     |
| Queuing Penalty (veh) |     |     | 11  | 1  | 0   | 0   |     |

Intersection: 54: 4th Street & Ute Ave

| Movement              | WB  | WB  | SB  | SB  |
|-----------------------|-----|-----|-----|-----|
| Directions Served     | LT  | T   | T   | TR  |
| Maximum Queue (ft)    | 116 | 125 | 101 | 146 |
| Average Queue (ft)    | 63  | 62  | 35  | 72  |
| 95th Queue (ft)       | 101 | 107 | 80  | 127 |
| Link Distance (ft)    | 387 | 387 | 287 | 287 |
| Upstream Blk Time (%) |     |     |     |     |
| Queuing Penalty (veh) |     |     |     |     |
| Storage Bay Dist (ft) |     |     |     |     |
| Storage Blk Time (%)  |     |     |     |     |
| Queuing Penalty (veh) |     |     |     |     |



Intersection: 57: 5th Street & Pitkin Ave

| Movement              | EB  | EB  | EB  | NB  | NB  | SB | SB  | SB  |
|-----------------------|-----|-----|-----|-----|-----|----|-----|-----|
| Directions Served     | LT  | TR  | R   | T   | TR  | L  | T   | T   |
| Maximum Queue (ft)    | 281 | 286 | 211 | 168 | 146 | 61 | 201 | 198 |
| Average Queue (ft)    | 185 | 190 | 131 | 83  | 53  | 8  | 120 | 117 |
| 95th Queue (ft)       | 252 | 257 | 194 | 145 | 108 | 36 | 183 | 177 |
| Link Distance (ft)    | 379 | 379 | 379 | 279 | 279 |    | 320 | 320 |
| Upstream Blk Time (%) |     |     |     |     |     |    |     |     |
| Queuing Penalty (veh) |     |     |     |     |     |    |     |     |
| Storage Bay Dist (ft) |     |     |     |     |     | 50 |     |     |
| Storage Blk Time (%)  |     |     |     |     |     | 0  | 16  |     |
| Queuing Penalty (veh) |     |     |     |     |     | 0  | 1   |     |

Intersection: 58: 4th Street & Pitkin Ave

| Movement              | EB  | EB  | EB  | NB  | SB  | SB  |
|-----------------------|-----|-----|-----|-----|-----|-----|
| Directions Served     | T   | T   | TR  | R   | L   | LT  |
| Maximum Queue (ft)    | 230 | 236 | 206 | 31  | 33  | 53  |
| Average Queue (ft)    | 144 | 146 | 86  | 7   | 7   | 15  |
| 95th Queue (ft)       | 214 | 215 | 187 | 28  | 28  | 43  |
| Link Distance (ft)    | 943 | 943 | 943 | 273 | 323 | 323 |
| Upstream Blk Time (%) |     |     |     |     |     |     |
| Queuing Penalty (veh) |     |     |     |     |     |     |
| Storage Bay Dist (ft) |     |     |     |     |     |     |
| Storage Blk Time (%)  |     |     |     |     |     |     |
| Queuing Penalty (veh) |     |     |     |     |     |     |

Intersection: 61: 5th Street & South Ave

| Movement              | EB  | WB  | SB |
|-----------------------|-----|-----|----|
| Directions Served     | R   | R   | L  |
| Maximum Queue (ft)    | 35  | 33  | 35 |
| Average Queue (ft)    | 8   | 7   | 6  |
| 95th Queue (ft)       | 30  | 29  | 27 |
| Link Distance (ft)    | 387 | 965 |    |
| Upstream Blk Time (%) |     |     |    |
| Queuing Penalty (veh) |     |     |    |
| Storage Bay Dist (ft) |     |     | 75 |
| Storage Blk Time (%)  |     |     |    |
| Queuing Penalty (veh) |     |     |    |

Network Summary

Network wide Queuing Penalty: 25

Intersection: 5: 5th Street & North Ave

| Movement              | EB  | EB  | EB  | WB  | WB  | WB  | NB | NB  | NB  | SB | SB  | SB |
|-----------------------|-----|-----|-----|-----|-----|-----|----|-----|-----|----|-----|----|
| Directions Served     | L   | T   | TR  | L   | T   | TR  | L  | T   | R   | L  | T   | R  |
| Maximum Queue (ft)    | 55  | 192 | 187 | 118 | 190 | 165 | 63 | 99  | 118 | 73 | 98  | 66 |
| Average Queue (ft)    | 13  | 108 | 102 | 35  | 103 | 75  | 25 | 37  | 51  | 29 | 39  | 17 |
| 95th Queue (ft)       | 39  | 178 | 174 | 77  | 168 | 141 | 56 | 78  | 93  | 63 | 83  | 49 |
| Link Distance (ft)    |     | 386 | 386 |     | 972 | 972 |    | 312 | 312 |    | 607 |    |
| Upstream Blk Time (%) |     |     |     |     |     |     |    |     |     |    |     |    |
| Queuing Penalty (veh) |     |     |     |     |     |     |    |     |     |    |     |    |
| Storage Bay Dist (ft) | 125 |     |     | 125 |     |     | 85 |     |     | 75 |     | 75 |
| Storage Blk Time (%)  |     | 4   |     | 0   | 3   |     | 0  | 1   |     | 1  | 3   | 0  |
| Queuing Penalty (veh) |     | 1   |     | 0   | 2   |     | 0  | 0   |     | 1  | 2   | 0  |

Intersection: 6: 4th Street & North Ave

| Movement              | EB  | EB  | WB  | WB  | WB  | NB  | SB  |
|-----------------------|-----|-----|-----|-----|-----|-----|-----|
| Directions Served     | L   | TR  | L   | T   | TR  | LTR | LTR |
| Maximum Queue (ft)    | 39  | 2   | 50  | 6   | 4   | 220 | 49  |
| Average Queue (ft)    | 9   | 0   | 24  | 0   | 0   | 82  | 18  |
| 95th Queue (ft)       | 32  | 2   | 50  | 4   | 3   | 170 | 46  |
| Link Distance (ft)    |     | 973 |     | 386 | 386 | 311 | 613 |
| Upstream Blk Time (%) |     |     |     |     |     | 0   |     |
| Queuing Penalty (veh) |     |     |     |     |     | 0   |     |
| Storage Bay Dist (ft) | 100 |     | 100 |     |     |     |     |
| Storage Blk Time (%)  |     |     |     |     |     |     |     |
| Queuing Penalty (veh) |     |     |     |     |     |     |     |

Intersection: 9: 5th Street & Belford Ave

| Movement              | EB  | WB  | NB  | SB  |
|-----------------------|-----|-----|-----|-----|
| Directions Served     | LTR | LTR | LTR | LTR |
| Maximum Queue (ft)    | 41  | 59  | 39  | 35  |
| Average Queue (ft)    | 18  | 28  | 3   | 2   |
| 95th Queue (ft)       | 44  | 50  | 21  | 17  |
| Link Distance (ft)    | 397 | 937 | 290 | 312 |
| Upstream Blk Time (%) |     |     |     |     |
| Queuing Penalty (veh) |     |     |     |     |
| Storage Bay Dist (ft) |     |     |     |     |
| Storage Blk Time (%)  |     |     |     |     |
| Queuing Penalty (veh) |     |     |     |     |

Intersection: 10: 4th Street & Belford Ave

| Movement              | EB  | WB  | NB  | SB  |
|-----------------------|-----|-----|-----|-----|
| Directions Served     | LTR | LTR | LTR | LTR |
| Maximum Queue (ft)    | 47  | 44  | 26  | 38  |
| Average Queue (ft)    | 17  | 25  | 1   | 3   |
| 95th Queue (ft)       | 44  | 47  | 13  | 18  |
| Link Distance (ft)    | 953 | 397 | 294 | 311 |
| Upstream Blk Time (%) |     |     |     |     |
| Queuing Penalty (veh) |     |     |     |     |
| Storage Bay Dist (ft) |     |     |     |     |
| Storage Blk Time (%)  |     |     |     |     |
| Queuing Penalty (veh) |     |     |     |     |

Intersection: 13: 5th Street & Teller Ave

| Movement              | EB  | WB  | NB  | SB  |
|-----------------------|-----|-----|-----|-----|
| Directions Served     | LTR | LTR | LTR | LTR |
| Maximum Queue (ft)    | 40  | 42  | 49  | 34  |
| Average Queue (ft)    | 19  | 20  | 3   | 2   |
| 95th Queue (ft)       | 44  | 45  | 22  | 15  |
| Link Distance (ft)    | 402 | 954 | 295 | 290 |
| Upstream Blk Time (%) |     |     |     |     |
| Queuing Penalty (veh) |     |     |     |     |
| Storage Bay Dist (ft) |     |     |     |     |
| Storage Blk Time (%)  |     |     |     |     |
| Queuing Penalty (veh) |     |     |     |     |

Intersection: 14: 4th Street & Teller Ave

| Movement              | EB  | WB  | NB  | SB  |
|-----------------------|-----|-----|-----|-----|
| Directions Served     | LTR | LTR | LTR | LTR |
| Maximum Queue (ft)    | 47  | 42  | 34  | 25  |
| Average Queue (ft)    | 21  | 20  | 2   | 2   |
| 95th Queue (ft)       | 47  | 45  | 15  | 14  |
| Link Distance (ft)    | 953 | 402 | 293 | 294 |
| Upstream Blk Time (%) |     |     |     |     |
| Queuing Penalty (veh) |     |     |     |     |
| Storage Bay Dist (ft) |     |     |     |     |
| Storage Blk Time (%)  |     |     |     |     |
| Queuing Penalty (veh) |     |     |     |     |

Intersection: 17: 5th Street & Hill Ave

| Movement              | EB  | WB  | NB  | SB  |
|-----------------------|-----|-----|-----|-----|
| Directions Served     | LTR | LTR | LTR | LTR |
| Maximum Queue (ft)    | 44  | 42  | 35  | 33  |
| Average Queue (ft)    | 20  | 20  | 2   | 2   |
| 95th Queue (ft)       | 45  | 45  | 18  | 16  |
| Link Distance (ft)    | 401 | 966 | 332 | 295 |
| Upstream Blk Time (%) |     |     |     |     |
| Queuing Penalty (veh) |     |     |     |     |
| Storage Bay Dist (ft) |     |     |     |     |
| Storage Blk Time (%)  |     |     |     |     |
| Queuing Penalty (veh) |     |     |     |     |

Intersection: 18: 4th Street & Hill Ave

| Movement              | EB  | WB  | NB  | SB  |
|-----------------------|-----|-----|-----|-----|
| Directions Served     | LTR | LTR | LTR | LTR |
| Maximum Queue (ft)    | 46  | 40  | 24  | 24  |
| Average Queue (ft)    | 20  | 20  | 1   | 1   |
| 95th Queue (ft)       | 45  | 45  | 11  | 11  |
| Link Distance (ft)    | 946 | 401 | 333 | 293 |
| Upstream Blk Time (%) |     |     |     |     |
| Queuing Penalty (veh) |     |     |     |     |
| Storage Bay Dist (ft) |     |     |     |     |
| Storage Blk Time (%)  |     |     |     |     |
| Queuing Penalty (veh) |     |     |     |     |

Intersection: 21: 5th Street & Gunnison Ave

| Movement              | EB  | WB  | NB  | SB  |
|-----------------------|-----|-----|-----|-----|
| Directions Served     | LTR | LTR | LTR | LTR |
| Maximum Queue (ft)    | 54  | 58  | 12  | 22  |
| Average Queue (ft)    | 26  | 29  | 0   | 1   |
| 95th Queue (ft)       | 48  | 50  | 6   | 12  |
| Link Distance (ft)    | 399 | 967 | 337 | 332 |
| Upstream Blk Time (%) |     |     |     |     |
| Queuing Penalty (veh) |     |     |     |     |
| Storage Bay Dist (ft) |     |     |     |     |
| Storage Blk Time (%)  |     |     |     |     |
| Queuing Penalty (veh) |     |     |     |     |

Intersection: 22: 4th Street & Gunnison Ave

| Movement              | EB  | WB  | SB  |
|-----------------------|-----|-----|-----|
| Directions Served     | LTR | LTR | LTR |
| Maximum Queue (ft)    | 52  | 40  | 19  |
| Average Queue (ft)    | 26  | 26  | 1   |
| 95th Queue (ft)       | 48  | 46  | 8   |
| Link Distance (ft)    | 958 | 399 | 333 |
| Upstream Blk Time (%) |     |     |     |
| Queuing Penalty (veh) |     |     |     |
| Storage Bay Dist (ft) |     |     |     |
| Storage Blk Time (%)  |     |     |     |
| Queuing Penalty (veh) |     |     |     |

Intersection: 25: 5th Street & Chipeta Ave

| Movement              | EB  | WB  | NB  | SB  |
|-----------------------|-----|-----|-----|-----|
| Directions Served     | LTR | LTR | LTR | LTR |
| Maximum Queue (ft)    | 42  | 44  | 25  | 38  |
| Average Queue (ft)    | 20  | 20  | 2   | 4   |
| 95th Queue (ft)       | 45  | 46  | 18  | 21  |
| Link Distance (ft)    | 396 | 958 | 288 | 337 |
| Upstream Blk Time (%) |     |     |     |     |
| Queuing Penalty (veh) |     |     |     |     |
| Storage Bay Dist (ft) |     |     |     |     |
| Storage Blk Time (%)  |     |     |     |     |
| Queuing Penalty (veh) |     |     |     |     |

Intersection: 26: 4th Street & Chipeta Ave

| Movement              | EB  | WB  | NB  | SB  |
|-----------------------|-----|-----|-----|-----|
| Directions Served     | LTR | LTR | LTR | LTR |
| Maximum Queue (ft)    | 40  | 35  | 12  | 24  |
| Average Queue (ft)    | 19  | 18  | 1   | 1   |
| 95th Queue (ft)       | 45  | 43  | 7   | 12  |
| Link Distance (ft)    | 958 | 396 | 287 | 338 |
| Upstream Blk Time (%) |     |     |     |     |
| Queuing Penalty (veh) |     |     |     |     |
| Storage Bay Dist (ft) |     |     |     |     |
| Storage Blk Time (%)  |     |     |     |     |
| Queuing Penalty (veh) |     |     |     |     |

Intersection: 29: 5th Street & Ouray Ave

| Movement              | EB  | WB  | NB  | SB  |
|-----------------------|-----|-----|-----|-----|
| Directions Served     | LTR | LTR | LTR | LTR |
| Maximum Queue (ft)    | 48  | 44  | 30  | 45  |
| Average Queue (ft)    | 20  | 21  | 2   | 3   |
| 95th Queue (ft)       | 47  | 45  | 14  | 24  |
| Link Distance (ft)    | 384 | 959 | 314 | 288 |
| Upstream Blk Time (%) |     |     |     |     |
| Queuing Penalty (veh) |     |     |     |     |
| Storage Bay Dist (ft) |     |     |     |     |
| Storage Blk Time (%)  |     |     |     |     |
| Queuing Penalty (veh) |     |     |     |     |

Intersection: 30: 4th Street & Ouray Ave

| Movement              | EB  | WB  | NB  | SB  |
|-----------------------|-----|-----|-----|-----|
| Directions Served     | LTR | LTR | LTR | LTR |
| Maximum Queue (ft)    | 38  | 36  | 27  | 34  |
| Average Queue (ft)    | 20  | 17  | 2   | 2   |
| 95th Queue (ft)       | 45  | 43  | 13  | 15  |
| Link Distance (ft)    | 967 | 384 | 319 | 287 |
| Upstream Blk Time (%) |     |     |     |     |
| Queuing Penalty (veh) |     |     |     |     |
| Storage Bay Dist (ft) |     |     |     |     |
| Storage Blk Time (%)  |     |     |     |     |
| Queuing Penalty (veh) |     |     |     |     |

Intersection: 33: 5th Street & Grand Ave

| Movement              | EB | EB  | EB  | WB  | WB  | WB  | NB  | NB  | NB | SB  | SB  |
|-----------------------|----|-----|-----|-----|-----|-----|-----|-----|----|-----|-----|
| Directions Served     | L  | T   | TR  | L   | T   | TR  | L   | T   | R  | L   | TR  |
| Maximum Queue (ft)    | 58 | 59  | 69  | 124 | 185 | 154 | 124 | 240 | 75 | 74  | 174 |
| Average Queue (ft)    | 20 | 21  | 23  | 24  | 99  | 58  | 46  | 115 | 28 | 10  | 80  |
| 95th Queue (ft)       | 51 | 51  | 58  | 75  | 162 | 125 | 109 | 208 | 77 | 42  | 145 |
| Link Distance (ft)    |    | 393 | 393 |     | 969 | 969 |     | 300 |    |     | 314 |
| Upstream Blk Time (%) |    |     |     |     |     |     |     |     |    |     |     |
| Queuing Penalty (veh) |    |     |     |     |     |     |     |     |    |     |     |
| Storage Bay Dist (ft) | 75 |     |     | 100 |     |     | 100 |     | 50 | 100 |     |
| Storage Blk Time (%)  | 0  | 0   |     |     | 7   |     | 1   | 25  | 0  |     | 7   |
| Queuing Penalty (veh) | 0  | 0   |     |     | 2   |     | 1   | 25  | 1  |     | 1   |

Intersection: 34: 4th Street & Grand Ave

| Movement              | EB  | EB  | EB  | EB  | WB  | WB  | WB  | NB  | NB  | SB  | SB  |
|-----------------------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Directions Served     | L   | T   | T   | R   | L   | T   | TR  | L   | TR  | L   | TR  |
| Maximum Queue (ft)    | 84  | 165 | 135 | 63  | 42  | 112 | 116 | 102 | 162 | 66  | 142 |
| Average Queue (ft)    | 17  | 92  | 52  | 8   | 10  | 60  | 61  | 24  | 63  | 14  | 57  |
| 95th Queue (ft)       | 56  | 149 | 108 | 36  | 34  | 99  | 106 | 64  | 125 | 47  | 111 |
| Link Distance (ft)    |     | 968 | 968 |     |     | 393 | 393 |     | 294 |     | 319 |
| Upstream Blk Time (%) |     |     |     |     |     |     |     |     |     |     |     |
| Queuing Penalty (veh) |     |     |     |     |     |     |     |     |     |     |     |
| Storage Bay Dist (ft) | 100 |     |     | 100 | 100 |     |     | 100 |     | 100 |     |
| Storage Blk Time (%)  |     | 6   | 1   | 0   |     | 1   |     | 0   | 3   |     | 2   |
| Queuing Penalty (veh) |     | 1   | 0   | 0   |     | 0   |     | 0   | 1   |     | 0   |

Intersection: 37: 5th Street & White Ave

| Movement              | EB  | WB  | NB  | SB  |
|-----------------------|-----|-----|-----|-----|
| Directions Served     | LTR | LTR | LTR | LTR |
| Maximum Queue (ft)    | 40  | 63  | 49  | 46  |
| Average Queue (ft)    | 20  | 26  | 4   | 3   |
| 95th Queue (ft)       | 45  | 52  | 23  | 22  |
| Link Distance (ft)    | 401 | 972 | 299 | 300 |
| Upstream Blk Time (%) |     |     |     |     |
| Queuing Penalty (veh) |     |     |     |     |
| Storage Bay Dist (ft) |     |     |     |     |
| Storage Blk Time (%)  |     |     |     |     |
| Queuing Penalty (veh) |     |     |     |     |

Intersection: 38: 4th Street & White Ave

| Movement              | EB  | WB  | NB  | SB  |
|-----------------------|-----|-----|-----|-----|
| Directions Served     | LTR | LTR | LTR | LTR |
| Maximum Queue (ft)    | 49  | 42  | 31  | 26  |
| Average Queue (ft)    | 21  | 24  | 2   | 2   |
| 95th Queue (ft)       | 46  | 47  | 16  | 13  |
| Link Distance (ft)    | 950 | 401 | 296 | 294 |
| Upstream Blk Time (%) |     |     |     |     |
| Queuing Penalty (veh) |     |     |     |     |
| Storage Bay Dist (ft) |     |     |     |     |
| Storage Blk Time (%)  |     |     |     |     |
| Queuing Penalty (veh) |     |     |     |     |



Intersection: 41: 5th Street & Rood Ave

| Movement              | EB | EB  | WB  | NB  | SB  |
|-----------------------|----|-----|-----|-----|-----|
| Directions Served     | L  | TR  | LTR | LTR | LTR |
| Maximum Queue (ft)    | 38 | 46  | 62  | 49  | 39  |
| Average Queue (ft)    | 16 | 23  | 30  | 4   | 5   |
| 95th Queue (ft)       | 41 | 47  | 53  | 26  | 24  |
| Link Distance (ft)    |    | 416 | 983 | 305 | 299 |
| Upstream Blk Time (%) |    |     |     |     |     |
| Queuing Penalty (veh) |    |     |     |     |     |
| Storage Bay Dist (ft) | 70 |     |     |     |     |
| Storage Blk Time (%)  |    | 0   |     |     |     |
| Queuing Penalty (veh) |    | 0   |     |     |     |

Intersection: 42: 4th Street & Rood Ave

| Movement              | EB   | WB | WB  | NB  | SB  |
|-----------------------|------|----|-----|-----|-----|
| Directions Served     | LTR  | L  | TR  | LTR | LTR |
| Maximum Queue (ft)    | 55   | 30 | 55  | 37  | 36  |
| Average Queue (ft)    | 28   | 6  | 31  | 2   | 3   |
| 95th Queue (ft)       | 49   | 26 | 48  | 17  | 21  |
| Link Distance (ft)    | 1018 |    | 416 | 309 | 296 |
| Upstream Blk Time (%) |      |    |     |     |     |
| Queuing Penalty (veh) |      |    |     |     |     |
| Storage Bay Dist (ft) |      | 65 |     |     |     |
| Storage Blk Time (%)  |      |    | 0   |     |     |
| Queuing Penalty (veh) |      |    | 0   |     |     |

Intersection: 45: 5th Street & Main St

| Movement              | EB  | WB  | NB  | SB  |
|-----------------------|-----|-----|-----|-----|
| Directions Served     | LTR | LTR | LTR | LTR |
| Maximum Queue (ft)    | 171 | 149 | 97  | 86  |
| Average Queue (ft)    | 86  | 58  | 28  | 24  |
| 95th Queue (ft)       | 151 | 111 | 75  | 63  |
| Link Distance (ft)    | 405 | 979 | 311 | 305 |
| Upstream Blk Time (%) |     |     |     |     |
| Queuing Penalty (veh) |     |     |     |     |
| Storage Bay Dist (ft) |     |     |     |     |
| Storage Blk Time (%)  |     |     |     |     |
| Queuing Penalty (veh) |     |     |     |     |

Intersection: 46: 4th Street & Main St

| Movement              | EB  | WB  | NB  | SB  |
|-----------------------|-----|-----|-----|-----|
| Directions Served     | LTR | LTR | LTR | LTR |
| Maximum Queue (ft)    | 145 | 146 | 85  | 64  |
| Average Queue (ft)    | 55  | 63  | 32  | 20  |
| 95th Queue (ft)       | 108 | 118 | 71  | 54  |
| Link Distance (ft)    | 912 | 405 | 306 | 309 |
| Upstream Blk Time (%) |     |     |     |     |
| Queuing Penalty (veh) |     |     |     |     |
| Storage Bay Dist (ft) |     |     |     |     |
| Storage Blk Time (%)  |     |     |     |     |
| Queuing Penalty (veh) |     |     |     |     |

Intersection: 49: 5th Street & Colorado Ave

| Movement              | EB  | WB  | NB  | SB  |
|-----------------------|-----|-----|-----|-----|
| Directions Served     | LTR | LTR | LTR | LTR |
| Maximum Queue (ft)    | 52  | 59  | 55  | 45  |
| Average Queue (ft)    | 24  | 29  | 4   | 5   |
| 95th Queue (ft)       | 44  | 51  | 27  | 28  |
| Link Distance (ft)    | 391 | 983 | 263 | 311 |
| Upstream Blk Time (%) |     |     |     |     |
| Queuing Penalty (veh) |     |     |     |     |
| Storage Bay Dist (ft) |     |     |     |     |
| Storage Blk Time (%)  |     |     |     |     |
| Queuing Penalty (veh) |     |     |     |     |

Intersection: 50: 4th Street & Colorado Ave

| Movement              | EB  | WB  | NB  | SB  |
|-----------------------|-----|-----|-----|-----|
| Directions Served     | LTR | LTR | LTR | LTR |
| Maximum Queue (ft)    | 52  | 50  | 9   | 29  |
| Average Queue (ft)    | 27  | 28  | 0   | 2   |
| 95th Queue (ft)       | 50  | 48  | 6   | 14  |
| Link Distance (ft)    | 952 | 391 | 286 | 306 |
| Upstream Blk Time (%) |     |     |     |     |
| Queuing Penalty (veh) |     |     |     |     |
| Storage Bay Dist (ft) |     |     |     |     |
| Storage Blk Time (%)  |     |     |     |     |
| Queuing Penalty (veh) |     |     |     |     |

Intersection: 53: 5th Street & Ute Ave

| Movement              | WB  | WB  | WB  | WB | NB  | NB  | NB  | SB  | SB  |
|-----------------------|-----|-----|-----|----|-----|-----|-----|-----|-----|
| Directions Served     | L   | LT  | T   | R  | L   | L   | T   | T   | R   |
| Maximum Queue (ft)    | 278 | 283 | 240 | 75 | 123 | 161 | 202 | 137 | 24  |
| Average Queue (ft)    | 164 | 184 | 137 | 21 | 40  | 80  | 57  | 52  | 5   |
| 95th Queue (ft)       | 249 | 258 | 228 | 66 | 102 | 138 | 143 | 108 | 19  |
| Link Distance (ft)    | 977 | 977 | 977 |    |     | 318 | 318 | 263 | 263 |
| Upstream Blk Time (%) |     |     |     |    |     |     |     |     |     |
| Queuing Penalty (veh) |     |     |     |    |     |     |     |     |     |
| Storage Bay Dist (ft) |     |     |     | 50 | 100 |     |     |     |     |
| Storage Blk Time (%)  |     |     | 29  | 0  | 0   | 4   |     |     |     |
| Queuing Penalty (veh) |     |     | 9   | 1  | 0   | 4   |     |     |     |

Intersection: 54: 4th Street & Ute Ave

| Movement              | WB  | WB  | NB  | SB  |
|-----------------------|-----|-----|-----|-----|
| Directions Served     | LT  | TR  | LT  | TR  |
| Maximum Queue (ft)    | 378 | 379 | 42  | 84  |
| Average Queue (ft)    | 176 | 194 | 7   | 26  |
| 95th Queue (ft)       | 344 | 357 | 29  | 70  |
| Link Distance (ft)    | 379 | 379 | 324 | 286 |
| Upstream Blk Time (%) | 0   | 1   |     |     |
| Queuing Penalty (veh) | 2   | 3   |     |     |
| Storage Bay Dist (ft) |     |     |     |     |
| Storage Blk Time (%)  |     |     |     |     |
| Queuing Penalty (veh) |     |     |     |     |

Intersection: 57: 5th Street & Pitkin Ave

| Movement              | EB  | EB  | EB  | NB  | NB  | SB | SB  | SB  |
|-----------------------|-----|-----|-----|-----|-----|----|-----|-----|
| Directions Served     | LT  | TR  | R   | T   | TR  | L  | T   | T   |
| Maximum Queue (ft)    | 382 | 394 | 362 | 206 | 287 | 54 | 274 | 269 |
| Average Queue (ft)    | 144 | 146 | 102 | 55  | 119 | 4  | 130 | 129 |
| 95th Queue (ft)       | 342 | 349 | 280 | 140 | 240 | 25 | 243 | 240 |
| Link Distance (ft)    | 385 | 385 | 385 | 441 | 441 |    | 318 | 318 |
| Upstream Blk Time (%) | 0   | 0   | 0   |     | 0   |    | 0   | 0   |
| Queuing Penalty (veh) | 1   | 1   | 0   |     | 0   |    | 0   | 0   |
| Storage Bay Dist (ft) |     |     |     |     |     | 50 |     |     |
| Storage Blk Time (%)  |     |     |     |     |     | 0  | 18  |     |
| Queuing Penalty (veh) |     |     |     |     |     | 1  | 1   |     |

---

Intersection: 58: 4th Street & Pitkin Ave

---

| Movement              | EB  | EB  | EB  | NB  | SB  |
|-----------------------|-----|-----|-----|-----|-----|
| Directions Served     | LT  | T   | TR  | TR  | LT  |
| Maximum Queue (ft)    | 313 | 301 | 248 | 32  | 89  |
| Average Queue (ft)    | 184 | 177 | 119 | 5   | 29  |
| 95th Queue (ft)       | 273 | 259 | 226 | 25  | 70  |
| Link Distance (ft)    | 948 | 948 | 948 | 442 | 324 |
| Upstream Blk Time (%) |     |     |     |     |     |
| Queuing Penalty (veh) |     |     |     |     |     |
| Storage Bay Dist (ft) |     |     |     |     |     |
| Storage Blk Time (%)  |     |     |     |     |     |
| Queuing Penalty (veh) |     |     |     |     |     |

---

Network Summary

---

Network wide Queuing Penalty: 62

---

Queuing and Blocking Report  
Baseline

Forecast Year 2045  
One-Way Pair

Intersection: 5: 5th Street & North Ave

| Movement              | EB  | EB  | EB  | WB  | WB  | WB  | NB  | NB  | NB  | SB | SB  | SB |
|-----------------------|-----|-----|-----|-----|-----|-----|-----|-----|-----|----|-----|----|
| Directions Served     | L   | T   | TR  | L   | T   | TR  | L   | T   | R   | L  | T   | R  |
| Maximum Queue (ft)    | 139 | 304 | 309 | 149 | 371 | 348 | 108 | 158 | 241 | 92 | 146 | 90 |
| Average Queue (ft)    | 26  | 173 | 169 | 30  | 216 | 186 | 51  | 61  | 119 | 40 | 49  | 30 |
| 95th Queue (ft)       | 84  | 270 | 273 | 99  | 332 | 309 | 98  | 122 | 205 | 78 | 105 | 69 |
| Link Distance (ft)    |     | 386 | 386 |     | 972 | 972 |     | 299 | 299 |    | 607 |    |
| Upstream Blk Time (%) |     | 0   | 0   |     |     |     |     |     | 0   |    |     |    |
| Queuing Penalty (veh) |     | 0   | 0   |     |     |     |     |     | 0   |    |     |    |
| Storage Bay Dist (ft) | 125 |     |     | 125 |     |     | 85  |     |     | 75 |     | 75 |
| Storage Blk Time (%)  |     | 13  |     |     | 19  |     | 2   | 4   |     | 2  | 5   | 0  |
| Queuing Penalty (veh) |     | 4   |     |     | 6   |     | 2   | 3   |     | 2  | 5   | 1  |

Intersection: 6: 4th Street & North Ave

| Movement              | EB  | EB  | EB  | WB  | WB  | WB  | NB  | SB  |
|-----------------------|-----|-----|-----|-----|-----|-----|-----|-----|
| Directions Served     | L   | T   | TR  | L   | T   | TR  | LTR | LTR |
| Maximum Queue (ft)    | 53  | 5   | 34  | 123 | 220 | 166 | 77  | 138 |
| Average Queue (ft)    | 14  | 0   | 5   | 68  | 19  | 12  | 21  | 47  |
| 95th Queue (ft)       | 44  | 4   | 22  | 117 | 122 | 104 | 63  | 110 |
| Link Distance (ft)    |     | 973 | 973 |     | 386 | 386 | 305 | 613 |
| Upstream Blk Time (%) |     |     |     |     |     | 0   |     |     |
| Queuing Penalty (veh) |     |     |     |     |     | 0   |     |     |
| Storage Bay Dist (ft) | 100 |     |     | 100 |     |     |     |     |
| Storage Blk Time (%)  | 0   |     |     | 7   |     |     |     |     |
| Queuing Penalty (veh) | 0   |     |     | 49  |     |     |     |     |

Intersection: 9: 5th Street & Belford Ave

| Movement              | WB  | NB  |
|-----------------------|-----|-----|
| Directions Served     | TR  | TR  |
| Maximum Queue (ft)    | 38  | 8   |
| Average Queue (ft)    | 19  | 0   |
| 95th Queue (ft)       | 43  | 7   |
| Link Distance (ft)    | 939 | 289 |
| Upstream Blk Time (%) |     |     |
| Queuing Penalty (veh) |     |     |
| Storage Bay Dist (ft) |     |     |
| Storage Blk Time (%)  |     |     |
| Queuing Penalty (veh) |     |     |

Queuing and Blocking Report  
Baseline

Forecast Year 2045  
One-Way Pair

Intersection: 10: 4th Street & Belford Ave

| Movement              | EB  | WB  | WB  |
|-----------------------|-----|-----|-----|
| Directions Served     | R   | L   | TR  |
| Maximum Queue (ft)    | 32  | 70  | 30  |
| Average Queue (ft)    | 14  | 29  | 11  |
| 95th Queue (ft)       | 36  | 53  | 33  |
| Link Distance (ft)    | 940 | 407 | 407 |
| Upstream Blk Time (%) |     |     |     |
| Queuing Penalty (veh) |     |     |     |
| Storage Bay Dist (ft) |     |     |     |
| Storage Blk Time (%)  |     |     |     |
| Queuing Penalty (veh) |     |     |     |

Intersection: 13: 5th Street & Teller Ave

| Movement              | EB  | WB  | NB  |
|-----------------------|-----|-----|-----|
| Directions Served     | LT  | TR  | TR  |
| Maximum Queue (ft)    | 40  | 42  | 2   |
| Average Queue (ft)    | 19  | 20  | 0   |
| 95th Queue (ft)       | 45  | 45  | 2   |
| Link Distance (ft)    | 426 | 942 | 295 |
| Upstream Blk Time (%) |     |     |     |
| Queuing Penalty (veh) |     |     |     |
| Storage Bay Dist (ft) |     |     |     |
| Storage Blk Time (%)  |     |     |     |
| Queuing Penalty (veh) |     |     |     |

Intersection: 14: 4th Street & Teller Ave

| Movement              | EB  | WB  | SB  |
|-----------------------|-----|-----|-----|
| Directions Served     | TR  | LT  | LT  |
| Maximum Queue (ft)    | 45  | 38  | 3   |
| Average Queue (ft)    | 18  | 18  | 0   |
| 95th Queue (ft)       | 44  | 44  | 3   |
| Link Distance (ft)    | 941 | 426 | 286 |
| Upstream Blk Time (%) |     |     |     |
| Queuing Penalty (veh) |     |     |     |
| Storage Bay Dist (ft) |     |     |     |
| Storage Blk Time (%)  |     |     |     |
| Queuing Penalty (veh) |     |     |     |

Queuing and Blocking Report  
Baseline

Forecast Year 2045  
One-Way Pair

Intersection: 17: 5th Street & Hill Ave

| Movement              | EB  | WB  |
|-----------------------|-----|-----|
| Directions Served     | LT  | TR  |
| Maximum Queue (ft)    | 44  | 43  |
| Average Queue (ft)    | 20  | 21  |
| 95th Queue (ft)       | 46  | 45  |
| Link Distance (ft)    | 425 | 954 |
| Upstream Blk Time (%) |     |     |
| Queuing Penalty (veh) |     |     |
| Storage Bay Dist (ft) |     |     |
| Storage Blk Time (%)  |     |     |
| Queuing Penalty (veh) |     |     |

Intersection: 18: 4th Street & Hill Ave

| Movement              | EB  | WB  |
|-----------------------|-----|-----|
| Directions Served     | TR  | LT  |
| Maximum Queue (ft)    | 50  | 40  |
| Average Queue (ft)    | 21  | 19  |
| 95th Queue (ft)       | 48  | 45  |
| Link Distance (ft)    | 934 | 425 |
| Upstream Blk Time (%) |     |     |
| Queuing Penalty (veh) |     |     |
| Storage Bay Dist (ft) |     |     |
| Storage Blk Time (%)  |     |     |
| Queuing Penalty (veh) |     |     |

Intersection: 21: 5th Street & Gunnison Ave

| Movement              | EB  | WB  | NB  | NB  |
|-----------------------|-----|-----|-----|-----|
| Directions Served     | LT  | TR  | LT  | TR  |
| Maximum Queue (ft)    | 66  | 70  | 7   | 6   |
| Average Queue (ft)    | 31  | 35  | 0   | 0   |
| 95th Queue (ft)       | 54  | 59  | 6   | 3   |
| Link Distance (ft)    | 423 | 955 | 337 | 337 |
| Upstream Blk Time (%) |     |     |     |     |
| Queuing Penalty (veh) |     |     |     |     |
| Storage Bay Dist (ft) |     |     |     |     |
| Storage Blk Time (%)  |     |     |     |     |
| Queuing Penalty (veh) |     |     |     |     |



Intersection: 22: 4th Street & Gunnison Ave

| Movement              | EB  | WB  |
|-----------------------|-----|-----|
| Directions Served     | TR  | LT  |
| Maximum Queue (ft)    | 63  | 54  |
| Average Queue (ft)    | 32  | 30  |
| 95th Queue (ft)       | 54  | 51  |
| Link Distance (ft)    | 946 | 423 |
| Upstream Blk Time (%) |     |     |
| Queuing Penalty (veh) |     |     |
| Storage Bay Dist (ft) |     |     |
| Storage Blk Time (%)  |     |     |
| Queuing Penalty (veh) |     |     |

Intersection: 25: 5th Street & Chipeta Ave

| Movement              | EB  | WB  |
|-----------------------|-----|-----|
| Directions Served     | LT  | TR  |
| Maximum Queue (ft)    | 42  | 44  |
| Average Queue (ft)    | 19  | 20  |
| 95th Queue (ft)       | 45  | 45  |
| Link Distance (ft)    | 421 | 946 |
| Upstream Blk Time (%) |     |     |
| Queuing Penalty (veh) |     |     |
| Storage Bay Dist (ft) |     |     |
| Storage Blk Time (%)  |     |     |
| Queuing Penalty (veh) |     |     |

Intersection: 26: 4th Street & Chipeta Ave

| Movement              | EB  | WB  |
|-----------------------|-----|-----|
| Directions Served     | TR  | LT  |
| Maximum Queue (ft)    | 38  | 42  |
| Average Queue (ft)    | 19  | 19  |
| 95th Queue (ft)       | 44  | 45  |
| Link Distance (ft)    | 947 | 421 |
| Upstream Blk Time (%) |     |     |
| Queuing Penalty (veh) |     |     |
| Storage Bay Dist (ft) |     |     |
| Storage Blk Time (%)  |     |     |
| Queuing Penalty (veh) |     |     |

Queuing and Blocking Report  
Baseline

Forecast Year 2045  
One-Way Pair

Intersection: 29: 5th Street & Ouray Ave

| Movement              | EB  | WB  | NB  |
|-----------------------|-----|-----|-----|
| Directions Served     | LT  | TR  | LT  |
| Maximum Queue (ft)    | 41  | 44  | 3   |
| Average Queue (ft)    | 19  | 19  | 0   |
| 95th Queue (ft)       | 44  | 44  | 3   |
| Link Distance (ft)    | 420 | 953 | 314 |
| Upstream Blk Time (%) |     |     |     |
| Queuing Penalty (veh) |     |     |     |
| Storage Bay Dist (ft) |     |     |     |
| Storage Blk Time (%)  |     |     |     |
| Queuing Penalty (veh) |     |     |     |

Intersection: 30: 4th Street & Ouray Ave

| Movement              | EB  | WB  |
|-----------------------|-----|-----|
| Directions Served     | TR  | LT  |
| Maximum Queue (ft)    | 42  | 48  |
| Average Queue (ft)    | 19  | 20  |
| 95th Queue (ft)       | 44  | 46  |
| Link Distance (ft)    | 961 | 420 |
| Upstream Blk Time (%) |     |     |
| Queuing Penalty (veh) |     |     |
| Storage Bay Dist (ft) |     |     |
| Storage Blk Time (%)  |     |     |
| Queuing Penalty (veh) |     |     |

Intersection: 33: 5th Street & Grand Ave

| Movement              | EB | EB  | EB  | WB  | WB  | NB  | NB  | NB  | NB |
|-----------------------|----|-----|-----|-----|-----|-----|-----|-----|----|
| Directions Served     | L  | T   | T   | T   | TR  | L   | T   | T   | R  |
| Maximum Queue (ft)    | 91 | 132 | 122 | 293 | 264 | 110 | 108 | 116 | 74 |
| Average Queue (ft)    | 41 | 62  | 54  | 181 | 147 | 45  | 43  | 49  | 27 |
| 95th Queue (ft)       | 79 | 111 | 110 | 262 | 240 | 91  | 85  | 92  | 68 |
| Link Distance (ft)    |    | 424 | 424 | 956 | 956 |     | 301 | 301 |    |
| Upstream Blk Time (%) |    |     |     |     |     |     |     |     |    |
| Queuing Penalty (veh) |    |     |     |     |     |     |     |     |    |
| Storage Bay Dist (ft) | 75 |     |     |     |     | 100 |     |     | 50 |
| Storage Blk Time (%)  | 2  | 9   |     |     |     | 2   | 0   | 12  | 1  |
| Queuing Penalty (veh) | 6  | 8   |     |     |     | 3   | 0   | 13  | 1  |

Intersection: 34: 4th Street & Grand Ave

| Movement              | EB  | EB  | EB  | WB  | WB  | WB  | SB  | SB  |
|-----------------------|-----|-----|-----|-----|-----|-----|-----|-----|
| Directions Served     | T   | T   | R   | L   | T   | T   | LT  | TR  |
| Maximum Queue (ft)    | 232 | 196 | 122 | 83  | 97  | 110 | 169 | 198 |
| Average Queue (ft)    | 138 | 89  | 33  | 31  | 47  | 48  | 90  | 107 |
| 95th Queue (ft)       | 210 | 174 | 88  | 67  | 82  | 93  | 149 | 173 |
| Link Distance (ft)    | 962 | 962 |     |     | 424 | 424 | 319 | 319 |
| Upstream Blk Time (%) |     |     |     |     |     |     |     |     |
| Queuing Penalty (veh) |     |     |     |     |     |     |     |     |
| Storage Bay Dist (ft) |     |     | 100 | 150 |     |     |     |     |
| Storage Blk Time (%)  |     | 4   | 0   |     |     |     |     |     |
| Queuing Penalty (veh) |     | 3   | 0   |     |     |     |     |     |

Intersection: 37: 5th Street & White Ave

| Movement              | EB  | WB  | NB  |
|-----------------------|-----|-----|-----|
| Directions Served     | LT  | TR  | LT  |
| Maximum Queue (ft)    | 67  | 66  | 3   |
| Average Queue (ft)    | 30  | 32  | 0   |
| 95th Queue (ft)       | 57  | 56  | 5   |
| Link Distance (ft)    | 437 | 960 | 300 |
| Upstream Blk Time (%) |     |     |     |
| Queuing Penalty (veh) |     |     |     |
| Storage Bay Dist (ft) |     |     |     |
| Storage Blk Time (%)  |     |     |     |
| Queuing Penalty (veh) |     |     |     |

Intersection: 38: 4th Street & White Ave

| Movement              | EB  | WB  | SB  | SB  |
|-----------------------|-----|-----|-----|-----|
| Directions Served     | TR  | LT  | LT  | TR  |
| Maximum Queue (ft)    | 65  | 108 | 174 | 185 |
| Average Queue (ft)    | 24  | 46  | 92  | 108 |
| 95th Queue (ft)       | 58  | 93  | 150 | 167 |
| Link Distance (ft)    | 944 | 437 | 293 | 293 |
| Upstream Blk Time (%) |     |     |     |     |
| Queuing Penalty (veh) |     |     |     |     |
| Storage Bay Dist (ft) |     |     |     |     |
| Storage Blk Time (%)  |     |     |     |     |
| Queuing Penalty (veh) |     |     |     |     |

Intersection: 41: 5th Street & Rood Ave

| Movement              | EB | EB  | WB  | NB  | NB  |
|-----------------------|----|-----|-----|-----|-----|
| Directions Served     | L  | T   | TR  | LT  | TR  |
| Maximum Queue (ft)    | 81 | 110 | 112 | 83  | 78  |
| Average Queue (ft)    | 31 | 39  | 43  | 35  | 28  |
| 95th Queue (ft)       | 72 | 88  | 88  | 72  | 65  |
| Link Distance (ft)    |    | 440 | 971 | 305 | 305 |
| Upstream Blk Time (%) |    |     |     |     |     |
| Queuing Penalty (veh) |    |     |     |     |     |
| Storage Bay Dist (ft) | 70 |     |     |     |     |
| Storage Blk Time (%)  | 2  | 3   |     |     |     |
| Queuing Penalty (veh) | 1  | 2   |     |     |     |

Intersection: 42: 4th Street & Rood Ave

| Movement              | EB   | WB | WB  | SB  | SB  |
|-----------------------|------|----|-----|-----|-----|
| Directions Served     | TR   | L  | T   | LT  | TR  |
| Maximum Queue (ft)    | 115  | 83 | 111 | 65  | 75  |
| Average Queue (ft)    | 46   | 25 | 43  | 23  | 27  |
| 95th Queue (ft)       | 93   | 67 | 91  | 57  | 63  |
| Link Distance (ft)    | 1007 |    | 440 | 297 | 297 |
| Upstream Blk Time (%) |      |    |     |     |     |
| Queuing Penalty (veh) |      |    |     |     |     |
| Storage Bay Dist (ft) |      | 65 |     |     |     |
| Storage Blk Time (%)  |      | 1  | 4   |     |     |
| Queuing Penalty (veh) |      | 1  | 1   |     |     |

Intersection: 45: 5th Street & Main St

| Movement              | EB  | WB  | NB  | NB  |
|-----------------------|-----|-----|-----|-----|
| Directions Served     | LT  | TR  | LT  | TR  |
| Maximum Queue (ft)    | 191 | 143 | 218 | 216 |
| Average Queue (ft)    | 86  | 66  | 125 | 124 |
| 95th Queue (ft)       | 152 | 121 | 195 | 194 |
| Link Distance (ft)    | 429 | 967 | 311 | 311 |
| Upstream Blk Time (%) |     |     |     |     |
| Queuing Penalty (veh) |     |     |     |     |
| Storage Bay Dist (ft) |     |     |     |     |
| Storage Blk Time (%)  |     |     |     |     |
| Queuing Penalty (veh) |     |     |     |     |

Intersection: 46: 4th Street & Main St

| Movement              | EB  | WB  | SB  | SB  |
|-----------------------|-----|-----|-----|-----|
| Directions Served     | TR  | LT  | LT  | TR  |
| Maximum Queue (ft)    | 146 | 91  | 170 | 202 |
| Average Queue (ft)    | 68  | 27  | 84  | 109 |
| 95th Queue (ft)       | 125 | 67  | 152 | 176 |
| Link Distance (ft)    | 900 | 429 | 309 | 309 |
| Upstream Blk Time (%) |     |     |     |     |
| Queuing Penalty (veh) |     |     |     |     |
| Storage Bay Dist (ft) |     |     |     |     |
| Storage Blk Time (%)  |     |     |     |     |
| Queuing Penalty (veh) |     |     |     |     |

Intersection: 49: 5th Street & Colorado Ave

| Movement              | EB  | WB  | NB  | NB  |
|-----------------------|-----|-----|-----|-----|
| Directions Served     | LT  | TR  | LT  | TR  |
| Maximum Queue (ft)    | 78  | 82  | 8   | 5   |
| Average Queue (ft)    | 39  | 37  | 0   | 0   |
| 95th Queue (ft)       | 65  | 64  | 6   | 3   |
| Link Distance (ft)    | 430 | 972 | 263 | 263 |
| Upstream Blk Time (%) |     |     |     |     |
| Queuing Penalty (veh) |     |     |     |     |
| Storage Bay Dist (ft) |     |     |     |     |
| Storage Blk Time (%)  |     |     |     |     |
| Queuing Penalty (veh) |     |     |     |     |

Intersection: 50: 4th Street & Colorado Ave

| Movement              | EB  | WB  | SB  |
|-----------------------|-----|-----|-----|
| Directions Served     | TR  | LT  | LT  |
| Maximum Queue (ft)    | 63  | 68  | 6   |
| Average Queue (ft)    | 34  | 33  | 0   |
| 95th Queue (ft)       | 56  | 53  | 5   |
| Link Distance (ft)    | 940 | 430 | 306 |
| Upstream Blk Time (%) |     |     |     |
| Queuing Penalty (veh) |     |     |     |
| Storage Bay Dist (ft) |     |     |     |
| Storage Blk Time (%)  |     |     |     |
| Queuing Penalty (veh) |     |     |     |

Queuing and Blocking Report  
Baseline

Forecast Year 2045  
One-Way Pair

Intersection: 53: 5th Street & Ute Ave

| Movement              | WB  | WB  | WB  | WB | NB  | NB  | NB  |
|-----------------------|-----|-----|-----|----|-----|-----|-----|
| Directions Served     | L   | LT  | T   | R  | L   | T   | T   |
| Maximum Queue (ft)    | 270 | 278 | 246 | 75 | 117 | 112 | 74  |
| Average Queue (ft)    | 165 | 185 | 142 | 31 | 53  | 38  | 24  |
| 95th Queue (ft)       | 238 | 258 | 231 | 80 | 103 | 80  | 60  |
| Link Distance (ft)    | 971 | 971 | 971 |    |     | 320 | 320 |
| Upstream Blk Time (%) |     |     |     |    |     |     |     |
| Queuing Penalty (veh) |     |     |     |    |     |     |     |
| Storage Bay Dist (ft) |     |     |     | 50 | 100 |     |     |
| Storage Blk Time (%)  |     |     | 20  | 0  | 2   | 0   |     |
| Queuing Penalty (veh) |     |     | 15  | 2  | 5   | 1   |     |

Intersection: 54: 4th Street & Ute Ave

| Movement              | WB  | WB  | SB  | SB  |
|-----------------------|-----|-----|-----|-----|
| Directions Served     | LT  | T   | T   | TR  |
| Maximum Queue (ft)    | 239 | 240 | 144 | 192 |
| Average Queue (ft)    | 131 | 141 | 60  | 102 |
| 95th Queue (ft)       | 211 | 222 | 117 | 162 |
| Link Distance (ft)    | 387 | 387 | 287 | 287 |
| Upstream Blk Time (%) |     |     |     |     |
| Queuing Penalty (veh) |     |     |     |     |
| Storage Bay Dist (ft) |     |     |     |     |
| Storage Blk Time (%)  |     |     |     |     |
| Queuing Penalty (veh) |     |     |     |     |

Intersection: 57: 5th Street & Pitkin Ave

| Movement              | EB  | EB  | EB  | NB  | NB  | SB | SB  | SB  |
|-----------------------|-----|-----|-----|-----|-----|----|-----|-----|
| Directions Served     | LT  | TR  | R   | T   | TR  | L  | T   | T   |
| Maximum Queue (ft)    | 381 | 386 | 360 | 299 | 244 | 70 | 294 | 287 |
| Average Queue (ft)    | 268 | 277 | 221 | 178 | 129 | 11 | 189 | 180 |
| 95th Queue (ft)       | 358 | 366 | 308 | 268 | 224 | 42 | 267 | 260 |
| Link Distance (ft)    | 378 | 378 | 378 | 513 | 513 |    | 320 | 320 |
| Upstream Blk Time (%) | 0   | 0   | 0   |     |     |    | 0   | 0   |
| Queuing Penalty (veh) | 2   | 2   | 0   |     |     |    | 0   | 0   |
| Storage Bay Dist (ft) |     |     |     |     |     | 50 |     |     |
| Storage Blk Time (%)  |     |     |     |     |     | 1  | 34  |     |
| Queuing Penalty (veh) |     |     |     |     |     | 4  | 3   |     |

Intersection: 58: 4th Street & Pitkin Ave

| Movement              | EB  | EB  | EB  | NB  | SB  | SB  |
|-----------------------|-----|-----|-----|-----|-----|-----|
| Directions Served     | T   | T   | TR  | R   | L   | LT  |
| Maximum Queue (ft)    | 315 | 338 | 272 | 42  | 46  | 75  |
| Average Queue (ft)    | 211 | 213 | 160 | 12  | 12  | 26  |
| 95th Queue (ft)       | 291 | 293 | 257 | 37  | 39  | 60  |
| Link Distance (ft)    | 943 | 943 | 943 | 490 | 323 | 323 |
| Upstream Blk Time (%) |     |     |     |     |     |     |
| Queuing Penalty (veh) |     |     |     |     |     |     |
| Storage Bay Dist (ft) |     |     |     |     |     |     |
| Storage Blk Time (%)  |     |     |     |     |     |     |
| Queuing Penalty (veh) |     |     |     |     |     |     |

Network Summary

Network wide Queuing Penalty: 144



Queuing and Blocking Report  
Baseline

2045 Two-Way  
10/20/2021

Intersection: 5: 5th Street & North Ave

| Movement              | EB  | EB  | EB  | WB  | WB  | WB  | NB  | NB  | NB  | SB | SB  | SB |
|-----------------------|-----|-----|-----|-----|-----|-----|-----|-----|-----|----|-----|----|
| Directions Served     | L   | T   | TR  | L   | T   | TR  | L   | T   | R   | L  | T   | R  |
| Maximum Queue (ft)    | 141 | 370 | 366 | 149 | 350 | 327 | 109 | 202 | 166 | 92 | 150 | 88 |
| Average Queue (ft)    | 28  | 227 | 227 | 71  | 196 | 174 | 61  | 89  | 83  | 40 | 60  | 27 |
| 95th Queue (ft)       | 96  | 344 | 345 | 146 | 311 | 285 | 114 | 161 | 140 | 80 | 118 | 65 |
| Link Distance (ft)    |     | 386 | 386 |     | 972 | 972 |     | 312 | 312 |    | 607 |    |
| Upstream Blk Time (%) |     | 0   | 0   |     |     |     |     |     |     |    |     |    |
| Queuing Penalty (veh) |     | 0   | 1   |     |     |     |     |     |     |    |     |    |
| Storage Bay Dist (ft) | 125 |     |     | 125 |     |     | 85  |     |     | 75 |     | 75 |
| Storage Blk Time (%)  |     | 21  |     | 0   | 15  |     | 3   | 9   |     | 2  | 7   | 0  |
| Queuing Penalty (veh) |     | 6   |     | 3   | 16  |     | 4   | 7   |     | 3  | 8   | 0  |

Intersection: 6: 4th Street & North Ave

| Movement              | EB  | EB  | EB  | WB  | WB  | WB  | NB  | SB  |
|-----------------------|-----|-----|-----|-----|-----|-----|-----|-----|
| Directions Served     | L   | T   | TR  | L   | T   | TR  | LTR | LTR |
| Maximum Queue (ft)    | 47  | 20  | 37  | 78  | 10  | 4   | 110 | 92  |
| Average Queue (ft)    | 14  | 1   | 2   | 36  | 0   | 0   | 51  | 34  |
| 95th Queue (ft)       | 41  | 15  | 18  | 69  | 6   | 3   | 87  | 79  |
| Link Distance (ft)    |     | 973 | 973 |     | 386 | 386 | 311 | 613 |
| Upstream Blk Time (%) |     |     |     |     |     |     |     |     |
| Queuing Penalty (veh) |     |     |     |     |     |     |     |     |
| Storage Bay Dist (ft) | 100 |     |     | 100 |     |     |     |     |
| Storage Blk Time (%)  |     | 0   |     | 0   |     |     |     |     |
| Queuing Penalty (veh) |     | 0   |     | 2   |     |     |     |     |

Intersection: 9: 5th Street & Belford Ave

| Movement              | EB  | WB  | NB  | SB  |
|-----------------------|-----|-----|-----|-----|
| Directions Served     | LTR | LTR | LTR | LTR |
| Maximum Queue (ft)    | 96  | 84  | 57  | 71  |
| Average Queue (ft)    | 44  | 37  | 6   | 7   |
| 95th Queue (ft)       | 77  | 65  | 33  | 38  |
| Link Distance (ft)    | 397 | 937 | 290 | 312 |
| Upstream Blk Time (%) |     |     |     |     |
| Queuing Penalty (veh) |     |     |     |     |
| Storage Bay Dist (ft) |     |     |     |     |
| Storage Blk Time (%)  |     |     |     |     |
| Queuing Penalty (veh) |     |     |     |     |

Intersection: 10: 4th Street & Belford Ave

| Movement              | EB  | WB  | NB  | SB  |
|-----------------------|-----|-----|-----|-----|
| Directions Served     | LTR | LTR | LTR | LTR |
| Maximum Queue (ft)    | 42  | 57  | 39  | 44  |
| Average Queue (ft)    | 22  | 30  | 3   | 5   |
| 95th Queue (ft)       | 47  | 49  | 20  | 26  |
| Link Distance (ft)    | 953 | 397 | 294 | 311 |
| Upstream Blk Time (%) |     |     |     |     |
| Queuing Penalty (veh) |     |     |     |     |
| Storage Bay Dist (ft) |     |     |     |     |
| Storage Blk Time (%)  |     |     |     |     |
| Queuing Penalty (veh) |     |     |     |     |

Intersection: 13: 5th Street & Teller Ave

| Movement              | EB  | WB  | NB  | SB  |
|-----------------------|-----|-----|-----|-----|
| Directions Served     | LTR | LTR | LTR | LTR |
| Maximum Queue (ft)    | 52  | 59  | 52  | 63  |
| Average Queue (ft)    | 24  | 29  | 5   | 7   |
| 95th Queue (ft)       | 49  | 53  | 27  | 35  |
| Link Distance (ft)    | 402 | 954 | 295 | 290 |
| Upstream Blk Time (%) |     |     |     |     |
| Queuing Penalty (veh) |     |     |     |     |
| Storage Bay Dist (ft) |     |     |     |     |
| Storage Blk Time (%)  |     |     |     |     |
| Queuing Penalty (veh) |     |     |     |     |

Intersection: 14: 4th Street & Teller Ave

| Movement              | EB  | WB  | NB  | SB  |
|-----------------------|-----|-----|-----|-----|
| Directions Served     | LTR | LTR | LTR | LTR |
| Maximum Queue (ft)    | 54  | 42  | 42  | 38  |
| Average Queue (ft)    | 25  | 25  | 3   | 3   |
| 95th Queue (ft)       | 49  | 46  | 20  | 20  |
| Link Distance (ft)    | 953 | 402 | 293 | 294 |
| Upstream Blk Time (%) |     |     |     |     |
| Queuing Penalty (veh) |     |     |     |     |
| Storage Bay Dist (ft) |     |     |     |     |
| Storage Blk Time (%)  |     |     |     |     |
| Queuing Penalty (veh) |     |     |     |     |

Intersection: 17: 5th Street & Hill Ave

| Movement              | EB  | WB  | NB  | SB  |
|-----------------------|-----|-----|-----|-----|
| Directions Served     | LTR | LTR | LTR | LTR |
| Maximum Queue (ft)    | 50  | 50  | 51  | 63  |
| Average Queue (ft)    | 25  | 25  | 5   | 6   |
| 95th Queue (ft)       | 49  | 48  | 27  | 33  |
| Link Distance (ft)    | 401 | 966 | 332 | 295 |
| Upstream Blk Time (%) |     |     |     |     |
| Queuing Penalty (veh) |     |     |     |     |
| Storage Bay Dist (ft) |     |     |     |     |
| Storage Blk Time (%)  |     |     |     |     |
| Queuing Penalty (veh) |     |     |     |     |

Intersection: 18: 4th Street & Hill Ave

| Movement              | EB  | WB  | NB  | SB  |
|-----------------------|-----|-----|-----|-----|
| Directions Served     | LTR | LTR | LTR | LTR |
| Maximum Queue (ft)    | 51  | 44  | 51  | 38  |
| Average Queue (ft)    | 23  | 25  | 3   | 4   |
| 95th Queue (ft)       | 48  | 47  | 20  | 22  |
| Link Distance (ft)    | 946 | 401 | 333 | 293 |
| Upstream Blk Time (%) |     |     |     |     |
| Queuing Penalty (veh) |     |     |     |     |
| Storage Bay Dist (ft) |     |     |     |     |
| Storage Blk Time (%)  |     |     |     |     |
| Queuing Penalty (veh) |     |     |     |     |

Intersection: 21: 5th Street & Gunnison Ave

| Movement              | EB  | WB  | NB  | SB  |
|-----------------------|-----|-----|-----|-----|
| Directions Served     | LTR | LTR | LTR | LTR |
| Maximum Queue (ft)    | 62  | 69  | 5   | 42  |
| Average Queue (ft)    | 32  | 36  | 0   | 2   |
| 95th Queue (ft)       | 55  | 60  | 4   | 18  |
| Link Distance (ft)    | 399 | 967 | 337 | 332 |
| Upstream Blk Time (%) |     |     |     |     |
| Queuing Penalty (veh) |     |     |     |     |
| Storage Bay Dist (ft) |     |     |     |     |
| Storage Blk Time (%)  |     |     |     |     |
| Queuing Penalty (veh) |     |     |     |     |

Intersection: 22: 4th Street & Gunnison Ave

| Movement              | EB  | WB  | NB  | SB  |
|-----------------------|-----|-----|-----|-----|
| Directions Served     | LTR | LTR | LTR | LTR |
| Maximum Queue (ft)    | 64  | 58  | 7   | 8   |
| Average Queue (ft)    | 32  | 32  | 0   | 0   |
| 95th Queue (ft)       | 54  | 51  | 4   | 5   |
| Link Distance (ft)    | 958 | 399 | 338 | 333 |
| Upstream Blk Time (%) |     |     |     |     |
| Queuing Penalty (veh) |     |     |     |     |
| Storage Bay Dist (ft) |     |     |     |     |
| Storage Blk Time (%)  |     |     |     |     |
| Queuing Penalty (veh) |     |     |     |     |

Intersection: 25: 5th Street & Chipeta Ave

| Movement              | EB  | WB  | NB  | SB  |
|-----------------------|-----|-----|-----|-----|
| Directions Served     | LTR | LTR | LTR | LTR |
| Maximum Queue (ft)    | 60  | 58  | 66  | 55  |
| Average Queue (ft)    | 26  | 27  | 7   | 6   |
| 95th Queue (ft)       | 52  | 52  | 39  | 32  |
| Link Distance (ft)    | 396 | 958 | 288 | 337 |
| Upstream Blk Time (%) |     |     |     |     |
| Queuing Penalty (veh) |     |     |     |     |
| Storage Bay Dist (ft) |     |     |     |     |
| Storage Blk Time (%)  |     |     |     |     |
| Queuing Penalty (veh) |     |     |     |     |

Intersection: 26: 4th Street & Chipeta Ave

| Movement              | EB  | WB  | NB  | SB  |
|-----------------------|-----|-----|-----|-----|
| Directions Served     | LTR | LTR | LTR | LTR |
| Maximum Queue (ft)    | 53  | 50  | 46  | 44  |
| Average Queue (ft)    | 27  | 24  | 3   | 4   |
| 95th Queue (ft)       | 49  | 47  | 24  | 23  |
| Link Distance (ft)    | 958 | 396 | 287 | 338 |
| Upstream Blk Time (%) |     |     |     |     |
| Queuing Penalty (veh) |     |     |     |     |
| Storage Bay Dist (ft) |     |     |     |     |
| Storage Blk Time (%)  |     |     |     |     |
| Queuing Penalty (veh) |     |     |     |     |

Intersection: 29: 5th Street & Ouray Ave

| Movement              | EB  | WB  | NB  | SB  |
|-----------------------|-----|-----|-----|-----|
| Directions Served     | LTR | LTR | LTR | LTR |
| Maximum Queue (ft)    | 57  | 56  | 55  | 53  |
| Average Queue (ft)    | 26  | 26  | 6   | 6   |
| 95th Queue (ft)       | 51  | 50  | 33  | 31  |
| Link Distance (ft)    | 384 | 959 | 314 | 288 |
| Upstream Blk Time (%) |     |     |     |     |
| Queuing Penalty (veh) |     |     |     |     |
| Storage Bay Dist (ft) |     |     |     |     |
| Storage Blk Time (%)  |     |     |     |     |
| Queuing Penalty (veh) |     |     |     |     |

Intersection: 30: 4th Street & Ouray Ave

| Movement              | EB  | WB  | NB  | SB  |
|-----------------------|-----|-----|-----|-----|
| Directions Served     | LTR | LTR | LTR | LTR |
| Maximum Queue (ft)    | 53  | 48  | 57  | 41  |
| Average Queue (ft)    | 26  | 24  | 5   | 4   |
| 95th Queue (ft)       | 48  | 48  | 30  | 22  |
| Link Distance (ft)    | 967 | 384 | 319 | 287 |
| Upstream Blk Time (%) |     |     |     |     |
| Queuing Penalty (veh) |     |     |     |     |
| Storage Bay Dist (ft) |     |     |     |     |
| Storage Blk Time (%)  |     |     |     |     |
| Queuing Penalty (veh) |     |     |     |     |

Intersection: 33: 5th Street & Grand Ave

| Movement              | EB | EB  | EB  | WB  | WB  | WB  | NB  | NB  | NB | SB  | SB  |
|-----------------------|----|-----|-----|-----|-----|-----|-----|-----|----|-----|-----|
| Directions Served     | L  | T   | TR  | L   | T   | TR  | L   | T   | R  | L   | TR  |
| Maximum Queue (ft)    | 80 | 82  | 100 | 124 | 255 | 224 | 125 | 303 | 75 | 116 | 242 |
| Average Queue (ft)    | 34 | 35  | 41  | 41  | 156 | 121 | 62  | 152 | 30 | 19  | 109 |
| 95th Queue (ft)       | 72 | 68  | 82  | 111 | 232 | 202 | 127 | 273 | 81 | 64  | 196 |
| Link Distance (ft)    |    | 393 | 393 |     | 969 | 969 |     | 300 |    |     | 314 |
| Upstream Blk Time (%) |    |     |     |     |     |     |     | 0   |    |     | 0   |
| Queuing Penalty (veh) |    |     |     |     |     |     |     | 2   |    |     | 0   |
| Storage Bay Dist (ft) | 75 |     |     | 100 |     |     | 100 |     | 50 | 100 |     |
| Storage Blk Time (%)  | 2  | 1   |     | 0   | 20  |     | 1   | 30  | 0  | 0   | 12  |
| Queuing Penalty (veh) | 5  | 1   |     | 1   | 9   |     | 3   | 45  | 1  | 0   | 2   |

NA-TWLT

Intersection: 34: 4th Street & Grand Ave

| Movement              | EB  | EB  | EB  | EB  | WB  | WB  | WB  | NB  | NB  | SB  | SB  |
|-----------------------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Directions Served     | L   | T   | T   | R   | L   | T   | TR  | L   | TR  | L   | TR  |
| Maximum Queue (ft)    | 102 | 207 | 194 | 90  | 61  | 136 | 150 | 124 | 221 | 107 | 181 |
| Average Queue (ft)    | 24  | 124 | 87  | 16  | 18  | 74  | 82  | 43  | 103 | 24  | 84  |
| 95th Queue (ft)       | 72  | 191 | 162 | 58  | 49  | 119 | 133 | 105 | 186 | 67  | 153 |
| Link Distance (ft)    |     | 968 | 968 |     |     | 393 | 393 |     | 294 |     | 319 |
| Upstream Blk Time (%) |     |     |     |     |     |     |     |     | 0   |     |     |
| Queuing Penalty (veh) |     |     |     |     |     |     |     |     | 0   |     |     |
| Storage Bay Dist (ft) | 100 |     |     | 100 | 100 |     |     | 100 |     | 100 |     |
| Storage Blk Time (%)  | 0   | 13  | 4   | 0   |     | 3   |     | 0   | 10  | 0   | 7   |
| Queuing Penalty (veh) | 0   | 4   | 1   | 0   |     | 1   |     | 0   | 6   | 0   | 2   |

NA-TWLTL

Intersection: 37: 5th Street & White Ave

| Movement              | EB  | WB  | NB  | SB  |
|-----------------------|-----|-----|-----|-----|
| Directions Served     | LTR | LTR | LTR | LTR |
| Maximum Queue (ft)    | 57  | 72  | 97  | 68  |
| Average Queue (ft)    | 25  | 33  | 15  | 7   |
| 95th Queue (ft)       | 51  | 59  | 59  | 35  |
| Link Distance (ft)    | 401 | 972 | 299 | 300 |
| Upstream Blk Time (%) |     |     |     |     |
| Queuing Penalty (veh) |     |     |     |     |
| Storage Bay Dist (ft) |     |     |     |     |
| Storage Blk Time (%)  |     |     |     |     |
| Queuing Penalty (veh) |     |     |     |     |

Intersection: 38: 4th Street & White Ave

| Movement              | EB  | WB  | NB  | SB  |
|-----------------------|-----|-----|-----|-----|
| Directions Served     | LTR | LTR | LTR | LTR |
| Maximum Queue (ft)    | 60  | 63  | 57  | 54  |
| Average Queue (ft)    | 26  | 30  | 6   | 4   |
| 95th Queue (ft)       | 55  | 55  | 33  | 27  |
| Link Distance (ft)    | 950 | 401 | 296 | 294 |
| Upstream Blk Time (%) |     |     |     |     |
| Queuing Penalty (veh) |     |     |     |     |
| Storage Bay Dist (ft) |     |     |     |     |
| Storage Blk Time (%)  |     |     |     |     |
| Queuing Penalty (veh) |     |     |     |     |

Intersection: 41: 5th Street & Rood Ave

| Movement              | EB | EB  | WB  | NB  | SB  |
|-----------------------|----|-----|-----|-----|-----|
| Directions Served     | L  | TR  | LTR | LTR | LTR |
| Maximum Queue (ft)    | 41 | 55  | 81  | 67  | 76  |
| Average Queue (ft)    | 21 | 29  | 40  | 8   | 11  |
| 95th Queue (ft)       | 46 | 49  | 66  | 38  | 45  |
| Link Distance (ft)    |    | 416 | 983 | 305 | 299 |
| Upstream Blk Time (%) |    |     |     |     |     |
| Queuing Penalty (veh) |    |     |     |     |     |
| Storage Bay Dist (ft) | 70 |     |     |     |     |
| Storage Blk Time (%)  | 0  | 0   |     |     |     |
| Queuing Penalty (veh) | 0  | 0   |     |     |     |

Intersection: 42: 4th Street & Rood Ave

| Movement              | EB   | WB | WB  | NB  | SB  |
|-----------------------|------|----|-----|-----|-----|
| Directions Served     | LTR  | L  | TR  | LTR | LTR |
| Maximum Queue (ft)    | 71   | 31 | 79  | 72  | 68  |
| Average Queue (ft)    | 38   | 11 | 39  | 7   | 7   |
| 95th Queue (ft)       | 64   | 34 | 63  | 39  | 36  |
| Link Distance (ft)    | 1018 |    | 416 | 309 | 296 |
| Upstream Blk Time (%) |      |    |     |     |     |
| Queuing Penalty (veh) |      |    |     |     |     |
| Storage Bay Dist (ft) |      | 65 |     |     |     |
| Storage Blk Time (%)  |      |    | 1   |     |     |
| Queuing Penalty (veh) |      |    | 0   |     |     |

Intersection: 45: 5th Street & Main St

| Movement              | EB  | WB  | NB  | SB  |
|-----------------------|-----|-----|-----|-----|
| Directions Served     | LTR | LTR | LTR | LTR |
| Maximum Queue (ft)    | 232 | 155 | 116 | 102 |
| Average Queue (ft)    | 120 | 75  | 37  | 42  |
| 95th Queue (ft)       | 201 | 134 | 86  | 87  |
| Link Distance (ft)    | 405 | 979 | 311 | 305 |
| Upstream Blk Time (%) |     |     |     |     |
| Queuing Penalty (veh) |     |     |     |     |
| Storage Bay Dist (ft) |     |     |     |     |
| Storage Blk Time (%)  |     |     |     |     |
| Queuing Penalty (veh) |     |     |     |     |



Intersection: 46: 4th Street & Main St

| Movement              | EB  | WB  | NB  | SB  |
|-----------------------|-----|-----|-----|-----|
| Directions Served     | LTR | LTR | LTR | LTR |
| Maximum Queue (ft)    | 157 | 172 | 134 | 113 |
| Average Queue (ft)    | 78  | 82  | 56  | 36  |
| 95th Queue (ft)       | 135 | 148 | 113 | 82  |
| Link Distance (ft)    | 912 | 405 | 306 | 309 |
| Upstream Blk Time (%) |     |     |     |     |
| Queuing Penalty (veh) |     |     |     |     |
| Storage Bay Dist (ft) |     |     |     |     |
| Storage Blk Time (%)  |     |     |     |     |
| Queuing Penalty (veh) |     |     |     |     |

Intersection: 49: 5th Street & Colorado Ave

| Movement              | EB  | WB  | NB  | SB  |
|-----------------------|-----|-----|-----|-----|
| Directions Served     | LTR | LTR | LTR | LTR |
| Maximum Queue (ft)    | 64  | 80  | 59  | 96  |
| Average Queue (ft)    | 30  | 37  | 5   | 14  |
| 95th Queue (ft)       | 55  | 65  | 33  | 55  |
| Link Distance (ft)    | 391 | 983 | 263 | 311 |
| Upstream Blk Time (%) |     |     |     |     |
| Queuing Penalty (veh) |     |     |     |     |
| Storage Bay Dist (ft) |     |     |     |     |
| Storage Blk Time (%)  |     |     |     |     |
| Queuing Penalty (veh) |     |     |     |     |

Intersection: 50: 4th Street & Colorado Ave

| Movement              | EB  | WB  | NB  | SB  |
|-----------------------|-----|-----|-----|-----|
| Directions Served     | LTR | LTR | LTR | LTR |
| Maximum Queue (ft)    | 58  | 58  | 31  | 36  |
| Average Queue (ft)    | 31  | 32  | 2   | 3   |
| 95th Queue (ft)       | 54  | 51  | 15  | 21  |
| Link Distance (ft)    | 952 | 391 | 286 | 306 |
| Upstream Blk Time (%) |     |     |     |     |
| Queuing Penalty (veh) |     |     |     |     |
| Storage Bay Dist (ft) |     |     |     |     |
| Storage Blk Time (%)  |     |     |     |     |
| Queuing Penalty (veh) |     |     |     |     |

Intersection: 53: 5th Street & Ute Ave

| Movement              | WB  | WB  | WB  | WB | NB  | NB  | NB  | SB  | SB  |
|-----------------------|-----|-----|-----|----|-----|-----|-----|-----|-----|
| Directions Served     | L   | LT  | T   | R  | L   | L   | T   | T   | R   |
| Maximum Queue (ft)    | 320 | 431 | 341 | 75 | 125 | 306 | 273 | 178 | 41  |
| Average Queue (ft)    | 210 | 253 | 210 | 28 | 90  | 149 | 102 | 82  | 8   |
| 95th Queue (ft)       | 295 | 358 | 305 | 80 | 155 | 267 | 201 | 149 | 27  |
| Link Distance (ft)    | 977 | 977 | 977 |    |     | 318 | 318 | 263 | 263 |
| Upstream Blk Time (%) |     |     |     |    |     | 1   | 0   |     |     |
| Queuing Penalty (veh) |     |     |     |    |     | 3   | 1   |     |     |
| Storage Bay Dist (ft) |     |     |     | 50 | 100 |     |     |     |     |
| Storage Blk Time (%)  |     |     | 40  | 1  | 5   | 23  |     |     |     |
| Queuing Penalty (veh) |     |     | 18  | 3  | 6   | 31  |     |     |     |

Intersection: 54: 4th Street & Ute Ave

| Movement              | WB  | WB  | NB  | SB  |
|-----------------------|-----|-----|-----|-----|
| Directions Served     | LT  | TR  | LT  | TR  |
| Maximum Queue (ft)    | 404 | 402 | 74  | 147 |
| Average Queue (ft)    | 242 | 250 | 16  | 55  |
| 95th Queue (ft)       | 475 | 476 | 53  | 119 |
| Link Distance (ft)    | 379 | 379 | 324 | 286 |
| Upstream Blk Time (%) | 7   | 8   |     |     |
| Queuing Penalty (veh) | 38  | 41  |     |     |
| Storage Bay Dist (ft) |     |     |     |     |
| Storage Blk Time (%)  |     |     |     |     |
| Queuing Penalty (veh) |     |     |     |     |

Intersection: 57: 5th Street & Pitkin Ave

| Movement              | EB  | EB  | EB  | NB  | NB  | SB | SB  | SB  |
|-----------------------|-----|-----|-----|-----|-----|----|-----|-----|
| Directions Served     | LT  | TR  | R   | T   | TR  | L  | T   | T   |
| Maximum Queue (ft)    | 329 | 351 | 319 | 428 | 452 | 61 | 332 | 332 |
| Average Queue (ft)    | 100 | 112 | 88  | 183 | 283 | 9  | 221 | 217 |
| 95th Queue (ft)       | 215 | 229 | 197 | 384 | 462 | 37 | 321 | 318 |
| Link Distance (ft)    | 385 | 385 | 385 | 441 | 441 |    | 318 | 318 |
| Upstream Blk Time (%) | 0   | 0   | 0   | 1   | 2   |    | 1   | 1   |
| Queuing Penalty (veh) | 1   | 1   | 0   | 0   | 0   |    | 2   | 2   |
| Storage Bay Dist (ft) |     |     |     |     |     | 50 |     |     |
| Storage Blk Time (%)  |     |     |     |     |     | 0  | 30  |     |
| Queuing Penalty (veh) |     |     |     |     |     | 1  | 2   |     |

---

Intersection: 58: 4th Street & Pitkin Ave

---

| Movement              | EB  | EB  | EB  | NB  | SB  |
|-----------------------|-----|-----|-----|-----|-----|
| Directions Served     | LT  | T   | TR  | TR  | LT  |
| Maximum Queue (ft)    | 336 | 339 | 293 | 52  | 170 |
| Average Queue (ft)    | 216 | 216 | 159 | 12  | 67  |
| 95th Queue (ft)       | 314 | 309 | 271 | 39  | 136 |
| Link Distance (ft)    | 948 | 948 | 948 | 442 | 324 |
| Upstream Blk Time (%) |     |     |     |     |     |
| Queuing Penalty (veh) |     |     |     |     |     |
| Storage Bay Dist (ft) |     |     |     |     |     |
| Storage Blk Time (%)  |     |     |     |     |     |
| Queuing Penalty (veh) |     |     |     |     |     |

---

Network Summary

---

Network wide Queuing Penalty: 285

---



GRAND JUNCTION

# 4<sup>TH</sup> & 5<sup>TH</sup> ST

FEASIBILITY STUDY



**Public Comments Received**

**March 2022**



# PUBLIC COMMENTS RECEIVED

## 4<sup>TH</sup> STREET

| All Comments for 4th Street                                                                                                                                                                                                                                                                                                                                                                                       |                                            |                                            |                                      |                 |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------|--------------------------------------------|--------------------------------------|-----------------|
| Comment                                                                                                                                                                                                                                                                                                                                                                                                           | Theme 1                                    | Theme 2                                    | Theme 3                              | Method          |
| Traffic moving south on 4th at the Colorado Intersection frequently stops when they have the right of way.                                                                                                                                                                                                                                                                                                        | <b>Optimize Traffic Circulation</b>        | <b>Enhance Safety</b>                      |                                      | Interactive Map |
| Also and sort of related, I like the quirky fun jog in the road you have to make when accessing 4th street heading south from North Ave. Its always a nice drive or bike thru this neighborhood on the one ways.                                                                                                                                                                                                  | <b>Improve Walkability and Bikeability</b> | <b>Optimize Traffic Circulation</b>        | <b>Other</b>                         | Interactive Map |
| My only issue is the intersection of 4th and Pitkin: Can't the city put up a sign or two telling people that it is PERMISSIBLE to make a left turn on red from 4th to Pitkin...And from BOTH LANES!!!<br><br>I have seen too many drivers who will sit there for the full cycle of the light when there is nobody coming on Pitkin. Then when I give a courtesy beep, they usually give the single finger salute. | <b>Optimize Traffic Circulation</b>        |                                            |                                      | Email           |
| It would be easier and cheaper to just re-route 4th St through the park and connect it straight into Hwy50.                                                                                                                                                                                                                                                                                                       | <b>Optimize Traffic Circulation</b>        | <b>Other</b>                               |                                      | Interactive Map |
| I am in favor of converting 4th Street to two way traffic on the condition that on-street parking on 4th St. is eliminated from North Ave. to at least Grand Ave. and bike lanes are added to each direction.<br><br>With continued on-street parking and two way traffic this could turn out to be one of the most dangerous streets in the city for bicyclists and pedestrians.                                 | <b>Other</b>                               | <b>Improve Walkability and Bikeability</b> | <b>Activate Economic Development</b> | Interactive Map |
| We have had two of our cars hit by traffic when parked on 4th with one being totaled. We stopped parking there                                                                                                                                                                                                                                                                                                    | <b>Enhance Safety</b>                      | <b>Activate Economic Development</b>       |                                      | Email           |
| Drivers and Bicyclists are only hesitating or totally ignoring the stop signs on the corner of 4th and Ouray                                                                                                                                                                                                                                                                                                      | <b>Improve Walkability and Bikeability</b> | <b>Optimize Traffic Circulation</b>        |                                      | Email           |
| The church has a food pick up in their back parking lot on the second Monday of the month. The crazy actions of drivers during that time has been worrisome                                                                                                                                                                                                                                                       | <b>Enhance Safety</b>                      |                                            |                                      | Email           |

| All Comments for 4th Street                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |                       |                                            |         |                 |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------|--------------------------------------------|---------|-----------------|
| Comment                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | Theme 1               | Theme 2                                    | Theme 3 | Method          |
| Once a day we witness a vehicle going the wrong way on 4th from Ute or the alley in between Colorado and Ute heading heading North                                                                                                                                                                                                                                                                                                                                                                                                | <b>Enhance Safety</b> |                                            |         | Interactive Map |
| At least once every other week the speed of traffic heading south on 4th causes an accident at ute and 4th.<br><br>With the volume of traffic on 4th and construction dump trucks speeding toward the dump it is dangerous for pedestrians.<br><br>It is difficult to pull out of parking spots between Colorado and Ute because of the speed of cars heading south on 4th.<br><br>There is a DAYCARE in between Colorado and Ute off 4th in which parents are dropping off kids throughout the day off 4th with cars speeding by | <b>Enhance Safety</b> | <b>Improve Walkability and Bikeability</b> |         | Interactive Map |
| I will welcome any improvement to wrong way drivers along 4th Street.                                                                                                                                                                                                                                                                                                                                                                                                                                                             | <b>Enhance Safety</b> |                                            |         | Interactive Map |
| I would like to see a pedestrian crosswalk here (4th & Colorado) similar to the ones on 12th Street by the college.<br>It needs to be "Flashing" signal indicating that a pedestrian has the right of way and cars must stop to allow a safe crossing.                                                                                                                                                                                                                                                                            | <b>Enhance Safety</b> | <b>Improve Walkability and Bikeability</b> |         | Interactive Map |
| Slowing the traffic as it turns left off of Bedford onto 4th Street is very important. I live on the corner of 4th and Teller Ave. Drivers speed through that corner like it is a raceway, making it difficult to turn onto 4th Street from Teller Ave or from the alley. I can't see around corners, can you?                                                                                                                                                                                                                    | <b>Enhance Safety</b> |                                            |         | Email           |





| All Comments for 4th Street                                                                                                                                                                                                                                                                                                                                                                |                                     |                                     |         |                            |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------|-------------------------------------|---------|----------------------------|
| Comment                                                                                                                                                                                                                                                                                                                                                                                    | Theme 1                             | Theme 2                             | Theme 3 | Method                     |
| Please do not put a traffic light at Bedford and 4th. Add a 4 way stop, or some speed bumps. Enforce the speed limit. The speed limit should be quite slow on Belford and all the way to Hall on 4th Street, say 15-20 mph. Keep in mind this is a residential area, and traffic lights and 4 way stops will increase noise by requiring full stops, followed by a rush of backed up cars. | Enhance Safety                      | Optimize Traffic Circulation        |         | Email                      |
| 4th & Belford Ave - people don't drive the right way here                                                                                                                                                                                                                                                                                                                                  | Enhance Safety                      |                                     |         | Public Open House (5/4/21) |
| Need arrows for the direction of lanes                                                                                                                                                                                                                                                                                                                                                     | Enhance Safety                      |                                     |         | Public Open House (5/4/21) |
| Have more times motorists stop                                                                                                                                                                                                                                                                                                                                                             | Enhance Safety                      |                                     |         | Public Open House (5/4/21) |
| Posted speed limit on road                                                                                                                                                                                                                                                                                                                                                                 | Enhance Safety                      |                                     |         | Public Open House (5/4/21) |
| Post more speed limit signs                                                                                                                                                                                                                                                                                                                                                                | Enhance Safety                      |                                     |         | Public Open House (5/4/21) |
| 4th & Grand Ave - very unfriendly to cross                                                                                                                                                                                                                                                                                                                                                 | Enhance Safety                      | Improve Walkability and Bikeability |         | Public Open House (5/4/21) |
| 4th & Grand Ave - ped signal is not actuated by pedestrian                                                                                                                                                                                                                                                                                                                                 | Improve Walkability and Bikeability |                                     |         | Public Open House (5/4/21) |
| 4th & Ute - driver confusion getting to Hwy 50                                                                                                                                                                                                                                                                                                                                             | Optimize Traffic Circulation        | Enhance Safety                      |         | Public Open House (5/4/21) |
| 4th & Pitkin - how would 4th St transition onto Pitkin?                                                                                                                                                                                                                                                                                                                                    | Optimize Traffic Circulation        |                                     |         | Public Open House (5/4/21) |
| Add buffered bike lanes                                                                                                                                                                                                                                                                                                                                                                    | Improve Walkability and Bikeability |                                     |         | Public Open House (5/4/21) |
| 4th & Teller Ave - School District admin building; community visits at times                                                                                                                                                                                                                                                                                                               | Other                               |                                     |         | Public Open House (5/4/21) |
| 4th & Hill - slower speeds may encourage more park use, add to enjoyment                                                                                                                                                                                                                                                                                                                   | Enhance Safety                      |                                     |         | Public Open House (5/4/21) |



| All Comments for 4th Street                                                                                                                                                                                                                                                                                                                                                     |                                            |                                            |         |                            |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------|--------------------------------------------|---------|----------------------------|
| Comment                                                                                                                                                                                                                                                                                                                                                                         | Theme 1                                    | Theme 2                                    | Theme 3 | Method                     |
| Add stop lights on 4th St between North Ave & Grand                                                                                                                                                                                                                                                                                                                             | <b>Optimize Traffic Circulation</b>        |                                            |         | Public Open House (5/4/21) |
| 4th & Gunnison - school access; flashing lights and raised crossings                                                                                                                                                                                                                                                                                                            | <b>Improve Walkability and Bikeability</b> | <b>Enhance Safety</b>                      |         | Public Open House (5/4/21) |
| 4th & Pitkin - traffic accidents                                                                                                                                                                                                                                                                                                                                                | <b>Enhance Safety</b>                      |                                            |         | Public Open House (5/4/21) |
| Between Grand and Pitkin, create a more park-like setting, like Main Street, where traffic is slowed and cars and bikes share the road. Between Grand and North, prioritize buffered bike lanes over on-street parking. Use planters to separate bike lanes from traffic and to make the street more attractive.                                                                | <b>Enhance Safety</b>                      | <b>Improve Walkability and Bikeability</b> |         | Survey #1 (5/11/21)        |
| In my time living and operating businesses in Grand Junction, have yet to observe enforcement of the speed limit and to prevent reckless driving.                                                                                                                                                                                                                               | <b>Enhance Safety</b>                      |                                            |         | Survey #1 (5/11/21)        |
| If the two way plan does not go through, then more One Way signs are needed. I live and work in that corridor and see vehicles going the wrong direction regularly.                                                                                                                                                                                                             | <b>Enhance Safety</b>                      | <b>Optimize Traffic Circulation</b>        |         | Survey #1 (5/11/21)        |
| This isn't a pedestrian or bicycle friendly area.                                                                                                                                                                                                                                                                                                                               | <b>Improve Walkability and Bikeability</b> |                                            |         | Survey #1 (5/11/21)        |
| 5th Street is the preferred bicycle route due to the signalized intersection at North Ave. If 5th Street is created as a bicycle corridor, then 4th Street would not be important in this regard and priorities other than bikeability can take precedence. If, though, 5th Street is not designed to prioritize bicycling, then 4th Street will be important for this purpose. | <b>Improve Walkability and Bikeability</b> |                                            |         | Survey #1 (5/11/21)        |
| Upper and lower 4th Street are like two entirely different environments. They need to be considered independently. Any area near Whitman park needs to be a serious consideration for safety and code enforcement. The only County Museum is near by with inadequate entrances and exits and parking.                                                                           | <b>Enhance Safety</b>                      |                                            |         | Survey #1 (5/11/21)        |





| All Comments for 4th Street                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |                                     |                       |                                            |                     |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------|-----------------------|--------------------------------------------|---------------------|
| Comment                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | Theme 1                             | Theme 2               | Theme 3                                    | Method              |
| I believe more stop signs/stop lights need to be added to the 4th Street corridor to slow the flow of traffic. My employer is on 4th Street and I have seen at least 10-20 accidents every year on the corners of 4th and Main, 4th and Colorado, and 4th and Ute. Additionally, the lights need to be re-programmed on 4th street so as to avoid them all lining up to be green at the same time. The lights are currently timed such that they are green from Grand until Ute at the same time. This causes vehicles to drive much faster than the speed limit, causing accidents. There need to be more/better pedestrian crossings on 4th Street, the implementation of the push light crossings used on 12th Street would greatly improve the walking traffic in the downtown area. | <b>Optimize Traffic Circulation</b> | <b>Enhance Safety</b> | <b>Improve Walkability and Bikeability</b> | Survey #1 (5/11/21) |
| I think if 5th street is two way, traffic will increase on 5th and decrease on 4th.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | <b>Other</b>                        |                       |                                            | Survey #1 (5/11/21) |
| Help the downtowners keep their streets free from traffic heading to and from downtown to prevent more noise and more vehicle and motor cycle activity. Please funnel keep 4th and 5th one way. Beef up 1st, 7th and 12th for easy access to and from downtown.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | <b>Other</b>                        |                       |                                            | Survey #1 (5/11/21) |
| Do not change the current one way corridors to two way corridors. Grand Junctionites as well as visitors from Moab, Montrose, Delta, Rifle, Glenwood, Aspen etc are used to the one way corridors. Dont change something that isnt broken.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | <b>Other</b>                        |                       |                                            | Survey #1 (5/11/21) |
| I think that the current one way streets work well to increase safety and traffic flow. To make the streets two way would negatively impact safety when backing out of parking spaces.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | <b>Enhance Safety</b>               |                       |                                            | Survey #1 (5/11/21) |
| It is 100% normal for metropolitan cities to have one way roads, how many tens of thousands of dollars have you wasted pondering such an asinine solution to your problem?                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | <b>Other</b>                        |                       |                                            | Survey #1 (5/11/21) |

| All Comments for 4th Street                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |                                     |              |         |                     |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------|--------------|---------|---------------------|
| Comment                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | Theme 1                             | Theme 2      | Theme 3 | Method              |
| Overall, traffic over time is going to get worse. Grand Junction is embracing ADU's (Additional Dwelling Units) on properties in the downtown area. More people = more traffic. I am in favor of one way corridors, although you can come up with ways to slow the speeds. 2 way streets on 4th & 5th will constrict traffic and we may be sorry in the long run                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | <b>Enhance Safety</b>               |              |         | Survey #1 (5/11/21) |
| traffic control onto the streets that feed or exit 4th in neighborhood                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | <b>Optimize Traffic Circulation</b> |              |         | Survey #1 (5/11/21) |
| Please be as creative as possible with the plans and changes--ie look at other progressive cities and what they have done.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | <b>Other</b>                        |              |         | Survey #1 (5/11/21) |
| Just make it easier                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | <b>Other</b>                        |              |         | Survey #1 (5/11/21) |
| I would like to see a number of accidents, type and severity that have happened on these two streets for the past 2 decades!                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | <b>Enhance Safety</b>               |              |         | Survey #1 (5/11/21) |
| This proposal does not enhance safety. The primary traffic in the downtown area is along Main Street where pedestrians walk and always will be. It is MUCH easier to walk across 4th and 5th streets if they are one way. If you make 4th and 5th two-way streets, pedestrians will have to look both ways to cross them. How does that make anyone safer? Also, with one-way streets, you don't have to wait for the stoplights to turn green to cross them. Once the traffic passes one way, it's then easy and safe to cross even on a red light. With two-way traffic, most pedestrians will have to wait for the stoplight to turn green before they walk and this does not help the pedestrian walking flow. This is one of those proposals where you just kind of wonder "Why fix what ain't broken??" In fact, you should consider making 3rd and 6th one-way streets instead as your proposal. This is what most functioning downtowns do with their streets to increase traffic and pedestrian flow. | <b>Enhance Safety</b>               | <b>Other</b> |         | Survey #1 (5/11/21) |





| All Comments for 4th Street                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |                                     |                                            |              |                     |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------|--------------------------------------------|--------------|---------------------|
| Comment                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | Theme 1                             | Theme 2                                    | Theme 3      | Method              |
| This should be left as a one way road; better signage will help with drivers going the wrong way. The one way roads allow for better traffic flow, it is only a block apart so there isn't an issue getting off and going to the other road when driving. To make Downtown safer and more pedestrian friendly look at slowing traffic sooner, before the 5th St. bridge; patrol the area and issue citations; Make crosswalks safer and wider, flashing lights (ea-CMU). As Grand Junction grows consider bridged walkways going over the traffic with plants and flowers to enhance the appearance. | <b>Optimize Traffic Circulation</b> | <b>Improve Walkability and Bikeability</b> | <b>Other</b> | Survey #1 (5/11/21) |
| I know a few people who have accidentally drove up the one ways, the wrong way before. Making them 2 ways would eliminate the extreme safety concern of accidentally going the wrong way on a one way street. More street lighting is definitely a must as well. Walking around these area's at night feels dangerous if your not wearing bright reflectively gear, like a flagger. And not everyone has the ability to be all lit up while walking around. Safer crosswalks. And more of them would just be great over all.                                                                         | <b>Enhance Safety</b>               | <b>Improve Walkability and Bikeability</b> |              | Survey #1 (5/11/21) |
| All for it! Thank you                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | <b>Other</b>                        |                                            |              | Survey #1 (5/11/21) |
| the double turn lane from 4th to pitkin is awful. People constantly turn into the wrong lane and almost hit those of us that turn into the proper lane.                                                                                                                                                                                                                                                                                                                                                                                                                                              | <b>Enhance Safety</b>               |                                            |              | Survey #1 (5/11/21) |

# PUBLIC COMMENTS RECEIVED

## 5<sup>TH</sup> STREET



| All Comments for 5th Street                                                                                                                                                                                                                                                       |                                     |                                     |                               |                        |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------|-------------------------------------|-------------------------------|------------------------|
| Comment                                                                                                                                                                                                                                                                           | Theme 1                             | Theme 2                             | Theme 3                       | Method                 |
| It will certainly make crossing 5th street at Colorado or Main much safer as it will reduce the raceway speeds of northbound traffic. And it will aid parking on 5th and hopefully make backing out of the angled parking safer.                                                  | Enhance Safety                      | Activate Economic Development       |                               | Email                  |
| The speed of traffic moving north on 5th street here is dangerous. I've seen cars going past Roasted and Tacoparty at easily 50 mph.                                                                                                                                              | Enhance Safety                      |                                     |                               | Online Interactive Map |
| Reduce the crossing distance on 5th and Colorado. Possibly incorporate more art or landscaping                                                                                                                                                                                    | Enhance Safety                      | Improve Walkability and Bikeability | Activate Economic Development | Online Interactive Map |
| Add a designated bike lane on 5th street                                                                                                                                                                                                                                          | Improve Walkability and Bikeability |                                     |                               | Online Interactive Map |
| Changing 5th street to 2 way traffic will just make this a cut thru for heavy traffic between North Ave and 5th street bridge/ 50. It will destroy the quality of life in downtown neighborhoods and parks along 5th street. Its a horrible idea to make 5th street a 2 way road. | Optimize Traffic Circulation        | Encourage Neighborhood Connectivity | Other                         | Online Interactive Map |
| Same with turning right from Pitkin to 5th St/Highway 50 South: A lot of people don't watch the light with the green right arrow and only look at the overhead lights. Some simple signage could go a long way to educate the illiterate drivers.                                 | Enhance Safety                      | Optimize Traffic Circulation        |                               | Email                  |
| I've seen many car accidents here. Two way slower traffic would be welcome. Also better access to the library.                                                                                                                                                                    | Enhance Safety                      |                                     |                               | Online Interactive Map |
| Add a designated bike lane on 5th street.                                                                                                                                                                                                                                         | Improve Walkability and Bikeability |                                     |                               | Online Interactive Map |
| Eliminating the one-way streets on 4th and 5th will just mean everyone takes 5th. Traffic in the area is already congested enough. Grand Junction is already having growing pains. Don't make the traffic problems worse.                                                         | Optimize Traffic Circulation        |                                     |                               | Online Interactive Map |





| All Comments for 5th Street                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |                                      |                                            |         |                        |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------|--------------------------------------------|---------|------------------------|
| Comment                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | Theme 1                              | Theme 2                                    | Theme 3 | Method                 |
| <p>I am in favor of converting 5th Street to two way traffic on the condition that on-street parking on is eliminated from North Ave. to at least Grand Ave. and bike lanes are added to each direction.</p> <p>There also needs to be a dedicated through going bike lane to the left of the right turn lane and to the right of the through going travel lane at both Grand Avenue and North Avenue along with dashed lines in the bike/car conflict zone.</p>                                                                                                                                                                                                                                                                                                                            | <b>Activate Economic Development</b> | <b>Improve Walkability and Bikeability</b> |         | Online Interactive Map |
| I personally like the one-way streets. But my comment is focused on the bike lane on fifth Street as you approach North Ave. The bike lane abruptly ends. If you're redoing these streets with bike lanes please continue the bike lanes into the intersections...Bike lanes that abruptly end into a narrow vehicle lane with no warning to motorists or bikers are dangerous.                                                                                                                                                                                                                                                                                                                                                                                                             | <b>Other</b>                         | <b>Improve Walkability and Bikeability</b> |         | Online Interactive Map |
| We own a business in this block (5th between Rood and Main) and access to future from the alley is very dangerous. Making it a two way would lessen the danger associated with making a blind right turn onto 5th. Other allies in the area have similar issues.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | <b>Enhance Safety</b>                |                                            |         | Online Interactive Map |
| <p>During the day at the intersection of 5th and main, at any average red light there are 2-3 cars in both lanes waiting on the light. My concern is that if 5th is turned into a 2 way street is that traffic during busy hours will be backed up twice as far, with the possibility of being backed up to colorado and causing a host of other traffic problems.</p> <p>5th street is a major ingress to the city as it is fed by hwy 50.</p> <p>If you are absolutely determined to proceed with this plan, perhaps a 3 lane situation would be best. Two lanes going north and one going south. This would keep all traffic problem at a minimum and still give you the 2 way access you seem to desire. This would also keep people from avoiding downtown due to traffic problems</p> | <b>Enhance Safety</b>                | <b>Optimize Traffic Circulation</b>        |         | Email                  |



| All Comments for 5th Street                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |                                     |                                     |                                     |                 |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------|-------------------------------------|-------------------------------------|-----------------|
| Comment                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | Theme 1                             | Theme 2                             | Theme 3                             | Method          |
| I can see traffic heading north on 5th St from the 5th St. bridge. As they come down the north side of the bridge vehicles, if they hit the traffic light at Pitkin on a green light, really start picking up speed so that they can make it through the signal light at Ute, Pitkin, Main, Rood and beyond. All of these lights are "timed" and regular traffic people know this. Speeding on 5th is a big problem. I've seen large commercial trucks going through 5th and Main at a higher, than I believe, at a high rate of speed putting pedestrians at risk. | Enhance Safety                      | Improve Walkability and Bikeability |                                     | Email           |
| I've seen many times where vehicles in the right lane of travel on 5th St. turn across in front on vehicles in the left lane to turn west on Main St. Close accidents.                                                                                                                                                                                                                                                                                                                                                                                              | Enhance Safety                      |                                     |                                     | Email           |
| Vehicles that are going eastbound on Main and turning right onto 5th St. have a blind corner and cannot see pedestrians crossing on the north side crosswalk. That crosswalk concerns me as people crossing do not see traffic coming.                                                                                                                                                                                                                                                                                                                              | Enhance Safety                      | Improve Walkability and Bikeability |                                     | Email           |
| Now, further up 5th St, I have seen so many vehicles that are eastbound on Rood make a wrong turn and turn south onto 5th St in the wrong direction. I have on many occasions to go out and do traffic control to stop traffic for safety reasons so there would not be a accident. I've even see police officers dealing with wrong way drivers.                                                                                                                                                                                                                   | Enhance Safety                      | Optimize Traffic Circulation        |                                     | Email           |
| 5th St is a very unsafe way of travel for vehicle traffic. I feel that ONLY delivery vehicles to local business's should be allowed on that street. Other commercial vehicles should be rerouted for the safety of pedestrians. 5th and Main should be evaluated for the safety of all.                                                                                                                                                                                                                                                                             | Enhance Safety                      | Optimize Traffic Circulation        | Improve Walkability and Bikeability | Email           |
| I urge the city to make 5th St a two way street and and to make it safer for our out of town visitors as well as the locals who spend so much time enjoying our beautiful downtown.                                                                                                                                                                                                                                                                                                                                                                                 | Enhance Safety                      | Other                               |                                     | Email           |
| 5th street makes a great through cycling street to get from downtown across Grand and up to the gold route on Orchard ave, and is a better road to cross North Ave Future design could enable this to be more heavily used connection into downtown.                                                                                                                                                                                                                                                                                                                | Improve Walkability and Bikeability |                                     |                                     | Interactive Map |



| All Comments for 5th Street                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |                                            |                                            |         |                 |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------|--------------------------------------------|---------|-----------------|
| Comment                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | Theme 1                                    | Theme 2                                    | Theme 3 | Method          |
| While one ways always have the possibility of someone going the wrong way, this intersection (where people are leaving the library on 5th between Grand and Ouray) is particularly dangerous. Over the years, I have seen at least five people turn the wrong way on the one-way (maybe because they are thinking about their books and are less familiar with the neighborhood and naturally head towards the throughway Grand).                                                           | <b>Enhance Safety</b>                      | <b>Optimize Traffic Circulation</b>        |         | Interactive Map |
| Making 5th two way would increase traffic on it substantially unless significant traffic calming efforts were made (why would drivers jog over to 4th unless forced to?). And if traffic calming efforts prevented that, traffic would be diverted to 7th and 1st. Heavier traffic on 7th would impact the residential areas between Pitkin and North. Heavier traffic on 1st would have a (lesser but still significant) effect to on the residential neighborhoods north of Orchard.      | <b>Optimize Traffic Circulation</b>        | <b>Other</b>                               |         | Interactive Map |
| If 5th becomes two way, will north and south bike lanes be installed on 5th from Colorado to North Ave?                                                                                                                                                                                                                                                                                                                                                                                     | <b>Improve Walkability and Bikeability</b> |                                            |         | Interactive Map |
| 5th street seems to be the preferred route for people heading north to get to 7th street. This can work in this manner, but driver behavior should be modified via traffic calming. This pattern likely helps reduce traffic on 7th from Main to North Ave, so I am in favor of maintaining the current pattern as it reduces 7th through the downtown section                                                                                                                              | <b>Enhance Safety</b>                      |                                            |         | Interactive Map |
| I visit this park often but crossing 5th street as a pedestrian is often challenging. I think this would only become more difficult as a two way street. Whether the streets are kept one way or changed to two way, I think this would be a good area for speed bumps (such as on 1st street between Orchard and Patterson) and crosswalks that feature a median and/or crossing lights. People drive way too fast here, especially considering the number of pedestrians using this park. | <b>Enhance Safety</b>                      | <b>Improve Walkability and Bikeability</b> |         | Interactive Map |





| All Comments for 5th Street                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |                                            |                                            |                                      |                 |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------|--------------------------------------------|--------------------------------------|-----------------|
| Comment                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | Theme 1                                    | Theme 2                                    | Theme 3                              | Method          |
| 5th & US Hwy 6 - Adding well marked, effective, and safe cycling facilities along this north/south route would provide a much needed connection. This would serve many including the high school and St Mary's Hospital from the downtown neighborhoods as well as provide safe and effective access to downtown. Given the terrible bike safety at 5th and North and no way for cyclists to trigger the light, myself and many others choose to cross at 6th and North. Improvements at this area would be much appreciated!                    | <b>Improve Walkability and Bikeability</b> | <b>Enhance Safety</b>                      |                                      | Interactive Map |
| 5th & US Hwy 6 -this is a scary place to have young kids. drivers are moving fast and not aware of children going to this awesome park. would greatly appreciate 2 way, slowing, and crosswalks!                                                                                                                                                                                                                                                                                                                                                 | <b>Enhance Safety</b>                      | <b>Improve Walkability and Bikeability</b> |                                      | Interactive Map |
| 5th & Colorado - This is a very important intersection for ped safety, may new developments have activated this area (bars, coffee shop, restaurants). It's becoming a focal point of downtown. Traffic from highway 50 needs to transition to a downtown context far in advance of reaching this intersection.                                                                                                                                                                                                                                  | <b>Improve Walkability and Bikeability</b> | <b>Enhance Safety</b>                      | <b>Activate Economic Development</b> | Interactive Map |
| 5th between US Hwy 6 & Belford - This is a really bad place for cyclists, especially going straight north to the high school. The bike lane just ends and then the street swerves, so you have to either clog up the right turn lane (which is heavily used by cars turning east onto North Ave) or cross over to the lane going straight well before the intersection. Every time I get to this location on a bike I pray to God that there aren't any cars behind me.                                                                          | <b>Improve Walkability and Bikeability</b> | <b>Enhance Safety</b>                      |                                      | Interactive Map |
| We are directly affected by everything that happens on 5th street. There are no houses on the other side of the street from us, so, we see it all, the good, the bad, and the strange. At least once a day we see someone driving the wrong way on the one way. We have all, almost been run down by drivers doing 60mph in a 25. We all get the, bars closed, diesel pickup drag racing, wake up call at 2 am. We are the intersection where everyone hits the gas before Gunison Ave. If it's not going to be a one way, maybe we can put in a | <b>Enhance Safety</b>                      | <b>Optimize Traffic Circulation</b>        |                                      | Email           |



| All Comments for 5th Street                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |                                     |                                            |                                            |                 |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------|--------------------------------------------|--------------------------------------------|-----------------|
| Comment                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | Theme 1                             | Theme 2                                    | Theme 3                                    | Method          |
| cross walk and stop sign at Gunison so our kids can get across to the park?                                                                                                                                                                                                                                                                                                                                                                                                                                        |                                     |                                            |                                            |                 |
| Why worry about the speed coming in to the new 2 lane 5th street . You can slow the 45 mph from Unaweeep to 40 mph--to the 35 mph on 5th.Drivers are used to coming into 5th street at top speed of 45mph, which is too fast anyway.                                                                                                                                                                                                                                                                               | <b>Enhance Safety</b>               |                                            |                                            | Email           |
| I am in favor of anything that will slow traffic on 5th St between Grand St and North St. There presently are no stop signs or traffic lights on this stretch and traffic in regularly is 10-15 MPH over the 30 MPH speed limit. This poses serious safety issues on the corridor, which is frequented by students walking to GJHS, pedestrians using Hawthorne Park, and cyclists. Possibilities to calm traffic may be adding stop signs or small roundabouts, speed bumps, 2-way traffic, or a small boulevard. | <b>Enhance Safety</b>               | <b>Optimize Traffic Circulation</b>        | <b>Improve Walkability and Bikeability</b> | Interactive Map |
| Traffic shouldn't be slowed down as it already flows very poorly on 5th street. The speed limit is already ridiculously low at 35 mph. History has shown any changes the city of Grand Junction makes to streets always impact them negatively. Past examples include the back in parking debacle on 7th street and the horrible round-a-bout that doesn't meet D.O.T. standards at 7th and main.                                                                                                                  | <b>Optimize Traffic Circulation</b> | <b>Other</b>                               |                                            | Interactive Map |
| 5th & Gunnison is a busy intersection and may be an opportunity to add some sort of traffic control that would both slow traffic between Grand and North and improve pedestrian access to Hawthorn Park.                                                                                                                                                                                                                                                                                                           | <b>Optimize Traffic Circulation</b> | <b>Improve Walkability and Bikeability</b> |                                            | Interactive Map |



| All Comments for 5th Street                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |                                            |                                            |         |                            |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------|--------------------------------------------|---------|----------------------------|
| Comment                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | Theme 1                                    | Theme 2                                    | Theme 3 | Method                     |
| There are 2 stop lights from 50 going north on 5th before the coffee shop. Seems if you want slower traffic the GJPD needs to enforce the speed limit.<br>Two way traffic is more dangerous than one way. This will create dozens of left turn into oncoming traffic hazards in the downtown area unless a dozen roundabouts are installed. I dont see that as a good option for the amount of N&SB traffic in the area. I also dont think theres enough room for them in most intersections.                    | <b>Enhance Safety</b>                      |                                            |         | Interactive Map            |
| I commute along 4th and 5th street every day via bicycle. The bike lane along 5th street is regularly filled with debris and there is a dangerous point near 5th and Belford when the bike lane ends and the road constricts. It feels unsafe to merge back into traffic traveling at 35-40mph.                                                                                                                                                                                                                  | <b>Improve Walkability and Bikeability</b> | <b>Enhance Safety</b>                      |         | Interactive Map            |
| Cars move very fast up 5th and rarely stop for pedestrians at the crosswalk. It's also extremely hard to drive across the intersection on 5th and Colorado since the street parking obscures the view of incoming traffic. Adding two way traffic seems like it would add even more hazards than the ones already present. The light at 5th and main also gets very congested even with the two lanes. This would back up traffic past Colorado ave, which would then block pedestrians and cars trying to cross | <b>Enhance Safety</b>                      | <b>Optimize Traffic Circulation</b>        |         | Interactive Map            |
| This intersection (5th & Gunnison) is a busy mix of fast traffic, bikes and pedestrians. It would be useful to have a light-up pedestrian walkway here and on 4th for access to the park                                                                                                                                                                                                                                                                                                                         | <b>Enhance Safety</b>                      | <b>Improve Walkability and Bikeability</b> |         | Interactive Map            |
| Cars are moving too fast through this area (5th & Colorado) and we need speed reduction strategies here. I've also seen many cars going the wrong way on the one-way street.                                                                                                                                                                                                                                                                                                                                     | <b>Enhance Safety</b>                      | <b>Optimize Traffic Circulation</b>        |         | Interactive Map            |
| 5th & North Ave - trucks race and screech to stop                                                                                                                                                                                                                                                                                                                                                                                                                                                                | <b>Enhance Safety</b>                      |                                            |         | Public Open House (5/4/21) |
| 5th & Belford Ave - difficult for bikes to go east                                                                                                                                                                                                                                                                                                                                                                                                                                                               | <b>Improve Walkability and Bikeability</b> |                                            |         | Public Open House (5/4/21) |

| All Comments for 5th Street                                                                                                                        |                                     |                                     |         |                            |
|----------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------|-------------------------------------|---------|----------------------------|
| Comment                                                                                                                                            | Theme 1                             | Theme 2                             | Theme 3 | Method                     |
| 5th & Belford Ave - people go through the parking lot at the corner to by pass the intersection; this should be fixed even if nothing else happens | Enhance Safety                      |                                     |         | Public Open House (5/4/21) |
| Keep bike lanes                                                                                                                                    | Improve Walkability and Bikeability |                                     |         | Public Open House (5/4/21) |
| 5th & Gunnison Ave - school crossing at this intersection?                                                                                         | Enhance Safety                      |                                     |         | Public Open House (5/4/21) |
| Hill & Gunnison Ave near and along 5th - lot's of pedestrians crossing                                                                             | Improve Walkability and Bikeability | Improve Walkability and Bikeability |         | Public Open House (5/4/21) |
| 5th & Gunnison Ave - high accident location; people don't stop                                                                                     | Enhance Safety                      |                                     |         | Public Open House (5/4/21) |
| 5th & Gunnison Ave - add a stop light                                                                                                              | Enhance Safety                      |                                     |         | Public Open House (5/4/21) |
| 5th & Gunnison Ave - uncontrolled marked crosswalk                                                                                                 | Enhance Safety                      | Improve Walkability and Bikeability |         | Public Open House (5/4/21) |
| 5th & Grand Ave - very pedestrian unfriendly                                                                                                       | Improve Walkability and Bikeability |                                     |         | Public Open House (5/4/21) |
| Enforce the speed limits                                                                                                                           | Enhance Safety                      |                                     |         | Public Open House (5/4/21) |
| Prioritize the mobility of people                                                                                                                  | Improve Walkability and Bikeability |                                     |         | Public Open House (5/4/21) |
| 5th & Rood Ave - enforce the speed limits                                                                                                          | Enhance Safety                      |                                     |         | Public Open House (5/4/21) |
| Bike safety                                                                                                                                        | Improve Walkability and Bikeability |                                     |         | Public Open House (5/4/21) |
| 5th & Main - better signage                                                                                                                        | Other                               |                                     |         | Public Open House (5/4/21) |
| 5th & Main - artwork on corners of Main St block views; artwork is great! But not on the corners. Trees also block views.                          | Enhance Safety                      | Activate Economic Development       |         | Public Open House (5/4/21) |





| All Comments for 5th Street                                                     |                                            |                                     |         |                            |
|---------------------------------------------------------------------------------|--------------------------------------------|-------------------------------------|---------|----------------------------|
| Comment                                                                         | Theme 1                                    | Theme 2                             | Theme 3 | Method                     |
| 5th & Colorado - lot's of pedestrian activity here                              | <b>Improve Walkability and Bikeability</b> | <b>Enhance Safety</b>               |         | Public Open House (5/4/21) |
| 5th between Colorado & Ute - diagonal parking doesn't work any longer           | <b>Activate Economic Development</b>       |                                     |         | Public Open House (5/4/21) |
| High speeds coming off the 5th St bridge                                        | <b>Enhance Safety</b>                      |                                     |         | Public Open House (5/4/21) |
| More posted speed limit signs                                                   | <b>Enhance Safety</b>                      |                                     |         | Public Open House (5/4/21) |
| Main highway moves traffic north on 5th; where would this way begin?            | <b>Optimize Traffic Circulation</b>        |                                     |         | Public Open House (5/4/21) |
| 5th & Ute - reduce speed earlier                                                | <b>Enhance Safety</b>                      |                                     |         | Public Open House (5/4/21) |
| 5th between Colorado & Ute - consider raised crosswalk across 5th               | <b>Improve Walkability and Bikeability</b> |                                     |         | Public Open House (5/4/21) |
| 5th & Ute - inconvenient and confusing Hwy 50 access                            | <b>Optimize Traffic Circulation</b>        |                                     |         | Public Open House (5/4/21) |
| 5th & Pitkin - lower speed limit on southside of RR bridge                      | <b>Enhance Safety</b>                      |                                     |         | Public Open House (5/4/21) |
| 5th & North Ave - this needs a bike detector; no light change if no car present | <b>Improve Walkability and Bikeability</b> |                                     |         | Public Open House (5/4/21) |
| 5th & Colorado Ave - the parking lot is used as a turn around                   | <b>Enhance Safety</b>                      | <b>Optimize Traffic Circulation</b> |         | Public Open House (5/4/21) |
| 5th & Colorado Ave - confusing intersection                                     | <b>Enhance Safety</b>                      | <b>Optimize Traffic Circulation</b> |         | Public Open House (5/4/21) |
| Preference is to keep as is                                                     | <b>Other</b>                               |                                     |         | Public Open House (5/4/21) |
| 5th & Teller Ave - raised crossings?                                            | <b>Improve Walkability and Bikeability</b> | <b>Enhance Safety</b>               |         | Public Open House (5/4/21) |
| Opposition to two-way; 26 left turns                                            | <b>Optimize Traffic Circulation</b>        | <b>Other</b>                        |         | Public Open House (5/4/21) |



| All Comments for 5th Street                                                                                                                                                                                                                |                                     |                                     |         |                            |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------|-------------------------------------|---------|----------------------------|
| Comment                                                                                                                                                                                                                                    | Theme 1                             | Theme 2                             | Theme 3 | Method                     |
| 5th & Grand Ave - crossing Grand is problematic                                                                                                                                                                                            | Enhance Safety                      |                                     |         | Public Open House (5/4/21) |
| Difficult to back out of diagonal parking spaces due to speed of vehicles                                                                                                                                                                  | Enhance Safety                      |                                     |         | Public Open House (5/4/21) |
| 5th & Rood Ave - wrong way conflicts                                                                                                                                                                                                       | Enhance Safety                      |                                     |         | Public Open House (5/4/21) |
| Crossing 5th conflicts                                                                                                                                                                                                                     | Enhance Safety                      | Improve Walkability and Bikeability |         | Public Open House (5/4/21) |
| Possible to re-route trucks?                                                                                                                                                                                                               | Enhance Safety                      |                                     |         | Public Open House (5/4/21) |
| 5th & Main St - Larry's spot                                                                                                                                                                                                               | Other                               |                                     |         | Public Open House (5/4/21) |
| 5th & Main - outside lane turn conflicts                                                                                                                                                                                                   | Enhance Safety                      |                                     |         | Public Open House (5/4/21) |
| 5th St "raceway"                                                                                                                                                                                                                           | Enhance Safety                      |                                     |         | Public Open House (5/4/21) |
| Important bicycle connectivity                                                                                                                                                                                                             | Improve Walkability and Bikeability |                                     |         | Public Open House (5/4/21) |
| Bike to north Pitkin                                                                                                                                                                                                                       | Improve Walkability and Bikeability |                                     |         | Public Open House (5/4/21) |
| 5th & Colorado Ave - pick up trucks stick into traffic when parking                                                                                                                                                                        | Enhance Safety                      |                                     |         | Public Open House (5/4/21) |
| Is there an alternative route to reduce traffic on 5th?                                                                                                                                                                                    | Optimize Traffic Circulation        |                                     |         | Public Open House (5/4/21) |
| High speed / light timing off 5th bridge                                                                                                                                                                                                   | Enhance Safety                      | Optimize Traffic Circulation        |         | Public Open House (5/4/21) |
| Close both sides to parking and add protected bike lanes. Use of bollards will have several benefits: protect cyclists from motorized traffic, narrow the driving lanes to help slow traffic, and provide safer crossings for pedestrians. | Improve Walkability and Bikeability |                                     |         | Survey #1 (5/11/21)        |

| All Comments for 5th Street                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |                                            |         |         |                     |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------|---------|---------|---------------------|
| Comment                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | Theme 1                                    | Theme 2 | Theme 3 | Method              |
| Have yet to experience law enforcement to prevent speeding and reckless driving and otherwise using 4th and 5th Streets as raceways.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | <b>Enhance Safety</b>                      |         |         | Survey #1 (5/11/21) |
| We need a southbound bike lane! More and better crossings to Hawthorne Park.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | <b>Improve Walkability and Bikeability</b> |         |         | Survey #1 (5/11/21) |
| Options for north-south travel by bicycle between Orchard Ave. and downtown Grand Junction are very limited. In the distant past, 10th Street extended to Orchard Ave. however college expansion eliminated this route. The City has done a great job on 1st Street, but the poorly thought out changes the CDOT is making to the intersection of 1st Street and Grand Avenue will greatly limit that route's usefulness and appeal for bicyclists. Any viable north-south bike route needs to have a signalized intersection at North Avenue, which leaves 5th Street as the only viable option. In order to be a safe, desirable bicycle corridor, 5th Street needs to be designed similar to how the City recently designed 1st Street between Orchard Ave. and North Ave: three lanes, buffered bike lanes, and NO on-street parking (on-street parking is a killer for bike routes due to the danger of getting "doored"). If 5th Street is not designed to safe bicycle corridor (e.g. if on-street parking is allowed), then the City would simply not have any safe, practical north-south routes into downtown. That would be a major black mark for a city that is currently designated as a 'bicycle friendly city'. | <b>Improve Walkability and Bikeability</b> |         |         | Survey #1 (5/11/21) |
| Needs more law enforcement especially along the Hwy 50 portion                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | <b>Enhance Safety</b>                      |         |         | Survey #1 (5/11/21) |
| There seems to be an attitude that is very noticeable from the bicyclists who have an entitlement idea that they have privileges that are greater than motorists. Side by side riding is their greatest error. They need to get given tickets for impeding traffic and causing hazards.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | <b>Enhance Safety</b>                      |         |         | Survey #1 (5/11/21) |
| All of the implementations suggested for the 4th Street also pertain to the 5th Street corridor as I believe these two street share the same problems of speeding traffic, high                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | <b>Enhance Safety</b>                      |         |         | Survey #1 (5/11/21) |





| All Comments for 5th Street                                                                                                                                                                                                                                              |                                     |         |         |                     |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------|---------|---------|---------------------|
| Comment                                                                                                                                                                                                                                                                  | Theme 1                             | Theme 2 | Theme 3 | Method              |
| amounts of traffic accidents, and inaccessibility and/or poor crosswalk conditions for pedestrians.                                                                                                                                                                      |                                     |         |         |                     |
| Please keep 5th one way. We who live downtown do not want two way traffic funneling loud coal burners, loud sport cars and motorcycles on our streets. Beef up 1st, 7th and 12th streets to funnel traffic to and from downtown. Please.                                 | Other                               |         |         | Survey #1 (5/11/21) |
| Again its a Asinine to even be thinking about making 4th and 5th two way streets. In an aging community how many traffic accidents do you think you will create by changing direction of traffic on roads that people have driven on one way for 40,50, even 60 years... | Other                               |         |         | Survey #1 (5/11/21) |
| I ride my bike in the area a lot. If I don't feel comfortable riding on 5th,,,, I just move over to 6th. Real simple. Don't give bikes more priorities than cars                                                                                                         | Improve Walkability and Bikeability |         |         | Survey #1 (5/11/21) |
| It isn't just about 5th or 4th for that matter. How they exist affects the whole historic downtown residential neighborhood which GJ should strive to preserve for history, etc.                                                                                         | Other                               |         |         | Survey #1 (5/11/21) |
| Please be as creative as possible--look at other more progressive cities and use successful examples.                                                                                                                                                                    | Other                               |         |         | Survey #1 (5/11/21) |
| I would like to see better bike lanes. However, I like 5th Street the way it is mostly.                                                                                                                                                                                  | Improve Walkability and Bikeability |         |         | Survey #1 (5/11/21) |
| Leave this a One-Way Road. The issue for the DDA should be making walking safer with patrols, better sidewalks, and better/safer crosswalks.                                                                                                                             | Improve Walkability and Bikeability |         |         | Survey #1 (5/11/21) |

| All Comments for 5th Street                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |         |         |         |                        |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------|---------|---------|------------------------|
| Comment                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | Theme 1 | Theme 2 | Theme 3 | Method                 |
| <p>I am thinking of two monolith sculptures on both sides of the road somewhere near the museum and greyhound station or at the intersection of 5th and Colorado. Imagine a gateway-like structure to drive through that embodies the natural rocks of our wild land. Coupled with a painted design on the road that acts as both a visual cue to slow (maybe use reds, oranges, yellows) and also a yearly community engagement piece. Much like the current road mural that was painted at the fourway of 5th and Colorado, this can be repainted every year by anyone willing from the community. We could link it to a festival of sorts and use a paint by number method to complete. On top of all this I am dreaming of the idea to incorporate a lighting system that creates a lateral barrier, or connection between one monolith to the next, across the road that again acts as a visual cue to slow while not creating any physical structure spanning the road. The idea is to mimic the sun between these two monoliths. Maybe they are even on a track and rise/fall with the days and night. Hopefully this is making sense, a lot to take in.</p> <p>The Reno biggest little city is a good example of a, both sides of the road, drive through feature. However the aesthetic and subject would be way different. I have included a quick sketch that illustrated the idea better. Thinking of smooth rock features for both a minimal look and to deter climbing on. Also placing rugged plant life around to again deter climbing. This entire concept is acting as both a traffic slow but also a gateway from land to urban.</p> <p>Outside of scope</p> | Other   |         |         | Survey #1<br>(5/11/21) |





| All Comments for 5th Street                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |                                     |                                            |              |        |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------|--------------------------------------------|--------------|--------|
| Comment                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | Theme 1                             | Theme 2                                    | Theme 3      | Method |
| <p>One way on 5th street greatly supports traffic flow coming from Orchard Mesa off of the 5th street bridge. Traffic from 7th street supports the access onto Ute to turn south onto the highway at 5th street. One way in and one way out is an accessible traffic flow to points south and north.</p> <p>It is WAY premature to be talking about redesigning traffic flow downtown while the construction is happening at the intersection of 1st and Grand. At minimum, traffic flow should be studied one year after first and Grand are finished and opened. This should draw traffic away from downtown.</p> <p>Bike traffic into downtown could be channeled by trail signs and clear street marking onto other streets such as 3rd and 6th to promote bicycle use on less travelled streets.</p> <p>Police presence to monitor speeding and red light running, as well as failure to yield, would do a great bit on managing safety downtown.</p>                                                                                                                          | <b>Optimize Traffic Circulation</b> | <b>Improve Walkability and Bikeability</b> | <b>Other</b> | Email  |
| <p>However 5th Street in particular is a hindrance to all of this as people are “flying” in at 50-60 mph. This is not an exaggeration. The posted speed limit just before the bridge is 45. Yet people are easily coming off that bridge at extremely high speeds. Even if they get stopped at a red light they still are in that speed mode. There is only one small speed sign at 25 by old bus building. No one sees it or heeds it. I think there needs to be multiple signage starting at base of bridge by the first light. Repeated at 2nd light with added speed bumps. These can be the broad rounded type, enough to get the message to sink in that this is a busy area with restaurants and pedestrians and one of the best small town downtown areas. Put in a pedestrian walk way at 5th and Colorado with the flashing light like those near University and on Horizon. It is a State law to stop for pedestrians but that intersection shows nothing to remind people of this fact.</p> <p>Speeding in this city is one of its biggest most egregious problems!</p> | <b>Enhance Safety</b>               | <b>Improve Walkability and Bikeability</b> |              | Email  |

| All Comments for 5th Street                                                                                                                                                                                                                                                                                                                                   |                       |                                      |         |        |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------|--------------------------------------|---------|--------|
| Comment                                                                                                                                                                                                                                                                                                                                                       | Theme 1               | Theme 2                              | Theme 3 | Method |
| <p>I drive these roads almost daily and people are speeding on both with no enforcement at all.</p> <p>You need LARGE signage on 5th street bridge about reduced speed ahead and ENFORCE it cops giving tickets. Put in speed bumps after 2nd light by Museum. Enforce laws! I like general plan but downtown needs more parking and handicapped parking!</p> | <b>Enhance Safety</b> | <b>Activate Economic Development</b> |         | Email  |







# PUBLIC COMMENTS RECEIVED

## STUDY AREA

| All Comments for Study Area                                                                                                                                                                                                                                                                                                                                                                                                                                              |                                            |                                      |         |                 |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------|--------------------------------------|---------|-----------------|
| Comment                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | Theme 1                                    | Theme 2                              | Theme 3 | Method          |
| This is a great and timely idea. It will make Main Street and Colorado Ave. more pedestrian friendly, boosting those areas for dining, etc. How about marked or segregated bike lanes too!                                                                                                                                                                                                                                                                               | <b>Improve Walkability and Bikeability</b> | <b>Activate Economic Development</b> |         | Email           |
| 1 way is pretty nice. why are you wanting to change it?                                                                                                                                                                                                                                                                                                                                                                                                                  | <b>Other</b>                               |                                      |         | Interactive Map |
| Just leave it the way it is, it been like this for year's!                                                                                                                                                                                                                                                                                                                                                                                                               | <b>Other</b>                               |                                      |         | Interactive Map |
| Instead of changing traffic flows on 4th and 5th streets and destroying the quality of life downtown. Please connect N 12th street with the bike lanes and sidewalks, add a gated crossing to S 12th all the way to Riverside Parkway. And build out a new Amtrak Station and transportation hub alongside the crossing. Lets improve and connect the cit . Add some more high rise buildings with balcony views. And count me in to purchase.                           | <b>Other</b>                               |                                      |         | Interactive Map |
| Keep it one way and add a bike lane                                                                                                                                                                                                                                                                                                                                                                                                                                      | <b>Improve Walkability and Bikeability</b> | <b>Other</b>                         |         | Interactive Map |
| Keep 4th and 5th the way they are (one way). It's bad enough going past the main post office on the one way street with people criss-crossing the 2 lanes at the last minute or stopping in the traffic lane to wait for an open parking space in front of the PO.                                                                                                                                                                                                       | <b>Optimize Traffic Circulation</b>        | <b>Other</b>                         |         | Email           |
| I am a property owner on the corner of Fifth and Main , and I do support you two way traffic proposal.<br>Please consider closing Main St , make it a walking biking, park for all the events downtown!<br>A little stream rambling around to represent 2 rivers.                                                                                                                                                                                                        | <b>Other</b>                               |                                      |         | Email           |
| I think 4th and 5th streets need to be changed to two way lanes. It is very inconvenient to have to use one way streets and it makes it easier for people to speed. It will take some getting use to but it would definitely be worth it. Businesses and residential would be easier accessed if you could go both directions on both streets. Not to mention the countless times I have seen people who are not familiar with 4th and 5th streets, going the wrong way. | <b>Enhance Safety</b>                      | <b>Activate Economic Development</b> |         | Email           |



| All Comments for Study Area                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |                |                                     |         |                 |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------|-------------------------------------|---------|-----------------|
| Comment                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | Theme 1        | Theme 2                             | Theme 3 | Method          |
| Make safer bike/pedestrian crossing for GJ residents who live north of North Ave to access downtown by walking or biking.                                                                                                                                                                                                                                                                                                                                                                                           | Enhance Safety | Improve Walkability and Bikeability |         | Interactive Map |
| Slowing traffic and making it better/safer for peds and bikes should be a priority. I would like to see one lane each direction with bike lanes and a center turn lane.                                                                                                                                                                                                                                                                                                                                             | Enhance Safety | Improve Walkability and Bikeability |         | Interactive Map |
| I like 4th and 5th as 1-way streets - both as a driver and as a cyclist. Whatever you decide, please make sure there are bike lanes going both directions. Bikes need to have a way to cross North Avenue with a light. Preferably Grand, too.                                                                                                                                                                                                                                                                      | Other          | Improve Walkability and Bikeability |         | Interactive Map |
| 7th and Colorado either needs a 4-way stop, a traffic signal or a roundabout.                                                                                                                                                                                                                                                                                                                                                                                                                                       | Other          |                                     |         | Interactive Map |
| This intersection needs a traffic light just as exists at intersections with both Main and Rood                                                                                                                                                                                                                                                                                                                                                                                                                     | Other          | Optimize Traffic Circulation        |         | Interactive Map |
| This "death curve" (US 50 & 1st) needs to be made less sharp.                                                                                                                                                                                                                                                                                                                                                                                                                                                       | Other          | Enhance Safety                      |         | Interactive Map |
| A two-way 5th St instantly becomes the straightest most direct route through downtown to a Hwy50 as opposed to 4th which requires a left and then right turn. To handle the increased traffic flow 5th Street will need two lanes each way plus a center turn lane for a total of 5 lanes. This means all of the street side parking, bulb-outs, planters, etc will need to be removed. That will be expensive. Maybe instead just re-route 4th to go through Whitman Park and connect directly to Hwy50 at Pitkin. | Other          |                                     |         | Interactive Map |
| Definitely need to connect 12th Street over the tracks to Riverside Parkway.                                                                                                                                                                                                                                                                                                                                                                                                                                        | Other          |                                     |         | Interactive Map |
| Seems like any conversation about this stretch connecting to Ute and Pitkin needs to go in concert with conversations about what CDOT has planned for the 50.                                                                                                                                                                                                                                                                                                                                                       | Other          | Optimize Traffic Circulation        |         | Interactive Map |



| All Comments for Study Area                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |                                      |                                            |                                     |                 |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------|--------------------------------------------|-------------------------------------|-----------------|
| Comment                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | Theme 1                              | Theme 2                                    | Theme 3                             | Method          |
| Changing these streets to two ways will make it more pleasant for bikes, pedestrians, shoppers, festival attendees, etc. by slowing traffic.<br>It would hopefully change traffic patterns to move commuters to more commute friendly roads (Pitken, Ute, Riverside Parkway).<br>It would make for safer parking at businesses like Ramblin and improve the outdoor atmosphere.<br>It would hopefully minimize the number of accidents caused or almost caused by people turning the wrong way on the one ways. | <b>Optimize Traffic Circulation</b>  | <b>Improve Walkability and Bikeability</b> | <b>Enhance Safety</b>               | Interactive Map |
| From a livability and pedestrian/bike perspective, I think whatever option would lower traffic speeds would be ideal. One ways move traffic, but also increase traffic speed which makes it worse for everyone else. Supporting active mobility should be a priority in this part of town.                                                                                                                                                                                                                      | <b>Enhance Safety</b>                | <b>Improve Walkability and Bikeability</b> |                                     | Interactive Map |
| Don't fix something that's not broken. 4th and 5th street work just fine as one ways. Quit wasting tax money and spend it on what's actually for maintaining the roads. There are so many potholes around town it's beginning to look like Denver.                                                                                                                                                                                                                                                              | <b>Other</b>                         |                                            |                                     | Interactive Map |
| Need to mark Grand Ave on map. And Pinks BBQ is long gone.                                                                                                                                                                                                                                                                                                                                                                                                                                                      | <b>Other</b>                         |                                            |                                     | Interactive Map |
| I would prefer to keep 4th and 5th as they are. They are effective at traffic flow, and if a visitor misses a turn they are just one block away from the option to turn around.<br>I personally have lived or worked in larger downtown areas and one way streets are common and expected.                                                                                                                                                                                                                      | <b>Other</b>                         | <b>Optimize Traffic Circulation</b>        |                                     | Interactive Map |
| Close Main Street to vehicle traffic between 3rd and 7th and make a pedestrian mall, still allowing cross traffic on 4th, 5th and 6th. Move the seating areas off the sidewalk to where the parking stalls and pullouts are. This would make the sidewalks more pedestrian friendly. The street can be for bikes. To make up for the lost two hour free parking open up more free parking on the adjacent cross streets and the public lots on Colorado Ave.                                                    | <b>Activate Economic Development</b> | <b>Improve Walkability and Bikeability</b> | <b>Optimize Traffic Circulation</b> | Interactive Map |



| All Comments for Study Area                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |                                            |                                            |         |                 |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------|--------------------------------------------|---------|-----------------|
| Comment                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | Theme 1                                    | Theme 2                                    | Theme 3 | Method          |
| I applaud the goal to increase the walkability/biking in GJ but this project seems misguided. Downtown is already the most pedestrian and bike-friendly neighborhood of GJ. Most GJ residents do not live downtown!! Why are there 0 efforts to make other neighborhoods more walkable, or to improve bike/ped connectivity between neighborhoods? By ending this proposed project at North Ave, you clearly show that this is not your priority. North Ave is a death trap for pedestrians and bikers. | <b>Other</b>                               | <b>Improve Walkability and Bikeability</b> |         | Interactive Map |
| Better pedestrian/bike crossings on North Ave. How will people reach the "improved" 4th and 5th ave bike/ped areas? Drive downtown with their bikes and park? Improve biking connectivity on all roads for all GJ residents.                                                                                                                                                                                                                                                                            | <b>Improve Walkability and Bikeability</b> |                                            |         | Interactive Map |
| Use Lincoln Park to create and connect bike lines that connect the University and neighborhoods north of North Ave with downtown Grand Junction.                                                                                                                                                                                                                                                                                                                                                        | <b>Improve Walkability and Bikeability</b> |                                            |         | Interactive Map |
| I live downtown in between 4th and 5th. These 2 streets serve as a drag strip through the neighborhood and effectively cut off the 400 block from the rest of the downtown blocks. I would suggest 4th and 5th to be more like 3rd with intermittent stop signs and bike lanes on both sides. 7th street is already set up to handle 2 way, multi lane traffic and increased capacity. I would suggest diverting traffic to 7th which then continues to access north to Horizon drive.                  | <b>Enhance Safety</b>                      | <b>Optimize Traffic Circulation</b>        |         | Interactive Map |
| As part of feasibility, look into speed bumps along 4th and 5th to slow traffic. Same as there are on N.1st St. between Orchard Ave. & F Road.                                                                                                                                                                                                                                                                                                                                                          | <b>Enhance Safety</b>                      |                                            |         | Interactive Map |



| All Comments for Study Area                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |                       |         |         |        |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------|---------|---------|--------|
| Comment                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | Theme 1               | Theme 2 | Theme 3 | Method |
| <p>One Way Streets in downtown Grand Junction see accidents almost daily.</p> <p>I'm fine with them personally - I wish folks could use them better - but there seems to be accidents and issues daily.</p> <p>The southern end of town especially at 4th, 5th, Ute, Pitkin and Colorado Ave. seem the most problematic.</p> <p>The streets need to use the obvious "one-way" signs instead of the "do-not-turn-that-way" signs, or be made "normal streets."</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | <b>Enhance Safety</b> |         |         | Email  |
| <p>Something notably missing from the 5th and 4th streets are reflective and repeating wrong way signs. Converting the roads to two way would not have a bigger impact on safety than making strides to alert drivers of mistaken turns before it becomes a problem, especially at night and especially at light-controlled intersections.</p> <p>Crossing the streets on foot is safer on one-way roads because crossing 5th on the south side of each 5th street intersection or crossing 4th street on the north side of each 4th street intersection requires the pedestrian to only concern themselves with traffic from a single direction. No turners need to be attended to, and no one from the other side of the street. This means that my children who live one street-crossing from Hawthorne Park had the freedom to cross the street more safely younger than they could cross streets at 6th.</p> <p>The safety of the one-way streets is one of the reasons we chose to live where we live in the downtown area.</p> <p>If the question of whether signage would work is posited, I submit as an example the "stop ahead" signage posted prior to the stop signs on 6th street at Gunnison. These were added shortly after we bought our house after our neighborhood suggested it, and accidents reduced at that corner from what seemed like weekly to closer to twice a year. Signage works and provides security for pedestrians and drivers alike, and the one-way streets provide a safe boundary around a popular community</p> | <b>Enhance Safety</b> |         |         | Email  |



| All Comments for Study Area                                                                                                                                                                                                                                                                                                                                                                                                                             |                       |         |         |                 |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------|---------|---------|-----------------|
| Comment                                                                                                                                                                                                                                                                                                                                                                                                                                                 | Theme 1               | Theme 2 | Theme 3 | Method          |
| park for young children and their families. As someone who uses 4th Street and 5th Street daily, I would not find the convenience worth the sacrifice of the safety.                                                                                                                                                                                                                                                                                    |                       |         |         |                 |
| People already speed up 5th and down 4th making it harder to pull out of a parking spot or pull in. Now we only have to worry about traffic coming from one direction. With the change you will have to worry about both directions and I am sure there will be a lot of accidents caused by this being a main two way artery. There is a reason it is a one way and should stay that way. It is safer and more convenient for traffic and pedestrians. | <b>Enhance Safety</b> |         |         | Interactive Map |





| All Comments for Study Area                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |                                            |                                     |         |                 |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------|-------------------------------------|---------|-----------------|
| Comment                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | Theme 1                                    | Theme 2                             | Theme 3 | Method          |
| There is a concern that people will choose 5th as a north and south route more frequently than they do now. 4th would also be made into a two way street, so traffic would travel south on it as well. There are many means to slow traffic through this corridor. Increased stop signs/stop lights. There are none of those between North and Grand on either street. The goal of this project is to make this area safer for bicyclists and pedestrians.                                               | <b>Improve Walkability and Bikeability</b> | <b>Optimize Traffic Circulation</b> |         | Interactive Map |
| We believe these two streets are unique and add charm to our downtown area. We would vote for keeping them both as one-way streets. The lights on both streets are timed to change as you drive down the street, which is appealing and helps with traffic flow. These streets work well as they are, please leave them alone. The cost to convert them must certainly not be worth the effort. One simply has to drive around a block to go the opposite direction, which hardly seems like a hardship. | <b>Other</b>                               | <b>Optimize Traffic Circulation</b> |         | Email           |
| As for being pedestrian friendly, we fail to see how anyone could say that crossing a one-way street isn't better than crossing at an intersection with traffic flowing both ways. Walkability on a one-way way street feels safer and more appealing than two-way traffic.                                                                                                                                                                                                                              | <b>Improve Walkability and Bikeability</b> | <b>Other</b>                        |         | Email           |
| No stop light at 5th and Gunnison                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | <b>Optimize Traffic Circulation</b>        |                                     |         | Phone Call      |
| Check out the stop sign placement and heights along these corridors, often the signs have poor sight distance. If one-way orientation is kept, suggest adding one-way signs at key public buildings to remind drivers                                                                                                                                                                                                                                                                                    | <b>Enhance Safety</b>                      | <b>Optimize Traffic Circulation</b> |         | Interactive Map |
| the nature of 4th and 5th change (business to residential) about at grand ave / the library. how can these two sections of these roads change in form, function, and character much as the character of the areas change?                                                                                                                                                                                                                                                                                | <b>Activate Economic Development</b>       | <b>Other</b>                        |         | Interactive Map |
| Is there any way to keep 4th and 5th low traffic streets? It would seem that having 1st and 7th streets be the arterials would make sense?                                                                                                                                                                                                                                                                                                                                                               | <b>Enhance Safety</b>                      | <b>Optimize Traffic Circulation</b> |         | Interactive Map |

| All Comments for Study Area                                                                                                                                                                                                                                                                                                                                                                                                                   |                                            |                                            |              |                 |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------|--------------------------------------------|--------------|-----------------|
| Comment                                                                                                                                                                                                                                                                                                                                                                                                                                       | Theme 1                                    | Theme 2                                    | Theme 3      | Method          |
| Crossing with children at any corner of the park is a harrowing experience. No crosswalk, high speed traffic across two lanes, and a wide three lane width street all lead to challenges. Please add crosswalks, curb extensions, and signage at all four corners of the park!                                                                                                                                                                | <b>Enhance Safety</b>                      | <b>Improve Walkability and Bikeability</b> |              | Interactive Map |
| So much right of way wasted on vehicles - what opportunities can be made of all this space?                                                                                                                                                                                                                                                                                                                                                   | <b>Other</b>                               |                                            |              | Interactive Map |
| Coming down the bridge traffic goes very fast. The environment quickly transitions from highway to a downtown environment. Starting at the end of the bridge there needs to be obvious to drivers that they are about to enter a different environment. No matter if they take Ute/Pitkin or proceed to downtown traffic should be slowed down and responsive to more access points, pedestrians, cyclists, buses, etc.                       | <b>Enhance Safety</b>                      | <b>Improve Walkability and Bikeability</b> |              | Interactive Map |
| Sharing an experience: I tried to ride home (hawthorne park neighborhood) while I dropped off my car for an oil change at Scottys. I learned that these businesses suffer from difficult access via car but poorer access via bicycle. 3rd st. is like playing frogger, 5th street (50) is like russian roulette. reducing the isolation of this section between pitkin and south could improve this district's vitality.                     | <b>Improve Walkability and Bikeability</b> | <b>Activate Economic Development</b>       |              | Interactive Map |
| The sheer amount of accidents that this would cause should be reason enough not to convert these roads. If you have to circle the block to get somewhere that's what you do. It's not difficult. Adding pedestrian crossing if needed could be beneficial, and a decent bike lane. Converting the roads to two way traffic seems like a unnecessary waste of money. Invest that money elsewhere in the community. Rec center for GJ anyone..? | <b>Other</b>                               | <b>Improve Walkability and Bikeability</b> |              | Interactive Map |
| Our neighbourhood is a great one and we have worked very hard to clean it up, making 4th and 5th into two way streets, will slow down traffic and draw more family's to the community garden, the library, and hawthorn park. Or we can keep dumping highway 50 into a residential street and it can keep looking like an underpass. Thank you for your time.                                                                                 | <b>Enhance Safety</b>                      | <b>Activate Economic Development</b>       | <b>Other</b> | Email           |



| All Comments for Study Area                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |                                     |              |         |        |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------|--------------|---------|--------|
| Comment                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | Theme 1                             | Theme 2      | Theme 3 | Method |
| <p>I think changing from One Way to Two Way on these streets is a horrible idea. They currently function perfectly. Changes like these and the proposed parking lot conversion to event space are things that will drive me away from downtown.</p> <p>Your article cites speed and wrong way drivers as major reasons for changes. You are trying to fix a human error problem with a mechanical solution. I suggest you have a professional do a root cause analysis with a serious tool such as TapRoot (if you come up with more than one root cause you're not done. You keep going until there's only one as the rest are casual factors, not the root cause). Also the first steps prior to changing the street should be education (better signage) and enforcement of the existing speed limit. Is the current speed limit too high? I'm not sure but don't think so.</p> | <b>Enhance Safety</b>               | <b>Other</b> |         | Email  |
| <p>SPEED LIMITS , or the lack of any control thereof. This project will not succeed without a concerned effort by authorities to CONTROL and enforce safe traffic flow at all times. It is well known that you can drive any speed you want to in this town. Just try and take a leisurely drive around and see for yourself.</p> <p>You could always spend a couple billion dollars and build 15 roundabouts. That might solve something. Contact CDOT and work something out. They have lots of money to waste too !</p>                                                                                                                                                                                                                                                                                                                                                         | <b>Enhance Safety</b>               | <b>Other</b> |         | Email  |
| <p>I am opposed to two way traffic on these two streets. They are the only way to get across town with coordinated stop lights. All of the other lights are on random timers, and I don't believe controlling traffic means stopping it at random times. Traffic is not necessarily under control when it is stopped. If this is the only option we are presented with, lets just close off 4th and 5th streets from Ute to White so that the coffee drinkers can enjoy the streets at their leisure. If we are having a speeding problem on these streets, lets increase the police presence where it is occurring.</p>                                                                                                                                                                                                                                                           | <b>Optimize Traffic Circulation</b> | <b>Other</b> |         | Email  |

| All Comments for Study Area                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |                                     |                                     |         |                 |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------|-------------------------------------|---------|-----------------|
| Comment                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | Theme 1                             | Theme 2                             | Theme 3 | Method          |
| Fourth and fifth should remain one way, best way to make 5th safer coming in off hwy 50. do not allow parking on 5th st. keep visibility clear for cars coming so they can see people walking and wanting to cross the street. Get rid of all parking meters downtown let all parking be free. Make Main street a one way and make Rood one way in the opposite direction.                                                                                                                         | Enhance Safety                      | Improve Walkability and Bikeability | Other   | Email           |
| Please leave it alone. Peds only need to worry about traffic flow in one direction. Traffic is simplified in one direction also.                                                                                                                                                                                                                                                                                                                                                                   | Improve Walkability and Bikeability | Optimize Traffic Circulation        | Other   | Email           |
| This must be a discussion in coordination with CDOT. Since they are so hung up on using a 2008 study to justify actions in 2021, it seems we could all benefit from updating our traffic data of today.                                                                                                                                                                                                                                                                                            | Optimize Traffic Circulation        | Other                               |         | Interactive Map |
| One problem regarding the Greyhound Bus station and its proximity to Whitman Park is that unsavory looking people hit up pedestrians for money when they walk along Colorado Avenue. I have had that happen several times myself and I feel like I needed to be carrying something for personal defense.                                                                                                                                                                                           | Improve Walkability and Bikeability | Enhance Safety                      | Other   | Interactive Map |
| Try to leave the City Market and go south--I double dog dare you!                                                                                                                                                                                                                                                                                                                                                                                                                                  | Other                               |                                     |         | Interactive Map |
| A no vote for 2 way traffic. Pedestrians need only concern themselves with one set of oncoming cars while crossing. Two way makes crossing more difficult. Also, where are the studies that show two way traffic slows cars down? And where is the study that shows the increase in traffic and noise with two way? Please do not make changes that funnel traffic through these residential areas. We want to keep it calm as possible; it is a matter of quality of life for downtown residents. | Improve Walkability and Bikeability | Optimize Traffic Circulation        | Other   | Interactive Map |
| Take a jack hammer and get rid of the "calmers." Cutting a street capacity by 33% isn't having a calming effect on anyone and they look awful.                                                                                                                                                                                                                                                                                                                                                     | Optimize Traffic Circulation        | Other                               |         | Interactive Map |
| One way? Two way? Which is it? Oh, it's both at the same time. I see.....                                                                                                                                                                                                                                                                                                                                                                                                                          | Other                               |                                     |         | Interactive Map |
| Why make it simple when it could be complicated?!                                                                                                                                                                                                                                                                                                                                                                                                                                                  | Other                               |                                     |         | Interactive Map |





| All Comments for Study Area                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |                                            |                                     |         |                 |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------|-------------------------------------|---------|-----------------|
| Comment                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | Theme 1                                    | Theme 2                             | Theme 3 | Method          |
| Whether traffic remains one-way or switches to two-way on 4th and 5th, both of these streets need mechanisms in place to slow traffic, increase walkability and increase bike-ability. If continuous bike lanes were added (north on 5th all the way to North Ave), bump outs were added near each intersection, and crosswalks with lights (similar to 12th on CMU campus) were added at least to the 4 corners of Hawthorne Park and at Colorado/5th and Colorado 4th corners, this would be an improvement. | <b>Improve Walkability and Bikeability</b> | <b>Enhance Safety</b>               |         | Interactive Map |
| Fix the death curve by widening Pitkin and making it two-way with five lanes. Have that be I-70B. Then make Ute also two-way but with three lanes and disconnect it from I-70B at either end. Create a loop up 2nd Street following Ute to 13th Street and back down to Pitkin.                                                                                                                                                                                                                                | <b>Enhance Safety</b>                      | <b>Optimize Traffic Circulation</b> |         | Interactive Map |
| What in the world happened here (Hall Ave & 28 Rd)?! It is a simple "T" intersection. Another shining example of how not to do it!<br><br>Outside of scope                                                                                                                                                                                                                                                                                                                                                     | <b>Other</b>                               |                                     |         | Interactive Map |
| Somebody please help this intersection (White Ave & 1st St), there is no excuse for this travesty which has been in national news for being among the most dangerous intersections in the U.S. It is much more dangerous than either forth or fifth streets combined. The obvious simple solution is to block 1st street access northbound and make everyone access 1st street Northbound an alternate way, but for what ever reason that hasn't happened.<br><br>Outside of scope                             | <b>Other</b>                               |                                     |         | Interactive Map |
| Purchase a 99 cent compass. Take a piece of graph paper and draw this area to scale. Position the point of the compass roughly a block or so to the North East of the curve. Use the compass to create a proper curve in place of the disaster that is there now using a small section of the circumference of a plotted circle.<br><br>Outside of scope                                                                                                                                                       | <b>Other</b>                               |                                     |         | Interactive Map |

| All Comments for Study Area                                                                                                                                                                                                                       |                                     |         |         |                 |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------|---------|---------|-----------------|
| Comment                                                                                                                                                                                                                                           | Theme 1                             | Theme 2 | Theme 3 | Method          |
| No more suggestions about round-a-bouts!<br>The one a block north of this intersection (7th & Colorado) is good enough argument for the City of Grand Junction never being allowed to butcher another intersection again!<br><br>Outside of scope | <b>Other</b>                        |         |         | Interactive Map |
| Practice ground for stunt jumping - Welling Ave & 1st St<br><br>Outside of scope                                                                                                                                                                  | <b>Other</b>                        |         |         | Interactive Map |
| This area (near Pearl St & North Ave) is very rough, proceed with caution. It could be rented out to suspension manufacturing companies as a testing area for new off-road springs and dampers.<br><br>Outside of scope                           | <b>Other</b>                        |         |         | Interactive Map |
| In the past 5 years at least one car turning the wrong way daily. This recently included a UPS truck, to get to the alley. ( I believe he made the choice to do so.)                                                                              | <b>Optimize Traffic Circulation</b> |         |         | Email           |
| Progression of excessive speeding                                                                                                                                                                                                                 | <b>Enhance Safety</b>               |         |         | Email           |
| Increased traffic numbers                                                                                                                                                                                                                         | <b>Optimize Traffic Circulation</b> |         |         | Email           |
| Ouray is also seeing increased traffic over the last number of years<br><br>Outside of scope                                                                                                                                                      | <b>Other</b>                        |         |         | Email           |
| Traffic that builds up at peak times creates, at least, a length of two blocks of waiting vehicles                                                                                                                                                | <b>Optimize Traffic Circulation</b> |         |         | Email           |
| Changing to two-way traffic will only change the occasional wrong way driving. That I see out my windows                                                                                                                                          | <b>Optimize Traffic Circulation</b> |         |         | Email           |





| All Comments for Study Area                                                                                                                                                                                                                                                                                                                                                                                                                                                         |                                            |                       |              |        |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------|-----------------------|--------------|--------|
| Comment                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | Theme 1                                    | Theme 2               | Theme 3      | Method |
| <p>Cost wise and cost savings, I suggest the use of intersection arrows on the tar, showing the direction of traffic in each lane of the one-way streets.</p> <p>Rather than starting with a complete change, place the arrows and speed limit on the road. It seems few people are reading the signs on the side of the road now days.</p> <p>They would most likely be needed during a change to two-way traffic as well in addition to changing traffic light configuration.</p> | <b>Optimize Traffic Circulation</b>        |                       |              | Email  |
| <p>The addition of stop signs every two blocks like on the other streets on either side of 4th and 5th as either a one-way or two-way street. People choose the one-ways because it is a nonstop length of road which is not monitored and allows them to choose to speed.</p>                                                                                                                                                                                                      | <b>Enhance Safety</b>                      |                       |              | Email  |
| <p>An increase in the Police budget to provide a presence to ticket those who are choosing to break the speed limit. Speeding is occurring all day long and is worse at night. This is also becoming common throughout the valley</p>                                                                                                                                                                                                                                               | <b>Enhance Safety</b>                      |                       |              | Email  |
| <p>Drivers seem to disregard or lack understand that a cross walk, with people at them, have the right away. Therefore, pedestrian crossing lights would also be needed.</p> <p>Though I have to say the street semi fours for pedestrian crossing are not being obeyed by drivers either. I have a friend who works with sight impaired people and has had some very frightening experiences on 7th and Gunnison.</p>                                                              | <b>Improve Walkability and Bikeability</b> | <b>Other</b>          |              | Email  |
| <p>Drivers seem to be unaware of their surroundings and traffic rules. Pedestrians are not following traffic rules and walk against lights. Changing to two traffic will not solve the real challenges with drivers.</p>                                                                                                                                                                                                                                                            | <b>Improve Walkability and Bikeability</b> | <b>Enhance Safety</b> | <b>Other</b> | Email  |
| <p>I feel the proposal to turn 4th &amp; 5th Streets into two way streets is not a good idea</p>                                                                                                                                                                                                                                                                                                                                                                                    | <b>Other</b>                               |                       |              | Email  |





| All Comments for Study Area                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |                                     |                                            |         |        |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------|--------------------------------------------|---------|--------|
| Comment                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | Theme 1                             | Theme 2                                    | Theme 3 | Method |
| One way streets route traffic much faster than two way streets. 4th and 5th Streets are major traffic corridors for locals commuting to work and need to route traffic quickly especially during rush hour. Making these streets two ways will only increase traffic congestion (and frustration) in this area, especially since there is not enough room to create new turn lanes. Making a left turn on these streets would further increase traffic congestion. When traffic is highly congested, people (especially locals) will not want to come to the downtown corridor. Downtown won't be a "destination" - it will be something to avoid.                                                                                                                                                                                                                                                                                                                                                                      | <b>Optimize Traffic Circulation</b> |                                            |         | Email  |
| One thing that would seem to help the issues outlined in the Sentinel's article would be to slow traffic down coming from the south into the downtown corridor much sooner. As it is now, the speed limit is 45 mph (starting near the Fairgrounds) and then abruptly changes near Pitkin to 35 mph, with no advance warning. As you come down the bridge over the railroad yard, there's a sign at the end of the bridge announcing the speed change. If traffic were slowed down to 35 mph before crossing the river, then further dropping to 30 mph before Pitkin (possibly at the beginning of the railroad overpass), many of the speed issues could be solved. Also, there needs to be more prominent and abundant signage about speed limit changes and crosswalks (and that pedestrians have the ROW). As it is now, I don't believe there are any signs on 4th or 5th regarding pedestrian crosswalks. Flashing lights/signs would also help. If people were more aware of them, they would be more watchful. | <b>Enhance Safety</b>               | <b>Improve Walkability and Bikeability</b> |         | Email  |
| I live on 6th and Gunnison. Some of us locals call Gunnison a freeway. Have you done traffic counts? Cars race up and down from early AM to late evening to get to and from 4th and 5th and the lights at 7th and Gunnison. This includes heavy truck traffic of all types, city trucks in volume, and mostly non-neighborhood vehicles trying to cut time off their commutes.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | <b>Optimize Traffic Circulation</b> |                                            |         | Email  |



| All Comments for Study Area                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |                                            |                                      |         |        |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------|--------------------------------------|---------|--------|
| Comment                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | Theme 1                                    | Theme 2                              | Theme 3 | Method |
| Many junky vehicles without proper exhaust also cause much noise pollution in the neighborhood. You can't sit on your porch and visit with others or talk on the phone the traffic noise is so bad. It is difficult to watch tv with your screen door open. You can hear the traffic noise with your doors and windows closed. People obviously do not view this as a residential neighborhood.                                                                                                                                                                                                                                                         | <b>Other</b>                               |                                      |         | Email  |
| The city should be trying to keep the residents on Gunnison and neighboring streets who pay good taxes because they have fixed up and maintain older homes which add to the character of downtown Grand Junction.                                                                                                                                                                                                                                                                                                                                                                                                                                       | <b>Activate Economic Development</b>       |                                      |         | Email  |
| The traffic has also added to the continuation of trashy rentals because the high demand for this area and the lack of ordinances or enforcement of many, allows slumlords to view this as an easy area to take advantage of which is discouraging to the permanent residents who have and continue to invest in the neighborhood.                                                                                                                                                                                                                                                                                                                      | <b>Optimize Traffic Circulation</b>        | <b>Other</b>                         |         | Email  |
| I previously lived in Denver when that city evaluated the removal of one way streets in the Washington Park area and returned several to two-way traffic. It was so positive for the neighborhood. It got people and children out using the streets and easier to cross 2 ways and drove up home values and the desire to buy and improve many neighborhood homes.                                                                                                                                                                                                                                                                                      | <b>Improve Walkability and Bikeability</b> | <b>Activate Economic Development</b> |         | Email  |
| I will also point out the intersection of 6th and Gunnison has had numerous car accidents and many more near misses. The volume and speed of cars on Gunnison and the lack of visibility on that corner is the cause. Several of the corners have had nicely established flower beds on the corner curb space which is lovely to view but makes traffic have to practically be out in the traffic lanes to see if it is safe to cross Gunnison and the number of cars that park close to the intersection also block the views. The stop signs are set back quite a ways on 6th and some folks only do soft stops which aggravates the whole situation. | <b>Enhance Safety</b>                      | <b>Other</b>                         |         | Email  |
| Out of scope                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |                                            |                                      |         |        |

| All Comments for Study Area                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |                                     |                                     |                               |                 |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------|-------------------------------------|-------------------------------|-----------------|
| Comment                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | Theme 1                             | Theme 2                             | Theme 3                       | Method          |
| If you don't want to change the street flow then maybe reducing and enforcing the speed limits in this neighborhood would help. Downtown GJ has to be more than the business district to be healthy. The older homes on the surrounding streets are a major asset that should be valued. A healthy neighborhood will have families out walking and utilizing downtown businesses, the wonderful library, the senior center, parks, etc. which all make for quality of life to keep and expand downtown quality housing. | Enhance Safety                      | Improve Walkability and Bikeability | Activate Economic Development | Email           |
| Both 4th and 5th have become speedways and are not safe for our children and neighbors walking in the area. I am not sure if creating 2 way traffic can change this behavior, but it is worth a try. Any type of traffic calming and access to better biking routes would be helpful. Safety and the enjoyment of our parks and neighborhoods are so important.                                                                                                                                                         | Enhance Safety                      | Improve Walkability and Bikeability |                               | Interactive Map |
| I think that one way streets are a good idea in this area and should be kept as-is. I would welcome improved bike and pedestrian features, however.                                                                                                                                                                                                                                                                                                                                                                     | Improve Walkability and Bikeability | Other                               |                               | Interactive Map |
| There should be pedestrian friendly methods for crossing 4th and 5th at Gunnison and Hill for access to Hawthorn Park.                                                                                                                                                                                                                                                                                                                                                                                                  | Improve Walkability and Bikeability |                                     |                               | Interactive Map |
| I envision overall traffic reduction on 4th St. and increased traffic on 5th as traffic that is presently funneled to southbound 4th remains on 5th St. ie GJHS students and busses.                                                                                                                                                                                                                                                                                                                                    | Optimize Traffic Circulation        |                                     |                               | Interactive Map |
| I'm very concerned about Northbound traffic from Orchard Mesa dumping into 1 lane as it reaches Pitkin/Ute.                                                                                                                                                                                                                                                                                                                                                                                                             | Optimize Traffic Circulation        | Enhance Safety                      |                               | Interactive Map |
| Making this a 2-Way Traffic Flow is going to increase accidents and confusion. The only way a 2-Way Traffic would work is you would need to put islands in between the lanes, indicating a 2-Way Street. Street isn't wide enough to do that. You also need better directional signage. The One Way Signs are not easily seen, that is why drivers continue to go the wrong way. It's going to be a waste of money to change this. Leave it a One Way and spend money on better way finding and directional signage.    | Enhance Safety                      | Optimize Traffic Circulation        | Other                         | Interactive Map |



| All Comments for Study Area                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |                                            |                                            |         |                 |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------|--------------------------------------------|---------|-----------------|
| Comment                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | Theme 1                                    | Theme 2                                    | Theme 3 | Method          |
| The speed limit needs to be reduced and enforced. This can easily be done with proper signage. Enforcing might be another issue. Is it feasible to have officers handing out tickets? I would like to see Speed Bumps placed strategically along with flashing signs indicating reduced speed ahead. The speed bumps would be something similar to the cobblestone bumps on 1st. Street between Orchard and Patterson. They look nice, but functional.                                                                | <b>Enhance Safety</b>                      |                                            |         | Interactive Map |
| Alleyways are not for pedestrians. Alleys are for trucks making deliveries to businesses. Many businesses receive shipments daily. For safety reasons, I would not have an entrance/exit to my business from the back as I cannot see who's entering from the back. I have a clear view of who's coming and going from the front. Once you upgrade a building, you must put in an egress door in case there is a fire. The back area is a private production area and not open to the public. A total waste of money. | <b>Enhance Safety</b>                      | <b>Improve Walkability and Bikeability</b> |         | Interactive Map |
| I favor the return of forth and fifth streets to two-way traffic for the entire length, from Pitkin to North Ave. The one-way roads on 4th and 5th destroyed the neighborhoods through which they ran. Restoring those streets to two-way traffic will hopefully bring those neighborhoods a more quiet, relaxed feel than currently existing and encourage more pride in the properties located along those routes. Two-way traffic with one lane in each direction would also allow for bike lanes on both sides    | <b>Improve Walkability and Bikeability</b> | <b>Other</b>                               |         | Interactive Map |
| This is a bad idea -- again. What is really needed is better law enforcement along there. Speeders. Red light runners. Bicyclists. Violations abound!                                                                                                                                                                                                                                                                                                                                                                 | <b>Enhance Safety</b>                      |                                            |         | Email           |
| I want both streets to remain one way. The flow of traffic toward and away from downtown works well.                                                                                                                                                                                                                                                                                                                                                                                                                  | <b>Optimize Traffic Circulation</b>        | <b>Other</b>                               |         | Email           |
| I never see excessive slow traffic or backups on 4th or 5th streets. The traffic pattern works. It's tricky to figure out what to do. Be thoughtful and listen to the residents who live along these corridors.                                                                                                                                                                                                                                                                                                       | <b>Optimize Traffic Circulation</b>        |                                            |         | Email           |





| All Comments for Study Area                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |                                     |                                            |              |        |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------|--------------------------------------------|--------------|--------|
| Comment                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | Theme 1                             | Theme 2                                    | Theme 3      | Method |
| Changing the one way streets to two way streets - - - just check the traffic. Both of the streets are busy and the best way to go from east to west or west to east. The traffic volume calls for 2 lanes each way the way it has been for a lot of years.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | <b>Optimize Traffic Circulation</b> | <b>Other</b>                               |              | Email  |
| I would like 4th and 5th to remain one way                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | <b>Other</b>                        |                                            |              | Email  |
| If vehicles are driving over the posted speed limit going northbound on 5th street, it's a law enforcement issue and violators should be ticketed. Changing the street from one way traffic to two way is not going to correct the problem for business owners or pedestrians trying to cross the street. A change to two way traffic would decrease the safety for pedestrians, as they would have to look for traffic coming from both directions, not just one direction. Trying to funnel the same amount of traffic from two lanes down to one is only going to cause congestion problems and road rage issues. Anyone who has lived here any amount of time knows that speeding is an issue on all the main streets and parkways, and it's only going to get worse as more people live and visit the area. Enforcing speed limits is the only way to address the issue. I'm not against critically thought out change that doesn't create more problems than it fixes, but I don't think this proposed change it going to fix the problem stated. | <b>Enhance Safety</b>               | <b>Improve Walkability and Bikeability</b> | <b>Other</b> | Email  |
| I really believe that the one way streets downtown slow down traffic and protect local neighborhoods.<br>These are high values for our community, so please consider them diligently.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | <b>Enhance Safety</b>               | <b>Other</b>                               |              | Email  |
| Just read the existing comments submitted on the website/map concerning the changes to this area<br>Have you invited/INSISTED the GJPD come to this meeting ? Seems to me that they need to hear about their poor civic duty in this area, and the City as a whole.<br>I sincerely hope the meeting is productive.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | <b>Enhance Safety</b>               | <b>Other</b>                               |              | Email  |
| Have you invited/INSISTED the GJPD come to this meeting ? Seems to me that they need to hear about their poor civic duty in this area, and the City as a whole.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | <b>Enhance Safety</b>               |                                            |              | Email  |



| All Comments for Study Area                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |                                            |                       |              |                            |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------|-----------------------|--------------|----------------------------|
| Comment                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | Theme 1                                    | Theme 2               | Theme 3      | Method                     |
| First of all, I strongly support the conversion of both 4th and 5th to two-way streets, with continued parking (angled if possible on both sides) and enhanced facilities for ped crossings and cyclists. As currently configured, both streets have become high-speed, dangerous routes that favor cars over people. And my observation is that the cost of this unsafe condition comes with little benefit for drivers. The differences in travel time between Pitkin/Ute and North Avenue on 4th or 5th, compared to say 7th, 9th, or 12th, which are 2-way, is negligible. I also think that having one-way streets in the heart of downtown is confusing for the many visitors and tourists, as they are unfamiliar with our street patterns making it difficult to drive around downtown. It is also more dangerous as they may be unprepared to deal with the high speeds of vehicles passing through on some streets (4th/5th) while other streets have low rates of traffic speed. | <b>Improve Walkability and Bikeability</b> | <b>Enhance Safety</b> | <b>Other</b> | Email                      |
| Finally, it would be helpful to know when the streets were first converted to one-way, and why. There is an underlying general opposition to change in this community, even if for good reasons, and some context and background may be helpful. I suspect that the reasons for originally going to one-way may no longer be relevant, and are counter to our current plans and vision for downtown and the surrounding neighborhoods.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | <b>Other</b>                               |                       |              | Email                      |
| Traffic is too fast and loud on 4th & 5th                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | <b>Enhance Safety</b>                      |                       |              | Public Open House (5/4/21) |
| Wide "speed hump type" raised walkways with pedestrian signals would help people cross                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | <b>Improve Walkability and Bikeability</b> |                       |              | Public Open House (5/4/21) |
| Little school kids cross regularly Chipeta Elementary School and East Middle School - they need a safe way to cross. We have them on 12th for college students, why not for small children?                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | <b>Improve Walkability and Bikeability</b> |                       |              | Public Open House (5/4/21) |
| Please no four way stops or stoplights (or flashing stop signs) on Gunnison                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | <b>Optimize Traffic Circulation</b>        |                       |              | Public Open House (5/4/21) |



| All Comments for Study Area                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |                                            |         |         |                            |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------|---------|---------|----------------------------|
| Comment                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | Theme 1                                    | Theme 2 | Theme 3 | Method                     |
| The stop sign on Gunnison (by Red Cross) is too high. The bottom of the stop sign 94" from concrete - it's supposed to be 7'. Drivers not in a high raised truck or commercial delivery truck / semi can't see it                                                                                                                                                                                                                                                                                                                                     | <b>Enhance Safety</b>                      |         |         | Public Open House (5/4/21) |
| The curbs (the stop signs moved onto Gunnison on little bump outs are basically invisible at night - maybe some reflectors and paint slashes so drivers wishing to turn right don't run into them.                                                                                                                                                                                                                                                                                                                                                    | <b>Enhance Safety</b>                      |         |         | Public Open House (5/4/21) |
| We're aware of the need to change these streets for all the reasons you've noted. We also see the foot traffic of people coming through from the bus station or the soup kitchen to the bus stop and we'd like to add a compassionate nudge to include them in this plan.                                                                                                                                                                                                                                                                             | <b>Other</b>                               |         |         | Public Open House (5/4/21) |
| Yes to more bikes, kids, families, walking people!                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | <b>Improve Walkability and Bikeability</b> |         |         | Public Open House (5/4/21) |
| Yes to increased safety for seniors walking AND in cars!                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | <b>Improve Walkability and Bikeability</b> |         |         | Public Open House (5/4/21) |
| Yes ton including the entire corridor as part of downtown (we would be thrilled!)                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | <b>Other</b>                               |         |         | Public Open House (5/4/21) |
| We would love increased clear signage to help businesses thrive during construction                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | <b>Activate Economic Development</b>       |         |         | Public Open House (5/4/21) |
| Monday through Friday 7:30am to 8:00am, tremendous number of vehicles come into town from Whitewater, Orchard Mesa. Speeding is huge and vehicles trying to turn on Grand Mesa Avenue, Santa Clara, and from 5th Street (heading south) with students/children being taken to school. North bound traffic does not slow down. Parents take huge risks. I have stopped on Santa Clara at US 6 & 50 and counted 50 cars and trucks coming through the light. I cannot stress enough the number of vehicles utilizing this route to go through downtown. | <b>Enhance Safety</b>                      |         |         | Public Open House (5/4/21) |



| All Comments for Study Area                                                                                                                   |                                            |                                            |         |                            |
|-----------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------|--------------------------------------------|---------|----------------------------|
| Comment                                                                                                                                       | Theme 1                                    | Theme 2                                    | Theme 3 | Method                     |
| I feel the lesser of the two would be to keep 4th & 5th Streets one way. If two-way, I think the traffic would back on the 5th Street bridge. | <b>Optimize Traffic Circulation</b>        | <b>Other</b>                               |         | Public Open House (5/4/21) |
| Bike lanes important on 4th & 5th                                                                                                             | <b>Improve Walkability and Bikeability</b> |                                            |         | Public Open House (5/4/21) |
| Hawthorne Park - consider a RRFBs around the park                                                                                             | <b>Enhance Safety</b>                      | <b>Improve Walkability and Bikeability</b> |         | Public Open House (5/4/21) |
| Hawthorne Park - "lit" crosswalk signs around park                                                                                            | <b>Enhance Safety</b>                      | <b>Improve Walkability and Bikeability</b> |         | Public Open House (5/4/21) |
| Keep one way                                                                                                                                  | <b>Other</b>                               |                                            |         | Public Open House (5/4/21) |
| How would we use the post office going north?                                                                                                 | <b>Optimize Traffic Circulation</b>        | <b>Other</b>                               |         | Public Open House (5/4/21) |
| Alternative ways to spread out traffic                                                                                                        | <b>Optimize Traffic Circulation</b>        |                                            |         | Public Open House (5/4/21) |
| Improve bike and ped safety                                                                                                                   | <b>Improve Walkability and Bikeability</b> |                                            |         | Public Open House (5/4/21) |
| Slow and quiet traffic                                                                                                                        | <b>Other</b>                               |                                            |         | Public Open House (5/4/21) |
| Safety and user friendliness                                                                                                                  | <b>Enhance Safety</b>                      |                                            |         | Public Open House (5/4/21) |
| Pedestrians and bike riders need to follow the rules                                                                                          | <b>Improve Walkability and Bikeability</b> | <b>Enhance Safety</b>                      |         | Public Open House (5/4/21) |
| Improve parking on Colorado                                                                                                                   | <b>Other</b>                               |                                            |         | Public Open House (5/4/21) |





| All Comments for Study Area                                                                                          |                                            |                                            |         |                            |
|----------------------------------------------------------------------------------------------------------------------|--------------------------------------------|--------------------------------------------|---------|----------------------------|
| Comment                                                                                                              | Theme 1                                    | Theme 2                                    | Theme 3 | Method                     |
| What is signal strategy?                                                                                             | <b>Optimize Traffic Circulation</b>        |                                            |         | Public Open House (5/4/21) |
| More stop lights at 4th & 5th; leave them one way                                                                    | <b>Enhance Safety</b>                      | <b>Other</b>                               |         | Public Open House (5/4/21) |
| This should be a slow planned project; use the dollars available - wisely; let it work for most people not for a few | <b>Other</b>                               |                                            |         | Public Open House (5/4/21) |
| Be very strategic about changes                                                                                      | <b>Other</b>                               |                                            |         | Public Open House (5/4/21) |
| Main St - walking only?<br>Outside of scope                                                                          | <b>Improve Walkability and Bikeability</b> | <b>Other</b>                               |         | Public Open House (5/4/21) |
| 1st & 7th as alternative through ways                                                                                | <b>Other</b>                               |                                            |         | Public Open House (5/4/21) |
| In favor of two-way                                                                                                  | <b>Other</b>                               |                                            |         | Public Open House (5/4/21) |
| 7th St two-way is much more friendly                                                                                 | <b>Other</b>                               |                                            |         | Public Open House (5/4/21) |
| Two-way!                                                                                                             | <b>Other</b>                               |                                            |         | Public Open House (5/4/21) |
| Balance traffic and neighborhood walkability                                                                         | <b>Optimize Traffic Circulation</b>        | <b>Improve Walkability and Bikeability</b> |         | Public Open House (5/4/21) |
| 1st St improvements as success                                                                                       | <b>Other</b>                               |                                            |         | Public Open House (5/4/21) |
| Want a nice experience from Colorado to Rood from 4th to 6th St                                                      | <b>Activate Economic Development</b>       | <b>Other</b>                               |         | Public Open House (5/4/21) |

| All Comments for Study Area                                                                                                                                                                                                                                                                          |                                            |                       |         |                            |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------|-----------------------|---------|----------------------------|
| Comment                                                                                                                                                                                                                                                                                              | Theme 1                                    | Theme 2               | Theme 3 | Method                     |
| Improve crossing safety to park                                                                                                                                                                                                                                                                      | <b>Improve Walkability and Bikeability</b> | <b>Enhance Safety</b> |         | Public Open House (5/4/21) |
| Concerns with parallel parking                                                                                                                                                                                                                                                                       | <b>Activate Economic Development</b>       |                       |         | Public Open House (5/4/21) |
| Visibility concerns with landscape lights at 7th                                                                                                                                                                                                                                                     | <b>Enhance Safety</b>                      | <b>Other</b>          |         | Public Open House (5/4/21) |
| Walk areas in alleys are foolish; where do delivery trucks deliver? Trash dumpsters; smoke breaks<br><br>Outside of scope                                                                                                                                                                            | <b>Other</b>                               |                       |         | Public Open House (5/4/21) |
| This project affects the whole town not just downtown                                                                                                                                                                                                                                                | <b>Other</b>                               |                       |         | Public Open House (5/4/21) |
| Block Main St to traffic - 4th to 6th - walking only; leave streets one way<br><br>Outside of scope                                                                                                                                                                                                  | <b>Other</b>                               |                       |         | Public Open House (5/4/21) |
| Increase the number of people walking or riding bikes to downtown, relative to those driving.                                                                                                                                                                                                        | <b>Improve Walkability and Bikeability</b> |                       |         | Survey #1 (5/11/21)        |
| Consistent aggressive law enforcement to discourage speeding on both 4th and 5th Streets. Law enforcement providing active feedback hardware to inform drivers of their speed. There are more than a few drivers on both streets that are out of control scofflaws and use these roads as a raceway. | <b>Enhance Safety</b>                      |                       |         | Survey #1 (5/11/21)        |
| Noise and pollution caused by increased traffic for residents living directly on this corridor.                                                                                                                                                                                                      | <b>Other</b>                               |                       |         | Survey #1 (5/11/21)        |
| Noise and pollution from more traffic for the residents living in this corridor.                                                                                                                                                                                                                     | <b>Other</b>                               |                       |         | Survey #1 (5/11/21)        |
| It isn't directly mentioned above, so I would like to mention that there isn't a safe bicycle crossing of North or Grand Avenues west of 10th St. This creates a huge barrier to accessing Downtown from the north.                                                                                  | <b>Improve Walkability and Bikeability</b> |                       |         | Survey #1 (5/11/21)        |





| All Comments for Study Area                                                                                                                                                                                                                                                                                                                                                                                             |                                      |         |         |                     |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------|---------|---------|---------------------|
| Comment                                                                                                                                                                                                                                                                                                                                                                                                                 | Theme 1                              | Theme 2 | Theme 3 | Method              |
| Establishing 5th Street as the safest and preferred north-south bicycle corridor in Grand Junction.                                                                                                                                                                                                                                                                                                                     | <b>Enhance Safety</b>                |         |         | Survey #1 (5/11/21) |
| Plan the width of the new streets to accommodate the necessary delivery trucks to the downtown businesses so they don't drive over new sidewalks and landscaping.                                                                                                                                                                                                                                                       | <b>Optimize Traffic Circulation</b>  |         |         | Survey #1 (5/11/21) |
| More inviting entry to our beautiful downtown                                                                                                                                                                                                                                                                                                                                                                           | <b>Activate Economic Development</b> |         |         | Survey #1 (5/11/21) |
| Reduction of traffic accidents on busy street corners such as 4th and Colorado, 5th and Colorado, 4th and Ute, 4th and Pitkin, 5th and Pitkin, 4th and Grand, and 5th and Grand.                                                                                                                                                                                                                                        | <b>Enhance Safety</b>                |         |         | Survey #1 (5/11/21) |
| Keep 4th and 5th one way streets. Funnel traffic to and from downtown around residential areas like Hawthorne Park. Keep the neighborhood feel by not increasing traffic and noise. Drivers coming from other areas are not vested in our neighborhood and will drive their coal burners, loud motor cycles, and small cars with super up mufflers by our homes.                                                        | <b>Other</b>                         |         |         | Survey #1 (5/11/21) |
| To improve the overall quality of the area by considering environmentally conscious sustainable designs. Namely, increasing the number of trees and vegetation in general (i.e. green streets <sup>2</sup> ). This has been proven in global scientific studies to reduce ambient street noise, lower the adjacent temperature, increase pedestrian safety by having a road buffer, and help manage storm water runoff. | <b>Activate Economic Development</b> |         |         | Survey #1 (5/11/21) |
| difficulty of pulling out from parking with two way traffic.                                                                                                                                                                                                                                                                                                                                                            | <b>Enhance Safety</b>                |         |         | Survey #1 (5/11/21) |
| Just slow down the traffic with enforcement. Right now you only have to worry about traffic coming from one direction when pulling out or walking across the street. It will be harder to pull out of side streets and parking spaces with traffic coming from both sides. At least as a one way there will be gaps between traffic from the stop lights.                                                               | <b>Enhance Safety</b>                |         |         | Survey #1 (5/11/21) |
| Promote preservation of the historical downtown residential neighborhood and quality of life for its residents who live surrounded by these streets                                                                                                                                                                                                                                                                     | <b>Activate Economic Development</b> |         |         | Survey #1 (5/11/21) |
| prevent traffic going the wrong way which may fall under safety as well as SLOWING traffic down                                                                                                                                                                                                                                                                                                                         | <b>Enhance Safety</b>                |         |         | Survey #1 (5/11/21) |



| All Comments for Study Area                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |                                     |                              |         |                     |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------|------------------------------|---------|---------------------|
| Comment                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | Theme 1                             | Theme 2                      | Theme 3 | Method              |
| Protect positive cohesive neighborhood patterns.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | Other                               |                              |         | Survey #1 (5/11/21) |
| Slow down traffic considerably and potentially convert to single lane one way with additional parking between Ute-grand                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | Enhance Safety                      |                              |         | Survey #1 (5/11/21) |
| So that drivers don't go the wrong way!                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | Enhance Safety                      | Optimize Traffic Circulation |         | Survey #1 (5/11/21) |
| The following is an exert from an unpublished letter to the gjds: "Originally 7th Street was gentrified, as well as several blocks on Gunnison. These look like test areas of development that were never followed through for any other parts of the city. Today the Main Street has become a bit of a wayside amusement without any real connection to the rest of the city. Say what you may about traffic plowing along 5th Street, speeds are exacerbated by kinks and bumps and narrowness that belies it being a major artery. Speed bumps, anyone?" Then it goes on to say that 50 years ago or more 5th and Main was the hub of the community.... it then questions where it is today... then infers that 5th and Main should remain the hub via 5th Street improvements... Two way, with a roundabout at North Avenue? Thanks, Fred Stewart, GJ | Enhance Safety                      |                              |         | Survey #1 (5/11/21) |
| I am totally against any changes to the existing way 4th and 5th street work right now!                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | Other                               |                              |         | Survey #1 (5/11/21) |
| easy pass thru for vehicular traffic not going to downtown Grand Junction.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | Optimize Traffic Circulation        |                              |         | Survey #1 (5/11/21) |
| I think this change would also create a positive environment downtown and residential areas. People will feel safer and more willing to walk and bike which is beneficial to a positive vibe                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | Other                               |                              |         | Survey #1 (5/11/21) |
| Making it safe for students to walk to school.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | Enhance Safety                      |                              |         | Survey #1 (5/11/21) |
| Adding a protected or enhanced bike lane (protected is obviously preferred)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | Improve Walkability and Bikeability |                              |         | Survey #1 (5/11/21) |
| Please please please keep this a one way. It's already so busy from 7:45-8, and making it one lane would make traffic and circulation so much worse.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | Other                               |                              |         | Survey #1 (5/11/21) |

| All Comments for Study Area                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |                                            |                                            |              |                 |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------|--------------------------------------------|--------------|-----------------|
| Comment                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | Theme 1                                    | Theme 2                                    | Theme 3      | Method          |
| I personally like the one ways as a cyclist, but either way, if any changes take place, please include bike lanes on 5th that extend thru the intersection of North Ave. currently the bike lane on 5th abruptly ends and bikes are forced into an extremely narrow lane with a vehicle - and both don't fit! WE WANT BIKE LANES THAT GO THRU INTERSECTIONS AND LIGHTS THAT ARE TRIGGERED BY CYCLISTS, NOT JUST CARS.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | <b>Improve Walkability and Bikeability</b> |                                            |              | Interactive Map |
| <p>I would just like everyone to remember that our efficiency of moving traffic north/south through town has greatly diminished over the years as traffic has increased dramatically. When I started driving in the '80s, 12th street was 4 lanes from Ute to north of Patterson, without the crosswalks interrupting flow between North and Orchard. A few years ago we lost 4 lanes on 1st Street between Grand and North, which if my memory serves me correctly, was 4 lanes from Grand to Patterson at one time. The redesign of the 1st and Grand intersection will do little to affect (potentially hamper) North/South traffic efficiency. Also, 4th and 5th have been narrowed to 2 lanes when both of them were 3 lanes between Grand and North, as well as other places like 5th still has 3 lanes intermittently through Downtown.</p> <p>I firmly believe that keeping 4th and 5th One Way is in our best interest to help move through traffic more effectively through the core of downtown, as well as eliminate the accidents that WILL DEFINITELY HAPPEN due to the confusion of drivers/pedestrians/cyclists who have been crossing these roads for decades as One Ways.</p> <p>I propose elevated crosswalks along 12th street for college pedestrian traffic, maybe a couple around the downtown area on all 4 One Ways (Pitkin, Ute, 4th, 5th), protected bike lanes throughout town, a bike sharing service throughout the city, and maybe some speed humps on 4th &amp; 5th between North and Grand to slow traffic, and continuation of the timing system in place for decades of the lights on 4th</p> | <b>Optimize Traffic Circulation</b>        | <b>Improve Walkability and Bikeability</b> | <b>Other</b> | Email           |





| All Comments for Study Area                                                                                                                                                                                                                                                                                                                                                                  |                       |                                            |              |                 |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------|--------------------------------------------|--------------|-----------------|
| Comment                                                                                                                                                                                                                                                                                                                                                                                      | Theme 1               | Theme 2                                    | Theme 3      | Method          |
| & 5th through downtown to manage traffic speed.                                                                                                                                                                                                                                                                                                                                              |                       |                                            |              |                 |
| I'm just not sure that changing these to two-way streets is the best move. It will be dangerous for so long for those who are so used to them being one way. What do you do where 5th street becomes 50 as it goes over the river? How does that work? Add better signage, pedestrian and bike lanes/areas, and actually have police catching speeders. That seems much better/easier to me. | <b>Enhance Safety</b> | <b>Improve Walkability and Bikeability</b> | <b>Other</b> | Interactive Map |
| Keep one way traffic, but let's save \$\$\$\$\$. Why not use speed bumps and roundabouts on the perimeter of downtown to slow traffic in downtown area if that's the primary concern.                                                                                                                                                                                                        | <b>Enhance Safety</b> | <b>Other</b>                               |              | Interactive Map |



| All Comments for Study Area                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |                                            |                                      |              |                 |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------|--------------------------------------|--------------|-----------------|
| Comment                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | Theme 1                                    | Theme 2                              | Theme 3      | Method          |
| We should keep 4th & 5th one way streets - they direct traffic fine and have for many years. Putting in bike lanes I can understand and of course additional parking is always good downtown - but we don't need to spend more tax \$ on trees for this area or on any other "extras" which only take more care which again means more ongoing tax \$ spent.                                                                                                                                                                                                                       | <b>Improve Walkability and Bikeability</b> | <b>Activate Economic Development</b> | <b>Other</b> | Interactive Map |
| There is a lack of continuity between Main St and Colorado Avenue leading to visually less foot, bicycle, and vehicle traffic. Creating slower, two way traffic, PROTECTED bike lanes (safe for all ages and abilities), and wider, more pleasant sidewalks will help create a safer and more cohesive downtown area. It's always felt like Colorado Ave and Main St have been completely separated, and this is a chance to remedy that.                                                                                                                                          | <b>Improve Walkability and Bikeability</b> | <b>Enhance Safety</b>                | <b>Other</b> | Interactive Map |
| Street parking blocks the view of traffic for right hand turns out of the alley onto fifth. Also pedestrians and cyclists traveling along fifth are difficult to see when making a right hand turn.                                                                                                                                                                                                                                                                                                                                                                                | <b>Enhance Safety</b>                      | <b>Optimize Traffic Circulation</b>  |              | Interactive Map |
| I think GJ downtown is one of the very best aspects of the city. The best restaurants in the entire city are in the downtown area. Visitors to the valley do go to downtown. Many locals shop there as well. I'm not a Mall person although those big box stores do have their place in a population such as GJ. I think that people moving into the valley are here for not only the outdoor recreation opportunities, but also for the small town feel and downtown provides that relief from big city traffic and strip malls. It has a charm and slower pace that people want. | <b>Activate Economic Development</b>       |                                      |              | Email           |





**CITY OF GRAND JUNCTION, COLORADO**

**RESOLUTION NO. \_\_\_\_\_-21**

**A RESOLUTION ADOPTING THE 4<sup>TH</sup>-5<sup>TH</sup> STREET FEASIBILITY STUDY**

**Recitals**

In 1981, the Downtown Development Authority (DDA) identified the conversion of 4th and 5th Street from one-way to two-way as a goal in its original Plan of Development. In 2013, the City's Greater Downtown Plan also called for looking at the configuration of 4th and 5th Street. This was also confirmed again in the 2019 DDA Plan of Development and the City's updated Comprehensive Plan also identifies utilization of Complete Streets within the Downtown core.

In late 2020, the DDA hired the consulting engineering firm of Bohannon Huston of Englewood, Colorado to conduct a Feasibility Study on the One-Way to Two-Way Conversion of 4th and 5th Streets in coordination with City Staff.

Goals developed for the project included Enhancing Safety, Improving Walkability and Bikeability, Activating Economic Development, Optimizing Traffic Circulation

Traffic modeling indicates that 4th Street and 5th Street would operate at acceptable levels under either the one-way or two-way configurations. Additional traffic analysis will be completed to ensure the appropriate infrastructure, signals, and signs are integrated at the intersections during the design phase.

The study concluded that full build-out of the enhanced one-way OR the enhanced two-way will work. As the infrastructure is very similar for both alternatives, there is the opportunity for phased implementation of improvements, remaining in the one-way configuration until such time as the conversion to two way, if desired, is within reach from a budget standpoint. There is also an opportunity to pilot modifications with the one-way configuration to confirm changes of traffic patterns if the signals on both 4th Street and 5th Street between Grand and Ute Ave were removed and replaced with stop signs.

City staff will continue to work with the Downtown Development Authority and other key stakeholders on the development of the final design and implementation of the study recommendations.

**NOW, THEREFORE, BE IT RESOLVED BY THE CITY COUNCIL OF THE CITY OF GRAND JUNCTION THAT:**

The 4<sup>TH</sup> and 5<sup>th</sup> Street Feasibility Study, in the form of the document attached hereto, is hereby adopted as the policy of the City and shall be implemented as provided herein.

**PASSED AND APPROVED** this 4th day of May, 2022.

---

C.B. McDaniel  
President of the City Council

ATTEST:

---

Laura Bauer  
City Clerk

DRAFT



## Grand Junction City Council

### Regular Session

Item #4.b.

---

**Meeting Date:** May 4, 2022

**Presented By:** John Shaver, City Attorney

**Department:** City Attorney

**Submitted By:** John Shaver, City Attorney

---

### **Information**

#### **SUBJECT:**

A Resolution Setting Fees for Cannabis Licensing

#### **RECOMMENDATION:**

Staff recommends approval of this resolution.

#### **EXECUTIVE SUMMARY:**

This resolution sets certain fees referred to in Title 5 Chapter 13 of the Grand Junction Code of Ordinances pertaining to regulated cannabis business licenses.

#### **BACKGROUND OR DETAILED INFORMATION:**

City Council adopted Ordinance 5064 on April 8, 2022, which included certain marijuana, also known as cannabis, uses, licenses and regulations. Ordinance 5064 specifies that City Council shall set and establish fees by resolution that offset the costs of licensing, inspection, administration, and enforcement of cannabis businesses. With this resolution, staff recommends setting of application, license, renewal, change of corporate structure, zoning verification and fire consultant fees.

All fees are nonrefundable with the exception of the licensing fee if the applicant is not selected in the randomized selection process.

#### **FISCAL IMPACT:**

The estimated revenue to be generated from the initial round of applications based on a range of 20 to 40 applications (\$2,500 each) is \$50,000 to \$100,000. The revenue generated from the initial licensing phase is based on 10 licenses at \$5,000 each for \$50,000. These revenues will be accounted for in the Cannabis Sales Tax Fund.

**SUGGESTED MOTION:**

I move to adopt Resolution No. 37-22, a resolution setting various fees and charges relating to Title 5 Chapter 13 of the Grand Junction Municipal Code of ordinances pertaining to regulatory cannabis business licenses.

**Attachments**

1. Citizen Comment - Resolution Setting Fees for Cannabis Licensing
2. RES-Cannabis Fees 042522

**From:** [cityclerk](#)  
**To:** [Debbie Kemp](#); [Selestina Sandoval](#); [Janet Harrell](#); [Kerry Graves](#); [Laura Bauer](#)  
**Subject:** FW: Resolution Setting Fees for Cannabis Licensing- Comment,  
**Date:** Tuesday, May 3, 2022 3:13:33 PM  
**Attachments:** [image001.png](#)

---

---

**From:** Council <council@gjcity.org>  
**Sent:** Tuesday, May 3, 2022 3:13:29 PM (UTC-07:00) Mountain Time (US & Canada)  
**To:** Abe Herman <abeh@gjcity.org>; Anna Stout <annas@gjcity.org>; Belinda White <belindaw@gjcity.org>; Chuck McDaniel <chuckmc@gjcity.org>; Council <council@gjcity.org>; Dennis Simpson <denniss@gjcity.org>; Greg Caton <gregc@gjcity.org>; John Shaver <johns@gjcity.org>; Phillip Pe'a <phillipp@gjcity.org>; Randall Reitz <randallr@gjcity.org>; Rick Taggart <rickt@gjcity.org>; cityclerk <cityclerk@gjcity.org>  
**Subject:** FW: Resolution Setting Fees for Cannabis Licensing- Comment,

*FYI: Hello Councilmembers, the message below from Mitch Yater, regarding the above-mentioned, was left on Council's email this afternoon:*

*Belinda White  
Administrative Specialist*

*(970) 244-1508*



---

**From:** Mitchell Yater <mfyater@gmail.com>  
**Sent:** Tuesday, May 3, 2022 12:27 PM  
**To:** Council <council@gjcity.org>  
**Subject:** Resolution Setting Fees for Cannabis Licensing- Comment,

**\*\* - EXTERNAL SENDER. Only open links and attachments from known senders. DO NOT provide sensitive information. Check email for threats per risk training. - \*\***

Hello,

I've been reviewing the documents for the upcoming resolution regarding the fee schedule for the cannabis license application process.

It appears to me that the application fee (\$2,500) and the license fee (\$5,000), will both be due at the time of application submission. With the licensing fee being refundable if not drawn in the random drawing.

This seems like a substantial amount of funds to tie up in what amounts to a gamble. Would it be



possible to require only the application fee of \$2,500 for the initial application, and then require payment of the Licensing fee upon winning a license in the randomization process. I fear it will be difficult to tie up \$7,500 during the deliberation process. This would be very helpful to my efforts if possible.

Also, to be clear, the licensing fee of \$2500 is non refundable if the application is not selected in the randomization process?

Many thanks,  
-Mitch Yater

**RESOLUTION NO. \_\_\_\_\_**

**A RESOLUTION ESTABLISHING VARIOUS FEES AND CHARGES RELATING  
TO TITLE 5 CHAPTER 13 OF THE GRAND JUNCTION MUNICIPAL CODE  
PERTAINING TO CANNABIS BUSINESS LICENSES**

**Recitals.**

Fees charged by the City for various licenses, permits and programs are set by resolution of City Council. With this Resolution the City Council establishes, sets, and determines the fees related and referred to in Title 5, Chapter 13 of the Grand Junction Municipal Code pertaining to regulated cannabis business licenses.

The City Council have been duly advised and having considered the fees proposed in this Resolution does establish, set, and determine the same and make the fees as provided in the Resolution applicable to regulated cannabis business license applications/licenses.

**NOW, THEREFORE, BE IT RESOLVED BY THE CITY COUNCIL OF THE CITY  
OF GRAND JUNCTION, COLORADO:**

1. The foregoing Recitals are adopted, and the fees are established with the understanding that the fees shall be paid to compensate the City for some of the costs incurred by it in the reviewing and processing of applications, including the costs of publication, hearing, administration, inspection and enforcement of regulated cannabis business applications and licenses.
2. The fees shown in Exhibit A ("Fees") are hereby approved and adopted. The Fees shall apply upon adoption of this Resolution and will remain in effect until amended by subsequent resolution of the City Council.
3. The Regulated Cannabis Business Application Fee ("Application Fee") shall be nonrefundable. The Regulated Cannabis Business License Fee License Fee ("License Fee") is refundable and shall be refunded by the City if an Applicant for a Regulated Cannabis Business is not selected in the randomized license selection process.

PASSED AND ADOPTED this 4th day of May 2022.

\_\_\_\_\_  
President of City Council

ATTEST:

\_\_\_\_\_  
Laura J. Bauer  
Interim City Clerk

### **Exhibit A**

#### Cannabis Business Application and License Fees

|                                             |         |
|---------------------------------------------|---------|
| Regulated Cannabis Business Application Fee | \$2,500 |
| Regulated Cannabis Business License Fee     | \$5,000 |

#### Other License Fees

|                                   |                                                     |
|-----------------------------------|-----------------------------------------------------|
| Annual Renewal Fee                | \$2,500 application fee plus<br>\$5,000 license fee |
| Change of Corporate Structure Fee | \$2,500 application fee plus<br>\$5,000 license fee |

#### Administrative Fees

|                                                                                                                                               |       |
|-----------------------------------------------------------------------------------------------------------------------------------------------|-------|
| Zoning Verification Per Address                                                                                                               | \$100 |
| Fire Consultation Fee<br>(This Fee is and shall be in addition to other GJFD review fees, permit(s) fees and costs and charges as applicable) | \$100 |

All Fees are nonrefundable unless otherwise provided in Ordinance No. 5064.



## Grand Junction City Council

### Regular Session

Item #5.a.i.

---

**Meeting Date:** May 4, 2022

**Presented By:** John Shaver, City Attorney, Nicole Galehouse, Senior Planner

**Department:** City Attorney

**Submitted By:** Staff Cannabis Team

---

### **Information**

#### **SUBJECT:**

An Ordinance Amending Title 21 Chapter 4, Chapter 6, and Chapter 10 and Amending Title 27, Chapter 12 of the Grand Junction Municipal Code Regarding Use Standards and for Specific Buffering between Certain Schools and Rehabilitation Facilities, and Adopting Regulations for Signage of Cannabis Businesses, and Definitions for such Businesses

#### **RECOMMENDATION:**

The Planning Commission heard this request at their April 12, 2022 meeting and voted (6-1) to recommend adoption of the Ordinance.

#### **EXECUTIVE SUMMARY:**

The voters approved referred measures 2A and 2B at the City election on April 6, 2021. The approval of those measures provides the City Council an opportunity to allow for and regulate Marijuana "Cannabis" businesses and to establish tax rates and regulations for the retail cannabis industry in Grand Junction.

The City Council met on July 13, 2020, November 30, 2020, December 17, 2020, January 4, 2021, January 20, 2021, March 1, 2021, May 3, 2021, June 7, 2021, July 19, 2021, July 21, 2021, September 20, 2021, November 1, 2021, January 10, 2022, February 14, 2022, and March 14, 2022, to discuss and provide direction regarding the regulation of Cannabis (Marijuana) Retail Sales within the City of Grand Junction. The proposed ordinances are the product of these extensive discussions and the culmination of the City's effort to create a system for regulating cannabis retail sales businesses that protect the health, safety and welfare of the community while creating a fair and equitable process to select qualified operators of up to ten retail sales locations. The first reading of the proposed ordinance occurred on March 16, 2022. This ordinance amends certain sections of the Zoning and Development Code (Title 21 and

Title 27) of which the Planning Commission is required to review and provide a recommendation therein. The Planning Commission heard the item at their April 12, 2022 meeting.

**BACKGROUND OR DETAILED INFORMATION:**

Based upon direction received from the City Council at and during previous meetings and workshops and having reviewed ordinances from across Colorado as a baseline, staff has prepared three ordinances that work collectively to regulate cannabis retail sales. The Ordinance regulating Cannabis Uses, Licenses and Regulations (Ordinance No. 5064) and the ordinance creating a Retail Cannabis Sales and Use Tax and an Excise Tax (Ordinance No. 5065) were adopted by City Council on April 6, 2022.

This ordinance amends Title 21, including Chapter 4, Chapter 6 and Chapter 10, includes proposed changes to the use table, location specific limitations (Horizon Drive BID and Downtown), buffering from specific land uses, and signage regulations. The ordinance also amends Title 27, Chapter 12 pertaining to signage regulations within the Horizon Drive Overlay. Clerical issues were edited from the March 14<sup>th</sup> version as directed in that workshop. Additional clerical and clarification but non- substantive edits have been made since the March 16<sup>th</sup> first reading included in the attached redline and clean versions for consideration.

**FISCAL IMPACT:**

This action has no direct fiscal impact.

**SUGGESTED MOTION:**

I move to (adopt/deny) Ordinance No. 5070, an ordinance amending Title 27, Chapter 12 of the Grand Junction Municipal Code regarding use standards and for specific buffering between certain schools, and rehabilitation facilities, and adopting regulations for signage of cannabis businesses, and definitions for such businesses upon final passage and order final publication in pamphlet form.

**Attachments**

1. Public Comment-A.Walsh
2. Public Comment-D.Baird
3. Public Comment-J.Bonin
4. Public Comment-T.Bradley
5. Public Comment - Liz Zukowski
6. Public Comment - Renee Grossman
7. ORD-ZDC Cannabis -04.06.2022 REDLINE - 042122
8. ORD-ZDC Cannabis -04.06.2022 CLEAN - 042122

## Tamra Allen

---

**From:** comdev  
**Sent:** Monday, March 14, 2022 5:28 PM  
**To:** Tamra Allen; Jace Hochwalt  
**Subject:** FW: For tonights cannabis workshop  
**Attachments:** GJ Mj licensing memo March.docx.pdf

From comdev email.

Pat

*Pat Dunlap*

Planning Technician  
City of Grand Junction - Community Development  
250 N 5th St, Grand Junction, CO 81501-2628  
patd@gjcity.org; (970) 256-4030; (970) 256-4031 fax  
Office hours: M-F, 8:00 AM - 5:00 PM

---

**From:** Samantha Walsh <samantha@tetrapublicaffairs.com>  
**Sent:** Monday, March 14, 2022 16:03  
**To:** comdev <comdev@gjcity.org>; cityclerk <cityclerk@gjcity.org>; Abe Herman <abeh@gjcity.org>; Anna Stout <annas@gjcity.org>; Chuck McDaniel <chuckmc@gjcity.org>; Randall Reitz <randallr@gjcity.org>; Dennis Simpson <denniss@gjcity.org>; Rick Taggart <rickt@gjcity.org>; Phillip Pe'a <phillipp@gjcity.org>  
**Subject:** For tonights cannabis workshop

**\*\* - EXTERNAL SENDER. Only open links and attachments from known senders. DO NOT provide sensitive information. Check email for threats per risk training. - \*\***

Please include the following comment in tonight's workshop regarding base criteria and relevant experience with previous lottery systems. Thank you

Grand Junction City Council and Staff  
250 N 5<sup>th</sup> Street  
Grand Junction, CO 81501

March 14, 2022

### Re: Grand Junction Marijuana Licensing Ordinance

First, I'd like to acknowledge all the hard work Council has put into this ordinance. My firm has been working with various stakeholders and staff to participate in the process since the City began holding public listening sessions last summer. While we understand the direction Council is taking the ordinance, we remain greatly concerned with a lottery system being hastily thrown together. The lottery system that tends to be taken advantage of and "gamed" by well capitalized cannabis conglomerates or unscrupulous entities with no experience in the cannabis industry. It may feel like the path of least resistance, but history has demonstrated that lottery systems end up costing more and taking more time to implement than a traditional merit based system.

Adams County, for example, moved forward in 2020 to license cannabis hospitality businesses and found that applicants would recruit relatives and friends to submit applications for the lottery. They did this as a way to collect several “tickets” on behalf of people with no vested interest in the industry who were acting as a placeholder or “owner” in name only. To date, none of the 5 lottery winners have opened their businesses for operation because of conflicts around trying to transfer ownership. In Broomfield, another city that went down the lottery path, there have been 2 lawsuits that have severely delayed licensing and therefore denied much needed tax revenue to the city. And unfortunately, the social equity applicant in Broomfield was shut out completely.

While we still believe a merit based approach is the quickest way to evaluate quality applicants and ensure the fastest approval track for businesses to open and the City to collect revenue, we want to work with the City to ensure that the process moving forward can do that as well - to the greatest extent possible.

## Mandatory Lottery Entry Criteria

We encourage Council to set a higher bar for entry into the lottery, guarantee that the highest quality applicants enter the lottery, and ensure that only those who are dedicated to maintaining a long-term relationship in the community will win the privilege of a license. The following are 5 criteria that were identified by Council as priorities, and it is standard practice that a plan for each be provided prior to the issuance of a license, or in this case, a lottery entrance.

**Experience in the Cannabis Industry** - Ability to demonstrate, through a business plan and management experience, the applicant’s ability to operate and develop a business in a highly regulated industry with a cumulative demonstrated experience of at least three (3) years. This would include:

- 
- 
- Applicant should be badged as an owner by the MED before submitting their application in the lottery.
- This will prevent gamesmanship of loading the lottery with false parties, insincere applications, and those looking to transfer or sell the license.
- 
- 
- 
- Executive summary of Applicant’s business plan demonstrates excellent familiarity with the relevant rules, regulations, and financial structure of the regulated cannabis industry in Colorado.
- 
- 
- 
- Attestation that Applicant has employed at least 10 employees badged under MED.
- 

**Detailed Business Plan** – Applicant provides a business plan of overall quality and detail to indicate that the business will achieve operational stability and comply with best practices and regulations concerning employment and prevention of crime and nuisance. The business plan must include the following:

- 
- 
- Provide a reasonable estimate of costs related to build out and startup
- 
- 
- 
- Proof that a facility has been secured and that the location meets zoning requirements
- 
- 
- 
- Proof of a plan/access to technology to facilitate ordering, tracking and ID/age purchase verification.
- 
-



- 
- Security Plan including storage procedures
- 
- 
- 
- Environmental Impact Plan. This must include a means for odor mitigation and safe disposal of solvents and other hazardous materials.
- 
- 
- 
- Compliance Plan to keep up with the changes in state and local regulations in the required timelines. This shall include an employee training plan.
- 
- 
- 
- Complaint Resolution Plan – must demonstrate a viable process for conflict and nuisance avoidance and resolution that will provide a high likelihood that complaints regarding the direct impacts from the business operations (e.g. odor, traffic, noise, etc.) will be avoided and/or resolved sufficiently and expediently.
- 

**Quality of Character** – Because these are incredibly valuable and desirable licenses in a very regulated industry, Applicants should be held to high standards and engage in the license process honestly and with integrity. Therefore, the following must be required in order to enter the lottery process:

- - 
  - An attestation that each application has no overlapping partners or investors or immediate family members of partners or investors with another application
  - 
  - 
  - 
  - An attestation that each application has no overlapping investors or investment dollars with any other application.
  -
- o Any Applicant found to have overlapping applications or financial interest should be immediately disqualified in place of redoing the lottery process. This was one of the major hurdles in Broomfield that delayed the lottery process significantly.*

- 
- 
- Proof of tax compliance
- - The Applicant is in full compliance with the taxation rules and regulations of State and City.
- 
- 
- 
- No Known Egregious Violations and Eligibility – City records and applicant statements shall demonstrate that no ownership interest greater than 10 percent has a record of prior
- 

notices of violations, stop work orders, cease and desist orders or repetitive contact by the City's Code Enforcement officers or agencies that resulted in the forfeiture or transfer of ownership of a cannabis business license.

-

- 
- Applicant must not be prohibited from becoming a licensee for any reason identified by State law
- or regulation
- 

**Financial Viability** – Applicant provides a feasible financial plan and demonstrates control of at least \$500,000 in cash and cash equivalents available for deployment to fund business development and operations.

**Community Impact and Benefit** – Applicant submits a plan that demonstrates meaningful and substantial commitment through financial donation, service, or similar to programs, services and organizations that address Social Determinants of Health as defined by the CDC. These include economic stability, education access and quality, health care access and quality, neighborhood and built environment, and social and community context. Plan must include letters of support from non-profits or community members partnered with the applicant in developing the community plan.

We believe these criteria are essential to meeting Council's goals of an efficient and fair licensing procurements while also ensuring that the utmost integrity is obtained from both applicants and the process.

--

*Samantha Walsh*

Founder

*(c) 303.618.6504*



[www.tetrapublicaffairs.com](http://www.tetrapublicaffairs.com)

## Tamra Allen

---

**From:** comdev  
**Sent:** Monday, March 14, 2022 5:27 PM  
**To:** Tamra Allen; Jace Hochwalt  
**Subject:** FW: 3-14-22 Council Meeting

From comdev email.

Pat

*Pat Dunlap*

Planning Technician  
City of Grand Junction - Community Development  
250 N 5th St, Grand Junction, CO 81501-2628  
patd@gjcity.org; (970) 256-4030; (970) 256-4031 fax  
Office hours: M-F, 8:00 AM - 5:00 PM

---

**From:** Dwayne Baird <admin@jandjinc.net>  
**Sent:** Monday, March 14, 2022 13:59  
**To:** Abe Herman <abeh@gjcity.org>; Chuck McDaniel <chuckmc@gjcity.org>; Phillip Pe'a <phillipp@gjcity.org>; Randall Reitz <randallr@gjcity.org>; Dennis Simpson <denniss@gjcity.org>; Anna Stout <annas@gjcity.org>; Rick Taggart <rickt@gjcity.org>  
**Cc:** comdev <comdev@gjcity.org>  
**Subject:** 3-14-22 Council Meeting

**\*\* - EXTERNAL SENDER. Only open links and attachments from known senders. DO NOT provide sensitive information. Check email for threats per risk training. - \*\***

Dear Councilmen and Council Women,

After reviewing the proposed marijuana application requirements, I would like to ask about the cannabis business license proposed operating plan. First page, item 3. What is the reasoning behind requiring a fire suppression system? I don't see anything in the proposed ordinance that alludes to a fire suppression system other than following the international and local fire code. According to the fire sprinkler requirements on your website, retail locations above 12,000 sq. ft. require a sprinkler system but not less than 12,000 sq. ft.

Is it your intention to require a fire suppression system for all cannabis retail stores? This places an undue burden on prospective applicants who have already invested a great deal of money into their locations. A cannabis dispensary is a retail outlet, nothing more. Do you require all retail establishments in Grand Junction regardless of size to install a fire suppression system? Not according to the fire code, so why single out cannabis dispensaries? Fire suppression systems are incredibly expensive and unnecessary in small to medium size retail outlets. This undue burden will further hinder your potential applicant pool. To give you an example, the Town of Dolores Colorado implemented a fire suppression system requirement. Once the many several potential applicants were informed of this decision most decided not to go thru with the application. The Town of Dolores began accepting applications in January of 2021, anticipating a lottery drawing due to the interest shown initially. All but one applicant has withdrawn from the Town of Dolores.

A fire suppression system is expensive and time consuming. We estimate our proposed location will cost upwards of \$200,000 and a minimum of 6-9 months to complete installation. Us and other applicants already have invested a great deal of money into our proposed locations. We continue to invest while the council figures out what system they want to use to decide on the 10 applicants. The more requirements like this you impose the greater chance there will be that no smaller cannabis retailers can afford to business in Grand Junction.

I urge you to reconsider the fire suppression system requirement. Stick to the existing fire code and do not place extra financial and time burdens on cannabis retailers simply because we sell cannabis. At the end of the day, we sell a product at a retail establishment. We are no different than your local liquor store, other than the fact that we are already highly regulated and highly taxed.

Thank you for your time.

Dwayne Baird  
(970) 946-8537

**J and J Enterprises, Inc | JWJ Inc.**

Business Development | Licensing Specialist | I.T. Admin

## Tamra Allen

---

**From:** comdev  
**Sent:** Monday, March 14, 2022 5:28 PM  
**To:** Tamra Allen; Jace Hochwalt  
**Subject:** FW: 3-14-22 Council Workshop

From comdev email.

Pat

*Pat Dunlap*

Planning Technician  
City of Grand Junction - Community Development  
250 N 5th St, Grand Junction, CO 81501-2628  
patd@gjcity.org; (970) 256-4030; (970) 256-4031 fax  
Office hours: M-F, 8:00 AM - 5:00 PM

---

**From:** Jeremy Bonin <jbonin@jandjinc.net>  
**Sent:** Monday, March 14, 2022 16:58  
**To:** Abe Herman <abeh@gjcity.org>; Chuck McDaniel <chuckmc@gjcity.org>; Phillip Pe'a <phillipp@gjcity.org>; Randall Reitz <randallr@gjcity.org>; Dennis Simpson <denniss@gjcity.org>; Anna Stout <annas@gjcity.org>; Rick Taggart <rickt@gjcity.org>  
**Cc:** comdev <comdev@gjcity.org>  
**Subject:** 3-14-22 Council Workshop

**\*\* - EXTERNAL SENDER. Only open links and attachments from known senders. DO NOT provide sensitive information. Check email for threats per risk training. - \*\***

Dear Council members,

Upon review of the cannabis application requirements being proposed tonight, I would like to address the operating plan draft. One of the requirements being asked of all licenses is a required fire suppression system. I have attended nearly every meeting and been involved in the councils' discussions regarding retail cannabis in Grand Junction since early last year and this is the first I've heard about a fire suppression system requirement for all license types.

A fire suppression system should not be a requirement for a small to medium sized retail establishment.

I can't find any information in the draft ordinance requiring this system. The proposed ordinance simply states that the establishment follow all local and international fire codes. I've spoken with the local fire inspection office and been assured that normal retail establishments in Grand Junction aren't required to install such a system.

Most retail cannabis establishments are going to be well under 12,000 sq. ft. (which is the size requirement) and will not be storing any hazardous materials, other than lighters. There is no logical reason behind such a

requirement. Retail cannabis establishments have fewer flammable items than a typical clothing boutique let alone a liquor store.

Fire suppression systems are incredibly expensive and time consuming to install. They can easily cost hundreds of thousands of dollars and since they require multiple inspections and certifications, they usually take 6 months or more to be completed. Cannabis retailers are just that, retailers. We aren't production facilities, we don't have tens of thousands of square feet, and we don't store hazardous chemicals nor are we engaging in any volatile processes. I implore you to stick with the language currently in the draft ordinance and to only require what is already in the existing local and international fire code. Please do not place this undue burden on new businesses starting in Grand Junction. Following the ordinance as previously written and requiring businesses to follow the local and international fire code will be plenty of protection for the City of Grand Junction.

As to the merit-based system versus lottery-based system. I and many others have spoken many times to the advantages of a merit-based system. If you continue with the existing cap rather than let the free market dictate how many cannabis retailers can be in operation, a merit-based system will ensure that you, the city council, get the highest quality operators in the industry. This is a very challenging industry to be in. Cannabis was approved by voters to get tax dollars into your community. Inexperience or even bad operators can and will delay the opening of retail stores. We've seen several communities go thru a time-consuming lottery process only to be delayed a year or more before stores can open. These delays will cost the city the tax dollars it needs to fund the Parks, Recreation and Open Space plan. You have little control over a lottery, open yourself to litigation, and will cause even further delays. The fairest way to move forward, is to correct the mistake of putting an arbitrary cap on the number of cannabis stores that can open.

I believe it was council woman Stout that said it best. "It is not the council's job to decide how many retailers should open, it is the councils' job to regulate the industry that the voters approved."

If you do continue with this arbitrary cap, please remember why the council overwhelmingly supported the merit-based system originally. The intent is to keep bad and inexperienced operators out so that the tax dollars can quickly flow to the City of Grand Junction.

Thank you for your time.

Jeremy Bonin

## Tamra Allen

---

**From:** comdev  
**Sent:** Monday, March 14, 2022 8:24 AM  
**To:** Tamra Allen; Jace Hochwalt  
**Subject:** FW: Public Comment for marijuana ordinance  
**Attachments:** Grand Junction Ordinance Comments.pdf

From comdev email.

Pat

*Pat Dunlap*

Planning Technician  
City of Grand Junction - Community Development  
250 N 5th St, Grand Junction, CO 81501-2628  
patd@gjcity.org; (970) 256-4030; (970) 256-4031 fax  
Office hours: M-F, 8:00 AM - 5:00 PM

---

**From:** Truman Bradley <truman@marijuanaindustrygroup.org>  
**Sent:** Friday, March 11, 2022 11:46  
**To:** Council <council@gjcity.org>; citymanager <citymanager@gjcity.org>; John Shaver <johns@gjcity.org>; comdev <comdev@gjcity.org>  
**Subject:** Public Comment for marijuana ordinance

**\*\* - EXTERNAL SENDER. Only open links and attachments from known senders. DO NOT provide sensitive information. Check email for threats per risk training. - \*\***

Good afternoon Council Members, Attorney Shaver, and Manager Caton,

My name is Truman Bradley. I serve as the Executive Director of the Marijuana Industry Group (MIG), the trade association for licensed Colorado cannabis businesses. MIG partners with lawmakers, regulators, community groups, and stakeholders to make sure that Colorado continues to be thoughtful and safe as we regulate marijuana. *Thank you for your diligence and conviction as you create a marijuana regulatory model that is right for Grand Junction.* As you prepare for your workshop on Monday, please see MIG's feedback on the [redline marijuana draft ordinance on your website](#).

Truman Bradley  
Executive Director



(303) 588-2297  
Truman@MarijuanaIndustryGroup.org



**From:** Liz Zukowski <[elisabeth.zukowski@nativerootsdispensary.com](mailto:elisabeth.zukowski@nativerootsdispensary.com)>  
**Sent:** Thursday, April 14, 2022 12:17  
**To:** Council <[council@gjcity.org](mailto:council@gjcity.org)>; comdev <[comdev@gjcity.org](mailto:comdev@gjcity.org)>  
**Subject:** MJ Application Administrative Requests

**\*\* - EXTERNAL SENDER. Only open links and attachments from known senders. DO NOT provide sensitive information. Check email for threats per risk training. - \*\***

Good afternoon Grand Junction Council and Director Allen,

Congratulations on passing the retail marijuana sales and marijuana sales tax ordinances! Our industry is so glad to see this come to fruition for the Grand Junction community.

Our company's primary licensing employee has a few practical administrative requests for the application based on experience writing and submitting applications to various municipalities across the state, including Broomfield, Winter Park, Longmont, and Aurora.

We have reviewed the available forms online and are extremely grateful these are already available for applicants, especially the workflow narrative, application checklist, and security diagram checklist.

Requests:

- 
- 
- Pose very specific questions and identify the level of detail to be included
- - 
  - 
  - Example of a poorly worded application question: "Explain your security plan"
  -
- 
- 
- Provide references to the ordinance sections/lines that pertain to each required item in the application
- 
- 
- 
- Set parameters around the length of answers (page limit, word count, etc.)
- 
- 
- 
- Since the ordinance grants the Licensing Authority the discretion to require additional materials for consideration,

- we ask that any request for additional information not be considered a “strike” against the applicant.
- 

These requests relate to the practicality of completing the application. Sharing as much detail with applicants about what the City wants to see in applications will cut down on questions from applicants and limit staff interruptions during the review period.

Additionally, setting parameters around the length of answers ensures the City is receiving the most vital information necessary to make a determination of license suitability and application completeness. Without these sorts of guidelines in place, the City may receive applications that are 200+ pages in length with duplicative information.

Thank you for listening to our suggestions. We believe if these requests are implemented, it will lead to a more efficient, effective, and equitable application and selection process.

If you’d like further details about any of the above requests, please don’t hesitate to reach out.

Sincerely,  
Liz

**Liz Zukowski** (she/her/hers)  
*Policy & Public Affairs Manager*  
C: 281-455-9755



[www.nativerootscannabis.com](http://www.nativerootscannabis.com)

**From:** [Agenda](#)  
**To:** [Selestina Sandoval](#); [Janet Harrell](#); [Debbie Kemp](#); [Laura Bauer](#); [Kerry Graves](#)  
**Subject:** FW: Few Comments for Tonight  
**Date:** Wednesday, May 4, 2022 1:34:26 PM  
**Attachments:** [image001.png](#)  
[image003.png](#)

---

---

**From:** Tamra Allen <tamraa@gjcity.org>  
**Sent:** Wednesday, May 4, 2022 7:34:22 PM (UTC+00:00) Monrovia, Reykjavik  
**To:** Agenda <agenda@gjcity.org>; Nicole Galehouse <nicoleg@gjcity.org>  
**Subject:** Fwd: Few Comments for Tonight

Please add these to the record for tonight's hearing

Sent from my Verizon, Samsung Galaxy smartphone  
Get [Outlook for Android](#)

---

**From:** Renee Grossman <renee@plumcompanies.com>  
**Sent:** Wednesday, May 4, 2022 11:00:57 AM  
**To:** Council <council@gjcity.org>  
**Cc:** Tamra Allen <tamraa@gjcity.org>; John Shaver <johns@gjcity.org>; LisaMarie Pinder <lisamariep@havacompanies.com>  
**Subject:** Few Comments for Tonight

**\*\* - EXTERNAL SENDER. Only open links and attachments from known senders. DO NOT provide sensitive information. Check email for threats per risk training. - \*\***

Mayor, Council Members and Staff,

I'm sure you are pleased that this process is almost completed. I understand, appreciate and respect why you chose to conduct a lottery instead of a merit system. I still fear there will be litigation that disrupts the process but hopefully not. I am eager to see the application materials that you create. As you think about what should be in the application, I would encourage you to have some requirements that provide assurances that those who apply and enter the lottery have the ability and capital to open stores and not just tie up licenses and block capable and competent operators.

Some requirements you may want to consider are listed below. I've chosen to write these as reps and warranties because that seems to make the most sense to me. If the applicant is unable to rep to any of these, you could deem the application incomplete and not eligible for the lottery. And if the applicant lies and you determine the rep is untrue, it would enable you to revoke the license if they don't have the money to open and not leave it tied up for 6 months or a year. I'm not an attorney, so I would defer to John's opinion and language should you chose to adopt any of these or similar reps.

- Applicant reps that it has minimum liquid capital of \$250,000 or more
- Applicant reps that it has no outstanding tax obligations to the State of Colorado or any local municipality in which it operates a marijuana license
- Applicant reps that it is not under investigation or subject to regulatory infractions with the State of CO or any local municipality in which it operates a marijuana license
- Applicant reps that it does not have any open or threatened litigation related to its operation of a cannabis license
- Applicant reps that it or any of its owners or lenders are not persons prohibited from owning a marijuana license – alternatively, you can require all owners or at least Controlling Beneficial Owners have already received suitability from the MED

I would also encourage you to reconsider the weighted lottery thereby giving you some control over the outcome to ensure you get good operators who will generate the most revenue for you. This could be done with simple things that I don't think conflict with your adopted ordinances, such as:

- Rate the properties/locations based on suitability for the use A, B, C. This could be based on the location, the parking, the conformance with uses in the area, etc. Typical land use considerations. Then perhaps give more balls for more suitable locations. I bring this up specifically because I believe that once you see the applications, you will see a lot of locations that are less suitable for the use. Perhaps they are closer to residential or do not have adequate parking, which could cause customers to go to other towns if shopping is too challenging in Grand Junction.
- Ask for business plans and operating plans and rate them. Once you see the applications, it will be very clear to you the difference among applicants and who will be best suited and generate the most tax revenues for your city.

Last, I would make the application fee higher and non-refundable. Thank you for your consideration of my comments.

P.S. Check out our new store in Cedaredge that opened last week!

Regards,

Renée



**RENÉE S. GROSSMAN**

President & CEO

C: [212-851-6448](tel:212-851-6448) | E: [renee@havacompanies.com](mailto:renee@havacompanies.com)

[HAVAGARDENS.COM](http://HAVAGARDENS.COM) | [AKTACREATIONS.COM](http://AKTACREATIONS.COM) | [HIGHQROCKIES.COM](http://HIGHQROCKIES.COM)

This email message is for the exclusive use of the intended recipient(s) and may contain confidential, privileged and non-disclosable information. Any unauthorized review, use, disclosure or distribution is prohibited. If you are not the intended recipient, please contact the sender by reply email immediately and destroy any and all copies of the message.



ORDINANCE NO. \_\_\_\_\_

**AN ORDINANCE TO AMEND TITLE 21 CHAPTER 4, CHAPTER 6, AND CHAPTER 10 AND TO AMEND TITLE 27, CHAPTER 12.12 OF THE GRAND JUNCTION MUNICIPAL CODE REGARDING USE STANDARDS AND FOR SPECIFIC BUFFERING BETWEEN CERTAIN SCHOOLS AND REHABILITATION FACILITIES, AND ADOPTING REGULATIONS FOR SIGNAGE OF CANNABIS BUSINESSES, AND DEFINITIONS FOR SUCH BUSINESSES.**

**RECITALS:**

The City desires to maintain effective regulations in its Zoning and Development Code (Title 21 of the Grand Junction Municipal Code ("GJMC")); regulations that encourage and require appropriate use of land throughout the City while taking into consideration the needs and desires of the citizens of Grand Junction.

Although Federal law criminalizes the use and possession of marijuana as a Schedule 1 controlled substance under the Controlled Substance Act, on June 7, 2010, former Governor Ritter signed into law House Bill 10-1284 and Senate Bill 10-108 which, among other things, authorized the City to adopt an ordinance to license, regulate or prohibit the cultivation and/or sale of marijuana (C.R.S. 12-43.3-103(2)). The law also allowed a city to vote, either by a majority of the registered electors or a majority of the City Council, to prohibit the operation of medical marijuana centers, optional premises cultivation operations and medical marijuana infused products manufacturers.

At the time of House Bill 10-1284 and Senate Bill 10-108's passing, a moratorium was in effect in the City for the licensing, permitting and operation of marijuana businesses. The moratorium, which was initially declared on November 16, 2009 (through Ordinance 4437), was for a period of twelve months and applied to any person or entity applying to function, do business or hold itself out as a medical marijuana dispensary in the City of Grand Junction, regardless of the person, entity, or zoning. On October 13, 2020, City Council adopted Ordinance 4446 which extended the moratorium to July 1, 2011.

At the April 5, 2011 election, the electorate voted in favor of prohibiting the operation of medical marijuana businesses and the amendment of the ~~Grand Junction Municipal Code~~ by prohibiting certain uses of marijuana (Measure A).

On November 6, 2012, Colorado Amendment 64 was passed by the voters, amending Article 18 of the Colorado Constitution adding Section 16 which allows retail marijuana stores and made it legal for anyone 21 years or older to buy marijuana at such stores. In addition, Amendment 64 allows anyone 21 years or older ~~over 21 years of age~~ to legally possess and consume up to one ounce of marijuana. Amendment 64 does not change the Federal law; it still remains illegal under Federal law to produce and/or distribute marijuana also known as cannabis.

On February 6, 2013, City Council approved Resolution 07-13 adopting marijuana policies for the City and restrictions for persons or entities from applying to function, do business, or hold itself out as a marijuana facility, business, or operation of any sort in the City limits. -Later that same year, City Council adopted Ordinance 4599 which prohibited the operation of marijuana cultivation facilities, marijuana product manufacturing facilities, marijuana testing facilities, and retail marijuana stores. Ordinance 4599 also amended Sections in Title 5, Article 15 of the ~~Grand Junction Municipal Code~~ that prohibit certain uses relating to marijuana.

In late 2015, the City, Mesa County and Colorado Mesa University, by and through the efforts of the Grand Junction Economic Partnership (GJEP), were successful in establishing the *Colorado Jumpstart* business development program. One business which was awarded the first *Jumpstart* incentive planned to develop a laboratory and deploy its advanced analytical processes for genetic research and its ability to mark/trace chemical properties of agricultural products, one of which was cannabis. In October 2016, City Council passed Ordinance 4722 which amended Ordinance 4599 and Section 21.04.010 of the ~~Grand Junction Municipal Code~~ to allow cannabis marijuana testing facilities in the City.

On January 20, 2021 the City Council approved Resolution 09-21, the adoption of which referred a ballot question to the regular municipal election on April 6, 2021 to repeal Referred Measure A contingent on and subject to voter approval of taxation of marijuana cannabis businesses. A majority of the votes cast at the election were in favor of repealing the moratorium on marijuana cannabis businesses and in favor of taxation of cannabis businesses.

City Council has decided to allow certain regulated retail cannabis businesses within the City. City Council has requested that staff prepare an ordinance to repeal the prohibition of cannabis businesses from the ~~Grand Junction Municipal Code~~ and to include rules and regulations for licensing and operating retail cannabis businesses.

City staff and community members, including the Cannabis Working Group, have researched, reviewed, and discussed various approaches to taxation, permitting and regulation of regulated retail cannabis within the City. Regulations for cannabis uses have been established at the state level with the adoption and implementation of the Colorado Marijuana Code in the Colorado Revised Statutes (C.R.S. 44-10-101, *et. seq.*); however, regulation of regulated retail marijuana uses at the state level alone are inadequate to address the impacts on the City of regulated cannabis, making it appropriate for the City to regulate the impacts of regulated retail cannabis uses.

The City has a valid interest in regulating zoning and other impacts of cannabis businesses in a manner that is consistent with constitutional and statutory standards. The City Council desires to facilitate the provision of quality regulated retail cannabis in a safe manner while protecting existing uses within the City. Regulation of the manner of operation and location of regulated retail cannabis uses is necessary to protect the health,

safety and welfare of both the public and the customers. The proposed ordinance is intended to allow certain regulated cannabis businesses that will have a minimal impact and where potential negative impacts are minimized.

This proposed ordinance amends the City's Code to permit cannabis businesses in the specific zone districts where general indoor retail sales are permitted and provides for buffering from specific land uses including, certain schools and specific rehabilitation facilities. This ordinance also includes regulations for signage and definitions for cannabis businesses.

After public notice and public hearing as required by the Grand Junction Zoning and Development Code, the Grand Junction Planning Commission recommended approval of the proposed amendments.

After public notice and public hearing, the Grand Junction City Council finds that the amendments to allow certain retail-regulated cannabis businesses by and through the uses and the Use Table, are responsive to the community's desires and otherwise advance and protect the public health, safety and welfare of the City and its residents.

**NOW THEREFORE, BE IT ORDAINED BY THE CITY COUNCIL OF THE CITY OF GRAND JUNCTION THAT THE FOLLOWING SECTIONS OF THE GRAND JUNCTION MUNICIPAL CODE INCLUDING TITLE 21: ZONING AND DEVELOPMENT CODE AND TITLE 27: HORIZON DRIVE DISTRICT OVERLAY ZONE DISTRICT STANDARDS ARE AMENDED AS FOLLOWS (new text additions underlined and deletions marked with strike-through notations):**

21.04.010 (d) Prohibited Uses. .

~~Marijuana related business, whether retail, commercial, industrial or agricultural, except marijuana testing facility(ies) are prohibited in all zone districts in accordance with Chapter 5.15 GJMC. Marijuana testing facility(ies) is (are) allowed in the zone districts shown.~~

~~Marijuana testing facilities shall be categorized as/under the "industrial services, contractors and trade shops, oil and gas support operations without hazardous materials" category of the use zone matrix as "research, testing, and laboratory facilities — indoors (including marijuana testing facilities)" as allowed uses in B-2, C-1, C-2, MU, BP, IO, I-1 and 1-2 zone districts.~~



117  
118  
119  
120

21.04.010 Use Table.

| Key: A = Allowed, C = Conditional, Blank Cell = Not Permitted |                            |     |     |     |     |     |     |     |      |      |      |     |     |     |     |     |     |     |    |     |     |     |      |                  |
|---------------------------------------------------------------|----------------------------|-----|-----|-----|-----|-----|-----|-----|------|------|------|-----|-----|-----|-----|-----|-----|-----|----|-----|-----|-----|------|------------------|
| Use Category                                                  | Principal Use              | R-R | R-E | R-1 | R-2 | R-4 | R-5 | R-8 | R-12 | R-16 | R-24 | R-O | B-1 | B-2 | C-1 | C-2 | CSR | M-U | BP | I-O | I-1 | I-2 | M X- | Std.             |
| Retail Sales and Services                                     | Marijuana Related Business |     |     |     |     |     |     |     |      |      |      |     |     |     |     |     |     |     |    |     |     |     |      | Ch 6-16          |
| Retail Sales and Service                                      | Regulated Cannabis Store   |     |     |     |     |     |     |     |      |      |      |     | A   | A   | A   | A   |     | A   | A  |     |     |     | A    | Ch. 21.04.030(w) |

121  
122  
123  
124

21.04.030 Use-specific standards.

(w) Regulatedtail Cannabis Stores.

126

(1) Applicability. These regulations apply to all Regulatedtail Cannabis Stores in the City in addition to the other provisions in the GJMC pertaining to cannabis stores, including but not limited to, GJMC Chapters 5.13 and 5.14.

130

(2) Zoning.

132

(i) It is unlawful for a Regulatedtail Cannabis Store to operate in a building which contains a Dwelling Unit that is occupied or unoccupied.

135

(ii) There shall be no more than two Regulatedtail Cannabis Stores operating within the boundaries of the Horizon Drive Business Improvement District, as may be amended.

139

(iii) There shall be no Regulated Cannabis Storesbusinesses located on the ground floor of any buildings in the Downtown Grand Junction area defined as Main Street bounded by the west intersection line of First Street and bounded by the east by the centerline of 7th Street.

144

(3) Buffering.

145

(i) No Regulatedtail Cannabis Stores shall be located:

146

- (A) Within 1000 feet of any private or public elementary, middle, junior high, or high school.
- (B) Within 1000 feet of Colorado Mesa University (Main Campus) and Western Colorado Community College.
- (C) Within 500 feet of any services for prevention, treatment or recovery from substance use and mental health concerns, as licensed by the Colorado Department of Human Services, Office of Behavioral Health (OBH).
- (ii) Buffering Distance Computation. The buffering distance shall be computed by direct measurement from the nearest property line of the land use to the nearest portion of the building or unit in which the ~~regulated~~retail cannabis is to be sold, using a route of direct pedestrian access, measured as a person would walk safely and properly, without trespassing ~~or, without~~ utilizing alleys, following stripping or parking patterns or on-site designated pedestrian routes, with right angles at crossings and with the observance of traffic regulations and traffic signals.

#### 21.06.070 Sign Regulation

##### (i) ~~Regulated Cannabis Business Cannabis Retail Store~~ Signage and Advertising.

- (1) All signs and advertising for ~~Regulated~~etail Cannabis Stores shall comply with all applicable provisions of the Colorado Marijuana Code, any regulations adopted pursuant thereto, the provisions of this Chapter and [of Title 5, Chapter 13 of the Municipal Code](#)~~Chapter 6~~, and the City's ordinances and regulations regarding signs and advertising.
- (2) No sign shall use the terms "pharmacy", "pharmacist", "pharmaceutical", "rx", or any other similar variation of such terms as its corporate, business, or "doing business as" name, so as to prevent a reasonable person from concluding such business is involved in the practice of pharmacy, as regulated by Pharmaceuticals and Pharmacists, C.R.S. Article 22 of Chapter 12. Additionally, no ~~Regulated~~etail Cannabis Stores may use any of the above terms or any similar variation thereof in any of its signs, placards, promotional, or advertising materials. Additionally, no signs that mimic or allude to pharmacy or medical related symbols, including but not limited to medical style crosses regardless of proportions or colors, shall be used or displayed in nonmedical ~~retail~~~~Regulated~~ ~~Ce~~annabis ~~S~~stores.

189 (3) No sign shall include advertising material that is misleading, deceptive or false  
190 or that, as evidenced by the content of the advertising material or by the  
191 medium or the manner in which the advertising material is disseminated, is  
192 designed to appeal to persons under 21 ~~eighteen (18)~~ years of age.

193  
194 (4) Maximum Sign Dimensions:

195  
196 (i) For properties that lie within an existing overlay district regulated by Title  
197 22, Title 24, Title 25, Title 26, or Title 27 the specific regulations within the  
198 overlay shall apply.

199  
200 (ii) For all other properties within the City, only flush wall mounted signs or  
201 monument signs shall be allowed. -Maximum sign allowances shall be  
202 calculated according to the provisions of this Chapter and subject to the  
203 following limitations:

204  
205 (A) Maximum Height: 20 feet; and,

206  
207 (B) Maximum Area: -150 square feet per sign face.

208  
209 (5) Signs and Advertising not requiring a permit include:

210  
211 (i) Sign-wavers or other natural persons standing in the public. No ~~Retail~~  
212 ~~Regulated~~ Cannabis Stores shall advertise with sign-wavers or other  
213 natural persons within the buffering distances from specified land uses as  
214 provided in (w)-(3)(ia) above.

215  
216 (ii) Any advertisement contained within a newspaper, magazine, or other  
217 periodical of general circulation within the City or on the internet, which may  
218 include coupons.

219  
220 (iii) Any non-consumable merchandise or accessories.

221  
222 (iv) A booth at an adult event or job fair where the only items distributed are  
223 company or educational materials and no other items are distributed,  
224 shown or sold.

225  
226 (v) Business cards within the business or handed directly to an individual who  
227 is over the age of 21.

228  
229 (vi) Showing a government-issued verification of age or military status, or  
230 registration for a charitable event, or similar item the showing of which,  
231 without providing a separate printing to the business, entitles the holder to  
232 a discount for a particular product or service.

(vii) Company materials and educational materials distributed inside the cannabis business.

27.12.040 Signage.

(b) Freestanding signs shall comply with the following requirements:

(8) Maximum sign dimensions shall not exceed the following:

(i) For any regulated cannabis business, the maximum sign dimensions shall not exceed the following:

(A) 20 ~~twenty~~ feet in height; and,

(B) 75 ~~seventy-five~~ square feet.

21.10.020 Terms defined.

Cannabis ~~T~~esting ~~F~~acility(ies) is an entity licensed to analyze and certify safety and potency of cannabis.

Medical Cannabis Store is an entity licensed ~~and~~ co-located with a retail cannabis store that sells medical cannabis to registered patients or primary caregivers as defined in Section 14 of Article XVIII of the Colorado constitution, but is not a primary caregiver.

~~Regulated~~tail ~~C~~eannabis ~~C~~eultivation ~~F~~facility is an entity licensed to cultivate, prepare, and package cannabis and sell cannabis to retail cannabis stores, to cannabis product manufacturing facilities, and to other cannabis cultivation facilities, but not to consumers~~s~~.

~~Regulated~~tail ~~C~~eannabis ~~H~~ospitality and ~~S~~ales ~~B~~usiness is a facility that cannot be mobile, that is licensed to permit the consumption of only the retail cannabis or retail cannabis products it has sold pursuant to the provisions of an enacted, initiated, or referred ordinance or resolution of the local jurisdiction in which the licensee operates.

~~Regulated~~tail ~~C~~eannabis ~~P~~roducts ~~M~~anufacturing ~~F~~facility is an entity licensed to purchase cannabis; manufacture, prepare, and package cannabis products; and sell cannabis and cannabis products to other cannabis product manufacturing facilities and to retail cannabis stores, but not to consumers.

~~Regulatedtail C~~cannabis ~~T~~ransporter ~~B~~usiness is an entity or person that is licensed to transport retail cannabis and retail cannabis products from one ~~regulatedtail~~ cannabis business to another ~~regulatedtail~~ cannabis business and to temporarily store the transported ~~regulatedtail~~ cannabis and ~~regulatedtail~~ cannabis products at its licensed premises but is not authorized to sell ~~regulatedtail~~ cannabis or ~~regulatedtail~~ cannabis products under any circumstances.

~~Regulatedtail C~~cannabis ~~S~~store is an entity licensed to purchase ~~regulated~~ cannabis from ~~Regulated C~~cannabis ~~C~~cultivation ~~F~~facilities and to sell ~~regulated~~ cannabis to consumers and ~~Regulatedretail C~~cannabis ~~T~~esting ~~F~~facilities that are licensed to analyze and certify the safety and potency of cannabis.

All other provisions of Title 21 Chapter 4, Chapter 6, and Chapter 10 and Title 27 Chapter 12.12 shall remain in full force and effect.

Introduced on first reading the \_\_\_\_\_ day of \_\_\_\_\_, 2022 and ordered published in pamphlet form.

Adopted on second reading this \_\_\_\_ day of \_\_\_\_\_ 2022 and ordered published in pamphlet form.

ATTEST:

\_\_\_\_\_  
C.B. McDaniel  
President of City Council

\_\_\_\_\_  
Laura J. Bauer, MMC  
Interim City Clerk

ORDINANCE NO. \_\_\_\_\_

**AN ORDINANCE TO AMEND TITLE 21 CHAPTER 4, CHAPTER 6, AND CHAPTER 10 AND TO AMEND TITLE 27, CHAPTER 12.12 OF THE GRAND JUNCTION MUNICIPAL CODE REGARDING USE STANDARDS AND FOR SPECIFIC BUFFERING BETWEEN CERTAIN SCHOOLS AND REHABILITATION FACILITIES, AND ADOPTING REGULATIONS FOR SIGNAGE OF CANNABIS BUSINESSES, AND DEFINITIONS FOR SUCH BUSINESSES**

**RECITALS:**

The City desires to maintain effective regulations in its Zoning and Development Code (Title 21 of the Grand Junction Municipal Code ("GJMC")); regulations that encourage and require appropriate use of land throughout the City while taking into consideration the needs and desires of the citizens of Grand Junction.

Although Federal law criminalizes the use and possession of marijuana as a Schedule 1 controlled substance under the Controlled Substance Act, on June 7, 2010, former Governor Ritter signed into law House Bill 10-1284 and Senate Bill 10-108 which, among other things, authorized the City to adopt an ordinance to license, regulate or prohibit the cultivation and/or sale of marijuana (C.R.S. 12-43.3-103(2)). The law also allowed a city to vote, either by a majority of the registered electors or a majority of the City Council, to prohibit the operation of medical marijuana centers, optional premises cultivation operations and medical marijuana infused products manufacturers.

At the time of House Bill 10-1284 and Senate Bill 10-108's passing, a moratorium was in effect in the City for the licensing, permitting and operation of marijuana businesses. The moratorium, which was initially declared on November 16, 2009 (through Ordinance 4437), was for a period of twelve months and applied to any person or entity applying to function, do business or hold itself out as a medical marijuana dispensary in the City of Grand Junction, regardless of the person, entity, or zoning. On October 13, 2020, City Council adopted Ordinance 4446 which extended the moratorium to July 1, 2011.

At the April 5, 2011 election, the electorate voted in favor of prohibiting the operation of medical marijuana businesses and the amendment of the GJMC by prohibiting certain uses of marijuana (Measure A).

On November 6, 2012, Colorado Amendment 64 was passed by the voters, amending Article 18 of the Colorado Constitution adding Section 16 which allows retail marijuana stores and made it legal for anyone 21 years or older to buy marijuana at such stores. In addition, Amendment 64 allows anyone 21 years or older to legally possess and consume up to one ounce of marijuana. Amendment 64 does not change the Federal law; it still remains illegal under Federal law to produce and/or distribute marijuana also known as cannabis.

On February 6, 2013, City Council approved Resolution 07-13 adopting marijuana policies for the City and restrictions for persons or entities from applying to function, do business, or hold itself out as a marijuana facility, business, or operation of any sort in the City limits. Later that same year, City Council adopted Ordinance 4599 which prohibited the operation of marijuana cultivation facilities, marijuana product manufacturing facilities, marijuana testing facilities, and retail marijuana stores. Ordinance 4599 also amended Sections in Title 5, Article 15 of the GJMC that prohibit certain uses relating to marijuana.

In late 2015, the City, Mesa County and Colorado Mesa University, by and through the efforts of the Grand Junction Economic Partnership (GJEP), were successful in establishing the *Colorado Jumpstart* business development program. One business which was awarded the first *Jumpstart* incentive planned to develop a laboratory and deploy its advanced analytical processes for genetic research and its ability to mark/trace chemical properties of agricultural products, one of which was cannabis. In October 2016, City Council passed Ordinance 4722 which amended Ordinance 4599 and Section 21.04.010 of the GJMC to allow marijuana testing facilities in the City.

On January 20, 2021, the City Council approved Resolution 09-21, the adoption of which referred a ballot question to the regular municipal election on April 6, 2021 to repeal Referred Measure A contingent on and subject to voter approval of taxation of marijuana businesses. A majority of the votes cast at the election were in favor of repealing the moratorium on marijuana businesses and in favor of taxation of cannabis businesses.

City Council has decided to allow certain regulated cannabis businesses within the City. City Council has requested that staff prepare an ordinance to repeal the prohibition of cannabis businesses from the GJMC and to include rules and regulations for licensing and operating retail cannabis businesses.

City staff and community members, including the Cannabis Working Group, have researched, reviewed, and discussed various approaches to taxation, permitting and regulation of regulated cannabis within the City. Regulations for cannabis uses have been established at the state level with the adoption and implementation of the Colorado Marijuana Code in the Colorado Revised Statutes (C.R.S. 44-10-101, *et. seq.*); however, regulation of regulated marijuana uses at the state level alone are inadequate to address the impacts on the City of regulated cannabis, making it appropriate for the City to regulate the impacts of regulated cannabis uses.

The City has a valid interest in regulating zoning and other impacts of cannabis businesses in a manner that is consistent with constitutional and statutory standards. The City Council desires to facilitate the provision of quality regulated cannabis in a safe manner while protecting existing uses within the City. Regulation of the manner of operation and location of regulated cannabis uses is necessary to protect the health, safety and welfare of both the public and the customers. The proposed ordinance is intended to allow certain regulated cannabis businesses that will have a minimal impact and where potential negative impacts are minimized.



This proposed ordinance amends the City’s Code to permit cannabis businesses in the specific zone districts where general indoor retail sales are permitted and provides for buffering from specific land uses including, certain schools and specific rehabilitation facilities. This ordinance also includes regulations for signage and definitions for cannabis businesses.

After public notice and public hearing as required by the Grand Junction Zoning and Development Code, the Grand Junction Planning Commission recommended approval of the proposed amendments.

After public notice and public hearing, the Grand Junction City Council finds that the amendments to allow certain regulated cannabis businesses by and through the uses and the Use Table, are responsive to the community’s desires and otherwise advance and protect the public health, safety and welfare of the City and its residents.

**NOW THEREFORE, BE IT ORDAINED BY THE CITY COUNCIL OF THE CITY OF GRAND JUNCTION THAT THE FOLLOWING SECTIONS OF THE GRAND JUNCTION MUNICIPAL CODE INCLUDING TITLE 21: ZONING AND DEVELOPMENT CODE AND TITLE 27: HORIZON DRIVE DISTRICT OVERLAY ZONE DISTRICT STANDARDS ARE AMENDED AS FOLLOWS (new text additions underlined and deletions marked with strike-through notations):**

21.04.010 (d) Prohibited Uses.

~~Marijuana related business, whether retail, commercial, industrial or agricultural, except marijuana testing facility(ies) are prohibited in all zone districts in accordance with Chapter 5.15 GJMC. Marijuana testing facility(ies) is (are) allowed in the zone districts shown.~~

~~Marijuana testing facilities shall be categorized as/under the “industrial services, contractors and trade shops, oil and gas support operations without hazardous materials” category of the use zone matrix as “research, testing, and laboratory facilities – indoors (including marijuana testing facilities)” as allowed uses in B-2, C-1, C-2, MU, BP, IO, I-1 and 1-2 zone districts.~~

21.04.010 Use Table.

Key: A = Allowed, C = Conditional, Blank Cell = Not Permitted

| Use Category              | Principal Use              | R-R | R-E | R-1 | R-2 | R-4 | R-5 | R-8 | R-12 | R-16 | R-24 | R-O | B-1 | B-2 | C-1 | C-2 | CSR | M-U | BP | I-O | I-1 | I-2 | M X- | Std.    |
|---------------------------|----------------------------|-----|-----|-----|-----|-----|-----|-----|------|------|------|-----|-----|-----|-----|-----|-----|-----|----|-----|-----|-----|------|---------|
| Retail Sales and Services | Marijuana Related Business |     |     |     |     |     |     |     |      |      |      |     |     |     |     |     |     |     |    |     |     |     |      | Ch 6-45 |

|                             |                                |  |  |  |  |  |  |  |  |  |  |  |  |   |   |   |   |  |   |   |  |  |  |  |  |   |                             |
|-----------------------------|--------------------------------|--|--|--|--|--|--|--|--|--|--|--|--|---|---|---|---|--|---|---|--|--|--|--|--|---|-----------------------------|
| Retail Sales<br>and Service | Regulated<br>Cannabis<br>Store |  |  |  |  |  |  |  |  |  |  |  |  | A | A | A | A |  | A | A |  |  |  |  |  | A | Ch.<br>21.0<br>4.03<br>0(w) |
|-----------------------------|--------------------------------|--|--|--|--|--|--|--|--|--|--|--|--|---|---|---|---|--|---|---|--|--|--|--|--|---|-----------------------------|

21.04.030 Use-specific standards.

(w) Regulated Cannabis Stores.

(1) Applicability. These regulations apply to all Regulated Cannabis Stores in the City in addition to the other provisions in the GJMC pertaining to cannabis stores, including but not limited to, GJMC Chapters 5.13 and 5.14.

(2) Zoning.

(i) It is unlawful for a Regulated Cannabis Store to operate in a building which contains a Dwelling Unit that is occupied or unoccupied.

(ii) There shall be no more than two Regulated Cannabis Stores operating within the boundaries of the Horizon Drive Business Improvement District, as may be amended.

(iii) There shall be no Regulated Cannabis Stores located on the ground floor of any buildings in the Downtown Grand Junction area defined as Main Street bounded by the west intersection line of First Street and bounded by the east by the centerline of 7th Street.

(3) Buffering.

(i) No Regulated Cannabis Stores shall be located:

(A) Within 1000 feet of any private or public elementary, middle, junior high, or high school.

(B) Within 1000 feet of Colorado Mesa University (Main Campus) and Western Colorado Community College.

(C) Within 500 feet of any services for prevention, treatment or recovery from substance use and mental health concerns, as licensed by the Colorado Department of Human Services, Office of Behavioral Health (OBH).

(ii) Buffering Distance Computation. The buffering distance shall be computed by direct measurement from the nearest property line of the land use to the nearest portion of the building or unit in which the regulated cannabis is to be sold, using a route of direct pedestrian access, measured as a person would walk safely and properly, without trespassing or utilizing alleys, following stripping or parking patterns or on-site designated pedestrian routes, with right angles at crossings and with the observance of traffic regulations and traffic signals.

#### 21.06.070 Sign Regulation

##### (j) Regulated Cannabis Business Signage and Advertising.

(1) All signs and advertising for Regulated Cannabis Stores shall comply with all applicable provisions of the Colorado Marijuana Code, any regulations adopted pursuant thereto, the provisions of this Chapter and of Title 5, Chapter 13 of the Municipal Code, and the City's ordinances and regulations regarding signs and advertising.

(2) No sign shall use the terms "pharmacy", "pharmacist", "pharmaceutical", "rx", or any other similar variation of such terms as its corporate, business, or "doing business as" name, so as to prevent a reasonable person from concluding such business is involved in the practice of pharmacy, as regulated by Pharmaceuticals and Pharmacists, C.R.S. Article 22 of Chapter 12. Additionally, no Regulated Cannabis Stores may use any of the above terms or any similar variation thereof in any of its signs, placards, promotional, or advertising materials. Additionally, no signs that mimic or allude to pharmacy or medical related symbols, including but not limited to medical style crosses regardless of proportions or colors, shall be used or displayed in nonmedical Regulated Cannabis Stores.

(3) No sign shall include advertising material that is misleading, deceptive or false or that, as evidenced by the content of the advertising material or by the medium or the manner in which the advertising material is disseminated, is designed to appeal to persons under 21 years of age.

##### (4) Maximum Sign Dimensions:

(i) For properties that lie within an existing overlay district regulated by Title 22, Title 24, Title 25, Title 26, or Title 27 the specific regulations within the overlay shall apply.

(ii) For all other properties within the City, only flush wall mounted signs or monument signs shall be allowed. Maximum sign allowances shall be calculated according to the provisions of this Chapter and subject to the following limitations:

(A) Maximum Height: 20 feet; and,

(B) Maximum Area: 150 square feet per sign face.

(5) Signs and Advertising not requiring a permit include:

(i) Sign-wavers or other natural persons standing in the public. No Regulated Cannabis Stores shall advertise with sign-wavers or other natural persons within the buffering distances from specified land uses as provided in (w)(3)(i) above.

(ii) Any advertisement contained within a newspaper, magazine, or other periodical of general circulation within the City or on the internet, which may include coupons.

(iii) Any non-consumable merchandise or accessories.

(iv) A booth at an adult event or job fair where the only items distributed are company or educational materials and no other items are distributed, shown or sold.

(v) Business cards within the business or handed directly to an individual who is over the age of 21.

(vi) Showing a government-issued verification of age or military status, or registration for a charitable event, or similar item the showing of which, without providing a separate printing to the business, entitles the holder to a discount for a particular product or service.

(vii) Company materials and educational materials distributed inside the cannabis business.

#### 27.12.040 Signage.

(b) Freestanding signs shall comply with the following requirements:

(8) Maximum sign dimensions shall not exceed the following:

(i) For any regulated cannabis business, the maximum sign dimensions shall not exceed the following:

- (A) 20 twenty feet in height; and,
- (B) 75 ~~seventy-five~~ square feet.

21.10.020 Terms defined.

Cannabis Testing Facility(ies) is an entity licensed to analyze and certify safety and potency of cannabis.

Medical Cannabis Store is an entity licensed and co-located with a retail cannabis store that sells medical cannabis to registered patients or primary caregivers as defined in Section 14 of Article XVIII of the Colorado constitution, but is not a primary caregiver.

Regulated Cannabis Cultivation Facility is an entity licensed to cultivate, prepare, and package cannabis and sell cannabis to retail cannabis stores, to cannabis product manufacturing facilities, and to other cannabis cultivation facilities, but not to consumer.

Regulated Cannabis Hospitality and Sales Business is a facility that cannot be mobile, that is licensed to permit the consumption of only the retail cannabis or retail cannabis products it has sold pursuant to the provisions of an enacted, initiated, or referred ordinance or resolution of the local jurisdiction in which the licensee operates.

Regulated Cannabis Products Manufacturing Facility is an entity licensed to purchase cannabis; manufacture, prepare, and package cannabis products; and sell cannabis and cannabis products to other cannabis product manufacturing facilities and to retail cannabis stores, but not to consumers.

Regulated Cannabis Transporter Business is an entity or person that is licensed to transport retail cannabis and retail cannabis products from one regulated cannabis business to another regulated cannabis business and to temporarily store the transported regulated cannabis and regulated cannabis products at its licensed premises but is not authorized to sell regulated cannabis or regulated cannabis products under any circumstances.

Regulated Cannabis Store is an entity licensed to purchase regulated cannabis from Regulated Cannabis Cultivation Facilities and to sell regulated cannabis to consumers and Regulated Cannabis Testing Facilities that are licensed to analyze and certify the safety and potency of cannabis.

All other provisions of Title 21 Chapter 4, Chapter 6, and Chapter 10 and Title 27 Chapter 12.12 shall remain in full force and effect.

Introduced on first reading the \_\_\_\_\_ day of \_\_\_\_\_,  
2022 and ordered published in pamphlet form.

Adopted on second reading this \_\_\_\_ day of \_\_\_\_\_ 2022 and ordered published in  
pamphlet form.

ATTEST:

\_\_\_\_\_  
C.B. McDaniel  
President of City Council

\_\_\_\_\_  
Laura J. Bauer, MMC  
Interim City Clerk



## Grand Junction City Council

### Regular Session

Item #6.a.

---

**Meeting Date:** May 4, 2022

**Presented By:** Jay Valentine, General Services Director

**Department:** General Services

**Submitted By:** Jay Valentine

---

### **Information**

#### **SUBJECT:**

Solar Farm Subscription with Pivot Energy

#### **RECOMMENDATION:**

Staff recommends authorizing the City Manager to enter into a Solar Subscription with Pivot Energy, LLC

#### **EXECUTIVE SUMMARY:**

Pivot Energy is developing a solar garden project on land they leased from the City located at 2940 D 1/4 Rd. The land lease was approved by City Council at the November 3, 2021 City Council meeting. Pivot Energy is proposing that the City of Grand Junction subscribe to 311 kWh of the power produced that will serve a variety of City electrical meters that include administrative, operational, and recreational facilities.

The City would be required to sign a 10-year contract, subject to annual appropriations, with Pivot Energy for the purchase of this energy.

#### **BACKGROUND OR DETAILED INFORMATION:**

In 2012, Xcel Energy released its Solar Rewards Community Program to provide incentives to stimulate the development of community solar gardens in its service territory. A community solar garden operates at a centralized location, generating energy that is sold directly to Xcel via an energy procurement agreement. Each kWh produced generates a "virtual net metering" credit and a renewable energy certificate. Subscribers to the solar garden purchase power from the solar provider and receive a credit from Xcel on their monthly utility statement. Subscribers to a solar garden are allowed to take up to 40% of the power produced, and must enter into a 20-year lease. 5% of any garden must be allocated to low-income subscribers. The proposed solar



garden is proposed to be located on the City property at 2940 D 1/4 Rd. This property is directly adjacent to the first Community Solar Garden developed in Mesa County, located on School District owned property at D 1/4 Road and 29 Road to which the City is a 23% subscriber of the 2 MW system.

The City of Grand Junction is already a subscriber to three separate Solar Gardens, located in Grand Junction, Cameo and Rifle. The performance of the Solar Gardens varies based on time of year, cloud coverage, and other environmental variables. In 2020, the total generation of the three separate Solar Gardens was 2,385,547 Kwh and in 2021 the total generation was 2,432,900. Across the 65 facilities that the city provides electricity, the total annual usage is over 16,000,000 Kwh. The annual production from the three Solar Gardens accounts for 15% of the annual consumption across all the City's facilities.

As the cost of electricity continues to trend upwards, Solar Gardens have become a viable option for organizations to offset costs year over year. As the City continues to grow to match the population and economic growth of Grand Junction, additional Solar Gardens will help to offset the cost of providing services to the citizens of Grand Junction.

**FISCAL IMPACT:**

This Community Solar Garden opportunity will save the City approximately \$186,000 over the 20-year period. The payment to Pivot Energy in year 1 is approximately \$38,285 and assumes a 1.35% subscription price increase annually. The average credit to the City from Xcel is approximately \$43,996 in year 1 and assumes a 2.00% annual rate increase.

**SUGGESTED MOTION:**

I move to (approve/deny) the request to authorize the City Manager to enter into a Community Solar Garden Subscription Agreement with Pivot Energy.

**Attachments**

1. City of GJ Community Solar Proposal



**November 18, 2021**



**Pivot  
Energy**

## **Community Solar Proposal for City of Grand Junction**

**Prepared for:**

City of Grand Junction

**Prepared by:**

Pivot Energy  
Matthew Brenn  
mbrenn@pivotenergy.  
net  
(970) 631-7977

## Company Overview

---

Pivot Energy was founded in 2009 in St. Louis, Missouri but has relocated to Denver, Colorado in 2015. We are a turnkey developer of commercial and industrial solar energy projects in the United States. Pivot has quietly become a national leader for commercial and industrial solar projects, with hundreds of successful projects completed for small, mid-sized and Fortune 500 companies, as well as for nonprofit, government and military organizations. In 2016, we added a community solar division to our company and hired several experienced community solar developers that have helped pioneer the solar garden business model.

Pivot has experience in building all types of solar PV projects, including rooftop, ground-mount, carport, and other design types. Our development team works in conjunction with our EPC team to plan a project for success from the beginning.

Pivot is headquartered Denver, CO with additional offices in St. Louis, MO and Chicago, IL. We maintain a strong staff of NABCEP certified personnel. All field personnel are OSHA certified, and participate in an extensive ongoing Quality Assurance (QA) program. We also offer a variety of monitoring and maintenance plans to suit our client needs.

As a Clean Energy Services provider, Pivot is your single source for community solar, construction management, land development, energy storage, solar subscription services, and demand response strategies. We also offer project financing, with a focus on PACE financing, PPAs and leases.

## Community Solar

---

Community solar is an easy option for customers who are considering the benefits of going solar. Serviced by Pivot Energy through your utility provider, community solar allows both residential and commercial customers to subscribe to an off-site solar garden and get credited directly on your electric utility bill for your portion of the solar electricity production each month.

For each kilowatt-hour produced and delivered on your behalf by the solar garden, you will be credited at the bill credit rate applicable to each registered meter and Pivot Energy will charge the community solar subscription rate as seen below. The difference between the credit and the Pivot Energy charge is your cost savings by choosing community solar.



## Community Solar for City of Grand Junction

**311 kWdc  
Capacity**

**\$0.061 / kWh  
1.35% / Year**

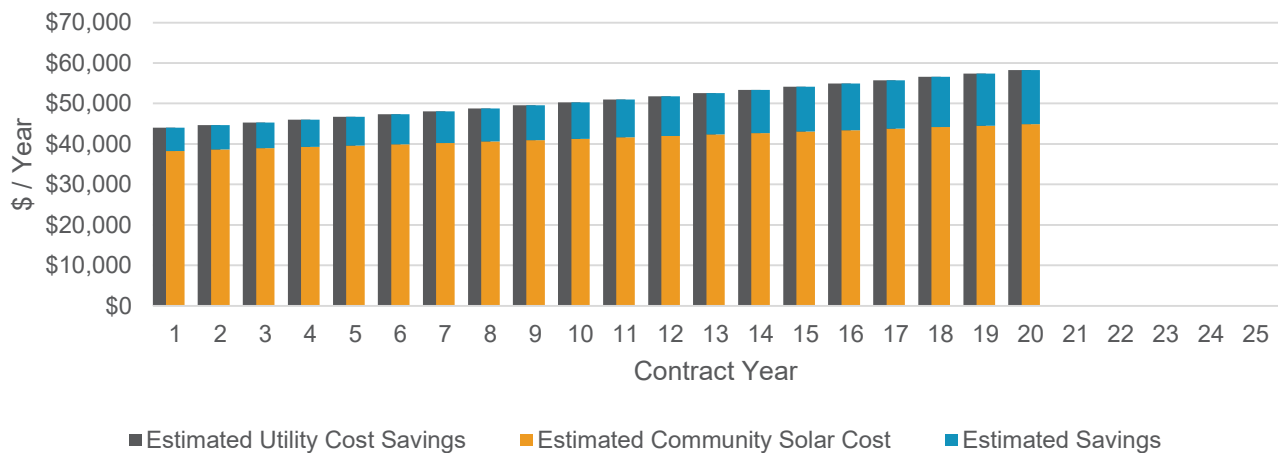
**\$186,100  
Estimated Savings**

The graph below provides a snapshot of the rate plan proposed with a Pivot Energy community solar subscription. The amounts shown below are dependent on the contracted capacity, annual increase of utility credit rates, future applicable meter types, and estimated performance of the community solar garden.

| 20 Year Summary          |                 |                  |
|--------------------------|-----------------|------------------|
|                          | Community Solar | Utility Credit * |
| <b>Rate (\$ / kWh)</b>   | (\$0.06100)     | \$0.0701         |
| <b>Escalator</b>         | 1.35%           | 2.00%            |
| <b>Term Average Rate</b> | (\$0.06934)     | \$0.08488        |
| <b>Est Term Total</b>    | (\$830,258)     | \$1,016,358      |
| <b>Est Term Savings</b>  | \$186,100       |                  |

\* Utility Rates are based on blended credit values. Utility Escalators are based on estimates.

### Estimated Utility Cost, Community Solar Payments, and Savings



## Previous Clients



## Professional Credentials



Pivot has one of the highest ratio of NABCEP certified personnel on staff, nationally, amongst our peer companies. NABCEP certification is considered the “gold standard” for the Solar PV industry.



Pivot is a member in good standing with the premier Solar industry association. Pivot has adopted the Association’s Ethics Policy.



Pivot has licensed professional engineers on staff.



Pivot is a true Triple Bottom Line company, and is proud to be a certified B Corporation, measuring results not only by profitability, but equally by metrics that quantify benefits to people (employees, community) and planet (sustainable operations).



| Contract Year | Est. Community Solar Production Share | Est. Utility Energy Rate* | Est. Utility Cost Savings | Community Solar Rate | Est Community Solar Cost | Est. Savings |
|---------------|---------------------------------------|---------------------------|---------------------------|----------------------|--------------------------|--------------|
| 1             | 627,624                               | \$0.07010                 | \$43,996                  | \$0.06100            | \$38,285                 | \$5,711      |
| 2             | 624,486                               | \$0.07150                 | \$44,652                  | \$0.06182            | \$38,608                 | \$6,044      |
| 3             | 621,363                               | \$0.07293                 | \$45,317                  | \$0.06266            | \$38,933                 | \$6,384      |
| 4             | 618,257                               | \$0.07439                 | \$45,993                  | \$0.06350            | \$39,262                 | \$6,731      |
| 5             | 615,165                               | \$0.07588                 | \$46,678                  | \$0.06436            | \$39,593                 | \$7,085      |
| 6             | 612,090                               | \$0.07740                 | \$47,373                  | \$0.06523            | \$39,927                 | \$7,447      |
| 7             | 609,029                               | \$0.07894                 | \$48,079                  | \$0.06611            | \$40,263                 | \$7,816      |
| 8             | 605,984                               | \$0.08052                 | \$48,796                  | \$0.06700            | \$40,603                 | \$8,193      |
| 9             | 602,954                               | \$0.08213                 | \$49,523                  | \$0.06791            | \$40,945                 | \$8,577      |
| 10            | 599,939                               | \$0.08378                 | \$50,261                  | \$0.06882            | \$41,291                 | \$8,970      |
| 11            | 596,940                               | \$0.08545                 | \$51,009                  | \$0.06975            | \$41,639                 | \$9,371      |
| 12            | 593,955                               | \$0.08716                 | \$51,769                  | \$0.07070            | \$41,990                 | \$9,780      |
| 13            | 590,985                               | \$0.08890                 | \$52,541                  | \$0.07165            | \$42,344                 | \$10,197     |
| 14            | 588,030                               | \$0.09068                 | \$53,324                  | \$0.07262            | \$42,701                 | \$10,623     |
| 15            | 585,090                               | \$0.09250                 | \$54,118                  | \$0.07360            | \$43,061                 | \$11,057     |
| 16            | 582,165                               | \$0.09435                 | \$54,925                  | \$0.07459            | \$43,424                 | \$11,500     |
| 17            | 579,254                               | \$0.09623                 | \$55,743                  | \$0.07560            | \$43,790                 | \$11,953     |
| 18            | 576,357                               | \$0.09816                 | \$56,573                  | \$0.07662            | \$44,160                 | \$12,414     |
| 19            | 573,476                               | \$0.10012                 | \$57,416                  | \$0.07765            | \$44,532                 | \$12,884     |
| 20            | 570,608                               | \$0.10212                 | \$58,272                  | \$0.07870            | \$44,908                 | \$13,364     |

\* Year 1 "Est. Utility Energy Rate" of \$0.06457 according to Xcel Energy published rate update on Nov 15, 2021. Effective Jan 1, 20.

| Usage Inputs     |                |                                   |            | CSG                          |                     |              |
|------------------|----------------|-----------------------------------|------------|------------------------------|---------------------|--------------|
| Total            |                |                                   |            | 627,624 kWh                  |                     | 311.165 kWdc |
| Account Number   | Premise Number | Address                           | Rate Class | Estimated Annual Usage (kWh) | Est. CSG Production | CSG Share    |
| 53-00130017630   | 300000346      | 586 25 1/2 RD PUMP/LITES          | C          | 24,200 kWh                   | 2,017 kWh / kW      | 11.998 kWdc  |
| 53-00130017823   | 300001223      | 2057 Broadway                     | C          | 10,334 kWh                   | 2,017 kWh / kW      | 5.123 kWdc   |
| 53-00130017903   | 300001811      | 1201 North Ave.                   | C          | 6,429 kWh                    | 2,017 kWh / kW      | 3.187 kWdc   |
| 53-00130020179   | 300049124      | 372 Ridges Blvd. A                | C          | 10,477 kWh                   | 2,017 kWh / kW      | 5.194 kWdc   |
| 53-0013001891-5  | 300087779      | Lincoln Park Shop                 | C          | 14,496 kWh                   | 2,017 kWh / kW      | 7.187 kWdc   |
| 53-00130019029   | 300092472      | 440 Main St. DDA BREEZ            | C          | 3,400 kWh                    | 2,017 kWh / kW      | 1.686 kWdc   |
| 53-00130001907-4 | 300100613      | 2899 Beechwood St. pump           | C          | 3,907 kWh                    | 2,017 kWh / kW      | 1.937 kWdc   |
| 53-0013001917-6  | 3001070701     | 327 27 3/8 Rd.                    | C          | 20,882 kWh                   | 2,017 kWh / kW      | 10.353 kWdc  |
| 53-00130019245   | 300109222      | Whitman Park                      | C          | 7,773 kWh                    | 2,017 kWh / kW      | 3.854 kWdc   |
| 53-00130019369   | 300130148      | Lincoln Park Office               | C          | 21,761 kWh                   | 2,017 kWh / kW      | 10.789 kWdc  |
| 53-0013001942-7  | 300137072      | 675 W. Colorado Ave.              | C          | 17,200 kWh                   | 2,017 kWh / kW      | 8.528 kWdc   |
| 53-00130019610   | 300157468      | 550 Ouray Ave.                    | C          | 17,611 kWh                   | 2,017 kWh / kW      | 8.731 kWdc   |
| 53-00130019698   | 300161220      | 1301 E. Sherwood Dr. Restroom     | C          | 18,188 kWh                   | 2,017 kWh / kW      | 9.017 kWdc   |
| 53-1001171       | 300168868      | 2748 Cheyenne Dr.                 | C          | 5,176 kWh                    | 2,017 kWh / kW      | 2.566 kWdc   |
| 53-0013002000-0  | 300183817      | 1827 N. 26th St. Rest             | C          | 16,177 kWh                   | 2,017 kWh / kW      | 8.020 kWdc   |
| 53-0013001990-5  | 300687830      | 159 Main St. Elec.                | C          | 4,040 kWh                    | 2,017 kWh / kW      | 2.003 kWdc   |
| 53-0012210350-3  | 300700508      | 261 Ute. Ave.                     | C          | 4,689 kWh                    | 2,017 kWh / kW      | 2.325 kWdc   |
| 53-00129955223   | 301467050      | 333 West Ave.                     | C          | 12,309 kWh                   | 2,017 kWh / kW      | 6.103 kWdc   |
| 53-00130023036   | 301617103      | 333 West Ave. E                   | C          | 34,429 kWh                   | 2,017 kWh / kW      | 17.069 kWdc  |
| 53-0013002799-4  | 304024406      | 244 3/4 26 2/4 Rd.                | C          | 15,690 kWh                   | 2,017 kWh / kW      | 7.779 kWdc   |
| 53-0013002038-4  | 304087118      | 743 3/4 Horizon Dr. Landscape     | C          | 25,602 kWh                   | 2,017 kWh / kW      | 12.693 kWdc  |
| 53-00129955096   | 304128449      | 2549 Riverside Pkwy               | C          | 6,173 kWh                    | 2,017 kWh / kW      | 3.060 kWdc   |
| 53-0013002097-5  | 304168816      | 135 S. 7th st. E. Hol lite        | C          | 8,315 kWh                    | 2,017 kWh / kW      | 4.122 kWdc   |
| 53-0013002102-3  | 304173694      | 2549 Riverside Pkwy water pump    | C          | 79,164 kWh                   | 2,017 kWh / kW      | 39.248 kWdc  |
| 53-0013002122-7  | 304199623      | 2620 Legacy Way                   | C          | 13,772 kWh                   | 2,017 kWh / kW      | 6.828 kWdc   |
| 53-0013002146-5  | 304234766      | 400 Gunnison Ave. Restroom        | C          | 19,484 kWh                   | 2,017 kWh / kW      | 9.660 kWdc   |
| 53-00126793505   | 304289927      | 400 23 Rd. B                      | C          | 22,659 kWh                   | 2,017 kWh / kW      | 11.234 kWdc  |
| 53-0013002277-3  | 304314233      | 2502 1/4 Highway 6 and 50 Traffic | C          | 4,567 kWh                    | 2,017 kWh / kW      | 2.264 kWdc   |
| 53-0013002284-2  | 304372169      | 1240 Gunnison Ave. Tennis Cou     | C          | 9,820 kWh                    | 2,017 kWh / kW      | 4.869 kWdc   |
| 53-00130022897   | 304481398      | 715 Struthers Ave.                | C          | 21,192 kWh                   | 2,017 kWh / kW      | 10.507 kWdc  |
| 53-00113835225   | 304599591      | 2755 B 1/2 Rd.                    | C          | 8,841 kWh                    | 2,017 kWh / kW      | 4.383 kWdc   |
| 53-00114119344   | 304604517      | 1120 3/4 N. 16th St.              | C          | 21,557 kWh                   | 2,017 kWh / kW      | 10.688 kWdc  |
| 53-00119565402   | 304699483      | 99 North Ave.                     | C          | 6,820 kWh                    | 2,017 kWh / kW      | 3.381 kWdc   |
| 53-0012294662-6  | 304762919      | 709 1/2 Horizon Dr. ped. Xing     | C          | 5,209 kWh                    | 2,017 kWh / kW      | 2.583 kWdc   |
| 53-0012406127-7  | 304781287      | 1461 Riverfront Dr. PP-1          | C          | 40,649 kWh                   | 2,017 kWh / kW      | 20.153 kWdc  |
| 53-0012406128-8  | 304781288      | 1251 Riverfront Dr. PP-2          | C          | 30,375 kWh                   | 2,017 kWh / kW      | 15.059 kWdc  |
| 53-0012758457-1  | 30484112       | 2735 Riverfront Dr. PP-4          | C          | 13,824 kWh                   | 2,017 kWh / kW      | 6.854 kWdc   |
| 53-0012774081-1  | 304849901      | 2599 3/4 Dos Rios Dr. Lighting    | C          | 14,226 kWh                   | 2,017 kWh / kW      | 7.053 kWdc   |
| 53-00128440683   | 304861741      | 601 3/4 Fairview Ave. Site Light  | C          | 6,207 kWh                    | 2,017 kWh / kW      | 3.077 kWdc   |