To access the Agenda and Backup Materials electronically, go to www.gjcity.org

PLANNING COMMISSION AGENDA
VIRTUAL MEETING

TUESDAY, FEBRUARY 23, 2021 @ 5:30 PM

Options for Public Participation:

1. Provide written comment at www.GJspeaks.org or by emailing comdev@gjcity.org

2. Comment by phone. Dial the telephone number (970) 609-9688 and enter the four-digit code provided for each item on the agenda. You can then leave a message, which will be submitted as a public comment both as an audio file and as text translation.

3. Attend the meeting virtually using the link below:

https://attendee.gotowebinar.com/register/165672625970523916

After registering, you will receive a confirmation email containing information about joining the webinar.

Please email the Secretary to the Planning Commission for more information on how to participate in Planning Commission meetings.

Call to Order - 5:30 PM

Consent Agenda

1. Minutes of Previous Meeting(s) from February 9, 2021.

2. Consider a request by the Applicant, Frog Pond LLC, to Vacate a Publicly Dedicated Drainage Easement Located at 2501 Monument Road as granted to the City of Grand Junction by Reception Number 2764922. | Staff Presentation | Phone-in comments dial **4990**

3. Consider a Request by the City of Grand Junction to amend the Planning Commission Bylaws to Change the Start Time for Regularly Scheduled Monthly Meetings. | Phone-in comments dial **2740**

Regular Agenda

1. Consider a request by NorthStar Towing to operate an Impound Yard on 1.66 acres, located at 640 W Gunnison Avenue. | Staff Presentation | Phone-in comments dial **3627**

2. Consider a request by ABBA Enterprises LLC to rezone 2.15 acres from an I-2 (General Industrial) to an I-1 (Light Industrial) zone district, located at 711 S 15th Street. | Staff Presentation | Phone-in comments dial **9213**

3. Consider a request by the City of Grand Junction to adopt the Patterson Road Access Control Plan (ACP), as Volume III, Title 38 of the Municipal Code. | Staff Presentation | Phone-in comments dial **2880**

Other Business

Adjournment

GRAND JUNCTION PLANNING COMMISSION
February 9, 2021 MINUTES
5:30 p.m.

The meeting of the Planning Commission was called to order at 5:30 p.m. by Chair Andrew Teske.

Those present were Planning Commissioners; Chair Andrew Teske, Vice Chair Christian Reece, George Gatseos, Keith Ehlers, Sam Susuras, Kim Kerk, Ken Scissors.

Also present were Jamie Beard (Assistant City Attorney), Tamra Allen (Community Development Director), and Dave Thornton (Principal Planner).

There were 5 members of the public in virtual attendance: Brenda Muhr, Jeff Tipton, Joyce Dorscher, Lisa Bikki, and Seth Thomas.

CONSENT AGENDA

Commissioner Gatseos moved to adopt Consent Agenda Item #1. Commissioner Susuras seconded the motion. The motion carried 7-0.

1. **Approval of Minutes**

Minutes of Previous Meeting(s) from January 12, 2021.

REGULAR AGENDA

1. **Patterson Road Access Control Plan File # CPA-2021-17**

Consider a request by the City of Grand Junction to adopt the Patterson Road Access Control Plan (ACP), as Volume III, Title 38 of the Municipal Code.

Motion and Vote

Commissioner Ehlers moved to continue the item to the February 23, 2021 agenda.

Commissioner Reece seconded the motion. The motion carried 7-0.

2. **Other Business**

None.

3. **Adjournment**

The meeting adjourned at 5:45 p.m.

DRAFT

Grand Junction Planning Commission

Regular Session

Item #2.

Meeting Date: February 23, 2021

Presented By: Scott D. Peterson, Senior Planner

Department: Community Development

Submitted By: Scott D. Peterson, Senior Planner

Information

SUBJECT:

Consider a request by the Applicant, Frog Pond LLC, to Vacate a Publicly Dedicated Drainage Easement Located at 2501 Monument Road as granted to the City of Grand Junction by Reception Number 2764922. | Staff Presentation | Phone-in comments dial **4990**

RECOMMENDATION:

Staff recommends approval.

EXECUTIVE SUMMARY:

The Applicant, Frog Pond LLC is requesting the vacation of a publicly dedicated Drainage Easement (1,651 square feet – 0.038-acres) located at 2501 Monument Road as conveyed to the City of Grand Junction by Reception number 2764922 as part of the development of the proposed Frog Pond Subdivision. This Drainage Easement was granted to the City of Grand Junction for the inspection, installation, operation and maintenance and repair of drainage facilities, specifically for the benefit of the conveyance of stormwater runoff from South Redlands Road to No Thoroughfare Wash.

BACKGROUND OR DETAILED INFORMATION:

The existing 1,651 square feet Drainage Easement was conveyed in 2016 to the City of Grand Junction by Grant of Drainage Easement document as recorded within Reception Number 2764922. This Drainage Easement was granted to the City of Grand Junction for the inspection, installation, operation and maintenance and repair of drainage facilities, specifically for the benefit of conveyance of stormwater runoff from

South Redlands Road. However, with the new development of the Frog Pond Subdivision (City file # PLD-2020-146), new public and private drainage easements will be created within the new development and therefore this specific drainage easement is no longer necessary in its current configuration that encumbers the applicant's property.

Prior to 2016, storm water runoff would flow across South Redlands Road in an open ditch, washing debris across driveways along the properties at the lower elevation located along the east side of Monument Road. This water was to have been directed through a culvert that crossed under Monument Road. However, over time, the culvert had become silted in, no longer drained properly, and storm water would pond on the properties located on the east side of Monument Road due to this drainage backup. Also, at this time, the City was working the Mesa County Land Trust and adjacent property owners along Monument Road to obtain necessary right-of-way for the Monument Trail that exists today. As part of the negotiation with the property owners, the City agreed to install underground pipe for a portion of the storm water facility in exchange for the needed right-of-way. Also, on-site drainage easements were then necessary to maintain this added infrastructure. At time of construction in 2017, the Applicant separately piped their open drainage ditch and connected into the new City storm sewer line to help improve their drainage on the property. This then eliminated the need for this specific drainage easement other than the fact that the City still required access to the storm drain outlet structure. Now, with the development of the new Frog Pond Subdivision, the Applicant will be providing new public and private drainage easements on their property as necessary, thus eliminating the need for this specific drainage easement which currently limits the buildable area within one of the planned lots within the subdivision. Permanent structures cannot be constructed over an easement.

NOTIFICATION REQUIREMENTS

Neighborhood Meeting:

A Neighborhood Meeting was not required for an easement vacation and no utility companies voiced opposition to the proposed vacation request as part of the subdivision application (City file PLD-2020-146).

Notice was completed consistent with the provisions in Section 21.02.080 (g) of the Zoning and Development Code. The subject area was posted with an application sign on March 18, 2020 & February 12, 2021. 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 February 12, 2021. The notice of this public hearing was published February 16, 2021 in the Grand Junction Daily Sentinel.

ANALYSIS

The criteria for review is set forth in Section 21.02.100 (c) of the Zoning and Development Code. The purpose of this section is to permit the vacation of surplus rights-of-way and/or easements.

(1) The Comprehensive Plan, Grand Valley Circulation Plan and other adopted plans and policies of the City;

The request to vacate an existing public drainage easement does not conflict with the 2020 Comprehensive Plan, Grand Valley Circulation Plan or other adopted plans and policies of the City. Vacation of this easement will have no impact on public facilities or services provided to the general public since new public and private drainage easements are required to be granted as part of the development of the Frog Pond Subdivision as a condition of approval.

Further, the vacation request is consistent with the following goals and policies of the Comprehensive Plan:

Principal 3: Responsible and Managed Growth

Policy 2: Encourage infill and redevelopment to leverage existing infrastructure.

Policy 4: Maintain and build infrastructure that supports urban development.

Policy 5: Plan for and ensure fiscally responsible delivery of City services and infrastructure.

Principal 5: Strong Neighborhoods and Housing Choices

Policy 3: Support continued investment in and ongoing maintenance of infrastructure and amenities in established neighborhoods.

Therefore, staff has found this criterion has been met.

(2) No parcel shall be landlocked as a result of the vacation;

This request is to vacate an existing publicly dedicated drainage easement. As such, no parcels will be landlocked as a result of the proposed vacation request. Therefore, staff has found this criterion has been met.

(3) Access to any parcel shall not be restricted to the point where access is unreasonable, economically prohibitive, or reduces or devalues any property affected

by the proposed vacation;

This vacation request does not impact access to any parcel and as such, staff finds this criterion has been met.

(4) There shall be no adverse impacts on the health, safety, and/or welfare of the general community, and the quality of public facilities and services provided to any parcel of land shall not be reduced (e.g., police/fire protection and utility services;

New public and private drainage infrastructure and easements will be constructed and identified/dedicated on the subdivision plat or by separate instrument. Also, no comments concerning the proposed vacation were received from the utility review agencies or the adjacent property owners indicating issue or adverse impacts related to this request or the quality of services provided to the property.

Staff therefore finds this criterion has been met.

(5) The provision of adequate public facilities and services shall not be inhibited to any property as required in Chapter 21.06 GJMC; and

New public and private drainage infrastructure and easements will be constructed and identified/dedicated on the subdivision plat or by separate instrument. Neither staff nor utility providers have identified that this request will inhibit the provision of adequate public facilities and services.

Staff finds that this criterion has been met.

(6) The proposal shall provide benefits to the City such as reduced maintenance requirements, improved traffic circulation, etc.

Maintenance requirements for the City will not substantially change as a result of the proposed vacation as a new public drainage easement will be created. With the elimination of this existing drainage easement and with the granting of any new necessary easements, the Applicant can develop the property as desired without the unnecessary encumbrance caused by this easement. Permanent structures cannot be constructed over an easement. As such, Staff finds that this criterion has been met.

STAFF RECOMMENDATION AND FINDINGS OF FACT

After reviewing the Frog Pond Subdivision Vacation of a publicly dedicated Drainage Easement (1,651 sq. ft. – 0.038-acres), VAC-2021-75, located at 2501 Monument Road as granted to the City of Grand Junction by Reception Number 2764922, the following findings of fact have been made with the recommended condition of approval:

1. The request conforms with Section 21.02.100 (c) of the Zoning & Development Code.

2. The requested vacation does not conflict with the goals and policies of the 2020 Comprehensive Plan.

Condition 1. Prior to recording of a resolution vacating the Drainage Easement, an approved new public and private drainage easement and infrastructure will be constructed and installed or as otherwise approved by the City, consistent with City standards, either by separate instrument or on a subdivision plat.

Therefore, Staff recommends approval of the requested vacation.

SUGGESTED MOTION:

Mister Chairman, on the Frog Pond Subdivision Vacation of a publicly dedicated Drainage Easement, VAC-2021-75, Located at 2501 Monument Road as granted to the City of Grand Junction by Reception Number 2764922, I move that the Planning Commission forward a recommendation of conditional approval to City Council with the findings of fact as listed in the staff report.

Attachments

1. Site Location, Aerial & Zoning Maps
2. Site Plan
3. Drainage Easement - Reception #2764922
4. Development Application - Dated 11-1-19
5. Vacation Resolution

Site Location Map
GLADE PARK RD
MESA VISTA RD
MONUMENT RD
S REDLANDS RD
RODELL DR
MARTELLO DR
REDLANDS POWER CANAL
Site – Vacation Area
Proposed Frog Pond Subdivision

Aerial Photo Map
Vacation Area
Proposed Frog Pond Subdivision
116
118
122
124
126
115
111
373
380
2501
379
377
373
371
369
374
E PARK RD
GLADE PARK RD
GLADE PARK RD
MONUMENT RD
S REDLANDS RD
S REDLANDS RD
RODELL DR

Comprehensive Plan Future Land Use Map
Vacation Area
Residential Low
Parks & Open Space
PARK RD
GLADE PARK RD
MONUMENT RD
S REDLANDS RD
RODELL DR
Residential Low
Parks and Open Space
116
118
122
124
126
111
373
387
385
380
381
2501
379
377
371
374
373

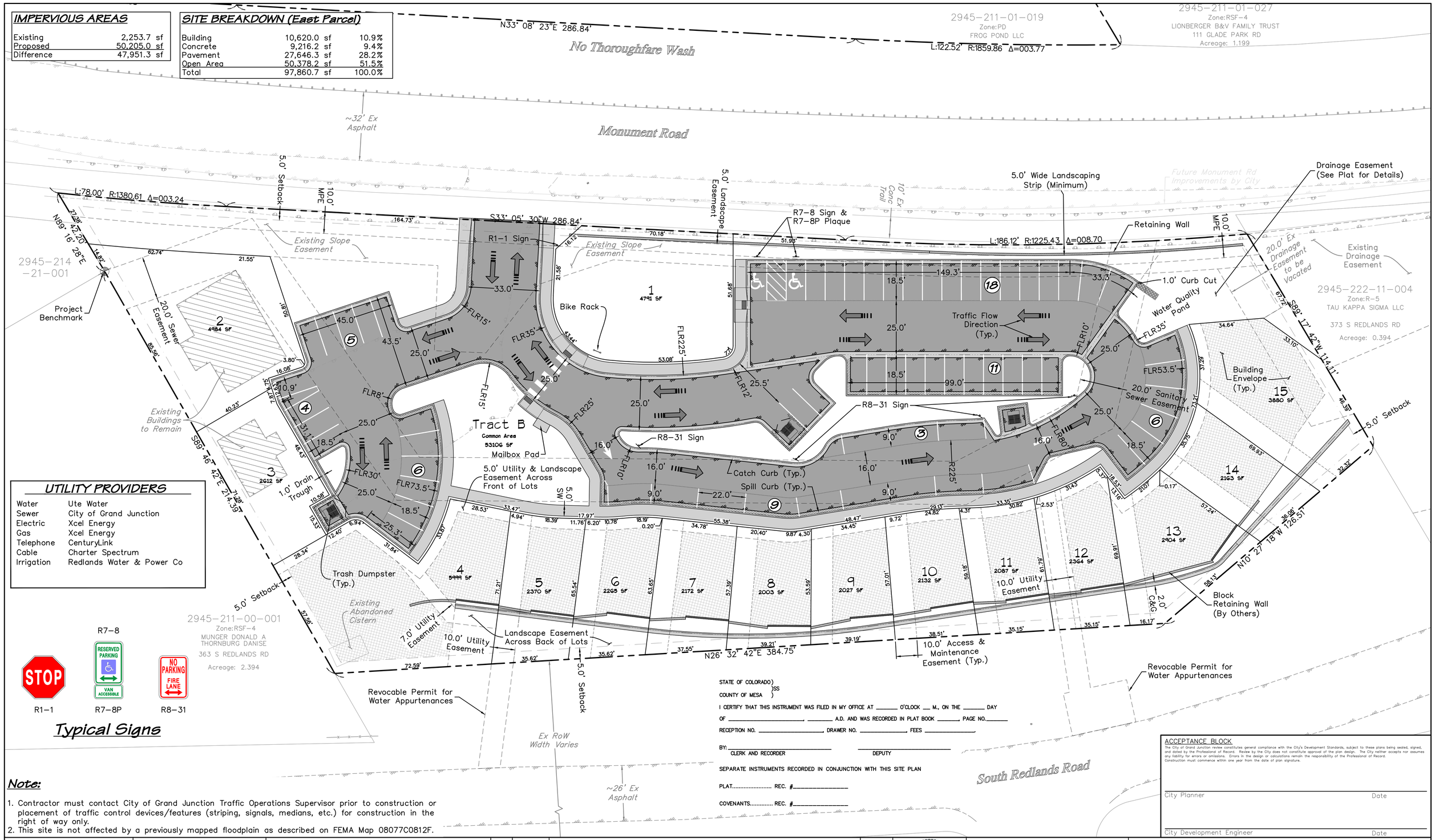
Existing Zoning Map
R-5
Vacation Area
R-4
PD
County
RSF-4
County
RSF-R
GLADE PARK RD
MONUMENT RD
S REDLANDS RD
RODELL DR
116
118
122
124
126
115
2501

IMPERVIOUS AREAS

Existing	2,253.7 sf
Proposed	50,205.0 sf
Difference	47,951.3 sf

SITE BREAKDOWN (East Parcel)

Building	10,620.0 sf	10.9%
Concrete	9,216.2 sf	9.4%
Pavement	27,646.3 sf	28.2%
Open Area	50,378.2 sf	51.5%
Total	97,860.7 sf	100.0%



UTILITY PROVIDERS

Water	Ute Water
Sewer	City of Grand Junction
Electric	Xcel Energy
Gas	Xcel Energy
Telephone	CenturyLink
Cable	Charter Spectrum
Irrigation	Redlands Water & Power Co

Typical Signs

STATE OF COLORADO)
)SS
COUNTY OF MESA)

I CERTIFY THAT THIS INSTRUMENT WAS FILED IN MY OFFICE AT _____ O'CLOCK __ M., ON THE _____ DAY OF _____, _____ A.D. AND WAS RECORDED IN PLAT BOOK _____, PAGE NO._____ RECEPTION NO. _____, DRAWER NO. _____, FEES _____.

BY: _____ _____
CLERK AND RECORDER DEPUTY

SEPARATE INSTRUMENTS RECORDED IN CONJUNCTION WITH THIS SITE PLAN

PLAT..... REC. #_____

COVENANTS..... REC. #_____

ACCEPTANCE BLOCK

The City of Grand Junction review constitutes general compliance with the City's Development Standards, subject to these plans being sealed, signed, and dated by the Professional of Record. Review by the City does not constitute approval of the plan design. The City neither accepts nor assumes any liability for errors or omissions. Errors in the design or calculations remain the responsibility of the Professional of Record. Construction must commence within one year from the date of plan signature.

City Planner Date

City Development Engineer Date

Note:

1. Contractor must contact City of Grand Junction Traffic Operations Supervisor prior to construction or placement of traffic control devices/features (striping, signals, medians, etc.) for construction in the right of way only.
2. This site is not affected by a previously mapped floodplain as described on FEMA Map 08077C0812F.

UNCC UTILITY NOTIFICATION CENTER OF COLORADO 800.922.1987 www.uncc.org CALL 2 BUSINESS DAYS IN ADVANCE BEFORE YOU DIG, GRADE, OR EXCAVATE FOR THE MARKING OF UNDERGROUND MEMBER UTILITIES.

811 Know what's below. Call before you dig.

Project Benchmark
MCSM
3" Brass Cap
Along South Property Line of East Parcel
N 1/16 Sec 21 & 22 T1S, R1W, Ute Meridian
Northing: 32894.81
Easting: 84189.95
Elevation: 4594.34
Datum Source: MCLCS Zone "GVA" (NAVD 88)

SCALE
20 0 10 20 40
(IN FEET)
ORIGINAL SHEET SIZE: 22 x 34

REVISIONS

NO.	DATE	DESCRIPTION	BY

S:\PROJECTS\0422 Bray\031 Frog Pond\Design\DWG\03-Sheet Files\0422-031 Site.dwg [Site Plan (East Parcel)] 11/23/2020 12:00:22 PM

COLORADO REGISTERED PROFESSIONAL ENGINEER 32143 11/18/2020 PRELIMINARY NOT FOR CONSTRUCTION

RIVER CITY CONSULTANTS
215 Pitkin Avenue, Unit 201
Grand Junction, CO 81501
www.rccwest.com
Phone: 970.241.4722
Fax: 970.241.8841

PROJECT #:	0422-031	DATE ISSUED:	20.Nov.2020
DRAWN BY:	nmr	HORIZ:	1" = 20'
CHECKED BY:	jwm	VERT:	N/A

FROG POND LLC

Frog Pond

Site Plan
East Parcel

C 4

4 PAGE DOCUMENT

GRANT OF DRAINAGE EASEMENT

Frog Pond LLC, a Colorado Limited Liability Company, **Grantor**, whose mailing address is 244 N. 7th Street, Grand Junction, CO 81501 for and in consideration of the sum of Ten and 00/100 Dollars ($10.00) the receipt and sufficiency of which is hereby acknowledged, has sold, granted and conveyed, and by these presents does hereby sell, grant and convey to the **City of Grand Junction,** a Colorado home rule municipality, **Grantee**, whose address is 250 N. 5th Street, Grand Junction, CO 81501, a Perpetual Drainage Easement for the use and benefit of Grantee and for the use and benefit of the Public, as approved by Grantee, as a perpetual drainage easement, on, along, over, under, through and across the following described parcel of land, to wit:

A certain parcel of land lying in the Northwest Quarter (NW 1/4) of Section 22, Township 1 South, Range 1 West of the Ute Principal Meridian, County of Mesa, State of Colorado and being more particularly described as follows:

COMMENCING at the Southwest corner of Lot 4, Little Rock Minor Subdivision, as same is recorded in Plat Book 16, Page 37, Public Records of Mesa County, Colorado and assuming the South line of the Northwest Quarter of the Northwest Quarter (NW 1/4 NW 1/4) of said Section 22 bears S 89°46'47" E with all other bearings contained herein being relative thereto; thence from said Point of Commencement, N 89°16'21" E, along the South line of said Lot 4 and the North line of that certain parcel of land described in Book 5781, Page 994, Public Records of Mesa County, Colorado, a distance of 26.92 feet to the POINT OF BEGINNING; thence from said Point of Beginning, continue N 89°16'21" E, a distance of 80.48 feet; thence S 13°35'56" W, a distance of 20.63 feet; thence S 89°16'01" W, a distance of 84.77 feet to a point being the beginning of a 1,266.92 foot radius curve, concave Northwest, whose long chord bears N 24°26'05" E with a long chord length of 22.09 feet; thence Northeasterly along the arc of said curve, through a central angle of 00°59'57", an arc length of 22.10 feet, more or less, to the Point of Beginning.

Containing 1,651 square feet or 0.038 Acres, more or less, as described herein and depicted on **Exhibit "A",** attached hereto and incorporated herein by reference.

TO HAVE AND TO HOLD unto the said Grantee, its successors and assigns forever, together with the right of ingress and egress for workers and equipment to survey, maintain, operate, repair, replace, control and use said Easement, and to remove objects interfering therewith, including the trimming of trees and bushes as may be required to permit the operation of standard construction and repair machinery, subject to the terms and conditions contained herein.

The interest conveyed is an easement for the limited purposes and uses and upon the terms stated herein. Grantor reserves the right to use and occupy the real property burdened by this Easement for any lawful purpose which is not inconsistent with and which will not substantially interfere with the full use and quiet enjoyment of the rights herein granted; provided, however, that Grantor hereby covenants with Grantee that the Easement shall not be burdened or overburdened by the installation, construction or placement of any improvements, structures or fixtures thereon which may be detrimental to the facilities of Grantee or which may act to prevent reasonable ingress and egress for workers and equipment on, along, over, under, through and across the Easement. Nothing in this section shall be interpreted to prevent Grantor from installing landscaping features or similar improvements typically located in Easements.

Grantor hereby covenants with Grantee it has good title to the herein described premises; that it has good and lawful right to grant this Easement; that it will warrant and forever defend the title

and quiet possession thereof against the lawful claims and demands of all persons whomsoever.

Executed and delivered this 23 day of June, 2016.

Frog Pond LLC

By: _____
Kevin Bray
Manager of Frog Pond LLC

State of Colorado)
)ss.
County of Mesa)

The foregoing instrument was acknowledged before me this 23rd day of June, 2016, by Kevin Bray as Manager of Frog Pond LLC.

MARY E. SPARKS
NOTARY PUBLIC
STATE OF COLORADO
NOTARY ID 20104010837
MY COMMISSION EXPIRES APRIL 7, 2018

My commission expires 04/07/2018.

Witness my hand and official seal.

Mary E. Sparks
Notary Public

Ratified, consented to, and acknowledged by the following Deed of Trust Beneficiaries:

Home Loan State Bank ratifies, consents to, and acknowledges the foregoing instrument:

Home Loan State Bank

By: _____
Print Name: JARED FERRANS
Print Title: VICE PRESIDENT

State of Colorado)
)ss
County of Mesa)

The foregoing instrument was ratified, consented to, and acknowledged by Home Loan State Bank, beneficiary of Deed of Trust dated October 9, 2015 and recorded on 10/12/2015, in the office of the Mesa County Clerk and Recorder, Reception No. 2739928, Book 5782 at Page 1, before me this 3rd day of June, 2016 by Jared Ferrans as Vice President for Home Loan State Bank.

My commission expires _____.

Witness my hand and official seal.

Lahoma Draper
Notary Public

LAHOMA DRAPER
NOTARY PUBLIC
STATE OF COLORADO
NOTARY ID #20024026654
My Commission Expires June 9, 2018

Kathy and Steve Edwards beneficiaries of Deed of Trust dated October 9, 2015, and recorded on 10/12/2015, in the office of the Mesa County Clerk and Recorder, Reception No. 2739954, Book 5782 at Page 79, for the benefit of Steve Edwards and Kathy Edwards as Joint Tenants and recorded again as a corrected document for the same beneficiaries on 11/17/2015, Reception No. 2743517, Book 5794 at Page 710 ratify, consent to, and acknowledge the foregoing instrument:

Steve Edwards

State of Colorado)
)ss
County of Mesa)

The foregoing instrument was ratified, consented to, and acknowledged before me this 17th day of May, 2016 by Steve Edwards.

My commission expires 10-18-18.

Witness my hand and official seal.

DIANNE E. WILTGEN
NOTARY PUBLIC
STATE OF COLORADO
NOTARY ID #19944014054
My Commission Expires October 18, 2018

Dianne E. Wiltgen
Notary Public

Kathy Edwards

State of Colorado)
)ss
County of Mesa)

The foregoing instrument was ratified, consented to, and acknowledged before me this 17th day of May, 2016 by Kathy Edwards.

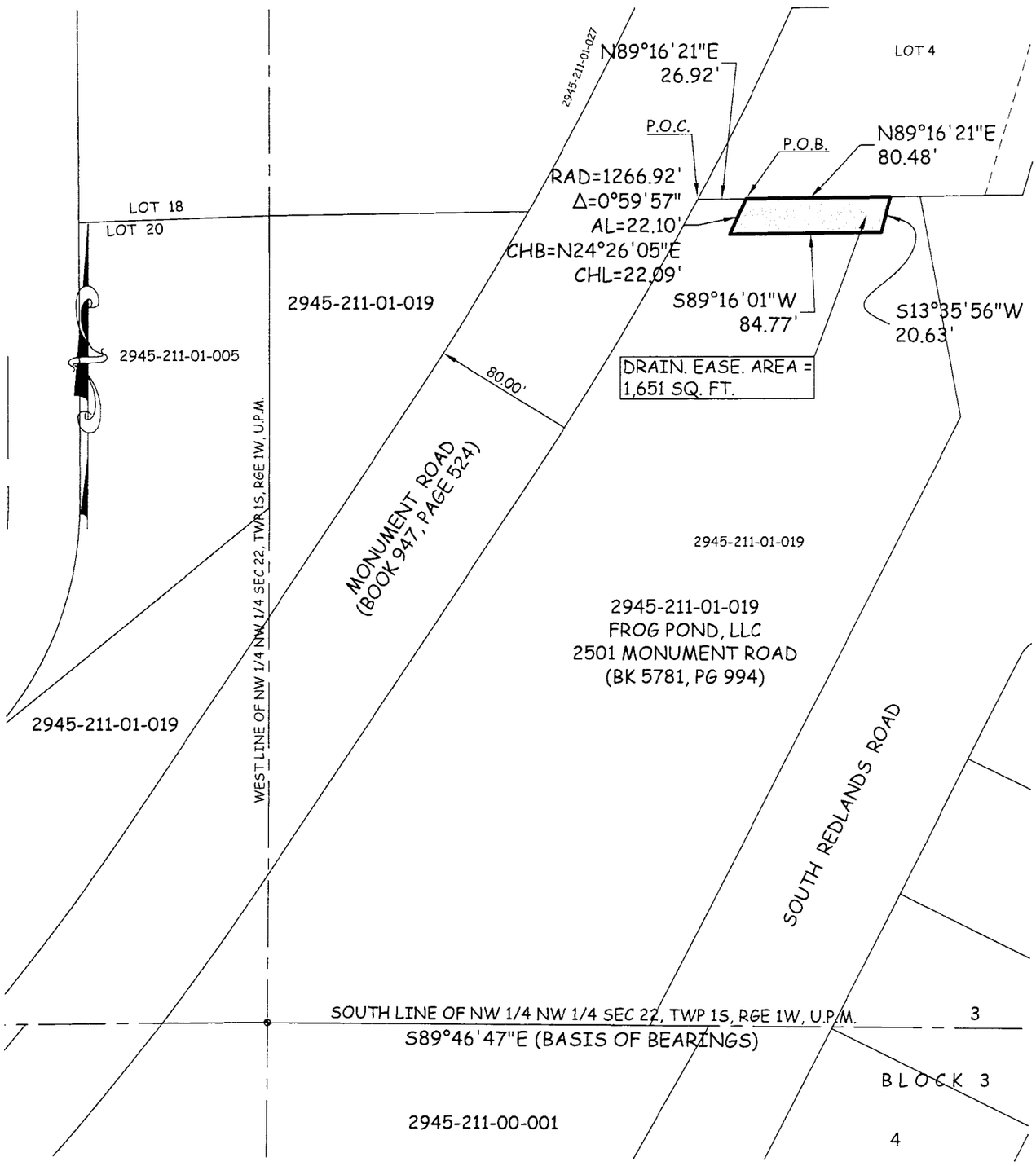
My commission expires 10-18-18.

Witness my hand and official seal.

Dianne E. Wiltgen
Notary Public

DIANNE E. WILTGEN
NOTARY PUBLIC
STATE OF COLORADO
NOTARY ID #19944014054
My Commission Expires October 18, 2018

EXHIBIT "A"



ABBREVIATIONS

P.O.C.	POINT OF COMMENCEMENT
P.O.B.	POINT OF BEGINNING
R.O.W.	RIGHT OF WAY
SEC.	SECTION
TWP.	TOWNSHIP
RGE.	RANGE
U.M.	UTE MERIDIAN

0 40' 80'

1 inch = 80 ft.
Lineal Units = U.S. Survey Foot

COLORADO REGISTERED PETER T. KRICK No. 32824 PROFESSIONAL LAND SURVEYOR
5-02-16

The sketch and description shown hereon has been derived from subdivision plats and deed descriptions as they appear in the office of the Mesa County Clerk and Recorder. This sketch does not constitute a legal survey, and is not intended to be used as a means for establishing or verifying property boundary lines.

SHEET 4 OF 4

N:CADD/PETERK/BRAY ROW

DRAWN BY: P.T.K.
DATE: 01-29-2016
SCALE: 1" = 80'
APPR. BY: J.B.

DRAINAGE EASEMENT
2501 MONUMENT ROAD
2945-211-01-019

CITY OF Grand Junction COLORADO

CITY OF Grand Junction COLORADO
COMMUNITY DEVELOPMENT

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: Subdivision Plat/Plan - Major Final

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:	2501 Monument Road, Grand Junction, CO 81507	Site Acreage:	3.31
Site Tax No(s):	2945-211-01-019	Site Zoning:	PD

Project Description: Frog Pond PD

Property Owner Information		Applicant Information		Representative Information	
Name:	Frog Pond LLC	Name:	Frog Pond LLC	Name:	Cores LLC
Street Address:	244 N 7th St	Street Address:	244 N 7th St	Street Address:	244 N 7th St
City/State/Zip:	Grand Junction, CO 8	City/State/Zip:	Grand Junction, CO 8	City/State/Zip:	Grand Junction, CO 8
Business Phone #:	(970) 270-9985	Business Phone #:	(970) 270-9985	Business Phone #:	(970) 263-2956
E-Mail:	kevinbray@brayandco.com	E-Mail:	kevinbray@brayandco.com	E-Mail:	darah@brayandco.com
Fax #:	(970) 241-6223	Fax #:	(970) 241-6223	Fax #:	(970) 241-6223
Contact Person:	Kevin Bray	Contact Person:	Kevin Bray	Contact Person:	Darah Galvin
Contact Phone #:	(970) 270-9985	Contact Phone #:	(970) 270-9985	Contact Phone #:	(970) 263-2956

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		Date	October 22, 2019
Signature of Legal Property Owner		Date	11/1/18

BRAY & CO. REAL ESTATE DEVELOPMENT
244 N. 7th Street | Grand Junction, CO 81501 | Direct (970) 241-2909

General Project Report
Final Subdivision Submittal

FROG POND
Assessor Parcel No. 2945-211-01-019
2501 Monument Road, Grand Junction, CO
March 11, 2020

A. Project History

In Dec 2018, this property received an approval of a proposed PD zoning, which was set to allow for a range of 14-21 residential units, allow 10% of land, or up to 14,670 sqft, to be used for a limited commercial space including the parking spaces required for that commercial use. There were also proposed deviations from the underlying R-5 zone that were all approved and are used in the current plan.

B. Property Location

This site is a 3.377 acre parcel off of Monument Road south of S Redlands Road. This site is physically separated into two parts by Monument Road. A portion of the site is also bordered by S. Redlands Road. In this plat and plan, the western portion of the site will be dedicated to the City of Grand Junction

C. Project Description

This is a request for the approval of a full Subdivision submittal. This project will consist of a private street with parking, 12 new lots with new single family homes on each lot, one lot each for the 2 existing duplexes, one lot for the tiny homes, one lot for the commercial site, and one tract containing all other area including drive lanes, residential parking, and the water quality pond for a total of 16 lots and 1 tract. The parcel is located within the City of Grand Junction. The developer is Frog Pond, LLC, represented by Kevin Bray. The development team includes River City Consultants responsible for surveying and engineering aspects, and Ciavonne, Roberts and Associates leading the physical planning, design development and landscape plans.

D. Public Benefit

The public will benefit with (1) the development of vacant property; (2) the addition of a limited mixed-use element nestled within a primary residential use; (3) and professional land planning of a site in a very visible location that will be consistent with future land use plans. This development will make more efficient use of the existing infrastructure.

Development will also eliminate the existing septic system, which is also in line with City goals. This subdivision development will also dedicate a portion of the property to the City of Grand Junction for the preservation of the natural drainage that occupies the west portion of the site.

E. Neighborhood Meeting

A neighborhood meeting was held as required and meeting minutes and received comments are included with this submittal.

F. Project Compliance, Compatibility, and Impact

1. **Site access and traffic patterns-** Access is existing to a portion of the property from Monument Road for the portion of the site where the duplex units exist. Considerable attention to access was discussed in talks with the City about trail alignment. This was discussed in the context of the future development of the site per this application. It was determined that the access point would be at the current location. Also likely is that a turn lane would be required, and subject to the current traffic capacity payment policy. Fire lane access was discussed and accepted with the Grand Junction Fire Department.

2. **Availability of utilities, including proximity of fire hydrants-**
   a) The subject parcel is and/or will be served by the following:
      Ute Water
      City of Grand Junction Sanitation District
      Xcel Energy
      Charter/Spectrum
      Century Link
      Redlands Water and Power
      City of Grand Junction Fire

      All utilities are existing in Monument Road and S. Redlands Road and have been or can be extended into to the site.

   b) Meetings with the utility companies have been held in preparation for the submitted subdivision and all utilities outlined in the Utility composite plan have been at least preliminarily approved by the utility companies. Discussion with the Fire Department on access, street widths, locations of no parking signs, fire lane striping, and direction of travel have all been approved by the Grand Junction Fire Department.

3. **Hours of operation-** The hours of operation are limited by the ODP, but will be determined within the constraints by the occupant of the commercial space

4. **Number of employees-** Number of employees will depend on the use of the commercial space, and whether it becomes a retail or an office space.

5. **Signage plans-** Sign plans were adopted with the PD to be in compliance with R-O standards.

6. **Site Soils Geology-** A soils report was conducted and is included with this submittal.

7. **Impact of project on site geology and geological hazards-** There will be no change from the proposed project to current site conditions. At a 500 cfs flood, the water overtops the road. City maintained area.

G. Development Schedule and Phasing

The approval of this request would allow development to be begin in 2020 for a hopeful completion date early in 2021.

September 2, 2020

Scott Peterson
Senior Planner
City of Grand Junction

RE: Easement vacation request

Dear Mr. Peterson,

As you are aware we are currently involved in the subdivision process for 2501 Monument Road.

In 2017 the City installed a storm sewer across the properties to the south to connect to a pipe that goes under monument road to address a ponding issue due to poor drainage conditions. For installation of the pipe the City requested the attached drainage easement which we provided in 2016. At the time of installation of the pipe we hired the same contractor to install a drain pipe on our property that directly connected to this pipe, thus negating the need for the easement on our property. In addition, as we are going through the subdivision process we are handling all of our onsite drainage per the code and the attached drainage easement will not be needed or useful in the future.

At this time we are requesting that the City vacate this easement as it is no longer useful and limits the buildable area with one of our planned lots in the subdivision.

Sincerely,

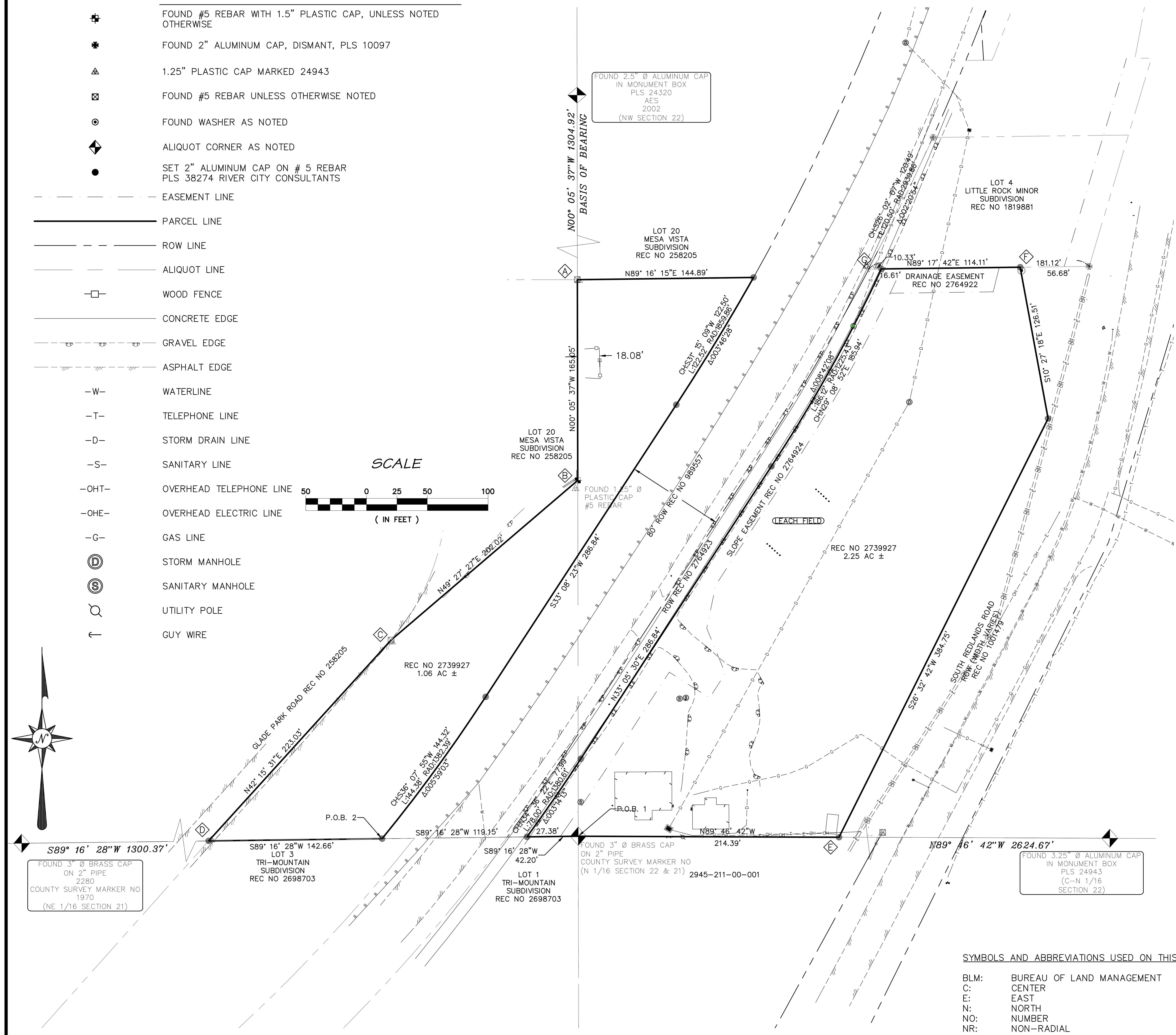
Kevin Bray, Manager
Frog Pond LLC

IMPROVEMENT SURVEY PLAT

Northwest quarter of the Northwest quarter of Section 22 & the Northeast quarter of the Northeast quarter of Section 21, T.1S., R1W., Ute Meridian. City of Grand Junction, Mesa County, Colorado

LEGEND

FOUND #5 REBAR WITH 1.5" PLASTIC CAP, UNLESS NOTED OTHERWISE
FOUND 2" ALUMINUM CAP, DISMANT, PLS 10097
1.25" PLASTIC CAP MARKED 24943
FOUND #5 REBAR UNLESS OTHERWISE NOTED
FOUND WASHER AS NOTED
ALIQUOT CORNER AS NOTED
SET 2" ALUMINUM CAP ON # 5 REBAR PLS 38274 RIVER CITY CONSULTANTS
EASEMENT LINE
PARCEL LINE
ROW LINE
ALIQUOT LINE
WOOD FENCE
CONCRETE EDGE
GRAVEL EDGE
ASPHALT EDGE
—W— WATERLINE
—T— TELEPHONE LINE
—D— STORM DRAIN LINE
—S— SANITARY LINE
—OHT— OVERHEAD TELEPHONE LINE
—OHE— OVERHEAD ELECTRIC LINE
—G— GAS LINE
STORM MANHOLE
SANITARY MANHOLE
UTILITY POLE
GUY WIRE



This survey was conducted without the benefit of an abstract or current title commitment. Evidence of title, easements of record, rights of way, adjoiners, and encumbrances affecting this property reviewed and considered part of the this survey are noted hereon. There may exist other documents, both recorded and unrecorded, that would affect title to this parcel.

Subsurface and environmental conditions were not examined or considered as a port of this survey. No statement is made concerning the existence of underground vessels that may affect the use or development of this land.

Utility locates were executed by American Utility Specialists as port of this survey, No excavations were made during this survey to determine exact locations and depths of underground utilities and structures. Existence and locations of all underground utilities and structures should be verified prior to construction on this property.

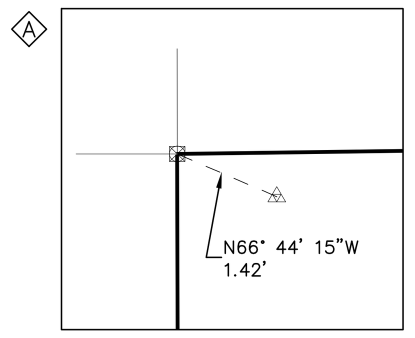
NOTICE: According to Colorado law you must commence any legal action based upon any defect in this survey within three years after you first discover such defect. In no event may any action based upon any defect in this survey be commenced more than ten years from the date of the certification shown hereon.

SURVEYOR'S STATEMENT

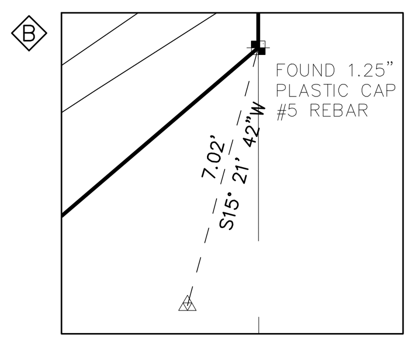
I, Alec K Thomas, a registered Professional Land Surveyor in the State of Colorado, do hereby state: the Improvement Survey Plat represented hereon was performed by me or under my responsible charge; it is based upon my knowledge, information and belief; it is in accordance with applicable standards of practice. This statement is not a guaranty, either expressed or implied.

Alec K Thomas,
Colorado PLS 38274

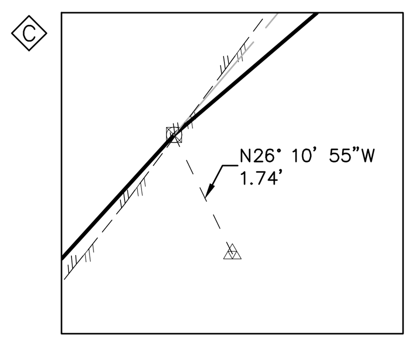
COLORADO LICENSED ALEC KHALIL THOMAS 38274 PROFESSIONAL LAND SURVEYOR



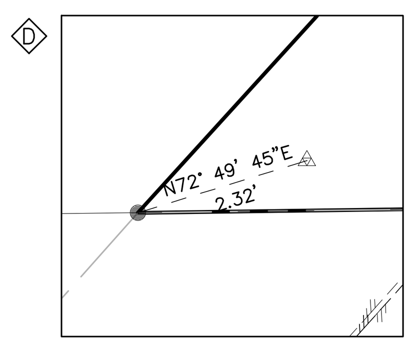
Rejected 1.25" plastic cap marked 24943, rebar found to northwest believed to be original monument representing the northeast corner of Lot 20 of Mesa Vista Subdivision as it fits with record geometry and is positioned on the aliquot line.



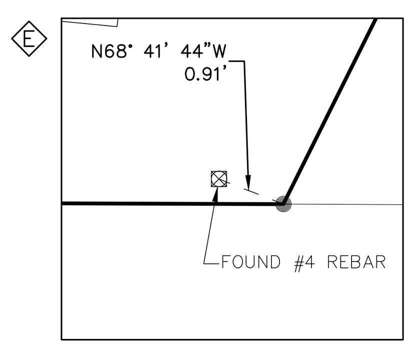
Rejected 1.25" plastic cap marked 24943, found 1.25" illegible plastic cap under asphalt believed to be southeast corner of Lot 20 of Mesa Vista Subdivision as it fits with record geometry and is positioned on the aliquot line.



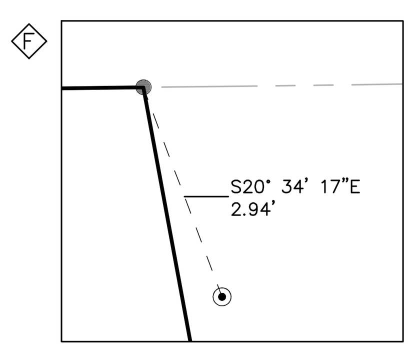
Rejected 1.25" plastic cap marked 24943, found #5 rebar under asphalt believed to be southwest corner of Lot 20 of Mesa Vista Subdivision as it fits with record geometry.



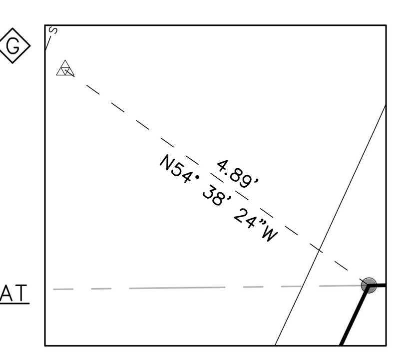
Rejected 1.25" plastic cap marked 24943, not positioned on aliquot line and geometrically inconsistent with adjoining surveys, set 1.5" aluminum cap on #5 rebar.



No record of #4 rebar being set, possibly out of place due to subsidence, set 1.5" aluminum cap on #5 rebar.



Rejected 1.5" aluminum washer, geometrically inconsistent with adjoining surveys, set 1.5" aluminum cap on #5 rebar at intersection with south boundary of Lot 4 of Little Rock Minor Subdivision.



Rejected 1.25" plastic cap marked 24943, geometrically inconsistent with adjoining surveys, set 1.5" aluminum cap on #5 rebar.

SYMBOLS AND ABBREVIATIONS USED ON THIS PLAT

BLM:	BUREAU OF LAND MANAGEMENT
C:	CENTER
E:	EAST
N:	NORTH
NO:	NUMBER
NR:	NON-RADIAL
PLS:	PROFESSIONAL LAND SURVEYOR
PLSS:	PUBLIC LAND SURVEY SYSTEM
MCSM:	MESA COUNTY SURVEY MARKER
MPE:	MULTI-PURPOSE EASEMENT
CH:	CHORD LENGTH
L:	ARC LENGTH
RAD:	RADIUS
Δ:	CENTRAL ANGLE DELTA
T:	TOWNSHIP
R:	RANGE
REC:	RECEPTION
ROW:	RIGHT OF WAY
S:	SOUTH
T:	TOWNSHIP
UM:	UTE MERIDIAN
W:	WEST
ø	DIAMETER

LAND SURVEY DEPOSITS

Mesa County Surveyor's Office
Date____________________________.

Deposit Number____________________________.

This plat is a graphical representation of the professional opinion of the undersigned surveyor of the location of the property as described in the title documents referenced. The bearings of the boundary lines on the drawing represent the title description rotated to grid north of the Mesa County Local Coordinate System (MCLCS) noted above. The geometric integrity of the lines has been preserved except where they yield to record monuments and/or senior or controlling lines.

PROPERTY DESCRIPTION

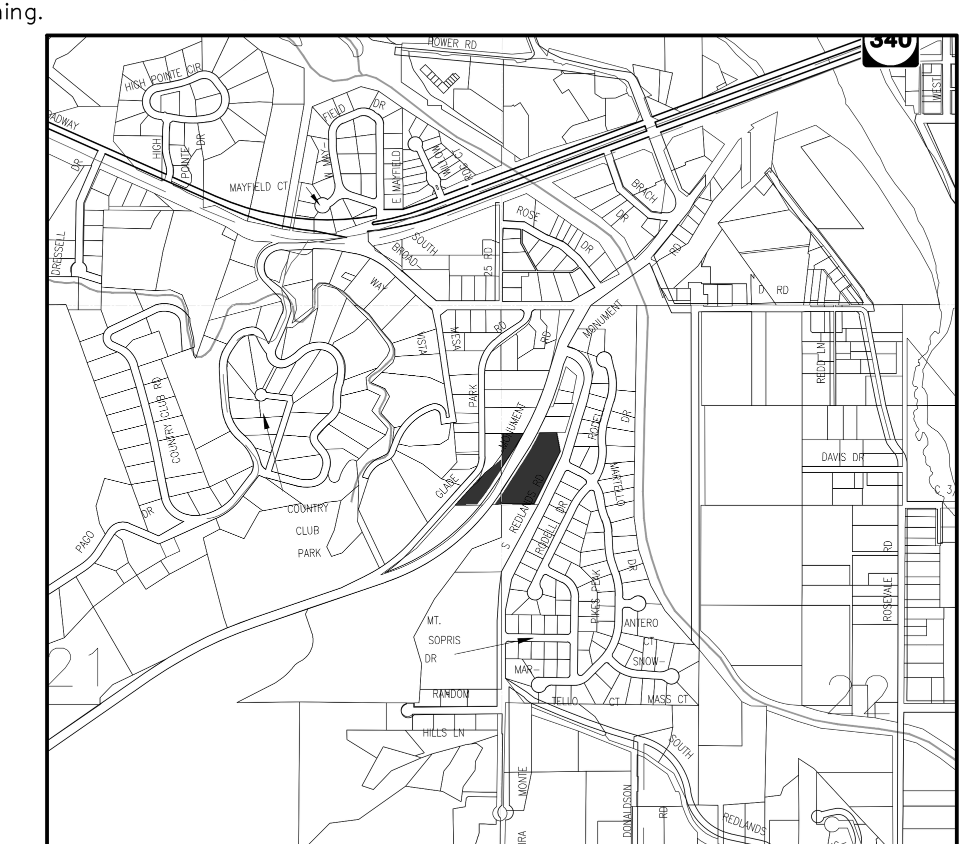
A parcel of land as recorded at Reception Number 2739927 at the Mesa County Clerk and Recorder, situated in the Northwest quarter of the Northwest quarter of Section 22 and the Northeast quarter of the Northeast quarter of Section 21, Township 1 South, Range 1 West of the Ute Meridian, City of Grand Junction, County of Mesa, State of Colorado, being more particularly described as follows:

Beginning at a 3" brass cap marked MESA COUNTY SURVEY MARKER NO, at the north one-sixteenth corner common to said Section 22 and Section 21 (P.O.B. 1), whence a 2.5" aluminum cap in a monument box marked PLS 24320, AES, 2002, for the northwest corner of said Section 22 bears North 00°05'37" West with all bearings herein relative thereto,

Thence South 89°16'28" West along the south line of the Northeast quarter of the Northeast quarter of said Section 21, a distance of 42.20 feet to the east line of Right of Way as recorded at Reception Number 2764923 and a point of cusp on a curve concave to the northwest having a radius of 1380.61 feet and a central angle of 03°14'13" and being subtended by a chord which bears North 34°36'22" East 77.99 feet;
Thence northeasterly along said curve, a distance of 78.00 feet;
Thence North 33°05'30" East, a distance of 286.84 feet to the beginning of a curve concave to the northwest having a radius of 1225.43 feet and a central angle of 08°42'08" and being subtended by a chord which bears North 29°08'52" East 185.94 feet;
Thence northeasterly along said curve, a distance of 186.12 feet to the south line of Lot 4 of Little Rock Minor Subdivision as recorded at Reception Number 1819881;
Thence North 89°17'42" East, a distance of 114.11 feet to the west line of right of way as recorded at Reception Number 1001479;
Thence South 10°27'18" East, a distance of 126.51 feet;
Thence South 26°32'42" West, a distance of 384.75 feet to the south line of the Northwest quarter of the Northwest quarter of said Section 22;
Thence North 89°46'42" West, a distance of 214.39 feet to the Point of Beginning,

Together with a parcel of land as recorded at Reception Number 2739927 at the Mesa County Clerk and Recorder, situated in the Northwest quarter of the Northwest quarter of Section 22 and the Northeast quarter of the Northeast quarter of Section 21, Township 1 South, Range 1 West of the Ute Meridian, City of Grand Junction, County of Mesa, State of Colorado, being more particularly described as follows:

Commencing at a 3" brass cap marked MESA COUNTY SURVEY MARKER NO, at the north one-sixteenth corner common to said Section 22 and Section 21, whence a 2.5" aluminum cap in a monument box marked PLS 24320, AES, 2002, for the northwest corner of said Section 22 bears North 00°05'37" West with all bearings herein relative thereto.
Thence South 89°16'28" West along the south line of the Northeast quarter of the Northeast quarter of said Section 21, a distance of 161.35 feet to the Point of Beginning (P.O.B. 2);
Thence South 89°16'28" West, a distance of 142.66 feet to the east right of way line of Glade Park road as recorded at Reception Number 258205;
Thence North 42°15'31" East, a distance of 223.03 feet to the southwest corner of Lot 20 of Mesa Vista Subdivision as recorded at Reception Number 258205;
Thence North 49°27'27" East, a distance of 202.02 feet to the southeast corner of said Lot 20;
Thence North 00°05'37" West, a distance of 165.05 feet to the northeast corner of said Lot 20;
Thence North 89°16'15" East, a distance of 144.89 feet to the west line of right of way as recorded at Reception Number 989557 and a point of cusp on a curve concave to the northwest having a radius of 1859.86 feet and a central angle of 03°46'28" and being subtended by a chord which bears South 31°15'09" West 122.50 feet;
Thence southwesterly along said curve, a distance of 122.52 feet;
Thence South 33°08'23" West tangent to said curve, a distance of 286.84 feet to the beginning of a curve tangent to said line;
Thence southwesterly a distance of 144.38 feet along the curve concave to the northwest, having a radius of 1382.39 feet and a central angle of 05°59'03" and being subtended by a chord which bears South 36°07'55" West 144.32 feet;
Thence southwesterly along said curve, a distance of 144.38 feet to the Point of Beginning.



VICINITY MAP 1:1000

RIVER CITY CONSULTANTS
744 Horizon Court, Suite 110
Grand Junction, CO 81506
www.rccwest.com
Phone: 970.241.4722
Fax: 970.241.8841

IMPROVEMENT SURVEY PLAT

Northwest quarter of the Northwest quarter of Section 22 & the Northeast quarter of the Northeast quarter of Section 21, T.1S., R1W., Ute Meridian. City of Grand Junction, Mesa County, Colorado

Sheet 1 of 1	Date: 2/10/20	Job No. 0422-031
Surveyed: SLG	Drawn: AKT	Checked: TPJ

Drawing name: S:\PROJECTS\0422 Bray\031 Frog Pond\Survey\0422-031 ISP.dwg

OWNERSHIP STATEMENT - CORPORATION OR LIMITED LIABILITY COMPANY

(a) Frog Pond LLC ("Entity") is the owner of the following property:

(b) 2501 Monument Road, Grand Junction, CO 81507

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) Manager 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) Subdivision Submittal

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

(e) N/A

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: [signature]

Printed name of person signing: Kevin Bray

State of colorado)

County of Mesa) ss.

Subscribed and sworn to before me on this 8th day of November, 20 19

by Haley Shiner

Witness my hand and seal.

My Notary Commission expires on september 6th, 2022

HALEY SHINER
NOTARY PUBLIC
STATE OF COLORADO
NOTARY ID #20184035584
My Commission Expires September 6, 2022

Haley Shiner
Notary Public Signature

State Documentary Fee
Date: October 09, 2015
$ 26.30

Warranty Deed

(Pursuant to 38-30-113 C.R.S.)

THIS DEED, made on **October 09, 2015** by **MICHAEL EDWARDS AND STEVE EDWARDS** Grantor(s), of the County of **MESA** and State of **COLORADO** for the consideration of **($263,000.00) *** Two Hundred Sixty Three Thousand and 00/100 ***** dollars in hand paid, hereby sells and conveys to **FROG POND LLC** Grantee(s), whose street address is **244 N 7TH STREET GRAND JUNCTION, CO 81501,** County of **MESA,** and State of **COLORADO,** the following real property in the County of **Mesa,** and State of Colorado, to wit:

SEE ATTACHED "EXHIBIT A"

also known by street and number as: **2501 MONUMENT RD GRAND JUNCTION CO 81507**

with all its appurtenances and warrants the title to the same, subject to *general taxes for the year 2015 and those specific Exceptions described by reference to recorded documents as reflected in the Title Documents accepted by Grantee(s) in accordance with Record Title Matters (Section 8.2) of the Contract to Buy and Sell Real Estate relating to the above described real property; distribution utility easements, (including cable TV); those specifically described rights of third parties not shown by the public records of which Grantee(s) has actual knowledge and which were accepted by Grantee(s) in accordance with Off-Record Title Matters (Section 8.3) and Current Survey Review (Section 9) of the Contract to Buy and Sell Real Estate relating to the above described real property; inclusions of the Property within any special tax district; and other* **NONE**

MICHAEL EDWARDS

STEVE EDWARDS

State of **COLORADO**)
) ss.
County of **MESA**)

The foregoing instrument was acknowledged before me on this day of **October 09, 2015**
by **MICHAEL EDWARDS AND STEVE EDWARDS**

BETH COSTELLO
NOTARY PUBLIC
STATE OF COLORADO
NOTARY ID #19984013034
My Commission Expires May 11, 2018

Notary Public
My commission expires 5/11/18

County of Mesa

When Recorded Return to: **FROG POND LLC**
244 N 7TH STREET GRAND JUNCTION, CO 81501

Land Title

EXHIBIT A

A PARCEL OF LAND SITUATED IN THE NE¼ OF THE NE¼ OF SECTION 21, TOWNSHIP 1 SOUTH, RANGE 1 WEST OF THE UTE MERIDIAN, ALSO BEING A PART OF LOT 20 OF MESA VISTA SUBDIVISION, BEING MORE PARTICULARLY DESCRIBED AS FOLLOWS:
BEGINNING AT THE SOUTHEAST CORNER OF THE NE¼ OF THE NE¼ OF SECTION 21, TOWNSHIP 1 SOUTH, RANGE 1 WEST OF THE UTE MERIDIAN;
THENCE WEST TO THE RIGHT-OF-WAY FOR THE GLADE PARK HIGHWAY;
THENCE IN A NORTHEASTERLY DIRECTION ALONG THE SAID HIGHWAY TO THE SOUTHWEST CORNER OF LOT 20 OF THE MESA VISTA SUBDIVISION, AS SHOWN ON THE RECORDED PLAT THEREOF;
THENCE ALONG THE SOUTH LINE OF SAID LOT 20 TO THE EAST LINE OF SAID LOT 20;
THENCE ALONG THE SAID EAST LINE OF SAID LOT 20 TO THE NORTHEAST CORNER OF SAID LOT 20;
THENCE EAST TO A POINT 60 FEET WEST OF THE CENTER LINE OF THE HIGHWAY LEADING TO THE MESA COUNTY FARM;
THENCE CONTINUING IN A SOUTHERLY DIRECTION 60 FEET WEST OF THE CENTER LINE TO THE SOUTH LINE OF THE NW¼ OF THE NW¼ OF SECTION 22, TOWNSHIP 1 SOUTH, RANGE 1 WEST OF THE UTE MERIDIAN;
THENCE WEST TO THE POINT OF BEGINNING;
EXCEPTING THEREFROM THAT PORTION THEREOF CONVEYED TO COUNTY OF MESA BY INSTRUMENT RECORDED JUNE 16, 1970, IN BOOK 947 AT PAGE 524,
MESA COUNTY, COLORADO.

FROG POND SUBDIVISION

Northwest quarter of the Northwest quarter of Section 22 & the Northeast quarter of the Northeast quarter of Section 21, T.1S., R1W., Ute Meridian. City of Grand Junction, Mesa County, Colorado

Know All Persons By These Presents:

The undersigned, Frog Pond LLC, is the owner of record of that real property situated in the Northwest quarter of the Northwest quarter of Section 22 and the Northeast quarter of the Northeast quarter of Section 21, Township 1 South, Range 1 West, City of Grand Junction, County of Mesa, State of Colorado, the ownership of which is demonstrated at Reception Number 2739927 of the records in the office of the Mesa County Clerk and Recorder. Said property being more particularly described as follows:

Beginning at a 3" brass cap marked MESA COUNTY SURVEY MARKER NO, at the north one-sixteenth corner common to said Section 22 and Section 21 (P.O.B. 1), whence a 2.5" aluminum cap in a monument box marked PLS 24320, AES, 2002, for the northwest corner of said Section 22 bears North 00°05'37" West with all bearings herein relative thereto,

Thence South 89°16'28" West along the south line of the Northeast quarter of the Northeast quarter of said Section 21, a distance of 42.20 feet to the east line of Right of Way as recorded at Reception Number 2764923 and a point of cusp on a curve concave to the northwest having a radius of 1380.61 feet and a central angle of 03°14'13" and being subtended by a chord which bears North 34°36'22" East 77.99 feet;
Thence northeasterly along said curve, a distance of 78.00 feet;
Thence North 33°05'30" East, a distance of 286.84 feet to the beginning of a curve concave to the northwest having a radius of 1225.43 feet and a central angle of 08°42'08" and being subtended by a chord which bears North 29°08'52" East 185.94 feet;
Thence northeasterly along said curve, a distance of 186.12 feet to the south line of Lot 4 of Little Rock Minor Subdivision as recorded at Reception Number 1819881;
Thence North 89°17'42" East, a distance of 114.11 feet to the west line of right of way as recorded at Reception Number 1001479;
Thence South 10°27'18" East, a distance of 126.51 feet;
Thence South 26°32'42" West, a distance of 384.75 feet to the south line of the Northwest quarter of the Northwest quarter of said Section 22;
Thence North 89°46'42" West, a distance of 214.39 feet to the Point of Beginning,

Together with a parcel of land as recorded at Reception Number 2739927 at the Mesa County Clerk and Recorder, situated in the Northwest quarter of the Northwest quarter of Section 22 and the Northeast quarter of the Northeast quarter of Section 21, Township 1 South, Range 1 West of the Ute Meridian, City of Grand Junction, County of Mesa, State of Colorado, being more particularly described as follows:

Commencing at a 3" brass cap marked MESA COUNTY SURVEY MARKER NO, at the north one-sixteenth corner common to said Section 22 and Section 21, whence a 2.5" aluminum cap in a monument box marked PLS 24320, AES, 2002, for the northwest corner of said Section 22 bears North 00°05'37" West with all bearings herein relative thereto.
Thence South 89°16'28" West along the south line of the Northeast quarter of the Northeast quarter of said Section 21, a distance of 161.35 feet to the Point of Beginning (P.O.B. 2);
Thence South 89°16'28" West, a distance of 142.66 feet to the east right of way line of Glade Park road as recorded at Reception Number 258205;
Thence North 42°15'31" East, a distance of 223.03 feet to the southwest corner of Lot 20 of Mesa Vista Subdivision as recorded at Reception Number 258205;
Thence North 49°27'27" East, a distance of 202.02 feet to the southeast corner of said Lot 20;
Thence North 00°05'37" West, a distance of 165.05 feet to the northeast corner of said Lot 20;
Thence North 89°16'15" East, a distance of 144.89 feet to the west line of right of way as recorded at Reception Number 989557 and a point of cusp on a curve concave to the northwest having a radius of 1859.86 feet and a central angle of 03°46'28" and being subtended by a chord which bears South 31°15'09" West 122.50 feet;
Thence southwesterly along said curve, a distance of 122.52 feet;
Thence South 33°08'23" West tangent to said curve, a distance of 286.84 feet to the beginning of a curve tangent to said line;
Thence southwesterly a distance of 144.38 feet along the curve concave to the northwest, having a radius of 1382.39 feet and a central angle of 05°59'03" and
being subtended by a chord which bears South 36°07'55" West 144.32 feet, to the Point of Beginning.

Said owners have by these presents laid out, platted and subdivided the above described real property into parcels, Lots, Tracts and streets as shown hereon, and designates the same as FROG POND SUBDIVISION, in the City of Grand, County of Mesa, State of Colorado,

Tract A is dedicated to the City of Grand Junction for the use of the public forever.

Tract B is to be granted to Frog Pond Home Owners Association by separate instrument and is subject to a utility easement over its entirety as more fully provided in the DECLARATION OF COVENANTS, CONDITIONS AND RESTRICTIONS FOR FROG POND SUBDIVISION.

All landscape easements are to be granted to the Frog Pond Homeowners Association by separate instrument.

The City of Grand Junction is hereby granted a perpetual easement for the inspection, installation, operation, maintenance and repair of detention and drainage facilities and appurtenants thereto over each drainage easement shown hereon. The City of Grand Junction is also dedicated reasonable ingress/egress access to the drainage/detention easement areas. The owner(s) and/or the property owners' association, if one exists, is not relieved of its responsibility to inspect, install, operate, maintain, and repair the detention and drainage facilities.

All sanitary sewer easements are dedicated to the City of Grand Junction as perpetual easements for the use and benefit of the Persigo 201 Sewer System, a perpetual Easement for the installation, operation, maintenance, repair and replacement of sanitary sewer facilities, including ingress and egress to the sanitary sewer and its facilities and appurtenances on, along, over, under, through and across the Easement.

All multipurpose easements are dedicated to the City of Grand Junction as perpetual easements for City approved utilities including the installation, operation, maintenance and repair of said utilities and appurtenances which may include but are not limited to, electric lines, cable TV lines, natural gas pipelines, sanitary sewer lines, storm sewers, water lines, telephone lines, traffic control facilities, street lighting, landscaping, trees and grade structures.

All tracts/easements include the right of ingress and egress on, along, over, under, through and across by the beneficiaries, their successors, or assigns, together with the right to trim or remove interfering trees and brush, and in Drainage and Detention/Retention easements or tracts, the right to dredge; provided however, that the beneficiaries/owner shall utilize the same in a reasonable and prudent manner. Furthermore, the owner of said lots or tracts hereby platted shall not burden or overburden said easements by erecting or placing any improvements thereon which may impede the use of the easement and/or prevent the reasonable ingress and egress to and from the easement.

All utility easements are to be granted to Frog Pond Home Owners Association by separate instrument.

The 10' A & M Easements are granted as more fully provided in the DECLARATION OF COVENANTS, CONDITIONS AND RESTRICTIONS FOR FROG POND SUBDIVISION

Said owner does hereby acknowledge that all lienholders or emcumbrancers, if any, associated with the interests of this plat have been represented hereon.

Said owner does subscribe hereunder this _____day of _____, _____.

_____
Kevin Bray, Manager, Frog Pond LLC.

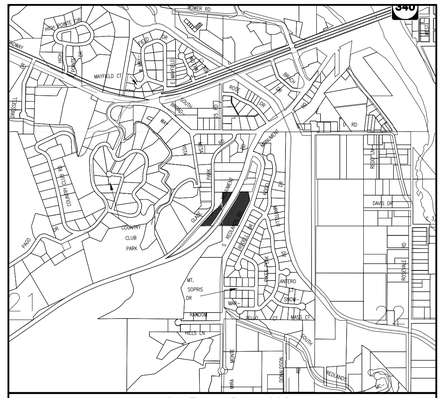
STATE OF COLORADO)
) ss
COUNTY OF MESA)

This plat was acknowledged before me by _____

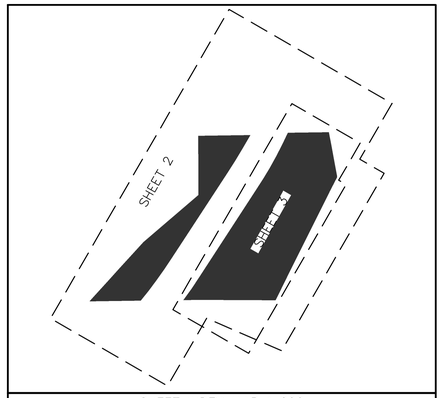
on this _____day of_____ , _____. My commission expires:

Witness my hand and seal _____
Notary Public
My commission expires _____

NOTICE: According to Colorado law you must commence any legal action based upon any defect in this survey within three years after you first discover 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.



VICINITY MAP 1:1000



SHEET INDEX MAP 1:200

AREA SUMMARY

Lots	1.031	ac	31.17 %
Tracts	2.276	ac	68.83 %
Total	3.307	ac	100.00 %

SYMBOLS AND ABBREVIATIONS USED ON THIS PLAT

A&M: ACCESS AND MAINTENANCE
BLM: BUREAU OF LAND MANAGEMENT
C: CENTER
E: EAST
N: NORTH
NO: NUMBER
NR: NON-RADIAL
PLS: PROFESSIONAL LAND SURVEYOR
PLSS: PUBLIC LAND SURVEY SYSTEM
MCSM: MESA COUNTY SURVEY MARKER
MPE: MULTI-PURPOSE EASEMENT
CH: CHORD LENGTH
L: ARC LENGTH
RAD: RADIUS
Δ: CENTRAL ANGLE DELTA
T: TOWNSHIP
R: RANGE IN DEFINING LOCATION IN PLSS
REC: RECEPTION
ROW: RIGHT OF WAY
S: SOUTH
UM: UTE MERIDIAN
W: WEST
ø: DIAMETER
FPHOA: FROG POND HOME OWNERS ASSOCIATION

LIENHOLDERS RATIFICATION OF PLAT

The undersigned hereby certifies that it is a holder of a security interest upon the property hereon described and does hereby join in and consent to the dedication of the land described in said dedication by the owners thereof and agree that its security interest which is recorded at Reception Number 2739928 of the public records of Mesa County, Colorado shall be subordinated to the dedication shown hereon.
Lienholder hereby acknowledges the following as depicted and/or dedicated on this plat:
(1) the existence and location of public rights-of-way, including any rights of maintenance and administration of rights-of-way;
(2) the existence of individual lots and the location of lot lines;
(3) and the zoning density proposed for this subdivision. Lienholder hereby agrees, in the event of partial foreclosure on its lien against the property depicted in this plat, that items (1) through (3) above and all rights incident thereto shall survive any such partial foreclosure.

In witness whereof, the said corporation has caused these presents to be signed by its _____,

with the authority of its board of directors this _____ day of _____, 2020 A.D.

By: _____ For: _____

STATE OF COLORADO)
) ss
COUNTY OF MESA)

This plat was acknowledged before me by _____

on this _____day of_____ , _____. My commission expires:

Witness my hand and seal _____
Notary Public
My commission expires _____

TITLE CERTIFICATION

We _____, a title insurance company, as duly licensed in the State of Colorado, hereby certify that we have examined the title to the hereon described property, that we find the title to the property is vested to Frog Pond, LLC, a Colorado Limited Liability Company; That the current taxes have been paid; That all mortgages not satisfied or released of record nor otherwise terminated by law are shown hereon and that there are no other encumbrances of record; That all easements, reservations and rights of way of record are shown hereon.

DATE: _____ BY: _____
NAME AND TITLE

CLERK AND RECORDER'S CERTIFICATE
STATE OF COLORADO)
) ss
COUNTY OF MESA)
THIS PLAT WAS ACCEPTED FOR FILING IN THE OFFICE OF THE CLERK AND RECORDER OF MESA COUNTY, COLORADO,
AT_____O'CLOCK_____M., ON THIS_____ DAY OF _____, A.D. 20____ AND WAS
RECORDED AT RECEPTION NO._____ DRAWER NO._____
AND FEES_____

_____ _____ _____
CLERK AND RECORDER DEPUTY CLERK

CITY APPROVAL
THIS PLAT OF FROG POND SUBDIVISION, A SUBDIVISION OF THE CITY OF GRAND JUNCTION. COUNTY OF MESA, STATE OF COLORADO, IS HEREBY APPROVED AND DEDICATIONS ACCEPTED

THIS_____DAY OF_____, A.D. 20__

_____ _____ _____
CITY MANAGER CITY MAYOR

Lineal Units of Measurement are U.S. Survey Foot.

MCLCS ZONE "GVA"
TRANSVERSE MERCATOR PROJECTION
POINT OF ORIGIN (SN01)AND CENTRAL MERIDIAN:
LATITUDE: 39°06'22.72746N
LONGITUDE: 108°32'01.43552W
NORTHING: 50,000FT
EASTING: 100,000FT
SCALE FACTOR: 1.000218181798
PROJECT/SCALE FACTOR HEIGHT: 4644FT(NAVD88)

BASIS OF BEARINGS

The bearings hereon are grid bearings of the Mesa County Local Coordinate System, GVA, as defined at http://emap.mesacounty.us/gps_survey/GVAZONE.htm, determined by GPS observation of the west line of the Northwest quarter of the Northwest quarter of Section 22, T.1S., R.1W., Ute Meridian, The north sixteenth corner of said Section 22 & 21 being a 3" brass cap marked COUNTY SURVEY MARKER NO and the northwest corner of said section 22 being a 2.5" aluminum cap marked AES PLS 24320, bearing North 00°05'37" West, as shown hereon.

This survey plat does not constitute a title search by the undersigned surveyor or River City Consultants, Inc. and no certification as to title or ownership of any parcels shown hereon is made by either. All information regarding ownership, rights-of-way, easements of record, adjoiners, and other documents that may affect the quality of title to this property is from a title commitment prepared by Land Title Guarantee Company, GJL65027606.1, dated January 17, 2020. Other documents may exist which would affect this property.

This plat is a graphical representation of the professional opinion of the undersigned surveyor of the location of the property as described in the title documents referenced. The bearings of the boundary lines on the drawing represent the title description rotated to grid north of the Mesa County Local Coordinate System (MCLCS) noted above. The geometric integrity of the lines has been preserved except where they yield to record monuments and/or senior or controlling lines.

SURVEYOR'S STATEMENT

I, Alec K Thomas, a registered Professional Land Surveyor
in the State of Colorado, do hereby state that the accompanying plat of Frog Pond Subdivision, a subdivision of a part of the City of Grand Junction, County of Mesa, State of Colorado, has been prepared by me and/or under my direct supervision and represents a field survey of the same. This statement is applicable only to the survey data represented hereon, and does not represent a warranty or opinion as to ownership, lienholders, or quality of title. This statement is not a guaranty, either expressed or implied.

Alec K Thomas,
Colorado PLS 38274

COLORADO LICENSED ALEC KHALIL THOMAS 38274 PROFESSIONAL LAND SURVEYOR

CITY USE BLOCK

TRACT B	RECEPTION NO._____
LANDSCAPE EASEMENT	RECEPTION NO._____
UTILITY EASEMENTS	RECEPTION NO._____
A & M EASEMENTS	RECEPTION NO._____
UTILITY & LANDSCAPE EASEMENT	RECEPTION NO._____
COVENANTS, CONDITIONS & RESTRICTIONS	RECEPTION NO._____
_____	RECEPTION NO._____
_____	RECEPTION NO._____

RIVER CITY CONSULTANTS
215 Pitkin Avenue, Unit 201
Grand Junction, CO 81501
www.rccwest.com
Phone: 970.241.4722
Fax: 970.241.8841

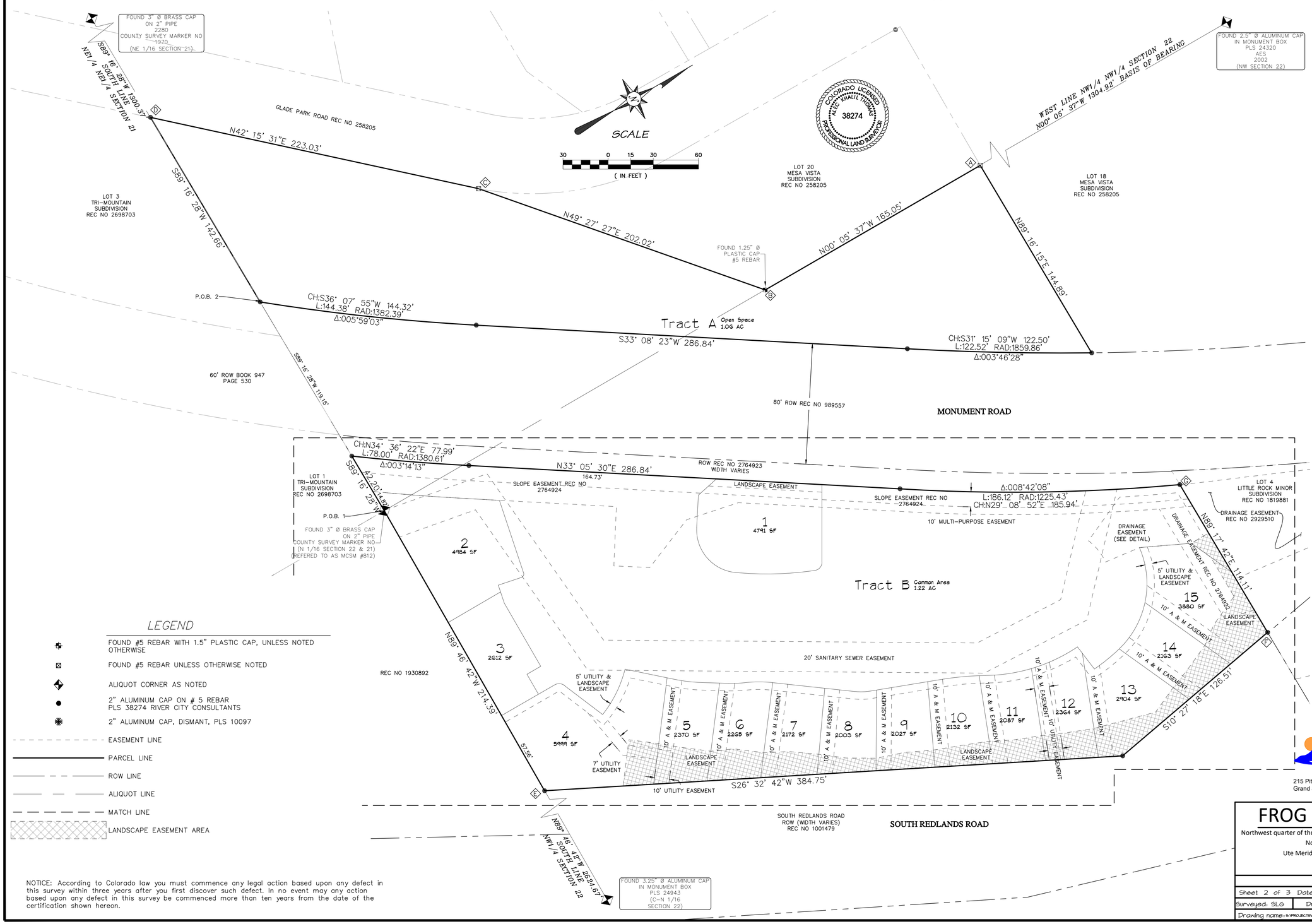
FROG POND SUBDIVISION
Northwest quarter of the Northwest quarter of Section 22 & the Northeast quarter of the Northeast quarter of Section 21, T.1S., R1W.,
Ute Meridian. City of Grand Junction, Mesa County, Colorado

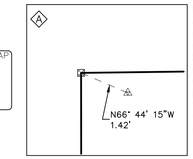
Sheet 1 of 3 Date: 9/16/20		Job No. 0422-031
Surveyed: SLG	Drawn: AKT	Checked: TPJ

Drawing name: S:\PROJECTS\0422 Bray\031 Frog Pond\dwgs\0422-031 FROG POND SUBDIVISION.dwg

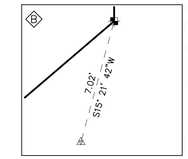
FROG POND SUBDIVISION

Northwest quarter of the Northwest quarter of Section 22 & the Northeast quarter of the Northeast quarter of Section 21, T.1S., R1W., Ute Meridian. City of Grand Junction, Mesa County, Colorado

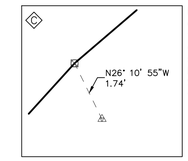




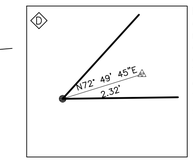
Rejected 1.25" plastic cap marked 24943, rebar found to northwest believed to be original monument representing the northeast corner of Lot 20 of Mesa Vista Subdivision as it fits with record geometry and is positioned on the aliquot line.



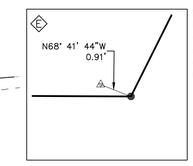
Rejected 1.25" plastic cap marked 24943, found 1.25" illegible plastic cap under asphalt believed to be southeast corner of Lot 20 of Mesa Vista Subdivision as it fits with record geometry and is positioned on the aliquot line.



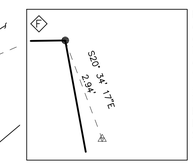
Rejected 1.25" plastic cap marked 24943, found #5 rebar under asphalt believed to be southwest corner of Lot 20 of Mesa Vista Subdivision as it fits with record geometry.



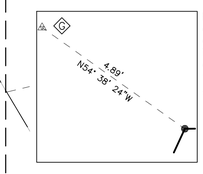
Rejected 1.25" plastic cap marked 24943, not positioned on aliquot line and geometrically inconsistent with adjoining surveys, set 1.5" aluminum cap on #5 rebar.



No record of #4 rebar being set, possibly out of place due to subsidence, set 1.5" aluminum cap on #5 rebar.



Rejected 1.5" aluminum washer, geometrically inconsistent with adjoining surveys, set 1.5" aluminum cap on #5 rebar at intersection with south boundary of Lot 4 of Little Rock Minor Subdivision.



Rejected 1.25" plastic cap marked 24943, geometrically inconsistent with aliquot line, set 1.5" aluminum cap on #5 rebar.

LEGEND

- FOUND #5 REBAR WITH 1.5" PLASTIC CAP, UNLESS NOTED OTHERWISE
- FOUND #5 REBAR UNLESS OTHERWISE NOTED
- ALIQUOT CORNER AS NOTED
- 2" ALUMINUM CAP ON # 5 REBAR PLS 38274 RIVER CITY CONSULTANTS
- 2" ALUMINUM CAP, DISMANT, PLS 10097
- EASEMENT LINE
- PARCEL LINE
- ROW LINE
- ALIQUOT LINE
- MATCH LINE
- LANDSCAPE EASEMENT AREA

NOTICE: According to Colorado law you must commence any legal action based upon any defect in this survey within three years after you first discover 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.

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215 Pitkin Avenue, Unit 201
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www.rccwest.com
Phone: 970.241.4722
Fax: 970.241.8841

FROG POND SUBDIVISION

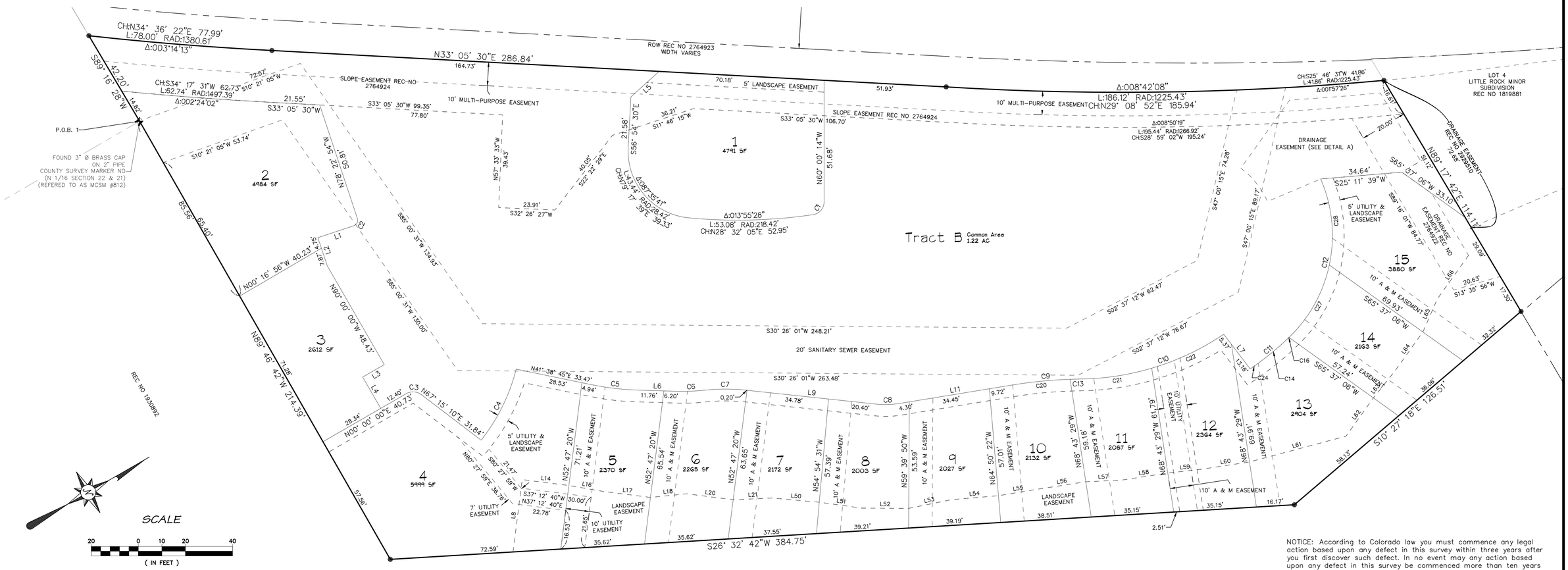
Northwest quarter of the Northwest quarter of Section 22 & the Northeast quarter of the Northeast quarter of Section 21, T.1S., R1W., Ute Meridian. City of Grand Junction, Mesa County, Colorado

Sheet 2 of 3 Date: 9/16/20		Job No. 0422-031
Surveyed: SLG	Drawn: AKT	Checked: TPJ

Drawing name: S:\PROJECTS\0422 Bray\031 Frog Pond\Survey\0422-031 FROG POND SUBDIVISION.dwg

FROG POND SUBDIVISION

Northwest quarter of the Northwest quarter of Section 22 & the Northeast quarter of the Northeast quarter of Section 21, T.1S., R1W.,
Ute Meridian. City of Grand Junction, Mesa County, Colorado



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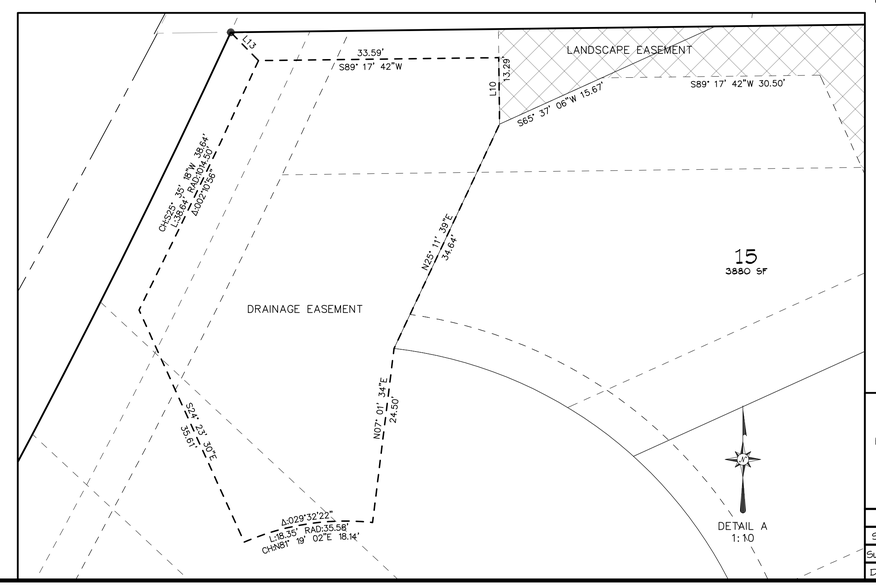
Line Table		
Line #	Length	Direction
L1	16.08'	N11° 37' 06"E
L2	12.63'	N78° 22' 54"W
L3	10.58'	N00° 00' 00"E
L4	15.33'	N90° 00' 00"W
L5	16.12'	S12° 05' 34"E
L6	17.97'	N31° 42' 19"E
L7	18.53'	N82° 40' 01"E
L8	30.96'	N52° 47' 20"W
L9	55.38'	N36° 08' 10"E
L10	9.29'	N00° 42' 18"W
L11	48.47'	N20° 40' 59"E
L13	5.53'	S44° 24' 11"E
L14	20.00'	N37° 12' 40"E
L16	15.01'	N39° 45' 03"E
L17	20.00'	N37° 12' 40"E
L18	15.39'	N24° 16' 56"E
L20	20.00'	N37° 12' 40"E
L21	16.66'	N27° 32' 30"E
L50	20.00'	N35° 05' 29"E
L51	18.17'	N37° 55' 22"E

Line Table		
Line #	Length	Direction
L52	20.00'	N30° 20' 10"E
L53	18.55'	N18° 28' 33"E
L54	20.00'	N25° 09' 38"E
L55	17.58'	N20° 36' 52"E
L56	20.00'	N21° 16' 31"E
L57	15.09'	N27° 23' 32"E
L58	20.00'	N21° 16' 31"E
L59	15.01'	N23° 34' 13"E
L60	20.00'	N21° 16' 31"E
L61	42.42'	N15° 05' 18"E
L62	20.00'	N24° 22' 54"W
L63	15.02'	N21° 27' 03"W
L64	20.00'	N24° 22' 54"W
L65	15.33'	N36° 20' 26"W
L66	22.75'	N24° 22' 54"W

Curve Table					
Curve #	Length	Radius	Delta	Chord Length	Chord Bearing
C1	7.71'	5.42'	081°34'34"	7.08'	N19° 12' 56"W
C2	3.80'	2.42'	090°00'00"	3.42'	N33° 22' 54"W
C3	6.94'	5.92'	067°15'10"	6.55'	N33° 37' 35"E
C4	33.87'	80.08'	024°14'06"	33.62'	N33° 43' 55"W
C5	18.39'	106.00'	009°56'26"	18.37'	N36° 40' 32"E
C6	10.78'	76.58'	008°03'50"	10.77'	N27° 40' 24"E
C7	18.19'	83.42'	012°29'41"	18.15'	N29° 53' 20"E
C8	9.87'	36.58'	015°27'12"	9.84'	N28° 24' 34"E
C9	29.13'	193.42'	008°37'45"	29.10'	N24° 59' 51"E
C10	64.78'	111.58'	033°15'46"	63.87'	N12° 40' 50"E
C11	21.07'	130.08'	009°16'48"	21.05'	N09° 04' 20"W
C12	73.21'	60.08'	069°49'04"	68.77'	N48° 37' 16"W
C13	4.31'	193.42'	001°16'37"	4.31'	S28° 40' 25"W
C16	0.17'	60.08'	000°09'54"	0.17'	N13° 47' 41"W
C20	24.82'	193.42'	007°21'08"	24.80'	S24° 21' 33"W
C21	30.83'	109.52'	016°07'38"	30.73'	S21° 23' 54"W
C22	33.96'	111.58'	017°26'07"	33.82'	S04° 46' 01"W
C24	4.14'	130.08'	001°49'20"	4.14'	S05° 20' 36"E
C27	35.75'	60.08'	034°05'45"	35.23'	S30° 55' 31"E
C28	37.29'	60.08'	035°33'25"	36.69'	S65° 45' 06"E



COLORADO LICENSED
ALEC MALIK THOMAS
38274
PROFESSIONAL LAND SURVEYOR

RIVER CITY CONSULTANTS

215 Pitkin Avenue, Unit 201
Grand Junction, CO 81501
www.rccwest.com
Phone: 970.241.4722
Fax: 970.241.8841

FROG POND SUBDIVISION

Northwest quarter of the Northwest quarter of Section 22 & the Northeast quarter of the Northeast quarter of Section 21, T.1S., R1W.,
Ute Meridian. City of Grand Junction, Mesa County, Colorado

Sheet 3 of 3 Date: 11/23/20		Job No. 0422-031
Surveyed: SLG	Drawn: AKT	Checked: TPJ

Drawing name: S:\PROJECTS\0422 Bray\031 Frog Pond\Survey\0422-031 FROG POND SUBDIVISION.dwg

City of Grand Junction
Review Comments

Date: April 16, 2020 **Comment Round No.** 1 **Page No.** 1 of 13
Project Name: Frog Pond **File No:** PLD-2020-146
Project Location: 2501 Monument Road

Check appropriate [X] **if comments were mailed, emailed, and/or picked up.**

	Property Owner(s): Frog Pond LLC – Attn: Kevin Bray		
	Mailing Address: 244 N. 7th Street, Grand Junction, CO 81501		
X	**Email:** kevinbray@brayandco.com	**Telephone:**	(970) 270-9985
	Date Picked Up: _____	**Signature:** _____	

	Representative(s): Cores LLC – Attn: Darah Galvin		
	Mailing Address: 244 N. 7th Street, Grand Junction, CO 81501		
X	**Email:** darah@brayandco.com	**Telephone:**	(970) 263-2956
	Date Picked Up: _____	**Signature:** _____	

	Developer(s):		
	Mailing Address:		
	Email:	**Telephone:**	
	Date Picked Up: _____	**Signature:** _____	

CITY CONTACTS

Project Manager: Scott Peterson, Senior Planner
Email: scottp@gjcity.org **Telephone:** (970) 244-1447

Dev. Engineer: Rick Dorris
Email: rickdo@gjcity.org **Telephone:** (970) 256-4034

City of Grand Junction
REQUIREMENTS
(with appropriate Code citations)

CITY PLANNING

1. Proposal is for Final Subdivision Plan review to develop 12 single-family detached lots, two (2) lots for the existing duplex units for a total of 16 dwelling units along with one (1) lot reserved for future commercial development and two (2) tracts land all on 3.30 +/- acres in an existing PD (Planned Development) zoning district. Comprehensive Plan Future Land Use Map identifies this area as Residential Low (.5 - 2 du/ac). Proposed development is in compliance with the approved Outline Development Plan (ODP) as identified with City file # PLD-2018-350 and City Ordinance number 4826 for Frog Pond. No further response required.

Applicant's Response: Acknowledged
Document Reference:

2. Subdivision Plat:
a. See Interim City Surveyor and City Development Engineer review comments and revise as applicable.
b. On Sheet 1, revise City Approval Block to the correct subdivision name.
c. On Sheet 3, label proposed Landscape & Utility Easement located in front of Lots 4 through 15.
d. Provide 14' Multi-Purpose Easement adjacent to Monument Road. Provided a 10' MPE per approved PD plan & City Engineer.
e. On Sheets 2 & 3, revise "Irrigation Easement" between Lots 11 & 12 to be a "Utility Easement" as identified on construction plan set drawings.
f. Label proposed Drainage Easement area that is located outside of Lot 15 (within Tract B). See City Development Engineer review comments for additional information.
g. On Sheet 1, in the Dedication Block add the following paragraph; "The City of Grand Junction is hereby granted a perpetual easement over that portion of Tract B for the inspection, installation, operation, maintenance and repair of detention and drainage facilities and appurtenants thereto over each drainage easement shown hereon. The City of Grand Junction is also dedicated reasonable ingress/egress access to the drainage/detention easement areas. The owner(s) and/or the property owner's association, if one exists, is not relieved of its responsibility to inspect, install, operate, maintain, and repair the detention and drainage facilities."
h. On Sheet 1, in the Dedication Block, delete the sentence for Irrigation Easement to be granted by separate instrument since no irrigation easements now appear on the plat.
i. See Review Comment #3 c. and add maintenance/repair easements as applicable.
j. On Sheet 1, revise City Use Block accordingly.
Code Reference: V-15 of the SSIDS Manual.
Applicant's Response: Revised as requested
Document Reference:

3. Zero Lot Line Development:
a. Applicant is proposing to develop the residential portion of the property as a Zero Lot Line Development (Lots 4 through 15). Proposed building setbacks for the commercial lot (Lot 1) are identified within City Ordinance # 4826. Acknowledged
b. FYI. Per the Zero Lot Line development section of the Code, minimum distance between structures for the Default Zone District of R-5, shall be 10' (Section 21.03.050 (b) (4) (i) of the Zoning & Development Code). Applicant is proposing 15' typically where noted as identified on Sheet C4. No additional response required. Building footprints removed. 10' easement added for separation, maintenance, and access.
c. Proposed eaves/gutters located on the side of the building with the 0' setback may encroach up to 18" into the abutting lot with appropriate easements created for maintenance/repair purposes. Please address further if proposed structures will encroach over property lines and also provide additional easements as necessary and also identify on the subdivision plat for maintenance/repair purposes such as painting, etc. 10 foot easements have been added to specific neighboring lots for maintenance access
d. FYI. Proposed sides of homes within three feet (3') of the property line, no windows or other openings in the wall are allowed due to building and fire codes. Design structures accordingly.
Code Reference: Section 21.03.050 (b) of the Zoning & Development Code. Acknowledged
Applicant's Response: See above responses to individual comments
Document Reference:

4. Site Plan (Sheets C3 & C4):
a. For Lot 15, since an existing Drainage Easement (Reception # 2764922) is recorded over a portion of this lot, proposed building location/envelope will need to be adjusted to accommodate this

existing easement. Permanent structures cannot be placed within an easement. Revise as applicable. The plan is to vacate this easement and is now labeled as such.
b. Label width of required landscaping strip adjacent to Monument Road within Tract B at nearest point with parking lot, minimum 5' required. Label added to sheet C4
c. Per Zero Lot Line Developments, Sheet C4 is required to be recorded with the proposed Subdivision Plat which identifies the proposed building envelopes, setbacks, potential eave/gutter encroachments (if applicable), maintenance/repair easements, etc. Therefore, please add Mesa County Clerk & Recorders Certificate to sheet. County recording signature block added to sheet C4.
d. Provide Elevation Drawing for proposed trash enclosure. Elevation Provided with landscape plan.
e. FYI. Off-street parking requirements: Single-family detached & Two-Family: Minimum 2 off-street parking spaces per dwelling unit. Applicant is proposing 16 dwelling units which would equate to a minimum of 32 off-street parking spaces. Applicant is showing a total of 62 parking spaces on-site. Off-street parking requirements for proposed commercial land use (Lot 1) would be determined at time official submittal. No further response required at this time. Acknowledged
Code Reference: V-22 of the SSIDS Manual.
Applicant's Response: See above responses to individual comments
Document Reference:

5. Conveyance Document(s) & CCR's:
Submit proposed CCR's and Deeds (Tracts and Landscaping Easements to HOA) for review and approval prior to recording.
Code Reference: IV-2 of the SSIDS Manual.
Applicant's Response: CC&R's and Conveyance docs will be submitted once plat is finalized to avoid errors.
Document Reference:

6. Landscaping Plan:
a. On Sheet L-2, add landscaping island located adjacent to garbage enclosure (in front of Lot 3 – triangle area) (Section 21.06.040 (c) (iv) of the Zoning & Development Code). Added to landscaping plan.
b. What is the thought process for landscaping on the individual lots? Will that be left up to the individual homeowners? The landscaping of individual lots will be the responsibility of the owner of each lot. However, the developer or builder may install the landscaping. Front yard and rear yards will be maintained by HOA.
c. FYI. At time of initial acceptance of required subdivision improvements, Licensed Landscape Architect shall provide a letter to City Project Manager stating that all landscaping was installed per the approved Landscaping Plan. Noted.
Code Reference: V-10 of the SSIDS Manual and Section 21.06.040 of the Zoning and Development Code.
Applicant's Response: See above responses to individual comments.
Document Reference:

7. Proposed Tract A Dedication to City of Grand Junction:
Applicant is requesting that proposed Tract A be granted to the City of Grand Junction. Recommendation from the City Parks Board with final determination by the City Council required. Please submit letter to the City of Grand Junction to formally request proposal. Once letter is received, City Project Manager will process request for an upcoming City Parks Board and City Council meeting.
Code Reference: Section 21.06.020 (a) of the Zoning & Development Code.
Applicant's Response: Revised letter submitted 9/2/2020.
Document Reference:

8. Fees:
a. City Park Fee: $484 per new residential dwelling unit payable at time of individual Planning Clearance issuance (2020 Fee Schedule). This fee will increase to $743 per lot in 2021. Existing duplex units would be exempt from this fee.
b. City Open Space Fee: 10% of the value of the raw land payable at time of subdivision plat recording. Submit current MAI Appraisal Report for review for the entire 3.30-acres. If City Council accepts proposed Tract A, depending on appraised value of land, applicant would owe the remaining portion of fee or nothing at all. The dedication of tract a was pre-determined with the approval of the PD. Because tract A is approximately 30% of the total land, the dedication will exceed the 10% required, thus rendering a calculation of a credit towards the fee unapplicable. Therefore the land dedication letter has been submitted without the MAI appraisal report.
c. School Impact Fee: $920 per new dwelling unit payable at time of Planning Clearance issuance.
d. Recording Fees: Required at time of Final Subdivision Plat and associated documents recording. Unknown fee at this time.
e. Plant Investment Fees: Contact City Customer Service Division for sewer fees payable at time of Planning Clearance issuance. Contact Ute Water Conservancy District for water tap fees payable at time of Planning Clearance issuance.
Code Reference: Section 21.06.020 and 030 of the Zoning and Development Code.
Applicant's Response: Noted.
Document Reference:

9. Revocable Permit – South Redlands Road:
Submit legal description and map exhibit for proposed private water meter gang boxes and water lines that are to be located within South Redlands Road right-of-way. The location of these private meters and lines within right-of-way will require a Revocable Permit. Since these 4-meter gang boxes are not irrigation lines, City Council will be required to review and approve Revocable Permit application. Applicant will be responsible for all associated recording fees.
Code Reference: Section 21.02.180 (d) (2) of the Zoning and Development Code.
Applicant's Response: During review it was discovered that the existing water meters for the existing structures also extend through the right-of-way. Description and Exhibit for both locations are included with this response.
Document Reference:

CITY DEVELOPMENT ENGINEER

FEES

Review Comment: Transportation Capacity Payment (TCP) – To be determined and collected at the time of planning clearance for individual building permits.

Storm Drainage Fee (in lieu of detention) – See comment under Drainage Report.

Inspection Fee – 15 residential units x $115/unit = $1725.
CORRECTION- 12 residential units x $115 unit = $1,380

Fee in Lieu of Utility Undergrounding – 511 frontage (s. Redlands Rd) x $25.65 /ft = $13,107.15.

Applicant's Response: Original narrative had an error and miscounted # of units. Error discovered by addressing and addressed later in comments.

Document Reference:

GENERAL

Review Comment: When the grading plan is complete, provide a letter from the building department stating they have received hard copies of:

1) the geotechnical report,
2) the final grading plan, and
3) a tabulation of the minimum and maximum finished floor elevations by lot.

This must be the final grading plan and tabulation after all revisions. Include the revision date for the grading plan on the letter; this date must match the revision date on the final plans to be approved by the City.

Applicant's Response: Acknowledged
Document Reference:

Review Comment: This project will impact the neighborhood and/or the traveling public. The Developer's team needs to create a notification and coordination plan up front to minimize impact to the neighborhood. Items to include are (but not limited to) the traveling public/neighbors, school buses and children, mail carriers, and how far the notification is sent. Advanced warning signs similar to those used by CDOT may be required on busy streets.

Applicant's Response: Acknowledged
Document Reference:

Review Comment: Provide a description and exhibit for a revocable permit for the water lines from South Redlands Road to the Frog Pond property. It will be the responsibility of the HOA to maintain these water lines, repair any damage in case of a break, and to relocate them in case South Redlands Road is ever widened.

Applicant's Response: Acknowledged. Description and Exhibit are included with this response.
Document Reference:

PLANS

Review Comment: See redlined plans. Respond in different color ink next to each comment and return with written response.

Applicant's Response: Response to written comments included in this submittal
Document Reference:

Review Comment: Sanitary sewer must be stubbed to the upstream property line, in an easement, per the general meeting notes.

Applicant's Response: Sewer is now extended to the private lot to the south
Document Reference:

Review Comment: Show existing water services for the two duplexes.

Applicant's Response: Approximate location of existing water services added to plans
Document Reference:

Review Comment: Sanitary sewer main can't have any bushes or trees over it for 10' each side of the line.

Applicant's Response: Note added to sewer plan & profile sheet
Document Reference:

Review Comment: Outlet Structure Detail

1. I realize this is positioned to collect the south half of the property without having to run a new pipe from the inlet to the basin.
2. With a flat lid manhole and normal opening, this will be very difficult to maintain, someone will have to crawl into the manhole after every storm event.
3. The flow coming from the pipe to the SE could introduce additional debris and create issues even though it is downstream of the WQ plate.
4. This structure needs to be improved to make it easy for the HOA to maintain.
5. There is no screen in front of the water quality plate.
6. There is no design for the stiffener support.
7. There could be significant debris coming from OS-1.

Applicant's Response: 1. You are correct. 2. The detail has been modified to call out a metal bar grate top hinged in the middle to facilitate access and to allow visual inspections without opening the top. 3. The flows from the southeast are introduced to the system via a standard area inlet with a standard grate. No large or significant debris will enter the system with said grate in place. A screening plate has been added before the WQ weir, so if fine debris comes through it will not plug the WQ orifice holes. 4. We agree access under the original design was not practical and revisions have been made to facilitate access and visual inspections without opening or entering the structure. 5. We have added a screening plate before the water quality plate. 6. The stiffener material and construction has been added to the detail. 7. Please refer to the response to 3 above.

Document Reference:

Review Comment: Provide a wall design section with appropriate detail. It looks like there is a gutter on the back side of the wall. This needs to be designed too.

Applicant's Response: Additional sheets with greater detail have been added for wall layout and design – sheet C11

Document Reference:

PLAT

Review Comment: On sheet 2, include the hatch in the legend.

Applicant's Response: Added

Document Reference:

Review Comment: Provide a sewer easement for the sewer main, to the south property line.

Applicant's Response: Added

Document Reference:

Review Comment: Provide a 14' MPE along Monument Road.

Applicant's Response: A 10 foot MPE has been added along Monument Road

Document Reference:

Review Comment: Provide an easement for dry utilities in front of the lots.

Applicant's Response: Landscape & Utility easement is shown on the plat

Document Reference:

Review Comment: Provide the normal easement to the City over the water quality basin.

Applicant's Response: Added

Document Reference:

DRAINAGE REPORT

Review Comment: Thank you for performing a detailed drainage basin study, using the 2d modeling, and hosting the Lunch N Learn. When the drainage report is final, provide a thumb drive with all the modeling for documentation purposes.
Applicant's Response: Provided with this submittal
Document Reference:

Review Comment: When the drainage report is final, provide a thumb drive with all the modeling for documentation purposes.
Applicant's Response: Acknowledged.
Document Reference:

Review Comment: Developer to sign final version of drainage report.
Applicant's Response: Understood.
Document Reference:

Review Comment: Label the contours on the Developed drainage plan.
Applicant's Response: Contour labels have been added to the drainage plan as requested.
Document Reference:

Review Comment: On the drainage plan, the description above the design point and flow summary table says, "Water Surface Elevation and Volume Summary." Revise.
Applicant's Response: The title of the table has been corrected.
Document Reference:

Review Comment: Show the storm sewer on the plan.
Applicant's Response: The storm drain pipes and structures have been added to the plan as requested.
Document Reference:

Review Comment: Include flow rates into the pond on the plan.
Applicant's Response: The Qp10 and Qp100 flow rates into the pond have been added to the Developed Drainage Plan.
Document Reference:

Review Comment: Include pond discharge rates on the plan.
Applicant's Response: The Qp10 and Qp100 flow rates out of the pond have been added to the Developed Drainage Plan.
Document Reference:

Review Comment: Section D of the report talks about a water quality basin. Table 5 shows elevations for 10 and 100 yr events. It appears this is only a water quality basin. Please confirm. If water quality, please calculate the fee in lieu of detention.
Applicant's Response: The basin is only a water quality basin. The water quality weir elevation is set at the WQCV elevation (4590.33). Any volume above the WQCV is direct discharged over the weir. The 10 and 100-year water surface elevations are included for informational purposes only. A fee in lieu of detention has been calculated and is included in the revised FDR.

Document Reference:

Review Comment: OS-1 water is being treated because of the outlet structure placement. Is the basin sized for it? If not, it could take longer than 40 hours to drain.

Applicant's Response: The WQ basin is only sized for the project area (i.e., the area where improvements will occur). The offsite basin flows will be treated, but once the WQCV for the project is exceeded flows will be direct discharged over the weir keeping the drain time at 40 hours.

Document Reference:

Review Comment: Section V.C mentions the Ranchmen's ditch. Need to correct.

Applicant's Response: The text of Section V.C. has been revised.

Document Reference:

Review Comment: Was the path raised as described in the Terrain 3 discussion?

Applicant's Response: Portions of the trail were raised, and other portions were not. Where the trail was not raised as proposed there are berms/wall proposed to keep the No Thoroughfare flood waters out of Frog Pond. The latest 2D HEC-RAS model uses an as-built terrain model of the trail and the proposed Frog Pond Grading (including walls and berms along the trail).

Document Reference:

Review Comment: On Site Flooding

1. The report lists four Terrain models, but it isn't clear which one, if any, of the terrains the submitted design mimics. Please describe the submitted design condition and what happens with site flooding.
2. Provide a detail of the project site showing the inundations limits and depths. Show the 100 yr BFEs on No Thoroughfare canyon.
3. IF on-site flooding still occurs, floodplain permits and Elevation Certificates will be required, for all affected structures, to meet the Zoning and Development Code.

Applicant's Response: 1. A memorandum to file has been created detailing the latest HEC-RAS model and the input that was used to generate the output. That memo has been included in Appendix E of the FDR. 2. The 100-year (1% annual chance) storm inundation limits and BFEs are shown on a new figure in Appendix E of the FDR. 3. There is water and flows onsite during the 1% annual chance event. However, we don't believe the conditions and limits would be classified as "flooding". The only predicted onsite depths greater than 0.2 feet are within the water quality pond. All predicted flood elevations are greater than 1-foot below proposed finished floor elevations. Accordingly, it is our opinion these waters are not flood waters and Elevation Certificates are not required for this project.

Document Reference:

STORMWATER

Review Comment: Obtain the Mesa County permit.

Applicant's Response: Acknowledged. Per guidelines, both county and state permit will be obtained prior to start of construction.

Document Reference:

DIA

Review Comment: Even though all facilities, except sanitary sewer, are private, they are necessary to construct houses just like in a normal subdivision. Therefore, the DIA needs to include all facilities. Revise and resubmit.

Applicant's Response: While DIA is explicitly intended for public facilities, the applicant and city engineer discussed and agreed to a Certificate of Occupancy hold to ensure construction of infrastructure occurs timely.

Document Reference:

CC & R'S

Review Comment: Provide.

Applicant's Response: CCR's will be provided once plat is finalized, to avoid errors.

Document Reference:

INTERIM CITY SURVEYOR – Jodie Grein – jodie@rcegj.com (970) 243-8311

Plat:

Sheet 1:

1. There is dedication language for a multi-purpose easement, but I don't see any Multi-Purpose easements on sheet 2 and 3.
2. There is an extra call along the curve in the last line of the legal description.
3. There is a typo in the word "Marked" in the last line of the basis of bearings.

Applicant's Response: Revised as requested

Document Reference:

Sheet 2:

1. Plat name should be located in the title block.
2. There are two symbols on corners of Lot 4 Little Rock Minor Subdivision that should be labeled or removed.
3. The North 1/16 between sections 21 and 22 is MCSM No. 812. The number is missing on both sheet 2 and 3 as well as in the basis of bearing statement.

Applicant's Response: added, MCSM cap is not stamped "812"

Document Reference:

Sheet 3:

1. Bearing and Distance label is missing on the west line of Lot 1.
2. On lot 11 the 10' Irrigation text is typed over other text.
3. On lot 12 there is a text type over on one of the lines.

Applicant's Response: Revised as requested.

Document Reference:

Exhibit

1. The dimension string along the north line doesn't add up to the overall dimension, off by 0.01'.

Applicant's Response: Not sure what exhibit is being referenced.

Document Reference:

Improvement Survey:

1. There is a typo in the first line of the utility note on the lower left corner of the page. It says "port" instead of "part"
2. In the last line of the property description it says to go along the curve an extra time.

Applicant's Response: Plat has been deposited, curve is referred to as "along said curve"
Document Reference:

CITY FIRE DEPARTMENT – Matt Sewalson – mattse@gjcity.org (970) 549-5855

1. Anticipated fire flow is 1,670.32 GPM @ 20 PSI. The flow is acceptable for all the proposed residential structures. The flow is not acceptable for the proposed commercial structure and an automatic fire sprinkler system shall be provided. Acknowledged

2. Access driveways from public streets into your development are acceptable. Acknowledged

3. Interior circulation and access are acceptable. Acknowledged

4. Proposed water main extensions, connections to existing mains, and all main sizes are acceptable. Acknowledged

5. Proposed fire hydrants are acceptable. Acknowledged

6. Provide the following on your Composite Plan:
a. The location and size of the underground fire line and Fire Department Connection for the commercial structure. A stub out line has been added to lot 1, but the exact location for the FDC will not be known until the building is designed.

7. Provide the following on your Fire Site Plan:
a. Show the path of Fire Truck 1 on fire apparatus access roads into and within developments. Apparatus dimensions found at, http://www.gjcity.org/siteassets/public-safety/fire/fire-prevention/truck-1-dimensions_2018.pdf . A path for Fire Truck 1 has been added to the fire site plan

8. All residential occupancies except those designated as group R-3 (i.e. single-family dwellings and duplex structures) are required to have approved fire sprinkler systems. Buildings constructed as townhomes per the International Residential Code (IRC) are considered R-3 occupancies (IFC Chapter 9). Projects that do not meet minimum fire flow requirements may also have to install fire sprinklers or upgrade underground water mains pending approval by the FD. Acknowledged

9. Educational information concerning Fire Flow Requirements and Fire Department Access Design Standards (e.g. width, construction material, turn-arounds) related to the 2018 International Fire Code may be obtained online at the Grand Junction Fire Department website. Acknowledged

10. All access, internal circulation, fire apparatus roads, etc. must be developed in accordance with the City of Grand Junction TEDs Manual. Acknowledged

If you have any questions call the Fire Prevention Bureau at 970-549-5800.
Applicant's Response: See above responses to individual comments.
Document Reference:

CITY ADDRESSING – Pat Dunlap – patd@gjcity.org (970) 256-4030

1. Frog Pond Subdivision is an acceptable subdivision name.
2. According to the General Project Report, there will be "12 new lots with new single-family homes on each lot, one lot each for the 2 existing duplexes, ~~one lot for the tiny homes~~, one lot for the commercial site . . ." For addressing and 9-1-1 purposes, could you be more specific as to which lots those will be so that I can give them appropriate addresses?
Applicant's Response: Lot 1-commercial site, lot 2 & 3- existing duplexes, Lots 4-15- single family homes. Lot for Tiny Homes was not included with this application.
Document Reference:

OUTSIDE REVIEW AGENCY COMMENTS

(Non-City Agencies)

Review Agency: Mesa County Building Department
Contact Name: Darrell Bay
Email / Telephone Number: Darrell.bay@mesacounty.us (970) 244-1651

MCBD has no objections to this project.
The following must be provided to our office in paper form
The city approved Soil report, Drainage plan & TOF tabulation sheet
Applicant's Response: Noted

Review Agency: Xcel Energy
Contact Name: Brenda Boes
Email / Telephone Number: Brenda.k.boes@xcelenergy.com (970) 244-2698

Xcel has no objections, however the Developer needs to be aware that at the time of submitting an application with Xcel the following will be required and could happen:

1. Accurate BTU loads for the new homes will be required.
2. If determined by area engineer that reinforcement is needed to Xcel's gas main to support added loads from subdivision, said reinforcement will be at Developers expense.
3. Reinforcement costs are required to be paid prior to installation.
4. Tariff changes have taken effect as of 10/1/2019 affecting the cost of subdivision lots averaging less than 60'. They will have a standard cost per lot.
5. Xcel will require easement from S-N Broadway for utilities to be brought down into development.

Completion of this City/County review approval process does not constitute an application with Xcel Energy for utility installation. Applicant will need to contact Xcel Energy's Builder's Call Line/Engineering Department to request a formal design for the project. A full set of plans, contractor, and legal owner information is required prior to starting any part of the construction. Failure to provide required information prior to construction start will result in delays providing utility services to your project. Acceptable meter and/or equipment locations will be determined by Xcel Energy as a part of the design process. Additional easements may be required depending on final utility design and layout. Engineering and Construction lead times will vary depending on workloads and material availability. Relocation and/or removal of existing facilities will be made at the applicant's expense and are also subject to lead times referred to above. All Current and future Xcel Energy facilities' must be granted easement.
Applicant's Response: Comments Noted.

Review Agency: Ute Water Conservancy District
Contact Name: Jim Daugherty
Email / Telephone Number: jdaugherty@utewater.org (970) 242-7491

Per the District Policies, separate water meters/taps must be purchased for the created parcels/lots. For the proposed private fire line and the service for Lot 2 and 3:

• A cross connection survey may be found at the following link (http://www.utewater.org/backflow) and must be submitted along with a mechanical drawing to the District (Joseph Lambert) for further review and approvals.

• Installation of all backflow equipment shall be per Ute Water Standards. Developer will be required to engineer, purchase, install and maintain all necessary equipment.

• An initial test on the BFPD will be made by the District at no cost for the developer; arrangements for this first test should be made with District personnel for final approval.

• Submit mechanical drawing and a completed survey to:

Joseph Lambert
Cross Connection Program Administrator
Ute Water Conservancy District
Main Office: 242.7491
Direct Line: 256.2883
Cell: 852.1109

ALL FEES AND POLICIES IN EFFECT AT TIME OF APPLICATION WILL APPLY.
If you have any questions concerning any of this, please feel free to contact Ute Water.
Applicant's Response: Comments noted.

Review Agency: 5-2-1 Drainage Authority
Contact Name: Mark Barslund
Email / Telephone Number: markb@gjcity.org (970) 256-4106

CSWMP submitted needs a few corrections to include 3.b.4. Masonry washout needs to go in the site control measure. The CSWMP also lacks a detail spec in Appendix C for Construction Dewatering in reference to Dewatering on page 12. Drainage Report received. A copy of the CDPHE permit, a signed and notarized, in 4 pages, in Black ink only, O&M agreement, a 5.2.1 permit with the fee payment found on page 4 is also needed. All docs can be found on the 5.2.1 website.
Applicant's Response: Corrections have been made and detail spec has been added. References have been updated to Mesa County Stormwater.

Review Agency: United States Postal Service
Contact Name: Christopher W. Buzzell
Email / Telephone Number: Christopher.w.buzzell@usps.gov (970) 244-3404

All new development must be centralized with the cost of mailbox purchase the sole responsibility of the developer. The USPS will now install mailbox units once they are ordered and concrete pad has been poured. This is at no additional cost to the developer. Mailbox equipment may be purchased from www.florencemailboxes.com Location of mailbox equipment must be pre-approved by local USPS management. For any questions, please contact:

Chris Buzzell
(970) 260-3719
Plat maps can be submitted to:
Christopher.w.buzzell@usps.gov
To determine mailbox placement.
Applicant's Response: A mailbox pad has been added

REVIEW AGENCIES

(Responding with "No Comment" or have not responded as of the due date)

The following Review Agencies have responded with "No Comment."

1. Bureau of Reclamation

The following Review Agencies have not responded as of the comment due date.

1. Redlands Water & Power
2. Regional Transportation Planning Office (RTPO)
3. Century Link
4. Spectrum/Charter Communications
5. Mesa County Assessor's Office
6. Army Corps of Engineers
7. Mesa County Valley School District 51

The Petitioner is required to submit electronic responses, labeled as "**Response to Comments**" for the following agencies:

1. **City Planning**
2. **City Development Engineer**
3. **City Surveyor**
4. **City Fire Department**
5. **City Addressing**
6. **Ute Water Conservancy District**
7. **Mesa County Stormwater**

Date due: **July 16, 2020**

Please provide a written response for each comment and, for any changes made to other plans or documents indicate specifically where the change was made.

I certify that all of the changes noted above have been made to the appropriate documents and plans and there are no other changes other than those noted in the response.

Applicant's Signature	**Date**

City of Grand Junction
Review Comments

Date: October 30, 2020 **Comment Round No.** 2 **Page No.** 1 of 9
Project Name: Frog Pond **File No:** PLD-2020-146
Project Location: 2501 Monument Road

Check appropriate [X] **if comments were mailed, emailed, and/or picked up.**

	Property Owner(s):	Frog Pond LLC – Attn: Kevin Bray	
	Mailing Address:	244 N. 7th Street, Grand Junction, CO 81501	
X	**Email:**	kevinbray@brayandco.com	**Telephone:** (970) 270-9985
	Date Picked Up:	_____	**Signature:** _____

	Representative(s):	Cores LLC – Attn: Darah Galvin	
	Mailing Address:	244 N. 7th Street, Grand Junction, CO 81501	
X	**Email:**	darah@brayandco.com	**Telephone:** (970) 263-2956
	Date Picked Up:	_____	**Signature:** _____

	Developer(s):		
	Mailing Address:		
	Email:		**Telephone:**
	Date Picked Up:	_____	**Signature:** _____

CITY CONTACTS

Project Manager: Scott Peterson, Senior Planner
Email: scottp@gjcity.org **Telephone:** (970) 244-1447

Dev. Engineer: Rick Dorris
Email: rickdo@gjcity.org **Telephone:** (970) 256-4034

City of Grand Junction
REQUIREMENTS
(with appropriate Code citations)

CITY PLANNING

1. Subdivision Plat:

a. See City Surveyor review comments and revise as applicable.

b. On Sheet 1, in the City Use Block, delete the reference to Tract A, since this tract will be granted to the City of Grand Junction within the Dedication Block. No separate document for recording is necessary. Removed

c. On Sheet 1, in the Dedication Block, reword the 10' Access Easement paragraph to the following; " The 10' Access & Maintenance Easements are granted to the Frog Pond Home Owners Association by separate instrument." Revised as requested

d. On Sheets 2 & 3, label the 10' Access Easement on each lot to also be a "10' Access & Maintenance Easement." (Since Sheet C4 also identifies this easement as a Maintenance Easement.) Revised as requested

e. On Sheet 3, Detail A, the North Arrow is orientating the wrong way. No, it is correct as I have it.

f. On Sheets 2 & 3, label 7' Utility Easement that bisects Lot 4 as a "Private Utility Easement."
The nature of this easement will be defined by the vesting deed.

g. On Sheets 2 & 3, label 10' Utility Easement within Lot 5 as a "Private Utility Easement."
The nature of this easement will be defined by the vesting deed.
h. On Sheet 1, in the Dedication Block, add the words "that portion" to the first sentence of The City of Grand Junction paragraph to read as follows; "The City of Grand Junction is hereby granted a perpetual easement over that portion of Tract B……..." Replaced language with that published by the city verbatim.
i. On Sheets 2 & 3, label the 20' Sanitary Easement as "20' Sanitary Sewer Easement." Revised
j. On Sheet 1, in the Dedication Block, add the word "Sanitary" to the "All sewer easements……. paragraph. Revised
k. On Sheet 1, in the Dedication Block, revise The 10' Utility Easement across Lot 5……, sentence to read as follows; "All Private Utility Easements are to be granted by separate instrument to the Frog Pond Home Owners Association by separate instrument." Revised
l. On Sheets 2 & 3, label all Utility Easements as "Private" as applicable. Not applicable
m. On Sheet 1, in the Dedication Block, delete the paragraph for the "All Utility Easements are dedicated to the City of Grand Junction……." since the only easements that the City are accepting is the 20' Sanitary Sewer and Multi-Purpose Easements, which are covered by separate paragraphs. Revised
n. On Sheet 1, in the City Use Block, add "Private Utility Easements." Added "utility easements to frog pond HOA"
o. FYI. Status of proposed 7' Drainage Easement (public or private) within Lot 15 to be determined after review of updated/revised Drainage Report. See Review Comment #6 for additional information.
Code Reference: V-15 of the SSIDS Manual.
Applicant's Response: Per survey and legal counsel nature of the easements are defined in the conveyance documents and the purpose of the plat is solely for location.
Document Reference:

2. Site Plan (Sheets C3 & C4):
a. See Review Comment #1 d. and re-label as applicable on Sheet C4. Revised as requested.
b. What is the applicant's intention with the remnant portion of Lot 4 since the proposed 7' Private Utility Easement bisects the property? Suggest the remnant portion be a separate HOA tract for ownership and maintenance responsibilities. Building envelope hatching added to clarify applicant's intention.
c. What are the three little squares located directly across from Lots 11 & 12? Is it an area reserved for individual residential garbage dumpsters? Individual dumpsters removed and replaced with large dumpster.
Code Reference: V-22 of the SSIDS Manual.
Applicant's Response:
Document Reference:

3. Conveyance Document(s) & CCR's:
a. As a reminder, submit proposed CCR's and Deeds (Tracts and Landscaping/Utility Easements to HOA) for review and approval prior to recording. Noted
b. In the CCR's, add a Section stating that landscaping of the individual lots will be the responsibility of each property owner (as currently proposed by applicant). The applicant has also stated that the front and rear yards of the individual lots will be maintained by the HOA. Please address further within CCR's for clarity, how much landscaping will be required on each individual lot and maintenance responsibilities, etc Included see section 3.1.4, 3.2 and 2.3.3
c. In the CCR's, add a Section concerning the Access and Maintenance Easements located on Lots 4 through 15. Clarify if proposed eaves/gutters located on the side of the building within the 0' setback will encroach into the abutting lot (up to 18" max) and how maintenance/repair and painting will be handled. Also, the Access Easement will need to cover HOA access to the Landscape Easement located in front and behind each lot. See CCR's section 3.7, 3.8

d. In the CCR's, clearly define what utilities will be located within the proposed Private Utility Easements as shown on the subdivision plat along with access and maintenance requirements, if applicable. Included in CCR's see section 2.3.2 and 3.12
e. If proposed as a private 7' Drainage Easement to the HOA, submit granting document for review (Plat indicates a 7' Drainage Easement within and adjacent to Lot 15. Drainage accommodated in conveyance of landscape easement. Plat revised to show. CCR's reference landscape easement in 1.16 and 3.2.3
Code Reference: IV-2 of the SSIDS Manual.
Applicant's Response:
Document Reference:

4. Landscaping Plan:
a. On Sheet L-2, add landscaping island (rock mulch, shrubs, etc.) located adjacent to garbage enclosure (in front of Lot 3 – triangle area) (Section 21.06.040 (c) (iv) of the Zoning & Development Code). *This comment is a carry-over from the 1st Round of Review Comments and was not addressed by the applicant*. a. Done
b. Add individual lot numbers for clarity. This was inadvertently omitted between Rounds 1 & 2. b. Done
c. On Sheet L-1, label type of ground cover proposed between parking lot spaces and 5' wide landscaping strip for the area adjacent to Monument Road within the applicant's property c. Done
d. On Sheet L-1, Trash Enclosure detail wording is unreadable (too small) on printed 11" x 17" sheet. Suggest adding a third sheet or add detail drawing to construction plan set drawings. Also, add overall height of enclosure. Enclosure shall not be taller than 6' in height (Section 21.04.040 (h) (1) (vi) (C) of the Zoning & Development Code). d. L-3 has been created for the trash enclosure detail
Code Reference: V-10 of the SSIDS Manual and Section 21.06.040 of the Zoning and Development Code.
Applicant's Response:
Document Reference: L-1, L-2, L-3

5. Proposed Tract A Dedication to City of Grand Junction:
Applicant is requesting that proposed Tract A be granted to the City of Grand Junction. Per Section 21.06.020 (a) (4) of the Zoning & Development Code, *"The City Council may accept the dedication of land in-lieu of payment so long as the fair market value of the land dedicated to the City is not less than 10% of the value of the property."* Based on this requirement, the applicant will need to provide what the "fair market value of the land to be dedicated" actually is. The City would then compare that against the submitted appraisal report to ensure that it is not less than 10% of the value of the property. Therefore, please submit MAI Appraisal Report that encompasses the appraised value of the Frog Pond development for review, minus the value of the existing buildings, prior to City Council review of request.
Code Reference: Section 21.06.020 (a) of the Zoning & Development Code.
Applicant's Response: Appraisal has been ordered expected prior to end of December
Document Reference:

6. Requested Drainage Easement Vacation:
Applicant is requesting to vacate the existing public Drainage Easement as recorded in Reception # 2764922. However, the City will withhold processing of this application until review of the applicant's updated/revised Drainage Report. See City Development Engineer review comments for additional information.
Code Reference: Section 21.02.100 of the Zoning & Development Code.
Applicant's Response: NOTED, which is why it is still showing on the plat, which will be removed prior to recording provided the drainage easement is vacated.
Document Reference:

7. Fees:
a. City Planning Inspection Fee: $55.00 payable at time of subdivision plat recording. This fee was inadvertently omitted from the Round 1 Review Comments. Noted
b. City Open Space Fee: 10% of the value of the raw land payable at time of subdivision plat recording. Submit current MAI Appraisal Report for review for the entire 3.30-acres. If City Council accepts proposed Tract A, depending on appraised value of land, applicant would owe the remaining portion of fee or nothing at all. See Review Comment #5 for additional information.
Code Reference: Section 21.06.020 of the Zoning and Development Code.
Applicant's Response: Waiting on appraisal to be completed, expected by end of December.
Document Reference:

8. Revocable Permit – South Redlands Road:
City Surveyor has reviewed and approved submitted legal description(s) and map exhibit(s) for proposed private water meter gang boxes and private water meters/lines that are to be located within South Redlands Road right-of-way that serve both the existing duplex units and proposed Frog Pond development. Please submit legal description in a WORD document in preparation for Revocable Permit review by the City Council. Applicant's Surveyor will also need to sign and stamp both exhibits. Once WORD documents are submitted and exhibits signed and stamped, City Project Manager will schedule Revocable Permit application for the next available City Council meeting.
Code Reference: Section 21.02.180 (d) (2) of the Zoning and Development Code.
Applicant's Response: Signed, stamped exhibits and WORD documents are included with this response.
Document Reference:

CITY DEVELOPMENT ENGINEER

FEES

Review Comment: Storm Drainage Fee (in lieu of detention) – River City to provide drainage fee in lieu of detention calculation.

Inspection Fee – 12 residential units x $115/unit + 1 commercial lot at $125 = $1505.

Applicant's Response:
Document Reference:

GENERAL

Review Comment: Provide the letter from the building department.
Applicant's Response: Will be provided prior to construction
Document Reference:

Review Comment: Provide the document for the 22.5' slope easement to the north.
Applicant's Response: Reference has been corrected to refer to drainage easement recorded at reception #2929510. Copy included with this submittal.
Document Reference:

PLANS

Review Comment: On the landscape plan, the symbol for turf and native seed with concrete edger is the same. Be clear and specific where turf is to be planted and where native seed is to be planted.
Applicant's Response: Difference between native and turf is now apparent.
Document Reference:

Review Comment: Sheet C10:

1. the curb and gutter stops at the edge of the lot 14 building and discharges the entire flow off the hillside very close to the house foundation. The curb and gutter needs to be extended further north to get away from the building. Also, this entire flow is traveling down a 7% slope to an inlet and will be erosive. Either the engineering plans or the landscape plan needs to provide proper erosion protection.

Applicant's Response: Curb & gutter has been redesigned to channel flows away from house foundations and has been changed to a v-pan for the northern section that extends to the inlet to provide erosion protection.

Document Reference:

Review Comment: Sheet C11:

1. Good solution to the slope and drainage situation behind the buildings.
2. The walls are taller than 4' and required building permits. The plans don't discuss timing of wall construction. Developer's team to discuss permitting with the building department and relay the approach to the City. Add notes to the plans as needed.
3. Provide structural detail for MSE wall or note requiring shop drawings to be approved by engineer of record. Typical design for MSE walls this tall require geotextile or geogrid behind the wall for several feet..

Applicant's Response: Notes have been added to the appropriate sheets.

Document Reference: C11

PLAT

Review Comment: The map calls for a "sanitary easement" but the description on page 1 calls for a "sewer easement." See City Planning review comment for correct wording on the plat.

Applicant's Response: Renamed "sanitary sewer easement"

Document Reference:

DRAINAGE REPORT

Review Comment: A recent discussion indicates there is a lot of runoff coming from Martell Drive across South Redlands Road, down the hill, and onto the site. In looking at contours on GIS, there is a sizable area of the Heatheridge Estates subdivision draining to South Redlands Road. The drainage report's off-site basin ends at the west side of South Redlands Road. There is also an inlet and pipe under Redlands at 373 Rodell Drive which wasn't accounted for. This flow significantly changes the drainage situation on the back side of the units. The drainage report and drainage design need to be revised based on this information.

Applicant's Response: The offsite drainage area has been incorporated into the model and conveyance features have been sized accordingly.

Document Reference:

Review Comment: When the drainage report is final, provide a thumb drive with all the modeling for documentation purposes. The response said this was provided but we have no record of it.
Applicant's Response: The thumb drive will be provided to the City after final approval.
Document Reference:

Review Comment: A new exhibit was included in appendix E of the drainage report that shows shallow backwater flooding on site and the response describes it as less than 0.2' depth. Because this appears to be backwater, the finished floor elevations shown on the grading plan are more than 1.0' above the BFE, and the hydrologic model is conservative, no floodplain permits or floodplain elevation certificates are required. The normal finished floor certification statements required by the building department are adequate confirmation.
Applicant's Response: Understood, thank you.
Document Reference:

STORMWATER
Review Comment: Obtain the Mesa County permit.
Applicant's Response: Mesa County Permit has been applied for.
Document Reference:

DIA
Review Comment: We need to discuss specifics for the modified project security for the private improvements. Please call.
Applicant's Response: Agreed in concept to a C/O hold on lot 14 and Lot 4 for substantial completion requirement, waiting on follow-up from City Engineer on details for review
Document Reference:

Review Comment: For the sanitary sewer DIA, Include money for Developer's inspection costs.
Applicant's Response: Added.
Document Reference:

CC & R'S
Review Comment: Provide.
Applicant's Response: Provided an awesome set of CCR's including requested reference to revocable permit in 3.1.10
Document Reference:

CITY SURVEYOR – Renee Parent – reneep@gjcity.org (970) 256-4003

See markups for plat pages 2 and 3 that go with the below comments.

Checked Closure and Areas for sub boundary, lots and easements. Sub boundary ok for both parcels. I could not get Lots 13 and 14 to close. Please recheck and update. I could not check Lot 1 due to missing information. I will recheck these lots and the tracts on the next version along with the areas. Data added

Drainage Easement in 'Detail A' does not appear to be mathematically coincident with Lot 15 (east line drainage easement with west line Lot 15). It looks like coincidence was intended, please check.
Tie (L13) adjusted.
Add the word 'sewer' to the existing (20' Sanitary easement) label.
Revised

For Tracts A and B, report area in acres.
Revised
Adjoiner to the north of Tract A does not look correct, please update.
Revised
Add recording information to the adjoiner south of Tract B.
Revised
There looks to be typos for the labels on the South line NW1/4 NW1/4 Sec. 22 and the South line NE1/4 NE1/4 Sec. 21.
The line to the east is in fact the south line of the northwest quarter, the other line was revised.
Per 38-51-106 (k) the conflicting boundary information shown on the improvement survey needs to be included on the subdivision plat. I agree with the boundary shown/agree with the monuments rejected.
Conflicting monuments added,
There is a missing dimension on the westerly line of Lot 1, please add.
Added
Is the drainage easement, Rec. No. 2764922 shown across Lot 15 going to be vacated? If so, please update plat and provide vacation document.
Applicant's Response: easement is to be vacated prior to recording of the plat. Will remove from plat when vacation document is completed, prior to recording of plat.
Document Reference:

Both Permit Documents were reviewed. No issues identified.
Applicant's Response: Comments Acknowledged.
Document Reference:

CITY FIRE DEPARTMENT – Matt Sewalson – mattse@gjcity.org (970) 549-5855

1. Location and size of the underground fire line is acceptable. Note: FDC shall be within 150 feet of a hydrant and will be verified during the building permit process.

2. Fire site plan is acceptable.

No further comments from the Grand Junction Fire Department Fire Prevention Bureau.
Applicant's Response: Comments Acknowledged.
Document Reference:

CITY ADDRESSING – Pat Dunlap – patd@gjcity.org (970) 256-4030

1. Thank you for clarifying the what the lots will be.
2. Addresses will be provided at time of final approval.
Applicant's Response: Acknowledged
Document Reference:

OUTSIDE REVIEW AGENCY COMMENTS

(Non-City Agencies)

Review Agency: Ute Water Conservancy District
Contact Name: Jim Daugherty
Email / Telephone Number: jdaugherty@utewater.org (970) 242-7491

Per the District Policies, separate water meters/taps must be purchased for the created parcels/lots. For the proposed private fire line and the service for Lot 2 and lot 3:

• The District has submitted comments to the Engineer directly.
• A cross connection survey may be found at the following link (http://www.utewater.org/backflow) and must be submitted along with a mechanical drawing to the District (Joseph Lambert) for further review and approvals.
• Installation of all backflow equipment shall be per Ute Water Standards. Developer will be required to engineer, purchase, install and maintain all necessary equipment.
• An initial test on the BFPD will be made by the District at no cost for the developer; arrangements for this first test should be made with District personnel for final approval.
• Submit mechanical drawing and a completed survey to:

Joseph Lambert
Cross Connection Program Administrator
Ute Water Conservancy District
Main Office: 242.7491
Direct Line: 256.2883
Cell: 852.1109

• HOA/Management Co. shall be responsible for private fire line billing.

ALL FEES AND POLICIES IN EFFECT AT TIME OF APPLICATION WILL APPLY.
If you have any questions concerning any of this, please feel free to contact Ute Water.
Applicant's Response: Comments Acknowledged.

Review Agency: Mesa County Stormwater
Contact Name: Josh Martinez
Email / Telephone Number: Joshua.martinez@mesacounty.us (970) 683-4206

Mesa County Construction Stormwater Permit will be required for the project. Application can be completed online at: https://www.mesacounty.us/publicworks/permits/

Once application is received, applicable permit fees will need to be paid. *Review fee needs to be paid before review of Stormwater Management Plan can be conducted.*

Stormwater Management Plan that was provided in initial submittal will be review for minimum State requirements, any comments will be provided back to applicant for revisions/corrections.

Project will require a completed and signed Post-Construction Stormwater Control Operations and Maintenance Agreement. O&M Form can be found at:
https://stormwater.mesacounty.us/globalassets/stormwater/forms/documents/post-construction-om-agreement-form.pdf

Copy of State Discharge Permit will need to be submitted to Mesa County Stormwater Division before MS4 Permit will be issued.
Applicant's Response: Have applied for County permit but will hold off on state permit until approval of plans.

REVIEW AGENCIES

(Responding with "No Comment" or have not responded as of the due date)

The following Review Agencies have <u>not</u> responded as of the comment due date.

1. N/A.

The Petitioner is required to submit electronic responses, labeled as "**Response to Comments**" for the following agencies:

1. **City Planning**
2. **City Development Engineer**
3. **City Surveyor**
4. **Ute Water Conservancy District**
5. **Mesa County Stormwater**

Date due: **January 30, 2021**

Please provide a written response for each comment and, for any changes made to other plans or documents indicate specifically where the change was made.

I certify that all of the changes noted above have been made to the appropriate documents and plans and there are no other changes other than those noted in the response.

Applicant's Signature	**Date**

City of Grand Junction
Review Comments

Date: January 29, 2021 **Comment Round No.** 3 **Page No.** 1 of 7
Project Name: Frog Pond **File No:** PLD-2020-146
Project Location: 2501 Monument Road

Check appropriate [X] **if comments were mailed, emailed, and/or picked up.**

	Property Owner(s):	Frog Pond LLC – Attn: Kevin Bray	
	Mailing Address:	244 N. 7th Street, Grand Junction, CO 81501	
X	**Email:**	kevinbray@brayandco.com	**Telephone:** (970) 270-9985
	Date Picked Up:	_____	**Signature:** _____

	Representative(s):	Cores LLC – Attn: Darah Galvin	
	Mailing Address:	244 N. 7th Street, Grand Junction, CO 81501	
X	**Email:**	darah@brayandco.com	**Telephone:** (970) 263-2956
	Date Picked Up:	_____	**Signature:** _____

	Developer(s):		
	Mailing Address:		
	Email:		**Telephone:**
	Date Picked Up:	_____	**Signature:** _____

CITY CONTACTS

Project Manager: Scott Peterson, Senior Planner
Email: scottp@gjcity.org **Telephone:** (970) 244-1447

Dev. Engineer: Rick Dorris
Email: rickdo@gjcity.org **Telephone:** (970) 256-4034

City of Grand Junction
REQUIREMENTS
(with appropriate Code citations)

CITY PLANNING

1. Subdivision Plat:

a. See City Surveyor review comments and revise as applicable.

b. In the Dedication Block, verify correct name of homeowner's association within applicable paragraphs. CCR's reference that the Association name is "Frog Pond Owners Association Inc," not Frog Pond Homeowners Association as currently stated.

c. On Sheet 1, in the Dedication Block, add the words "on Tract B" to the end of the first sentence of The City of Grand Junction paragraph to read as follows; "The City of Grand Junction is hereby granted a perpetual easement for the inspection, installation, operation, maintenance and repair of detention and drainage facilities and appurtenants thereto over each drainage easement shown on Tract B……

d. On Sheets 2 & 3, revise Drainage Easement to the City within Tract B (Detail A), to encompass the storm sewer manhole area located adjacent to the north property line.

e. On Sheets 2 & 3, within the Landscape Easement located behind Lots 4 through 15, also label as a Drainage Easement since these areas will carry off/on-site water behind the retaining wall.

f. On Sheets 2 & 3, provide a Drainage Easement for the storm sewer line between Lots 2 & 3.
g. On Sheet 1 in the Dedication Block, within the All Utility Easements to be granted to the HOA paragraph, add the word "Drainage." Therefore, All Utility and Drainage Easements are to be granted to the HOA.
Code Reference: V-15 of the SSIDS Manual.
Applicant's Response:
Document Reference:

2. Site Plan (Sheets C3 & C4):
a. Trash dumpster enclosures shall be required around each dumpster location. Please identify/label proposed enclosure for the dumpster located directly across from Lots 11 & 12 to match the other two on-site locations.
b. CCR's define residential and commercial designated parking spaces (Section 2.3.1 of the CCR's). If applicable, label designated areas on Site Plan.
Code Reference: V-22 of the SSIDS Manual.
Applicant's Response:
Document Reference:

3. Conveyance Document(s) & CCR's:
If applicant's attorney has any questions concerning these review comments, please contact Assistant City Attorney, Jamie Beard for additional information or clarification.
a. As a reminder, submit proposed Deeds (Tracts, Drainage, Access & Maintenance, and Landscaping/Utility Easements to HOA) for review and approval prior to recording.
b. Provide verification that the HOA has filed with the Colorado Secretary of State's Office.
c. CCR's: General Comments are as follows;
Recitals A. If the City accepts Tract A then it must be removed from the "Property" distinction.
Section 1.9: FYI. Must include Tract A if City does not agree to take.
Section 1.16: Who is responsible for retaining wall maintenance within the last sentence of the paragraph. Should be the HOA.
Section 1.17: Member should be defined as in the Bylaws, this document is the Declaration.
Section 2.1: Why is the Hillside Maintenance Area not a common element?
See Review Comment #2 b. and revise Section 2.3.1., if applicable.
Section 2.5: What is this section trying to accomplish?
Section 3.12: No blanket easement. Planning Clearances will not be issued on blanket easements. Just refer to easements as identified on the subdivision plat.
Section 4.8.3: Why would the association collect real property taxes and assessments?
Code Reference: IV-2 of the SSIDS Manual.
Applicant's Response:
Document Reference:

4. Landscaping Plan:
On Sheet L-3, City Project Manager could not find label which identifies the overall height of the proposed trash enclosure. Please add. Enclosure shall not be taller than 6' in height (Section 21.04.040 (h) (1) (vi) (C) of the Zoning & Development Code).
Code Reference: V-10 of the SSIDS Manual and Section 21.06.040 of the Zoning and Development Code.
Applicant's Response:
Document Reference:

5. Proposed Tract A Dedication to City of Grand Junction:
a. Please have Mr. Nisley provide an Addendum to the MAI Appraisal Report regarding the appraised value of the land area specifically related to proposed Tract A that the City would receive. Appraisal would need to show that proposed Tract A exceeds the value of 10% of the overall site appraised at $152,000 ($15,200). Current Appraisal Report divides the property into thirds with an overall appraised value of $45,000 per acre. City Staff is requesting an appraised value of land specifically related to this 1-acre of land (proposed Tract A) which should be less than $45,000-acre due to its development constraints. Zoning Code states as follows; *The City Council may accept the dedication of land in lieu of payment so long as the fair market value of the land dedicated to the City is not less than 10 percent of the value of the property.*
b. Prior to City Council review of land dedication for Tract A, Applicant will need to resolve issue of existing shed structures that are currently identified/located within proposed Tract A. It appears that the encroachments are associated with the property located at 115 Glade Park Road.
Code Reference: Section 21.06.020 (a) of the Zoning & Development Code.
Applicant's Response:
Document Reference:

6. Requested Drainage Easement Vacation:
Applicant is requesting to vacate the existing public Drainage Easement as recorded in Reception # 2764922. City Public Works staff is supportive of the request. Planning Commission and City Council review and approval required (Public Hearings). City Project Manager will tentatively schedule proposed vacation request for the February 23, 2021 Planning Commission Meeting and the March 17, 2021 City Council Meeting. City Project Manager will notify applicant if for any reason this schedule would change. If applicant cannot attend these hearing dates, please notify City Project Manager for alternative dates.
Code Reference: Section 21.02.100 of the Zoning & Development Code.
Applicant's Response:
Document Reference:

7. Revocable Permit – South Redlands Road:
FYI. City Project Manager will schedule Revocable Permit application for the March 3, 2021 City Council meeting for the proposed private water meter gang boxes and private water meters/lines that are to be located within the South Redlands Road right-of-way.
Code Reference: Section 21.02.180 (d) (2) of the Zoning and Development Code.
Applicant's Response:
Document Reference:

CITY DEVELOPMENT ENGINEER

FEES

Review Comment: Storm Drainage Fee (in lieu of detention) – River City to provide drainage fee in lieu of detention calculation.
Applicant's Response:
Document Reference:

GENERAL

Review Comment: Provide the signed letter from the building department.
Applicant's Response:
Document Reference:

PLANS

Review Comment: Sheet C15

1. The pipe sizes on the outlet structure detail don't match the pipe sizes in the plan view.
2. The grate elevation on the NE inlet (SDAI J2) doesn't match table 5 in the drainage report.
3. Consider installing a curb around this inlet (at the edge of the apron) on the north and east sides. That will keep water from bypassing the inlet and causing erosion.
4. The HGL on this inlet is 1.15' above the inlet grate, using the drawing elevations, so the 100-yr event will flow past this inlet and onto neighboring property where there is a drainage easement. The pipe is likely the limiting factor. Is erosion protection needed on the slope to the north?
5. The notes at the bottom of table 6 in the drainage report contradict this situation. Please clarify.

Applicant's Response:
Document Reference:

DRAINAGE REPORT

Review Comment: When the drainage report is final, provide a thumb drive with all the modeling for documentation purposes. The response said this was provided but we have no record of it.

Applicant's Response:
Document Reference:

Review Comment: Section II.C needs to be revised to be consistent with the changes made earlier in the report and the significant flow coming from OS-2 and 3.

Applicant's Response:
Document Reference:

Review Comment: Was the capacity of the curb behind the houses checked to ensure it can handle the flow from OS-2 and 3? The calculations were not reviewed for this and it wasn't stated in the report body.

Applicant's Response:
Document Reference:

Review Comment: On the developed drainage plan, show design points for all inlets and the discharge information for the water quality basin.

Applicant's Response:
Document Reference:

Review Comment: Be sure to have the Developer sign the final version of the report.

Applicant's Response:
Document Reference:

STORMWATER

Review Comment: Obtain the Mesa County permit.

Applicant's Response:
Document Reference:

DIA

Review Comment: A DIA and security is required for the sanitary sewer since it is public. The rest of the utilities and site improvements are private. The City proposes to hold Certificates of Occupancy to secure them. The CO hold language is being determined outside review comments.

Applicant's Response:
Document Reference:

Review Comment: Sanitary sewer exhibit B is good.

Applicant's Response:
Document Reference:

CC & R'S

Review Comment: They need to specifically call out maintenance of the water quality basin and the on-site drainage facilities including the curb behind the houses. When responding, to save review time, please identify where this is addressed.

Applicant's Response:
Document Reference:

CITY SURVEYOR – Renee Parent – reneep@gjcity.org (970) 256-4003

Reviewed updated plat. Thank you for the changes. I did NOT create a markup for this review.

Page 1
Show areas in acres in the area summary box to 2 decimals.
Applicant's Response:
Document Reference:

Page 2
Please add north arrows to details A-G as the orientation appears different than the page.
Applicant's Response:
Document Reference:

Page 3
Verified changes to Lot 1, Lot 14 and location of northerly drainage easement with new dimensions. All ok.
Could not check Lot 13 due to C14 was not included in the curve table. Please update and resubmit for checking.
Applicant's Response:
Document Reference:

ASSISTANT CITY ATTORNEY – Jamie Beard – jamieb@gjcity.org (970) 256-4032

See City Planning and City Surveyor review comments and revise as applicable.
Applicant's Response:
Document Reference:

OUTSIDE REVIEW AGENCY COMMENTS

(Non-City Agencies)

Review Agency: Ute Water Conservancy District
Contact Name: Jim Daugherty
Email / Telephone Number: jdaugherty@utewater.org (970) 242-7491

Per the District Policies, separate water meters/taps must be purchased for the created parcels/lots. For the proposed private fire line and the service for Lot 2 and Lot 3:

• The District submitted comments to the Engineer directly...none of which were incorporated!
• The District will resubmit those comments to the City Reviewer to forward.
• A cross connection survey may be found at the following link (http://www.utewater.org/backflow) and must be submitted along with a mechanical drawing to the District (Joseph Lambert) for further review and approvals.
• Installation of all backflow equipment shall be per Ute Water Standards. Developer will be required to engineer, purchase, install and maintain all necessary equipment.
• An initial test on the BFPD will be made by the District at no cost for the developer; arrangements for this first test should be made with District personnel for final approval.
• Submit mechanical drawing and a completed survey to:
Joseph Lambert
Cross Connection Program Administrator
Ute Water Conservancy District
Main Office: 242.7491
Direct Line: 256.2883
Cell: 852.1109
• HOA/Management Co. shall be responsible for private fire line billing.

ALL FEES AND POLICIES IN EFFECT AT TIME OF APPLICATION WILL APPLY.
If you have any questions concerning any of this, please feel free to contact Ute Water.
Applicant's Response:

Review Agency: Mesa County Stormwater
Contact Name: Josh Martinez
Email / Telephone Number: Joshua.martinez@mesacounty.us (970) 683-4206

Project has applied for Mesa County Construction Stormwater Permit; awaiting associated permit fees to be paid.

Stormwater Management Plan provided, however, will not be reviewed until permit fees have been paid. Specifically, the 'Review Fee'.

Project will require a completed and signed Post-Construction Stormwater Control Operations and Maintenance Agreement. O&M Form can be found at:
https://stormwater.mesacounty.us/globalassets/stormwater/forms/documents/post-construction-om-agreement-form.pdf

Project is waiting to apply for State Discharge Permit. However, a copy of State Discharge Permit will need to be submitted to Mesa County Stormwater Division before MS4 Permit will be issued.

Pre-Construction/Initial Control Measure Inspection is required and should be scheduled with Mesa County Stormwater Division in order to be issued MS4 Permit. No work other than installation of initial control measures should be conducted until permit is obtained.
Applicant's Response:

REVIEW AGENCIES

(Responding with "No Comment" or have not responded as of the due date)

The following Review Agencies have <u>not</u> responded as of the comment due date.

1. N/A.

The Petitioner is required to submit electronic responses, labeled as "**Response to Comments**" for the following agencies:

1. **City Planning**
2. **City Development Engineer**
3. **City Surveyor**
4. **Assistant City Attorney**
5. **City Addressing**
6. **Ute Water Conservancy District**
7. **Mesa County Stormwater**

Date due: **April 29, 2021**

Please provide a written response for each comment and, for any changes made to other plans or documents indicate specifically where the change was made.

I certify that all of the changes noted above have been made to the appropriate documents and plans and there are no other changes other than those noted in the response.

Applicant's Signature	**Date**

CITY OF GRAND JUNCTION, COLORADO

RESOLUTION NO.

A RESOLUTION VACATING A DRAINAGE EASEMENT LOCATED WITHIN THE PROPOSED FROG POND SUBDIVISION

LOCATED AT 2501 MONUMENT ROAD

RECITALS:

A vacation of a publicly dedicated Drainage Easement has been requested by the property owner, Frog Pond LLC in anticipation of subdividing and developing the property for future residential and commercial development for the proposed Frog Pond Subdivision. The applicant's request is to vacate an existing Drainage Easement as conveyed to the City of Grand Junction by Reception # 2764922. This Drainage Easement was granted to the City of Grand Junction for the inspection, installation, operation, maintenance and repair of drainage facilities, specifically for the benefit of conveyance of stormwater runoff from South Redlands Road. However, with the new development of the Frog Pond Subdivision, new public and private drainage easements will be created within the new development and therefore this specific drainage easement is no longer necessary in its current configuration that encumbers the applicant's property.

After public notice and public hearing as required by the Grand Junction Zoning & Development Code, and upon recommendation of approval by the Planning Commission, the Grand Junction City Council finds that the request to vacate a public Drainage Easement with conditions are consistent with the Comprehensive Plan, the Grand Valley Circulation Plan and Section 21.02.100 of the Grand Junction Zoning & Development Code.

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

The following described public dedicated Drainage Easement is hereby vacated subject to the listed conditions:

1. Applicant shall pay all recording/documentary fees for the Vacation Resolution, any easement documents and/or dedication documents.

2. The vacation of the drainage easement is conditioned upon new public and private drainage easement(s) and infrastructure to be constructed and installed or as otherwise approved by the City, consistent with City standards, either by separate instrument or on a subdivision plat.

Public Drainage Easement to be vacated:

A Drainage Easement as described at Reception Number 2764922 of the Mesa County Records.

PASSED and ADOPTED this _____ day of _____, 2021.

ATTEST:

_____
President of City Council

_____
City Clerk

Grand Junction Planning Commission

Regular Session

Item #3.

Meeting Date: February 23, 2021

Presented By: Tamra Allen, Community Development Director

Department: Community Development

Submitted By: David Thornton, Principal Planner

Information

SUBJECT:

Consider a Request by the City of Grand Junction to amend the Planning Commission Bylaws to Change the Start Time for Regularly Scheduled Monthly Meetings. | Phone-in comments dial **2740**

RECOMMENDATION:

Staff is supportive of this change and recommends approval of the proposed amendment to Planning Commission's Bylaws.

EXECUTIVE SUMMARY:

This request is to consider amending the Planning Commission bylaws for the Planning Commission changing the start time from 6:00 p.m. to 5:30 p.m. In the Fall of 2020, the City Council changed their meeting start times from 6:00 p.m. to 5:30 p.m. In order to reduce confusion for the public regarding times that public meetings and public hearings are held, the Planning Commission discussed and approved a change to their meeting start time to coincide with that of City Council.

BACKGROUND OR DETAILED INFORMATION:

The Planning Commission Bylaws are adopted by City Council by Resolution after review and recommendation by Planning Commission. At a workshop in November 2020 Planning Commission discussed and approved a motion to move forward with formally changing the start time of their public meetings to match the start time of City Council meetings to reduce confusion for the public. This change will result in moving up the meeting start time from 6:00 pm to 5:30 pm aligning with the same start time for regular City Council Meetings. No other changes are proposed to the Bylaws at this

time; all other terms of the Bylaws will remain in full force and effect.

Notice was completed as required by Section 21.02.080(g). Notice of the public hearing was published on February 16, 2021 in the Grand Junction Daily Sentinel.

SUGGESTED MOTION:

Mr. Chairman, on amending the Planning Commission Bylaws to change the time of regularly scheduled public meetings, I move that the Planning Commission forward a recommendation of approval.

Attachments

1. Resolution time change 01252021

RESOLUTION NO. _____

A RESOLUTION AMENDING THE BYLAWS OF THE PLANNING COMMISSION CHANGING THE TIME THAT MEETINGS COMMENCE

RECITALS:

The current bylaws of the Grand Junction Planning Commission set forth the meeting time, days and location on the second and fourth Tuesdays of each month in the City Auditorium. It has been determined that an earlier time for the meetings to start is appropriate.

NOW, THEREFORE, BE IT RESOLVED BY THE CITY COUNCIL OF THE CITY OF GRAND JUNCTION:

That the bylaws of the Grand Junction Planning Commission are amended as follows:

CONDUCT OF MEETINGS

1. The number of meetings per month and a schedule of meeting dates shall be established and may be altered or changed at any regularly scheduled meeting. Two regular meeting dates are established each month on the second and fourth Tuesdays of each month at 5:30 P.M. in the City Hall Auditorium, located at 250 North 5th Street.

All other terms of the bylaws shall remain in full force and effect.

PASSED and ADOPTED this ____ day of _____, _____.

ATTEST:

_____	_____
Wanda Winkelmann	Duke Wortmann
City Clerk	President of Council

Grand Junction Planning Commission

Regular Session

Item #1.

Meeting Date: February 23, 2021

Presented By: Senta Costello, Planner

Department: Community Development

Submitted By: Senta Costello, Associate Planner

Information

SUBJECT:

Consider a request by NorthStar Towing to operate an Impound Yard on 1.66 acres, located at 640 W Gunnison Avenue. | Staff Presentation | Phone-in comments dial **3627**

RECOMMENDATION:

Staff recommends approval of the request.

EXECUTIVE SUMMARY:

The Applicant, NorthStar Towing, is requesting a Conditional Use Permit to operate an Impound Yard located at 640 W Gunnison Avenue.

BACKGROUND OR DETAILED INFORMATION:

BACKGROUND

The site is 1.66 acres located at 640 W Gunnison Avenue and contains a 2748 square foot, 2-story building with offices on the first floor and a business residence on the second floor approved and constructed in 1996 and a large storage yard on the north end of the property. The Applicant is only using the storage yard and has business offices elsewhere; the office building and business residence are leased to another tenant.

The property is zoned C-2 (General Commercial) which, per Section 21.03.070(e) of the Zoning and Development Code (Code)is intended “to provide for commercial activities such as repair shops, wholesale businesses, warehousing and retail sales with limited outdoor display of goods and even more limited outdoor operations”. The

requested use for an Impound Yard may be with a Conditional Use Permit (CUP) in the C-2 (General Commercial) zone district. The property is narrow at the Gunnison Avenue street frontage, with the parking lot and building located toward the southern end of the property near the street frontage. The property widens out to the north, where the storage lot is located. The wedge shape of the lot and location of the physical improvements aide in screening of the back storage area.

The property has been maintained since the original approval for parking, landscaping and other site improvements. The Applicant proposes to provide the required screening specific to the Impound Yard, per Section 21.04.030(d), by installing heavy duty screening fabric along a portion of the eastern fence line and the full extent of the southern fence.

The surrounding neighborhood, which is a mix of C-1 (Light Commercial) and C-2 (General Commercial) zone districts, consists of auto repair shops, cabinet manufacturer, contractor shops and mini-warehouse units.

NOTIFICATION REQUIREMENTS

A Neighborhood Meeting regarding the proposed rezone request was held on December 15, 2020 in accordance with Section 21.02.080 (e) of the Zoning and Development Code. Attendance consisted of the Applicant and property owners; there were not any neighbors in attendance. We spent time discussing the process with the property owners.

Notice was completed consistent with the provisions in Section 21.02.080 (g) of the Zoning and Development Code. The subject property was posted with an application sign February 2, 2021. 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, as well as neighborhood associations within 1000 feet, on February 12, 2021. The notice of this public hearing was published on February 16, 2021 in the Grand Junction Daily Sentinel.

ANALYSIS

Section 21.02.080(d) of the Code contains the general approval criteria for public hearing requests.

(d) General Approval Criteria. No permit may be approved unless all of the following criteria are satisfied:

(1) Compliance with the Comprehensive Plan and any applicable adopted plan.

The 2020 Comprehensive Plan for this area is Commercial which is characterized as concentrated areas of retail, services and employment that support both City residents and those in the surrounding region. Anticipated land uses include both commercial and light industrial businesses and should be generally located near major

transportation corridors. An impound yard at this location would provide central access for law enforcement and vehicle owners who are the primary users/customers of this type of business with close proximity to Highway 6 & 50, North 1st Street and I-70 Business Loop.
Staff therefore finds that this criterion has been met.

(2) Compliance with the Zoning and Development Code.
The existing building and improvements on the site were constructed in 1996 under a Zoning and Development Code that has been entirely re-written twice since then along with multiple amendments along the way. Under the current Code, principally adopted in 2010, the site is considered a “legal non-conforming site” due to different landscaping standards. As the Applicant proposes no changes to the site, this status remains intact.
Staff therefore finds that this criterion has been met.

(3) Conditions of any prior approvals.
The site was originally approved in 1996 as an office building with a business residence on the 2nd floor. Outdoor storage was allowed for the open area at the north end of the property. Since construction, the site has continued with the same type of uses and has been maintained to meet the original approvals. Staff therefore finds that this criterion has been met.

(4) Public facilities and utilities shall be available concurrent with the development.
The proposed area for storage has historically been used for outdoor storage and as no physical changes are proposed to the site beyond the screening to be added to the fencing to meet the intent of current Code requirements, there will be no new or additional demands on the public facilities and utilities. Engineering, Persigo WWTF and the Fire Department reviewed the request and had no concerns regarding the request nor their ability to provide services. Utility services to the site are adequate for the Impound Yard, public safety facilities are adequate in this location, and site access and circulation have also been found to be adequate.
Staff therefore finds that this criterion has been met.

(5) Received all applicable local, State and federal permits.
In order to operate an Impound Yard, the Applicant is required to have a Public Utilities Commission (PUC) license and a Department of Transportation (DOT) license. The applicant has stated the business holds both in a current status. There are no other applicable local, State or federal permits or licenses required. Staff therefore finds this criterion has been met.

Further criteria must be met by the proposal in order to be granted a CUP. Pursuant to GJMC Section 21.02.110 (a), a Conditional Use is meant to provide an opportunity to utilize property for an activity which under usual circumstances could be detrimental to

other permitted uses, and which normally is not permitted within the same district. A Conditional Use may be permitted under circumstances particular to the proposed location and subject to conditions that provide protection to adjacent land uses. A Conditional Use is not a use by right; it is one that is otherwise prohibited within a given zone district without approval of a CUP. Section 21.02.110(c) of the Code contains the criteria by which a CUP may be approved. The application shall therefore demonstrate that the proposed development will comply with all of the following:

(1) District Standards. The underlying zoning districts standards established in Chapter 21.03 GJMC, except density when the application is pursuant to GJMC 21.08.020(c);

The property is zoned C-2 (General Commercial). The performance standards for the C-2 zone district specify "Outdoor storage and display areas are not allowed within the front yard setback. Permanent and portable display of retail merchandise is permitted." The storage area (and proposed Impound Yard) on this property is located behind the parking lot and building, approximately 150 feet from the Gunnison Avenue street frontage.

Staff therefore finds that this criterion has been met.
(2) Specific Standards. The use-specific standards established in Chapter 21.04 GJMC;

New Car/Auto Recycler, End Recycler (Salvage Yard), Wrecking Yards, Appliance Recycler, Impound Lots. (For existing uses see GJMC 21.04.040(h)(2)(iii).) New car/auto recycler, end recycler (salvage yard), wrecking yards, appliance recycler and impound lots shall be allowed to operate only with an approved conditional use permit and are subject to the following requirements. Salvage, dismantling, recycling or impound lot uses as accessory uses are permitted under the same status as the principal use and are subject to all requirements of the principal use in addition to the following requirements:

(1) Recycling/wrecking/salvage yards and impound lots shall provide the screening and buffering required by GJMC 21.06.040(i) and provide a six-foot-high wall along the street frontage and along the first 50 feet of the side perimeter from the street. The wall shall be increased to eight feet if the yard will contain any stored items in excess of six feet. The required wall shall meet the required front yard setback with landscaping in the setback area.

Number (2) below gives specifics for materials allowed for the wall and gives the Director approval authority for what material is used. This site is unique as it is wedge-shaped creating screening via the building and distance to the storage yard. Screening material is proposed to be added to the existing fencing along the entire southern fence

line and along a portion of the eastern side. With the added screening proposed on the fencing, the intent for screening and buffering is met.

Staff therefore finds that this criterion has been met.

(2) The wall shall be of solid, 100 percent opaque construction of wood, masonry, or other material approved in writing by the Director (unless the screening and buffering required by GJMC 21.06.040(i) allows for only masonry or wood).

As discussed in (1) above, the Community Development Director has reviewed and approved the proposed screening material for the fencing.

Staff therefore finds that this criterion has been met.

(3) All outdoor yards or storage lots shall comply with the following:

(i) No yard or storage lot shall be placed or maintained within a required yard setback.

The required setbacks in the C-2 zone district are 15 feet in the front, 10 feet in the rear, and 0 feet on the side(s). Per the Applicant's Site Plan, all required setbacks are shown to be met.

Staff therefore finds that this criterion has been met.

(ii) Stored items shall not project above the screening except for integral units as defined in Chapter 21.10, Definitions; and stacking of no more than two vehicles on top of a wheel stand. Integral units shall include shelving up to 20 feet in height for the purpose of storing recyclable materials. Integral units shall not be stored within the first 20 feet of the property from any street frontage property line.

The Applicant has stated that vehicles will not be stored such that they are stacked, and no vehicles will be stored within the first 20 feet of the property on the Gunnison Avenue street frontage.

Staff therefore finds that this criterion has been met.

(iii) All screening shall be installed in a professional and workmanlike manner and maintained in good condition.

The Applicant has stated that the screening material will be installed in a professional manner and maintained daily.

Staff therefore finds that this criterion has been met.

(4) All compaction, cutting and/or other material volume reducing operations shall be conducted to minimize the noise generated by the operation.

Applicant has stated the vehicles to be stored in the proposed Impound Yard are not compacted or dismantled in any fashion. Vehicles will be stored intact on this site.

Staff therefore finds that this criterion has been met.

(5) Unusable items shall be disposed of and not be allowed to collect on the premises.

Applicant has stated that items not claimed within 30 days are sold or removed from the property.

Staff therefore finds that this criterion has been met.

(6) All tires not mounted on operational vehicles shall be neatly stacked or placed in racks. If stacked, the stacks shall not be over six feet in height; if on racks, the top of any tire on any rack shall not be over 10 feet in height.

While there may be stacks of tires stored in the proposed Impound Yard, the Applicant has stated that no stacks shall exceed the 6 foot standard.

Staff therefore finds that this criterion has been met.

(7) No garbage or other putrescent waste, likely to attract vermin, shall be kept on the premises. Gasoline, oil, or other hazardous materials which are removed from scrapped vehicles or parts of vehicles kept on the premises shall be disposed of in accordance with applicable federal, State and local regulations. All other regulations of the City such as, but not limited to, building codes, fire codes, weed regulations and health regulations shall apply to the operation of all such uses.

Applicant has stated that any fuel will be put in cans for immediate use and will not be stored in the Impound Yard. Other standards will be met.

Staff therefore finds that this criterion has been met.

(3) Availability of Complementary Uses. Other uses complementary to, and supportive of, the proposed project shall be available including, but not limited to: schools, parks, hospitals, business and commercial facilities, and transportation facilities;

The site is located in a commercial neighborhood with easy pedestrian, bicycle and/or vehicle access to Rimrock Shopping Center (Walmart, Lowe's, Red Robin, Sprouts, etc.), a gym, restaurants, bus stops within ¼ mile on Maldonado Street to the northeast and transportation corridors (Highway 6 & 50, North 1st Street and I-70 Business Loop).

Staff therefore finds this criterion has been met.

4) Compatibility with Adjoining Properties. Compatibility with and protection of neighboring properties through measures such as:

(i) Protection of Privacy. The proposed plan shall provide reasonable visual and auditory privacy for all dwelling units located within and adjacent to the site. Fences, walls, barriers and/or vegetation shall be arranged to protect and enhance the property and to enhance the privacy of on-site and neighboring occupants;

The only residential within/adjacent to the site is the business residence within the building on the site which, by its existence, recognizes surrounding non-residential uses. The Applicant will be installing screening on the existing fencing as required by the Zoning and Development Code Use Specific requirements. The hours of operation of the site are 8:00 am - 5:00 pm, Monday – Friday. The occupants of the business residence are associated with the business using the office building and provide additional site security with off-hours eyes on the property.

Staff therefore finds this criterion has been met.

(ii) Protection of Use and Enjoyment. All elements of the proposed plan shall be designed and arranged to have a minimal negative impact on the use and enjoyment of adjoining property;

The surrounding properties that are near or adjacent to the proposed Impound yard are commercial uses and many include outdoor storage yards. The Impound Yard proposes to continue using the same area historically used for outdoor storage on the property. Screening material will be added to the fence along the southern fence line and up a portion of the eastern side. The added visual barrier will minimize any potential impacts to the neighbors.

Staff therefore finds this criterion has been met.

(iii) Compatible Design and Integration. All elements of a plan shall coexist in a harmonious manner with nearby existing and anticipated development. Elements to consider include: buildings, outdoor storage areas and equipment, utility structures, building and paving coverage, landscaping, lighting, glare, dust, signage, views, noise,

and odors. The plan must ensure that noxious emissions and conditions not typical of land uses in the same zoning district will be effectively confined so as not to be injurious or detrimental to nearby properties.

The neighborhood consists of similar commercial uses with outdoor storage yards nearby or adjacent to the site and similar hours of operation. This site is unique as it is wedge-shaped creating screening via the building and distance to the storage yard. With the added screening proposed on the fencing, the site is compatible with the surrounding properties.

Staff therefore finds this criterion has been met.

RECOMMENDATION AND FINDINGS OF FACT

After reviewing the NorthStar Towing Conditional Use Permit request, CUP-2020-754, for the property located at 640 W Gunnison Avenue, the following findings of fact have been made:

1. The request conforms with Section 21.02.110 of the Zoning and Development Code.

Therefore, Staff recommends approval of the request.

SUGGESTED MOTION:

Mr. Chairman, on the Conditional Use Permit for the property located at 640 W. Gunnison Avenue, City file number CUP-2020-754, I move that the Planning Commission approve the request with the findings of fact as listed in the staff report.

Attachments

1. Exhibit 1 - Application Materials
2. Exhibit 2 - Maps and Photos
3. Exhibit 3 - neighbor email

City of Grand Junction Colorado
Community Development

Exhibit 1

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: Change of Use

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

Existing Land Use Designation: _____ **Existing Zoning:** C-1

Proposed Land Use Designation: Storage of Vehicles **Proposed Zoning:** C-1 ?

Property Information

Site Location: 640 W Gunnison Ave **Site Acreage:** 1.7

Site Tax No(s): _____ **Site Zoning:** _____

Project Description: Vehicle and RV Storage/Impound

Property Owner Information	Applicant Information	Representative Information
Name: James/Angelica Kronus	**Name:** NorthStar Towing	**Name:** Jennifer Henson
Street Address: 7615 N 75th Ave Ste	**Street Address:** 640 W Gunnison Ave	**Street Address:** 619 Ronlin Drive
City/State/Zip: Glendale AZ 85303	**City/State/Zip:** G.J. CO 81501	**City/State/Zip:** G.J.CO 81504
Business Phone #: 9702452444	**Business Phone #:** 9704979130	**Business Phone #:** 9704979130
E-Mail: a_ngie5@hotmail.com	**E-Mail:** jhoward2902@gmail.com	**E-Mail:** jhoward2902@gmail.com
Fax #: _____	**Fax #:** _____	**Fax #:** _____
Contact Person: Angie	**Contact Person:** Jennifer Henson	**Contact Person:** Jenni
Contact Phone #: 9702452444	**Contact Phone #:** 9702602433	**Contact Phone #:** 9702602433

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: eSigned via SeamlessDocs.com Jennifer Henson Key: d2503a018d45c8d87e77a4de2795f5b **Date:** 12/01/2020

Signature of Legal Property Owner: eSigned via SeamlessDocs.com Angelica Kronus Key: d1da971143508bd73e3fbdbb8ba313 **Date:** 12/01/2020

Neighborhood Meeting for

NorthStar Towing

Our business, NorthStar Towing will be requesting approval from the Planning Commission for a Conditional Use Permit to operate an impound yard at 640 W Gunnison Ave. This request requires we host a neighborhood meeting to answer questions/concerns from our neighbors regarding the request before we submit the application.

We will be holding the meeting virtually due to COVID-19 restrictions. Information to join the virtual meeting is below. Please let us know if you'd like the information emailed to you.

Meeting Date: December 15th 2020

Meeting Time: 5:30 PM

Jennifer Henson is inviting you to a scheduled Zoom meeting.

Topic: My Meeting NorthStar

Time: Dec 15, 2020 05:30 PM Mountain Time (US and Canada)

Join Zoom Meeting

https://us05web.zoom.us/j/88203030264?pwd=eU9RbGNwTjdjbFhLN25xa0RrYTh1Zz09

Meeting ID: 882 0303 0264

Passcode: SFLi2b

Any questions please call,

Jennifer Henson

NorthStar Towing

9704979130

jhoward2902@gmail.com

Conditional Use Permit

Address: 640 West Gunnison Ave
Grand Junction CO 81501

Acreage. 1.7
Proposed Use: Impound/Storage Yard
Neighborhood meeting was held Dec. 15th at 5:30 P.M.
People who attended: Senta (city), Jennifer Henson (renter), Angie and James Kronus (property owner)
I am using this land as an impound/storage yard, the only difference from what we are doing right now is that in the places on the fence line that are visible from the road there will be fence fabric so you can not see inside the impound from the road. Everything else will stay the same. The hours of operation for the tow yard are Mon-Fri 8am to 5pm. I have 4 independent contractors that drive for me and help take care of the impound yard.
We are an Impound/Storage yard we do not sell parts or take cars apart, The vehicle comes and and goes out with all the same parts attached to it. We park vehicles in a square in the yard so the middle of the yard stays open for big trucks to turn around and if a fire truck needed to get in it would have enough room to turn around. Map is attached to show how we park vehicles. Also map is attached to show where the fabric will be hung on the fence.

There are no specific changes proposed to this property an the C2 zoning standers are being met.

(1) District Standards. The underlying zoning districts standards established in Chapter 21.03 GJMC, except density when the application is pursuant to GJMC 21.08.020(c); ***Yes in standards***

(2) Specific Standards. The use-specific standards established in Chapter 21.04 GJMC;
Yes in standards

(d) New Car/Auto Recycler, End Recycler (Salvage Yard), Wrecking Yards, Appliance Recycler, Impound Lots. (For existing uses see GJMC 21.04.040(h)(2)(iii).) New car/auto recycler, end recycler (salvage yard), wrecking yards, appliance recycler and impound lots shall be allowed to operate only with an approved conditional use permit and are subject to the following requirements. Salvage, dismantling, recycling or impound lot uses as accessory uses are permitted under the same status as the principal use and are subject to all requirements of the principal use in addition to the following requirements: ***Yes meeting requirements***

(1) Recycling/wrecking/salvage yards and impound lots shall provide the screening and buffering required by GJMC 21.06.040(i) and provide a six-foot-high wall along the street frontage and along the first 50 feet of the side perimeter from the street. The wall shall be increased to eight feet if the yard will contain any stored items in excess of six feet. The required wall shall meet the required front yard setback with landscaping in the setback area. ***Will be putting up fence fabric to block view from roadway. We do not stack vehicles.***

(2) The wall shall be of solid, 100 percent opaque construction of wood, masonry, or other material approved in writing by the Director (unless the screening and buffering required by GJMC 21.06.040(i) allows for only masonry or wood). ***Fence fabric, can not see through it.***

(3) All outdoor yards or storage lots shall comply with the following:

(i) No yard or storage lot shall be placed or maintained within a required yard setback.
Yard will stay where it is.

(ii) Stored items shall not project above the screening except for integral units as defined in Chapter 21.10, Definitions; and stacking of no more than two vehicles on top of a wheel stand. Integral units shall include shelving up to 20 feet in height for the purpose of storing recyclable materials. Integral units shall not be stored within the first 20 feet of the property from any street frontage property line.
The yard sits far away from road, we will be placing fabric on the parts that are visible from the roadway.

(iii) All screening shall be installed in a professional and workmanlike manner and maintained in good condition. ***Will be installed by me and my crew. Will be checking each day and if repairs need to be made they will be made that same day.***

(4) All compaction, cutting and/or other material volume reducing operations shall be conducted to minimize the noise generated by the operation. ***We do not cut anyhing***

(5) Unusable items shall be disposed of and not be allowed to collect on the premises.
Yes after 30 days vehicles that are retrieved are sold or are hauled to the crusher.

(6) All tires not mounted on operational vehicles shall be neatly stacked or placed in racks. If stacked, the stacks shall not be over six feet in height; if on racks, the top of any tire on any rack shall not be over 10 feet in height. ***Yes if we have any tires they are stacked, they are not more then 10 feet high.***

(7) No garbage or other putrescent waste, likely to attract vermin, shall be kept on the premises. Gasoline, oil, or other hazardous materials which are removed from scrapped vehicles or parts of vehicles kept on the premises shall be disposed of in accordance with applicable federal, State and local regulations. All other regulations of the City such as, but not limited to, building codes, fire codes, weed regulations and health regulations shall apply to the operation of all such uses.
If we have any fuel it is put in fuel cans and used, we do not store fuel out of vehicles.

(3) Availability of Complementary Uses. Other uses complementary to, and supportive of, the proposed
Yes available to all of these.

project shall be available including, but not limited to: schools, parks, hospitals, business and commercial facilities, and transportation facilities; ***Yes***

(4) Compatibility with Adjoining Properties. Compatibility with and protection of neighboring properties through measures such as: ***Putting up fence fabric***

(i) Protection of Privacy. The proposed plan shall provide reasonable visual and auditory privacy for all dwelling units located within and adjacent to the site. Fences, walls, barriers and/or vegetation shall be arranged to protect and enhance the property and to enhance the privacy of on-site and neighboring occupants; ***We keep the outside of the property clean and easy on the eye.***

(ii) Protection of Use and Enjoyment. All elements of the proposed plan shall be designed and arranged to have a minimal negative impact on the use and enjoyment of adjoining property;
We do not want to have any negative impact on anyone

(iii) Compatible Design and Integration. All elements of a plan shall coexist in a harmonious manner with nearby existing and anticipated development. Elements to consider include: buildings, outdoor storage areas and equipment, utility structures, building and paving coverage, landscaping, lighting, glare, dust, signage, views, noise, and odors. The plan must ensure that noxious emissions and conditions not typical of land uses in the same zoning district will be effectively confined so as not to be injurious or detrimental to nearby properties.
Properties around us have similar things being stored in there yards or outside there properties, I do not think are yard is much different then the ones around us. The people in the properties around us have said that they do not have a problem with out yard and are fine with us being that and fine with the yard being there. We have had them also state that sense we have been there they have noticed less crime and less cars coming down the private drive, we have put up camera,s and fixed the fences, we watch are yard and the other businesses around us to make it safe for everyone. So I do think that us being there doing what we da has has a positive effect.

Thank you,
Jennifer Henson
NorthStar Towing
9704979130

Industrial Pretreatment Program
2145 River Road
Grand Junction, CO 81505
970-256-4180

INDUSTRIAL PRETREATMENT SURVEY
FOR ALL INDUSTRIAL and COMMERCIAL BUSINESSES

The United States Environmental Protection Agency requires the City of Grand Junction Industrial Pretreatment Program to regulate industrial and commercial facilities in our service area that generate wastewater that may be significant to the Persigo Wastewater Treatment Facility. To support this requirement, the City performs business and facility surveys and inspections to obtain information regarding facility operations and chemical usage, and to evaluate the significance of a facility's wastewater discharge to the publicly owned sewer system. This survey is a screening tool to determine if additional City requirements are required and to add local commercial and industrial businesses to the City's Industrial Pretreatment database.

Facility Name: NorhStar Towing

Facility Location: 640 W Gunnison Ave. Grand Junction CO 81501

Mailing Address: 619 Ronlin Drive Grand Junction CO 81504

Facility Owner: Angelica and Jim Kronus (Name) | Owner (Title) | 9702452444 (Phone #)

Facility Contact: Jennifer Henson (Name) | Tenant (Title) | 9704979130 (Phone #)

e-mail address: jhoward2902@gmail.com

Contractor Contact: N/A (Name) | N/A (Phone #) | N/A (e-mail)

1. Provide a brief description of new project (ex: new building construction, painting, roofing, remodel, etc.)

The only thing that will change is there will be a mesh on the fench on the side where the gate is and on the side where the building is. Nothing else will change.

2. Provide a brief description of the operations at this facility including primary products and services (ex: restaurant, retail, garage, office, medical, etc.) We are an impound yard/storage yard for vehicles and RV's.

3. Please answer the following questions to determine if other Pretreatment applications may be required to be completed for your project or facility. *****All Questions Must Be Answered*****

Yes	No	Industrial Pretreatment Survey Form
☐	☒	Is this facility an office or retail store?
☐	☒	Will this facility discharge only domestic wastewater or sewage that is typically only found in a residential home? (Note: *Domestic wastewater* is wastewater generated *only* from typical bathroom and breakroom facilities, such as toilets and breakroom sinks, hand sinks and showers. *All other industrial or commercial wastewater is considered process wastewater.*) We do not use water

☐ ☒ Will there be any changes to the existing plumbing? If Yes, briefly describe the change:

☒ ☐ Is this facility under new ownership or lease agreement?
☐ ☐ Has this facility stopped operation or been closed for a period of 12 months or longer?
I don't Know

Yes	No	**Food Service**
☐	☒	Is this a food service or food processing facility (ex: restaurant, coffee shop, fast food, catering, etc.) or has any of the following: bar, bistro, bakery, butcher shop, cannery, etc?
☐	☒	Does this facility have a commercial kitchen?

Yes	No	**Vehicle/Equipment**
☐	☒	Does this facility service or clean any vehicles or equipment (ex: engines, parts, valves)?
☐	☒	Does this facility do any **materials** or **metal** fabrication (ex: grinding, polishing, cutting, welding, forging, tumbling, etc.)?
☐	☒	Are there any floor drains in the shop area?

Yes	No	**Medical**
☐	☒	Does this facility provide medical services?
☐	☒	Does this facility provide dental services?
☐	☒	Does this facility operate a laboratory?

Yes	No	**Recreational Vehicle Dump Station**
☐	☒	Does this facility provide a Recreational Vehicle Septage Dump Station?

Yes	No	**Other Industrial Discharge**
☐	☒	Does this facility discharge or produce any processed industrial or commercial wastewater other than the types listed above?

Yes	No	**Material Use**
☐	☒	Will this facility use, store or generate any flammable, toxic, corrosive or hazardous materials?

CERTIFICATION STATEMENT

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations. *By submitting this survey, I certify that I am the owner/officer/manager of the property or that I have the authority to submit this survey on behalf of the owner.*

Printed Name & Title: Jennifer Henson

Signature: Jennifer Henson **Date:** 12/03/2020

OWNERSHIP STATEMENT - NATURAL PERSON

I, (a) James A. Kronus, am the owner of the following real property:

(b) LOT 2 Kronus SUBDIVISION Sec. 15 1S 1W - 1.66 AC
2nd LOT 1 Kronus SUBDIVISION Sec. 15 1S 1W - 0.77 AC
Reception number #2649515, Book 5452, PAGE 604, Record Date. 04/01/2013

A copy of the deed evidencing my interest in the property is attached. All documents, if any, conveying any interest in the property to someone else by the owner, are also attached.

○ I am the sole owner of the property.

☒ I own the property with other(s). The other owners of the property are (c):

Angelice E. Kronus.

I have reviewed the application for the (d) storage/impound yard pertaining to the property.

I have the following knowledge and evidence concerning possible boundary conflicts between my property and the abutting property(ies): (e) NONE

I understand that I have a continuing duty to inform the City planner of any changes in interest, including ownership, easement, right-of-way, encroachment, lienholder and any other interest in the property.

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

Owner signature as it appears on deed: James A. Kronus

Printed name of owner: JAMES A. KRONUS

State of Arizona)
County of Maricopa) ss.

Subscribed and sworn to before me on this 4th day of December, 2020
by Bradley Burston

Witness my hand and seal.

My Notary Commission expires on 1.5.2024

BRADLEY BURSTON
Notary Public - Arizona
Maricopa Co. / #575254
Expires 01/05/2024

Bradley Burston
Notary Public Signature

OWNERSHIP STATEMENT - NATURAL PERSON

I, (a) Angelica E. Kronus, am the owner of the following real property:

(b) Lot 2 Kronus Subdivision Sec 15 1S 1W - 1.66AC
and Lot 1 Kronus Subdivision Sec 15 1S 1W - 0.77AC
Reception Number #2649515, Book 5452, PAGE 604, Record Date 04/01/2013

A copy of the deed evidencing my interest in the property is attached. All documents, if any, conveying any interest in the property to someone else by the owner, are also attached.

○ I am the sole owner of the property.

☒ I own the property with other(s). The other owners of the property are (c):

James A. Kronus

I have reviewed the application for the (d) Storage/impound yard pertaining to the property.

I have the following knowledge and evidence concerning possible boundary conflicts between my property and the abutting property(ies): (e) None

I understand that I have a continuing duty to inform the City planner of any changes in interest, including ownership, easement, right-of-way, encroachment, lienholder and any other interest in the property.

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

Owner signature as it appears on deed: [signature]

Printed name of owner: Angelica Kronus

State of Arizona)
County of Maricopa) ss.

Subscribed and sworn to before me on this 4th day of December, 2020
by Bradley Burston

Witness my hand and seal.

My Notary Commission expires on 1.5.2024

BRADLEY BURSTON
Notary Public - Arizona
Maricopa Co. / #575254
Expires 01/05/2024

[signature]
Notary Public Signature

RECORDATION REQUESTED BY:
First National Bank of the Rockies
Horizon
685 Horizon Dr
Grand Junction, CO 81506

WHEN RECORDED MAIL TO:
First National Bank of the Rockies
Horizon
685 Horizon Dr
Grand Junction, CO 81506

SEND TAX NOTICES TO:
First National Bank of the Rockies
Horizon
685 Horizon Dr
Grand Junction, CO 81506

FOR RECORDER'S USE ONLY

FIRST NATIONAL BANK OF THE ROCKIES

DEED OF TRUST

MAXIMUM PRINCIPAL AMOUNT SECURED. The Lien of this Deed of Trust shall not exceed at any one time $82,000.00 except as allowed under applicable Colorado law.

THIS DEED OF TRUST is dated March 25, 2013, among JAMES A. KRONUS and ANGELICA E. KRONUS ("Grantor"); First National Bank of the Rockies, whose address is Horizon, 685 Horizon Dr, Grand Junction, CO 81506 (referred to below sometimes as "Lender" and sometimes as "Beneficiary"); and the Public Trustee of MESA County, Colorado (referred to below as "Trustee").

CONVEYANCE AND GRANT. For valuable consideration, Grantor hereby irrevocably grants, transfers and assigns to Trustee for the benefit of Lender as Beneficiary all of Grantor's right, title, and interest in and to the following described real property, together with all existing or subsequently erected or affixed buildings, improvements and fixtures; all easements, rights of way, and appurtenances; all water, water rights and ditch rights (including stock in utilities with ditch or irrigation rights); and all other rights, royalties, and profits relating to the real property, including without limitation all minerals, oil, gas, geothermal and similar matters, **(the "Real Property") located in MESA County, State of Colorado:**

LOTS 1 AND 2,
KRONUS SUBDIVISION
COUNTY OF MESA, STATE OF COLORADO

The Real Property or its address is commonly known as 632 AND 640 W GUNNISON AVENUE, GRAND JUNCTION, CO 81501.

Grantor presently assigns to Lender (also known as Beneficiary in this Deed of Trust) all of Grantor's right, title, and interest in and to all present and future leases of the Property and all Rents from the Property. In addition, Grantor grants to Lender a Uniform Commercial Code security interest in the Personal Property and Rents.

THIS DEED OF TRUST, INCLUDING THE ASSIGNMENT OF RENTS AND THE SECURITY INTEREST IN THE RENTS AND PERSONAL PROPERTY, IS GIVEN TO SECURE (A) PAYMENT OF THE INDEBTEDNESS AND (B) PERFORMANCE OF ANY AND ALL OBLIGATIONS UNDER THE NOTE, THE RELATED DOCUMENTS, AND THIS DEED OF TRUST. THIS DEED OF TRUST IS GIVEN AND ACCEPTED ON THE FOLLOWING TERMS:

GRANTOR'S REPRESENTATIONS AND WARRANTIES. Grantor warrants that: (a) this Deed of Trust is executed at Borrower's request and not at the request of Lender; (b) Grantor has the full power, right, and authority to enter into this Deed of Trust and to hypothecate the Property; (c) the provisions of this Deed of Trust do not conflict with, or result in a default under any agreement or other instrument binding upon Grantor and do not result in a violation of any law, regulation, court decree or order applicable to Grantor; (d) Grantor has established adequate means of obtaining from Borrower on a continuing basis information about Borrower's financial condition; and (e) Lender has made no representation to Grantor about Borrower (including without limitation the creditworthiness of Borrower).

GRANTOR'S WAIVERS. Grantor waives all rights or defenses arising by reason of any "one action" or "anti-deficiency" law, or any other law which may prevent Lender from bringing any action against Grantor, including a claim for deficiency to the extent Lender is otherwise entitled to a claim for deficiency, before or after Lender's commencement or completion of any foreclosure action, either judicially or by exercise of a power of sale.

PAYMENT AND PERFORMANCE. Except as otherwise provided in this Deed of Trust, Borrower shall pay to Lender all indebtedness secured by this Deed of Trust as it becomes due, and Borrower and Grantor shall perform all their respective obligations under the Note, this Deed of Trust, and the Related Documents.

POSSESSION AND MAINTENANCE OF THE PROPERTY. Borrower and Grantor agree that Borrower's and Grantor's possession and use of the Property shall be governed by the following provisions:

Possession and Use. Until the occurrence of an Event of Default, Grantor may (1) remain in possession and control of the Property; (2) use, operate or manage the Property; and (3) collect the Rents from the Property.

Duty to Maintain. Grantor shall maintain the Property in tenantable condition and promptly perform all repairs, replacements, and maintenance necessary to preserve its value.

Compliance With Environmental Laws. Grantor represents and warrants to Lender that: (1) During the period of Grantor's ownership of the Property, there has been no use, generation, manufacture, storage, treatment, disposal, release or threatened release of any Hazardous Substance by any person on, under, about or from the Property; (2) Grantor has no knowledge of, or reason to believe that there has been, except as previously disclosed to and acknowledged by Lender in writing, (a) any breach or violation of any Environmental Laws, (b) any use, generation, manufacture, storage, treatment, disposal, release or threatened release of any Hazardous Substance on, under, about or from the Property by any prior owners or occupants of the Property, or (c) any actual or threatened litigation or claims of any kind by any person relating to such matters; and (3) Except as previously disclosed to and acknowledged by Lender in writing, (a) neither Grantor nor any tenant, contractor, agent or other authorized user of the Property shall use, generate, manufacture, store, treat, dispose of or release any Hazardous Substance on, under, about or from the Property; and (b) any such activity shall be conducted in compliance with all applicable federal, state, and local laws, regulations and ordinances, including without limitation all Environmental Laws. Grantor authorizes Lender and its

agents to enter upon the Property to make such inspections and tests, at Grantor's expense, as Lender may deem appropriate to determine compliance of the Property with this section of the Deed of Trust. Any inspections or tests made by Lender shall be for Lender's purposes only and shall not be construed to create any responsibility or liability on the part of Lender to Grantor or to any other person. The representations and warranties contained herein are based on Grantor's due diligence in investigating the Property for Hazardous Substances. Grantor hereby (1) releases and waives any future claims against Lender for indemnity or contribution in the event Grantor becomes liable for cleanup or other costs under any such laws; and (2) agrees to indemnify, defend, and hold harmless Lender against any and all claims, losses, liabilities, damages, penalties, and expenses which Lender may directly or indirectly sustain or suffer resulting from a breach of this section of the Deed of Trust or as a consequence of any use, generation, manufacture, storage, disposal, release or threatened release occurring prior to Grantor's ownership or interest in the Property, whether or not the same was or should have been known to Grantor. The provisions of this section of the Deed of Trust, including the obligation to indemnify and defend, shall survive the payment of the Indebtedness and the satisfaction and reconveyance of the lien of this Deed of Trust and shall not be affected by Lender's acquisition of any interest in the Property, whether by foreclosure or otherwise.

Nuisance, Waste. Grantor shall not cause, conduct or permit any nuisance nor commit, permit, or suffer any stripping of or waste on or to the Property or any portion of the Property. Without limiting the generality of the foregoing, Grantor will not remove, or grant to any other party the right to remove, any timber, minerals (including oil and gas), coal, clay, scoria, soil, gravel or rock products without Lender's prior written consent.

Removal of Improvements. Grantor shall not demolish or remove any Improvements from the Real Property without Lender's prior written consent. As a condition to the removal of any Improvements, Lender may require Grantor to make arrangements satisfactory to Lender to replace such Improvements with Improvements of at least equal value.

Lender's Right to Enter. Lender and Lender's agents and representatives may enter upon the Real Property at all reasonable times to attend to Lender's interests and to inspect the Real Property for purposes of Grantor's compliance with the terms and conditions of this Deed of Trust.

Compliance with Governmental Requirements. Grantor shall promptly comply with all laws, ordinances, and regulations, now or hereafter in effect, of all governmental authorities applicable to the use or occupancy of the Property, including without limitation, the Americans With Disabilities Act. Grantor may contest in good faith any such law, ordinance, or regulation and withhold compliance during any proceeding, including appropriate appeals, so long as Grantor has notified Lender in writing prior to doing so and so long as, in Lender's sole opinion, Lender's interests in the Property are not jeopardized. Lender may require Grantor to post adequate security or a surety bond, reasonably satisfactory to Lender, to protect Lender's interest.

Duty to Protect. Grantor agrees neither to abandon or leave unattended the Property. Grantor shall do all other acts, in addition to those acts set forth above in this section, which from the character and use of the Property are reasonably necessary to protect and preserve the Property.

DUE ON SALE - CONSENT BY LENDER. Lender may, at Lender's option, declare immediately due and payable all sums secured by this Deed of Trust upon the sale or transfer, without Lender's prior written consent, of all or any part of the Real Property, or any interest in the Real Property. A "sale or transfer" means the conveyance of Real Property or any right, title or interest in the Real Property; whether legal, beneficial or equitable; whether voluntary or involuntary; whether by outright sale, deed, installment sale contract, land contract, contract for deed, leasehold interest with a term greater than three (3) years, lease-option contract, or by sale, assignment, or transfer of any beneficial interest in or to any land trust holding title to the Real Property, or by any other method of conveyance of an interest in the Real Property. However, this option shall not be exercised by Lender if such exercise is prohibited by federal law or by Colorado law.

TAXES AND LIENS. The following provisions relating to the taxes and liens on the Property are part of this Deed of Trust:

Payment. Grantor shall pay when due (and in all events prior to delinquency) all taxes, special taxes, assessments, charges (including water and sewer), fines and impositions levied against or on account of the Property, and shall pay when due all claims for work done on or for services rendered or material furnished to the Property. Grantor shall maintain the Property free of all liens having priority over or equal to the interest of Lender under this Deed of Trust, except for the lien of taxes and assessments not due, except for the Existing Indebtedness referred to below, and except as otherwise provided in this Deed of Trust.

Right to Contest. Grantor may withhold payment of any tax, assessment, or claim in connection with a good faith dispute over the obligation to pay, so long as Lender's interest in the Property is not jeopardized. If a lien arises or is filed as a result of nonpayment, Grantor shall within fifteen (15) days after the lien arises or, if a lien is filed, within fifteen (15) days after Grantor has notice of the filing, secure the discharge of the lien, or if requested by Lender, deposit with Lender cash or a sufficient corporate surety bond or other security satisfactory to Lender in an amount sufficient to discharge the lien plus any costs and attorneys' fees, or other charges that could accrue as a result of a foreclosure or sale under the lien. In any contest, Grantor shall defend itself and Lender and shall satisfy any adverse judgment before enforcement against the Property. Grantor shall name Lender as an additional obligee under any surety bond furnished in the contest proceedings.

Evidence of Payment. Grantor shall upon demand furnish to Lender satisfactory evidence of payment of the taxes or assessments and shall authorize the appropriate governmental official to deliver to Lender at any time a written statement of the taxes and assessments against the Property.

Notice of Construction. Grantor shall notify Lender at least fifteen (15) days before any work is commenced, any services are furnished, or any materials are supplied to the Property, if any mechanic's lien, materialmen's lien, or other lien could be asserted on account of the work, services, or materials. Grantor will upon request of Lender furnish to Lender advance assurances satisfactory to Lender that Grantor can and will pay the cost of such improvements.

PROPERTY DAMAGE INSURANCE. The following provisions relating to insuring the Property are a part of this Deed of Trust.

Maintenance of Insurance. Grantor shall procure and maintain policies of fire insurance with standard extended coverage endorsements on a fair value basis for the full insurable value covering all Improvements on the Real Property in an amount sufficient to avoid application of any coinsurance clause, and with a standard mortgagee clause in favor of Lender. Grantor shall also procure and maintain comprehensive general liability insurance in such coverage amounts as Lender may request with Trustee and Lender being named as additional insureds in such liability insurance policies. Additionally, Grantor shall maintain such other insurance, including but not limited to hazard, business interruption, and boiler insurance, as Lender may reasonably require. Policies shall be written in form, amounts, coverages and basis reasonably acceptable to Lender and issued by a company or companies reasonably acceptable to Lender. Grantor, upon request of Lender, will deliver to Lender from time to time the policies or certificates of insurance in form satisfactory to Lender, including stipulations that coverages will not be cancelled or diminished without at least ten (10) days prior written notice to Lender. Each insurance policy also shall include an endorsement providing that coverage in favor of Lender will not be impaired in any way by any act, omission or default of Grantor or any other person. Should the Real Property be located in an area designated by the Director of the Federal Emergency Management Agency as a special flood hazard area, Grantor agrees to obtain and maintain Federal Flood Insurance, if available, within 45 days after notice is given by Lender that the Property is located in a special flood hazard area, for the full unpaid principal balance of the loan and any prior liens on the property securing the loan, up to the maximum policy limits set under the National Flood Insurance Program, or as otherwise required by Lender, and to maintain such insurance for the term of the loan.

Application of Proceeds. Grantor shall promptly notify Lender of any loss or damage to the Property. Lender may make proof of loss if Grantor fails to do so within fifteen (15) days of the casualty. Whether or not Lender's security is impaired, Lender may, at Lender's election, receive and retain the proceeds of any insurance and apply the proceeds to the reduction of the Indebtedness, payment of any lien affecting the Property, or the restoration and repair of the Property. If Lender elects to apply

the proceeds to restoration and repair, Grantor shall repair or replace the damaged or destroyed Improvements in a manner satisfactory to Lender. Lender shall, upon satisfactory proof of such expenditure, pay or reimburse Grantor from the proceeds for the reasonable cost of repair or restoration if Grantor is not in default under this Deed of Trust. Any proceeds which have not been disbursed within 180 days after their receipt and which Lender has not committed to the repair or restoration of the Property shall be used first to pay any amount owing to Lender under this Deed of Trust, then to pay accrued interest, and the remainder, if any, shall be applied to the principal balance of the Indebtedness. If Lender holds any proceeds after payment in full of the Indebtedness, such proceeds shall be paid to Grantor as Grantor's interests may appear.

Compliance with Existing Indebtedness. During the period in which any Existing Indebtedness described below is in effect, compliance with the insurance provisions contained in the instrument evidencing such Existing Indebtedness shall constitute compliance with the insurance provisions under this Deed of Trust, to the extent compliance with the terms of this Deed of Trust would constitute a duplication of insurance requirement. If any proceeds from the insurance become payable on loss, the provisions in this Deed of Trust for division of proceeds shall apply only to that portion of the proceeds not payable to the holder of the Existing Indebtedness.

Grantor's Report on Insurance. Upon request of Lender, however not more than once a year, Grantor shall furnish to Lender a report on each existing policy of insurance showing: (1) the name of the insurer; (2) the risks insured; (3) the amount of the policy; (4) the property insured, the then current replacement value of such property, and the manner of determining that value; and (5) the expiration date of the policy. Grantor shall, upon request of Lender, have an independent appraiser satisfactory to Lender determine the cash value replacement cost of the Property.

LENDER'S EXPENDITURES. If any action or proceeding is commenced that would materially affect Lender's interest in the Property or if Grantor fails to comply with any provision of this Deed of Trust or any Related Documents, including but not limited to Grantor's failure to comply with any obligation to maintain Existing Indebtedness in good standing as required below, or to discharge or pay when due any amounts Grantor is required to discharge or pay under this Deed of Trust or any Related Documents, Lender on Grantor's behalf may (but shall not be obligated to) take any action that Lender deems appropriate, including but not limited to discharging or paying all taxes, liens, security interests, encumbrances and other claims, at any time levied or placed on the Property and paying all costs for insuring, maintaining and preserving the Property. All such expenditures incurred or paid by Lender for such purposes will then bear interest at the rate charged under the Note from the date incurred or paid by Lender to the date of repayment by Grantor. All such expenses will become a part of the Indebtedness and, at Lender's option, will (A) be payable on demand; (B) be added to the balance of the Note and be apportioned among and be payable with any installment payments to become due during either (1) the term of any applicable insurance policy; or (2) the remaining term of the Note; or (C) be treated as a balloon payment which will be due and payable at the Note's maturity. The Deed of Trust also will secure payment of these amounts. Such right shall be in addition to all other rights and remedies to which Lender may be entitled upon Default.

WARRANTY; DEFENSE OF TITLE. The following provisions relating to ownership of the Property are a part of this Deed of Trust:

Title. Grantor warrants that: (a) Grantor holds good and marketable title of record to the Property in fee simple, free and clear of all liens and encumbrances other than those set forth in the Real Property description or in the Existing Indebtedness section below or in any title insurance policy, title report, or final title opinion issued in favor of, and accepted by, Lender in connection with this Deed of Trust, and (b) Grantor has the full right, power, and authority to execute and deliver this Deed of Trust to Lender.

Defense of Title. Subject to the exception in the paragraph above, Grantor warrants and will forever defend the title to the Property against the lawful claims of all persons. In the event any action or proceeding is commenced that questions Grantor's title or the interest of Trustee or Lender under this Deed of Trust, Grantor shall defend the action at Grantor's expense. Grantor may be the nominal party in such proceeding, but Lender shall be entitled to participate in the proceeding and to be represented in the proceeding by counsel of Lender's own choice, and Grantor will deliver, or cause to be delivered, to Lender such instruments as Lender may request from time to time to permit such participation.

Compliance With Laws. Grantor warrants that the Property and Grantor's use of the Property complies with all existing applicable laws, ordinances, and regulations of governmental authorities.

Survival of Representations and Warranties. All representations, warranties, and agreements made by Grantor in this Deed of Trust shall survive the execution and delivery of this Deed of Trust, shall be continuing in nature, and shall remain in full force and effect until such time as Borrower's Indebtedness shall be paid in full.

EXISTING INDEBTEDNESS. The following provisions concerning Existing Indebtedness are a part of this Deed of Trust:

Existing Lien. The lien of this Deed of Trust securing the Indebtedness may be secondary and inferior to an existing lien. Grantor expressly covenants and agrees to pay, or see to the payment of, the Existing Indebtedness and to prevent any default on such indebtedness, any default under the instruments evidencing such indebtedness, or any default under any security documents for such indebtedness.

No Modification. Grantor shall not enter into any agreement with the holder of any mortgage, deed of trust, or other security agreement which has priority over this Deed of Trust by which that agreement is modified, amended, extended, or renewed without the prior written consent of Lender. Grantor shall neither request nor accept any future advances under any such security agreement without the prior written consent of Lender.

CONDEMNATION. The following provisions relating to condemnation proceedings are a part of this Deed of Trust:

Proceedings. If any proceeding in condemnation is filed, Grantor shall promptly notify Lender in writing, and Grantor shall promptly take such steps as may be necessary to defend the action and obtain the award. Grantor may be the nominal party in such proceeding, but Lender shall be entitled to participate in the proceeding and to be represented in the proceeding by counsel of its own choice, and Grantor will deliver or cause to be delivered to Lender such instruments and documentation as may be requested by Lender from time to time to permit such participation.

Application of Net Proceeds. If all or any part of the Property is condemned by eminent domain proceedings or by any proceeding or purchase in lieu of condemnation, Lender may at its election require that all or any portion of the net proceeds of the award be applied to the Indebtedness or the repair or restoration of the Property. The net proceeds of the award shall mean the award after payment of all reasonable costs, expenses, and attorneys' fees incurred by Trustee or Lender in connection with the condemnation.

IMPOSITION OF TAXES, FEES AND CHARGES BY GOVERNMENTAL AUTHORITIES. The following provisions relating to governmental taxes, fees and charges are a part of this Deed of Trust:

Current Taxes, Fees and Charges. Upon request by Lender, Grantor shall execute such documents in addition to this Deed of Trust and take whatever other action is requested by Lender to perfect and continue Lender's lien on the Real Property. Grantor shall reimburse Lender for all taxes, as described below, together with all expenses incurred in recording, perfecting or continuing this Deed of Trust, including without limitation all taxes, fees, documentary stamps, and other charges for recording or registering this Deed of Trust.

Taxes. The following shall constitute taxes to which this section applies: (1) a specific tax upon this type of Deed of Trust or upon all or any part of the Indebtedness secured by this Deed of Trust; (2) a specific tax on Borrower which Borrower is authorized or required to deduct from payments on the Indebtedness secured by this type of Deed of Trust; (3) a tax on this type of Deed of Trust chargeable against the Lender or the holder of the Note; and (4) a specific tax on all or any portion of the Indebtedness or on payments of principal and interest made by Borrower.

Subsequent Taxes. If any tax to which this section applies is enacted subsequent to the date of this Deed of Trust, this event shall have the same effect as an Event of Default, and Lender may exercise any or all of its available remedies for an Event of Default as provided below unless Grantor either (1) pays the tax before it becomes delinquent, or (2) contests the tax as provided above in the Taxes and Liens section and deposits with Lender cash or a sufficient corporate surety bond or other security satisfactory to Lender.

SECURITY AGREEMENT; FINANCING STATEMENTS. The following provisions relating to this Deed of Trust as a security agreement are a part of this Deed of Trust:

Security Agreement. This instrument shall constitute a Security Agreement to the extent any of the Property constitutes fixtures, and Lender shall have all of the rights of a secured party under the Uniform Commercial Code as amended from time to time.

Security Interest. Upon request by Lender, Grantor shall take whatever action is requested by Lender to perfect and continue Lender's security interest in the Rents and Personal Property. In addition to recording this Deed of Trust in the real property records, Lender may, at any time and without further authorization from Grantor, file executed counterparts, copies or reproductions of this Deed of Trust as a financing statement. Grantor shall reimburse Lender for all expenses incurred in perfecting or continuing this security interest. Upon default, Grantor shall not remove, sever or detach the Personal Property from the Property. Upon default, Grantor shall assemble any Personal Property not affixed to the Property in a manner and at a place reasonably convenient to Grantor and Lender and make it available to Lender within three (3) days after receipt of written demand from Lender to the extent permitted by applicable law.

Addresses. The mailing addresses of Grantor (debtor) and Lender (secured party) from which information concerning the security interest granted by this Deed of Trust may be obtained (each as required by the Uniform Commercial Code) are as stated on the first page of this Deed of Trust.

FURTHER ASSURANCES; ATTORNEY-IN-FACT. The following provisions relating to further assurances and attorney-in-fact are a part of this Deed of Trust:

Further Assurances. At any time, and from time to time, upon request of Lender, Grantor will make, execute and deliver, or will cause to be made, executed or delivered, to Lender or to Lender's designee, and when requested by Lender, cause to be filed, recorded, refiled, or rerecorded, as the case may be, at such times and in such offices and places as Lender may deem appropriate, any and all such mortgages, deeds of trust, security deeds, security agreements, financing statements, continuation statements, instruments of further assurance, certificates, and other documents as may, in the sole opinion of Lender, be necessary or desirable in order to effectuate, complete, perfect, continue, or preserve (1) Borrower's and Grantor's obligations under the Note, this Deed of Trust, and the Related Documents, and (2) the liens and security interests created by this Deed of Trust on the Property, whether now owned or hereafter acquired by Grantor. Unless prohibited by law or Lender agrees to the contrary in writing, Grantor shall reimburse Lender for all costs and expenses incurred in connection with the matters referred to in this paragraph.

Attorney-in-Fact. If Grantor fails to do any of the things referred to in the preceding paragraph, Lender may do so for and in the name of Grantor and at Grantor's expense. For such purposes, Grantor hereby irrevocably appoints Lender as Grantor's attorney-in-fact for the purpose of making, executing, delivering, filing, recording, and doing all other things as may be necessary or desirable, in Lender's sole opinion, to accomplish the matters referred to in the preceding paragraph.

FULL PERFORMANCE. Upon the full performance of all the obligations under the Note and this Deed of Trust, Trustee may, upon production of documents and fees as required under applicable law, release this Deed of Trust, and such release shall constitute a release of the lien for all such additional sums and expenditures made pursuant to this Deed of Trust. Lender agrees to cooperate with Grantor in obtaining such release and releasing the other collateral securing the Indebtedness. Any release fees required by law shall be paid by Grantor, if permitted by applicable law.

EVENTS OF DEFAULT. Each of the following, at Lender's option, shall constitute an Event of Default under this Deed of Trust:

Payment Default. Borrower fails to make any payment when due under the Indebtedness.

Other Defaults. Borrower or Grantor fails to comply with or to perform any other term, obligation, covenant or condition contained in this Deed of Trust or in any of the Related Documents or to comply with or to perform any term, obligation, covenant or condition contained in any other agreement between Lender and Borrower or Grantor.

Compliance Default. Failure to comply with any other term, obligation, covenant or condition contained in this Deed of Trust, the Note or in any of the Related Documents.

Default on Other Payments. Failure of Grantor within the time required by this Deed of Trust to make any payment for taxes or insurance, or any other payment necessary to prevent filing of or to effect discharge of any lien.

False Statements. Any warranty, representation or statement made or furnished to Lender by Borrower or Grantor or on Borrower's or Grantor's behalf under this Deed of Trust or the Related Documents is false or misleading in any material respect, either now or at the time made or furnished or becomes false or misleading at any time thereafter.

Defective Collateralization. This Deed of Trust or any of the Related Documents ceases to be in full force and effect (including failure of any collateral document to create a valid and perfected security interest or lien) at any time and for any reason.

Death or Insolvency. The dissolution of Grantor's (regardless of whether election to continue is made), any member withdraws from the limited liability company, or any other termination of Borrower's or Grantor's existence as a going business or the death of any member, the insolvency of Borrower or Grantor, the appointment of a receiver for any part of Borrower's or Grantor's property, any assignment for the benefit of creditors, any type of creditor workout, or the commencement of any proceeding under any bankruptcy or insolvency laws by or against Borrower or Grantor.

Creditor or Forfeiture Proceedings. Commencement of foreclosure or forfeiture proceedings, whether by judicial proceeding, self-help, repossession or any other method, by any creditor of Borrower or Grantor or by any governmental agency against any property securing the Indebtedness. This includes a garnishment of any of Borrower's or Grantor's accounts, including deposit accounts, with Lender. However, this Event of Default shall not apply if there is a good faith dispute by Borrower or Grantor as to the validity or reasonableness of the claim which is the basis of the creditor or forfeiture proceeding and if Borrower or Grantor gives Lender written notice of the creditor or forfeiture proceeding and deposits with Lender monies or a surety bond for the creditor or forfeiture proceeding, in an amount determined by Lender, in its sole discretion, as being an adequate reserve or bond for the dispute.

Breach of Other Agreement. Any breach by Borrower or Grantor under the terms of any other agreement between Borrower or Grantor and Lender that is not remedied within any grace period provided therein, including without limitation any agreement concerning any indebtedness or other obligation of Borrower or Grantor to Lender, whether existing now or later.

Events Affecting Guarantor. Any of the preceding events occurs with respect to any guarantor, endorser, surety, or accommodation party of any of the Indebtedness or any guarantor, endorser, surety, or accommodation party dies or becomes incompetent, or revokes or disputes the validity of, or liability under, any Guaranty of the Indebtedness.

Adverse Change. A material adverse change occurs in Borrower's or Grantor's financial condition, or Lender believes the prospect of payment or performance of the Indebtedness is impaired.

Insecurity. Lender in good faith believes itself insecure.

Existing Indebtedness. The payment of any installment of principal or any interest on the Existing Indebtedness is not made

within the time required by the promissory note evidencing such indebtedness, or a default occurs under the instrument securing such indebtedness and is not cured during any applicable grace period in such instrument, or any suit or other action is commenced to foreclose any existing lien on the Property.

Right to Cure. If any default, other than a default in payment is curable and if Grantor has not been given a notice of a breach of the same provision of this Deed of Trust within the preceding twelve (12) months, it may be cured if Grantor, after Lender sends written notice to Borrower demanding cure of such default: (1) cures the default within twenty (20) days; or (2) if the cure requires more than twenty (20) days, immediately initiates steps which Lender deems in Lender's sole discretion to be sufficient to cure the default and thereafter continues and completes all reasonable and necessary steps sufficient to produce compliance as soon as reasonably practical.

RIGHTS AND REMEDIES ON DEFAULT. If an Event of Default occurs under this Deed of Trust, at any time thereafter, Trustee or Lender may exercise any one or more of the following rights and remedies:

Election of Remedies. Election by Lender to pursue any remedy shall not exclude pursuit of any other remedy, and an election to make expenditures or to take action to perform an obligation of Grantor under this Deed of Trust, after Grantor's failure to perform, shall not affect Lender's right to declare a default and exercise its remedies.

Accelerate Indebtedness. Lender shall have the right at its option without notice to Borrower or Grantor to declare the entire Indebtedness immediately due and payable, including any prepayment penalty which Borrower would be required to pay.

Foreclosure. Lender shall have the right to cause all or any part of the Real Property, and Personal Property, if Lender decides to proceed against it as if it were real property, to be sold by the Trustee according to the laws of the State of Colorado as respects foreclosures against real property. The Trustee shall give notice in accordance with the laws of Colorado. The Trustee shall apply the proceeds of the sale in the following order: (a) to all costs and expenses of the sale, including but not limited to Trustee's fees, attorneys' fees, and the cost of title evidence; (b) to all sums secured by this Deed of Trust; and (c) the excess, if any, to the person or persons legally entitled to the excess.

UCC Remedies. With respect to all or any part of the Personal Property, Lender shall have all the rights and remedies of a secured party under the Uniform Commercial Code.

Collect Rents. Lender shall have the right, without notice to Borrower or Grantor to take possession of and manage the Property and collect the Rents, including amounts past due and unpaid, and apply the net proceeds, over and above Lender's costs, against the Indebtedness. In furtherance of this right, Lender may require any tenant or other user of the Property to make payments of rent or use fees directly to Lender. If the Rents are collected by Lender, then Grantor irrevocably designates Lender as Grantor's attorney-in-fact to endorse instruments received in payment thereof in the name of Grantor and to negotiate the same and collect the proceeds. Payments by tenants or other users to Lender in response to Lender's demand shall satisfy the obligations for which the payments are made, whether or not any proper grounds for the demand existed. Lender may exercise its rights under this subparagraph either in person, by agent, or through a receiver.

Appoint Receiver. Lender shall have the right to have a receiver appointed to take possession of all or any part of the Property, with the power to protect and preserve the Property, to operate the Property preceding foreclosure or sale, and to collect the Rents from the Property and apply the proceeds, over and above the cost of the receivership, against the Indebtedness. The receiver may serve without bond if permitted by law. Lender's right to the appointment of a receiver shall exist whether or not the apparent value of the Property exceeds the Indebtedness by a substantial amount. Employment by Lender shall not disqualify a person from serving as a receiver. Receiver may be appointed by a court of competent jurisdiction upon ex parte application and without notice, notice being expressly waived.

Tenancy at Sufferance. If Grantor remains in possession of the Property after the Property is sold as provided above or Lender otherwise becomes entitled to possession of the Property upon default of Borrower or Grantor, Grantor shall become a tenant at sufferance of Lender or the purchaser of the Property and shall, at Lender's option, either (1) pay a reasonable rental for the use of the Property, or (2) vacate the Property immediately upon the demand of Lender.

Other Remedies. Trustee or Lender shall have any other right or remedy provided in this Deed of Trust or the Note or available at law or in equity.

Sale of the Property. In exercising its rights and remedies, Lender shall be free to designate on or before it files a notice of election and demand with the Trustee, that the Trustee sell all or any part of the Property together or separately, in one sale or by separate sales. Lender shall be entitled to bid at any public sale on all or any portion of the Property. Upon any sale of the Property, whether made under a power of sale granted in this Deed of Trust or pursuant to judicial proceedings, if the holder of the Note is a purchaser at such sale, it shall be entitled to use and apply all, or any portion of, the Indebtedness for or in settlement or payment of all, or any portion of, the purchase price of the Property purchased, and, in such case, this Deed of Trust, the Note, and any documents evidencing expenditures secured by this Deed of Trust shall be presented to the person conducting the sale in order that the amount of Indebtedness so used or applied may be credited thereon as having been paid.

Attorneys' Fees; Expenses. If Lender forecloses or institutes any suit or action to enforce any of the terms of this Deed of Trust, Lender shall be entitled to recover such sum as the court may adjudge reasonable as attorneys' fees at trial and upon any appeal. Whether or not any court action is involved, and to the extent not prohibited by law, all reasonable expenses Lender incurs that in Lender's opinion are necessary at any time for the protection of its interest or the enforcement of its rights shall become a part of the Indebtedness payable on demand and shall bear interest at the Note rate from the date of the expenditure until repaid. Expenses covered by this paragraph include, without limitation, however subject to any limits under applicable law, Lender's attorneys' fees whether or not there is a lawsuit, including attorneys' fees and expenses for bankruptcy proceedings (including efforts to modify or vacate any automatic stay or injunction), appeals, and any anticipated post-judgment collection services, the cost of searching records, obtaining title reports (including foreclosure reports), surveyors' reports, and appraisal fees, title insurance, and fees for the Trustee, to the extent permitted by applicable law. Grantor also will pay any court costs, in addition to all other sums provided by law.

Rights of Trustee. To the extent permitted by applicable law, Trustee shall have all of the rights and duties of Lender as set forth in this section.

NOTICES. Any notice required to be given under this Deed of Trust, including without limitation any notice of default and any notice of sale shall be given in writing, and shall be effective when actually delivered, when actually received by telefacsimile (unless otherwise required by law), when deposited with a nationally recognized overnight courier, or, if mailed, when deposited in the United States mail, as first class, certified or registered mail postage prepaid, directed to the addresses shown near the beginning of this Deed of Trust. All copies of notices of foreclosure from the holder of any lien which has priority over this Deed of Trust shall be sent to Lender's address, as shown near the beginning of this Deed of Trust. Any party may change its address for notices under this Deed of Trust by giving formal written notice to the other parties, specifying that the purpose of the notice is to change the party's address. For notice purposes, Grantor agrees to keep Lender informed at all times of Grantor's current address. Unless otherwise provided or required by law, if there is more than one Grantor, any notice given by Lender to any Grantor is deemed to be notice given to all Grantors.

MISCELLANEOUS PROVISIONS. The following miscellaneous provisions are a part of this Deed of Trust:

Amendments. This Deed of Trust, together with any Related Documents, constitutes the entire understanding and agreement of the parties as to the matters set forth in this Deed of Trust. No alteration of or amendment to this Deed of Trust shall be effective unless given in writing and signed by the party or parties sought to be charged or bound by the alteration or amendment.

Annual Reports. If the Property is used for purposes other than Grantor's residence, Grantor shall furnish to Lender, upon request, a certified statement of net operating income received from the Property during Grantor's previous fiscal year in such form and detail as Lender shall require. "Net operating income" shall mean all cash receipts from the Property less all cash expenditures made in connection with the operation of the Property.

Caption Headings. Caption headings in this Deed of Trust are for convenience purposes only and are not to be used to interpret or define the provisions of this Deed of Trust.

Merger. There shall be no merger of the interest or estate created by this Deed of Trust with any other interest or estate in the Property at any time held by or for the benefit of Lender in any capacity, without the written consent of Lender.

Governing Law. This Deed of Trust will be governed by federal law applicable to Lender and, to the extent not preempted by federal law, the laws of the State of Colorado without regard to its conflicts of law provisions. This Deed of Trust has been accepted by Lender in the State of Colorado.

Joint and Several Liability. All obligations of Borrower and Grantor under this Deed of Trust shall be joint and several, and all references to Grantor shall mean each and every Grantor, and all references to Borrower shall mean each and every Borrower. This means that each Grantor signing below is responsible for all obligations in this Deed of Trust.

No Waiver by Lender. Lender shall not be deemed to have waived any rights under this Deed of Trust unless such waiver is given in writing and signed by Lender. No delay or omission on the part of Lender in exercising any right shall operate as a waiver of such right or any other right. A waiver by Lender of a provision of this Deed of Trust shall not prejudice or constitute a waiver of Lender's right otherwise to demand strict compliance with that provision or any other provision of this Deed of Trust. No prior waiver by Lender, nor any course of dealing between Lender and Grantor, shall constitute a waiver of any of Lender's rights or of any of Grantor's obligations as to any future transactions. Whenever the consent of Lender is required under this Deed of Trust, the granting of such consent by Lender in any instance shall not constitute continuing consent to subsequent instances where such consent is required and in all cases such consent may be granted or withheld in the sole discretion of Lender.

Severability. If a court of competent jurisdiction finds any provision of this Deed of Trust to be illegal, invalid, or unenforceable as to any person or circumstance, that finding shall not make the offending provision illegal, invalid, or unenforceable as to any other person or circumstance. If feasible, the offending provision shall be considered modified so that it becomes legal, valid and enforceable. If the offending provision cannot be so modified, it shall be considered deleted from this Deed of Trust. Unless otherwise required by law, the illegality, invalidity, or unenforceability of any provision of this Deed of Trust shall not affect the legality, validity or enforceability of any other provision of this Deed of Trust.

Successors and Assigns. Subject to any limitations stated in this Deed of Trust on transfer of Grantor's interest, this Deed of Trust shall be binding upon and inure to the benefit of the parties, their successors and assigns. If ownership of the Property becomes vested in a person other than Grantor, Lender, without notice to Grantor, may deal with Grantor's successors with reference to this Deed of Trust and the Indebtedness by way of forbearance or extension without releasing Grantor from the obligations of this Deed of Trust or liability under the Indebtedness.

Time is of the Essence. Time is of the essence in the performance of this Deed of Trust.

Waive Jury. All parties to this Deed of Trust hereby waive the right to any jury trial in any action, proceeding, or counterclaim brought by any party against any other party.

Waiver of Homestead Exemption. Grantor hereby releases and waives all rights and benefits of the homestead exemption laws of the State of Colorado as to all Indebtedness secured by this Deed of Trust.

DEFINITIONS. The following capitalized words and terms shall have the following meanings when used in this Deed of Trust. Unless specifically stated to the contrary, all references to dollar amounts shall mean amounts in lawful money of the United States of America. Words and terms used in the singular shall include the plural, and the plural shall include the singular, as the context may require. Words and terms not otherwise defined in this Deed of Trust shall have the meanings attributed to such terms in the Uniform Commercial Code:

Beneficiary. The word "Beneficiary" means First National Bank of the Rockies, and its successors and assigns.

Borrower. The word "Borrower" means JA-1, LLC; JAMES A. KRONUS; and ANGELICA E. KRONUS and includes all co-signers and co-makers signing the Note and all their successors and assigns.

Deed of Trust. The words "Deed of Trust" mean this Deed of Trust among Grantor, Lender, and Trustee, and includes without limitation all assignment and security interest provisions relating to the Personal Property and Rents.

Default. The word "Default" means the Default set forth in this Deed of Trust in the section titled "Default".

Environmental Laws. The words "Environmental Laws" mean any and all state, federal and local statutes, regulations and ordinances relating to the protection of human health or the environment, including without limitation the Comprehensive Environmental Response, Compensation, and Liability Act of 1980, as amended, 42 U.S.C. Section 9601, et seq. ("CERCLA"), the Superfund Amendments and Reauthorization Act of 1986, Pub. L. No. 99-499 ("SARA"), the Hazardous Materials Transportation Act, 49 U.S.C. Section 1801, et seq., the Resource Conservation and Recovery Act, 42 U.S.C. Section 6901, et seq., or other applicable state or federal laws, rules, or regulations adopted pursuant thereto.

Event of Default. The words "Event of Default" mean any of the events of default set forth in this Deed of Trust in the events of default section of this Deed of Trust.

Existing Indebtedness. The words "Existing Indebtedness" mean the indebtedness described in the Existing Liens provision of this Deed of Trust.

Grantor. The word "Grantor" means JAMES A. KRONUS and ANGELICA E. KRONUS.

Guaranty. The word "Guaranty" means the guaranty from guarantor, endorser, surety, or accommodation party to Lender, including without limitation a guaranty of all or part of the Note.

Hazardous Substances. The words "Hazardous Substances" mean materials that, because of their quantity, concentration or physical, chemical or infectious characteristics, may cause or pose a present or potential hazard to human health or the environment when improperly used, treated, stored, disposed of, generated, manufactured, transported or otherwise handled. The words "Hazardous Substances" are used in their very broadest sense and include without limitation any and all hazardous or toxic substances, materials or waste as defined by or listed under the Environmental Laws. The term "Hazardous Substances" also includes, without limitation, petroleum and petroleum by-products or any fraction thereof and asbestos.

Improvements. The word "Improvements" means all existing and future improvements, buildings, structures, mobile homes affixed on the Real Property, facilities, additions, replacements and other construction on the Real Property.

Indebtedness. The word "Indebtedness" means all principal, interest, and other amounts, costs and expenses payable under the Note or Related Documents, together with all renewals of, extensions of, modifications of, consolidations of and substitutions for the Note or Related Documents and any amounts expended or advanced by Lender to discharge Grantor's obligations or expenses incurred by Trustee or Lender to enforce Grantor's obligations under this Deed of Trust, together with interest on such amounts as provided in this Deed of Trust.

Lender. The word "Lender" means First National Bank of the Rockies, its successors and assigns.

Note. The word "Note" means the promissory note dated March 25, 2013, **in the original principal amount of $82,000.00** from Borrower to Lender, together with all renewals of, extensions of, modifications of, refinancings of, consolidations of, and substitutions for the promissory note or agreement. The maturity date of the Note is March 20, 2014.

Personal Property. The words "Personal Property" mean all equipment, fixtures, and other articles of personal property now or hereafter owned by Grantor, and now or hereafter attached or affixed to the Real Property; together with all accessions, parts, and additions to, all replacements of, and all substitutions for, any of such property; and together with all proceeds (including without limitation all insurance proceeds and refunds of premiums) from any sale or other disposition of the Property.

Property. The word "Property" means collectively the Real Property and the Personal Property.

Real Property. The words "Real Property" mean the real property, interests and rights, as further described in this Deed of Trust.

Related Documents. The words "Related Documents" mean all promissory notes, credit agreements, loan agreements, environmental agreements, guaranties, security agreements, mortgages, deeds of trust, security deeds, collateral mortgages, and all other instruments, agreements and documents, whether now or hereafter existing, executed in connection with the Indebtedness.

Rents. The word "Rents" means all present and future rents, revenues, income, issues, royalties, profits, and other benefits derived from the Property.

Trustee. The word "Trustee" means the Public Trustee of MESA County, Colorado.

EACH GRANTOR ACKNOWLEDGES HAVING READ ALL THE PROVISIONS OF THIS DEED OF TRUST, AND EACH GRANTOR AGREES TO ITS TERMS.

GRANTOR:

X _____
JAMES A. KRONUS

X _____
ANGELICA E. KRONUS

INDIVIDUAL ACKNOWLEDGMENT

NOTARY PUBLIC CLIFTON W. SPRINKLE STATE OF COLORADO

STATE OF COLORADO)
) SS
COUNTY OF MESA)

On this day before me, the undersigned Notary Public, personally appeared **JAMES A. KRONUS and ANGELICA E. KRONUS**, to me known to be the individuals described in and who executed the Deed of Trust, and acknowledged that they signed the Deed of Trust as their free and voluntary act and deed, for the uses and purposes therein mentioned.

Given under my hand and official seal this 28TH day of MARCH, 2013.

By _____ Residing at 685 HORIZON DRIVE, GRAND JUNCTION, CO

Notary Public in and for the State of COLORADO My commission expires _____

My Commission Expires
08/24/2013

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City of Grand Junction
Application Review Comments

Date: January 11, 2021 **Comment Round No.** 1 **Page No.** 2
Project Name: NorthStar Towing CUP of Impound Lot **File No:** CUP-2020-754
Project Location: 640 W Gunnison Avenue

Check appropriate box(es)

	Property Owner(s): James & Angelica Kronus	
	Mailing Address: 640 W Gunnison Ave, Grand Junction CO 81501	
X	**Email:** a_ngie5@hotmail.com	**Telephone:** 970-245-2444
	Applicant(s): NorthStar Towing – Jenni Henson	
	Mailing Address: 640 W Gunnison Ave, Grand Junction CO 81501	
X	**Email:** jhoward2902@gmail.com	**Telephone:** 970-497-9130

Project Manager: Senta Costello **Email:** sentac@gjcity.org **Telephone:** 970-244-1442

City of Grand Junction
REQUIREMENTS
(with appropriate Code citations)

PLANNING

Requirements: The proposed screening is acceptable. It does need to continue the full length of the existing fence that runs between the parking lot/building and the storage lot. Please provide a revised site plan showing this change.
Applicant's Response:
Document Reference:

CITY FIRE DEPARTMENT

Requirements: The Grand Junction Fire Department has no objections to the Conditional Use Permit for an impound lot to be operated at 640 W. Gunnison Avenue, Grand Junction, CO 81501 Contact Fire Prevention Specialist Rusty Ratzloff with questions at (970) 549-5854.

PERSIGO WWTF

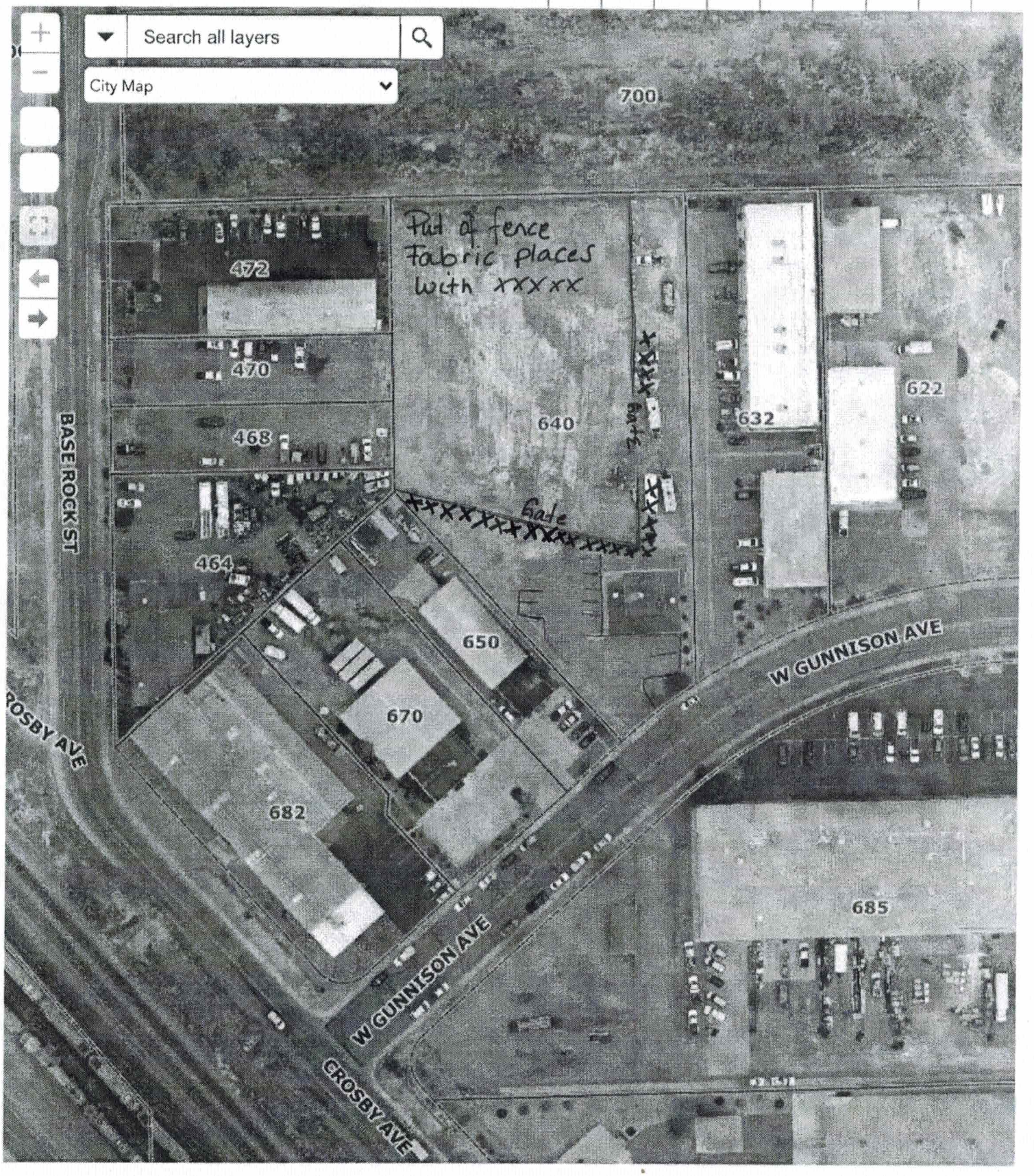
Requirements: Based on the information that has been provided there will not be any Industrial Pretreatment requirements for this project.

Please provide a response for each comment and, for any changes made to other plans or documents, indicate specifically where the change was made.

Date due: April 11, 2021

I certify that all of the changes noted above have been made to the appropriate documents and plans and there are no other changes other than those noted in the response.

Applicant's Signature **Date**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City Map
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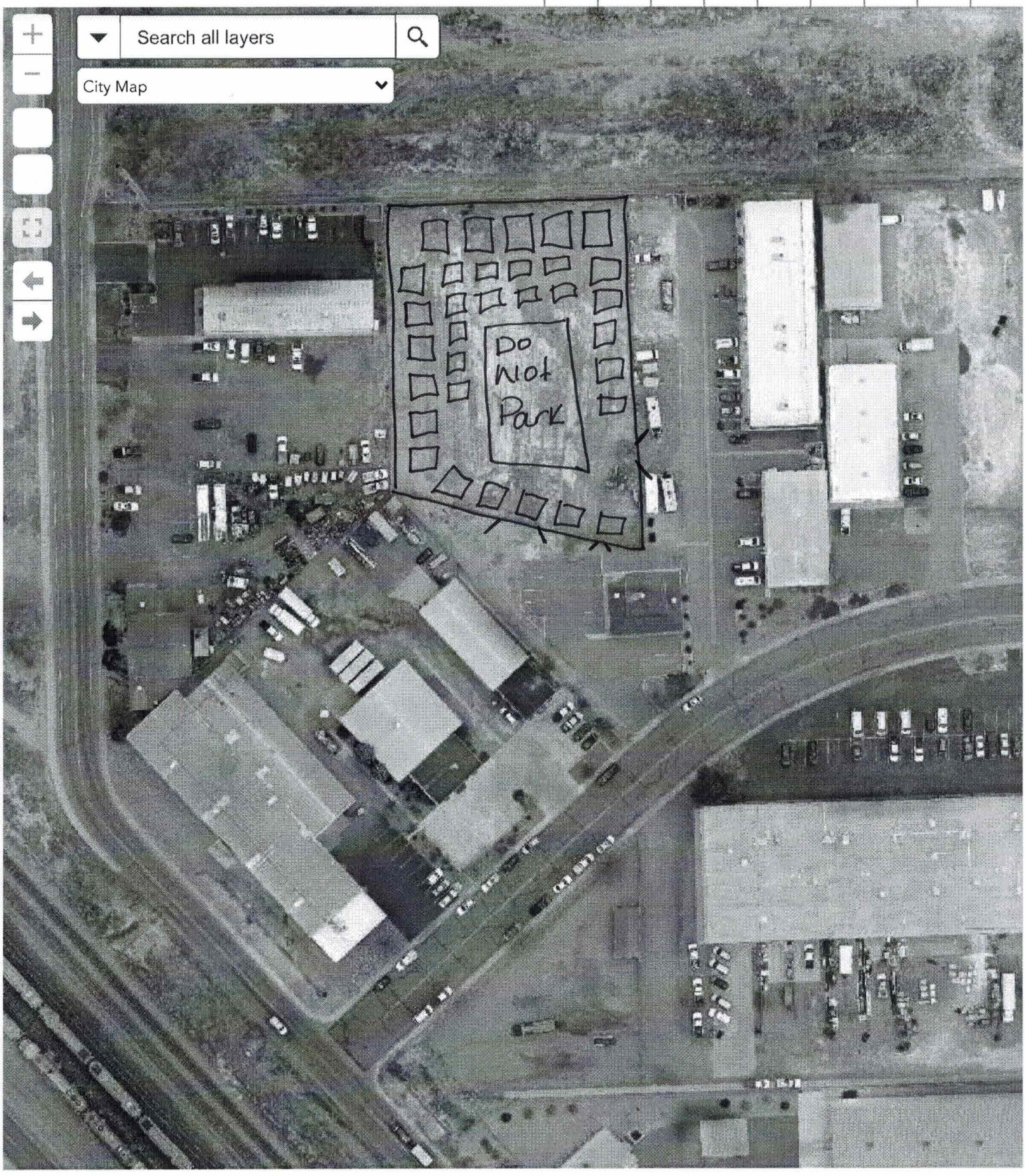
City Map

GIS Helpdesk (970) 256-407



100ft

10:38 79%
Privacy Screen – 68" x ...
uline.com

Privacy Screen - 68" x 50', Black

Color: **Black**

Description | Additional Information | Pricing

In Stock, Ships Today

Use for job sites and tennis courts.

$80 / Price Each

Subtotal: $80.00

- 1 +

Add to Cart

Conditional Use Permit

Address: 640 West Gunnison Ave
Grand Junction CO 81501

Acreage. 1.7
Proposed Use: Impound/Storage Yard
Neighborhood meeting was held Dec. 15th at 5:30 P.M.
People who attended: Senta (city), Jennifer Henson (renter), Angie and James Kronus (property owner)
I am using this land as an impound/storage yard, the only difference from what we are doing right now is that in the places on the fence line that are visible from the road there will be fence fabric so you can not see inside the impound from the road. Everything else will stay the same. The hours of operation for the tow yard are Mon-Fri 8am to 5pm for customers to pick up vehicles how ever we do work with law enforcement and accidents are picked up 24 hours a day 7 days a week and do have to be dropped in the yard at all hours of all days, we are on a rotation so we get on average of 3 calls a week that may not be during business hours. Also the drivers do transfer trucks from one driver to another at the yard so that can happen later then 5 pm also. I have 4 independent contractors that drive for me and help take care of the impound yard.
We are an Impound/Storage yard we do not sell parts or take cars apart, The vehicle comes and and goes out with all the same parts attached to it. We park vehicles in a square in the yard so the middle of the yard stays open for big trucks to turn around and if a fire truck needed to get in it would have enough room to turn around. Map is attached to show how we park vehicles. Also map is attached to show where the fabric will be hung on the fence.

Access for the yard is through the gate in the east fence per requirements of the owner who owns both properties. The building and parking area on the 640 W Gunnison property are used by another tenant and the gate in this side of the fence is locked and will be covered with the screening material.

There are no specific changes proposed to this property and the C2 zoning standards are being met.

(1) District Standards. The underlying zoning districts standards established in Chapter 21.03 GJMC, except density when the application is pursuant to GJMC 21.08.020(c); ***Yes in standards***

(2) Specific Standards. The use-specific standards established in Chapter 21.04 GJMC;
Yes in standards

(d) New Car/Auto Recycler, End Recycler (Salvage Yard), Wrecking Yards, Appliance Recycler, Impound Lots. (For existing uses see GJMC 21.04.040(h)(2)(iii).) New car/auto recycler, end recycler (salvage yard), wrecking yards, appliance recycler and impound lots shall be allowed to operate only with an approved conditional use permit and are subject to the following requirements. Salvage, dismantling, recycling or impound lot uses as accessory uses are permitted under the same status as the principal use and are subject to all requirements of the principal use in addition to the following requirements: ***Yes meeting requirements***

(1) Recycling/wrecking/salvage yards and impound lots shall provide the screening and buffering required by GJMC 21.06.040(i) and provide a six-foot-high wall along the street frontage and along

the first 50 feet of the side perimeter from the street. The wall shall be increased to eight feet if the yard will contain any stored items in excess of six feet. The required wall shall meet the required front yard setback with landscaping in the setback area. ***Will be putting up fence fabric to block view from roadway. We do not stack vehicles.***

(2) The wall shall be of solid, 100 percent opaque construction of wood, masonry, or other material approved in writing by the Director (unless the screening and buffering required by GJMC 21.06.040(i) allows for only masonry or wood). ***Fence fabric, can not see through it.***

(3) All outdoor yards or storage lots shall comply with the following:

(i) No yard or storage lot shall be placed or maintained within a required yard setback.
Yard will stay where it is.

(ii) Stored items shall not project above the screening except for integral units as defined in Chapter 21.10, Definitions; and stacking of no more than two vehicles on top of a wheel stand. Integral units shall include shelving up to 20 feet in height for the purpose of storing recyclable materials. Integral units shall not be stored within the first 20 feet of the property from any street frontage property line.
The yard sits far away from road, we will be placing fabric on the parts that are visible from the roadway.

(iii) All screening shall be installed in a professional and workmanlike manner and maintained in good condition. ***Will be installed by me and my crew. Will be checking each day and if repairs need to be made they will be made that same day.***

(4) All compaction, cutting and/or other material volume reducing operations shall be conducted to minimize the noise generated by the operation. ***We do not cut anyhing***

(5) Unusable items shall be disposed of and not be allowed to collect on the premises.
Yes after 30 days vehicles that are retrieved are sold or are hauled to the crusher.

(6) All tires not mounted on operational vehicles shall be neatly stacked or placed in racks. If stacked, the stacks shall not be over six feet in height; if on racks, the top of any tire on any rack shall not be over 6 feet in height. ***Yes if we have any tires they are stacked, they are not more then 6 feet high.***

(7) No garbage or other putrescent waste, likely to attract vermin, shall be kept on the premises. Gasoline, oil, or other hazardous materials which are removed from scrapped vehicles or parts of vehicles kept on the premises shall be disposed of in accordance with applicable federal, State and local regulations. All other regulations of the City such as, but not limited to, building codes, fire codes, weed regulations and health regulations shall apply to the operation of all such uses.
If we have any fuel it is put in fuel cans and used, we do not store fuel out of vehicles.

(3) Availability of Complementary Uses. Other uses complementary to, and supportive of, the proposed
Yes available to all of these.

project shall be available including, but not limited to: schools, parks, hospitals, business and commercial facilities, and transportation facilities; ***Yes***

(4) Compatibility with Adjoining Properties. Compatibility with and protection of neighboring properties through measures such as: ***Putting up fence fabric***

(i) Protection of Privacy. The proposed plan shall provide reasonable visual and auditory privacy for all dwelling units located within and adjacent to the site. Fences, walls, barriers and/or vegetation shall be arranged to protect and enhance the property and to enhance the privacy of on-site and neighboring occupants; ***We keep the outside of the property clean and easy on the eye.***

(ii) Protection of Use and Enjoyment. All elements of the proposed plan shall be designed and arranged to have a minimal negative impact on the use and enjoyment of adjoining property;
We do not want to have any negative impact on anyone

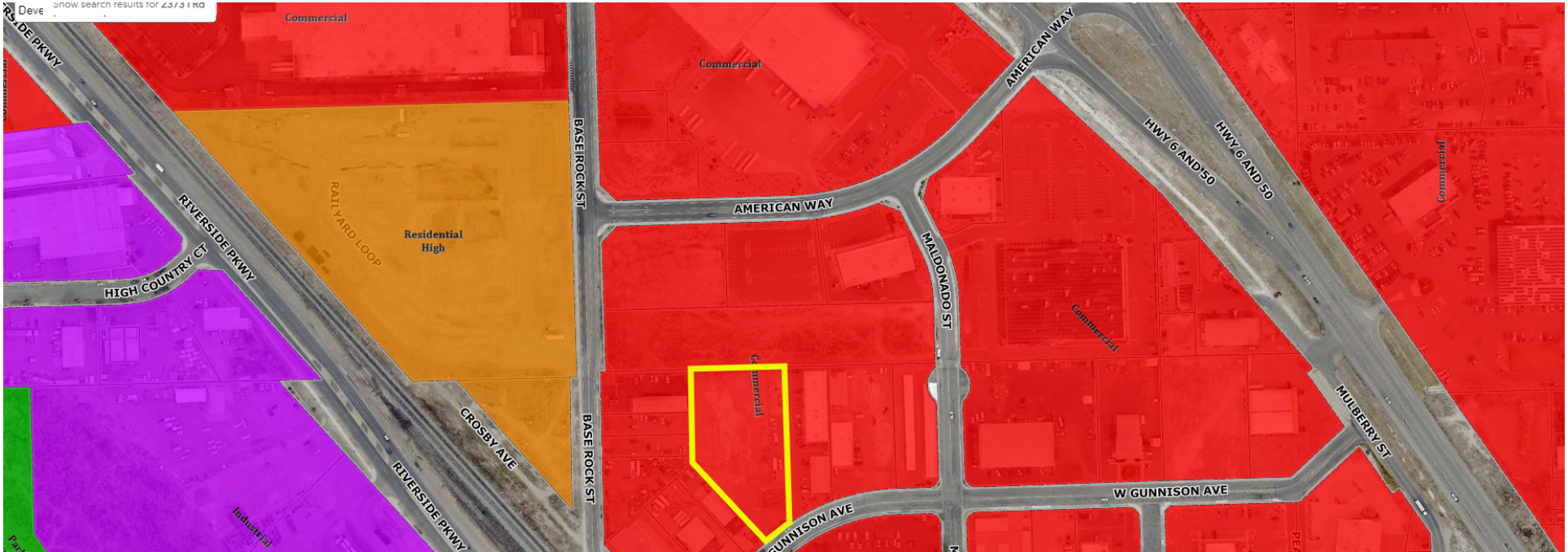
(iii) Compatible Design and Integration. All elements of a plan shall coexist in a harmonious manner with nearby existing and anticipated development. Elements to consider include: buildings, outdoor storage areas and equipment, utility structures, building and paving coverage, landscaping, lighting, glare, dust, signage, views, noise, and odors. The plan must ensure that noxious emissions and conditions not typical of land uses in the same zoning district will be effectively confined so as not to be injurious or detrimental to nearby properties.
Properties around us have similar things being stored in there yards or outside there properties, I do not think are yard is much different then the ones around us. The people in the properties around us have said that they do not have a problem with out yard and are fine with us being that and fine with the yard being there. We have had them also state that sense we have been there they have noticed less crime and less cars coming down the private drive, we have put up camera,s and fixed the fences, we watch are yard and the other businesses around us to make it safe for everyone. So I do think that us being there doing what we da has has a positive effect.

Thank you,
Jennifer Henson
NorthStar Towing
9704979130

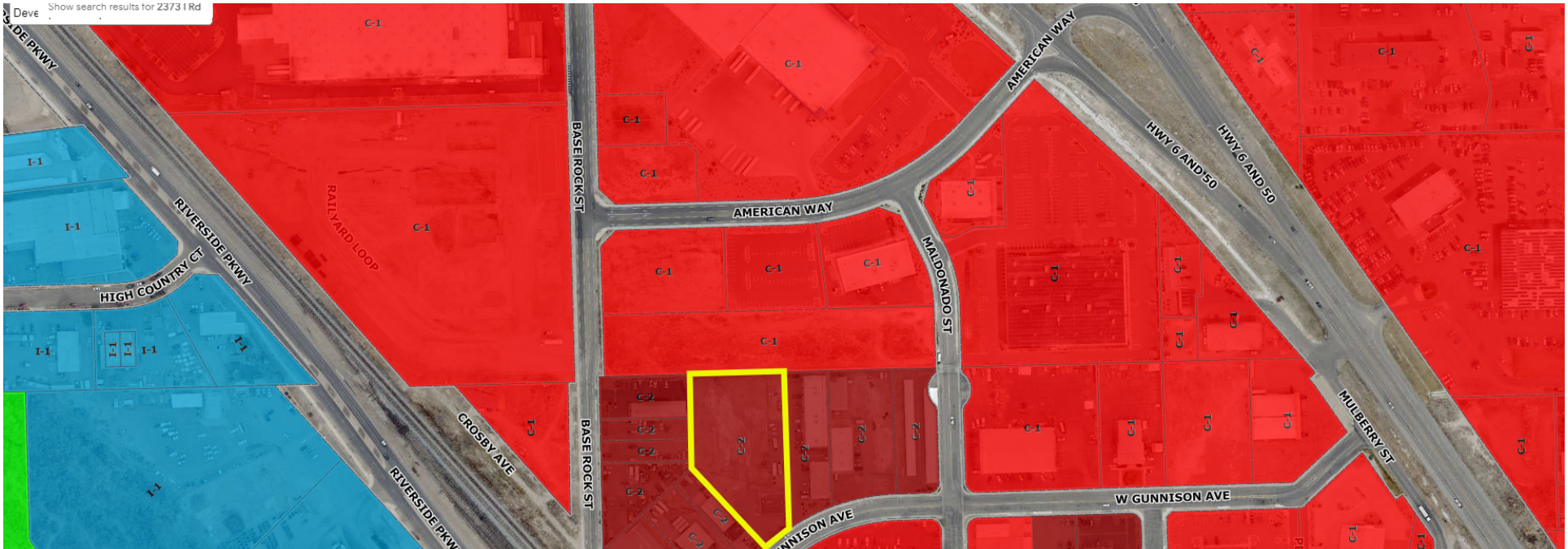
Location Map

Exhibit 2

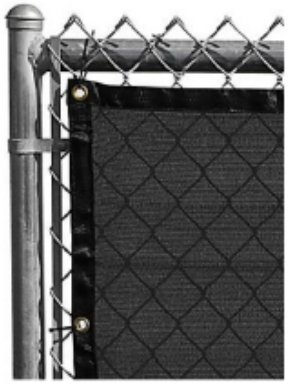
Future Land Use Map

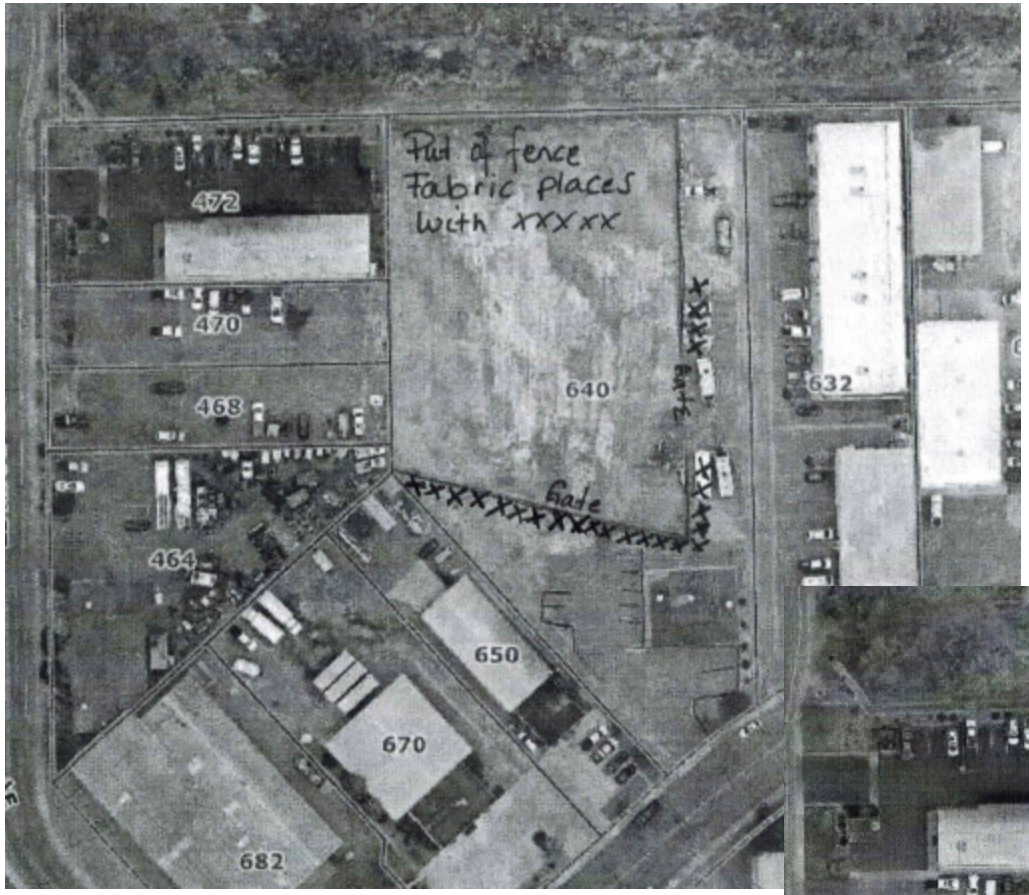


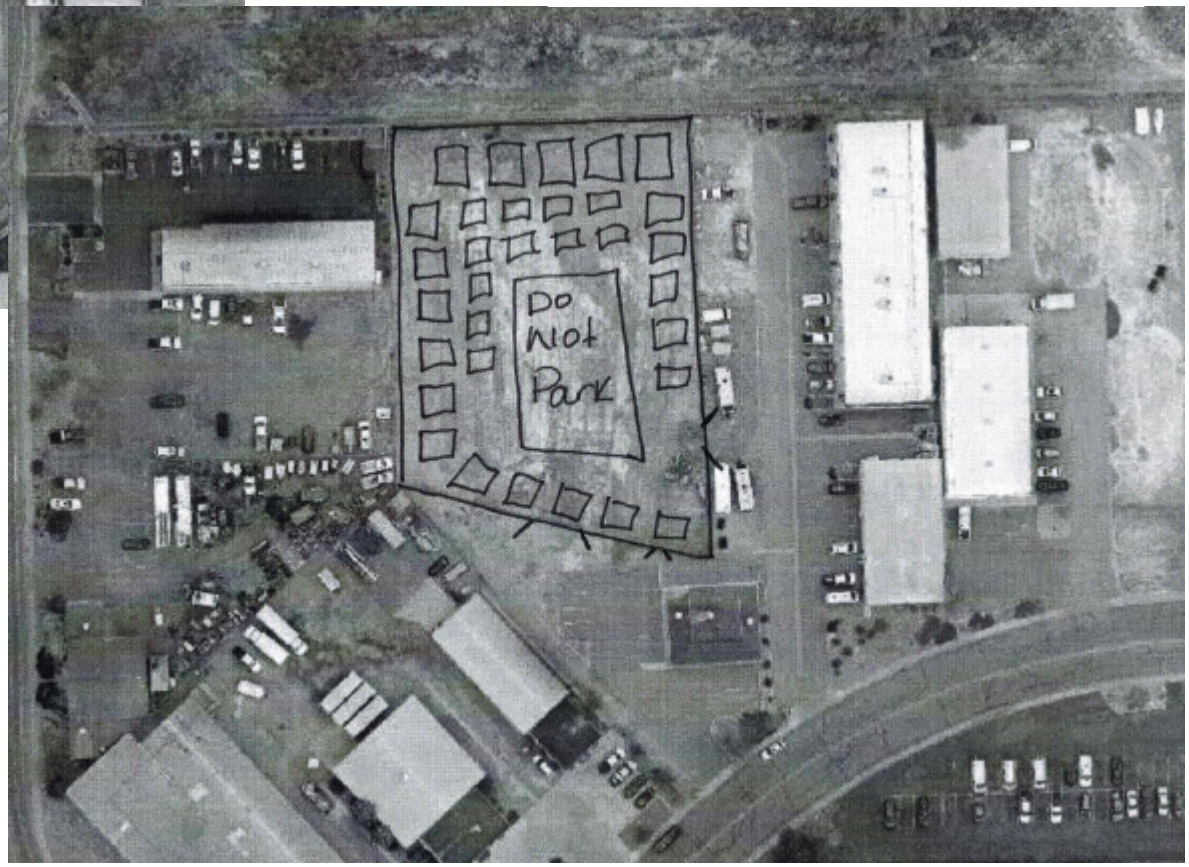
Zoning Map


Show search results for 2373 I Rd
RIVERSIDE PKWY
HIGH COUNTRY CT
RAILYARD LOOP
CROSBY AVE
BASE ROCK ST
AMERICAN WAY
MALDONADO ST
HWY 6 AND 50
MULBERRY ST
W GUNNISON AVE
I-1
C-1
C-2

Privacy Screen - 68" x 50', Black







Site Plan & Screening

Street View

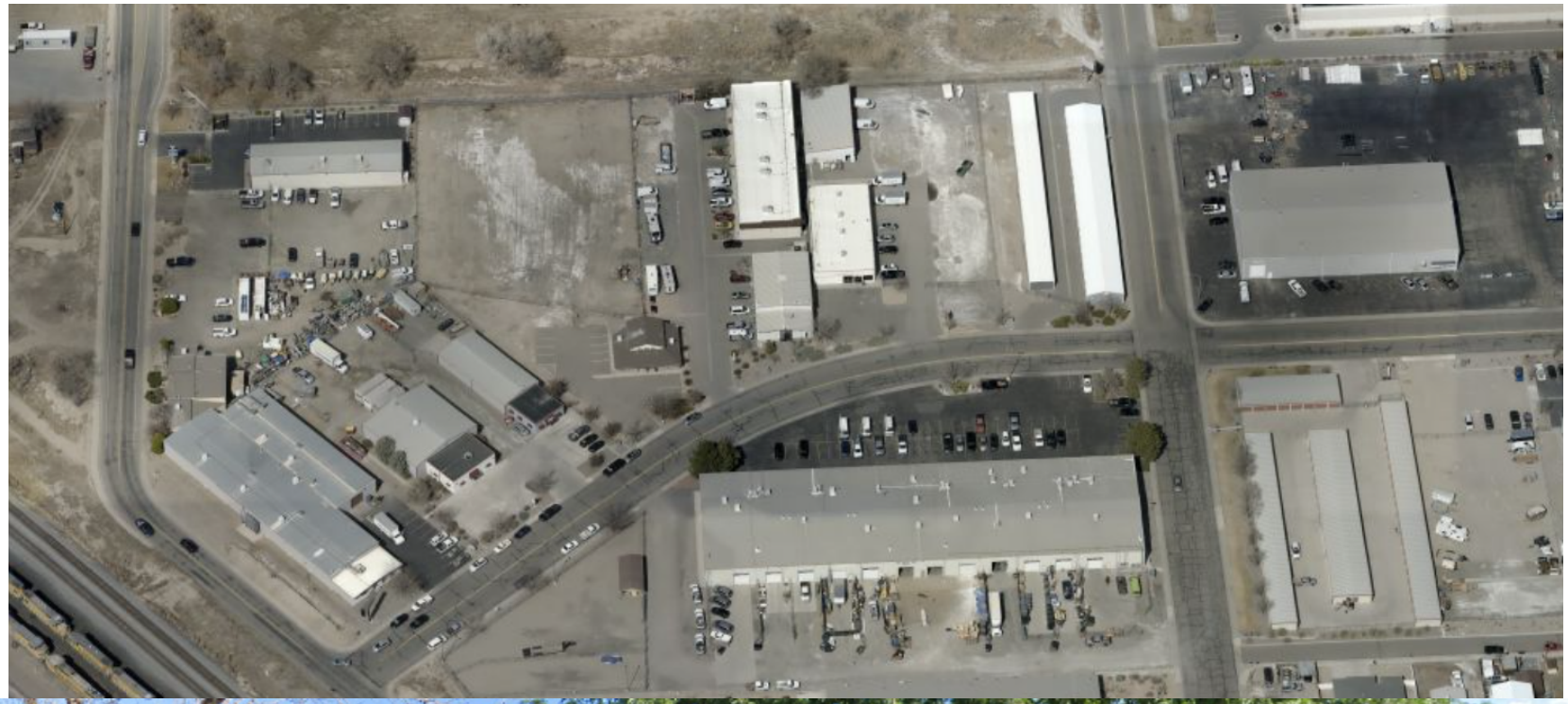


Exhibit 3

Senta Costello

From: Justin Krauss [redacted]
Sent: Thursday, February 11, 2021 3:26 PM
To: Senta Costello
Subject: Re: Zoning Variance Concerns

** - EXTERNAL SENDER. Only open links and attachments from known senders. DO NOT provide sensitive information. Check email for threats per risk training. - **

My concern would be that they screen the entire east fence as it abutts 632 w gunnison .

Also that they cease allowing people to live in RVs on the property.

Lastly that they either stick to to stated business hours. They are using the entrance from 632 w gunnison all hours of the night. If they need after hours access that they use the access located on the 640 lot

I would prefer my information not be shared

THIS SECTION ADDED TO EVERY EMAIL:

This was Sent from my iPhone. Sometimes emails are shorter and more to the point when I am sending from my phone. My goal is to respond quickly. If I missed something just let me know.

Justin S Krauss

[redacted]

On Feb 11, 2021, at 3:19 PM, Senta Costello <sentac@gjcity.org> wrote:

Good afternoon, Mr. Krauss

The applicant is requesting a Conditional Use Permit (CUP) to operate an impound yard at the site. They have actually been there for awhile, but unaware that they need the CUP, so are now requesting that approval. What the site looks like today is what it will continue to be with the exception they will be installing screening on the fencing along the south fence and a portion of the east fence.

Let me know if you have additional questions or if I can help with anything else.

Senta Costello
Associate Planner

City of Grand Junction
Community Development
970-244-1442
sentac@gjcity.org

Due to the recent rise in COVID-19 cases, City Hall is closed to the public starting Monday, November 16, 2020 but there are no anticipated interruptions to City services. Staff are available by email and phone during regular work hours and appointments can be made on a case by case basis.

From: comdev <comdev@gjcity.org>
Sent: Thursday, February 11, 2021 3:13 PM
To: Senta Costello <sentac@gjcity.org>
Subject: FW: Zoning Variance Concerns

Your project, I believe.

Pat

From: Justin Krauss [redacted]
Sent: Thursday, February 11, 2021 14:48
To: comdev <comdev@gjcity.org>
Subject: Zoning Variance Concerns

** - EXTERNAL SENDER. Only open links and attachments from known senders. DO NOT provide sensitive information. Check email for threats per risk training. - **

It appears a zoning variance has been requested for 640 W Gunnison and I have some concerns. The sign says go to gjcity.org but I can't figure out where to go from there.

Justin S. Krauss
[redacted]

Grand Junction Planning Commission

Regular Session

Item #2.

Meeting Date: February 23, 2021

Presented By: Senta Costello, Planner

Department: Community Development

Submitted By: Senta Costello, Associate Planner

Information

SUBJECT:

Consider a request by ABBA Enterprises LLC to rezone 2.15 acres from an I-2 (General Industrial) to an I-1 (Light Industrial) zone district, located at 711 S 15th Street. | Staff Presentation | Phone-in comments dial **9213**

RECOMMENDATION:

Staff recommends approval of the request.

EXECUTIVE SUMMARY:

The Applicant, ABBA Enterprises LLC, is requesting a rezone for a 2.15-acre property located at 711 S 15th Street. The request to Rezone the property from an I-2 (General Industrial) to an I-1 (Light Industrial) zone district is in order to establish a business residence in a portion of the existing building.

BACKGROUND OR DETAILED INFORMATION:

BACKGROUND

The subject property is located south of D Road just east of the Riverside Parkway at the northwest corner of S 15th Street and Fourth Avenue and is a total of 2.15 acres in size. The property was annexed in 1973 as part of the Climax Uranium Annexation and zoned I-2. The existing building on the site was developed as part of the adjoining property for Boise Cascade as a building material distribution center in 1979 and was subdivided from the overall piece in 1991 and sold for other purposes. The site has been used for office/warehouse/outdoor storage uses by various businesses since, most recently the site for Alpine Lumber.

The 2020 Future Land Use designation for the property is Industrial which is implemented by both the I-1 (Light Industrial) and I-2 (General Industrial) zone districts as well as the C-2 (General Commercial) and I-O (Industrial Office) zone districts. The I-2 zone district is intended to provide areas of heavy and concentrated fabrication, manufacturing and industrial uses which are compatible with adjacent uses, provide easy semi-tractor trailer access to the State highway system and/or railroads and the availability of public services and facilities. The I-1 zone district is intended to provide for areas of light fabrication, manufacturing and industrial uses which are compatible with existing adjacent land uses, access to transportation and the availability of public services and facilities. This property meets the purpose of both zone districts. The current owner plans to operate the site for indoor/outdoor storage space and would like to establish a business residence for a full-time onsite manager.

NOTIFICATION REQUIREMENTS

A Neighborhood Meeting regarding the proposed rezone request was held on September 15, 2020 in accordance with Section 21.02.080 (e) of the Zoning and Development Code. Two neighbors representing neighborhood properties (Scott Hawley – Boise Cascade and Greg Guth – 1435 Fourth Ave) attended the meeting. Issues discussed included the location/limits of the business residence and required standards and concerns regarding necessary turning radius for entering the property off Fourth Avenue.

Notice was completed consistent with the provisions in Section 21.02.080 (g) of the Zoning and Development Code. The subject property was posted with an application sign on October 16, 2020. 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, as well as neighborhood associations within 1000 feet, on February 12, 2021. The notice of this public hearing was published on February 16, 2021 in the Grand Junction Daily Sentinel.

ANALYSIS

The criteria for review of a rezone application is set forth in Section 21.02.140(a). The criteria provide 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.

(1) Subsequent events have invalidated the original premises and findings; and/or

There have not been events that have changed the original premise that lead to the zoning designation of I-2. The site and the neighborhood have consistently been used for a variety of light and heavy industrial uses including warehousing, manufacturing and uses that utilize heavy vehicles. Staff thus finds that this criterion is not 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 of the area has not changed over time. The site and the neighborhood have consistently been used for a variety of light and heavy industrial uses including warehousing, manufacturing and uses that utilize heavy vehicles. Staff therefore finds that this criterion is not met.

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

Adequate public and community facilities and services are available to the property and are sufficient to serve land uses associated with the I-1 zone district. The subject property is advantaged by its position in the City's historical and present-day core, where services and utilities exist and where demands for upgrades to primary utilities are minimal. City Sanitary Sewer, City Storm Sewer, and City Water lines are located adjacent the property either in the Fourth Avenue right-of-way or South 15th Street. The property is also served by Xcel Energy electricity and natural gas, and cable network links. Public safety, fire, EMS and police services can adequately serve this area of the City. The subject property is also well served by both multimodal and automobile transportation facilities. In general, staff finds that public and community facilities are adequate to serve the type and scope of the land use(s) proposed. As such, staff finds 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

There are over 1600 acres of properties within the City limits zoned I-1, which is higher than the other zone districts which implement the Industrial Future Land Use category by approximately 1000-1200 acres. Staff finds this criterion is not met.

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

The area will derive specific benefits by the rezone of this property; It will allow for the Applicant to use the property in the manner they desire/have need to and will keep the building and property active as opposed to some neighboring properties which are currently unoccupied and falling into disrepair. Having a business residence on site will also provide additional security in the area as break-ins and vandalism at nearby sites (Rocky Mounts and e-Bikes) have occurred recently.
Staff finds that this criterion is met.

The rezone criteria provide the City must also find the request is consistent with the

vision, goals and policies of the Comprehensive Plan. Staff has found the request to be consistent with the following goals and policies of the Comprehensive Plan:

The property is designated as Industrial on the 2020 Comprehensive Plan Future Land Use Map. The Industrial designation of the Comprehensive Plan is implemented by the requested I-1 (Light Industrial) zone district. Therefore, Staff finds the rezone request to be consistent with the Comprehensive Plan.

RECOMMENDATION AND FINDINGS OF FACT

After reviewing the ABBA Enterprises LLC rezone request, RZN-2020-568, for the property located at 711 S 15th Street, the following findings of fact have been made:

1. The request conforms with Section 21.02.140(a) of the Zoning and Development Code.

Therefore, Staff recommends approval of the request.

SUGGESTED MOTION:

Mr. Chairman, on the Rezone for the property located at 711 S 15th Street, City file number RZN-2020-568, I move that the Planning Commission forward a recommendation of approval to City Council with the findings of fact as listed in the staff report.

Attachments

1. Application Materials
2. Maps and Photos
3. Proposed Zoning Ordinance

City of Grand Junction Colorado
Community Development

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: Rezone

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

Existing Land Use Designation: Industrial Existing Zoning: I 2

Proposed Land Use Designation: No change Proposed Zoning: I 1

Property Information

Site Location: 711 So. 15th St. G.J. 81501 Site Acreage: 2.15

Site Tax No(s): 2945-242-12-031 Site Zoning: I 2

Project Description: Rezoning from I 2 to I 1 to accomodate a storage facility and a managers apartment.

Property Owner Information	Applicant Information	Representative Information
Name: ABBA Enterprises LLC	Name:	Name:
Street Address: 345 Donna Ave	Street Address:	Street Address:
City/State/Zip: White Rock NM 87547	City/State/Zip:	City/State/Zip:
Business Phone #:	Business Phone #:	Business Phone #:
E-Mail:	E-Mail:	E-Mail:
Fax #:	Fax #:	Fax #:
Contact Person: Terry Anderson	Contact Person:	Contact Person:
Contact Phone #: 970-250-5645	Contact Phone #:	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: Terry Lee Anderson Date: 8-26-20

Signature of Legal Property Owner: Terry Lee Anderson Date: 8-26-20

NOTICE

NEIGHBORHOOD MEETING

When: Tuesday, September 15th, 2020 at 5:30pm

Location: 711 S. 15th St., Grand Junction, CO 81501

Purpose of Meeting: To discuss the rezoning of this commercial property from I-2 to I-1 to meet requirements by the City of Grand Junction for a Business Residence for an on-site caretaker for Storage Facility.

Please direct questions about this meeting to:

Terry Anderson
970-250-5645
tlanders55@gmail.com

Names of people who attended the Meeting

Scott Hawley - Branch Mgr Boise Cascade

[illegible] 9/15/2020

[illegible] manager 1435 4th Ave

Kristen Ashbeck City 970 244-1430

Names of people who attended the Meeting

Scott Hawley - Branch Mgr Boise Cascade

[illegible] 9/15/2020

[illegible] Manager 1435 4th Ave

Kristen Ashbeck City 970 244-1430

Anderwirth Storage
711 S 15th Street
Neighborhood Meeting Minutes
Tuesday, September 15, 2020
5:30 pm

Meeting Attendees: Kristen Ashbeck City of Grand Junction, Scott Hawley Branch Mgr. Boise Cascade, Greg Guth Manager and joint owner of 1435 4th ave.

1) We discussed limits of a onsight managers apartment and it was determined that the apartment had to be used for business reasons only.

2) We discussed the entrances to the new storage facility and Greg Guth had some concerns about the turning radias required to enter the property.

GENERAL PROJECT REPORT

Anderwirth Storage

A. Project Description
   1. Location: 711 S 15th St, Grand Junction, CO 81501
   2. Acreage: 2.15
   3. Proposed use: Storage Facility with Business Residence for on-site caretaker.

B. Public Benefit - Offering low-cost, exterior storage space in a secure facility to the public.

C. Neighborhood Meeting is scheduled for Tuesday, September 15th at 5:30pm at 711 S 15th St, Grand Junction, CO 81501

D. Project Compliance, Compatibility, and Impact
   1. Adopted plans and/or policies -
   2. Land use in the surrounding area
   3. Site access and traffic pattern
   4. Availability of utilities, including proximity of fire hydrant
   5. Special or unusual demands on utilities - None
   6. Effects on public facilities (fire, police, sanitation, roads, parks, schools, irrigation, etc.) - None
   7. Hours of operation - Seven days a week, 7am-7pm
   8. Number of employees - 1
   9. Signage plans - One elevated sign on S 15th St.
   10. Site soils and geology - N/A
   11. Impact of project on site geology and geological hazards, if any - N/A

E. Must address the review criteria contained in the Zoning and Development Code for the type of application being submitted.

F. Development Schedule and Phasing

OWNERSHIP STATEMENT - CORPORATION OR LIMITED LIABILITY COMPANY

(a) ABBA Enterprises LLC ("Entity") is the owner of the following property:

(b) 711 So. 15th St. Grand Junction Co. 81501

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) _____ 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) _____

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

(e) _____

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: _____

State of _____)

County of _____) ss.

Subscribed and sworn to before me on this _____ day of _____, 20 _____

by _____

Witness my hand and seal.

My Notary Commission expires on _____

_____
Notary Public Signature

910109

Recorded at _____ o'clock _____ M., _____
Reception No. _____

BOOK3405 PAGE86
2131228 07/02/03 0326PM
JANICE WARD CLK&REC MESA COUNTY CO
RECFEE $5.00 SURCHG $1.00
DOCUMENTARY FEE $55.00

SPECIAL WARRANTY DEED

THIS DEED, Made this 27th day of June, 2003, between **711 West Development Park LLC, a Colorado limited liability company** of the *County of _____ and State of Maryland, grantor(s), and **ABBA Enterprises LLC** whose legal address is **2754 Compass Drive #360, Grand Junction, CO 81506,** grantee(s):

WITNESSETH, That the grantor(s), for and in consideration of the sum of **FIVE HUNDRED FIFTY THOUSAND AND 00/100** DOLLARS, the receipt and sufficiency of which is hereby acknowledged, has granted, bargained, sold and conveyed, and by these presents does grant, bargain, sell, convey and confirm, unto the grantee(s), its heirs and assigns forever, all the real property, together with improvements, if any, situate, lying and being in the County of **Mesa**, State of Colorado, described as follows:

Lot 2 in
BOISE CASCADE RESUBDIVISION a replat of
PARCEL A of the REPLAT OF LOT 3,
COLORADO WEST DEVELOPMENT PARK

also known as street and number as: **711 S 15th Street, Grand Junction, CO 81501**

TOGETHER with all and singular the hereditaments and appurtenances thereunto belonging, or in anywise appertaining, and the reversion and reversions, remainder and remainders, rents, issues, and profits thereof, and all the estate, right, title, interest, claim and demand whatsoever of the grantor(s), either in law or equity, of, in and to the above bargained premises, with the hereditaments and appurtenances.

TO HAVE AND TO HOLD the said premises above bargained and described with the appurtenances, unto the grantee(s), its heirs, and assigns forever. The grantor(s), for itself, its heirs, and personal representatives or successors, does covenant and agree that it shall and will WARRANT AND FOREVER DEFEND the above-bargained premises in the quiet and peaceable possession of the grantee(s), its heirs and assigns, against all and every person or persons claiming the whole or any part thereof, by, through or under the grantor(s) Subject to taxes for 2003, payable in 2004 and all subsequent years, easements, rights of way, reservations and restrictions of record..

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

711 West Development Park LLC

by: Choice Hotels International, Inc.

by: _____
Michael J. DeSantis
Senior Vice President

STATE OF MARYLAND)
PRINCE GEORGE'S s.
COUNTY OF ~~MONTGOMERY~~)

The foregoing instrument was acknowledged before me, this 26th day of June, 2003 by Michael J. DeSantis, Senior Vice President of Choice Hotels International, Inc., Manager of 711 West Development Park LLC, a Colorado limited liability company.

Witness my hand and official seal.
My commission expires: June 1, 2004.

NOTARY PUBLIC PRINCE GEORGES CO

Notary Public

No. 16. Rev. 3-85. SPECIAL WARRANTY DEED

Vision Form SD007CO Rev. 03/10/98

State of Colorado
County of Mesa) ss.
BOOK 718 PAGE 104

Recorded at 3:25 o'clock P.M. Sep 10, 1957
Reception No. 702477
Annie M. Dunstan
Recorder

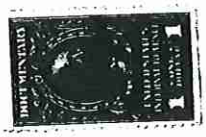
Signed

DEED

THIS DEED, Made this 28th day of August in the year of our Lord one thousand nine hundred and fifty-seven, between HOLLY SUGAR CORPORATION, a corporation duly organized and existing under and by virtue of the laws of the State of New York, of the first part, and CITY OF GRAND JUNCTION, of the County of Mesa and State of Colorado, of the second part,

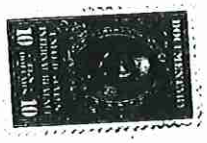
WITNESSETH, That the said party of the first part, for and in consideration of the sum of Ten ($10.00) Dollars and other valuable consideration, to the said party of the first part in hand paid by the said party of the second part, the receipt whereof is hereby confessed and acknowledged, has granted, bargained, sold and conveyed, and by these presents does grant, bargain, sell, convey and confirm unto the said party of the second part, its successors and assigns forever, all the following described parcel or interest in land, situate, lying and being in the County of Mesa and State of Colorado, to-wit:

No. 1. The Southeast quarter of the Southwest quarter of the Northwest quarter of Section 24, Township 1 South, Range 1 West of the Ute Meridian, reserving unto the grantee as a royalty two (2%) per cent of the gross production of all oil, gas or other minerals produced from said land.



No. 2. A permanent easement for the installation of a sewage outfall line and other utility lines, the maintenance thereof, and for roadway purposes over, along and in a right of way whose center line is described as follows:

Beginning at a point on the North Section Line of Section 24, Township 1 South, Range 1 West of the Ute Meridian. Whence the Northeast corner of the Northeast quarter of the Northwest quarter of the Northwest quarter of said Section 24 bears East, 46.7 feet; thence South 01°33' West, 1982.6 feet to a point on the North line of the Southeast quarter of the Southwest quarter of the Northwest quarter of said Section 24, said right of way to be 7 1/2 feet on each side of the center line for maintenance and roadway purposes, with a temporary permit to use a width of 25 feet on each side of the described center line for original construction purposes only.



And further does remise, release, sell, convey and quit claim a permanent easement to permit the grantee to waste into the waste ditch beginning at a point 52 feet West of the Southeast corner of the Southeast quarter of the Southwest quarter of the Northwest quarter of Section 24, Township 1 South, Range 1 West of the Ute Meridian, Mesa County, Colorado, thence Southerly to the Colorado River.

TOGETHER with all and singular the hereditaments and appurtenances thereunto belonging, or in anywise appertaining, and all the estate, right, title, interest, claim and demand whatsoever, of the said party of the first part either in law or equity, or, in and to the above bargained premises, with the hereditaments and appurtenances.

TO HAVE AND TO HOLD the said premises above bargained and described, with the appurtenances unto City of Grand Junction, the said party of the second part, its successors and assigns forever.

And the said Holly Sugar Corporation, party of the first part, for itself and its successors does, as to the parcels or interests denominated No. 1 and No. 2 herein, covenant, grant, bargain and agree to and with the said party of the second part, its successors and assigns, that at the time of the ensealing and delivery of these presents it was well seized of the premises above conveyed, as of good, sure, perfect, absolute and indefeasible estate, in fee simple, and has good right, full power and lawful authority to grant, bargain, sell and convey the same in manner and form aforesaid, and that said parcels or interests are free and clear from all former and other grants, bargains, sales, liens, taxes, assessments and incumbrances of whatever kind or nature soever, and as to said parcels or interests, the quiet and peaceful possession of the said party of the second part, its successors and assigns, against all and every person or

persons lawfully claiming or to claim the whole or any part thereof, the said party of the first part shall and will warrant and forever defend.

IN WITNESS WHEREOF, The said party of the first part has caused its corporate name to be hereunto subscribed by its President, and its corporate seal to be hereunto affixed, attested by its Secretary, the day and year first above written.

HOLLY SUGAR CORPORATION

By _____
President

(SEAL)

ATTEST:

_____
Secretary

STATE OF COLORADO)
EL PASO : ss.
COUNTY OF ~~XXXXX~~)

The foregoing instrument was acknowledged before me this 28th day of August, 1957, by Merrill E. Shoup, as President, and Gilbert L. Catlett, as Secretary of Holly Sugar Corporation, a corporation.

My notarial commission expires:

My Commission expires July 9, 1960

Witness my hand and official seal.

_____
Notary Public

State of Colorado } Recorded at 4:35 o'clock P M, MAR 26 1976 BOOK 1062 PAGE 958
County of Mesa } ss. Reception No. 1104535 Earl Sawyer Recorder.

COLORADO WEST IMPROVEMENT, INC.,
a Colorado corporation

whose address is Grand Junction

County of Mesa , State of

Colorado , for the consideration of Ten Dollars and other valuable consideration

~~XXX~~ dollars, in hand paid, hereby sell(s) and convey(s) to

State Documentary Fee
Date MAR 26 1976
$ 28.84

C.B.W. BUILDERS, INC., a Colorado corporation

whose address is 2700 G Road, Grand Junction , County of

Mesa , and State of Colorado the following real property in the

County of Mesa , and State of Colorado, to wit:

Lot 3 in Colorado West Development Park, according to the recorded plat thereof; EXCEPT that portion of said lot conveyed and described in instrument recorded in Book 1057 at Page 378 of the records of the Clerk and Recorder of Mesa County, Colorado, more particularly described as follows: EXCEPT Beginning at the Southwest corner of Lot 7 in Colorado West Development Park, thence North 00°24'57" East along the West line of Lots 7 and 3 333.86 feet, thence South 89°32'25" East 668.53 feet, thence South 00° 14'00" West 331.22 feet to the South line of Lot 7 of said subdivision, thence North 89°46'00" West along the South line of Lot 7 669.57 feet to the point of beginning; ALSO, EXCEPT the railroad track running over and across the subject property; and reserving unto the Grantor an easement 20' in width over and across that portion of the above described Lot 3 lying South of the existing railroad track, for purposes of building a parallel lead track to be constructed at some future date for an easterly extension of the existing track;said reserved easement to be South of Railroad easement as shown on recorded Plat of Colorado West Development Park as recorded June 17, 1974 in Plat Book 11 at Page 108 of the records of the Clerk and Recorder of Mesa County, Colorado;

total price $285,360.00

with all its appurtenances, and warrant(s) the title to the same, subject to general property taxes and assessments for the year 1976 and all subsequent years; easements and rights of way as shown on the recorded plat of Colorado West Development Park; covenants as shown on Exhibit "A" attached hereto.

Signed this 12 day of March , 1976 .

ATTEST:

Dale J. Hollingsworth
Secretary

COLORADO WEST IMPROVEMENT, INC.
a Colorado corporation

H. Barnett
By: President

STATE OF COLORADO, }
County of Mesa } ss.

The foregoing instrument was acknowledged before me this 12th day of March , 1976 , by HAROLD R. BARNETT as President and DALE J. HOLLINGSWORTH as Secretary of COLORADO WEST IMPROVEMENT, INC., a Colorado corporation.

My commission expires 4/3/77
Witness my hand and official seal.

NOTARY PUBLIC STATE OF COLORADO

G. Dale Williams
Notary Public

No. 897. Warranty Deed—Short Form—Bradford Publishing Co., 1824-16 Stout Street, Denver, Colorado.—9-75

EXHIBIT "A"

COLORADO WEST DEVELOPMENT PARK

COVENANTS

(1)	SET BACKS	30' from Public Road Right-of-way for structures and storage area 15' from presently existing adjoining property line for all structures
(2)	PARKING	No parking on public roadways No parking within 10' of public road right-of-way Tenants provide on-site parking for employees, visitors, and all commercial vehicles
(3)	JUNKYARDS	No junkyards will be allowed
(4)	CITY REGULATIONS	All portions of the City Building Regulations and Zoning Ordinances will be adhered to
(5)	PROJECT FACILITIES	During the term of life of the Economic Development Administration-funded improvements in Colorado West Development Park, but not less than twenty years, the Project Facilities will be held for and devoted to public purposes only, will not be used for other than the public purpose for which such Project Facilities were financed by the E.D.A., and will provide services without discrimination to all persons without regard to their race, color, religion, sex, or national origin, which covenant is hereby made a matter of public record.

STATE OF COLORADO, COUNTY OF MESA
RECORDED AT 1:10 O'CLOCK A M. JUN 17 1976
RECEPTION NO. 1110658 EARL SAWYER, RECORDER

RIGHT-OF-WAY EASEMENT
(CORPORATE PROPERTY)

R.W. 38474

BOOK 1071 PAGE 690

The Undersigned Grantor (and each and all of them if more than one) for and in consideration of Ten and NO/100----------dollars ($10.00) in hand paid by the Grantee, the receipt whereof is hereby acknowledged, hereby grants, bargains and conveys unto The Mountain States Telephone and Telegraph Company, a Colorado corporation, 931 14th Street, Denver, Colorado, 80202, Grantee, its successors, assigns, lessees, licensees and agents a Right-of-Way Easement and the right to construct, operate, maintain and remove such communication and other facilities, from time to time, as said Grantee may require upon, over, under and across the following described land which the Grantor owns or in which the Grantor has any interest, to wit:

The East Fifteen (15) feet of Lot Three (3) of Colorado Development Park, being a subdivision of a part of the West Half of the Northwest Quarter (W½ NW¼) of Section Twenty Four (24) Township One (1) South, of Range One (1) West of the Ute Principal Meridian.

situate in County of Mesa, State of Colorado

TOGETHER with the right of ingress and egress over and across the lands of the Grantor to and from the above-described property, the right to clear and keep cleared all trees and other obstructions as may be necessary ~~XXXX

Recorded at _____ o'clock ____ M., _____
Reception No. _____ _____ Recorder.

BOOK 1741 PAGE 762

1515439 03:25 PM 05/09/89
E.SAWYER, CLK&REC MESA COUNTY CO
DOC NO FEE

WARRANTY DEED

THIS DEED, Made this 2nd day of May 1989, between BOISE CASCADE CORPORATION, a Delaware corporation,

of the Idaho *County of Ada and State of ~~Colorado~~, grantor(s), and

The City of Grand Junction, Colorado
on behalf of Public Utilities

whose legal address is 250 N. 5th Street
Grand Junction, Colorado 81501

of the County of Mesa and State of Colorado, grantee(s):

WITNESSETH, That the grantor(s), for and in consideration of the sum of ONE DOLLARS, the receipt and sufficiency of which is hereby acknowledged, has granted, bargained, sold and conveyed, and by these presents do es grant, bargain, sell, convey and confirm, unto the grantee(s), their heirs and assigns forever, all the real property, together with improvements, if any, situate, lying and being in the County of Mesa and State of Colorado, described as follows:

UTILITY EASEMENT

Commencing at the NE Corner of Lot 3, Colorado West Development Park; Thence S00°06'38"E 196.73 feet along the East line of said Lot 3; Thence S89°53'22"W 264.37 feet to the True Point of Beginning: Thence S00°07'01"E 354.27 feet; Thence N89°53'22"E 10.00 feet; Thence N00°07'01"W 354.27 feet; Thence S89°53'22"W 10.00 feet to the True Point of Beginning.

also known by street and number as

TOGETHER with all and singular the hereditaments and appurtenances thereunto belonging, or in any wise appertaining, and the reversion and reversions, remainder and remainders, rents, issues, and profits thereof, and all the estate, right, interest, claim and demand whatsoever of the grantor(s), either in law or equity, of, in and to the above bargained premises, with the hereditaments and appurtenances.

TO HAVE AND TO HOLD the said premises above bargained and described, with the appurtenances unto the grantee(s), heirs and assigns forever. And the grantor(s), for it self, its heirs, and personal representatives, does covenant, grant, bargain and agree to and with the grantee(s), its heirs and assigns, that at the time of the ensealing and delivery of these presents is well seized of the premises above conveyed, has good, sure, perfect, absolute and indefeasible estate of inheritance, in law, in fee simple, and has good right, full power and lawful authority to grant, bargain, sell and convey the same in manner and form as aforesaid, and that the same are free and clear from all former and other grants, bargains, sales, liens, taxes, assessments, encumbrances and restrictions of whatever kind or nature soever, except easements, restrictions, reservations, and mineral interests of record, if any.

The grantor(s) shall and will WARRANT AND FOREVER DEFEND the above-bargained premises in the quiet and peaceable possession of the grantee(s), its heirs and assigns, against all and every person or persons lawfully claiming the whole or any part thereof.

IN WITNESS WHEREOF, The grantor(s) ha executed this deed on the date first written above.

ATTEST: BOISE CASCADE CORPORATION

~~Assistant Secretary~~ Vice President

*If in Denver, insert "City and."

STATE OF ~~XXXXXXX~~ IDAHO
_____ County of Ada } ss.

BOOK 1741 PAGE 763

I, Meredith R. Schreiner, a Notary Public in and for said Ada County, in the State aforesaid, do hereby certify that J. R. Ayre personally known to me to be the person whose name is subscribed to the foregoing Deed, appeared before me this day in person and acknowledged that signed, sealed and delivered the said instrument of writing as a free and voluntary act and deed for the uses and purposes set forth.

Given under my hand and official seal, this 2nd day of May, 19 89.

My commission expires November 8, 1994

Meredith R. Schreiner
Notary Public

WARRANTY DEED

No. _____

TO

STATE OF COLORADO, } ss.
County of _____

I hereby certify that this instrument was filed for record in my office this _____ day of _____, 19 ____ at _____ o'clock ____ M., and duly recorded in Book _____, Page _____.

Film No. _____ Reception No. _____

Recorder

By _____ Deputy

Fees, $ (2.00) No

BRADFORD PUBLISHING CO

Boise (Ada) Idaho

1. This conveyance is made upon and subject to the further trust that the said Grantor shall remain in quiet and peaceable possession of the above granted and described premises and take the profits thereof to his own use until default be in any payment of an installment due on said note or in the performance of any of the covenants or conditions contained therein or in this Deed of Trust; and, also to secure the reimbursement of the Beneficiary or any other holder of said note, the Trustee or any substitute trustee of any and all costs and expenses incurred, including reasonable attorneys' fees, on account of any litigation which may arise with respect to this Trust or with respect to the indebtedness evidenced by said note, the protection and maintenance of the property hereinabove described or in obtaining possession of said after any sale which may be made as hereinafter provided.

2. Upon the full payment of the indebtedness evidenced by said note and the interest thereon, the payment of all other sums herein provided for, the repayment of all monies advanced or expended pursuant to said note or this and upon the payment of all other proper costs, charges, commissions, and expenses, the above described property shall be released and reconveyed to and at the cost of the Grantor.

3. Upon default in any of the convenants or conditions of this instrument or of the note or loan agreement secured hereby, the Beneficiary or his assigns may without notice and without regard to the adequacy of security for the indebtedness secured, either personally or by attorney or agent without bringing any action or proceeding, or by a receiver to be by the court, enter upon and take possession of said property or any part thereof, and do any acts which Beneficiary deems proper to protect the security hereof, and either with or without taking possession of said property, collect and receive the rents, royalties, issues, and profits thereof, including rents accrued and unpaid, and apply the same, less costs of operation and collection, upon the indebtedness secured by this Deed of Trust, said rents, royalties, issues, and profits, being hereby assigned to Beneficiary as further security for the payment of such indebtedness. Exercise of rights under this paragraph shall not cure or waive any default or notice of default hereunder or invalidate any act done pursuant such notice but shall be cumulative to any right and remedy to declare a default and to cause notice of default to be recorded as hereinafter provided, and cumulative to any other right and/or remedy hereunder, or provided by law, may be exercised concurrently or independently. Expenses incurred by Beneficiary hereunder including reasonable attorneys' fees shall be secured hereby.

4. The Grantor covenants and agrees that if he shall fail to pay said indebtedness, or any part thereof, when due, or shall fail to perform any covenant or agreement of this instrument or of the promissory note secured hereby, the entire indebtedness hereby secured shall immediately become due, payable, and collectible without notice, at the option of the Beneficiary or assigns, regardless of maturity, and the Beneficiary or assigns may enter upon said property and collect the rents and profits thereof. Upon such default in payment or performance, and before or after such entry, the acting in the execution of this Trust, shall have the power to sell said property, and it shall be the Trustee's duty to sell said property (and in case of any default of any purchaser, to resell) at public auction, to the highest bidder, first giving four weeks' notice of the time, terms, and place of such sale, by advertisement not less than once during each of said four weeks in a newspaper published or distributed in the county or political subdivision in which said property is situated, all other notice being hereby waived by the Grantor (and the Beneficiary or any person on behalf of the Beneficiary bid and purchase at such sale). Such sale will be held at a suitable place to be selected by the Beneficiary within said county or political subdivision. The Trustee is hereby authorized to execute and deliver to the purchaser at such sale a sufficient conveyance of said property, which conveyance shall contain recitals as to the happening of default upon which the execution of the power of sale herein granted depends; and the said Grantor hereby constitutes and appoints the Trustee as his agent and attorney in fact to make such recitals and to execute said conveyance and hereby covenants and agrees that the recitals so made shall be binding and conclusive upon the Grantor, and said conveyance shall be effectual to bar all equity or right of redemption, homestead, dower, right of appraisement, and all other rights and exemptions of the Grantor, all of which are hereby expressly waived and conveyed to the Trustee. In the event of a sale as hereinabove the Grantor, or any person in possession under the Grantor, shall then become and be tenants holding over and shall forthwith deliver possession to the purchaser at such sale or be summarily dispossessed, in accordance with the provisions of law applicable to tenants holding over. The power and agency hereby granted are coupled with an interest and irrevocable by death or otherwise, and are granted as cumulative to all other remedies for the collection of said The Beneficiary or Assigns may take any other appropriate action pursuant to state or Federal statute either in state or Federal court or otherwise for the disposition of the property.

5. In the event of a sale as provided in paragraph 4, the Trustee shall be paid a fee by the Beneficiary in an not in excess of * percent of the gross amount of said sale or sales, provided, however, that the amount of such fee shall be reasonable and shall be approved by the Beneficiary as to reasonableness. Said fee shall be in addition to the costs and expenses incurred by the Trustee in conducting such sale. The amount of such costs and expenses shall be deducted and paid from the sale's proceeds. It is further agreed that if said property shall be advertised for sale as

*fees as provided in 1797 C.R.S. 38-37 104(1)(b)

herein provided and not sold, the Trustee shall be entitled to a reasonable fee, in an amount acceptable to the for the services rendered. The Trustee shall also be reimbursed by the Beneficiary for all costs and expenses incurred in connection with the advertising of said property for sale if the sale is not consummated.

6. The proceeds of any sale of said property in accordance with paragraph 4 shall be applied first to payments of fees, costs, and expenses of said sale, the expenses incurred by the Beneficiary for the purpose of protecting or maintaining said property and reasonable attorneys' fees; secondly, to payment of the indebtedness secured hereby; and thirdly, to pay any surplus or excess to the person or persons legally entitled thereto.

7. In the event said property is sold pursuant to the authorization contained in this instrument or at a judicial foreclosure sale and the proceeds are not sufficient to pay the total indebtedness secured by this instrument and evidenced by said promissory note, the Beneficiary will be entitled to a deficiency judgement for the amount of the deficiency without regard to appraisement, the Grantor having waived and assigned all rights of appraisement to the Trustee.

8. The Grantor covenants and agrees as follows:

a. He will promptly pay the indebtedness evidenced by said promissory note at the times and in the manner therein provided.

b. He will pay all taxes, assessments, water rates, and other governmental or municipal charges, fines or impositions, for which provision has not been made hereinbefore, and will promptly deliver the official receipts to the Beneficiary.

c. He will pay such expenses and fees as may be incurred in the protection and maintenance of said property, including the fees of any attorney employed by the Beneficiary for the collection of any or all of the indebtedness hereby secured, of such expenses and fees as may be incurred in any foreclosure sale by the Trustee, or court proceedings or in any other litigation or proceeding affecting said property, and attorneys' fees reasonably incurred in any other way.

d. The rights created by this conveyance shall remain in full force and effect during any postponement or extension of the time of the payment of the indebtedness evidenced by said note or any part thereof secured hereby.

e. He will continuously maintain hazard insurance of such type or types and in such amounts as the Beneficiary may from time to time require, on the improvements now or hereafter on said property, and will pay promptly when due any premiums therefor. All insurance shall be carried in companies acceptable to Beneficiary and the policies and renewals thereof shall be held by Beneficiary and have attached thereto loss payable clauses in favor of and in form acceptable to the Beneficiary. In the event of loss, Grantor will give immediate notice in writing to Beneficiary and Beneficiary may make proof of loss if not made promptly by Grantor, and each insurance company concerned is hereby authorized and directed to make payment for such loss directly to Beneficiary instead of to Grantor and Beneficiary jointly, and the insurance proceeds, or any part thereof, may be applied by Beneficiary at its option either to the reduction of the indebtedness hereby secured or to the restoration or repair of the property damaged. In the event of a Trustee's sale or other transfer of title to said property in extinguishment of the indebtedness secured hereby, all right, title, and interest of the Grantor in and to any insurance policies then in force shall pass at the option of the Beneficiary to the purchaser or Beneficiary.

f. He will keep the said premises in as good order and condition as they are now and will not commit or permit any waste thereof, reasonable wear and tear excepted, and in the event of the failure of the Grantor to keep buildings on said premises and those to be erected on said premises, or improvements thereon, in good repair, the Beneficiary may make such repairs as in the Beneficiary's discretion it may deem necessary for the proper preservation thereof, and any sums paid for such repairs shall bear interest from the date of payment at the rate specified in the note, shall be due and payable on demand and shall be fully secured by this Deed of Trust.

g. He will not without the prior written consent of the Beneficiary voluntarily create or permit to be created against the property subject to this Deed of Trust any lien or liens inferior or superior to the lien of this Deed of Trust and further that he will keep and maintain the same free from the claim of all persons supplying labor or materials which will enter into the construction of any and all buildings now being erected or to be erected on said premises.

h. He will not rent or assign any part of the rent of said property or demolish, remove, or substantially alter any building without the written consent of the Beneficiary.

9. In the event the Grantor fails to pay any Federal, state, or local tax assessment, income tax or other tax lien, charge, fee, or other expense charged to the property hereinabove described, the Beneficiary is hereby authorized to the same and any sum so paid by the Beneficiary shall be added to and become a part of the principal amount of the indebtedness evidenced by said promissory note. If the Grantor shall pay and discharge the indebtedness evidenced by said promissory note, and shall pay such sums and shall discharge all taxes and liens and the costs, fees, and expenses of making, enforcing and executing this Deed of Trust, then this Deed of Trust shall be canceled and surrendered.

10. The Grantor covenants that he is lawfully seized and possessed of and has the right to sell and convey said property; that the same is free from all encumbrances except as hereinabove recited; and that he hereby binds himself and his successors in interest to warrant and defend the title aforesaid thereto and every part thereof against the lawful claims of all persons whomsoever.

11. For better security of the indebtedness hereby secured the Grantor, upon the request of the Beneficiary, its successors or assigns, shall execute and deliver a supplemental mortgage or mortgages covering any additions, improvements, or betterments made to the property hereinabove described and all property acquired after the date hereof (all in satisfactory to Grantee). Futhermore, should Grantor fail to cure any default in the payment of a prior or inferior encumbrance on the property described by this instrument, Grantor hereby agrees to permit Beneficiary to cure such default, but Beneficiary is not obligated to do so; and such advances shall become part of the indebtedness secured by this instrument, subject to the same terms and conditions.

12. That all awards of damages in connection with any condemnation for public use of or injury to any of said property are hereby assigned and shall be paid to Beneficiary, who may apply the same to payment of the installments last due under said note, and the Beneficiary is hereby authorized, in the name of the Grantor, to execute and deliver acquittances thereof and to appeal from any such award.

13. The irrevocable right to appoint a substitute trustee or trustees is hereby expressly granted to the Beneficiary, his successors or assigns, to be excercised at any time hereafter without notice and without specifying any reason therefor, by filing for record in the office where this instrument is recorded an instrument of appointment. The Grantor and the Trustee herein named or that may hereinafter be substituted hereunder expressly waive notice of the exercise of this as well as any requirement or application to any court for the removal, appointment or substitution of any trustee hereunder.

14. Notice of the exercise of any option granted herein to the Beneficiary or to the holder of the note secured hereby is not required to be given the Grantor, the Grantor having hereby waived such notice.

15. If more than one person joins in the execution of this instrument as Grantor or if anyone so joined be of the feminine sex, the pronouns and relative words used herein shall be read as if written in the plural or feminine, and the term "Beneficiary" shall include any payee of the indebtedness hereby secured or any assignee or transferee thereof whether by operation of law or otherwise. The covenants herein contained shall bind and the rights herein granted conveyed shall inure to the respective heirs, executors, administrators, successors, and assigns of the parties hereto.

16. In compliance with section 101.1(d) of the Rules and Regulations of the Small Business Administration [13 C.F.R. 101.1(d)], this instrument is to be construed and enforced in accordance with applicable Federal law.

17. A judicial decree, order, or judgment holding any provision or portion of this instrument invalid or shall not in any way impair or preclude the enforcement of the remaining provisions or portions of this instrument.

18. The Loan secured by this lien was made under a United States Small Business Administration (SBA) nationwide program which uses tax dollars to assist small business owners. If the United States is seeking to enforce this document, then under SBA regulations:

a) When SBA is the holder of the Note, this document and all documents evidencing or securing this Loan will be construed in accordance with federal law.

b) CDC or SBA may use local or state procedures for purposes such as filing papers, recording documents, giving notice, foreclosing liens, and other purposes. By using these procedures, SBA does not waive any federal immunity from local or state control, penalty, tax or liability. No Borrower or Guarantor may claim or assert against SBA any local or state law to deny any obligation of Borrower, or defeat any claim of SBA with respect to this Loan.

Any clause in this document requiring arbitration is not enforceable when SBA is the holder of the Note secured by this instrument.

19. If all or any part of the property or an interest therein is sold or transferred by the Grantor without the Beneficiary's prior wirtten consent, the Beneficiary may, at the Beneficiary's option, declare all the sums secured by this Deed of Trust to be immediately due and payable.

IN WITNESS WHEREOF, the Grantor has executed this instrument and the Trustee and Beneficiary have accepted the delivery of this instrument as of the day and year aforesaid.

ABBA ENTERPRISES, LLC, a Colorado limited liability company

JEAN E. BIERWIRTH, Managing Member

Executed and delivered in the presence of the following witnesses:

(Add Appropriate Acknowledgment)

State of Colorado
County of Mesa

The foregoing instrument was acknowledged before me this 31st day of December, 2003 by Jean E. ~~Brierwirth~~ Bierwirth as Managing Member of ABBA Enterprises, LLC, a Colorado limited liability company.

Witness my hand and seal.

Notary Public

My commission expires: _____

JANE NORWOOD
NOTARY PUBLIC
STATE OF COLORADO
My Commission Expires

912065

ASSIGNMENT OF DEED OF TRUST OR MORTGAGE DEED

CDC 643,302-40-04

2171427 BK 3566 PG 549
01/09/2004 12:11 PM 549
Janice Ward CLK&REC Mesa County, CO
RecFee $5.00 SurChg $1.00

December 31, 2003 — Date of Assignment
Small Business Administration — Assignee
Colorado District Office
721 19th Street — Address
Denver, Colorado 80202
Community Economic Development Company of Colorado — Assignor
1175 Osage Street, Suite 110 — Address
Denver, Colorado 80204
December 31, 2003 — Date of Deed of Trust
Recording date of Deed of Trust
Mesa County — County of Recording

Book No.	Page No.	Film No.	Reception No.
3566	544		2171426

KNOW ALL BY THESE PRESENTS that ABBA Enterprises, LLC, a Colorado limited liability company did grant, bargain, sell and convey the property described in the Deed of Trust or Mortgage Deed, herein referred to as Deed of Trust, to the Public Trustee*

in the County in which said Deed of Trust was recorded, to be held in trust to secure the payment of a Promissory Note for the original principal sum of Two Hundred Seventy-eight Thousand and no/100ths DOLLARS, ~~DOLLARS~~, together with interest.

NOW THEREFORE, in consideration of the sum of ten dollars and other valuable consideration ~~dollars~~, paid to the assignor, the receipt and sufficiency of which is hereby acknowledged, the said assignor hereby assigns unto the said assignee, the said Deed of Trust and note secured thereby, together with all moneys now owing or that may hereafter become due or owing in respect thereof, and the full benefit of all the powers and of all the covenants and provisions therein contained, and the said assignor hereby grants and conveys unto the said assignee, the following described property, situate in the ** County of Mesa, State of Colorado, to wit:

Lot 2 in
BOISE CASCADE RESUBDIVISION a replat of
PARCEL A of the REPLAT OF LOT 3
COLORADO WEST DEVELOPMENT PARK

also known by street and number as: 711 South 15th Street, Grand Junction, Colorado 81501

TO HAVE AND TO HOLD the said Deed of Trust and note, and also the said property unto the said assignee forever, subject to the terms contained in said Deed of Trust and note.

And the said assignor hereby covenants with the assignee that the said Deed of Trust and note hereby assigned is a good and valid security and that the sum of $278,000.00 ~~dollars~~ remains unpaid on the said note and that the said assignor has not done or permitted any act, matter or thing whereby the said Deed of Trust has been released or discharged, either partly or in entirety and has the right to assign said Deed of Trust and note and will upon request, do, perform and execute every act necessary to enforce the full performance of the covenants and agreements therein contained. This assignment and the covenants herein shall extend to and be binding upon the heirs, personal representatives, successors and assigns of the respective parties hereto.

IN WITNESS WHEREOF, the assignor has executed this assignment the day and year first above written.

Attest:

DONNA M. BRYANT, Secretary

COMMUNITY ECONOMIC DEVELOPMENT COMPANY OF COLORADO
a Colorado nonprofit corporation

WILLIAM C. BACON, President

State of Colorado, City and County of Denver

The foregoing instrument was acknowledged before me on December 31, 2003 (date) by William C. Bacon as President and Donna M. Bryant as Secretary of Community Economic Development Company of Colorado

Date Commission Expires

1175 Osage St. Denver, CO 80204
Notary Address

KAY E. SHAW NOTARY PUBLIC STATE OF COLORADO

Witness my hand and seal.

My commission expires 9-11-2005

*If a Mortgage, here delete reference to Public Trustee and complete as applicable.
**Insert "City and" where applicable.

Name and Address of Person Creating Newly Created Legal Description (§ 38-35-106.5, C.R.S.)

(1107.) # 11967 PRE-EMPTION AND CASH ENTRY PATENT.—Oliver, Page, Hoyt & Co., Stationers, 114 and 120 Monroe Street, Chicago.

THE UNITED STATES OF AMERICA,

Certificate No. 119

To all to Whom these Presents shall come, GREETING:

Whereas, Melvin O. Whitehead of Mesa County Colorado

has deposited in the General Land Office of the United States a Certificate of the Register of the Land Office at Gunnison Colorado whereby it appears that full payment has been made by the said Melvin O. Whitehead

according to the provisions of the Act of Congress of the 24th of April, 1820, entitled "An Act making further provision for the sale of the Public Lands," ~~for~~ and the acts supplemental thereto, for the North East quarter of the North west quarter, the West half of the North-west quarter and the Lot Numbered four of section twenty-four, in Township one south of Range one west of the Ute Meridian in Colorado containing one hundred and forty-three acres and sixty-two hundredths of an acre

according to the Official Plat of the Survey of the said Lands, returned to the General Land Office by the Surveyor General, which said Tract has been purchased by the said Melvin O. Whitehead

Now Know Ye, That the United States of America, in consideration of the premises, and in conformity with the several Acts of Congress in such case made and provided, have given and granted, and by these presents do give and grant unto the said Melvin O. Whitehead and to his heirs, the said Tract above described: To Have and to Hold the same, together with all the rights, privileges, immunities and appurtenances, of whatsoever nature, thereunto belonging, unto the said Melvin O. Whitehead and to his heirs and assigns forever; subject to any vested and accrued water rights for mining, agricultural, manufacturing or other purposes, and rights to ditches and reservoirs used in connection with such water rights as may be recognized and acknowledged by the local customs, laws and decisions of Courts, and also subject to the right of the proprietor of a vein or lode to extract and remove his ore therefrom, should the same be found to penetrate or intersect the premises hereby granted, as provided by law.

In Testimony Whereof, I, Benjamin Harrison President of the United States of America, have caused these letters to be made patent, and the Seal of the General Land Office to be hereunto affixed.

Given under my hand, at the City of Washington, the twenty-first day of July, in the year of our Lord one thousand eight hundred and ninety, and of the Independence of the United States the one hundred and fifteenth

U.S. GENERAL LAND OFFICE [SEAL]

BY THE PRESIDENT: Benjamin Harrison

By N. McLean Secretary.

J. M. Townsend Recorder of the General Land Office.

Recorded, Vol. 21 Page 183

Filed for Record the 27th day of April A. D. 1891, at 9 30 o'clock A. M.

A. J. McClure Recorder

By Frank McClintock Deputy.

Advanced
TITLE COMPANY

Wire Fraud Prevention Notice

Wire Fraud is on the rise. Before wiring funds to any party of your transaction, including Advanced Title Company, please call to verify any wiring instructions you may have received. Beware of any changes to the wiring instructions, no matter who you may believe has sent them or who may be requesting funds and verify any changes by using contact information received prior to the change request. Protect yourself from fraud. Always call to verify, change your passwords regularly, be suspicious of links or attachments in email correspondence, use encrypted communication methods where available and be alert for any changes in email contacts.

COMMITMENT FOR TITLE INSURANCE

Issued By

stewart
title guaranty company

NOTICE

IMPORTANT - READ CAREFULLY: THIS COMMITMENT IS AN OFFER TO ISSUE ONE OR MORE TITLE INSURANCE POLICIES. ALL CLAIMS OR REMEDIES SOUGHT AGAINST THE COMPANY INVOLVING THE CONTENT OF THIS COMMITMENT OR THE POLICY MUST BE BASED SOLELY IN CONTRACT.

THIS COMMITMENT IS NOT AN ABSTRACT OF TITLE, REPORT OF THE CONDITION OF TITLE, LEGAL OPINION, OPINION OF TITLE, OR OTHER REPRESENTATION OF THE STATUS OF TITLE. THE PROCEDURES USED BY THE COMPANY TO DETERMINE INSURABILITY OF THE TITLE, INCLUDING ANY SEARCH AND EXAMINATION, ARE PROPRIETARY TO THE COMPANY, WERE PERFORMED SOLELY FOR THE BENEFIT OF THE COMPANY, AND CREATE NO EXTRACONTRACTUAL LIABILITY TO ANY PERSON, INCLUDING A PROPOSED INSURED.

THE COMPANY'S OBLIGATION UNDER THIS COMMITMENT IS TO ISSUE A POLICY TO A PROPOSED INSURED IDENTIFIED IN SCHEDULE A IN ACCORDANCE WITH THE TERMS AND PROVISIONS OF THIS COMMITMENT. THE COMPANY HAS NO LIABILITY OR OBLIGATION INVOLVING THE CONTENT OF THIS COMMITMENT TO ANY OTHER PERSON.

COMMITMENT TO ISSUE POLICY

Subject to the Notice; Schedule B, Part I - Requirements; Schedule B, Part II - Exceptions; and the Commitment Conditions, *Stewart Title Guaranty Company*, a(n) Colorado corporation (the "Company"), commits to issue the Policy according to the terms and provisions of this Commitment. This Commitment is effective as of the Commitment Date shown in Schedule A for each Policy described in Schedule A, only when the Company has entered in Schedule A both the specified dollar amount as the Proposed Policy Amount and the name of the Proposed Insured.

If all of the Schedule B, Part I - Requirements have not been met within 60 after the Commitment Date, this Commitment terminates and the Company's liability and obligation end.

Advanced Title Company:

Sabrina Yanez
Authorized Countersignature

stewart
title guaranty company

STEWART TITLE GUARANTY CO. INCORPORATED 1908 TEXAS

Matt Morris
President and CEO

Denise Carraux
Secretary

This page is only a part of a 2016 ALTA® Commitment for Title Insurance issued by Stewart Title Guaranty Company. This Commitment is not valid without the Notice; the Commitment to Issue Policy; the Commitment Conditions; Schedule A; Schedule B, Part I - Requirements; and Schedule B, Part II - Exceptions; and a counter-signature by the Company or its issuing agent that may be in electronic form.

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AMERICAN LAND TITLE ASSOCIATION

COMMITMENT CONDITIONS

1. **DEFINITIONS**
   (a) "Knowledge" or "Known": Actual or imputed knowledge, but not constructive notice imparted by the Public Records.
   (b) "Land": The land described in Schedule A and affixed improvements that by law constitute real property. The term "Land" does not include any property beyond the lines of the area described in Schedule A, nor any right, title, interest, estate, or easement in abutting streets, roads, avenues, alleys, lanes, ways, or waterways, but this does not modify or limit the extent that a right of access to and from the Land is to be insured by the Policy.
   (c) "Mortgage": A mortgage, deed of trust, or other security instrument, including one evidenced by electronic means authorized by law.
   (d) "Policy": Each contract of title insurance, in a form adopted by the American Land Title Association, issued or to be issued by the Company pursuant to this Commitment.
   (e) "Proposed Insured": Each person identified in Schedule A as the Proposed Insured of each Policy to be issued pursuant to this Commitment.
   (f) "Proposed Policy Amount": Each dollar amount specified in Schedule A as the Proposed Policy Amount of each Policy to be issued pursuant to this Commitment.
   (g) "Public Records": Records established under state statutes at the Commitment Date for the purpose of imparting constructive notice of matters relating to real property to purchasers for value and without Knowledge.
   (h) "Title": The estate or interest described in Schedule A.

2. If all of the Schedule B, Part I - Requirements have not been met within the time period specified in the Commitment to Issue Policy, this Commitment terminates and the Company's liability and obligation end.

3. The Company's liability and obligation is limited by and this Commitment is not valid without:
   (a) the Notice;
   (b) the Commitment to Issue Policy;
   (c) the Commitment Conditions;
   (d) Schedule A;
   (e) Schedule B, Part I—Requirements; [and]
   (f) Schedule B, Part II—Exceptions[; and
   (g) a counter-signature by the Company or its issuing agent that may be in electronic form].

4. **COMPANY'S RIGHT TO AMEND**
   The Company may amend this Commitment at any time. If the Company amends this Commitment to add a defect, lien, encumbrance, adverse claim, or other matter recorded in the Public Records prior to the Commitment Date, any liability of the Company is limited by Commitment Condition 5. The Company shall not be liable for any other amendment to this Commitment.

5. **LIMITATIONS OF LIABILITY**
   (a) The Company's liability under Commitment Condition 4 is limited to the Proposed Insured's actual expense incurred in the interval between the Company's delivery to the Proposed Insured of the Commitment and the delivery of the amended Commitment, resulting from the Proposed Insured's good faith reliance to:
      (i) comply with the Schedule B, Part I - Requirements;
      (ii) eliminate, with the Company's written consent, any Schedule B, Part II - Exceptions; or
      (iii) acquire the Title or create the Mortgage covered by this Commitment.
   (b) The Company shall not be liable under Commitment Condition 5(a) if the Proposed Insured requested the amendment or had Knowledge of the matter and did not notify the Company about it in writing.

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(c) The Company will only have liability under Commitment Condition 4 if the Proposed Insured would not have incurred the expense had the Commitment included the added matter when the Commitment was first delivered to the Proposed Insured.
(d) The Company's liability shall not exceed the lesser of the Proposed Insured's actual expense incurred in good faith and described in Commitment Conditions 5(a)(i) through 5(a)(iii) or the Proposed Policy Amount.
(e) The Company shall not be liable for the content of the Transaction Identification Data, if any.
(f) In no event shall the Company be obligated to issue the Policy referred to in this Commitment unless all of the Schedule B, Part I - Requirements have been met to the satisfaction of the Company.
(g) In any event, the Company's liability is limited by the terms and provisions of the Policy.

6. LIABILITY OF THE COMPANY MUST BE BASED ON THIS COMMITMENT

(a) Only a Proposed Insured identified in Schedule A, and no other person, may make a claim under this Commitment.
(b) Any claim must be based in contract and must be restricted solely to the terms and provisions of this Commitment.
(c) Until the Policy is issued, this Commitment, as last revised, is the exclusive and entire agreement between the parties with respect to the subject matter of this Commitment and supersedes all prior commitment negotiations, representations, and proposals of any kind, whether written or oral, express or implied, relating to the subject matter of this Commitment.
(d) The deletion or modification of any Schedule B, Part II - Exception does not constitute an agreement or obligation to provide coverage beyond the terms and provisions of this Commitment or the Policy.
(e) Any amendment or endorsement to this Commitment must be in writing [and authenticated by a person authorized by the Company].
(f) When the Policy is issued, all liability and obligation under this Commitment will end and the Company's only liability will be under the Policy.

7. IF THIS COMMITMENT HAS BEEN ISSUED BY AN ISSUING AGENT

The issuing agent is the Company's agent only for the limited purpose of issuing title insurance commitments and policies. The issuing agent is not the Company's agent for the purpose of providing closing or settlement services.

8. PRO-FORMA POLICY

The Company may provide, at the request of a Proposed Insured, a pro-forma policy illustrating the coverage that the Company may provide. A pro-forma policy neither reflects the status of Title at the time that the pro-forma policy is delivered to a Proposed Insured, nor is it a commitment to insure.

9. ARBITRATION

The Policy contains an arbitration clause. All arbitrable matters when the Proposed Policy Amount is $2,000,000 or less shall be arbitrated at the option of either the Company or the Proposed Insured as the exclusive remedy of the parties. A Proposed Insured may review a copy of the arbitration rules at http://www.alta.org/arbitration.

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STG Privacy Notice 1 (Rev 01/26/09) Stewart Title Companies

WHAT DO THE STEWART TITLE COMPANIES DO WITH YOUR PERSONAL INFORMATION?

Federal and applicable state law and regulations give consumers the right to limit some but not all sharing. Federal and applicable state law regulations also require us to tell you how we collect, share, and protect your personal information. Please read this notice carefully to understand how we use your personal information. This privacy notice is distributed on behalf of the Stewart Title Guaranty Company and its affiliates (the Stewart Title Companies), pursuant to Title V of the Gramm-Leach-Bliley Act (GLBA).

The types of personal information we collect and share depend on the product or service that you have sought through us. This information can include social security numbers and driver's license number.

All financial companies, such as the Stewart Title Companies, need to share customers' personal information to run their everyday business—to process transactions and maintain customer accounts. In the section below, we list the reasons that we can share customers' personal information; the reasons that we choose to share; and whether you can limit this sharing.

Reasons we can share your personal information	Do we share?	Can you limit this sharing?
For our everyday business purposes— to process your transactions and maintain your account. This may include running the business and managing customer accounts, such as processing transactions, mailing, and auditing services, and responding to court orders and legal investigations.	Yes	No
For our marketing purposes— to offer our products and services to you.	Yes	No
For joint marketing with other financial companies	No	We don't share
For our affiliates' everyday business purposes— information about your transactions and experiences. Affiliates are companies related by common ownership or control. They can be financial and nonfinancial companies. *Our affiliates may include companies with a Stewart name; financial companies, such as Stewart Title Company*	Yes	No
For our affiliates' everyday business purposes— information about your creditworthiness.	No	We don't share
For our affiliates to market to you	Yes	No
For nonaffiliates to market to you. Nonaffiliates are companies not related by common ownership or control. They can be financial and nonfinancial companies.	No	We don't share

We may disclose your personal information to our affiliates or to nonaffiliates as permitted by law. If you request a transaction with a nonaffiliate, such as a third party insurance company, we will disclose your personal information to that nonaffiliate. [We do not control their subsequent use of information, and suggest you refer to their privacy notices.]

Sharing practices	
How often do the Stewart Title Companies notify me about their practices?	We must notify you about our sharing practices when you request a transaction.
How do the Stewart Title Companies protect my personal information?	To protect your personal information from unauthorized access and use, we use security measures that comply with federal and state law. These measures include computer, file, and building safeguards.
How do the Stewart Title Companies collect my personal information?	We collect your personal information, for example, when you • request insurance-related services • provide such information to us We also collect your personal information from others, such as the real estate agent or lender involved in your transaction, credit reporting agencies, affiliates or other companies.
What sharing can I limit?	Although federal and state law give you the right to limit sharing (e.g., opt out) in certain instances, we do not share your personal information in those instances.

Contact Us	If you have any questions about this privacy notice, please contact us at: Stewart Title Guaranty Company, 1980 Post Oak Blvd., Privacy Officer, Houston, Texas 77056

STG Privacy Notice 2 (Rev 01/26/09) Independent Agencies and Unaffiliated Escrow Agents

WHAT DO/DOES THE **Advanced Title Company** DO WITH YOUR PERSONAL INFORMATION?

Federal and applicable state law and regulations give consumers the right to limit some but not all sharing. Federal and applicable state law regulations also require us to tell you how we collect, share, and protect your personal information. Please read this notice carefully to understand how we use your personal information. This privacy notice is distributed on behalf of **Advanced Title Company** and its affiliates ("**ATC**"), pursuant to Title V of the Gramm-Leach-Bliley Act (GLBA).

The types of personal information we collect and share depend on the product or service that you have sought through us. This information can include social security numbers and driver's license number.

All financial companies, such as **Advanced Title Company**, need to share customers' personal information to run their everyday business—to process transactions and maintain customer accounts. In the section below, we list the reasons that we can share customers' personal information; the reasons that we choose to share; and whether you can limit this sharing.

Reasons we can share your personal information	Do we share?	Can you limit this sharing?
For our everyday business purposes— to process your transactions and maintain your account. This may include running the business and managing customer accounts, such as processing transactions, mailing, and auditing services, and responding to court orders and legal investigations.	Yes	No
For our marketing purposes— to offer our products and services to you.	Yes	No
For joint marketing with other financial companies	No	We don't share
For our affiliates' everyday business purposes— information about your transactions and experiences. Affiliates are companies related by common ownership or control. They can be financial and nonfinancial companies.	Yes	No
For our affiliates' everyday business purposes— information about your creditworthiness.	No	We don't share
For our affiliates to market to you	Yes	No
For nonaffiliates to market to you. Nonaffiliates are companies not related by common ownership or control. They can be financial and nonfinancial companies.	No	We don't share

We may disclose your personal information to our affiliates or to nonaffiliates as permitted by law. If you request a transaction with a nonaffiliate, such as a third party insurance company, we will disclose your personal information to that nonaffiliate. [We do not control their subsequent use of information, and suggest you refer to their privacy notices.]

Sharing practices	
How often do/does ATC Notify me about their practices?	We must notify you about our sharing practices when you request a transaction.
How do/does ATC protect my personal information?	To protect your personal information from unauthorized access and use, we use security measures that comply with federal and state law. These measures include computer, file, and building safeguards.
How do/does ATC collect my personal information?	We collect your personal information, for example, when you • request insurance-related services • provide such information to us We also collect your personal information from others, such as the real estate agent or lender involved in your transaction, credit reporting agencies, affiliates or other companies.
What sharing can I limit?	Although federal and state law give you the right to limit sharing (e.g., opt out) in certain instances, we do not share your personal information in those instances.

Contact Us	If you have any questions about this privacy notice, please contact us at: **618 Rood Avenue, Grand Junction, CO; 81501; 970-255-7677.**

COMMITMENT FOR TITLE INSURANCE

Issued By

stewart title guaranty company

Commitment No.: ATC-20-6605

SCHEDULE A

1. Commitment Date: August 4, 2020 at 12:00 AM
2. Policy to be issued:

	Amount
a. ALTA Owner's Policy (06/17/06)	$N/A
Proposed Insured: Purchaser To Be Determined	

3. The estate or interest in the Land described or referred to in this Commitment is **Fee Simple**.
4. The Title is, at the Commitment Date, vested in:

   Abba Enterprises, LLC, a Colorado limited liability company
5. The Land is described as follows:

   Purported Address: 711 S. 15th Street, Grand Junction, CO 81501

   Lot 2,
   BOISE CASCADE RESUBDIVISION, A REPLAT OF PARCEL A OF THE REPLAT OF LOT 3, COLORADO WEST DEVELOPMENT PARK
   County of Mesa, State of Colorado
   Click here for Assessor Parcel Information.

   For Identification Purposes Only: Parcel No(s).: 2945-242-12-031

Statement of Charges: These charges are due and payable before a Policy can be issued.

Owner's Policy:	$500.00
Tax Certificate:	$15.00

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AMERICAN LAND TITLE ASSOCIATION

COMMITMENT FOR TITLE INSURANCE

Issued By

stewart
title guaranty company

Commitment No.: ATC-20-6605

SCHEDULE B, PART I
Requirements

All of the following Requirements must be met:

1. The Proposed Insured must notify the Company in writing of the name of any party not referred to in this Commitment who will obtain an interest in the Land or who will make a loan on the Land. The Company may then make additional Requirements or Exceptions.

2. Pay the agreed amount for the estate or interest to be insured.

3. Pay the premiums, fees, and charges for the Policy to the Company.

4. Evidence satisfactory to the Company and its underwriter of payment of all outstanding taxes, charges and assessments as certified by the County Assessor. A Certificate of Taxes due listing each taxing jurisdiction shall be obtained from the County Treasurer or an authorized agent pursuant to Colorado Revised Statutes § 10-11-122 (1)(b) for any sale and for any loan pursuant to lender instructions. For Information Purposes Only: County Parcel Number(s): 2945-242-12-031 Click here for Tax Certificate.

5. Documents satisfactory to the Company that convey the Title or create the Mortgage to be insured, or both, must be properly authorized, executed, delivered, and recorded in the Public Records, together with additional documents as required by the Company as follows:

   a. Deed from Abba Enterprises, LLC, a Colorado limited liability company to Purchaser To Be Determined sufficient to convey the fee simple estate or interest in the Land described or referred to herein. Click here for Vesting Deed.

   b. Release of Deed of Trust in favor of Community Economic Development Company of Colorado to secure $278,000.00 by instrument recorded January 9, 2004 at Reception No. 2171426, and assigned to the Small Business Administration Colorado District Office by instrument recorded January 9, 2004 at Reception No. 2171427.

   c. Statement of Authority for Abba Enterprises, LLC, a Colorado limited liability company disclosing the names of the parties authorized for said company and otherwise complying with Colorado Revised Statues 38-30-172.

   d. NOTE: This commitment is subject to such additional Requirements and Exceptions necessary once the identity of the Purchaser becomes known.

6. Execution of Company's Affidavit as to Debts, Liens, and other matters and its return to Advanced Title

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SCHEDULE B - I
(Continued)

Company. NOTE: If work has been performed on, or in connection with, the subject property (architectural drawings, soils testing, foundation work, installation of materials), notify the Company within 10 days of receipt of this title commitment.

7. Operating Agreement for Abba Enterprises, LLC, a Colorado limited liability company must be submitted to Company for review. Additional Requirements may result.

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AMERICAN LAND TITLE ASSOCIATION

stewart title guaranty company

COMMITMENT FOR TITLE INSURANCE

Issued By

stewart
title guaranty company

Commitment No.: ATC-20-6605

SCHEDULE B, PART II
Exceptions

Schedule B of the policy or policies to be insured will contain exceptions to the following matters unless the same are disposed of to the satisfaction of the Company.

NOTE: Exceptions 1 and 4 may be deleted from the policies, provided the seller and buyer execute the Company's affidavits, as required herein, and the Company approves such deletions. If work has been performed on, or in connection with, the subject property (architectural drawings, soils testing, foundation work, installation of materials), and the Company has not reviewed and approved lien waivers and indemnitor financials, Standard Exception 4 (mechanic lien exception) will not be deleted and no mechanic lien coverage will be furnished. Exceptions 2 and 3 may be deleted from the policies, provided the Company receives and approves the survey or survey affidavit if required herein. Exception 5 will not appear on the policies, provided the Company, or its authorized agent, conducts the closing of the proposed transaction and is responsible for the recordation of the documents.

1. Rights or claims of parties in possession, not shown by the Public Records.

2. Easements, or claims of easements, not shown by the Public Records.

3. Any encroachment, encumbrance, violation, variation, or adverse circumstance affecting the title that would be disclosed by an accurate and complete land survey of the Land and not shown by the Public Records.

4. Any lien, or right to a lien for services, labor or material heretofore or hereafter furnished, imposed by law and not shown by the Public Records.

5. Defects, liens, encumbrances, adverse claims, or other matters, if any, created, first appearing in the public record or attaching subsequent to the Effective Date hereof but prior to the date the proposed insured acquires of record for the value the estate or interest or mortgage thereon covered by this Commitment.

6. Unpatented mining claims: reservation or exceptions in Patents or in Acts authorizing the issuance thereof, minerals of whatsoever kind, subsurface or surface substances, in, on, under and that may be produced from the Land, together with all rights, privileges, and immunities relating thereto, whether or not the excepted matters are shown by the Public Records or listed in Schedule B.

7. Water rights, claims or title to water.

8. Any and all unpaid taxes and assessments and any unredeemed tax sales.

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SCHEDULE B - II
(Continued)

9. Reservations and exceptions in Patents, or Acts authorizing the issuance thereof, including the reservations of the right of proprietor of a vein or lode to extract and remove his ore therefrom should the same be found to penetrate or intersect the premises as reserved in United States Patent recorded April 27, 1891 at Reception No. 11567.

10. Sewer and Utility easement over the east side of subject property as set forth by instrument recorded September 10, 1957 at Reception No. 702477 and as shown on the plat of said subdivision.

11. Covenants, easements, and setbacks as reserved in that certain Warranty Deed recorded April 26, 1976 at Reception No. 1104535.

12. Telephone Right of Way Easement recorded June 17, 1976 at Reception No. 1110658, and also as shown on the plat of said subdivision.

13. Utility easement granted to the City of Grand Junction, Colorado in that certain Warranty Deed recorded May 9, 1989 at Reception No. 1515439, and also as shown on the plat of said subdivision.

14. Utility easement over the east side of subject property, varying widths as shown on the plat of said subdivision.

15. Utility easement over the south 7.5 feet of subject property as shown on the plat of said subdivision.

16. Plat notes as shown on the plat of said subdivision.

17. Easements and notes as disclosed by Improvement Survey Plat, Deposit No. 3094-04 of Richard A. Mason, a Colorado Registered Land Surveyor, dated September 30, 2004, a copy of which has been secured through the Mesa County Survey Depository.

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DISCLOSURES

Order No.: ATC-20-6605

Note: Pursuant to C.R.S. 10-11-122, notice is hereby given that:

A) The subject real property may be located in a special taxing district;
B) A certificate of taxes due listing each taxing jurisdiction shall be obtained from the county treasurer or the county treasurer's authorized agent;
C) Information regarding special districts and the boundaries of such districts may be obtained from the board of county commissioners, the county clerk and recorder, or the county assessor

Note: Colorado Division of Insurance Regulations 8-2-2, Section 5, Paragraph G requires that "Every title entity shall be responsible for all matters which appear of record prior to the time of recording whenever the title entity conducts the closing and is responsible for recording or filing of legal documents resulting from the transaction which was closed." Provided that **Advanced Title Company** conducts the closing of the insured transaction and is responsible for recording the legal documents from the transaction, exception number 5 will not appear on the Owner's Title Policy and the Lender's Title Policy when issued.

Note: Affirmative Mechanic's Lien Protection for the Owner may be available (typically by deletion of Exception No. 4 of Schedule B, Section 2 of the Commitment from the Owner's Policy to be issued) upon compliance with the following conditions:

A) The land described in Schedule A of this commitment must be a single-family residence, which includes a condominium or townhouse unit.
B) No labor or materials have been furnished by mechanics or materialmen for purposes of construction on the land described in Schedule A of this Commitment within the past 6 months.
C) The Company must receive an appropriate affidavit indemnifying the Company against unfiled Mechanic's and Materialmen's Liens.
D) The Company must receive payment of the appropriate premium.
E) If there has been construction, improvements or major repairs undertaken on the property to be purchased, within six months prior to the Date of the Commitment, the requirements to obtain coverage for unrecorded liens will include: disclosure of certain construction information; financial information as to the seller, the builder and/or the contractor; payment of the appropriate premium; fully executed Indemnity agreements satisfactory to the company; and, any additional requirements as may be necessary after an examination of the aforesaid information by the Company.

No coverage will be given under any circumstances for labor or material for which the insured has contracted for or agreed to pay.

Note: To comply with the provisions of C.R.S. 10-11-123, the Company makes the following disclosure:

A) That there is recorded evidence that a mineral estate has been severed, leased or otherwise conveyed from the surface estate and that there is a substantial likelihood that a third party holds some or all interest in oil, gas, other minerals, or geothermal energy in the property; and
B) That such mineral estate may include the right to enter and use the property without the surface owner's permission.

NOTE: This disclosure applies only if Schedule B, Section II of the title commitment herein includes an exception for severed minerals.

Notice of Availability of a Closing Protection Letter: Pursuant to Colorado Division of Insurance Regulation 8-1-3, Section 5, Paragraph C (11)(f), a closing protection letter is available to the consumer.

Note: Nothing herein contained will be deemed to obligate the company to provide any of the coverages referred to herein, unless the above conditions are fully satisfied.

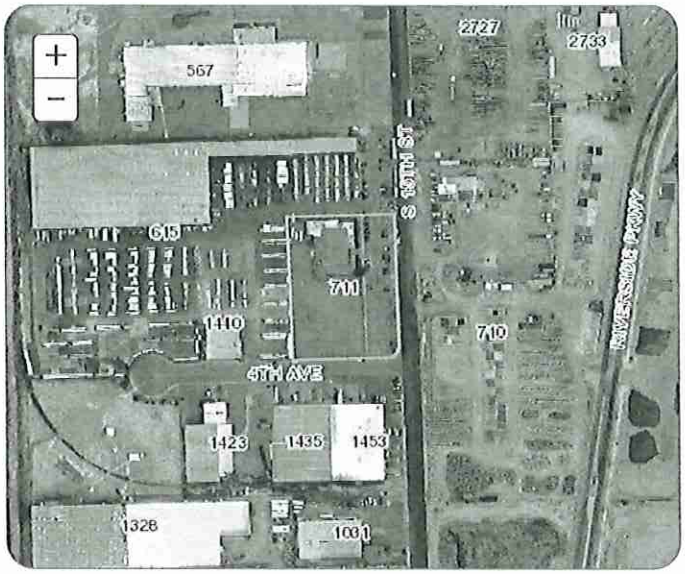
MESA COUNTY

Ken Brownlee, Assessor
Real Property Record
P.O. Box 20,000
544 Rood Avenue
Grand Junction, CO 81502

Full Color Print

Property Information *(Report Date: 8/5/2020)*

Parcel Number:	2945-242-12-031
Account Number:	R069777
Property Use:	**Commercial**
Location Address:	711 S 15TH ST GRAND JUNCTION, CO 81501
Mailing Address:	711 S 1ST ST GRAND JUNCTION, CO 81501
Owner Name:	ABBA ENTERPRISES LLC
Joint Owner Name:	
Neighborhood:	AREA 17 MERHCHAND (221217.00CM)
Associated Parcel:	N/A
Approx. Latitude:	39.060786
Approx. Longitude:	-108.548427



Legal Description

LOT 2 BOISE CASCADE RESUBDIVISION SEC 24 1S 1W

Tax Information

Year	Property Code	Improvements (Actual)	Land (Actual)	Total (Actual)	Improvements (Assessed)	Land (Assessed)	Total (Assessed)	TAC Code	Mill Levy/1000	Water Assessment	Property Tax & Water
2020	2112, 2212	$528,670	$318,420	$847,090	$153,310	$92,340	$245,650	10101	0.0649670	$0.00	***$15,959.16**
2019	2112, 2212	$528,670	$318,420	$847,090	$153,310	$92,340	$245,650	10101	0.0649670	$0.00	$15,959.16
2018	2120, 2220	$536,520	$269,720	$806,240	$155,590	$78,220	$233,810	10101	0.0707520	$0.00	$16,542.52

For tax bill **Click Here**

***Current estimated tax is using previous year's Mill Levy (Mill Levy determined in December of current year)**

Taxing Authority Detail

Year	Agency Name	Agency Abbrev.	TAC Code	Mill Levy	Total (Assessed)	Tax Per Agency
2020	CITY OF GRAND JUNCTION	GRJCT	10101	8.0000	$245,650	$1,965.20
2020	COLORADO RIVER WATER CONSERVANCY	COLRW	10101	0.2350	$245,650	$57.73
2020	COUNTY - DEVELOP DISABLED	MCCCB	10101	0.2460	$245,650	$60.43
2020	COUNTY GENERAL FUND	MCGF	10101	6.1480	$245,650	$1,510.26
2020	COUNTY ROAD & BRIDGE-1/2 LEVY	MCRBS	10101	0.2620	$245,650	$64.36
2020	COUNTY TRANSLATOR TV FUND	MCTV	10101	0.0260	$245,650	$6.39
2020	GRAND RIVER MOSQUITO CTRL	GRMCD	10101	1.4520	$245,650	$356.68
2020	GRAND VALLEY DRAINAGE DIST	GVDD	10101	1.7480	$245,650	$429.40
2020	LIBRARY DISTRICT	LIBR	10101	3.0070	$245,650	$738.67
2020	MESA CNTY ROAD & BRIDGE-GRAND JCT	GJRB	10101	0.2620	$245,650	$64.36
2020	SCHOOL DIST# 51 2006 OVERID	SD51O06	10101	2.1010	$245,650	$516.11
2020	SCHOOL DIST# 51 2017 OVERRIDE	SD51O_17	10101	3.4140	$245,650	$838.65
2020	SCHOOL DIST# 51 BOND	SD51B	10101	9.4310	$245,650	$2,316.73
2020	SCHOOL DIST# 51 GENERAL	SD51	10101	24.3260	$245,650	$5,975.68
2020	SCHOOL DIST# 51 OVERRIDE 96	SD51O	10101	2.6990	$245,650	$663.01
2020	SOCIAL SERVICES	MCSS	10101	1.6100	$245,650	$395.50
	Tax Authority Contact Information		Total Mill:	64.9670	Total Tax:	*$15,959.16

Sales & Conveyance Information **

Date	Price	Reception Number (Click for Recorded Document)	Document Type
6/26/2003	$550,000.00	2131228	Warranty Deed
6/5/2000	$580,000.00	1952950	Warranty Deed
		Search Clerk Records	Document Type Descriptions

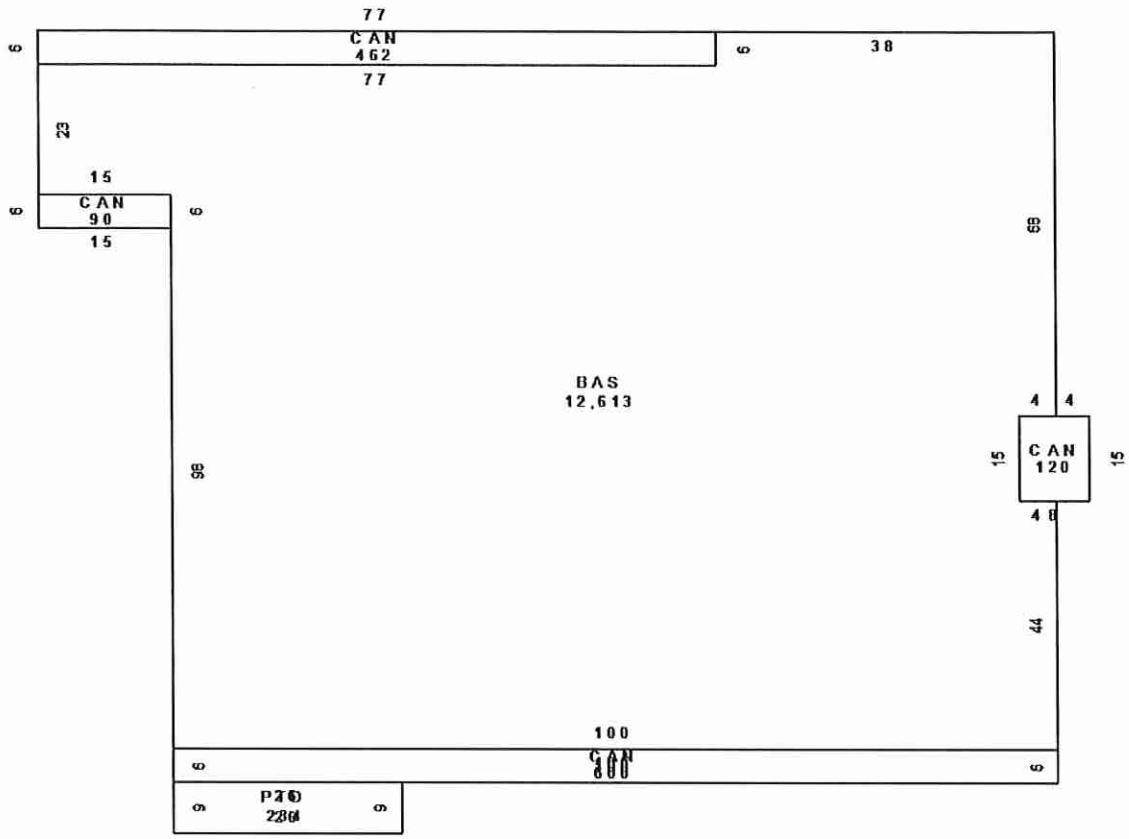
** Viewing of recorded documents requires a subscription through the Mesa County Clerk and Recorders Office.
Click the associated reception number for Grantee and Grantor information via recorded document.

Land Description

Property Use Code	Property Use Type	Sq. Ft.
2112	MERCHANDISING - LAND	93,654
	Approximate Acres: 2.15 *(Acreage is approximate and should not be used in lieu of Legal Documents)*	

Building Sketch 1 of 1

Building Sketch 1



- Base Area(BAS) = 12613 sq.ft.
- Canopy(CAN) = 1272 sq.ft.
- Patio(PTO) = 234 sq.ft.

Building ID	R069777COM1.1592243373213	Heat Fuel:	GAS
Model Description:	Commercial	Heated SQ. FT.:	12613
Building Use:	MERCHANDISING (2212)	Air Conditioning:	CENTRAL AIR
Units:	10	Frame:	WOOD FRAME
Arch Desc:	WAREHOUSE SHOWROOM STORE	Interior Wall:	DRYWALL
Quality:	Average	Exterior Wall:	WOOD SIDING
Actual Year Built:	1979	Roof Cover:	BUILT UP T & G
Effective Year Built:	1995	Roof Structure:	FLAT
Rooms:	N/A	Style:	COMMERCIAL INDUSTRIAL
Bedrooms:	N/A	Stories:	1
Bathrooms:	Commercial-No Bath	Comm. Wall Height:	12
Heat Type:	FORCED AIR HEAT	Comm. Fixtures:	15

Miscellaneous Building Information

Year Built	Miscellaneous Description	Length (ft.)	Width (ft.)	Units or Sq. Ft.
1979	ASPHALT, COMMERCIAL, 0-499 SF	0	0	67542.00
1979	CONCRETE, COMMERCIAL	0	0	2052.00
1979	FENCE 0-399 LF	0	0	910.00
1979	LIGHTS & POLES	0	0	2.00
1979	GATES	0	0	3.00

Miscellaneous items above are not tied to a specific building

Historical Information

912065 5 PAGE DOCUMENT

2171426 BK 3566 PG 544-548
01/09/2004 12:11 PM
Janice Ward CLK&REC Mesa County, CO
RecFee $25.00 SurChg $1.00
BK 3566 PG 544

DEED OF TRUST

CDC 643,302-40-04

(Participation)

THIS DEED OF TRUST, made this **Thirty-first** day of **December 2003** by and between

ABBA ENTERPRISES, LLC, a Colorado limited liability company

hereinafter referred to as "Grantor," whose address is**711 South 15th Street Grand Junction, CO 81501-**

Public Trustee of Mesa County

hereinafter referred to as "Trustee," whose address is**P. O. Box 20000-5043 Grand Junction, CO 81502-**

Community Economic Development Company Of Colorado

hereinafter referred to as "Beneficiary," who maintains an office and place of business at

1175 Osage Street, Suite 110 Denver, CO 80204-3400

in participation with the Small Business Administration, an agency of the United States.

WITNESSETH, that for and in consideration of $1.00 and other good and valuable consideration, receipt of is hereby acknowledged, the Grantor does hereby bargain, sell, grant, assign, and convey unto the Trustee, his successors and assigns, all of the following described property situated and being in the County of **Mesa**
State of **Colorado**

Lot 2 in
BOISE CASCADE RESUBDIVISION a replat of
PARCEL A of the REPLAT OF LOT 3,
COLORADO WEST DEVELOPMENT PARK

Also commonly known as 711 South 15th Street, Grand Junction, Colorado 81501

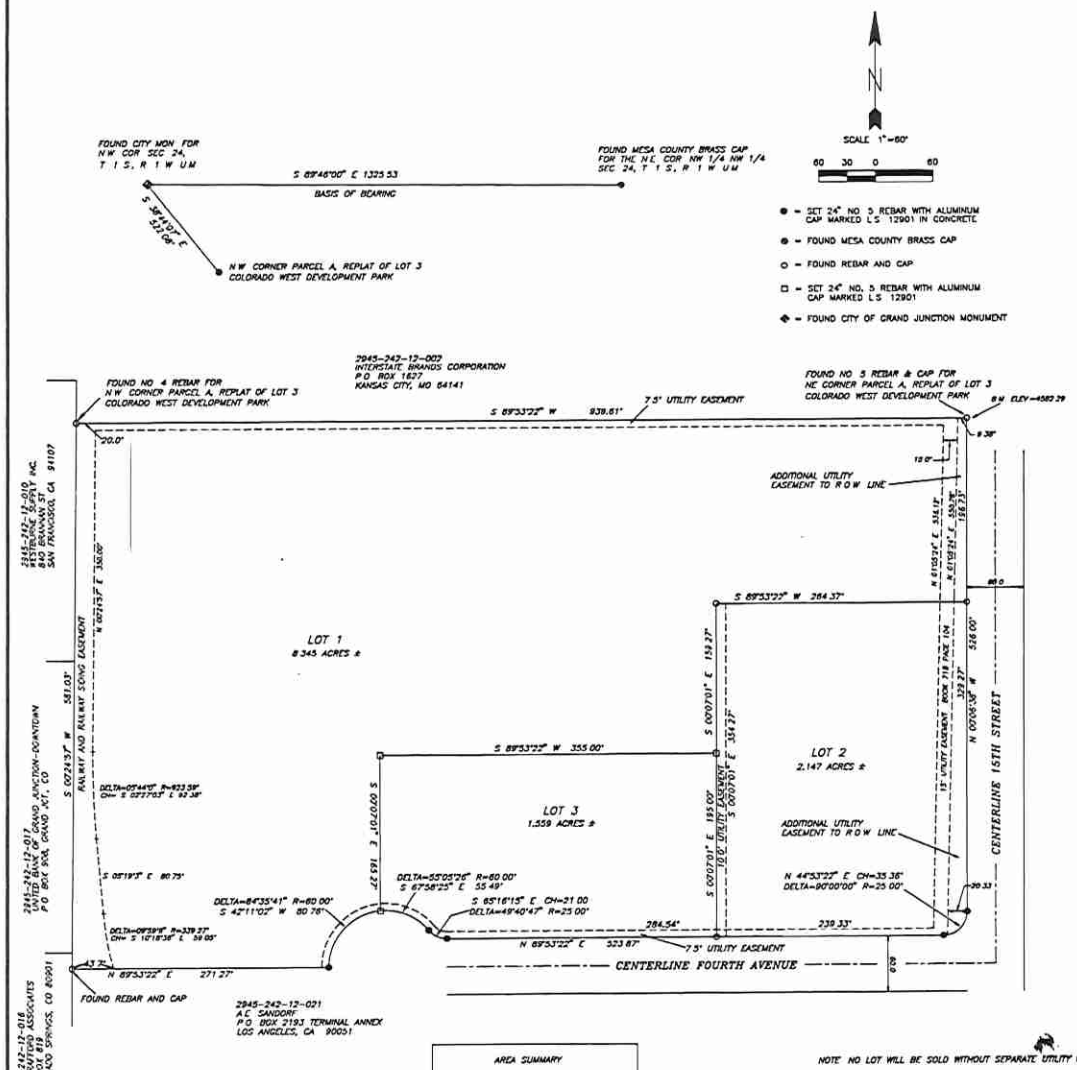
Together with and including all buildings, all fixtures, including but not limited to all plumbing, heating, lighting, ventilating, refrigerating, incinerating, air conditioning apparatus, and elevators (the Trustor hereby declaring that it is intended that the items herein enumerated shall be deemed to have been permanently installed as part of the realty), and all improvements now or hereafter existing thereon; the hereditaments and appurtenances and all other rights belonging, or in anywise appertaining, and the reversion and reversions, remainder and remainders, and the rents, and profits of the above described property. To have and to hold the same unto the Trustee, and the successors in interest of the Trustee, forever, in fee simple or such other estate, if any, as is stated herein in trust, to secure the payment of a promissory note of this date, in the principal sum of **$278,000.00, which note matures March 1, 2024 and was**

signed by JEAN E. BIERWIRTH as Managing Member of ABBA ENTERPRISES, LLC, a Colorado limited liability company

in behalf of ABBA ENTERPRISES, LLC, a Colorado limited liability company

BOISE CASCADE RESUBDIVISION

A REPLAT OF PARCEL A OF THE REPLAT OF LOT 3 OF COLORADO WEST DEVELOPMENT PARK



AREA SUMMARY

AREA IN LOTS=17.05 ACRES OR 100%

NOTE NO LOT WILL BE SOLD WITHOUT SEPARATE UTILITY CONNECTIONS

DEDICATION

KNOW ALL MEN BY THESE PRESENTS

That the undersigned, BOISE CASCADE CORPORATION, a Delaware corporation is the owner of that real property situated in the NW 1/4 of Section 24, Township 1 South, Range 1 West of the Ute Meridian, City of Grand Junction, County of Mesa, State of Colorado as recorded in Book 1741 at Pages 708 through 762 inclusive in the records of the Mesa County Clerk and Recorders Office, being more particularly described as follows

PARCEL A OF THE REPLAT OF LOT 3, COLORADO WEST DEVELOPMENT PARK, MESA COUNTY, COLORADO

That said owner has caused the said real property to be laid out and surveyed as BOISE CASCADE RESUBDIVISION a replat of PARCEL A of the REPLAT OF LOT 3, COLORADO WEST DEVELOPMENT PARK a subdivision of a part of the City of Grand Junction, County of Mesa, State of Colorado

That said owner does hereby dedicate and set apart all of the streets and roads as shown on the accompanying plat to the City of Grand Junction on behalf of the public forever, and hereby dedicates to the City of Grand Junction on behalf of itself and Public Utilities those portions of said real property which are labeled as utility easements on the accompanying plat as perpetual easements for the installation and maintenance of utilities, irrigation and drainage facilities including but not limited to electric lines, gas lines, telephone lines, together with the right to trim interfering trees and brush; with perpetual right of ingress and egress for installation and maintenance of such lines Such easements and rights shall be utilized in a reasonable and prudent manner

IN WITNESS WHEREOF said owner has caused their name to be hereunto subscribed this 15th *day of* June *A.D.,* 1992.

BOISE CASCADE CORPORATION

STATE OF IDAHO } SS
COUNTY OF ADA }

The foregoing instrument was acknowledged before me this 15th *day of* June *A.D.* 1992 *by* Irving Littman *known to me to be the* Vice President *of* BOISE CASCADE CORPORATION

My Commission expires 7-29-94 Kathleen Quinn Notary Public

CLERK AND RECORDERS CERTIFICATE

STATE OF COLORADO } SS
COUNTY OF MESA }

I hereby certify that this instrument was filed in my office at 3:39 *o'clock* P M *this* 7th *day of* August *A.D.,* 1992 *and is duly recorded in Plat Book No* 14 *Page* 165 *Reception #* 1610811 *drawer* Z57

Monika Todd Clerk and Recorder — Jeanne Martin Deputy — Fees $ 10.00

CITY APPROVAL

This plat of BOISE CASCADE RESUBDIVISION, a replat of Parcel A of the Replat of Lot 3, Colorado West Development Park, a subdivision of a part of the City of Grand Junction, County of Mesa, State of Colorado is approved and accepted on this 27th *day of* July *A.D.,* 1992

Mark Relph, City Manager — Gilbert E. McCloy, President of Council — Chairman, Grand Junction City Planning Commission

Director of Development — Jerry Dentenbach, Grand Junction City Engineer

I, William O Roy, do hereby certify that the accompanying plat of BOISE CASCADE RESUBDIVISION a replat of Parcel A of the Replat of Lot 3, COLORADO WEST DEVELOPMENT PARK, a subdivision of a part of the City of Grand Junction, County of Mesa, State of Colorado has been prepared under my direct responsibility and supervision and accurately represents a field survey of same This plat conforms to all applicable requirements of the Zoning and Development Code of the City of Grand Junction and all applicable state laws and regulations

WILLIAM O ROY P.L.S. 12901
DATED THIS 15th DAY OF June, 1992

WILLIAM O. ROY REGISTERED 12901 LAND SURVEYOR STATE OF ARIZONA

CENTURY SURVEYING P O BOX 356, GRAND JCT, CO 81502 TEL 303-241-2667	
BOISE CASCADE RESUBDIVISION	
LOCATED IN THE NW 1/4 S 24, T 1S, R 1W UM	
SUR BY DJ & LD	DRAWN BY WR
JOB NO 7500	SHEET 1 OF 1

910109

Recorded at _____ o'clock _____ M., _____
Reception No. _____

BOOK3405 PAGE86
2131228 07/02/03 0326PM
JANICE WARD CLK&REC MESA COUNTY CO
RECFEE $5.00 SURCHG $1.00
DOCUMENTARY FEE $55.00

SPECIAL WARRANTY DEED

THIS DEED, Made this ~~20~~ 27th day of June, 2003, between **711 West Development Park LLC, a Colorado limited liability company** of the *County of _____ and State of Maryland, grantor(s), and **ABBA Enterprises LLC** whose legal address is **2754 Compass Drive #360, Grand Junction, CO 81506**, grantee(s):

WITNESSETH, That the grantor(s), for and in consideration of the sum of **FIVE HUNDRED FIFTY THOUSAND AND 00/100** DOLLARS, the receipt and sufficiency of which is hereby acknowledged, has granted, bargained, sold and conveyed, and by these presents does grant, bargain, sell, convey and confirm, unto the grantee(s), its heirs and assigns forever, all the real property, together with improvements, if any, situate, lying and being in the County of **Mesa**, State of Colorado, described as follows:

Lot 2 in
BOISE CASCADE RESUBDIVISION a replat of
PARCEL A of the REPLAT OF LOT 3,
COLORADO WEST DEVELOPMENT PARK

also known as street and number as: **711 S 15th Street, Grand Junction, CO 81501**

TOGETHER with all and singular the hereditaments and appurtenances thereunto belonging, or in anywise appertaining, and the reversion and reversions, remainder and remainders, rents, issues, and profits thereof, and all the estate, right, title, interest, claim and demand whatsoever of the grantor(s), either in law or equity, of, in and to the above bargained premises, with the hereditaments and appurtenances.

TO HAVE AND TO HOLD the said premises above bargained and described with the appurtenances, unto the grantee(s), its heirs, and assigns forever. The grantor(s), for itself, its heirs, and personal representatives or successors, does covenant and agree that it shall and will WARRANT AND FOREVER DEFEND the above-bargained premises in the quiet and peaceable possession of the grantee(s), its heirs and assigns, against all and every person or persons claiming the whole or any part thereof, by, through or under the grantor(s) **Subject to** taxes for 2003, payable in 2004 and all subsequent years, easements, rights of way, reservations and restrictions of record..

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

711 West Development Park LLC

by: Choice Hotels International, Inc.

by: _____
Michael J. DeSantis
Senior Vice President

STATE OF MARYLAND)
PRINCE GEORGE'S ss.
COUNTY OF ~~MONTGOMERY~~)

The foregoing instrument was acknowledged before me, this 26th day of June, 2003 by Michael J. DeSantis, Senior Vice President of Choice Hotels International, Inc., Manager of 711 West Development Park LLC, a Colorado limited liability company.

Witness my hand and official seal.
My commission expires: June 1, 2004.

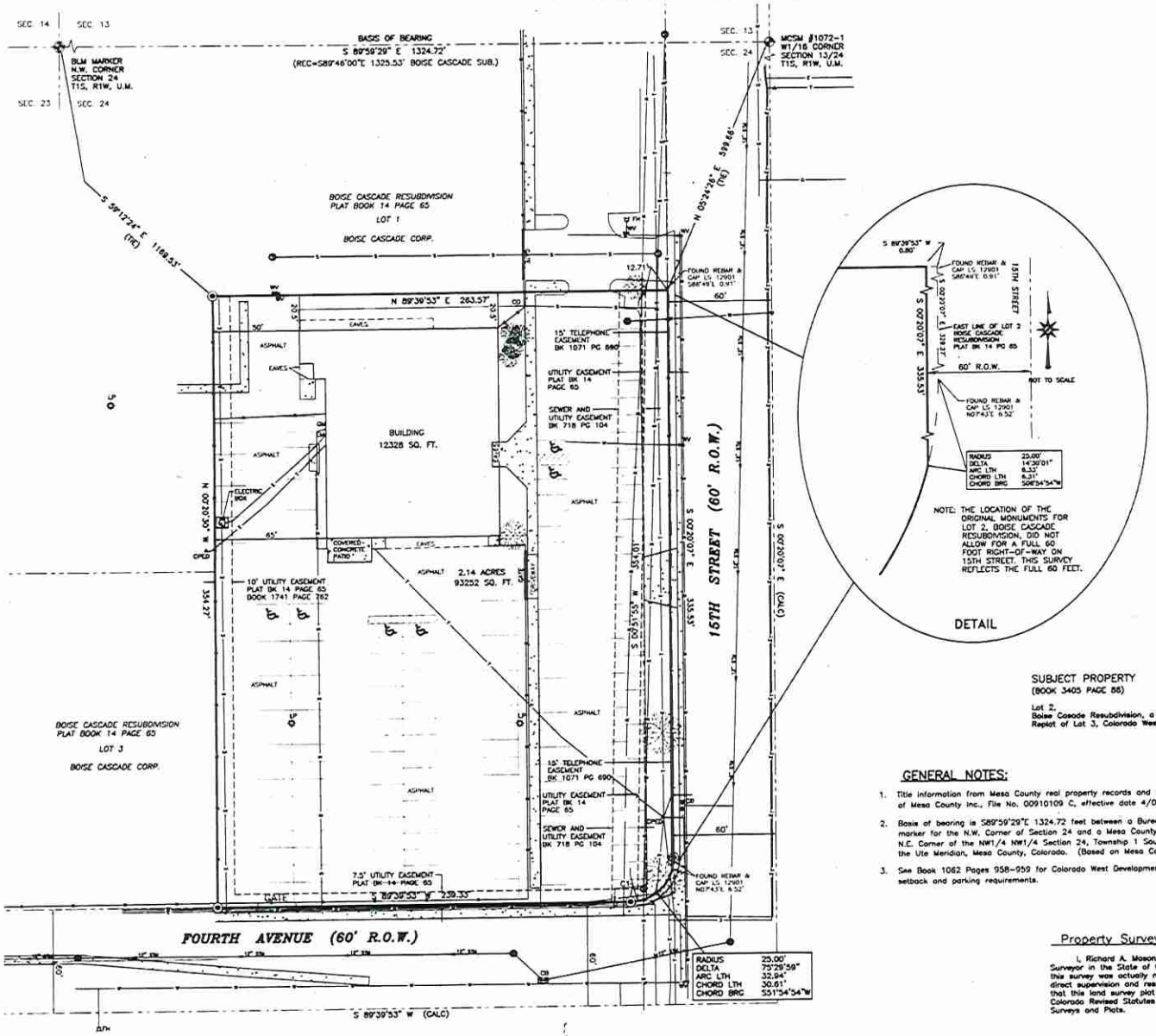
SHERRI L. DAVIS NOTARY PUBLIC PRINCE GEORGES CO.

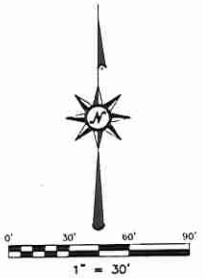
Sherri L. Davis
Notary Public

No. 16. Rev. 3-85. SPECIAL WARRANTY DEED

SIS Vision Form SDD07CO Rev. 03/10/98

DEPOSIT OF SURVEY





LEGEND

- BLM MONUMENT
- MESA COUNTY SURVEY MARKER
- FOUND 5/8" REBAR & CAP LS-12901
- SET REBAR & CAP LS-18469
- MCSM — MESA COUNTY SURVEY MARKER
- BLM — BUREAU OF LAND MANAGEMENT
- R.O.W. — RIGHT-OF-WAY
- CALC — CALCULATED
- WM — WATER METER
- FH — FIRE HYDRANT
- WV — WATER VALVE
- UP — UTILITY POLE
- CB — CATCH BASIN
- LP — LIGHT POLE
- EM — ELECTRIC METER
- GM — GAS METER
- CPED — COMMUNICATIONS PEDESTAL
- HANDICAP
- —OVH— OVERHEAD UTILITY LINES
- —W— UNDERGROUND WATERLINE
- —E— UNDERGROUND ELECTRIC LINE
- —G— UNDERGROUND GAS LINE
- —T— UNDERGROUND TELEPHONE LINE
- —x— FENCE LINE
- —15"STM— UNDERGROUND STORM DRAIN LINE
- —S— UNDERGROUND SANITARY SEWER LINE
- SANITARY SEWER MANHOLE
- STORM DRAIN MANHOLE
- TREE
- ASPHALT

SUBJECT PROPERTY
(BOOK 3405 PAGE 86)

Lot 2,
Boise Cascade Resubdivision, a Replat of Parcel A of the Replat of Lot 3, Colorado West Development Park.

GENERAL NOTES:

1. Title information from Mesa County real property records and from Abstract & Title Co. of Mesa County Inc., File No. 00910109 C, effective date 4/01/03.
2. Basis of bearing is S89°59'29"E 1324.72 feet between a Bureau of Land Management marker for the N.W. Corner of Section 24 and a Mesa County Survey Marker for the N.E. Corner of the NW1/4 NW1/4 Section 24, Township 1 South, Range 1 West, of the Ute Meridian, Mesa County, Colorado. (Based on Mesa Co. LCS).
3. See Book 1062 Pages 958-959 for Colorado West Development Park covenants including setback and parking requirements.

According to Colorado law you must commence any legal action based upon any defect in this survey within three years after you first discover 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.

CALL UTILITY NOTIFICATION
CENTER OF COLORADO
1-800-922-1987
CALL 2 BUSINESS DAYS IN ADVANCE BEFORE YOU DIG, GRADE, OR EXCAVATE FOR THE MARKING OF UNDERGROUND MEMBER UTILITIES.

Note:
All utility locations shown hereon are approximate only. You must call Utility Notification Center of Colorado for utility location prior to any excavation.

CURVE TABLE

CURVE	RADIUS	ARC LENGTH	CHORD LENGTH	CHORD BEARING	DELTA ANGLE	TANGENT
C1	25.00'	4.10'	4.09'	S 84°58'11" W	09°23'24"	2.05'

Property Survey Certification

I, Richard A. Mason, a registered Professional Land Surveyor in the State of Colorado do hereby certify that this survey was actually made upon the ground under my direct supervision and responsibility. I further certify that this land survey plat was done in accordance with the Colorado Revised Statutes for Minimum Standards for Land Surveys and Plats.

COLORADO REGISTERED PROFESSIONAL LAND SURVEYOR 18469 RICHARD A. MASON

Richard A. Mason
Registered Professional Land Surveyor
No. 18469

LAND SURVEY DEPOSIT NO. 3094-04
DEP. BOOK 1 PAGE 95 FILING DATE: 10/27/04

ROLLAND ENGINEERING
405 Ridges Blvd
Grand Jct, CO 81503
(970) 243-8300

File Name: C:\PROJECTS\4059\4059IMPR.DWG

IMPROVEMENT SURVEY PLAT
OF LOT 2, BOISE CASCADE SUBDIVISION
PLAT BOOK 14 PAGE 65
IN THE NW1/4 NW1/4 SECTION 24
T1S, R1W, OF THE UTE MERIDIAN
IN THE CITY OF GRAND JUNCTION
MESA COUNTY, COLORADO

Designed	Checked RAM	Project 4059	Sheet 1
Drawn	Date 9/30/04	Rev	Of 1

DEPOSIT 3094-04

City of Grand Junction
Application Review Comments

Date: October 26, 2020 **Comment Round No.** 1 **Page No.** 1
Project Name: Anderwirth Storage **File No:** RZN-2020-568
Project Location: 711 S 15th St

Check appropriate box(es)

	Property Owner(s):	ABBA Enterprises LLC – Terry Anderson
	Mailing Address:	711 S 15th St, Grand Junction CO 81501
X	**Email:**	tlanders55@gmail.com **Telephone:** 970-250-5645
	Applicant(s):	Same as owner

Project Manager: Senta Costello **Email:** sentac@gjcity.org **Telephone:** 970-244-1442
Development Engineer: Rick Dorris **Email:** rickdo@gjcity.org **Telephone:** 970-256-4034

City of Grand Junction
REQUIREMENTS
(with appropriate Code citations)

PLANNING

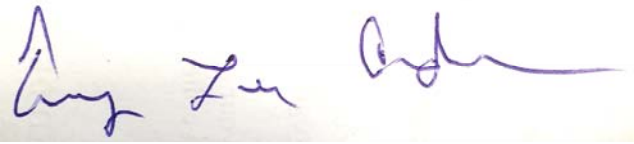
Requirements: 1. Please revise the General Project Report to answer all applicable items. Specifically, D2, D3, D4 and E. E is the Approval Criteria for a rezone. Each should be addressed individually under E.

Applicant's Response: This has been completed and all specific items have been addressed.
Document Reference: General Project Report

Please provide a response for each comment and, for any changes made to other plans or documents, indicate specifically where the change was made.

Date due: January 24, 2021

I certify that all of the changes noted above have been made to the appropriate documents and plans and there are no other changes other than those noted in the response.



Applicant's Signature **1/11/21** **Date**

GENERAL PROJECT REPORT

Anderwirth Storage

A. Project Description
   1. Location: 711 S 15th St, Grand Junction, CO 81501
   2. Acreage: 2.15 acres
   3. Proposed use: Storage Facility with Business Residence for on-site Caretaker. Proposed mini-storage units unattached from existing building on property with care-taker's apartment located in part of existing structure.

B. Public Benefit - Offering low-cost, exterior storage space in a secure facility to the public.

C. Neighborhood Meeting is scheduled for Tuesday, September 15th at 5:30pm at 711 S 15th St, Grand Junction, CO 81501

D. Project Compliance, Compatibility, and Impact
   1. Adopted plans and/or policies - Splitting the property will be done following all City of Grand Junction policies. Property is in the greater downtown area and will comply with the greater downtown plan.
   2. Land use in the surrounding area - The land use in adjacent properties are I-1
   3. Site access and traffic pattern - Site is both entered and exited through gates on both S 15th St and 4th Ave. Once on the site, two-way traffic is permitted around storage buildings and rental spots.
   4. Availability of utilities, including proximity of fire hydrant - Gas and Electric access is on 4th Ave. Lot Two will not be using Natural Gas for our business. Lot Two will be utilizing electricity only for automatic gate operation and RV parking lighting. No other utilities will be used by this Business on Lot Two. The closest fire hydrant is located 100 feet north-east of the building on Lot One.
   5. Special or unusual demands on utilities - None
   6. Effects on public facilities (fire, police, sanitation, roads, parks, schools, irrigation, etc.) - No extra demands will be needed from fire, police, sanitation, roads, parks, schools, irrigation, etc.
   7. Hours of operation - Seven days a week, 7am-7pm
   8. Number of employees - 1
   9. Signage plans - One elevated sign on S 15th St. side of property
   10. Site soils and geology - N/A
   11. Impact of project on site geology and geological hazards, if any - N/A

E. Must address the review criteria contained in the Zoning and Development Code

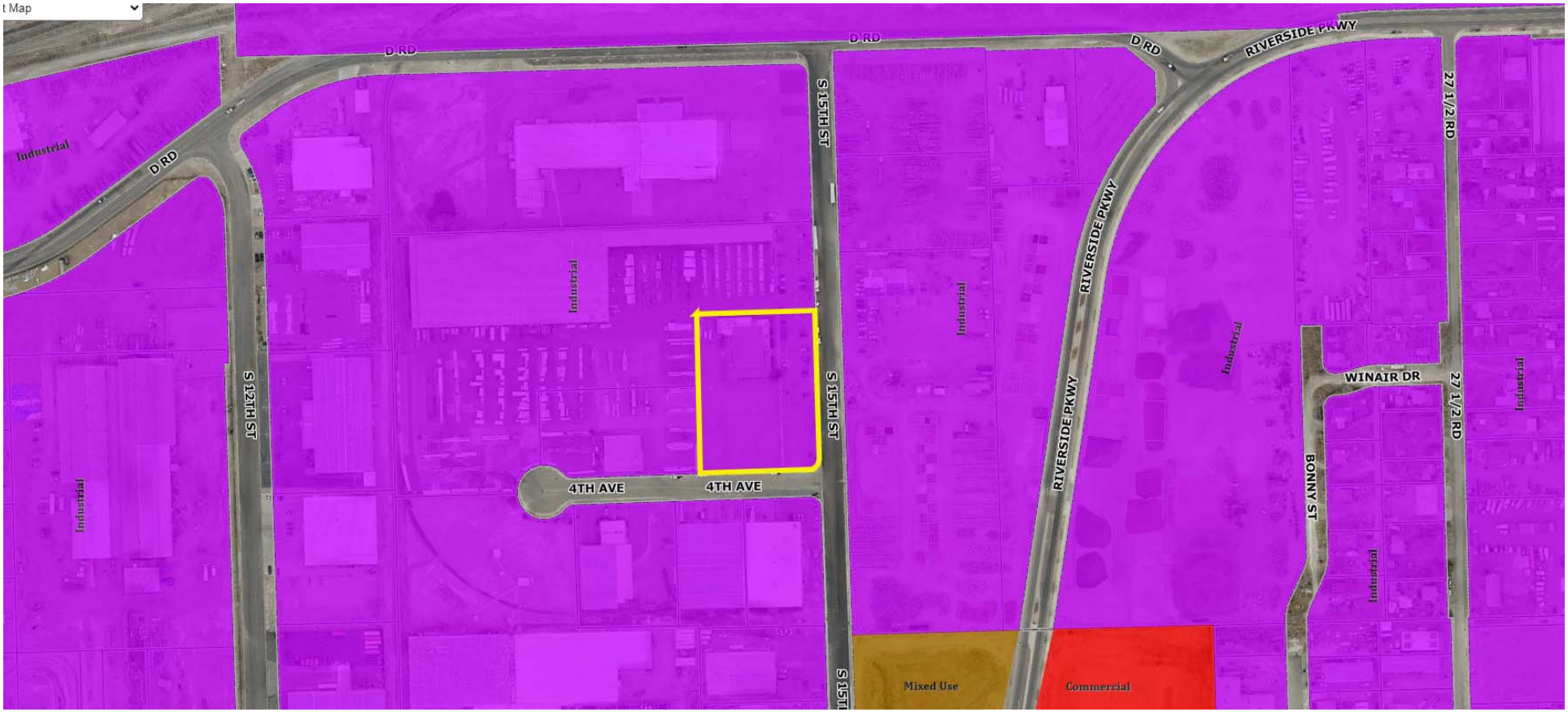
for the type of application being submitted. Rezoning Approval Criteria - In order to maintain internal consistency between this code and the zoning maps, map amendments must only occur if:

1. Subsequent events have invalidated the original premises and findings; and/or - Not applicable to this application.
2. The character and/or condition of the area has changed such that the amendment is consistent with the Plan; and/or - Not applicable to this application.
3. Public and community facilities are adequate to serve the type and scope of land use proposed; and/or - Public and community facilities are adequate to serve Anderwirth Storage.
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 - With the addition of residential properties off of Riverside Parkway, we believe there will be an increased need for residential storage and/or recreational vehicle storage which Anderwirth Storage will address and provide.
5. The community or area, as defined by the presiding body, will derive benefits from the proposed amendment. - Residents in the surrounding area will benefit from additional storage options which Anderwirth Storage will provide at this property.

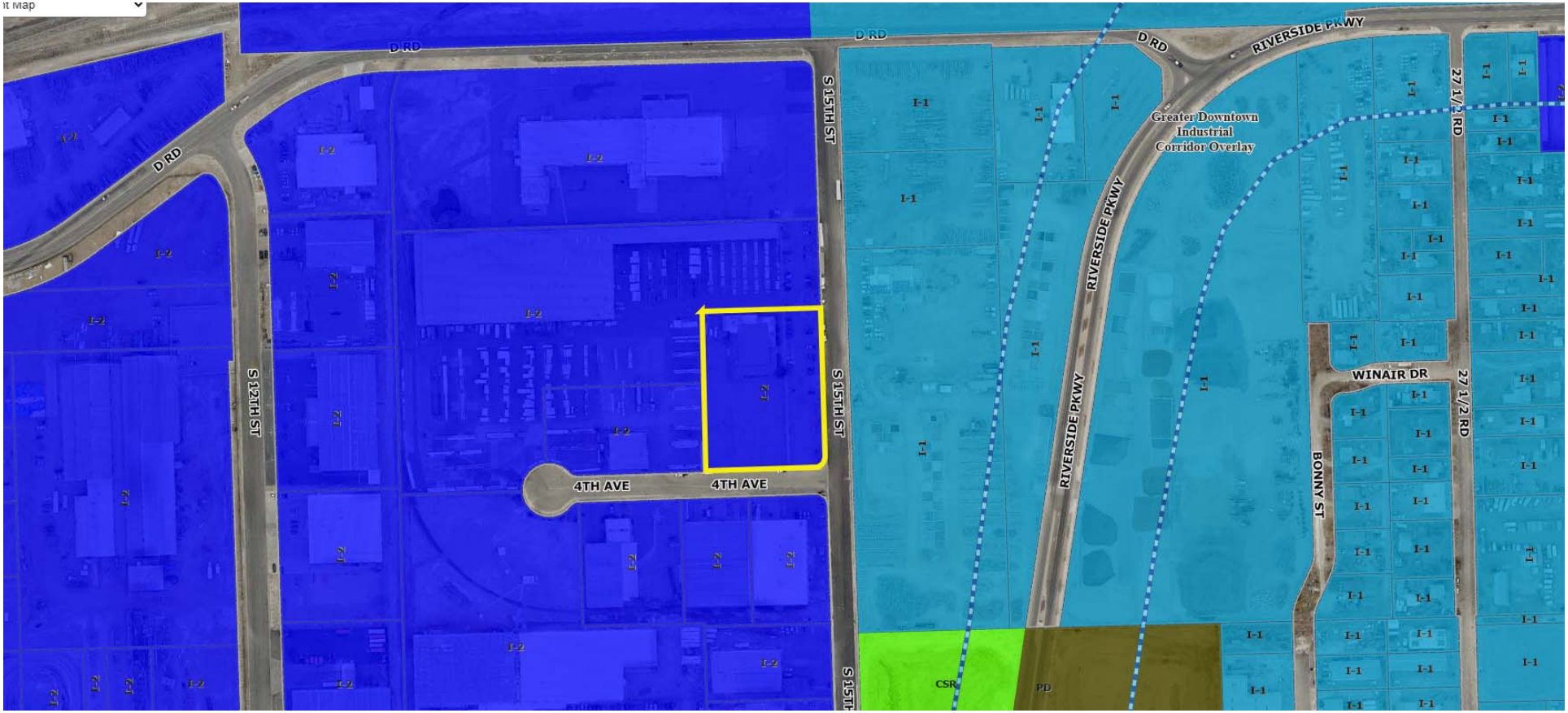
F. Development Schedule and Phasing - Our first priority is the Simple Subdivision and, once complete, the Rezone and Change of Use will be the second goal. As soon as the City of Grand Junction approves the Simple Subdivision of this property into two lots, work will commence on Lot Two to bring electrical power to the gates and lighting. From there, construction will also commence on the fence and gates. Work will be done to repave and paint the lot and spaces. The property will be ready to open to the public once the infrastructure is complete. Our goal is for this to be done by early 2021. Once the Rezone and Change of Use are complete, construction of the care-taker’s apartment will commence. Our goal is to have the business and care-taker’s apartment completed and up and running early in 2021.

Location Map

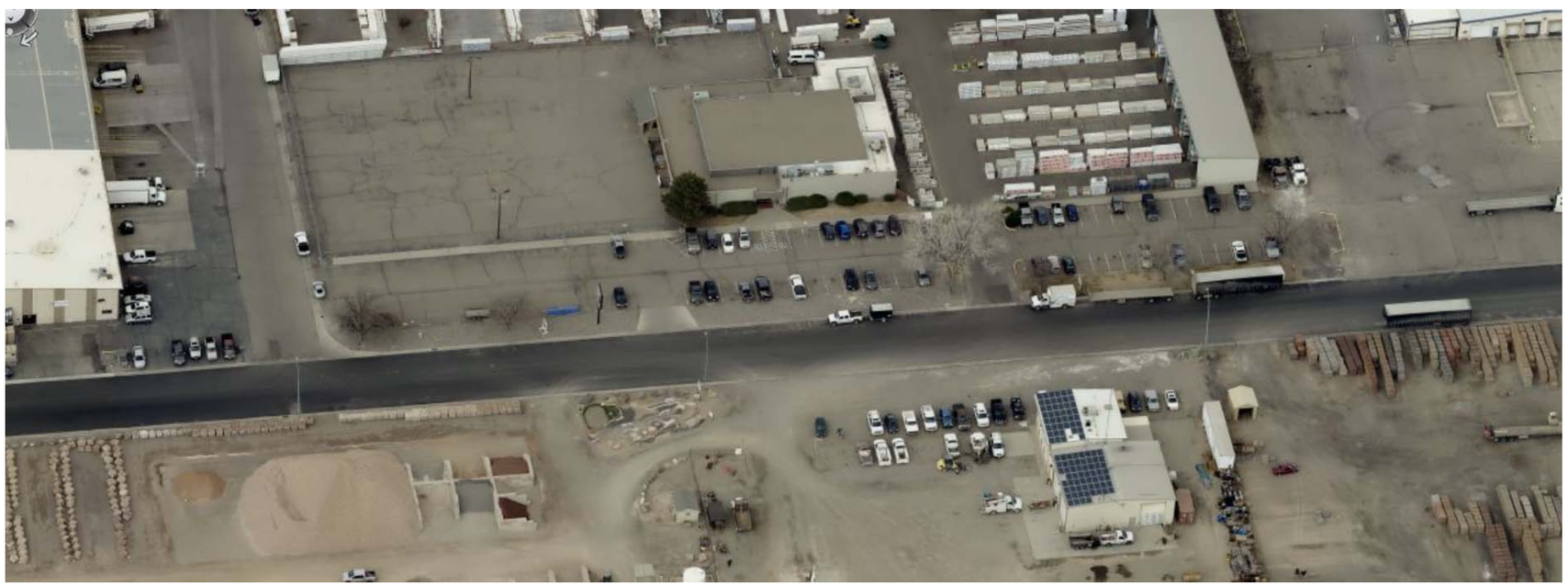
Future Land Use Map



Zoning Map


D RD
S 12TH ST
S 15TH ST
4TH AVE
RIVERSIDE PKWY
Greater Downtown
Industrial
Corridor Overlay
27 1/2 RD
WINAIR DR
BONNY ST
CSR
PD
I-1
I-2

Street View and Photo



CITY OF GRAND JUNCTION, COLORADO

ORDINANCE NO. ____

AN ORDINANCE REZONING PROPERTY FROM I-2 (GENERAL INDUSTRIAL) TO I-1 (LIGHT INDUSTRIAL)

LOCATED AT 711 SOUTH 15TH STREET

Recitals:

After public notice and public hearing as required by the Grand Junction Zoning and Development Code, the Grand Junction Planning Commission recommended approval of zoning 711 S 15th Street to the I-1 (Light Industrial) zone district, finding that it conforms to and is consistent with the Future Land Use Map designation of Industrial of the Comprehensive Plan and 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 I-1 (Light Industrial) zone district is in conformance with at least one of the stated criteria of Section 21.02.140 of the Grand Junction Zoning and Development Code.

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

The following properties shall be zoned I-1 (Light Industrial):

LOT 2 BOISE CASCADE RESUBDIVISION SEC 24 1S 1W

Introduced on first reading this ___ day of March, 2021 and ordered published in pamphlet form.

Adopted on second reading this __ day of March, 2021 and ordered published in pamphlet form.

ATTEST:

_____ _____

City Clerk Mayor

Grand Junction Planning Commission

Regular Session

Item #3.

Meeting Date: February 23, 2021

Presented By: Trent Prall, Public Works Director, Michelle Hansen of Stolfus Associates, David Thornton, Principal Planner

Department: Community Development

Submitted By: David Thornton, Principal Planner

Information

SUBJECT:

Consider a request by the City of Grand Junction to adopt the Patterson Road Access Control Plan (ACP), as Volume III, Title 38 of the Municipal Code. | Staff Presentation | Phone-in comments dial **2880**

RECOMMENDATION:

Staff recommends approval.

EXECUTIVE SUMMARY:

In 2020, the City engaged Stolfus and Associates to study and prepare an Access Control Plan (ACP) for the 7.0-mile Patterson Road corridor within the City limits.

The goal of access management is to optimize the performance of the corridor, improve the level of safety, reduce traffic congestion, and improve the overall functionality. The ACP works to plan, coordinate, regulate, and design access to and from adjacent property including future development.

Throughout 2020, Stolfus' work inventoried access points, count traffic, determined existing and future traffic demands, performed a safety analysis for Patterson Road and prepared a draft Plan that was presented to City Council at the August 3, 2020 Workshop. A public open house was held on October 1, 2020 and the final document was publicly reviewed through GJSpeaks. Virtual one-on-ones were held January 13, 2021 along with follow-up phone calls to concerned property owners to discuss individual access related concerns. The proposed final draft Plan was presented to City Council at the February 1, 2021 Workshop.

Upon adoption, the Patterson Road Access Control Plan (ACP) becomes a new Plan to Volume III of the Municipal Code and will become Title 38. The One Grand Junction Comprehensive Plan and all other adopted Plans by the City are elements of Volume III titled "Comprehensive Plan" and thus codified in Volume III. The proposed final Patterson Road ACP will be presented for adoption.

BACKGROUND OR DETAILED INFORMATION:

BACKGROUND

The City engaged, in January of 2020, the consulting firm Stolfus and Associates to prepare an Access Control Plan (ACP) for Patterson Road. The purpose of the ACP is to provide effective access to properties and public street connections to Patterson Road.

The ACP works to coordinate planning, regulation, and design of access to Patterson Road from adjacent property including future development. The plan involves the systematic control of the location, spacing, design, and operation of driveways, median openings, and street connections. The ACP defines existing and future access locations and configurations (movements allowed), with consideration for circulation and alternative access opportunities. It is a long-range planning document that identifies access conditions that will be implemented as roadway corridor and land-use characteristics change. Similar studies have been developed by CDOT throughout the state and it has been demonstrated that access-managed corridors not only preserve the transportation functions of roadways, but also help preserve property values and the economic viability of abutting developments.

The study area consists of approximately seven miles of Patterson Road (F Road) between I-70B (23.75 Road) and Lodgepole Street (30.75 Road) within the City limits. The segment on the east end that extends beyond City limits is controlled by Mesa County and not included in this plan. In general, land use within the city limits is suburban in nature with residential and commercial uses. There are currently 284 access points on Patterson Road within the study area. A majority of access points are full movement. The access points are classified as follows:

• 15 Signalized public road intersections (29 access points)

• 54 unsignalized public road intersections (62 access points)

• 2 unsignalized private road intersections (2 access points)

• 81 business access points

• 93 residential access points

• 17 maintenance or field access points

Since its construction in 1984, Patterson Road has served as a critical part of Grand Junction's transportation system. It serves as a major east-west arterial corridor and is an important public resource. Effective access management is essential in order to optimize the performance of the road to improve the level of safety, reduce traffic congestion and improve the quality of the corridor.

PUBLIC OUTREACH AND ENGAGEMENT

One key component to a successful ACP is ensuring that the general public, business owners, and property owners have had opportunities to offer their input. Stolfus and Associates worked over the last year to inventory access points, determine existing and future traffic demands, and perform a safety analysis for the Patterson Road corridor. In July 2020, they prepared a draft plan that included overall project goals.

While the project team ensured that the draft ACP was sound from a transportation engineering perspective, public input is critical to making sure the ACP considers property owner concerns, to the extent feasible. To facilitate this, the first public open house was held on October 1, 2020. Over 800 bilingual (English and Spanish) postcards were mailed to property owners and residents/ business owners abutting and near the corridor. Additionally, bilingual newspaper advertisements were placed, and the City's social media accounts were utilized to distribute information. Even with the COVID-19 Pandemic, 30 people attended the October 1, 2020 in-person open house and numerous comment forms were received.

To accommodate those who were unable to attend this open house, all exhibits, and a supplemental video were made available on GJSpeaks.org. Bilingual comment forms and answers to frequently asked questions were also available on the website.

At the open house, attendees with more complicated issues were encouraged to sign up for one-on-one meetings with the project team. City staff simultaneously identified other properties where one-on-one meeting may be beneficial. The project team has contacted those property owners and met with them.

Based on these various stakeholder, one-on-one and open house comments, there were several revisions that were made to the ACP. Revisions to the ACP included those access points that may remain open with a raised median along Patterson Road, but be required to close if a property/site redevelops. This distinction is especially important on sites such as existing fuel stations where large trucks require two access points.

With a new revised draft ACP, a second public open house was held, this time virtually

for a week between January 6 and 12, 2021. Bilingual notice was mailed a second time to property owners and residents/business owners abutting and near the corridor. The new draft ACP was prepared and presented to the public for additional review and comment. The virtual open house utilized GJSpeaks.org as its platform where all plan documents were available to view and comments could be submitted giving the public the entire week to participate. There has been a total of 14 webpage views and the informational videos have been viewed 71 times by the public.

Participants with more complicated issues were encouraged to sign up for 30-minute one-on-one meetings with the project team on January 13, 2021. There were ten people that signed up for these Zoom virtual meetings. Additionally, phone calls were made to other concerned property owners and with those the project team had already met with, to resolve questions and obtain feedback. All new comments received were reviewed and considered in the preparation of the final plan.

The Planning Commission reviewed the draft ACP in a workshop on December 3, 2020 between the two open houses. City Council reviewed the draft ACP in a workshop on February 1, 2021 and asked that Staff do further public outreach up through the Council public hearing on the ACP. This is being done and includes additional social media postings on the City's social media sites and meeting with the Chamber of Commerce Board. The planning team continues to receive phone calls from interested property owners seeking understanding and clarification of the proposed ACP. City Council first reading is currently proposed for February 17th with 2nd reading and public hearing and consideration for adoption of an ordinance at the March 3rd City Council meeting.

ACCESS MANAGEMENT BENEFITS

The Street Plan Functional Classification Map within the Grand Junction Circulation Plan (GVCP) identifies the corridor as a Minor Arterial from I-70B (23.75 Road) to 25 Road and a Principal Arterial from 25 Road to Lodgepole Street (30.75 Road). Arterial roadways are considered higher order roadways that carry large volumes of traffic and have limited access. Implementing access management along Patterson Road will help the City by preserving and improving traffic operations along the corridor. By preserving the capacity of Patterson Road, more traffic can be carried throughout the corridor without the construction of additional travel lanes.

Access management provides the means to balance good mobility along a roadway with local access needs of businesses and residents. Many long-term benefits to a corridor include:

• Limiting full movement access within a corridor favors through movements and strategically identifies locations for vehicles to enter and exit the corridor.

• Congestion is reduced, lessening travel times and providing smoother traffic flow.

• Reduces or prolongs the need to add additional thru lanes as traffic increases.

• Reduced congestion results in less air pollution.

• It has tremendous safety benefits. Studies have shown a 30% to 60% reduction in crashes on roadways where access management techniques are implemented.

• Access management is also good for business, providing safe access to customers and retaining more of a community's original market area.

ACP Study Purpose and Goals

The purpose of this study is to coordinate development and growth anticipated in the area with the transportation needs for the local community and traveling public with the intention of improving safety and maximizing the life of the four-lane section along Patterson Road. The goals for the project are as follows:

1. Provide effective and efficient through travel for traffic on Patterson Road utilizing the existing right-of-way and identify where additional right-of-way is needed.

2. Provide safe, effective, and efficient access to and from Patterson Road for businesses, residents, and guests to support the economic viability of the City.

3. Maintain compatibility with existing and proposed street network connections that provide local circulation to support the transportation system.

4. Support alternative modal choices, including transit, pedestrian, and bicycle routes.

5. Provide a plan that can be implemented in phases.

6. Maintain compatibility with previous local planning efforts. Such as, the Grand Junction Circulation Plan, Ballot 2A measure, and the One Grand Junction Comprehensive Plan.

PLAN DEVELOPMENT AND APPROACH

The existing physical and operational characteristics of Patterson Road were investigated. Then, future physical and operational characteristics were projected for a 20-year planning period based on anticipated growth in the area. The ACP was created using input from City staff, private property owners, and the general public.

To achieve the project goals, various changes to the existing Patterson Road corridor are recommended, including:

• Restriction of numerous full movement access points resulting in right-in/right-out and ¾ movement (left-in, right-in/right-out) accesses.

• Limitation of full movement access to major signalized intersections.

• Reduction of access to one location per ownership and where feasible, shared between adjacent properties.

• For properties located adjacent to Patterson Road, access points may be relocated to lower order streets, where reasonable access can be preserved.

• Out of direction travel will be limited in general to a maximum distance of one mile (½ mile each direction). Out of direction travel is the distance needed to reach an access that has been obstructed by a center median compared to the distance needed on an undivided street.

The recommended changes to Patterson Road will result in the following benefits:

• a 60% reduction of vehicle conflict points, which correlates to a reduction in crashes.

• a 45% reduction in conflict points for pedestrians and cyclists traveling on Patterson Road.

• improved travel time in both directions during morning and evening peak periods.

• the addition of auxiliary lanes at major intersections to safely separate turning movements and through movements and allow through movements to travel unimpeded.

• retention of business market area over time by reducing congestion.

• increased fuel efficiency the traveling public and improved air quality by providing smoother traffic flow.

In addition to the recommended changes, several new local streets are proposed. These alternative streets provide additional circulation opportunities that will reduce local dependence on Patterson Road by providing alternatives for restricted left-turn movements and reducing traffic at high-demand intersections.

CORRIDOR IMPROVEMENT PRIORITIES

A base level review of corridor traffic safety and operations was conducted to support the ACP. Using a 2045 horizon year, traffic demand on the corridor is generally

expected to increase by 33% in the morning peak hour and 24% in the afternoon peak hour. Since there are no well-established methods of estimating future crashes, data from 2014 to 2018 was used to evaluate existing intersection safety.

Patterson Road intersections with the highest traffic safety and operations improvement priorities are at 25 Rd and N 12th St. The Patterson Road segment with the highest priority for implementation of the ACP with a raised median is from 24 ½ Road to 25 Road due to the elevated number of driveway crashes.

Other locations on the corridor that show a high potential for crash reduction include the Patterson Road intersections with 24 Road, Market Street, 24 ½ Road, 25 ½ Road, North 1st Street, North 15th Street, 28 ¼ Road, 29 Road, 29 ½ Road, and 30 Road. Implementation of the ACP with a raised median between 25 Road and 12th Street has a high benefit due to the number of driveway crashes recorded. Thirteen intersections on the corridor meet requirements for additional right or left turn lanes.

Other findings and recommendations for the corridor include the following:

• Alternative intersection types were considered, but it is recommended that the intersection at 24 Road remain a conventional signalized intersection, with an additional northbound thru and eastbound left turn lane constructed to help traffic operations.

• Elimination of the traffic signal at Market Street was considered because of its close proximity to 24 Road, but due to the resulting impacts and in consideration of the potential relief that a future extension of F 1/2 Road as a principal arterial would provide, it is recommended that the Market Street intersection remain signalized.

• Restricting the 15th Street to ¾ access was considered, but since the signal serves pedestrian movements and as a relief valve to 12th Street, it is recommended to remain as is.

• Conduct further analysis to identify mid-block crossing locations that support pedestrian accessibility and transit access.

• Adopt alternative road connections into the City of Grand Junction's Street Plan Functional Classification Map as part of the Grand Junction Circulation Plan.

IMPLEMENTATION CONDITIONS

The improvements recommended in the ACP represent a long-range plan to implement over time as traffic and safety needs arise and as funding becomes available. Construction of the improvements recommended may be completed using public and/or private funding. The following scenarios will trigger construction.

1. A property redevelops or changes use, resulting in an increase in traffic to and from the site of 20% or more.

2. Planned publicly funded project by the City.

3. A safety or operational issue develops that can be mitigated through the implementation of access management techniques consistent with the ACP.

It is important to remember that implementation of improvements recommended in the ACP will only occur with one of the triggers listed above. Without one of these scenarios, the ACP does not compel a property owner to make access changes.

CONCLUSIONS

Traffic demand on Patterson Road is expected to increase by 24% to 33% over the next twenty years challenging the future functionality of the corridor. Access management has been proven both nationally and statewide to effectively preserve the transportation function of arterial roadways by optimizing the performance of the road to improve the level of safety, reduce traffic congestion and preserve property values without constructing major arterial improvements. The findings of this study indicate that applying access management techniques along Patterson Road, including the implementation of a raised median, addition of auxiliary lanes, and the consolidation of driveways, will significantly reduce conflict points for vehicles, pedestrians, and cyclists, which correlates to reduced crashes and improved safety. In addition, smoother traffic flow and improved travel times will extend the life of the existing four-lane section on Patterson Road. Prolonging the need for additional through lanes along Patterson Road will result in taxpayer savings and reduced impacts to adjacent properties and businesses.

The proposed ACP and associated alternative routes provide the City with a corridor-wide vision for how to coordinate development and growth with the transportation needs on Patterson Road. The ACP will provide clear expectations for access for both City staff and property owners/developers as land-use changes are proposed and public projects are developed. To provide for commitment to the access modifications and circulation routes recommended by this study, it is recommended that City adopt the ACP for Patterson Road, as well as the proposed alternative routes. The ACP identifies access locations and levels of access by reference point for Patterson Road within City limits. The ACP Table, which provides detailed conditions and requirements for each access point, is included in Appendix F. In recognition of the plan's long-range nature and the potential for conditions to change over time, the City should view this plan as a living document that can be amended to best meet future conditions and priorities for the City.

The Patterson Road Access Control Plan will become Title 38, Volume III, of the Municipal Code. It is a standalone plan in Volume III that houses the various land-use related adopted planning documents of the City. The Plan is attached to this staff report and is proposed to be adopted by Ordinance in its entirety.

NOTIFICATION REQUIREMENTS

Published Notice was completed consistent to the provisions in Section 21.02.080 (g) of the City's Zoning and Development Code. A notice of the public hearing was published February 2, 2020 in the Grand Junction Sentinel. Mailed notice and posting are not required for Comprehensive Plan Amendments.

ANALYSIS

The Patterson Road Access Control Plan will become Title 38 in Volume III, of the Municipal Code and one of many planning documents that support and implement the City's Comprehensive Plan. Pursuant to Section 21.02.130(c)(2) of the Grand Junction Zoning and Development Code, the City may adopt Plans consistent with the vision, goals and policies of the Comprehensive Plan and the following criteria for Plan Amendments are met:

21.02.130(c) Criteria

(1) The City may amend the Comprehensive Plan, neighborhood plans, corridor plans and area plans if the proposed change is consistent with the vision (intent), goals and policies of the Comprehensive Plan and:

Upon adoption, the Patterson Road ACP becomes a new Plan to Volume III of the Municipal Code and will become Title 38. The One Grand Junction Comprehensive Plan and all other adopted Plans by the City are elements of Volume III titled "Comprehensive Plan" and thus codified in Volume III.

This ACP is the first access control plan for Patterson Road and its need continues to grow as traffic increases with new development occurring along and in proximity of the corridor. Many Grand Junction residents and visitors use the corridor for their transportation needs. The ACP is supported by the recently adopted 2020 One Grand Junction Comprehensive Plan, in particular Strategy f under Goal 2 of Plan Principal 6 Efficient and Connected Transportation, which strategy states, "Access Management. - Plan, implement, and support the development of Access Control Plans (e.g. Patterson Road and North Avenue)". The Patterson Road Access Control Plan Study is ready for adoption as a planning document implementing the City's Comprehensive Plan adopted December 16, 2020.

Additionally, the proposed ACP implements the 2020 One Grand Junction Comprehensive Plan in the following ways.

It furthers the planning that is needed to help support a resilient and diverse economy and plan for future key infrastructure projects. It helps plan for infrastructure including center medians that support urban development. It further plans for creating a safe, balanced, and well-connected transportation system complete with center medians, shared accesses and turn lanes to help capacity and safety. These are supported specifically by the Plan Principals, Goals and Strategies from the 2020 One Grand Junction Comprehensive Plan listed below.

Plan Principle 2: Resilient and Diverse Economy

Goal 6. Invest in key infrastructure that supports business.

Strategy: Continue to strategically invest in transportation and utility infrastructure to serve business and implement the Grand Junction Circulation Plan…."

The adoption of the Patterson Road ACP furthers the planning that is needed to help support a resilient and diverse economy and plan for key infrastructure projects.

Plan Principal 3: Responsible and Managed Growth

Goal 4. Maintain and build infrastructure that supports urban development.

The ACP helps plan future infrastructure including center medians that support urban development.

Plan Principal; 6: Efficient and Connected Transportation

Goal 1. Continue to develop a safe, balanced, and well-connected transportation system that enhances mobility for all modes - Strategy f Complete Streets - subsection vi. Constructing center medians, shared accesses and turn lanes to enhance roadway capacity and safety.

Goal 2 Actively manage transportation systems and infrastructure to improve reliability, efficiency, and safety - Strategy f Access Management. Plan, implement, and support the development of Access Control Plans (e.g. Patterson Road and North Avenue).

Staff finds that the ACP is consistent with the vision, goals, principles and policies of the One Grand Junction Comprehensive Plan. This criterion has been met.

(i) Subsequent events have invalidated the original premises and findings; and/or

The Patterson Road corridor continue to see increases in traffic and public safety

concerns. As it is implemented, the Patterson Road ACP will systematically control the location, spacing, design, and operation of driveways, median openings, and street connections to allow for safer and better traffic flow and provide effective access to properties and public street connections to Patterson Road. Existing traffic continues to increase and projected to further increase over the next 20 years. Today's traffic demand and increasing future traffic are subsequent events that support the need for the ACP study and establish an access control plan for the Patterson Road corridor.

Staff finds this criterion has been met.

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

As noted in criterion (i), the condition of the corridor or traffic increases in the Patterson Road corridor have changed and are predicted to increase in the future, supporting the ACP as an important Plan implementing the City's Comprehensive Plan.

Therefore, Staff finds that this criterion has been met.

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

This criterion is not applicable since the adoption is of an Access Control Plan and not about specific land uses.

Therefore, Staff finds that this criterion has not been met.

(iv) 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

This criterion is not applicable since the adoption is of an Access Control Plan and not a land use map amendment.

Therefore, Staff finds that this criterion has not been met.

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

Access Control Plans work to coordinate planning, regulation, and design of access to properties along a corridor. The Patterson Road ACP involves the systematic control of the location, spacing, design, and operations of driveways, median openings, and street connections and manages the road corridor to not only preserve the transportation functions of corridor, but also to help preserve property values and the

economic viability of abutting developments. It optimizes the performance of the roadway to improve the level of safety, reduction of traffic congestion and is key in minimizing the need to add additional lanes of traffic (expansion from 2 lanes to 3 lanes each way) that would have a much greater impact to the corridor and adjacent properties.

Staff finds that this criterion has been met.

RECOMMENDATION AND FINDINGS OF FACT

After reviewing the Patterson Road Access Control Plan, CPA-2021-17, a request by the City of Grand Junction to adopt the Patterson Road Access Control Plan (ACP), as Volume III, Title 38 of the Municipal Code, the following findings of fact have been made:

1. The proposed Access Control Plan is consistent with the goals and policies of the Comprehensive Plan.

2. At least one of the review criteria in Section 21.02.130(c)(2) of the Grand Junction Municipal Code have been met.

Staff recommends approval.

SUGGESTED MOTION:

Mr. Chairman, on the Patterson Road Access Control Plan, CPA-2021-17, I move that Planning Commission forward a recommendation of adoption of the Patterson Road Access Control Plan (ACP), as Volume III, Title 38 of the Municipal Code with the findings of fact as listed in the staff report.

Attachments

1. Patterson Rd Access Study
2. Patterson Rd Access Study- Appendices
3. GJSpeaks comments and City responses
4. Proposed ordinance _ Pattterson Rd Access Control Plan

City of Grand Junction Patterson Road Access Study

US 6 / US 50 / I-70B to Lodgepole Street

January 2021

City of Grand Junction Colorado

Stolfus

CITY OF GRAND JUNCTION
PATTERSON ROAD
ACCESS STUDY

US 6/ US 50/ I-70B to Lodgepole Street

January 2021

Prepared for:

City of Grand Junction
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EXECUTIVE SUMMARY

Project Background

Since its construction in 1984, Patterson Rd has served as a critical part of Grand Junction's transportation system. It serves as a major east-west arterial corridor and is an important public resource for the community. Sustained and successful economic development along the corridor is increasing travel demand and necessitating the need to improve safety, operations, and reliability. Effective access management is essential in order to optimize the performance of the road to improve the level of safety, reduce traffic congestion and improve the quality of this corridor without constructing major arterial improvements. In recognition of the benefits of access management and the need to proactively plan for the future, the City of Grand Junction identified an Access Control Plan (ACP) as a first step toward planning for both private development access and for public improvement projects along Patterson Rd. Similar studies have been developed both nationally and statewide and it has been demonstrated that access-managed corridors not only preserve the transportation functions of roadways, but also help preserve property values and the economic viability of abutting developments. ***The purpose of this study is to coordinate development and growth anticipated in the area with the transportation needs for the local community and traveling public with the intention of improving safety and maximizing the life of the four-lane section along Patterson Rd.***

The ACP coordinates planning, regulation, and design of access to Patterson Rd from adjacent property, including new land development. The plan incorporates the systematic control of the location, spacing, design, and operation of driveways, median openings, and street connections to the roadway. The ACP defines existing and future access locations and configurations (movements allowed), with consideration for circulation and alternative access opportunities. It is a long-range planning document that identifies access conditions that will be implemented as roadway corridor and land-use characteristics change. The ACP will provide clear expectations for access for both City staff and property owners/developers.

Study Area

The study area consists of approximately seven miles of Patterson Rd (F Rd) between I-70B (23.75 Rd) and Lodgepole St (30.75 Rd). The segment on the east end that extends beyond City limits is controlled by Mesa County and not included in this plan. In general, land use within the city limits is suburban in nature with residential and commercial uses. There are currently 284 access points on Patterson Rd within the study area. A majority of access points are full movement. The access points are classified as follows:

- 14 Signalized public road intersections (27 access points)
- 54 Unsignalized public road intersections (62 access points)
- 2 unsignalized private road intersections (2 access points)
- 82 business access points
- 95 residential access points
- 18 maintenance or field access points

Project Goals

The Street Plan Functional Classification Map within the Grand Valley Circulation Plan identifies the corridor as a Minor Arterial from I-70B (23.75 Rd) to 25 Rd and a Principal Arterial from 25 Rd to Lodgepole St (30.75 Rd). Arterial roadways are considered higher order roadways that carry large volumes of traffic and have limited access. Implementing access management along Patterson Rd will help the City by preserving and improving traffic operations along the corridor. By preserving the capacity of Patterson Rd, more traffic can be carried throughout the corridor without the construction of additional travel lanes.

Access management also has tremendous safety benefits. Of the reported crashes on Patterson Rd, 64.0% (759) were at or related to an intersection. Studies have shown a 30% to 60% reduction in crashes on roadways where access management techniques are implemented. The reduction in vehicle conflicts has the added benefit of improving traffic flow, reducing travel times, increasing public safety, reducing economic loss, increasing fuel efficiency and contributing less to air pollution. Access management is also good for business, providing safe access to customers and retaining more of a community's original market area by limiting congestion that may prevent some customers from making a trip.

With this in mind and recognizing the primary purpose of the ACP is to improve safety and the traveling experience along the corridor and coordinate anticipated growth in the area with the roadway network, the following project goals were established:

- Provide effective and efficient through travel for traffic on Patterson Rd utilizing the existing right-of-way and identify if additional right-of-way is needed.
- Provide safe, effective, and efficient access to and from Patterson Rd for businesses, residents, and guests to support the economic viability of the City of Grand Junction and Mesa County.
- Maintain compatibility with existing and proposed street network connections that provide local circulation to support the transportation system.
- Support alternative modal choices, including transit, pedestrian, and bicycle routes.
- Provide a plan that can be implemented in phases.
- Maintain compatibility with previous local planning efforts. Such as, the Grand Valley Circulation Plan, Ballot 2A measure, and the One Grand Junction Comprehensive Plan.

Plan Development and Approach

The existing physical and operational characteristics of Patterson Rd were investigated. Next, future physical and operational characteristics were projected for a 20-year planning period based on anticipated growth in the area. The ACP was created using input from City staff, private property owners, and the general public.

To achieve the project goals, various changes to the existing Patterson Rd corridor are recommended, including:

- Restriction of numerous full movement access points resulting in right-in/right-out and ¾ movement (left-in, right-in/right-out) accesses.
- Limitation of full movement access to major signalized intersections.
- Consolidation of access to one location per ownership and where feasible, shared between adjacent properties.

- For properties located adjacent to Patterson Rd, access points may be relocated to lower order streets where reasonable access can be provided.
- Out-of-direction travel will be limited in general to a maximum distance of one mile (½ mile each direction). Out-of-direction travel is the distance needed to reach an access that has been obstructed by a center median compared to the distance needed on an undivided street.

The recommended changes to Patterson Rd will result in the following benefits:

- a 60% reduction of vehicle conflict points, which correlates to a reduction in crashes
- a 45% reduction in conflict points for pedestrians and cyclists traveling on Patterson Rd
- improved travel time in both directions during morning and evening peak periods
- the addition of auxiliary lanes at major intersections to safely separate turning movements and through movements and allow through movements to travel unimpeded
- retention of business market area over time by reducing congestion
- increased fuel efficiency the traveling public and improved air quality by providing smoother traffic flow

In addition to the recommended changes, several new local streets are proposed. These alternative streets provide additional circulation opportunities that will reduce local dependence on Patterson Rd by providing alternatives for restricted left-turn movements and reducing traffic at high-demand intersections.

Public Involvement

Input from corridor stakeholders including property owners, occupants, partner agencies, and the general public was critical to the ACP development. In advance of the first open house, agency stakeholder meetings with Mesa County, Grand Junction Fire District, Clifton Fire District, Mesa County Valley School District 51, Grand Valley Transit and Mesa County Regional Transportation Planning Organization were held. In compliance with Mesa County Public Health requirements, a public open house was held at Faith Heights Church on October 1, 2020. Over 800 bilingual invitations were sent out and notice was posted on City social media feeds for the open house. Additionally, all exhibits were posted on the GJSpeaks website for those who did not attend in person.

Following the public open house, the project team met with key property owners and anyone who signed up for one-on-one meetings at the open house. The plan was then updated to reflect the public input received from the open house and subsequent meetings. While Mesa County Public Health restrictions prevented a second in-person open house, the updated ACP was presented as a “virtual open house” on GJSpeaks from January 6-12, 2021. Again, postcards were mailed to owners and occupants along Patterson Rd along with notices to the general public. This provided an additional opportunity to review the revised ACP and provide new comments. Also offered on GJSpeaks was a sign-up to meet with the project team on January 13th over Zoom to resolve any additional questions.

Corridor Improvement Priorities

A base level review of corridor traffic safety and operations was conducted to support the ACP. Using a 2045 horizon year, traffic demand on the corridor is generally expected to increase by 33% in the morning peak hour and 24% in the afternoon peak hour. Since there are no well-

established methods of estimating future crashes, data from 2014 to 2018 was used to evaluate existing intersection safety.

Patterson Rd intersections with the highest traffic safety and operations improvement priorities are at 25 Rd and N 12th St. The Patterson Rd segment with the highest priority for implementation of the ACP with a raised median is from 24 ½ Rd to 25 Rd due to the elevated number of driveway crashes.

Other locations on the corridor that show a high potential for crash reduction include the Patterson Rd intersections with 24 Rd, Market St, Home Depot access, 24 ½ Rd, 25 ½ Rd, N 1st St, N 7th St, N 15th St, 28 Rd, 28 ¼ Rd, 29 Rd, 29 ½ Rd, and 30 Rd. Implementation of the ACP with a raised median between 25 Rd and 12th St has a high benefit due to the number of driveway crashes recorded. Fourteen intersections on the corridor meet requirements for additional right or left turn lanes.

Other findings and recommendations for the corridor include the following:

- Alternative intersection types were considered, but it is recommended that the intersection at 24 Rd remain a conventional signalized intersection, with an additional northbound thru and eastbound left turn lane constructed to help traffic operations.
- Elimination of the traffic signal at Market St was considered because of its close proximity to 24 Rd, but due to the resulting impacts and in consideration of the potential relief that a future extension of F 1/2 Rd as a principal arterial would provide, it is recommended that the Market St intersection remain signalized.
- Restricting the 15th St to ¾ access was considered, but since the signal serves pedestrian movements and as a relief valve to 12th St, it is recommended to remain as is.
- Conduct further analysis to identify mid-block crossing locations that support pedestrian accessibility and transit access.
- Adopt alternative road connections into the City of Grand Junction's Street Plan Functional Classification Map as part of the Grand Junction Circulation Plan.

Implementation Conditions

The improvements recommended in the ACP represent a long-range plan to implement over time as traffic and safety needs arise and as funding becomes available. Construction of the improvements recommended may be completed using public and/or private funding. The following scenarios will trigger construction.

1. A property redevelops or changes use, resulting in an increase in traffic to and from the site of 20% or more.
2. Planned publicly funded project by the City.
3. A safety or operational issue develops that can be mitigated through the implementation of access management techniques consistent with the ACP.

Implementation of improvements recommended in the ACP will only occur with one of the triggers listed above. Without one of these scenarios, the ACP does not compel a property owner to make access changes.

1.0 INTRODUCTION

1.1 Project Background

Patterson Rd is a critical east-west arterial corridor for Grand Junction's large and growing community. Sustained and successful economic development along the corridor is increasing travel demand and necessitating the need to improve safety, operations, and reliability. Applying access management along arterial corridors such as Patterson Rd is a proven technique to help communities preserve the transportation function of existing corridors, thereby prolonging the need for major arterial improvements, such as the addition of through lanes. A raised median, consistent with the City's Principal Arterial section, is a key access management technique that reduces conflicts and improves traffic flow, which will extend the life of the four-lane section on Patterson Rd. However, in considering the implementation of medians, it is also important to consider access locations, turn lane requirements, and circulation on a corridor-wide basis. In recognition of the benefits of access management and the need to proactively plan for the future, the City of Grand Junction identified an Access Control Plan (ACP) as a first step toward planning for both private development access and for public improvement projects along Patterson Rd.

The purpose of this study is to coordinate development and growth anticipated in the area with the transportation needs for the local community and traveling public with the intention of improving safety and maximizing the life of the four-lane section along Patterson Rd. The goals for the project are as follows:

- Provide effective and efficient through travel for traffic on Patterson Rd utilizing the existing Right-of-Way and identify if additional Right-of-Way is needed
- Provide safe, effective, and efficient access to and from Patterson Rd for businesses, residents, and guests to support the economic viability of the City of Grand Junction and Mesa County
- Maintain compatibility with existing and proposed street network connections that provide local circulation to support the transportation system
- Provide a plan that can be implemented in phases
- Support alternative modal choices, including transit, pedestrian, and bicycle routes
- Maintain compatibility with previous local planning efforts

The western ACP limit begins at the co-located highways US 6, US 50 and I-70B. The ACP limits then extend 7.35 miles to just east of the City boundary at Lodgepole St. Mesa County was not involved in the development of the ACP so any recommendations for those areas outside City limits may only be implemented as part of an annexation. The limits of the Patterson Rd ACP are illustrated in Figure 1.

This report summarizes the study process, analyses, findings and recommendations for access modifications within the Patterson Rd corridor.

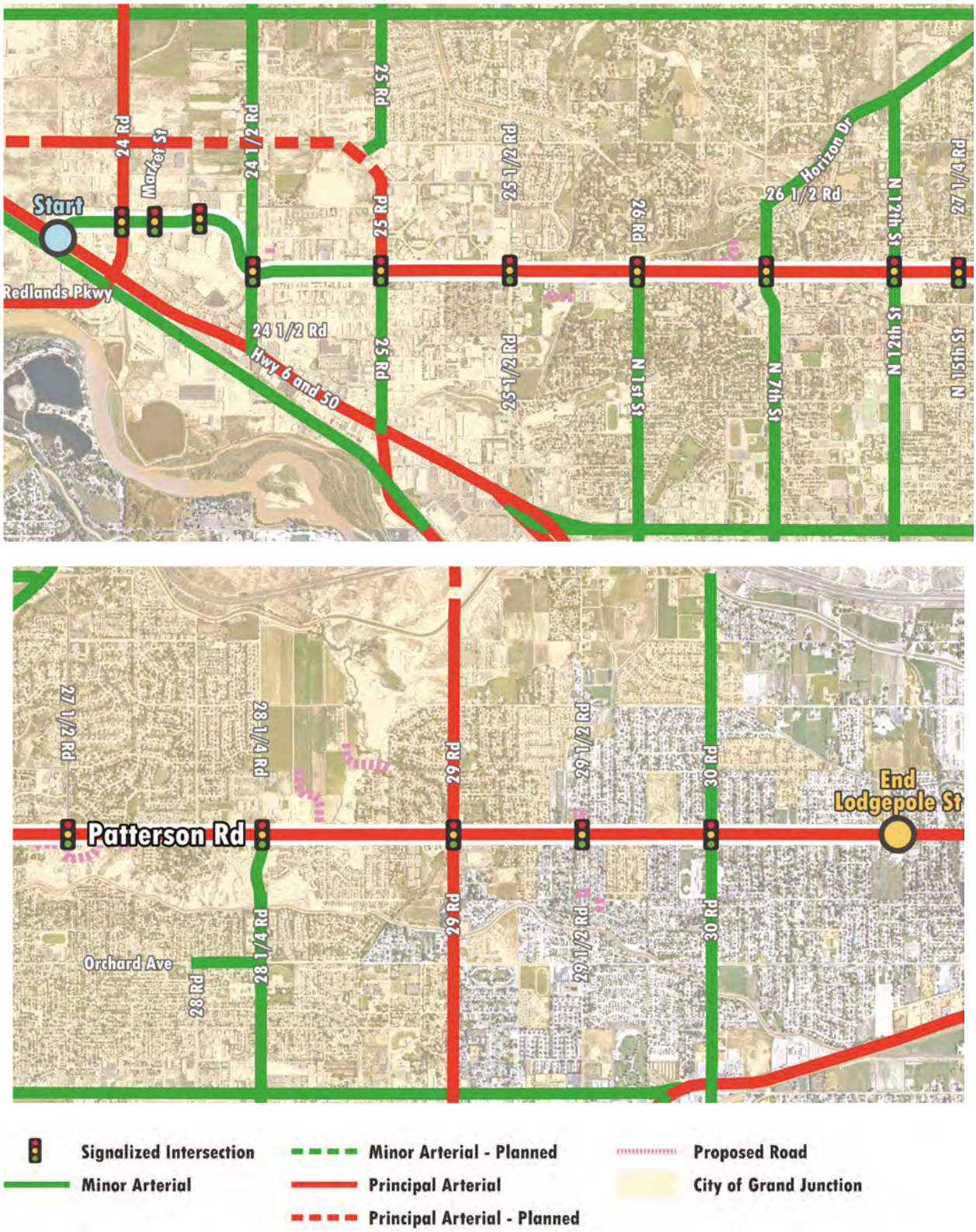


Figure 1. Study Area

1.2 Public Involvement

Input from corridor stakeholders, including property owners, tenants, and the general public, was a critical element of the project. Multiple techniques were used to engage stakeholders, including advertised public open houses, one-on-one meetings/phone calls with interested stakeholders, public presentations to the Grand Junction City Council, and project information posted on the GJSpeaks website.

An advertised project-specific public open house was held at Faith Heights Church on October 1, 2020 to present and discuss a draft ACP, review access management principles, and gather public input on the plan. Given Mesa County Public Health restrictions in place at the time, open house exhibits were also made available along with an introductory video on the GJSpeaks website. Corridor property owners, local government representatives, and other interested individuals who contacted the project team prior to the open houses were invited by first class mail and e-mail, when provided. Bilingual postcards were mailed to 841 property owners, businesses, and residential occupants on or adjacent to the corridor.

Due to additional Mesa County Public Health restrictions, public presentation of the revised ACP was conducted online only. Exhibits were available for public consumption beginning on January 6, 2021 and concluded with virtual one-on-one meetings with the project team on January 13th. Postcards were mailed to an updated list of 740 property owners, businesses, and residential occupants on or adjacent to the corridor. Invitations to both open houses were posted on City social media accounts and a legal public notice was posted in the Daily Sentinel.

Exhibits displayed at both open houses included:

- Project goals
- Access management principles and techniques
- Patterson Rd Access Control Plan Map
- Implementation
- Schedule

The same exhibits were also available for review on the GJSpeaks website. Representatives from the City and the consultant team were available for questions and discussion at the first open house where 30 people attended. At the second open house, which was available online for a one-week review period, ten people reserved one-on-one meetings with the project team and attended via Zoom on January 13th. One additional meeting was held with neighboring property owners over telephone later in the week.

Following the October public open house, the project team held a series of one-on-one meetings with corridor property owners. Five meetings were held over Zoom and six other property owners declined to meet or did not respond to multiple inquiries by the project team. The project was also discussed with several interested parties via telephone at various times during plan development.

Public comments were received at all public outreach events via email, regular mail, and from the online platform Survey Monkey. A list of one-on-one meeting participants, comment sheets, and open house sign-in sheets can be found in Appendix A. The project team updated City Council on project progress and development on several occasions. An in-person presentation was made to council and updates were provided via written memorandums from City staff. Final presentations to City Council for plan adoption will be held in a public hearing on March 3, 2021.

2.0 ACCESS MANAGEMENT – BENEFITS, PRINCIPLES AND TECHNIQUES

As defined by the *Access Management Manual, TRB, Second Edition 2014*, "Access management is the coordinated planning, regulation, and design of access between roadways and land development. It involves the systematic control of the location, spacing, design, and operation of driveways, median openings, interchanges, and street connections to a roadway." Developing an ACP provides local authorities with the opportunity to develop a single transportation plan that considers multiple access points along a segment of roadway as a network rather than as individual access points. Corridor specific issues such as intersection spacing, traffic movements, circulation, land use, topography, alternative access opportunities, and other local planning documents may be considered in developing an ACP. The Plan does not define capacity improvements, off-network improvements, or funding sources for access improvements, although municipalities often consider off-network improvements in conjunction with an ACP. The Plan is a long-range planning document that identifies access conditions that will be implemented as roadway and land-use characteristics change.

2.1 Access Management Benefits

Access management provides the means to balance good mobility along Patterson Rd with local access needs of businesses and residents. Implementation of access management principles and techniques on local transportation networks can provide the following long-term benefits for roadway users, the community, and businesses:

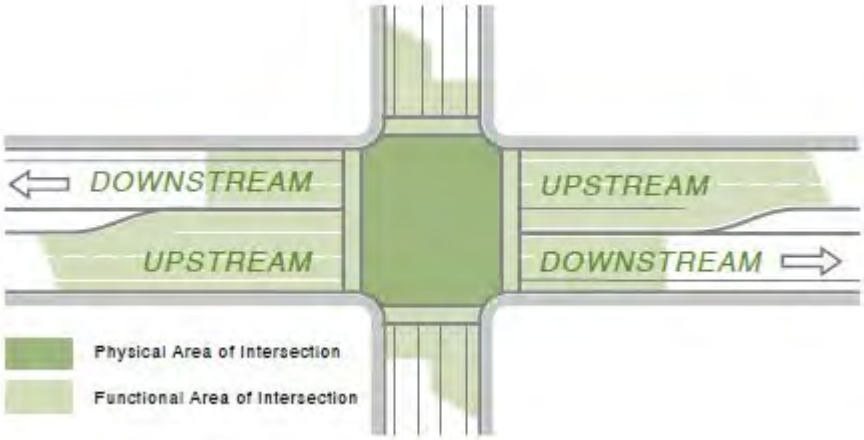
- Improves safety
  - Fewer decision points and less conflict potential for motorists, cyclists, and pedestrians result in a reduced number of crashes.
  - Safe access to businesses and residences is provided.
- Increases ability to accommodate traffic demands
  - Limiting full movement access within a corridor favors through movements and strategically identifies locations for vehicles to enter and exit the corridor.
  - Congestion is reduced, lessening travel times and providing smoother traffic flow.
  - Reduce or prolong the need to add additional thru lanes as traffic increases.
  - Improved operations on the roadway provides opportunities to reduce delay on the local street system.
  - Reduced congestion results in less air pollution.
- Preserves property values and the economic viability of abutting development
  - A more efficient roadway system captures a broader market area.
  - A more predictable and consistent development environment is created.
  - Well-defined driveways with suitable spacing make it easier for customers to enter and exit businesses safely, thereby encouraging customers to patronize corridor businesses.
- Encourages use and development of local streets within the periphery of the corridor
  - Allows traffic to access local amenities without using Patterson Rd, providing convenient local access and circulation and reduced volumes on Patterson Rd.

2.2 Guiding Principles

Access management centers around limiting and consolidating access along major roadways and focusing access for development on a supporting local street network and circulation system. The following guiding principles to access management were applied in the development of the Plan for Patterson Rd:

- Limit the number of direct access points to the corridor
- Locate major intersections (existing or potential future signals) to favor through movements and to accommodate infrastructure for turning movements
- Minimize the number of locations where vehicles merge, split, or cross
- Remove turning vehicles from through traffic lanes
- Provide a supporting local street network and circulation system

In addition, the functional intersection area was considered in evaluating the spacing between major intersections. The *American Association of State Highway and Transportation Officials (AASHTO) A Policy on Geometric Design of Highways and Streets, 2011* and *Access Management Manual, TRB, Second Edition 2014* indicates that separation of access points should not be less than the functional area of the intersection. The functional intersection area extends upstream and downstream from the physical intersection as shown below.



Source: Federal Highway Administration (FHWA) Access Management in the Vicinity of Intersections Technical Summary

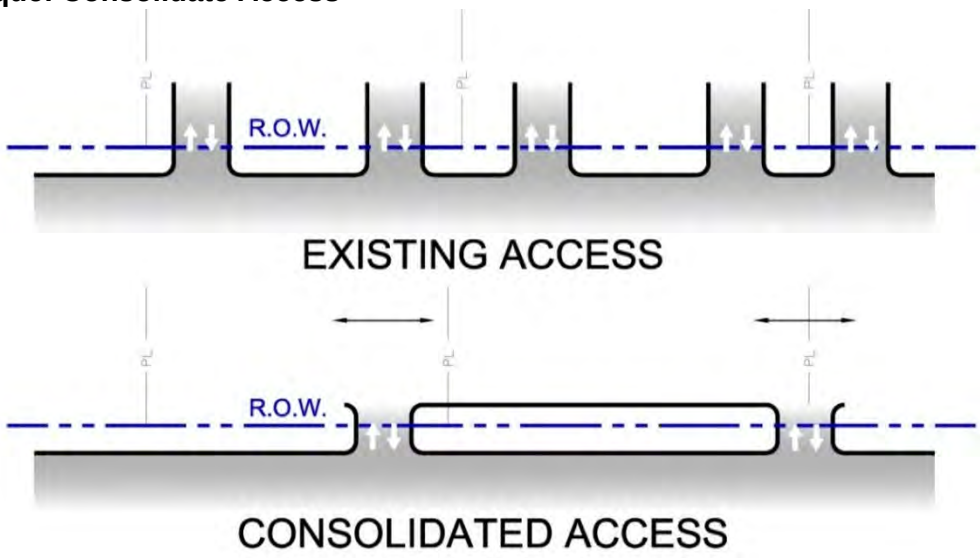
The upstream distance is a combination of the storage length, deceleration and taper length, and the perception-reaction distance required for the speed of the segment. The downstream distance is measured as either acceleration length or decision sight distance. Providing acceleration length allows vehicles to accelerate to normal speed without conflict. Providing decision sight distance allows drivers to pass through an intersection before considering potential conflicts at the next intersection. Acceleration length was identified as the controlling downstream functional intersection distance for this corridor due to the high speed (between 35 and 45 mph) and the existing use of acceleration lanes. The functional intersection area depends on the speed of the segment and the number of projected turning vehicles.

2.3 Techniques

Several access management techniques, illustrated on the following pages, may be used to achieve the principles outlined above and to realize the benefits of access management.

Principle: Limit the number of direct access points to the corridor

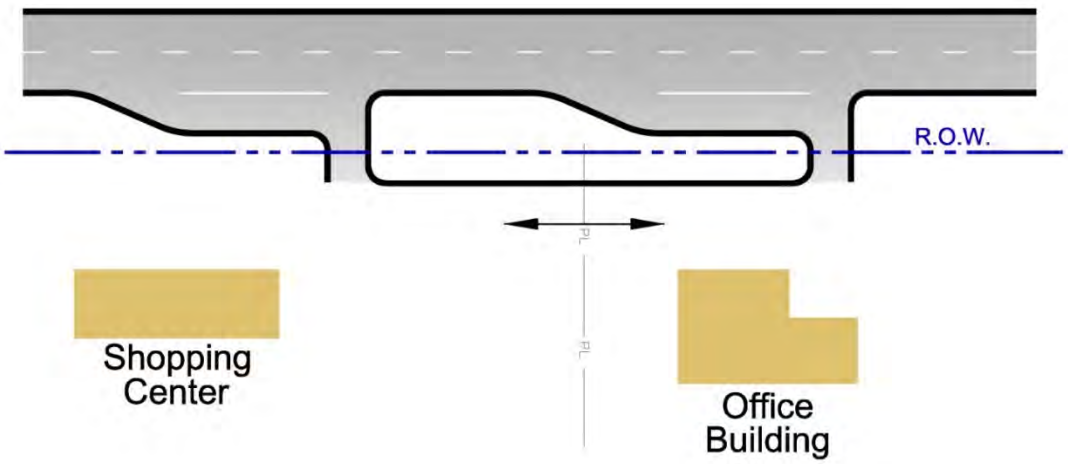
Technique: Consolidate Access



Consolidate access points by:

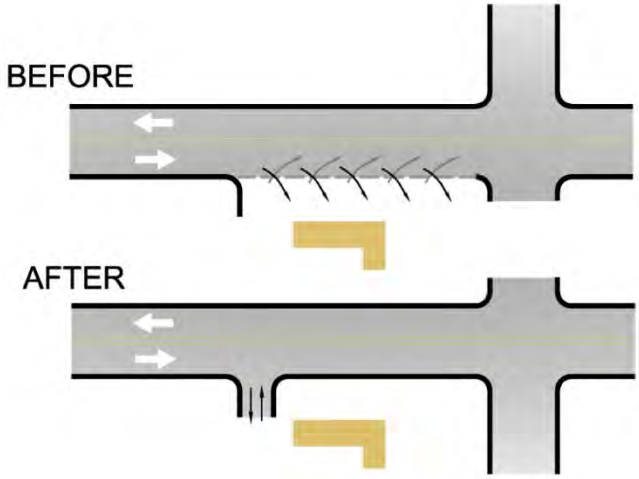
- *Reducing the number of access points that serve a single property/ownership*
- *Reducing the number of frontage road access points to the roadway*
- *Providing joint access for multiple properties at or near a property line*

Technique: Connect Adjacent Properties



Connect adjacent properties to provide circulation between properties and increase access opportunities for multiple properties.

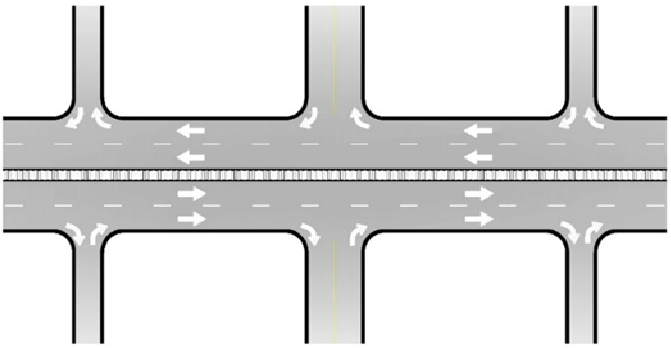
Technique: Define Driveways



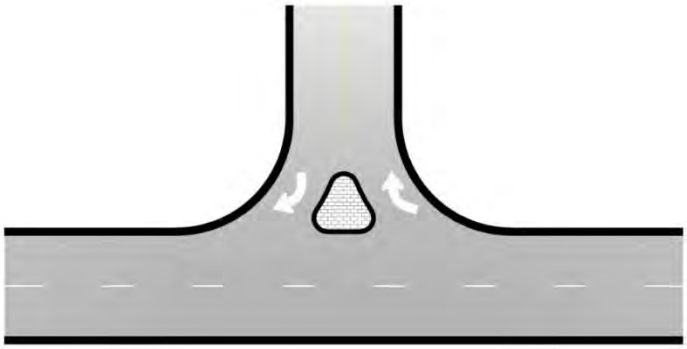
Define driveways to provide clear identification of entrance and exit locations.

Principle: Minimize the number of locations where vehicles merge, split, or cross

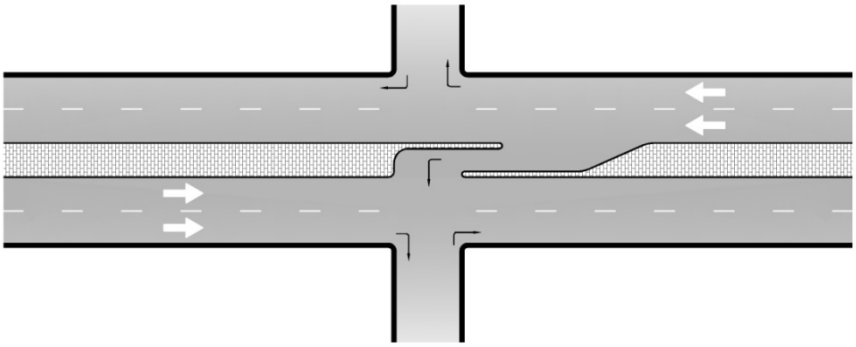
Technique: Install Medians and Islands



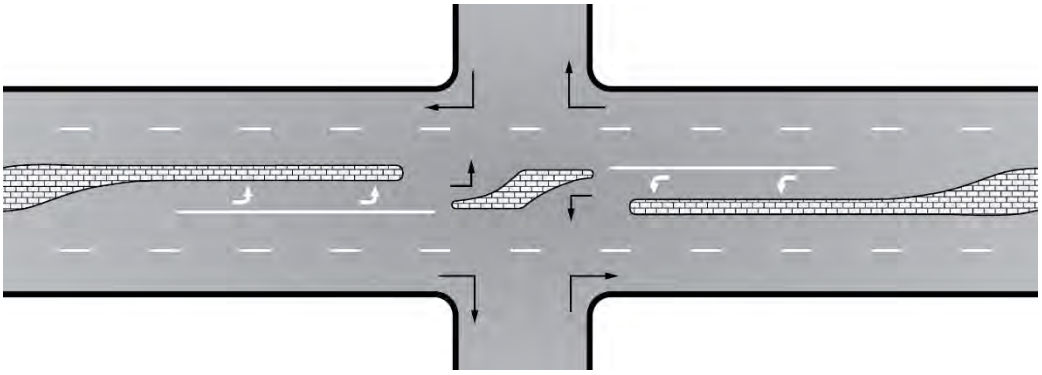
Right-in/right-out with raised median eliminates left turn movements between major intersections throughout a corridor. This is the preferred technique for Patterson Road.



Right-in/right-out with channelizing island eliminates left turn movements at specific locations. This technique is a potential interim solution where a median may be unreasonable to construct for a single property due to space constraints at time of development.



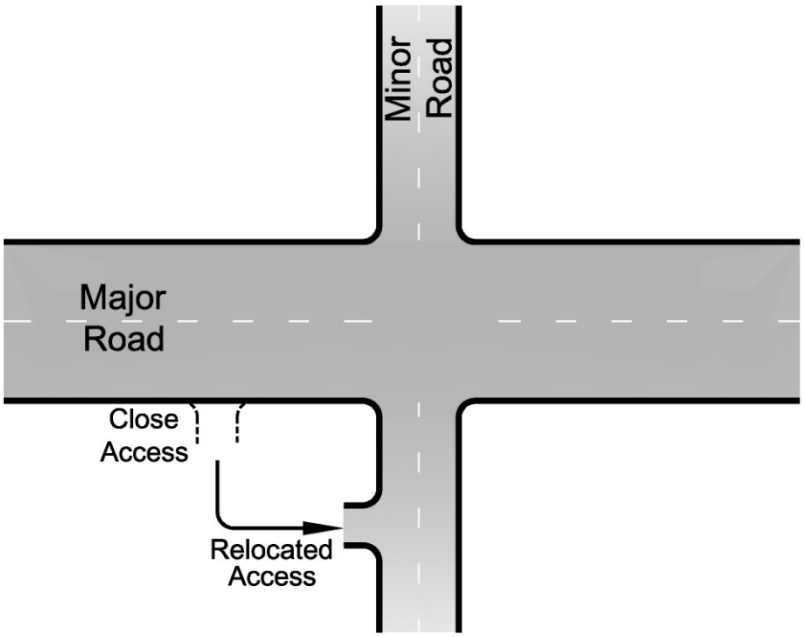
Directional median opening or a ¾ movement limits left turn movements to one direction at strategic locations where increased access is beneficial for safety or operational reasons.



A ¾ movement limits left turn movements where increased access is beneficial on both sides of the street.

Principle: Provide a supporting local street network and circulation system

Technique: Provide Cross St Access



Relocate access to a side street to:

- *Reduce the number of direct access points to the major roadway.*
- *Provide safe and easy access to a minor roadway intersection with the major roadway.*
- *Provide opportunities to use an alternate local route, thereby avoiding use of the major roadway completely.*

3.0 EXISTING CONDITIONS

3.1 Land Use Characteristics

The study area encompasses just over seven miles within the Grand Junction city limits. The corridor features intense commercial land use at its western end extending two miles to 25 ½ Rd where more residential uses intermix with commercial development. East of 15th St (27 ¼ Rd), development along the corridor is largely residential. Major developments that directly access Patterson Rd include the Mesa Mall at 24 ½ Rd and St. Mary's Medical Center at 7th St (26 ½ Rd).

3.2 Roadway Characteristics

Traveling east, the posted speed limit on Patterson Rd is 35 mph at the west end of the corridor until it increases to 40 mph east of 24 ½ Rd. East of 1st St (26 Rd) it dips down to 35 mph, but increases back to 40 mph east of 15th St (27 ¼ Rd). East of 29 Rd, the speed limit increases to 45 mph, where it remains the rest of the study area.

Patterson Rd is generally a four-lane arterial with a Two-Way Left-Turn Ln (TWLTL). East of 1st St (26 Rd) there is no TWLTL for approximately ¼ mile and raised medians are in place adjacent to turn lanes at several signalized intersections. Bike lanes exist on both sides of the roadway between 28 ¼ Rd and the end of the study area at Lodgepole St. There are 15 signalized intersections within the study area, as shown in Figure 1.

3.3 Existing Access Inventory

There are currently 288 access points along Patterson Rd within the study area. Full movement access is provided at 261 locations, 34 of which are signalized. Access restricting left turns onto Patterson Rd (3/4 access) is provided at 15 locations. Right In-Right Out access is provided at 12 locations.

The following provides a description of the accesses by type:

Public Rd Unsignalized (PRU) – Full or partial movement, stop-controlled intersection providing direct access to a publicly owned roadway. There are 62 PRU access points to Patterson Rd in the study area.

Public Rd Signalized (PRS) – Full or partial movement, signal-controlled intersection providing direct access to a publicly owned roadway. There are 27 PRS access points to Patterson Rd in the study area.

Private Rd Unsignalized (PVRU) – Full or partial movement, stop-controlled intersection providing direct access to a private property. These roadways are maintained privately. There is 1 PVRU access point to Patterson Rd in the study area.

Residential Access (R) – Full movement private roadway access points used on a regular basis by limited traffic. These types of access points include single-family private driveways. There are 95 R access points to Patterson Rd in the study area.

Business Access (BA) – Full movement roadway access points serving businesses within the study area. These types of access points are typically used multiple times daily by a variety of traffic types. There are a total of 77 BA access points to Patterson Rd in the study area.

Field Access (FA) – Full or partial movement access points that provide direct access from the roadway to agricultural land. These types of access points are typically not well-defined and are used infrequently. There are 14 FA access points to Patterson Rd in the study area.

Maintenance Access (MA) – Full or partial movement access points that provide direct access from the roadway for vehicles that are maintaining a public or private utility, such as a drainage structure or an electric meter. There are 4 MA access points to Patterson Rd in the study area.

Pull Off (PO) – Informal full or partial movement access points where vehicles may pull off the roadway or park, typically for shorter durations. There are 2 PO access points to Patterson Rd in the study area.

For the purposes of identifying the location of access points for this plan, all access points are defined by the approximate reference point (RP) along Patterson Rd based on the distance from US 6/ US 50/ I-70B. All access points are located at the approximate centerline of the access (+/- 50 feet). A complete inventory of existing access points is included in Appendix B.

3.4 Crash History

Crash data for a five-year period from January 1, 2014 to December 31, 2018 was reviewed for this report. Within the study area, there were 1,186 crashes within this period including 241 crashes that resulted in at least one injury and three crashes that resulted in a fatality.

Of the reported crashes, 759 (64.0%) were at or related to an intersection. Crashes were reviewed at the following intersections with Patterson Rd:

- I-70B Business Route
- 24 Rd
- Mall Entrance 1
- Mall Entrance 2
- 24 1/2 Rd
- Commerce Blvd
- 25 Rd
- Foresight Cir
- Northgate Dr
- Burkey St
- 25 1/2 Rd
- Cider Mill Rd
- Park Dr
- Meander Dr
- 26 Rd/ N 1st St
- Park Dr
- Mira Vista Rd
- 26 1/2 Rd/ N 7th St
- 8th Ct
- Viewpoint Dr
- 26 3/4 Rd
- N 12th St
- 27 1/4 Rd / N 15th St
- 27 1/2 Rd
- Spring Valley Cir
- Beechwood St
- El Corona Dr
- Santa Fe Dr
- 28 Rd
- Park Ave
- Rio Grande Dr
- 28 1/4 Rd
- Grand Cascade Way
- 28 3/4 Rd
- Legends Way
- Belhaven Way
- E Indian Creek Dr
- 29 Rd
- Partee Dr
- Chris-Mar St
- Colanwood St
- 29 1/2 Rd
- Greenfield Cir E
- Pioneer Rd
- Broken Spoke Rd
- Darby Dr
- Hudson Bay Dr
- 30 Rd
- Agana Dr
- Seranade St
- McMullin Dr
- Mesa Valley Dr
- Cottege Meadows Ct

The evaluated crash data provided some general observations about the crash patterns. Rear end (front to rear) crashes were the most prevalent crash type, accounting for approximately 42% of all crashes, followed by broadside (front to side) crashes at approximately 32%.

Level of Service of Safety (LOSS) was calculated for each intersection. The LOSS reflects how the intersection performs in regard to its expected crash frequency at a specific level of ADT (major and minor) when compared to intersections in Colorado with similar characteristics. LOSS can also indicate the potential for which crash reduction might be made if improvements were implemented and is graded as follows:

LOSS I – Below 20th Percentile (*Indicates a low potential for crash reduction)*

LOSS II – 20th Percentile to Mean (*Indicates a low to moderate potential for crash reduction)*

LOSS III – Mean to 80th Percentile (*Indicates a moderate to high potential for crash reduction)*

LOSS IV – Above 80th Percentile (*Indicates a high potential for crash reductions)*

Table 1 shows crash frequency for the five-year year period, LOSS considering all crash severities, and LOSS considering only injury or fatal crashes for each intersection. Several intersections indicate a high potential for crash reduction.

Table 1. Intersection Level of Service of Safety

Patterson Rd Intersection	Number of Crashes				LOSS All	LOSS Severe
	Property Damage Only	Injury	Fatal	Total		
I-70B Business Route	2	0	0	2	II	II
24 Rd	38	7	0	45	IV	IV
Market St	24	10	0	34	IV	IV
Home Depot Access	12	3	0	15	IV	III
24 1/2 Rd	52	8	0	60	IV	IV
Commerce Blvd	1	0	0	1	I	II
25 Rd	47	14	0	61	IV	IV
Foresight Cir	3	0	0	3	II	II
Northgate Dr	2	0	0	2	II	II
Burkey St	3	3	0	6	II	III
25 1/2 Rd	21	11	0	32	IV	IV
Cider Mill Rd	1	0	0	1	I	II
Park Dr	1	1	0	2	II	II
Meander Dr	5	3	0	8	III	III
26 Rd/ N 1st St	47	13	0	60	IV	IV
Park Dr	2	0	0	2	II	II
Mira Vista Rd	3	0	0	3	II	II
26 1/2 Rd/ N 7th St	46	4	0	50	IV	III
8th Ct	1	0	0	1	I	II

Table 1. Intersection Level of Service of Safety

Patterson Rd Intersection	Number of Crashes				LOSS All	LOSS Severe
	Property Damage Only	Injury	Fatal	Total		
Viewpoint Dr	2	0	0	2	II	II
26 3/4 Rd	0	2	0	2	II	III
N 12th St	63	15	1	79	IV	IV
27 1/4 Rd / N 15th St	29	7	0	36	IV	IV
27 1/2 Rd	26	6	0	32	III	III
Spring Valley Cir	4	2	0	6	II	II
Beechwood St	4	1	0	5	II	II
El Corona Dr	4	0	0	4	II	II
Santa Fe Dr	1	0	0	1	I	II
28 Rd	8	10	0	18	III	IV
Park Ave	0	1	0	1	I	II
Rio Grande Dr	4	1	0	5	II	II
28 1/4 Rd	21	7	0	28	IV	IV
Grand Cascade Way	1	1	0	2	I	II
28 3/4 Rd	1	0	0	1	I	II
Legends Way	2	0	0	2	I	II
Belhaven Way	3	0	0	3	II	II
E Indian Creek Dr	3	0	0	3	I	I
29 Rd	50	9	0	59	IV	IV
Partee Dr	0	1	0	1	I	II
Chris-Mar St	1	0	0	1	I	II
Colanwood St	1	0	0	1	I	II
29 1/2 Rd	17	6	1	24	IV	IV
Greenfield Cir E	1	0	0	1	I	II
Pioneer Rd	2	0	0	2	I	II
Broken Spoke Rd	2	1	0	3	II	II
Darby Dr	1	1	0	2	I	II
Hudson Bay Dr	1	0	0	1	I	II
30 Rd	30	10	0	40	IV	IV
Agana Dr	1	0	0	1	I	II
Serenade St	1	1	0	2	I	II
McMullin Dr	0	1	0	1	II	II
Mesa Valley Dr	1	0	0	1	II	II
Cottage Meadows Ct	0	1	0	1	II	II

Of the reported crashes, 74 crashes (6.2%) were at or related to a driveway on Patterson Rd. Figure 2 shows the number of driveway crashes occurring on Patterson Rd segment by segment. The segments from 24 1/2 Rd to 12th St display the greatest number of driveway related crashes. More specifically, almost one quarter of all driveway related crashes on Patterson Rd occurred between 24 1/2 Rd to 25 Rd.

Figure 2. Patterson Rd Driveway Crashes

Overall, implementing access management techniques will reduce the number of conflict points in the study area. According to the Highway Safety manual, the reduction of access points along a roadway segment is expected to result in a reduction of crashes. A summary of the crash history is included in Appendix D.

4.0 ACCESS PLAN DEVELOPMENT AND EVALUATION

Using the traffic volume forecasts, input from the City, input from other project stakeholders and the public outreach program, previous planning efforts and guidance from the Grand Junction TEDS Manual, an Access Control Plan (ACP) was developed for the project. This Plan considers access points in logical groupings, as well as circulation opportunities via the existing and potential future local street system.

4.1 Process

The ACP was developed using a 4-step process:

Step One - Methodology and Compatibility Index

A traffic methodology and ACP methodology were established at the beginning of the project to define the purpose, approach, and assumptions used to develop the Plan. In addition, a compatibility index was developed to provide a logical means for determining whether the ACP meets the established project goals. The index identified a set of evaluation criteria that correspond with each project objective, as listed in Section 1.1. A simple rating system that identifies the plan as favorable, neutral or unfavorable with respect to each criterion was defined. Each of the three ratings under each criterion was then defined to assist in the evaluation. The traffic methodology memo can be found in Appendix D. The ACP methodology memo and compatibility index can be found in Appendix E.

Step Two – Development of the Access Control Plan

The existing inventory of access points was reviewed with existing parcel and ownership information. This review determined which parcels adjacent to Patterson Rd lacked access to Patterson Rd, which parcels had multiple accesses to consider for consolidation, and which parcels had access or potential access to an existing or proposed lower classification roadway. It also helped identify parcels that currently have shared access or could have shared access in the future. Access solutions were developed by applying access management principles and techniques discussed in Section 2.0. Major full movement intersections have generally already been identified and signalized, but were confirmed based on traffic projections, City planning documents, and anticipated growth patterns. Access for each parcel in between major intersections was either limited (right-in/right-out or ¾ movement) or provided via a lower classification roadway. In cases where multiple access points served a single ownership, access was reduced to one per ownership. Shared access between parcels was developed wherever feasible.

Step Three – Refine the Access Control Plan

A draft ACP was presented to an internal City review team. Based on comments received from the team, the draft plan was refined and presented to the City Council, Planning Commission, and the public using both virtual and in-person methods. Public comment was reviewed, and the Plan was modified at several points throughout the project, as appropriate. Improvements considered cost prohibitive, with unmanageable physical constraints, with significant traffic operational deficiencies, inconsistent with overall community expectations, or not appearing to provide a reasonable level of access, were revised. In some cases, access conditions were defined to allow phased implementation of long-term solutions. In particular, several conditional

right-in/right-out access points were identified to clearly identify access points where redevelopment would trigger closure of the access point rather than a public project.

Step Four – Evaluation

Following the public outreach process, the refined ACP was evaluated using the compatibility index described in Step One to determine whether project objectives were met.

4.2 Evaluation Results

The results of the evaluation by objective are listed in Table 2. Overall, the ACP rates favorably and is compatible with project goals. Plan adoption by the City is recommended. Details of the Plan evaluation can be found in Appendix E. A graphical representation of the ACP is presented in Figure 3 (A-P).

Table 2. Compatibility Evaluation Summary

Project Goal	Evaluation Criteria	Rating
Provide effective and efficient through travel for traffic on Patterson Rd utilizing the existing right-of-way and identify if additional right-of-way is needed.	Corridor Travel Speeds/Time	Favorable
	Functional Intersection Area	Neutral
	Number of Conflict Points	Favorable
	Right-of-way	Neutral
Provide safe, effective, and efficient access to and from Patterson Rd for businesses, residents, and guests to support the economic viability of the City of Grand Junction and Mesa County.	Intersection Sight Distance	Favorable
	Intersection LOS or Critical Movements	Neutral
	Conformance with Grand Junction TEDS Manual	Favorable
	Out-of-direction Travel Distance	Unfavorable
	Intersection Crash Risk	Favorable
	Business Market Area	Favorable

Project Goal	Evaluation Criteria	Rating
Maintain compatibility with existing and proposed street network connections that provide local circulation to support the transportation system.	Local Route Circulation	Favorable
	Serviceability of Local Routes to Developments and Properties within the Study Area	Favorable
Support alternative modal choices, including transit, pedestrian, and bicycle routes.	Pedestrian/Bicycle Parallel Access	Favorable
	Pedestrian/Bicycle Crossing Opportunities	Neutral
	Transit Opportunities	Neutral
Provide a plan that can be implemented in phases.	Public Support	Neutral
	Phasing Opportunities	Favorable
	Physical Constraints	Neutral
	Funding Opportunities	Favorable
Maintain compatibility with previous local planning efforts, such as, the GVCP Plan, Ballot 2A measure, and the One Grand Junction Comprehensive Plan.	Compatibility with Local Planning	Favorable

5.0 PLAN RECOMMENDATIONS

This section presents details of the recommended Access Control Plan (ACP) for Patterson Rd. The Plan has been developed with considerable participation from the City of Grand Junction, project stakeholders such as emergency services, Mesa County, Grand Valley MPO, Grand Valley Transit, and the public. After evaluating both existing and future conditions, the Plan defines how each access will function in the future. In general, the ACP limits full movement access to major signalized intersections. Functional intersection area was considered in evaluating the spacing between major intersections and ¾ movement intersections. While it is ideal to provide the full functional intersection area between full movement intersections, other site-specific considerations were considered in determining intersection spacing. At a minimum, the physical length needed to accommodate auxiliary lane lengths as defined by the TEDS Manual is provided between intersections unless otherwise noted. Most access points are intended to remain open as a right-in/right-out for the long-term. However, there are some public road access points that are located within the functional intersection area of a major intersection and they have alternate traffic circulation options. These access points have the potential to close if safety or operational issues develop. The ACP designates these as a conditional safety right-in/right-out to identify the potential risk.

In addition, access is reduced to one location per ownership and where feasible, shared between adjacent properties. Where reasonable access can be provided to an alternate lower classification cross street, access points are relocated to the cross street. Access for parcels between major intersections is limited. To maximize local circulation options, minor public road intersections and private access that serves multiple properties are identified as ¾ movement. This was done where providing the left-turn movement improves operations and/or circulation and where there is adequate space to develop left turn auxiliary lanes.

Out-of-direction travel was generally limited to a maximum distance of one mile (½ mile each way). Out-of-direction travel was limited by providing full movement and ¾ movement intersections at necessary intervals. Accommodation for U-turns at major intersections is recommended to provide alternatives for restricted left-turn movements. In addition, the Grand Junction Circulation Plan, in conjunction with proposed alternate routes from this study, will provide key alternatives for restricted left-turn movements.

Traffic control measures that may be used to achieve proposed conditions include raised or depressed medians, driveway channelizing islands at limited access points, directional median openings at 3/4 movement access points, and signage and striping. To avoid turn movement violations and potential enforcement issues, eventual installation of a raised median is recommended. Based on the existing cross-section with a two-way-left turn lane on Patterson Rd, installation of a raised median can likely be achieved with little to no widening through most of the corridor. Within the section between Park Dr and Mira Vista Rd, where the cross-section of the roadway only includes two through lanes in each direction, a narrow raised median or barrier is recommended to restrict turning movements if safety or operational issues develop. Widening to the south is recommended where there is currently a tiered wall. The bottom wall will need to be reconstructed and right-of-way acquisition is likely.

The narratives in this section are intended to serve as a summary of the key features of the ACP. The figures are intended to provide a graphical representation of the ACP. A detailed explanation of each access in the study area, by reference point, is presented in the ACP Table in Appendix F. Reference the ACP Table for specific access configurations and conditions.

Recognizing that this plan is a long-term planning document and not a detailed engineering design, reference point designations are intended to be approximate. As more detailed information is available, these designations may be modified (generally within 0.05 miles of the specified reference point designation).

5.1 Access Control Plan

Key features of the ACP are summarized by major intersections on the following pages and illustrated in Figure 3. The ACP will reduce the number of access points from 283 to between 149 and 160 as the corridor and land use along the corridor changes. This reduction in access includes the following:

- 71 access closures/consolidations
- 79 conditional access points that will close upon redevelopment
- 12 conditional safety right-in/right-out access points that will close if safety or operational issues develop

In addition, there are also over 180 access points with restricted movements including right-in/right-out access, right-in or right-out only, ¾ movement access points that will result in a reduction in conflict points through the corridor. Between the consolidation of access points and the application of restricted movement access points, the number of conflict points throughout the corridor is reduced from 2600 to 1000, a total reduction in conflict points of 60%.

There are 15 signalized full movement intersections in the plan. Full movement signalized intersections have been confirmed as part of the ACP; however, this does not restrict the City from considering other types of traffic control deemed appropriate in the future, including roundabouts and continuous flow intersections (CFI's).

Auxiliary lanes shall be provided at access points in accordance with the TEDS Manual. Auxiliary lane improvements will improve safety and congestion by removing slower turning vehicles from the through lanes. This eliminates the speed differential between through movements and turning movements that commonly cause crashes, as well as eliminating queuing of turning vehicles that block the clear passage of through movements. The following fourteen intersections on the corridor are anticipated to meet requirements for additional right or left turn lanes on Patterson Rd in the 20-year planning period: 24 Rd, Market St, Home Depot access, 24 ½ Rd, 25 Rd, 25 ½ Rd, 1st St, 7th St, 12th St, 15th St, 28 ¼ Rd, 29 ½ Rd, and 30 Rd. A detailed summary of anticipated auxiliary lanes can be found in Appendix D. Some level of ROW impacts, typical to a public project, are anticipated to occur in order to accommodate the additional auxiliary lanes. In addition, the following intersection improvements are recommended consistent with previous planning efforts:

- 24 Rd intersection - two northbound thru lanes and two eastbound left turn lanes
- 12th St intersection - dual lefts for each approach
- 29 Rd intersection - dual northbound left turn lanes

The City's 2019 Ballot Measure 2A will fund auxiliary lane improvements at 25 Rd, 12th St, 28 ¼ Rd, and 29 Rd, as well as widening of 24 Rd north of Patterson. Other intersection improvements identified will be implemented in the future as funding becomes available.

I-70B to Market St (Figure 3A)

1) While I-70B is not identified as an access point in the ACP, this T-intersection is anticipated to remain full movement with the potential for signalization, if warranted and permitted by CDOT.

2) 24 Rd and Market St will also remain full movement signalized intersections. Refer to Appendix D for more information about the alternative investigations for 24 Rd and Market St.

3) Access for this section shall be limited to right-in/right-out between major intersections. Access points shall be reduced to one location per ownership, relocated to cross streets, and/or shared, where feasible. Utilizing cross-access easements as properties redevelop to ensure that all properties are provided access to the public street system. Refer to the ACP Table for conditions of implementation.

4) Access 2 is identified as a ¾ movement and is intended to serve multiple properties along the south side of Patterson Rd through cross access easements.

5) Access 5 is a conditional right-in/right-out movement and will close when a connection to Access 2 is available.

6) Due to the proximity to 24 Rd, Access 6 and 7, Rae Lynn St, are identified as conditional safety right-in/right-outs and may close if safety or operational issues develop and the conditions in the ACP Table are met. Refer to the ACP Table for conditions of implementation.

Market St to Home Depot/Mesa Mall Access (15/16) (Figure 3A-B)

1) Market St. and the Home Depot/Mesa Mall Access (Access 15 and 16) will remain full movement signalized intersections. Refer to Appendix D for more information about the alternative investigations for Market St.

2) Access for this section shall be limited to right-in/right-out between major intersections. Access points shall be reduced to one location per ownership, relocated to cross streets, and/or shared, where feasible, utilizing cross-access easements as properties redevelop to ensure that all properties are provided access to the public street system. Refer to the ACP Table for conditions of implementation.

PATTERSON ROAD ACP EXHIBIT

LEGEND

- BUS STOP
- BUS STOP - PULL OFF
- CROSS ACCESS - EXISTING
- CROSS ACCESS - PROPOSED
- PARCEL
- TRAIL
- PROPOSED CITY STREET OR PRIVATE CONNECTION
- PLANNED CITY STREET

ACCESS POINT INFORMATION

- SIGNALIZED FULL MOVEMENT
- UNSIGNALIZED FULL MOVEMENT
- 3/4 MOVEMENT
- RIGHT IN - RIGHT OUT
- CLOSE
- SIGNALIZED INTERSECTION
- RIGHT IN ONLY
- RIGHT OUT ONLY
- G GATED ACCESS POINT
- C CONDITIONAL ACCESS POINT
  SEE ACCESS TABLE FOR CONDITIONS.
  TYPICALLY CLOSES WITH REDEVELOPMENT.
- S CONDITIONAL SAFETY ACCESS POINT

FIGURE 3A

Home Depot/Mesa Mall Access (15/16) to 24 ½ Rd (Figure 3B)

1) The Home Depot/Mesa Mall Access (Access 15 and 16) and 24 ½ Rd will remain full movement signalized intersections.

2) Access for this section shall be limited to right-in/right-out between major intersections. Access points shall be reduced to one location per ownership, relocated to cross streets, and/or shared, where feasible, utilizing cross-access easements as properties redevelop to ensure that all properties are provided access to the public street system.

3) Access 17 is identified as a conditional safety right-in only. Alternate full movement access is available at the signal at Access 15. A right-in only will remain long-term unless safety or operational issues develop, which will trigger closure of the access.

4) Access 20 was limited to a right-in only due to sight distance concerns. Alternate access is also available via 24 ½ Rd to the affected properties. Refer to the ACP Table for conditions of implementation.

24 ½ Rd to 25 Rd (Figure 3B–C)

1) 24 ½ Rd and 25 Rd will remain full movement signalized intersections. ¾ movement intersections are proposed at Access 26, 27, and 29 to serve multiple properties on the north and Commerce Blvd on the south.

2) All other access for this section shall be limited to right-in/right-out between major intersections. Access points shall be reduced to one location per ownership, relocated to cross streets, and/or shared, where feasible, utilizing cross-access easements as properties redevelop to ensure that all properties are provided access to the public street system.

3) Access 23 will close once an alternative connection to Flatop Ln is in place. Due to the proximity to 24 ½ Rd, Access 24 is identified as a conditional safety right-in/right-out and may close if safety or operational issues develop and the conditions in the ACP Table are met. Alternate access to 24 ½ Rd and Commerce Blvd is available.

4) A right-in only is located at Access 25. Several access points are identified as conditional right-in/right-out and will close upon redevelopment. Refer to the ACP Table for conditions of implementation.

5) A public connection through the Grand Valley Transit Park-n-ride between the properties adjacent to Patterson Rd and F 1/8 Rd is proposed to replace restricted movements on Patterson Rd.

PATTERSON ROAD ACP EXHIBIT

LEGEND

- BUS STOP
- BUS STOP - PULL OFF
- CROSS ACCESS - EXISTING
- CROSS ACCESS - PROPOSED
- PARCEL
- TRAIL
- PROPOSED CITY STREET OR PRIVATE CONNECTION
- PLANNED CITY STREET

ACCESS POINT INFORMATION

- SIGNALIZED FULL MOVEMENT
- UNSIGNALIZED FULL MOVEMENT
- 3/4 MOVEMENT
- RIGHT IN - RIGHT OUT
- CLOSE
- SIGNALIZED INTERSECTION
- RIGHT IN ONLY
- RIGHT OUT ONLY
- G GATED ACCESS POINT
- C CONDITIONAL ACCESS POINT
  SEE ACCESS TABLE FOR CONDITIONS.
  TYPICALLY CLOSES WITH REDEVELOPMENT.
- S CONDITIONAL SAFETY ACCESS POINT

FIGURE 3B

25 Rd to 25 ½ Rd (Figure 3C–E)

1) 25 Rd and 25 ½ Rd will remain full movement signalized intersections.

2) Access for this section shall be limited to right-in/right-out between major intersections, except for ¾ movement at the intersections with Foresight Cir, Northgate Dr, and Burkey St (Access 40, 41, and 44).

3) Access points shall be reduced to one location per ownership, relocated to cross streets, and/or shared, where feasible, utilizing cross-access easements as properties redevelop to ensure that all properties are provided access to the public street system.

4) Access 38 will be relocated outside the functional intersection of 25 Rd to Access 38a upon redevelopment. Several access points are identified as conditional right-in/right-out and will close upon redevelopment. Refer to the ACP Table for conditions of implementation.

25 ½ Rd to 26 Rd/1st St (Figure 3E–F)

1) 25½ Rd and 26 Rd/1st St will remain full movement signalized intersections.

2) Conditional ¾ movement intersections are proposed at Access 53, 61, 62 and 64. Based on future land-use plans, either Access 53 or 61 may be a ¾ movement to serve multiple properties on the north, with the other access as a right-in/right-out. Access 61 provides better spacing with 25 ½ Rd. Accesses 62 and 64 serve public streets, 25 ¾ Rd and Meander Dr, respectively. Left-turn access into both public streets is desired, however the distance between these two intersections does not allow for the full length of auxiliary lanes required based on the current speed limit. A design variance or speed reduction must be justified and approved by the City to allow both ¾ movements when either redevelopment occurs or a public project is funded to build a median. If further study does not support ¾ movements at both locations, one access will be a right-in/right-out, as determined by the City.

3) All other access for this section shall be limited to right-in/right-out between major intersections. Access points shall be reduced to one location per ownership, relocated to cross streets, and/or shared, where feasible, utilizing cross-access easements as properties redevelop to ensure that all properties are provided access to the public street system.

4) A right-out only is located at Access 50. Several access points are identified as conditional right-in/right-out and will close upon redevelopment. Refer to the ACP Table for conditions of implementation. In addition, a connection between Cider Mill Rd and the extension of 25 ¾ Rd is proposed to provide circulation within the local street system to replace restricted left turn movements on Patterson Rd.

PATTERSON ROAD ACP EXHIBIT

LEGEND

- BUS STOP
- BUS STOP - PULL OFF
- CROSS ACCESS - EXISTING
- CROSS ACCESS - PROPOSED
- PARCEL
- TRAIL
- PROPOSED CITY STREET OR PRIVATE CONNECTION
- PLANNED CITY STREET

ACCESS POINT INFORMATION

- SIGNALIZED FULL MOVEMENT
- UNSIGNALIZED FULL MOVEMENT
- 3/4 MOVEMENT
- RIGHT IN - RIGHT OUT
- CLOSE
- SIGNALIZED INTERSECTION
- RIGHT IN ONLY
- RIGHT OUT ONLY
- G GATED ACCESS POINT
- C CONDITIONAL ACCESS POINT
  SEE ACCESS TABLE FOR CONDITIONS.
  TYPICALLY CLOSES WITH REDEVELOPMENT.
- S CONDITIONAL SAFETY ACCESS POINT

FIGURE 3C

PATTERSON ROAD ACP EXHIBIT

LEGEND

- BUS STOP
- BUS STOP - PULL OFF
- CROSS ACCESS - EXISTING
- CROSS ACCESS - PROPOSED
- PARCEL
- TRAIL
- PROPOSED CITY STREET OR PRIVATE CONNECTION
- PLANNED CITY STREET

ACCESS POINT INFORMATION

- SIGNALIZED FULL MOVEMENT
- UNSIGNALIZED FULL MOVEMENT
- 3/4 MOVEMENT
- RIGHT IN - RIGHT OUT
- CLOSE
- SIGNALIZED INTERSECTION
- RIGHT IN ONLY
- RIGHT OUT ONLY
- G GATED ACCESS POINT
- C CONDITIONAL ACCESS POINT
  SEE ACCESS TABLE FOR CONDITIONS.
  TYPICALLY CLOSES WITH REDEVELOPMENT.
- S CONDITIONAL SAFETY ACCESS POINT

FIGURE 3D

PATTERSON ROAD ACP EXHIBIT

LEGEND

- BUS STOP
- BUS STOP - PULL OFF
- CROSS ACCESS - EXISTING
- CROSS ACCESS - PROPOSED
- PARCEL
- TRAIL
- PROPOSED CITY STREET OR PRIVATE CONNECTION
- PLANNED CITY STREET

ACCESS POINT INFORMATION

- SIGNALIZED FULL MOVEMENT
- UNSIGNALIZED FULL MOVEMENT
- 3/4 MOVEMENT
- RIGHT IN - RIGHT OUT
- CLOSE
- SIGNALIZED INTERSECTION
- RIGHT IN ONLY
- RIGHT OUT ONLY
- G GATED ACCESS POINT
- C CONDITIONAL ACCESS POINT
  SEE ACCESS TABLE FOR CONDITIONS. TYPICALLY CLOSES WITH REDEVELOPMENT.
- S CONDITIONAL SAFETY ACCESS POINT

FIGURE 3E

26 Rd/1st St to 26 ½ Rd/7th St (Figure 3F–G)

1) 26 Rd/1st St and 26 ½ Rd/7th St will remain full movement signalized intersections.

2) ¾ movement intersections are proposed at Access 74 and 86a. A public road connection between Access 74 to Horizon Place is proposed to support circulation for future redevelopment in the area.

3) On the south side of Patterson Rd, only a single ¾ movement can be accommodated. To serve as many properties as possible, Access 86a was proposed as a ¾ movement. Access 86a is located far enough away from 26 ½ Rd/7th St to provide full auxiliary lane lengths and can serve both the St. Mary's Hospital and the Vanderen-Ford Heights subdivision. Connection between Mira Vista Rd and the 86a access road is required. When this connection is available, the Mira Vista Rd intersection with Patterson Rd will be closed. Similarly, Access 93 will close when Access 86a is available and on-site truck circulation to the hospital can be achieved through Access 86a. If Access 86a cannot accommodate trucks, Access 93 will be restricted to right-in only. Coordination between the City, hospital and Vanderen-Ford Heights subdivision will be required to achieve this access configuration.

4) All other access for this section shall be limited to right-in/right-out between major intersections. Access points shall be reduced to one location per ownership, relocated to cross streets, and/or shared, where feasible, utilizing cross-access easements as properties redevelop to ensure that all properties are provided access to the public street system.

5) Due to the proximity to 26 Rd/1st St, Park Dr (Access 69) is identified as a conditional safety right-in/right-out and may close if safety or operational issues develop and the conditions in the ACP Table are met. Alternate access to 1st St is available.

6) Several access points in this section are identified as conditional right-in/right-out and will close upon redevelopment. In particular, the properties on the north side of Patterson Rd should be connected through cross-access easements and access should be consolidated and shared as much as possible with redevelopment. Refer to the ACP Table for conditions of implementation.

PATTERSON ROAD ACP EXHIBIT

LEGEND

- BUS STOP
- BUS STOP - PULL OFF
- CROSS ACCESS - EXISTING
- CROSS ACCESS - PROPOSED
- PARCEL
- TRAIL
- PROPOSED CITY STREET OR PRIVATE CONNECTION
- PLANNED CITY STREET

ACCESS POINT INFORMATION

- SIGNALIZED FULL MOVEMENT
- UNSIGNALIZED FULL MOVEMENT
- 3/4 MOVEMENT
- RIGHT IN - RIGHT OUT
- CLOSE
- SIGNALIZED INTERSECTION
- RIGHT IN ONLY
- RIGHT OUT ONLY
- G GATED ACCESS POINT
- C CONDITIONAL ACCESS POINT
  SEE ACCESS TABLE FOR CONDITIONS.
  TYPICALLY CLOSES WITH REDEVELOPMENT.
- S CONDITIONAL SAFETY ACCESS POINT

FIGURE 3F

26 ½ Rd/7th St to 12th St (Figure 3G–H)

1) 26 ½ Rd/7th St and 12th St will remain full movement signalized intersections.

2) A ¾ movement intersection is proposed at 26 ¾ Rd (Access 106).

3) All other access for this section shall be limited to right-in/right-out between major intersections. Access points shall be reduced to one location per ownership, relocated to cross streets, and/or shared, where feasible, utilizing cross-access easements as properties redevelop to ensure that all properties are provided access to the public street system. Several access points in this section are identified as conditional right-in/right-out or right-out only and will close upon redevelopment. Refer to the ACP Table for conditions of implementation.

4) While Access 117 is a more direct route into the commercial center, it will be closed to allow for an extension of the 12th St eastbound right turn lane at 12th St, if ever needed. Closing Access 116 and just restricting Access 117 to right-in/right-out may be considered with a median project that commences prior to redevelopment of the property.

12th St to 15th St (Figure 3H)

1) 12th St and 15th St will remain full movement signalized intersections.

2) While Access 123 is located within the functional intersection area of 12th St, traffic operational analysis indicates that adding more left turn movements to 12th St will overload the intersection. Therefore, a ¾ movement is proposed at Access 123.

3) Investigation into modifying 15th St to a ¾ movement and providing signalized crossings for bicycles and pedestrians was conducted. Ultimately, the City decided to keep 15th as a full movement intersection based on traffic patterns, circulation, and public support. Refer to Appendix D for more information about the alternative investigations for 15th St.

4) All other access for this section shall be limited to right-in/right-out between major intersections. Access points shall be reduced to one location per ownership, relocated to cross streets, and/or shared, where feasible, utilizing cross-access easements as properties redevelop to ensure that all properties are provided access to the public street system.

5) Access 126 and 127 shall be consolidated to one shared access. Access 130 will be a right-out only for circulation to the subdivision. Refer to the ACP Table for conditions of implementation.

PATTERSON ROAD ACP EXHIBIT

LEGEND

- BUS STOP
- BUS STOP - PULL OFF
- CROSS ACCESS - EXISTING
- CROSS ACCESS - PROPOSED
- PARCEL
- TRAIL
- PROPOSED CITY STREET OR PRIVATE CONNECTION
- PLANNED CITY STREET

ACCESS POINT INFORMATION

- SIGNALIZED FULL MOVEMENT
- UNSIGNALIZED FULL MOVEMENT
- 3/4 MOVEMENT
- RIGHT IN - RIGHT OUT
- CLOSE
- SIGNALIZED INTERSECTION
- RIGHT IN ONLY
- RIGHT OUT ONLY
- G GATED ACCESS POINT
- C CONDITIONAL ACCESS POINT
  SEE ACCESS TABLE FOR CONDITIONS.
  TYPICALLY CLOSES WITH REDEVELOPMENT.
- S CONDITIONAL SAFETY ACCESS POINT

FIGURE 3G

PATTERSON ROAD ACP EXHIBIT

LEGEND

- BUS STOP
- BUS STOP - PULL OFF
- CROSS ACCESS - EXISTING
- CROSS ACCESS - PROPOSED
- PARCEL
- TRAIL
- PROPOSED CITY STREET OR PRIVATE CONNECTION
- PLANNED CITY STREET

ACCESS POINT INFORMATION

- SIGNALIZED FULL MOVEMENT
- UNSIGNALIZED FULL MOVEMENT
- 3/4 MOVEMENT
- RIGHT IN - RIGHT OUT
- CLOSE
- SIGNALIZED INTERSECTION
- RIGHT IN ONLY
- RIGHT OUT ONLY
- G GATED ACCESS POINT
- C CONDITIONAL ACCESS POINT
  SEE ACCESS TABLE FOR CONDITIONS.
  TYPICALLY CLOSES WITH REDEVELOPMENT.
- S CONDITIONAL SAFETY ACCESS POINT

FIGURE 3H

15th St to 27 ½ Rd (Figure 3H-I)

1) 15th St and 27 ½ Rd will remain full movement signalized intersections. Investigation into modifying 15th St to a ¾ movement and providing signalized crossings for bicycles and pedestrians was conducted. Ultimately, the City decided to keep 15th as a full movement intersection based on traffic patterns, circulation, and public support. Refer to Appendix D for more information about the alternative investigations for 15th St.

2) If desired upon redevelopment, the 4th leg of 27 ½ Rd may be installed on the south side of Patterson Rd. Utility relocations will be required and must be coordinated with the utility owner. If Access 145a is implemented, Access 146 must close and Access 148 must be restricted to right-in/right-out.

3) All other access for this section shall be limited to right-in/right-out between major intersections. Access points shall be reduced to one location per ownership, relocated to cross streets, and/or shared, where feasible, utilizing cross-access easements as properties redevelop to ensure that all properties are provided access to the public street system.

4) Access 136 and 137 shall be consolidated to one shared access at Access 136a. Similarly, Access 142 and 143 shall consolidate to one shared access at Access 142a and Access 141 shall be relocated to Access 141a. Several access points in this section are identified as conditional right-in/right-out and will close upon redevelopment. Refer to the ACP Table for conditions of implementation.

5) Public road connections on the south side of Patterson Rd that connect Patterson Rd properties to Wellington Ave are recommended upon redevelopment to create more circulation to the full movement intersection at 15th St.

PATTERSON ROAD ACP EXHIBIT

LEGEND

- BUS STOP
- BUS STOP - PULL OFF
- CROSS ACCESS - EXISTING
- CROSS ACCESS - PROPOSED
- PARCEL
- TRAIL
- PROPOSED CITY STREET OR PRIVATE CONNECTION
- PLANNED CITY STREET

ACCESS POINT INFORMATION

- SIGNALIZED FULL MOVEMENT
- UNSIGNALIZED FULL MOVEMENT
- 3/4 MOVEMENT
- RIGHT IN - RIGHT OUT
- CLOSE
- SIGNALIZED INTERSECTION
- RIGHT IN ONLY
- RIGHT OUT ONLY
- G GATED ACCESS POINT
- C CONDITIONAL ACCESS POINT
  SEE ACCESS TABLE FOR CONDITIONS.
  TYPICALLY CLOSES WITH REDEVELOPMENT.
- S CONDITIONAL SAFETY ACCESS POINT

FIGURE 3I

27 ½ Rd to 28 ¼ Rd (Figure 3I-K)

1) 27 ½ Rd and 28 ¼ Rd will remain full movement signalized intersections. If desired upon redevelopment, the 4th leg of 27 ½ Rd may be installed on the south side of Patterson Rd. Utility relocations will be required and must be coordinated with the utility owner.

2) If Access 145a is implemented, Access 146 must close and Access 148 must be restricted to right-in/right-out. ¾ movement intersections are proposed at Access 148, 150, 159, and 161.

3) Residents in the area were concerned about restricting 28 Rd (Access 159) to ¾ movement and were interested in the potential for signalization. However, due to the proximity of 28 Rd and 28 ¼ Rd, signalization is not recommended. The future connection of Hawthorne Ave to 28 ¼ Rd will provide the area with alternative options to a signalized intersection for left-out movements.

4) All other access for this section shall be limited to right-in/right-out between major intersections. Access points shall be reduced to one location per ownership, relocated to cross streets, and/or shared, where feasible, utilizing cross-access easements as properties redevelop to ensure that all properties are provided access to the public street system.

5) Access 162 is identified as conditional right-in/right-out and will close upon redevelopment. Refer to the ACP Table for conditions of implementation.

6) Public road connections on the south side of Patterson Rd that connect Patterson Rd properties to Wellington Ave are recommended upon redevelopment to create more circulation to the full movement intersection at 15th St.

28 ¼ Rd to 29 Rd (Figure 3K-L)

1) 28 ¼ Rd and 29 Rd will remain full movement signalized intersections. Access to Matchet Park (Access 176), Legends Way, and both sides of W Indian Creek Dr are proposed as ¾ movements. West Indian Creek Dr connects to Presley Ave and Presley will connect to 29 Rd in the future.

2) All other access for this section shall be limited to right-in/right-out between major intersections. Access points shall be reduced to one location per ownership, relocated to cross streets, and/or shared, where feasible, utilizing cross-access easements as properties redevelop to ensure that all properties are provided access to the public street system.

3) Due to the proximity to 29 Rd, E Indian Creek Dr (Access 196) is identified as a conditional safety right-in/right-out and may close if safety or operational issues develop and the conditions in the ACP Table are met. Alternate access to W Indian Creek Dr is available. Access 180 is identified as conditional right-in/right-out and will close upon redevelopment. Refer to the ACP Table for conditions of implementation.

4) Belhaven Way should be widened to full public street standards to provide access to the current Church of Christ property to the east.

PATTERSON ROAD ACP EXHIBIT

LEGEND

- BUS STOP
- BUS STOP - PULL OFF
- CROSS ACCESS - EXISTING
- CROSS ACCESS - PROPOSED
- PARCEL
- TRAIL
- PROPOSED CITY STREET OR PRIVATE CONNECTION
- PLANNED CITY STREET

ACCESS POINT INFORMATION

- SIGNALIZED FULL MOVEMENT
- UNSIGNALIZED FULL MOVEMENT
- 3/4 MOVEMENT
- RIGHT IN - RIGHT OUT
- CLOSE
- SIGNALIZED INTERSECTION
- RIGHT IN ONLY
- RIGHT OUT ONLY
- G GATED ACCESS POINT
- C CONDITIONAL ACCESS POINT
  SEE ACCESS TABLE FOR CONDITIONS.
  TYPICALLY CLOSES WITH REDEVELOPMENT.
- S CONDITIONAL SAFETY ACCESS POINT

FIGURE 3J

PATTERSON ROAD ACP EXHIBIT

LEGEND

- BUS STOP
- BUS STOP - PULL OFF
- CROSS ACCESS - EXISTING
- CROSS ACCESS - PROPOSED
- PARCEL
- TRAIL
- PROPOSED CITY STREET OR PRIVATE CONNECTION
- PLANNED CITY STREET

ACCESS POINT INFORMATION

- SIGNALIZED FULL MOVEMENT
- UNSIGNALIZED FULL MOVEMENT
- 3/4 MOVEMENT
- RIGHT IN - RIGHT OUT
- CLOSE
- SIGNALIZED INTERSECTION
- RIGHT IN ONLY
- RIGHT OUT ONLY
- G GATED ACCESS POINT
- C CONDITIONAL ACCESS POINT
  SEE ACCESS TABLE FOR CONDITIONS.
  TYPICALLY CLOSES WITH REDEVELOPMENT.
- S CONDITIONAL SAFETY ACCESS POINT

FIGURE 3K

29 Rd to 29 ½ Rd (Figure 3L-M)

1) 29 Rd and 29 ½ Rd will remain full movement signalized intersections. Access 205 to Safeway, Redwing Ln, and the north side of 29 3/8 Rd are proposed as ¾ movements.

2) All other access for this section shall be limited to right-in/right-out between major intersections. Access points shall be reduced to one location per ownership, relocated to cross streets, and/or shared, where feasible, utilizing cross-access easements as properties redevelop to ensure that all properties are provided access to the public street system.

3) Due to the proximity to 29 ½ Rd, Colanwood St (Access 227) is identified as a conditional safety right-in/right-out and may close if safety or operational issues develop and the conditions in the ACP Table are met. Alternate access via Wellington Ave or Parkway Dr is available.

4) Several access points in this section are identified as conditional right-in/right-out and will close upon redevelopment. In particular, the properties on the north side of Patterson Rd from Access 202-206 should be connected through cross-access easements and access should be consolidated and shared as much as possible with redevelopment.

5) Penny Ln should also be constructed to provide properties currently served by Access 224 and 226 alternate access to 29 ½ Rd. 224 also has alternate access to Bonito Ave and 226 has alternate access to Mount Julian Dr and cross access will be required upon development. Refer to the ACP Table for conditions of implementation.

29 ½ Rd to 30 Rd (Figure 3M-O)

1) 29 ½ Rd and 30 Rd will remain full movement signalized intersections. A ¾ movement is proposed on both sides of the road at Placer St (Access 240 and 241).

2) All other access for this section shall be limited to right-in/right-out between major intersections. Access points shall be reduced to one location per ownership, relocated to cross streets, and/or shared, where feasible, utilizing cross-access easements as properties redevelop to ensure that all properties are provided access to the public street system.

3) Due to the proximity to 29 ½ Rd, Greenfield Cir E (Access 233) and Pioneer Rd (Access 234) are identified as a conditional safety right-in/right-out and may close if safety or operational issues develop and the conditions in the ACP Table are met. Alternate access via Bookcliff Ave and Bonito Ln respectively is available.

4) Hudson Bay Dr (Access 244) is also identified as conditional safety right-in/right-out due to proximity to 30 Rd. Alternate access to F ¼ Rd is available.

5) Several access points in this section are identified as conditional right-in/right-out and will close upon redevelopment. Refer to the ACP Table for conditions of implementation.

PATTERSON ROAD ACP EXHIBIT

LEGEND

- BUS STOP
- BUS STOP - PULL OFF
- CROSS ACCESS - EXISTING
- CROSS ACCESS - PROPOSED
- PARCEL
- TRAIL
- PROPOSED CITY STREET OR PRIVATE CONNECTION
- PLANNED CITY STREET

ACCESS POINT INFORMATION

- SIGNALIZED FULL MOVEMENT
- UNSIGNALIZED FULL MOVEMENT
- 3/4 MOVEMENT
- RIGHT IN - RIGHT OUT
- CLOSE
- SIGNALIZED INTERSECTION
- RIGHT IN ONLY
- RIGHT OUT ONLY
- G GATED ACCESS POINT
- C CONDITIONAL ACCESS POINT
  SEE ACCESS TABLE FOR CONDITIONS.
  TYPICALLY CLOSES WITH REDEVELOPMENT.
- S CONDITIONAL SAFETY ACCESS POINT

FIGURE 3L

PATTERSON ROAD ACP EXHIBIT

LEGEND

- BUS STOP
- BUS STOP - PULL OFF
- CROSS ACCESS - EXISTING
- CROSS ACCESS - PROPOSED
- PARCEL
- TRAIL
- PROPOSED CITY STREET OR PRIVATE CONNECTION
- PLANNED CITY STREET

ACCESS POINT INFORMATION

- SIGNALIZED FULL MOVEMENT
- UNSIGNALIZED FULL MOVEMENT
- 3/4 MOVEMENT
- RIGHT IN - RIGHT OUT
- CLOSE
- SIGNALIZED INTERSECTION
- RIGHT IN ONLY
- RIGHT OUT ONLY
- G GATED ACCESS POINT
- C CONDITIONAL ACCESS POINT
  SEE ACCESS TABLE FOR CONDITIONS.
  TYPICALLY CLOSES WITH REDEVELOPMENT.
- S CONDITIONAL SAFETY ACCESS POINT

FIGURE 3M

PATTERSON ROAD ACP EXHIBIT

LEGEND

- BUS STOP
- BUS STOP - PULL OFF
- CROSS ACCESS - EXISTING
- CROSS ACCESS - PROPOSED
- PARCEL
- TRAIL
- PROPOSED CITY STREET OR PRIVATE CONNECTION
- PLANNED CITY STREET

ACCESS POINT INFORMATION

- SIGNALIZED FULL MOVEMENT
- UNSIGNALIZED FULL MOVEMENT
- 3/4 MOVEMENT
- RIGHT IN - RIGHT OUT
- CLOSE
- SIGNALIZED INTERSECTION
- RIGHT IN ONLY
- RIGHT OUT ONLY
- G GATED ACCESS POINT
- C CONDITIONAL ACCESS POINT
  SEE ACCESS TABLE FOR CONDITIONS.
  TYPICALLY CLOSES WITH REDEVELOPMENT.
- S CONDITIONAL SAFETY ACCESS POINT

FIGURE 3N

30 Rd to Lodgepole St (Figure 3O-P)

1) 30 Rd will remain a full movement signalized intersection. As the City boundary is crossed into Mesa County, the access points are identified as unsignalized full movement intersections. This includes Lodgepole St and the two access points to the Museum of Western Colorado (Access 284 and 286. If the museum changes use or expands in a way that significantly increases traffic, Access 284 should close and Access 286 should be realigned with Lodgepole St to create a 4-legged intersection. The north leg of Serenade St, Roundtable Rd, Gerken Rd, and Cottage Meadow Ct are proposed as ¾ movements.

2) All other access for this section shall be limited to right-in/right-out between major intersections. Access points shall be reduced to one location per ownership, relocated to cross streets, and/or shared, where feasible, utilizing cross-access easements as properties redevelop to ensure that all properties are provided access to the public street system.

3) Due to the proximity to 30 Rd, Ronlin Dr (Access 250) is identified as a conditional safety right-in/right-out and may close if safety or operational issues develop and the conditions in the ACP Table are met. Alternate access via E Vista Dr and Agana Dr is available.

4) Several access points in this section are identified as conditional right-in/right-out and will close upon redevelopment. Refer to the ACP Table for conditions of implementation.

5) Connections to Wellington Ave and/or Kirby Ln should also be constructed to provide properties currently served by Access 269, 271 and 272. Refer to the ACP Table for conditions of implementation.

PATTERSON ROAD ACP EXHIBIT

LEGEND

- BUS STOP
- BUS STOP - PULL OFF
- CROSS ACCESS - EXISTING
- CROSS ACCESS - PROPOSED
- PARCEL
- TRAIL
- PROPOSED CITY STREET OR PRIVATE CONNECTION
- PLANNED CITY STREET

ACCESS POINT INFORMATION

- SIGNALIZED FULL MOVEMENT
- UNSIGNALIZED FULL MOVEMENT
- 3/4 MOVEMENT
- RIGHT IN - RIGHT OUT
- CLOSE
- SIGNALIZED INTERSECTION
- RIGHT IN ONLY
- RIGHT OUT ONLY
- G GATED ACCESS POINT
- C CONDITIONAL ACCESS POINT
  SEE ACCESS TABLE FOR CONDITIONS.
  TYPICALLY CLOSES WITH REDEVELOPMENT.
- S CONDITIONAL SAFETY ACCESS POINT

FIGURE 30

PATTERSON ROAD ACP EXHIBIT

LEGEND

- BUS STOP
- BUS STOP - PULL OFF
- CROSS ACCESS - EXISTING
- CROSS ACCESS - PROPOSED
- PARCEL
- TRAIL
- PROPOSED CITY STREET OR PRIVATE CONNECTION
- PLANNED CITY STREET

ACCESS POINT INFORMATION

- SIGNALIZED FULL MOVEMENT
- UNSIGNALIZED FULL MOVEMENT
- 3/4 MOVEMENT
- RIGHT IN - RIGHT OUT
- CLOSE
- SIGNALIZED INTERSECTION
- RIGHT IN ONLY
- RIGHT OUT ONLY
- G GATED ACCESS POINT
- C CONDITIONAL ACCESS POINT
  SEE ACCESS TABLE FOR CONDITIONS.
  TYPICALLY CLOSES WITH REDEVELOPMENT.
- S CONDITIONAL SAFETY ACCESS POINT

FIGURE 3P

5.2 Alternative Local Routes

In addition to recommended access modifications, this study has resulted in recommendations for development of several alternative local routes. These alternative routes provide additional local connections and internal circulation opportunities that will benefit operations on Patterson Rd. The alternative routes would reduce local dependence on Patterson, provide alternatives that support restricted turning movements on Patterson, and reduce demand at intersections that are already experiencing high demand. The routes illustrated in the plan are conceptual in nature and will require detailed engineering to establish exact alignments at the time of implementation. Some access improvements require development of alternative routes prior to implementation.

The following is a list of the alternative routes or additional connections identified and illustrated in Figure 4:

- North-south route through GVT Park-n-Ride between the properties adjacent to Patterson Rd and F 1/8 Rd
- East-west connection between Cider Mill Rd and the extension of 25 ¾ Rd
- North-south route from Access 74 to connect with access to 26 ½ Rd in the future
- Connections between Access 138 and 148 to Wellington Ave
- North-south connection through Matchett Park at Access 176 with an east-west connection from Navajo way to provide opportunities for the neighborhood to access the signal at 28 ¼ Rd
- Widening of Belhaven Way to a full public street width
- Development of Penny Ln between 29 ½ Rd and the properties currently served by Access 224 and 226
- Connection to Wellington Ave and/or Kirby Ln for the properties currently served by Access 269, 271 and 272.

The adoption of these additional road connections into the City of Grand Junction's Street Plan Functional Classification Map as part of the Grand Junction Circulation Plan is recommended. It is anticipated that the majority of these routes would be accomplished in phases when development or redevelopment occurs.

In support of alternate modes, the ACP also considered pedestrian, bicycle and transit access throughout the corridor. Overall, reducing access points reduces potential conflict points for pedestrians, cyclists and buses traveling Patterson Rd. Grand Valley Transit (GVT) provides fixed route transit service throughout Mesa County and the City of Grand Junction. Currently, there are four routes that travel from the GVT Park-n-ride on 24 ½ Rd. Three routes travel on Patterson for some distance. Left turn restrictions shown in the ACP will not affect existing GVT routes and no new access points conflict with existing GVT stops.

The ACP also supports the accommodation of pedestrian and bicycle crossings at full movement signalized intersections. As intersections are improved and sidewalk is added throughout the corridor, pedestrian crossings should be implemented and upgraded to current ADA standards. Further traffic and safety analysis of future opportunities for mid-block crossings to support pedestrian accessibility and transit access is recommended.

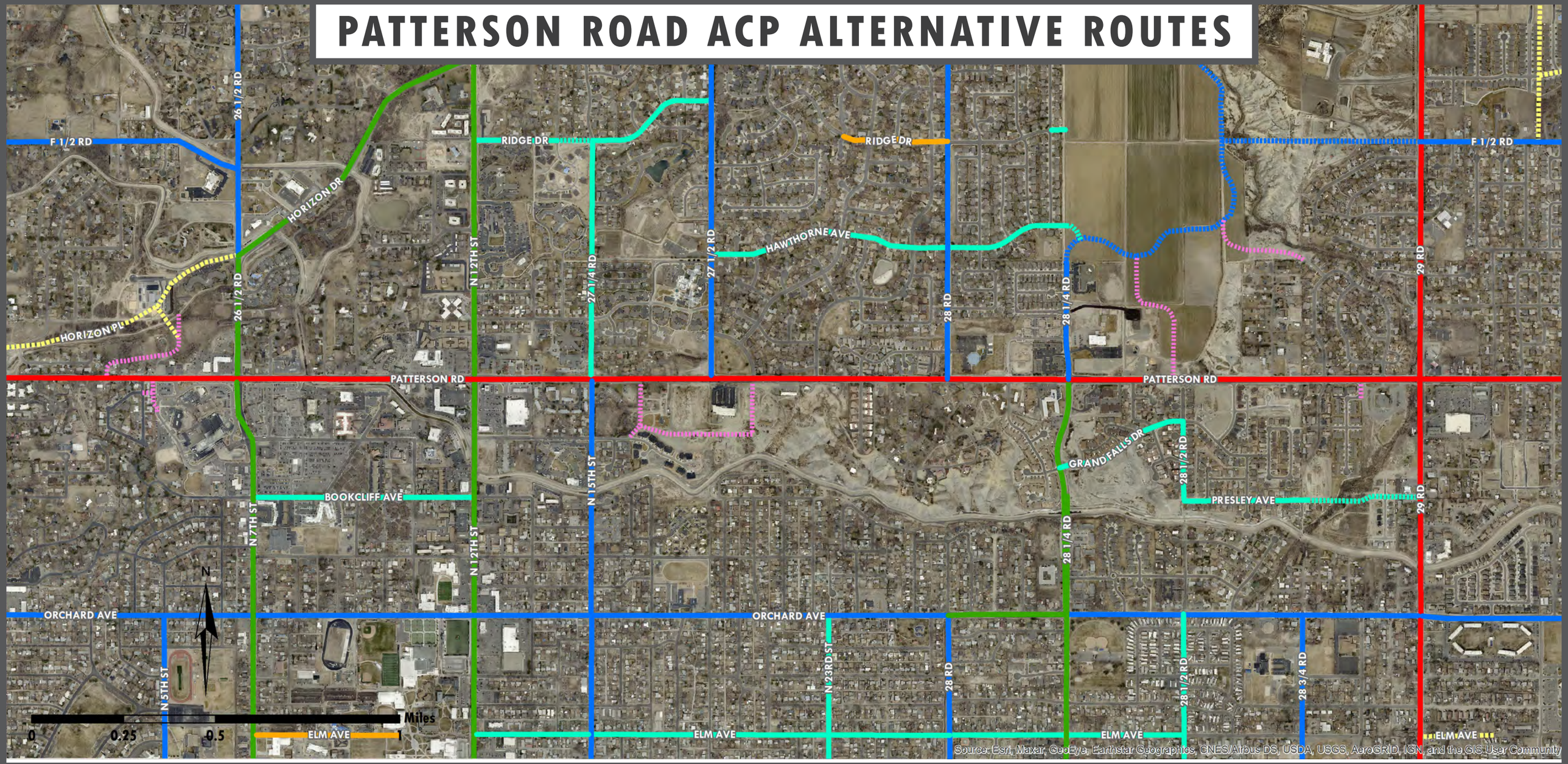
PATTERSON ROAD ACP ALTERNATIVE ROUTES

LEGEND

- PRINCIPAL ARTERIAL
- PRINCIPAL ARTERIAL - PROPOSED
- MINOR ARTERIAL
- MINOR ARTERIAL - PROPOSED
- MAJOR COLLECTOR
- MAJOR COLLECTOR - PROPOSED
- MINOR COLLECTOR
- MINOR COLLECTOR - PROPOSED
- LOCAL ROAD
- LOCAL ROAD - PROPOSED
- UNCLASSIFIED
- ACP ALTERNATIVE STREETS - PROPOSED

FIGURE 4A

PATTERSON ROAD ACP ALTERNATIVE ROUTES

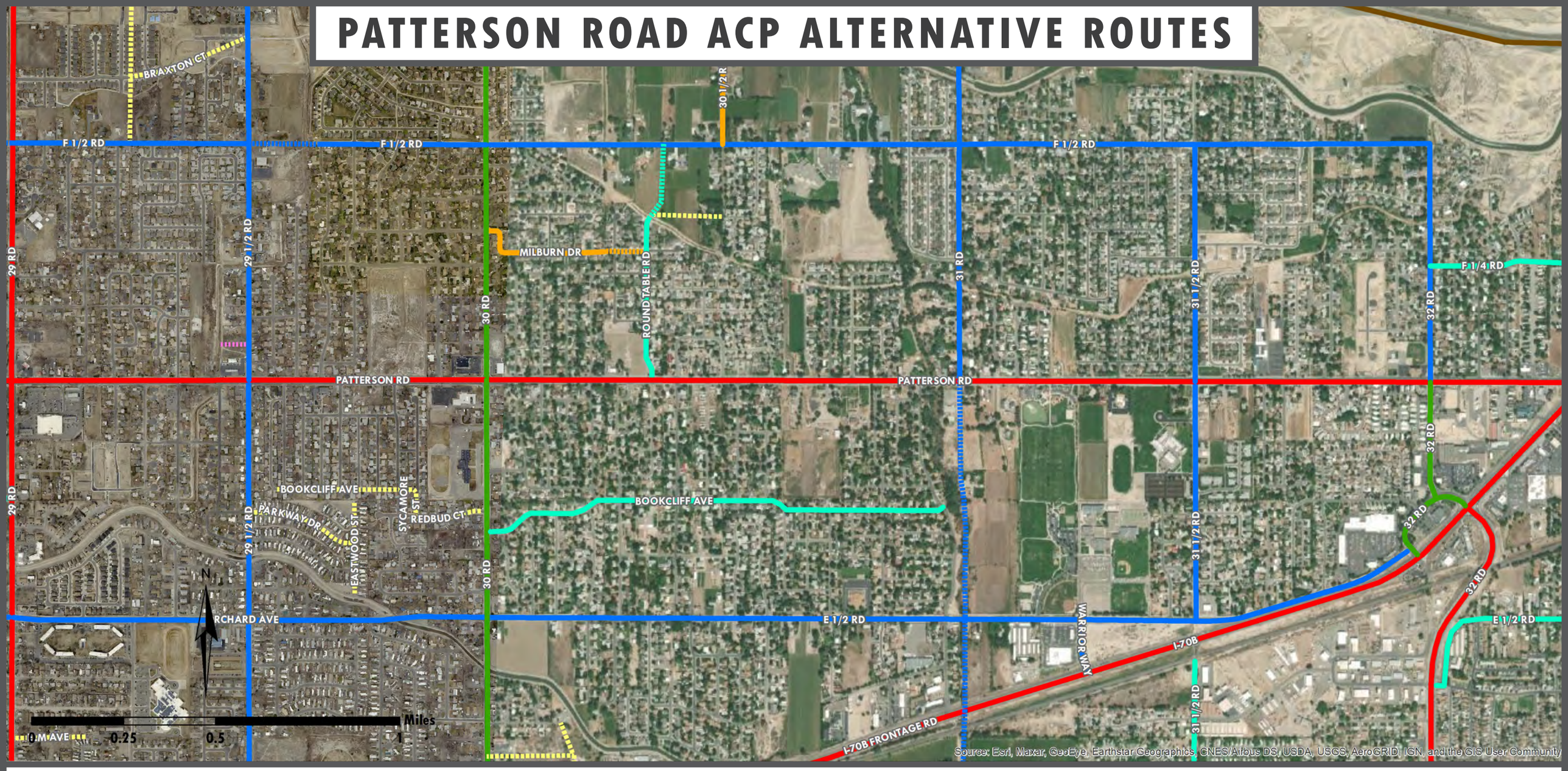


LEGEND

- PRINCIPAL ARTERIAL
- PRINCIPAL ARTERIAL - PROPOSED
- MINOR ARTERIAL
- MINOR ARTERIAL - PROPOSED
- MAJOR COLLECTOR
- MAJOR COLLECTOR - PROPOSED
- MINOR COLLECTOR
- MINOR COLLECTOR - PROPOSED
- LOCAL ROAD
- LOCAL ROAD - PROPOSED
- UNCLASSIFIED
- ACP ALTERNATIVE STREETS - PROPOSED

FIGURE 4B

PATTERSON ROAD ACP ALTERNATIVE ROUTES



LEGEND

- PRINCIPAL ARTERIAL
- PRINCIPAL ARTERIAL - PROPOSED
- MINOR ARTERIAL
- MINOR ARTERIAL - PROPOSED
- MAJOR COLLECTOR
- MAJOR COLLECTOR - PROPOSED
- MINOR COLLECTOR
- MINOR COLLECTOR - PROPOSED
- LOCAL ROAD
- LOCAL ROAD - PROPOSED
- UNCLASSIFIED
- ACP ALTERNATIVE STREETS - PROPOSED

FIGURE 4C

6.0 ACCESS PLAN IMPLEMENTATION CONDITIONS

The improvements recommended in the Plan represent a long-range plan to implement over time as traffic and safety needs arise and as funding becomes available. Construction of the improvements recommended may be completed using public and/or private funding. The following cases will trigger construction.

1. A property redevelops or changes use, resulting in an increase in traffic to and from the site of 20% or more. In this case, limited improvements at the specific access point may be required. As part of the development review process, additional transportation improvements may also be necessary to address specific traffic-related impacts created by the development. These improvements will be compatible with the ACP. In addition, upon redevelopment, property owners will provide legally defined cross-access easements for shared access points, as defined by the Plan. If a property does not redevelop, the property owner will not be required to construct access modifications. (Private Funding).

2. The City obtains funding to complete improvements to a segment of the corridor or a local route. (Public Funding)

3. A safety or operational issue develops that can be mitigated through the implementation of access management techniques consistent with the Access Plan. Depending on the extent and type of safety or operational issue, improvements may address a segment of the corridor or a local route, or may be limited to an isolated location or access point. (Public or Private Funding)

4. Any combination of 1, 2, or 3.

Detailed engineering drawings of exact roadway alignments and access improvements will be required as project funding is identified. Details related to storm drainage, utilities, landscaping, environmental issues, pedestrian/bicycle facilities, roadway sections, and other topographic features will be considered during this design process. Environmental evaluations appropriate to the size, type, and funding of the project will be completed as part of the design phase.

7.0 CONCLUSION

Traffic demand on the Patterson Rd is expected to increase by 24% to 33% over the next twenty years challenging the future functionality of the corridor. Access management has been proven both nationally and statewide to effectively preserve the transportation function of arterial roadways by optimizing the performance of the road to improve the level of safety, reduce traffic congestion and preserve property values without constructing major arterial improvements. The findings of this study indicate that applying access management techniques along Patterson Rd, including the implementation of a raised median, addition of auxiliary lanes, and the consolidation of driveways, will significantly reduce conflict points for vehicles, pedestrians, and cyclists, which correlates to reduced crashes and improved safety. In addition, smoother traffic flow and improved travel times will extend the life of the existing four-lane section on Patterson Rd. Prolonging the need for additional through lanes along Patterson Rd will result in taxpayer savings and reduced impacts to adjacent properties and businesses.

The proposed ACP and associated alternative routes provide the City with a corridor-wide vision for how to coordinate development and growth with the transportation needs on Patterson Rd. The ACP will provide clear expectations for access for both City staff and property owners/developers as land-use changes are proposed and public projects are developed. To provide for commitment to the access modifications and circulation routes recommended by this study, it is recommended that City adopt the ACP for Patterson Rd, as well as the proposed alternative routes. The ACP identifies access locations and levels of access by reference point for Patterson Rd within City limits. The ACP Table, which provides detailed conditions and requirements for each access point, is included in Appendix F. In recognition of the plan's long-range nature and the potential for conditions to change over time, the City should view this plan as a living document that can be amended to best meet future conditions and priorities for the City.

8.0 LIST OF ACRONYMS

AASHTO = American Association of State Highway and Transportation Officials

ACP = Access Control Plan

ADA = Americans with Disabilities Act

ADT = Average Daily Traffic

ATS = Average Travel Speed

BA = Business Access

CDOT = Colorado Department of Transportation

CFI = Continuous Flow Intersection

FA = Field Access

FHWA = Federal Highway Administration

GVCP = Grand Valley Comprehensive Plan

GVT = Grand Valley Transit

HCM = Highway Capacity Manual, 6th Edition

HCS = Highway Capacity Software

LOSS = Level of Service of Safety

MA = Maintenance Access

MP = Milepost

MPO = Metropolitan Planning Organization

mph = Miles Per Hour

MUTCD = Manual on Uniform Traffic Control Devices

NCHRP = National Cooperative Highway Research Program

PRU = Public Rd Unsignalized

PRS = Public Rd Signalized

PTSF = Percent Time Spent Following

PVRU = Private Rd Unsignalized

R = Residential Access

R-A = Regional Highway

RP = Reference Point

ROW = Right-of-Way

TEDS = Transportation Engineering Design Standards

TMC = Turning Movement Count

TRB = Transportation Research Board

vph = vehicles per hour

9.0 GLOSSARY

Access – Any driveway or other point of entry and/or exit such as a street, road or highway that connects to the general street system

Access Category – means one of eight categories described in Section Three of the State Highway Access Code, and determines the degree to which access to a state highway is controlled

Access Plan, Access Control Plan – A plan which designates access locations and levels of access for the purpose of bringing those portions of roadway included in the planning area into conformance with the highway functional classification to the extent feasible

Access Management – Systematic control of the location, spacing, design, and operation of driveways, median openings, and street connections to a roadway

Access Permit – Means by which access improvements are reviewed, approved and constructed in accordance with the State Highway Access Code

Average Travel Speed (ATS) – The highway segment length divided by the average travel time taken by vehicles to traverse it during a designated time interval

Driveway – An access that is not a public street, road, or highway

Full Movement Access – An access without turn restrictions

Functional Intersection Area – Area upstream and downstream of an intersection where intersection operation and conflicts influence driver behavior, vehicle operations, or traffic conditions.

Level-of-Service (LOS) – An indication of the quality of traffic flow as measured by vehicle delays or travel speeds. Level-of-service grades range from LOS A (ideal traffic flow) to LOS F (heavily congested conditions). LOS D is typically considered an acceptable traffic condition during peak demand periods in urbanized locations.

Percent Time Spent Following (PTSF) – The average percentage of time that vehicles must travel in platoons behind slower vehicles due to the inability to pass.

Right-of-way (ROW) – The entire width between the boundary lines of every way publicly maintained when any part thereof is open to the use of the public for purposes of vehicular travel

Turning Movement Count (TMC) – A tally of the number of vehicles turning left, right, or traveling through an intersection

Volume-to-Capacity Ratio (v/c) – The sufficiency of an intersection to accommodate vehicular demand. A v/c over 1.00 means the traffic demand exceeds the capacity.

City of Grand Junction Patterson Road Access Study Appendices

US 6 / US 50 / I-70B to Lodgepole Street

January 2021

City of Grand Junction Colorado

Stolfus

Appendix A - Public Outreach

PATTERSON ROAD ACCESS CONTROL PLAN
ANSWERS TO FREQUENTLY ASKED QUESTIONS

What is an Access?

An access, as related to roadways, is a location where vehicles, bicycles, or pedestrians may enter and/or exit a roadway. Access may be public, such as a street, or private, such as a driveway to a business or residence. Every property owner has the right of reasonable access to the general street system.

Why is access management beneficial?

Access management benefits communities by preserving and improving traffic operations along the most critical roadways. Efficiently managing existing roadways so that they are operating to their fullest capacity costs less than investing in new roadways. Applying access management techniques can increase roadway capacity by 20% to 40%. Access management also has tremendous safety benefits. Studies have shown a 30% to 60% reduction in crashes on roadways where access management techniques are implemented.

The reduction in vehicle conflicts has the added benefit of improving traffic flow, reducing travel times, increasing fuel efficiency and contributing less to air pollution. Access management is also good for business, providing safe access to customers and retaining more of a community's original market area.

What is an Access Control Plan?

An Access Control Plan (ACP) provides a unified vision of the future access needs for a particular roadway corridor. The goals are to define safe, effective, and efficient access to support the economic viability of the corridor, utilize existing right of way, allow for smooth passage of through traffic on the roadway, maintain compatibility with local planning efforts and the existing and proposed street network connections and circulations, provide a plan that can be implemented in phases, and support alternative modal choices.

An ACP defines existing and future access locations with consideration for spacing, traffic movements, circulation, and alternative access opportunities. The ACP does not define specific roadway improvements or funding sources. It is a long-range planning document that identifies access conditions that will be implemented as roadway and land-use characteristics change.

Why is adopting an ACP beneficial?

An ACP allows Grand Junction to make decisions about access that are more consistent with the local vision, land use, and the local transportation system as a whole. In addition, the ACP addresses access on a corridor-wide basis rather than an individual, first-come, first-serve basis. An ACP considers how adjacent access points impact each other and provides property owners with security in the planned access for their property. Recommendations of the ACP consider adjacent land use, corridor specific conditions and local plans for future improvements. Closer access spacing and increased level of access may also be recommended where technical analyses can demonstrate adequate traffic safety and operations.

How is the ACP implemented?

The ACP will be implemented in phases as changes and growth occur around the City. Portions of the plan will be implemented based on the following triggers:

1. Redevelopment that increases traffic
2. Planned publicly funded project
3. Safety or operational issue

What area does the ACP include?

The ACP study area covers approximately 7.1 miles of Patterson Road from US 6/US 50 to Lodgepole Street.

How long will it take to complete the Access Plan?

The ACP project began in January 2020 and is expected to be completed in April 2021.

How can I get more information about the project?

Please contact one of the project team representatives:

Rick Dorris
Development Engineer
City of Grand Junction
Ph. (970) 256-4034
rickdo@gjcity.org

Andrew Amend
Consultant Project Manager
Stolfus & Associates, Inc.
Ph. (303) 221-2330
andrew@stolfusandassociates.com

PLAN DE CONTROL DE ACCESO DE LA CALLE PATTERSON
RESPUESTAS A PREGUNTAS FRECUENTES

¿Qué significa el acceso?
El acceso, relacionado con carreteras, es una ubicación donde los vehículos, bicicletas o peatones pueden entrar y/o salir de una carretera. El acceso puede ser publico como una calle o privada, como una entrada de carros o un negocio o residencia. Cada dueño de propiedad tiene el derecho de tener acceso razonable al sistema de calles general.

¿Porque el manejo del acceso es bueno?
El manejo del acceso beneficia a las comunidades al preservar y mejorar las operaciones de trafico a lo largo de las carreteras más críticas. El manejo del acceso de manera eficiente en las carreteras actuales sirve para que las carreteras funcionen a su máxima capacidad y cuesta menos que invertir en nuevas carreteras. La aplicación de técnicas de manejo de acceso puede incrementar la capacidad de las carreteras entre un 20-40%. El manejo del acceso también tiene un tremendo beneficio en la seguridad. Los estudios han demostrado una reducción de un 30-60% de los choques en las carreteras donde las técnicas de manejo del acceso son implementadas.

La reducción de conflictos en vehículos tiene el beneficio adicional de mejorar el flujo de tráfico, reducción del tiempo de manejo, incremento en la eficiencia del uso de combustible y contribuye a menos contaminación. El manejo del acceso es también Bueno para negocios, les da un acceso seguro a los clientes y retiene a las áreas en la comunidad que originalmente son áreas comerciales.

¿Qué es un Plan de Control de Acceso?
Un Plan de Control de Acceso (Siglas en Ingles ACP) provee una visión unificada de las necesidades del futuro acceso de una carretera en particular. La meta es definir un acceso seguro, efectivo y eficiente para apoyar la viabilidad económica de una carretera, utilizar las salidas con derecho de paso, permitir el pase tranquilo hacia el trafico que viene de una carretera, mantener la compatibilidad con los esfuerzos de planificación y las conexiones y circulaciones de las propuestas de redes de calles y de las calles actuales, compartir un plan que sea implementado en fases y apoye los modelos opcionales alternativos.

Un ACP (siglas en ingles para Plan de Control de Acceso), define las ubicaciones de accesos futuros considerando el espacio, el movimiento del tráfico, la circulación y las oportunidades de acceso alternativo. El ACP no define las mejoras en carreteras especificas o las fuentes de financiamiento. Es un documento de un plan a largo plazo que identifica las condiciones de acceso que se implementarán a medida que cambien las características de las carreteras y el uso del suelo.

¿En qué beneficia el adoptar un ACP?
Un ACP permite que la Ciudad de Grand Junction tome decisiones acerca del acceso que es mas consistente con la visión local, el uso del suelo y el sistema de transporte en general. Adicionalmente, el ACP dirige el acceso en toda la carretera en lugar de un individuo, por orden de llegada. Un ACP considera como los puntos de acceso adjuntos impactan a cada individuo y proveen a los dueños de propiedad seguridad en el plan de acceso para su propiedad. Las recomendaciones sobre el ACP consideran el uso del suelo adjunto, las condiciones de las carreteras, y los planes locales para futuras mejoras. El espacio del acceso cercano y el incrementar el nivel de acceso puede también ser recomendado donde el análisis técnico puede demostrar la seguridad adecuada en el tráfico y las operaciones.

¿Cómo se implementa un ACP?
El ACP se implementa en fases, así como los cambios y el crecimiento ocurre en la ciudad. Las porciones del plan se implementarán basadas en los siguientes factores:

1. La reurbanización que incrementa el trafico
2. El proyecto planificado financiado por fondos públicos
3. La seguridad o problemas de operación.

¿Cuál es el área que está incluida en el ACP?
El estudio del área del ACP cubre aproximadamente 7.1 millas de la calle Patterson desde US 6/US 50 hasta la calle Lodgepole.

¿Cuánto se tardarán en terminar el Plan de Acceso?
El Proyecto del ACP comenzó en enero del 2020 y se espera que termine en abril 2021.

¿Cómo puedo obtener más información acerca del Proyecto?
Por favor contacte al representante del equipo del Proyecto.

Rick Dorris
Development Engineer
City of Grand Junction
Ph. (970) 256-4034
rickdo@gjcity.org

Andrew Amend
Consultant Project Manager
Stolfus & Associates, Inc.
Ph. (303) 221-2330
andrew@stolfusandassociates.com

Open House 1

October 1, 2020

PATTERSON ROAD ACCESS CONTROL PLAN

CITY OF GRAND JUNCTION
INVITES YOU TO THE

OPEN HOUSE

FOR THE

PATTERSON ROAD ACCESS CONTROL PLAN

FROM HIGHWAY 6 TO LODGEPOLE STREET

PLAN DE CONTROL DE ACCESO DE LA CALLE PATTERSON

LA CIUDAD DE GRAND JUNCTION
LO INVITA

UNA EXCHIBIÓN ABIERTA AL PUBLICO

SOBRE

EL PLAN DE CONTROL DE ACCESO DE LA CALLE PATTERSON

DESDE HIGHWAY (CARRETERA) 6
HASTA LA CALLE LODGEPOLE

THURSDAY
OCTOBER 1, 2020
JUEVES
1 DE OCTUBRE DEL 2020

4:00 - 7:00 PM
(NO FORMAL PRESENTATION - COME ANYTIME)
(NO HABRA UNA PRESENTACIÓN FORMAL, PUEDE LLEGAR A CUALQUIER HORA)

FAITH HEIGHTS CHURCH
600 28 1/4 RD
GRAND JUNCTION, CO 81506

CITY OF Grand Junction COLORADO

Stolfus

THIS OPEN HOUSE WILL PROVIDE THE COMMUNITY WITH AN OPPORTUNITY TO:

- DISCUSS FUTURE ACCESS TO PATTERSON RD WITH PROJECT REPRESENTATIVES
- PROVIDE COMMENTS ON THE DRAFT ACCESS CONTROL PLAN

THANK YOU FOR YOUR PARTICIPATION!
FOR ONLINE PRESENTATION, MAPS, AND COMMENTS, PLEASE SEE GJSPEAKS.ORG.

LA EXHIBICIÓN ABIERTA AL PUBLICO PROVEE LA OPORTUNIDAD PARA QUE LA COMUNIDAD:

- HABLE CON LOS REPRESENTANTES DEL PROYECTO SOBRE EL FUTURO ACCESO A LA CALLE PATTERSON
- PROPORCIONE SUS COMENTARIOS SOBRE LOS PLANES INICIALES DEL CONTROL DE ACCESO

¡GRACIAS POR SU PARTICIPACIÓN!
PARA VER LA PRESENTACIÓN POR INTERNET, MAPAS, Y COMENTARIOS, POR FAVOR VISITE LA PÁGINA GJSPEAKS.ORG.

FOR MORE INFORMATION, PLEASE CONTACT:
PARA PEDIR MÁS INFORMACIÓN, POR FAVOR CONTACTE A:

ANDREW AMEND
STOLFUS & ASSOCIATES, INC.
(303)221-2330
ANDREW@STOLFUSANDASSOCIATES.COM

STOLFUS & ASSOCIATES, INC.
5690 DTC BLVD. STE. 330W
GREENWOOD VILLAGE, CO 80111

CITY OF Grand Junction COLORADO

Stolfus

PATTERSON ROAD ACCESS CONTROL PLAN

CITY OF GRAND JUNCTION
INVITES YOU TO THE

OPEN HOUSE

FOR THE

PATTERSON ROAD ACCESS CONTROL PLAN

FROM HIGHWAY 6 & 50 TO
LODGEPOLE STREET

THURSDAY
OCTOBER 1, 2020

4:00 - 7:00 PM
(NO FORMAL PRESENTATION -
COME ANYTIME)

FAITH HEIGHTS CHURCH
600 28 1/4 RD
GRAND JUNCTION, CO

FOR MORE INFORMATION, CONTACT:
ANDREW AMEND
STOLFUS & ASSOCIATES, INC.
(303)221-2330
ANDREW@STOLFUSANDASSOCIATES.COM

FOR ONLINE PRESENTATION, MAPS, AND
COMMENTS, PLEASE SEE GJSPEAKS.ORG

SI HABLA ESPAÑOL, FOR FAVOR VISITE
GJSPEAKS.ORG O ASISTA A NUESTRA
EXHIBICIÓN ABIERTA AL PÚBLICO

PATTERSON ROAD ACCESS CONTROL PLAN
COMMENT SHEET - PUBLIC OPEN HOUSE
October 1, 2020

Name: Roger Titmus Representing: Stinker Stores

Address: 2498 Patterson Road City: Grand Junction State: CO Zip: 81505

Phone: 208 337 2830 Email: rtitmus@stinker.com

* This survey (English only) can also be completed online at: https://www.surveymonkey.com/r/8WQF26Y
* For Spanish clients, please print this form, complete, and email or mail to the contact at the bottom of the page.

1. Are you a (check all that apply):
   - ☒ Property Owner on Patterson Road
   - ☐ Renter/Lessee on Patterson Road
   - ☒ Business Owner on Patterson Road
   - ☐ Commuter through corridor
   - ☐ Other _____

2. Of the following issues in the Patterson Road corridor, please mark up to three that are most important to you.
   - ☒ Safety
   - ☒ Mobility through the corridor
   - ☒ Driveway Access
   - o Pedestrian Access
   - o Bicycle Access
   - o Property Impacts
   - o Local Street Intersections
   - o Bus Service

3. What are some of your concerns regarding the proposed Access Control Plan? (check all that apply)
   - o Sharing access with my neighbor
   - o Accessing my property/business from a roadway other than Patterson Road
   - o Modification of circulation on my property
   - ☒ Reducing the number of access points to my property
   - ☒ Restricting the turning movements to/from my property
   - o Relocation of access point on my property
   - o Other _____

4. What statement best reflects how you feel about the Access Control Plan?
   - o I support the Access Control Plan
   - o I support the Access Control Plan, but have concerns about access at particular locations. Please note those areas:
     _____
     _____
   - ☒ I do **not** support the Access Control Plan

5. Do you have any other comments, questions, or concerns?

If the goal is to improve traffic flow on Patterson, restricting access to retail will not help achieve the goal. Restricting access causes drivers to stack up at bottleneck points, wait for opposing traffic, make u-turns, and backtrack to their destination. There are several east/west roads in Grand Junction that give drivers a lot of options. The best option to avoid hitting the brakes is to take I70, but there are few direct routes to the interstate. Providing better access to the interstate will improve traffic flow. Better north/south connectivity solves the problem. Restricting driveway access does not.

Please leave this with us, mail, or email by **October 15th** to:
Andrew Amend Stolfus & Associates, Inc.
5690 DTC Boulevard, Suite 330W, Greenwood Village, CO 80111
303.221.2330 (Phone) andrew@stolfusandassociates.com

Grand Junction Speaks
Published Comments for October 1, 2020 Patterson Access Control Meeting
Patterson Access Control Open House

As the Resident of 3030 Patterson Road, I do not find it beneficial to remove the only access point(Drive way) to my property. This is a privately owned property that is still zoned as Agricultural and thus should have its own entrance for equipment. By implementing the above changes to Patterson from 30 to Grand Valley drive you are not only creating a hazard for the business but also causing more traffic issues by introducing large Agriculture equipment into a small immobile space (between the building and fence line). These changes would cause more issues than they would prevent and should be stricken from the building plan.

09/23/2020 10:42 am

Brian Arms
3030 Patterson Road
Grand Junction, 81504

How will anyone that lives in Mantey Heights head west? Are you encouraging u-turns?

09/28/2020 9:21 am

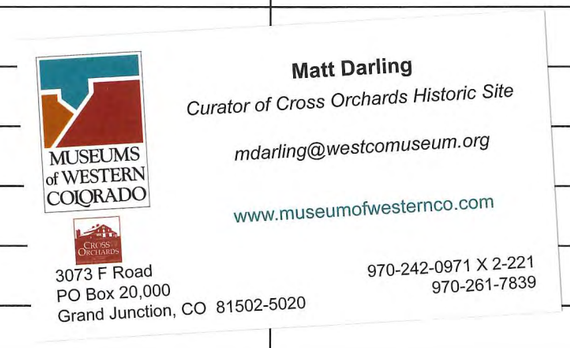
Cheryl Fiegel
562 Grand Valley Dr
Grand Junction, 81504

One-on-One Meetings

Patterson Road Access Control Plan
One-on-One Meeting Sign Up

Name	Representing	Access Point Numbers	Phone Number	Email
PENNY WAGNER	GRAND VIEW HOA	28 ROAD	628-1858	pennywagnergvhoa@gmail.com
GARY ACCONE	COMET CIRCLE LLC	25 + PATTERSON / COMET	970 201-2225	gccrone@gmail.com
Michael Shafer	Resident	2745 Patterson	970-250-5739	mikegjco@gmail.com
Gina Lambright	Bookcliff Liquors	3026 Patterson	970-250-8378	gjnana@hotmail.com
Matt Darling	Cross Orchards Museum	278 - 286	970 242 0971 X2-221	mdarling@westcomuseum.org
	↳ try to get County & neighbor to attend Mark Shoemaker			
Monty Luellen		129 & 130 - concerned about single access - doesn't need one on one, just		
		follow up on access determination		623-0759 or UPS Store

Access 129 & 130
follow-up on determination
623-0759



Patterson Road Access Control Plan
One-on-One Meeting Sign Up

Name	Representing	Address	Notes
Penny Wagner	Grand View HOA	28 Road	Called and left voice messages multiple time and reached out via email, but never received a response.
Gary Crone	Comet	25 Rd & Patterson	Met with owner to discuss his dry cleaning business access to Patterson. Agreed to allow RIRO access instead of closing it, as proposed in the original plan.
Michael Shafer	Resident	2745 Patterson	Contacted resident and he stated there was no need for a meeting. He had spoken with other community members and they are not concerned about the ACP at this time.
Pam Hambright	Bookchief Liquors	3026 Patterson	Met with owner and agreed to revise the ACP so that trucks could continue to circulate through her business.
Matt Darling	Cross Orchards Museum	3073 F Rd	Met with representatives and agreed that no modifications to the ACP were needed at the property.
Monty Luellen			Contacted owner and he stated there was no need for a meeting, but that he would like to be informed of the final access determination for his properties two Patterson access points.
Dr. Bill Merkel	W & D MERKEL FAMILY	2626 Patterson	The property was recently sold, but Dr. Merkel did provide the contact information for the real estate agent who arranged the transaction. The real estate agent has not replied to requests for information about the new owner.
Gara Ross, Executive Assistant to Michelle Shiao and Dan Prinster	SCL Health St Mary's Medicine Center	2686 Patterson	Met with representatives and agreed to modify the modify the ACP to better serve the hospital's needs. We also made small access modifications to their property at 12th Street
Pastor Seth Thomas	Northeast Christian Church	2751 Patterson	Met with representatives to discuss future development plans and the Xcel gas facilities preventing extension of 27 1/2 Road to the south. Agreed that we should rethink access in this area, which will be shown in the Revised ACP.
Bill Wade	CHURCH OF CHRIST OF GRAND JUNCTION	2893 Patterson	Contacted the church office and was referred to the head of their planning committee. Called a left voice messages, but have not received a response.
Trent Spendrup	Hope Plaza	2482 Patterson	The representative initiated contact with us to be kept informed of the ACP status, but has not responded to our follow-up meeting requests.

Open House 2

January 6-12, 2021

PATTERSON ROAD ACCESS CONTROL PLAN

FROM HIGHWAY 6 TO LODGEPOLE STREET

THE CITY OF GRAND JUNCTION INVITES YOU TO THE

VIRTUAL OPEN HOUSE

PLAN DE CONTROL DE ACCESSO DE LA CALLE PATTERSON

DESDE HIGHWAY (CARRETERA) 6 HASTA LA CALLE LODGEPOLE

LA CIUDAD DE GRAND JUNCTION LE INVITA A

UNA CASA VIRTUAL ABIERTA AL PUBLICO

JANUARY 6-12,2021
DEL 6 AL 12 DE ENERO DEL 2021

GJSPEAKS.ORG

CITY OF Grand Junction COLORADO

Stolfus

THIS VIRTUAL OPEN HOUSE WILL PROVIDE THE COMMUNITY WITH AN OPPORTUNITY TO:

- **WATCH AN INTRODUCTORY VIDEO**
- **VIEW THE REVISED ACCESS PLAN**
- **LEAVE COMMENTS**

PLEASE VISIT GJSPEAKS.ORG

ESTA CASA VIRUTAL ABIERTA DARÁ A LA COMUNIDAD UNA OPORTUNIDAD DE:

- **MIRAR UN VIDEO DE INTRODUCCIÓN**
- **VER EL PLAN DE ACCESO REVISADO**
- **DEJAR COMENTARIOS**

VISITE GJSPEAKS.ORG

FOR MORE INFORMATION, PLEASE CONTACT:
PARA MÁS INFORMACIÓN, CONTACTAR A:

DAVID THORNTON, AICP
PRINCIPAL PLANNER
CITY OF GRAND JUNCTION
970-244-1450
DAVIDTH@GJCITY.ORG

STOLFUS & ASSOCIATES, INC.
5690 DTC BLVD. STE. 330W
GREENWOOD VILLAGE, CO 80111

PATTERSON ROAD ACCESS CONTROL PLAN

FROM HIGHWAY 6 & 50 TO LODGEPOLE STREET

THE CITY OF GRAND JUNCTION INVITES YOU TO THE

VIRTUAL OPEN HOUSE

JANUARY 6-12, 2021

VISIT GJSPEAKS.ORG

SI HABLA ESPAÑOL POR FAVOR VISITE GJSPEAKS.ORG O ASISTA A NUESTRA EXHIBICIÓN ABIERTA AL PÚBLICO

FOR MORE INFORMATION, PLEASE CONTACT:
DAVID THORNTON, AICP
PRINCIPAL PLANNER
CITY OF GRAND JUNCTION
970-244-1450
DAVIDTH@GJCITY.ORG

Virtual Meetings

January 13, 2021

Patterson Rd Meeting Sign-Ups				
First Name	Last Name	Email	Sign Up Items	Reference ACP Sheet
Matt	Clark	mattclarkcreations@gmail.com	01/13/2021 4:00PM-4:30PM - MST Meeting Time - Pyramid Building	Access 42
Myron	Klesner	myron@northeastchristian.org	01/13/2021 4:00PM-4:30PM - MST Meeting Time (2) - Northeast Christian Church	15th Street to Beechwood Street - Access 146
Brandon	Akins	brandshellyakins@gmail.com	01/13/2021 4:30PM-5:00PM - MST Meeting Time - Heritage Church	29 Road
Mark	Shoberg	hoa@brayandco.com	01/13/2021 4:30PM-5:00PM - MST Meeting Time - Bray HOA	Access 40
Michelle	Fisher	burkemichelle648@yahoo.com	01/13/2021 5:00PM-5:30PM - MST Meeting Time	24 1/2 Road to 25 Road - Access 29
Vicki	Konn	vickik@netpolarity.com	01/13/2021 5:00PM-5:30PM - MST Meeting Time - netPolarity	24 1/2 Road to 25 Road - Access 29
Lorena	Thompson	lorena@gjangelos.com	01/13/2021 5:30PM-6:00PM - MST Meeting Time (2) - Angelo's Pottery	24 1/2 Road to 25 Road - Access 29
Wendi	Wells	digwells@aol.com	01/13/2021 5:30PM-6:00PM - MST Meeting Time - Farmers Insurance	24 1/2 Road to 25 Road - Access 29
Bryan	Muhr	Bmurr1960@gmail.com	01/13/2021 6:00PM-6:30PM - MST Meeting Time	Access 76 and 78
monty	luellen	luellen0399@msn.com	01/13/2021 6:30PM-7:00PM - MST Meeting Time - patterson gardens hoa	Access 130, 116, 117

From:	Michelle Hansen
To:	jeff.p.tipton@gmail.com; bmurr1960@gmail.com
Cc:	Andrew Amend; David Thornton; Rick Dorris; Trenton Prall
Subject:	Patterson Access Control Plan
Date:	Wednesday, January 20, 2021 13:47:04
Attachments:	74c8b419-1438-4a22-8684-34033ad9fcc5.png Patterson ACP_Figure 2F.pdf Patterson - What is Access Management.pdf Patterson Driveway Crashes.pdf

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Jeff, Brenda, and Bryan,

Thank you for meeting with me this past Monday regarding the Patterson Access Control Plan. As discussed, I've attached the updated plan in your area reflecting the changes at Access 75 and 76 to provide conditional right-in/right-out access points at these locations. The conditional element specifies that these access points will remain open until your property redevelops. Upon redevelopment, these access points will be closed.

Also attached is some information regarding safety and crashes through the corridor. The What is Access Management document provides the information we discussed about the percentage of crashes related to left turns as opposed to right turns at access points. The Patterson Driveway Crashes document provides the information about the number of access related crashes that have occurred through different segments of the corridor between 2014 and 2018.

I have debriefed the City staff on our conversation. Jeff, someone will be contacting you before the end of this week to further discuss your concerns and answer any additional questions. Please contact me if you have any additional questions. Thank you for participating in the project.

Michelle

We moved! Please note our new Suite Number, Suite 330W
Michelle R. Hansen, PE| Senior Transportation Engineer
Stolfus
www.stolfusandassociates.com
Stolfus & Associates, Inc. | 5690 DTC Boulevard, Suite 330W | Greenwood Village, CO 80111
P: 303 221 2330 | C: 720 771 3056 | michelle@stolfusandassociates.com

From:	Andrew Amend
To:	hoa@brayandco.com
Cc:	Rick Dorris; David Thornton; Michelle Hansen; mattclarkcreations@gmail.com
Subject:	Patterson Road ACP Follow Up
Date:	Tuesday, January 19, 2021 20:19:41
Attachments:	49ae0dd3-dc72-4fe1-a533-684f76858e4f.png Patterson ACP Figure 2D.pdf

---

Dear Mr. Shoberg,

As discussed at our Zoom meeting last Wednesday, our project team has performed an engineering investigation into your request to provide ¾ (Left-In and Right-In) access to Foresight Circle. In development of this plan, our team applied the concept of Functional Intersection Area (FIA), as defined in the TRB's Access Management Manual. While accounting for the 216-foot peak queue length projected in 2045 at 25 Road, we have concluded that Foresight Circle is outside the FIA. Because Foresight Circle is a public street and outside the FIA for 25 Road, the plan has been revised to provide ¾ access at #40, as shown in the attached exhibit. We have also redesignated access to Northgate Drive to ¾ in order to provide greater access to the south side of Patterson Road and to provide a u-turn opportunity for traffic coming from the east.

Thank you for your interest in the project,

Andrew Amend, PE, PTOE | Transportation Engineer

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Main: 303 221 2330 | **andrew@stolfusandassociates.com**

From:	Andrew Amend
To:	vickik@netpolarity.com; digwells@aol.com
Cc:	Rick Dorris; David Thornton; Michelle Hansen
Subject:	Patterson Road ACP
Date:	Tuesday, January 19, 2021 19:47:15
Attachments:	bda004cd-bc34-4119-90b8-d09844f1fc12.png Patterson ACP Figure 2C.pdf

---

Dear Ms. Wells and Ms. Konn,

As discussed at our Zoom meeting last Wednesday, our project team has performed an engineering investigation into your request to provide ¾ (Left-In, Right-In, Right-Out only) access to 2478 Patterson Road. We have concluded that this change is consistent with the access control plan methodology and have moved the ¾ access from #30 to #29, as shown in the attached plan. Please note that when a raised median is implemented on the segment of Patterson Road between 24 ½ Road and 25 Road, ¾ access at #29 is conditioned upon the owner of 2478 Patterson Road establishing legal cross access to the adjacent properties at 2474 Patterson Road and 2482 Patterson Road. Establishment of legal cross access does not imply an obligation for any of the property owners to physically construct the improvements.

Thank you for your interest in the project,

Andrew Amend, PE, PTOE | Transportation Engineer

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Main: 303 221 2330 | **andrew@stolfusandassociates.com**

From:	Andrew Amend
To:	lorena@gjangelos.com
Cc:	Rick Dorris; David Thornton; Michelle Hansen
Subject:	Patterson Road ACP Follow Up
Date:	Tuesday, January 19, 2021 19:42:36
Attachments:	29703b32-05e1-4447-beae-d4948f24ac8d.png Patterson ACP Figure 2C.pdf

---

Dear Ms. Thompson,
As discussed at our Zoom meeting last Wednesday, our project team has performed an engineering investigation into your request to provide ¾ (Left-In, Right-In, Right-Out only) access to 2478 Patterson Road. We have concluded that this change is consistent with the access control plan methodology and have moved the ¾ access from #30 to #29, as shown in the attached plan. Please note that when a raised median is implemented on the segment of Patterson Road between 24 ½ Road and 25 Road, ¾ access at #29 is conditioned upon the owner of 2478 Patterson Road establishing legal cross access to the adjacent properties at 2474 Patterson Road and 2482 Patterson Road. Establishment of legal cross access does not imply an obligation for any of the property owners to physically construct the improvements.

Also on our Zoom meeting, you mentioned that you had mailed us a letter last fall. We were unable to find any record of receiving your letter and so I deeply apologize for our lack of responsiveness. We would still appreciate your thoughts on the project, so if you want to reply to this message with a copy, we would be happy to take it into consideration.

Thank you for your interest in the project,

Andrew Amend, PE, PTOE | Transportation Engineer

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Main: 303 221 2330 | **andrew@stolfusandassociates.com**

Survey Monkey Results

Open House 1 and Open House 2

#1

COMPLETE

Collector:	Patterson Road...al Open House (Web Link)
Started:	Friday, October 02, 2020 1:49:56 PM
Last Modified:	Friday, October 02, 2020 1:52:28 PM
Time Spent:	00:02:31
IP Address:	69.146.117.38

Page 1

Q1

Please provide your contact information.

Name	**Matt Darling**
Address	**3073 Patterson Rd**
City	**GRAND JUNCTION**
State	**CO**
Zip	**81504**
Phone Number	**9702617839**
Email	**mdarling@westcomuseum.org**

Q2

Are you a (check all that apply):

Business Owner on Patterson Road,

Commuter through corridor

Q3

Of the following issues in the Patterson Road corridor, please mark up to three that are most important to you.

Safety,

Property Impacts

Q4

If you own property, a business, or live along Patterson Road, what are your concerns regarding the Access Control Plan?

Modification of circulation on my property

Q5

What statement best reflects how you feel about the Access Control Plan?

I support the Access Control Plan, but have concerns about access at particular locations.

Q6

Do you have any other comments, questions, or concerns?

No.

#2

COMPLETE

Collector: Patterson Road...al Open House (Web Link)
Started: Monday, October 05, 2020 7:10:19 AM
Last Modified: Monday, October 05, 2020 8:26:21 AM
Time Spent: 01:16:02
IP Address: 50.211.228.253

Page 1

Q1

Please provide your contact information.

Name	**Roger Titmus representing Stinker Stores**
Address	**2498 Patterson Road**
City	**Grand Junction**
State	**CO**
Zip	**81505**
Phone Number	**209-337-2830**
Email	**rtitmus@stinker.com**

Q2

Are you a (check all that apply):

Property Owner on Patterson Road,

Business Owner on Patterson Road

Q3

Of the following issues in the Patterson Road corridor, please mark up to three that are most important to you.

Safety,

Mobility through the corridor,

Driveway Access

Q4

If you own property, a business, or live along Patterson Road, what are your concerns regarding the Access Control Plan?

Restricting the turning movements to/from my property,
Other:
reducing the number of access points to my property

Q5

What statement best reflects how you feel about the Access Control Plan?

I do not support the Access Control Plan.

Q6

Do you have any other comments, questions, or concerns?

If the goal is to improve traffic flow on Patterson, restricting access to retail will not help achieve the goal. Restricting access causes drivers to stack up at bottleneck points, wait for opposing traffic, make u-turns, and backtrack to their destination. There are several east/west roads in Grand Junction that give drivers a lot of options. The best option to avoid hitting the brakes is to take I70, but there are few direct routes to the interstate. Providing better access to the interstate will improve the brakes is to take I70, but there are few direct routes to the interstate. Providing better access to the interstate will improve traffic flow. Better north/south connectivity solves the problem. Restricting driveway access does not.

#3

COMPLETE

Collector:	Patterson Road...al Open House (Web Link)
Started:	Monday, October 05, 2020 1:07:20 PM
Last Modified:	Monday, October 05, 2020 1:10:38 PM
Time Spent:	00:03:18
IP Address:	50.211.228.253

Page 1

Q1

Please provide your contact information.

Name	**Michael Shater**
Address	**2745 Patterson**
City	**Grand Junction**
State	**CO**
Zip	**81506**
Phone Number	**9702505739**
Email	**mikegjco@gmail.com**

Q2

Are you a (check all that apply):

Property Owner on Patterson Road

Q3

Of the following issues in the Patterson Road corridor, please mark up to three that are most important to you.

Safety,

Driveway Access

Q4

If you own property, a business, or live along Patterson Road, what are your concerns regarding the Access Control Plan?

Relocation of access point on my property,
Other:
also reducing and restricting (4&5)

Q5

What statement best reflects how you feel about the Access Control Plan?

I support the Access Control Plan, but have concerns about access at particular locations.

,
If you chose "I support the Access Control Plan, but have concerns about access at particular locations.", please note those areas::
undecided

Q6

Do you have any other comments, questions, or concerns?

not at this time

#4

COMPLETE

Collector: Patterson Road...al Open House (Web Link)
Started: Monday, October 05, 2020 1:10:43 PM
Last Modified: Monday, October 05, 2020 1:12:02 PM
Time Spent: 00:01:19
IP Address: 50.211.228.253

Page 1

Q1

Please provide your contact information.

Name	**Ryan Frieling representing Feather Petro - Stop n Save**
Address	**621 2Y Road**
City	**Grand Junction**
State	**CO**
Zip	**81505**
Email	**rfrieling@featherpetro.com**

Q2

Are you a (check all that apply):

Business Owner on Patterson Road

Q3

Of the following issues in the Patterson Road corridor, please mark up to three that are most important to you.

Mobility through the corridor,

Driveway Access

Q4

If you own property, a business, or live along Patterson Road, what are your concerns regarding the Access Control Plan?

Accessing my property/business from a roadway other than Patterson Road

,
Other:
also modification and restriction (3&5)

Q5

What statement best reflects how you feel about the Access Control Plan?

I support the Access Control Plan, but have concerns about access at particular locations.

,
If you chose "I support the Access Control Plan, but have concerns about access at particular locations.", please note those areas::
Patterson W of 2Y road

Q6

Do you have any other comments, questions, or concerns?

none

#5

COMPLETE

Collector: Patterson Road...al Open House (Web Link)
Started: Monday, October 05, 2020 1:12:06 PM
Last Modified: Monday, October 05, 2020 1:21:45 PM
Time Spent: 00:09:39
IP Address: 50.211.228.253

Page 1

Q1

Please provide your contact information.

Name	**Mike Fisher**
Address	**2918 Patterson Road**
City	**GRand Junction**
State	**CO**
Zip	**81504**
Phone Number	**970-640-9010**
Email	**mikefisher542@gmail.com**

Q2

Are you a (check all that apply):

Property Owner on Patterson Road

Q3

Of the following issues in the Patterson Road corridor, please mark up to three that are most important to you.

Driveway Access,

Property Impacts

Q4

If you own property, a business, or live along Patterson Road, what are your concerns regarding the Access Control Plan?

Relocation of access point on my property,
Other:
also reducing and restricting (4&5) AND closing access to our garage - de-valuing our property

Q5

What statement best reflects how you feel about the Access Control Plan?

I support the Access Control Plan, but have concerns about access at particular locations.

,
If you chose "I support the Access Control Plan, but have concerns about access at particular locations.", please note those areas::
Our driveway access and the amount of traffic already using our street as a U-turn because of Safeway

Q6

Do you have any other comments, questions, or concerns?

Please contact us directly if the plan continues to close our driveway as we will lose considerable amount of money when we sell our house because the garage would no longer be functional as a two- car garage

#6

COMPLETE

Collector:	Patterson Road...al Open House (Web Link)
Started:	Monday, October 05, 2020 1:22:09 PM
Last Modified:	Monday, October 05, 2020 1:27:45 PM
Time Spent:	00:05:35
IP Address:	50.211.228.253

Page 1

Q1

Please provide your contact information.

Name	**Kaia Michaelis representing Museums of Western Co.**
Address	**3073 F. Road**
City	**Grand Junction**
State	**CO**
Zip	**81505**
Phone Number	**970-242-0971 x204**
Email	**kmichaelis@westerncomuseum.org**

Q2

Are you a (check all that apply):

Property Owner on Patterson Road,

Business Owner on Patterson Road

Q3

Of the following issues in the Patterson Road corridor, please mark up to three that are most important to you.

Safety,

Mobility through the corridor,

Local Street Intersections

Q4

If you own property, a business, or live along Patterson Road, what are your concerns regarding the Access Control Plan?

Reducing the number of access points to my property

Q5

What statement best reflects how you feel about the Access Control Plan?

I support the Access Control Plan, but have concerns about access at particular locations.

,

If you chose "I support the Access Control Plan, but have concerns about access at particular locations.", please note those areas::

We need to maintain a secondary access point at Cross Orchards for traffic flow at large events.

Q6

Do you have any other comments, questions, or concerns?

none

#7

COMPLETE

Collector: Patterson Road...al Open House (Web Link)
Started: Monday, October 05, 2020 1:35:45 PM
Last Modified: Monday, October 05, 2020 1:42:36 PM
Time Spent: 00:06:51
IP Address: 50.211.228.253

Page 1

Q1

Please provide your contact information.

Name	**Robert Garrison Jr.**
Address	**2778 Patterson**
City	**Grand Junction**
State	**co**
Zip	**81506**
Phone Number	**241-6565**

Q2

Are you a (check all that apply):

Property Owner on Patterson Road,

Renter/Lessee on Patterson Road,

Commuter through corridor

Q3

Of the following issues in the Patterson Road corridor, please mark up to three that are most important to you.

Safety,

Driveway Access,

Property Impacts

Q4

If you own property, a business, or live along Patterson Road, what are your concerns regarding the Access Control Plan?

Restricting the turning movements to/from my property,
Other:
and relocation - future access

Q5

What statement best reflects how you feel about the Access Control Plan?

I support the Access Control Plan, but have concerns about access at particular locations.

,
If you chose "I support the Access Control Plan, but have concerns about access at particular locations.", please note those areas::
reduce speed to encourage alternate routes

Q6

Do you have any other comments, questions, or concerns?

none

#8

COMPLETE

Collector: Patterson Road...al Open House (Web Link)
Started: Monday, October 05, 2020 1:28:09 PM
Last Modified: Monday, October 05, 2020 1:43:01 PM
Time Spent: 00:14:51
IP Address: 50.211.228.253

Page 1

Q1

Please provide your contact information.

Name	**Steve Scodggins representing Museum of West Slope**
Address	**3513 G. Road**
City	**Palisade**
State	**CO**
Zip	**81526**
Email	**sscodggins@coloradoe2.org**

Q2

Are you a (check all that apply):

Business Owner on Patterson Road

Q3

Of the following issues in the Patterson Road corridor, please mark up to three that are most important to you.

Safety,

Mobility through the corridor,

Local Street Intersections

Q4

If you own property, a business, or live along Patterson Road, what are your concerns regarding the Access Control Plan?

Modification of circulation on my property,
Other:
also restriction and relocation

Q5

What statement best reflects how you feel about the Access Control Plan?

I support the Access Control Plan.,
If you chose "I support the Access Control Plan, but have concerns about access at particular locations.", please note those areas::
Thanks for developing a plan - having time for feedback and a thoughtful process are important.

Q6

Do you have any other comments, questions, or concerns?

none

#9

COMPLETE

Collector: Patterson Road...al Open House (Web Link)
Started: Monday, October 05, 2020 1:43:02 PM
Last Modified: Monday, October 05, 2020 1:46:34 PM
Time Spent: 00:03:31
IP Address: 50.211.228.253

Page 1

Q1

Please provide your contact information.

Name	**Jim Forsythe**
Address	**2887 Streamside**
City	**Grand Junction**
State	**CO**
Zip	**81505**
Phone Number	**970-765-5532**
Email	**JLFK15@outlook.com**

Q2

Are you a (check all that apply):

Property Owner on Patterson Road

Q3

Of the following issues in the Patterson Road corridor, please mark up to three that are most important to you.

Safety,

Mobility through the corridor,

Local Street Intersections

Q4

If you own property, a business, or live along Patterson Road, what are your concerns regarding the Access Control Plan?

Accessing my property/business from a roadway other than Patterson Road

,
Other:
and reducing (#4)

Q5

What statement best reflects how you feel about the Access Control Plan?

I support the Access Control Plan.

Q6

Do you have any other comments, questions, or concerns?

Excellent and knowledgeable staff on hand

#10

COMPLETE

Collector: Patterson Road...al Open House (Web Link)
Started: Monday, October 05, 2020 1:46:42 PM
Last Modified: Monday, October 05, 2020 1:52:02 PM
Time Spent: 00:05:20
IP Address: 50.211.228.253

Page 1

Q1

Please provide your contact information.

Name	**Carl Zimmerman**
Address	**666 Turtledove Drive**
City	**Grand Junction**
State	**CO**
Zip	**81506**
Phone Number	**970-4244526**

Q2

Are you a (check all that apply):

Commuter through corridor,

Other (please specify):

Grandview subdivision

Q3

Of the following issues in the Patterson Road corridor, please mark up to three that are most important to you.

Safety

Q4

If you own property, a business, or live along Patterson Road, what are your concerns regarding the Access Control Plan?

Accessing my property/business from a roadway other than Patterson Road

,

Other:

Hawthorne Ave to 28 1/4 road - I support that

Q5

What statement best reflects how you feel about the Access Control Plan?

I support the Access Control Plan.

Q6

Do you have any other comments, questions, or concerns?

Hawthorne needs to go through to 28 1/4 road

#11

COMPLETE

Collector: Patterson Road...al Open House (Web Link)
Started: Monday, October 05, 2020 1:53:29 PM
Last Modified: Monday, October 05, 2020 1:56:02 PM
Time Spent: 00:02:33
IP Address: 50.211.228.253

Page 1

Q1

Please provide your contact information.

Name	**Burlena Price**
Address	**2887 1/2 Cascade Ave.**
City	**Grandf Junction**
State	**CO**
Zip	**81501**
Phone Number	**970-314-9817**
Email	**bprice7372@yahoo.com**

Q2

Are you a (check all that apply):

Property Owner on Patterson Road,

Other (please specify):

property owner off of patterson rd

Q3

Of the following issues in the Patterson Road corridor, please mark up to three that are most important to you.

Safety

Q4

If you own property, a business, or live along Patterson Road, what are your concerns regarding the Access Control Plan?

Sharing access with my neighbor,

Other:

keeping it from property

Q5

What statement best reflects how you feel about the Access Control Plan?

I support the Access Control Plan.

Q6

Do you have any other comments, questions, or concerns?

Can't be done soon enough Thank you for your plan!

#12

COMPLETE

Collector: Patterson Road...al Open House (Web Link)
Started: Monday, October 05, 2020 1:56:06 PM
Last Modified: Monday, October 05, 2020 2:00:11 PM
Time Spent: 00:04:05
IP Address: 50.211.228.253

Page 1

Q1

Please provide your contact information.

Name	**Janice Breagan**
Address	**2885 1/2 Cascade**
City	**Grand Junction**
State	**CO**
Zip	**81501**
Phone Number	**970-245-4193**

Q2

Are you a (check all that apply):

Commuter through corridor

Q3

Of the following issues in the Patterson Road corridor, please mark up to three that are most important to you.

Safety,

Pedestrian Access,

Bicycle Access

Q4

If you own property, a business, or live along Patterson Road, what are your concerns regarding the Access Control Plan?

Sharing access with my neighbor,
Other:
none - but it makes you check something

Q5

What statement best reflects how you feel about the Access Control Plan?

I support the Access Control Plan.

Q6

Do you have any other comments, questions, or concerns?

Can't be done soon enough! Thank you!

#13

COMPLETE

Collector: Patterson Road...al Open House (Web Link)
Started: Wednesday, October 07, 2020 6:52:17 AM
Last Modified: Wednesday, October 07, 2020 6:56:07 AM
Time Spent: 00:03:49
IP Address: 50.211.228.253

Page 1

Q1

Please provide your contact information.

Name	**Brian Arms**
Address	**3030 PAtterson Road**
City	**Grand Junction**
State	**co**
Zip	**81504**

Q2

Are you a (check all that apply):

Renter/Lessee on Patterson Road,

Other (please specify):

Resident From 30 to Grand Valley Drive

Q3

Of the following issues in the Patterson Road corridor, please mark up to three that are most important to you.

Safety

Q4

If you own property, a business, or live along Patterson Road, what are your concerns regarding the Access Control Plan?

Restricting the turning movements to/from my property

Q5

What statement best reflects how you feel about the Access Control Plan?

I do not support the Access Control Plan.,

If you chose "I support the Access Control Plan, but have concerns about access at particular locations.", please note those areas::

As the Resident of 3030 Patterson Road, I do not find it beneficial to remove the only access point(Drive way) to my property. This is a privately owned property that is still zoned as Agricultural and thus should have its own entrance for equipment. By implementing the above changes to Patterson from 30 to Grand Valley drive you are not only creating a hazard for the business but also causing more traffic issues by introducing large Agriculture equipment into a small immobile space (between the building and fence line). These changes would cause more issues than they would prevent and should be stricken from the building plan.

Q6

Do you have any other comments, questions, or concerns?

none

#14

COMPLETE

Collector: Patterson Road...al Open House (Web Link)
Started: Wednesday, October 07, 2020 6:56:11 AM
Last Modified: Wednesday, October 07, 2020 7:00:09 AM
Time Spent: 00:03:57
IP Address: 50.211.228.253

Page 1

Q1

Please provide your contact information.

Name	**Cheryl Fiegel**
Address	**562 Grand VAlley Dr.**
City	**Grand Junction**
State	**CO**
Zip	**81504**

Q2

Are you a (check all that apply):

Commuter through corridor

Q3

Of the following issues in the Patterson Road corridor, please mark up to three that are most important to you.

Safety

Q4

If you own property, a business, or live along Patterson Road, what are your concerns regarding the Access Control Plan?

Restricting the turning movements to/from my property

Q5

What statement best reflects how you feel about the Access Control Plan?

I support the Access Control Plan, but have concerns about access at particular locations.

,
If you chose "I support the Access Control Plan, but have concerns about access at particular locations.", please note those areas::
How will anyone that lives in Mantey Heights head west?
Are you encouraging u-turns?09/28/2020 9:21 am

Q6

Do you have any other comments, questions, or concerns?

none

#15

COMPLETE

Collector: Patterson Road...al Open House (Web Link)
Started: Tuesday, October 13, 2020 8:39:38 PM
Last Modified: Tuesday, October 13, 2020 8:44:21 PM
Time Spent: 00:04:43
IP Address: 184.166.12.231

Page 1

Q1

Please provide your contact information.

Name	**Lorena Thompson -- LCAT Investments**
Address	**2478 F Road #11, 2478**
City	**Grand Junction**
State	**CO**
Zip	**81505**
Phone Number	**9702502106**
Email	**lorena@gjangelos.com**

Q2

Are you a (check all that apply):

Property Owner on Patterson Road,

Renter/Lessee on Patterson Road,

Business Owner on Patterson Road,

Commuter through corridor

Q3

Of the following issues in the Patterson Road corridor, please mark up to three that are most important to you.

Mobility through the corridor,

Driveway Access,

Property Impacts

Q4

If you own property, a business, or live along Patterson Road, what are your concerns regarding the Access Control Plan?

Restricting the turning movements to/from my property,
Other:
See the attached statement.

Q5

What statement best reflects how you feel about the Access Control Plan?

I support the Access Control Plan, but have concerns about access at particular locations.

Q6

Do you have any other comments, questions, or concerns?

We own LCAT in the entry marked 29 on your project map. This plaza holds 29 active business, many of which are medical with some retail. You have chosen to take the ¾ access in at Hope Plaza (#30) next door where there is no real way to connect a drive to our plaza without knocking down a business or turning their parking lot into a thorofare. I cannot imagine that, that will be okay with them. That plaza – the only one with a ¾ access hosts only 4 businesses. This makes no sense at all. You are cutting off access to 29 businesses to give access to 4. The city's attitude seems to be that you are going to put in the median and the business along that route can just figure it out. This will – without any doubt—hurt our business.` With COVID challenging our very existence, this just adds mayhem to misery.
Could you reconsider where the ¾ access occurs and attempt to damage the least number of businesses with this decision?

#16

COMPLETE

Collector: Patterson Road...al Open House (Web Link)
Started: Wednesday, October 14, 2020 12:02:05 PM
Last Modified: Wednesday, October 14, 2020 12:06:38 PM
Time Spent: 00:04:32
IP Address: 50.211.228.253

Page 1

Q1

Please provide your contact information.

Name	**Monty Luellen Representing Patterson Gardens HOA**
Address	**2721 Patterson**
City	**Grand Junction**
State	**CO**
Zip	**81506**
Phone Number	**970-623-2759**
Email	**Luellen0399@msn.com**

Q2

Are you a (check all that apply):

Property Owner on Patterson Road,

Business Owner on Patterson Road

Q3

Of the following issues in the Patterson Road corridor, please mark up to three that are most important to you.

Safety,

Driveway Access,

Property Impacts

Q4

If you own property, a business, or live along Patterson Road, what are your concerns regarding the Access Control Plan?

Modification of circulation on my property,
Other:
also reducing and restricting (4&5)

Q5

What statement best reflects how you feel about the Access Control Plan?

I support the Access Control Plan, but have concerns about access at particular locations.

,
If you chose "I support the Access Control Plan, but have concerns about access at particular locations.", please note those areas::
#129, #130, #159

Q6

Do you have any other comments, questions, or concerns?

not at this time

#17

COMPLETE

Collector:	Patterson Road...al Open House (Web Link)
Started:	Thursday, October 15, 2020 8:16:29 AM
Last Modified:	Thursday, October 15, 2020 8:29:21 AM
Time Spent:	00:12:52
IP Address:	47.47.138.82

Page 1

Q1

Please provide your contact information.

Name	**Lori Carlston-Thompson**
Address	**2478 Patterson Rd., #15**
City	**Grand Junction**
State	**co**
Zip	**81505**
Phone Number	**9702454567**
Email	**loricarlston@allstate.com**

Q2

Are you a (check all that apply):

Property Owner on Patterson Road,

Renter/Lessee on Patterson Road,

Business Owner on Patterson Road,

Commuter through corridor

Q3

Of the following issues in the Patterson Road corridor, please mark up to three that are most important to you.

Safety,

Mobility through the corridor,

Driveway Access

Q4

If you own property, a business, or live along Patterson Road, what are your concerns regarding the Access Control Plan?

Restricting the turning movements to/from my property,
Other:
No access other than Patterson, neighbor not willing to do pass through, and if he was it would cause speeding problems in parking lot. So don't really blame him.

Q5

What statement best reflects how you feel about the Access Control Plan?

I support the Access Control Plan, but have concerns about access at particular locations.

,

If you chose "I support the Access Control Plan, but have concerns about access at particular locations.", please note those areas::

Would like to see a left turn into the 2478 Patterson complex as there are so many businesses in this complex and we already have left in, left out access - it is not an accident hazard.

Q6

Do you have any other comments, questions, or concerns?

If the plan comes to fruition which extends the Riverside Parkway up 25 Rd to F 1/2 Rd, it will cause a lot of traffic to bypass the section of Patterson we're on, between 24 1/2 Rd and 25 Rd. There is already less traffic on this part of Patterson than there is near 7th to 12th St - so perhaps the building of medians and restricting of traffic on this section of Patterson will never need to be completed, and we can save the city and taxpayers money. The bottleneck of Patterson between 1st and 7th streets may require the city to find alternate traffic routes as the city grows.

#18

COMPLETE

Collector:	Patterson Road...al Open House (Web Link)
Started:	Thursday, October 15, 2020 11:47:06 AM
Last Modified:	Thursday, October 15, 2020 11:51:45 AM
Time Spent:	00:04:38
IP Address:	69.146.252.115

Page 1

Q1

Please provide your contact information.

Name	**Lynn Thompson**
Address	**2478 Patterson**
City	**Grand Junction**
State	**Colorado**
Zip	**81505**
Phone Number	**970250-0815**
Email	**lynn@gjangelos.com**

Q2

Are you a (check all that apply):

Property Owner on Patterson Road,

Business Owner on Patterson Road,

Commuter through corridor

Q3

Of the following issues in the Patterson Road corridor, please mark up to three that are most important to you.

Mobility through the corridor,

Driveway Access,

Property Impacts

Q4

If you own property, a business, or live along Patterson Road, what are your concerns regarding the Access Control Plan?

Restricting the turning movements to/from my property

Q5

What statement best reflects how you feel about the Access Control Plan?

I do not support the Access Control Plan.

Q6

Do you have any other comments, questions, or concerns?

Having a "right only in and right only out" access to my property will make it more difficult for our customers to access my business, resulting in loss of income. Also, if it were even possible to connect access with adjoining properties, it will make my parking lot a street, resulting in safety issues for my employees and customers.

#19

COMPLETE

Collector: Patterson Road...al Open House (Web Link)
Started: Tuesday, January 05, 2021 4:45:16 PM
Last Modified: Tuesday, January 05, 2021 4:49:23 PM
Time Spent: 00:04:07
IP Address: 98.234.51.223

Page 1

Q1

Please provide your contact information.

Name	**Haixia Zhang**
Address	**2478 Patterson Rd**
City	**GJ**
State	**CO**
Zip	**81505**
Phone Number	**4156376343**
Email	**hzhang@netpolarity.com**

Q2

Are you a (check all that apply):

Renter/Lessee on Patterson Road,

Business Owner on Patterson Road,

Other (please specify):

Blockage to Patterson Road centerline will prevent all of our employees to be able to leave our office from our parking lot. We would have to turn left out of the complex to go home. We have close to 10 employees in the office and everyone is very dissatisfied with the suggested change.

Q3

Of the following issues in the Patterson Road corridor, please mark up to three that are most important to you.

Mobility through the corridor,

Driveway Access,

Property Impacts

Q4

If you own property, a business, or live along Patterson Road, what are your concerns regarding the Access Control Plan?

Relocation of access point on my property

Q5

What statement best reflects how you feel about the Access Control Plan?

I do not support the Access Control Plan.

Q6

Do you have any other comments, questions, or concerns?

do not block the road, we will leave Patterson Road if you do

#20

COMPLETE

Collector: Patterson Road...al Open House (Web Link)
Started: Wednesday, January 06, 2021 8:48:55 AM
Last Modified: Wednesday, January 06, 2021 8:54:39 AM
Time Spent: 00:05:43
IP Address: 35.133.61.90

Page 1

Q1

Please provide your contact information.

Name	**robert garrison**
Address	**2778 patterson road**
City	**grand junction**
State	**CO**
Zip	**81506**
Phone Number	**18017255620**
Email	**robrlgjr@outlook.com**

Q2

Are you a (check all that apply):

Property Owner on Patterson Road,

Commuter through corridor

Q3

Of the following issues in the Patterson Road corridor, please mark up to three that are most important to you.

Driveway Access,

Property Impacts,

Bus Service

Q4

If you own property, a business, or live along Patterson Road, what are your concerns regarding the Access Control Plan?

Restricting the turning movements to/from my property,
Other:
median design, sound reduction

Q5

What statement best reflects how you feel about the Access Control Plan?

I support the Access Control Plan.,
If you chose "I support the Access Control Plan, but have concerns about access at particular locations.", please note those areas::
median design, will it be like north avenue? can zeroscape be incorporated for sound reduction? traffic noise

Q6

Do you have any other comments, questions, or concerns?

getting to my home while traveling east for 12th street

#21

COMPLETE

Collector: Patterson Road...al Open House (Web Link)
Started: Wednesday, January 06, 2021 12:38:25 PM
Last Modified: Wednesday, January 06, 2021 1:12:49 PM
Time Spent: 00:34:23
IP Address: 69.145.234.89

Page 1

Q1

Please provide your contact information.

Name	**Renee Williams**
Address	**2515 Foresight Circle**
City	**Grand Junction**
State	**CO**
Zip	**81505**
Phone Number	**970 3734**
Email	**synergisticwellnessatforesight@gmail.com**

Q2

Are you a (check all that apply):

Property Owner on Patterson Road,

Business Owner on Patterson Road

Q3

Of the following issues in the Patterson Road corridor, please mark up to three that are most important to you.

Safety,

Mobility through the corridor,

Local Street Intersections

Q4

If you own property, a business, or live along Patterson Road, what are your concerns regarding the Access Control Plan?

Restricting the turning movements to/from my property

Q5

What statement best reflects how you feel about the Access Control Plan?

I do not support the Access Control Plan.,
If you chose "I support the Access Control Plan, but have concerns about access at particular locations.", please note those areas::
Access to existing Foresight Circle Industrial Park right of ways and other public right of ways should not be restricted as these have been established for decades. Restricting access to existing public streets along Patterson appears to be a result of supporting private development interests at the expense of access to existing public streets.

Q6

Do you have any other comments, questions, or concerns?

no

#22

COMPLETE

Collector: Patterson Road...al Open House (Web Link)
Started: Wednesday, January 06, 2021 9:58:26 AM
Last Modified: Wednesday, January 06, 2021 2:35:03 PM
Time Spent: 04:36:36
IP Address: 184.166.14.14

Page 1

Q1

Please provide your contact information.

Name	**Craig Robillard**
Address	**848 Summer Sage Court**
City	**Grand Junction**
State	**CO**
Zip	**81506**
Phone Number	**9704337141**
Email	**c42skipper@gmail.com**

Q2

Are you a (check all that apply):

Commuter through corridor,

Other (please specify):

Frequentl bicycle rider in the neighborhood

Q3

Of the following issues in the Patterson Road corridor, please mark up to three that are most important to you.

Safety,

Bicycle Access

Q4

If you own property, a business, or live along Patterson Road, what are your concerns regarding the Access Control Plan?

Relocation of access point on my property,

Other:

Not a property owner but I had to check a box for the survey to be accepted.

Q5

What statement best reflects how you feel about the Access Control Plan?

I support the Access Control Plan.

Q6

Do you have any other comments, questions, or concerns?

Any thoughts about improving bicycle path system along Patterson?

#23

COMPLETE

Collector:	Patterson Road...al Open House (Web Link)
Started:	Wednesday, January 06, 2021 3:41:08 PM
Last Modified:	Wednesday, January 06, 2021 3:45:54 PM
Time Spent:	00:04:45
IP Address:	97.118.29.44

Page 1

Q1

Please provide your contact information.

Name	**Bennett Boeschenstein**
Address	**1255 Ouray Ave**
City	**Grand Junction**
State	**CO**
Zip	**81501**
Phone Number	**19706408153**
Email	**boeschenstein.bennett0@gmail.com**

Q2

Are you a (check all that apply):

Commuter through corridor,

Other (please specify):

Board member museums of Western Colorado (Cross Orchards)

Q3

Of the following issues in the Patterson Road corridor, please mark up to three that are most important to you.

Safety,

Mobility through the corridor,

Pedestrian Access,

Bicycle Access,

Property Impacts,

Local Street Intersections,

Bus Service

Q4

If you own property, a business, or live along Patterson Road, what are your concerns regarding the Access Control Plan?

Relocation of access point on my property

Q5

What statement best reflects how you feel about the Access Control Plan?

I support the Access Control Plan.

Q6

Do you have any other comments, questions, or concerns?

Cross Orchards should have at least two good access points with accel-decel lanes

#24

COMPLETE

Collector: Patterson Road...al Open House (Web Link)
Started: Wednesday, January 06, 2021 6:01:48 PM
Last Modified: Wednesday, January 06, 2021 6:05:52 PM
Time Spent: 00:04:03
IP Address: 71.218.32.179

Page 1

Q1

Please provide your contact information.

Name	**Andrew Amend**
Address	**5690 DTC Blvd**
City	**Greenwood Village**
State	**CO**
Zip	**80111**
Phone Number	**3032212330**
Email	**andrew@stolfusandassociates.com**

Q2

Are you a (check all that apply):

Commuter through corridor,

Other (please specify):

Project Engineer

Q3

Of the following issues in the Patterson Road corridor, please mark up to three that are most important to you.

Safety,

Mobility through the corridor,

Local Street Intersections

Q4

If you own property, a business, or live along Patterson Road, what are your concerns regarding the Access Control Plan?

Accessing my property/business from a roadway other than Patterson Road

,

Other:

making sure SurveyMonkey works

Q5

What statement best reflects how you feel about the Access Control Plan?

I support the Access Control Plan.

Q6

Do you have any other comments, questions, or concerns?

Just checking to make sure SurveyMonkey is working properly

#25

COMPLETE

Collector:	Patterson Road...al Open House (Web Link)
Started:	Thursday, January 07, 2021 3:19:25 PM
Last Modified:	Thursday, January 07, 2021 3:25:15 PM
Time Spent:	00:05:49
IP Address:	63.233.204.194

Page 1

Q1

Please provide your contact information.

Name	**Roger Titmus**
Address	**3184 Elder St**
City	**Boise**
State	**Idaho**
Zip	**83705**
Phone Number	**2083750942**
Email	**rtitmus@stinker.com**

Q2

Are you a (check all that apply):

Property Owner on Patterson Road,

Business Owner on Patterson Road

Q3

Of the following issues in the Patterson Road corridor, please mark up to three that are most important to you.

Driveway Access,

Property Impacts

Q4

If you own property, a business, or live along Patterson Road, what are your concerns regarding the Access Control Plan?

Other:
All of the above

Q5

What statement best reflects how you feel about the Access Control Plan?

I do not support the Access Control Plan.

Q6

Do you have any other comments, questions, or concerns?

Reducing access to retail will discourage redevelopment and cause neighborhood blight.

#26

COMPLETE

Collector: Patterson Road...al Open House (Web Link)
Started: Friday, January 08, 2021 2:26:20 PM
Last Modified: Friday, January 08, 2021 2:29:13 PM
Time Spent: 00:02:52
IP Address: 184.166.174.17

Page 1

Q1

Please provide your contact information.

Name	**Marilyn Swanson**
Address	**2610 Springside Ct**
City	**Grand Junction**
State	**Colorado**
Zip	**81506**
Phone Number	**3036380742**
Email	**southsidere@gmail.com**

Q2

Are you a (check all that apply):

Other (please specify):

Springside Ct is very close to Patterson Rd. A stop light is needed badly at 28 Rd and Patterson.

Q3

Of the following issues in the Patterson Road corridor, please mark up to three that are most important to you.

Safety,

Mobility through the corridor,

Local Street Intersections

Q4

If you own property, a business, or live along Patterson Road, what are your concerns regarding the Access Control Plan?

Respondent skipped this question

Q5

What statement best reflects how you feel about the Access Control Plan?

I support the Access Control Plan, but have concerns about access at particular locations.

,

If you chose "I support the Access Control Plan, but have concerns about access at particular locations.", please note those areas::

Signal at 28 Rd is badly needed.

Q6

Do you have any other comments, questions, or concerns?

Respondent skipped this question

#27

COMPLETE

Collector:	Patterson Road...al Open House (Web Link)
Started:	Monday, January 11, 2021 8:53:19 PM
Last Modified:	Monday, January 11, 2021 8:59:10 PM
Time Spent:	00:05:51
IP Address:	98.127.108.244

Page 1

Q1

Please provide your contact information.

Name	**Nicholas A Sechrist**
Address	**2530 Falls View Cir**
City	**Grand Junction**
State	**CO**
Zip	**81505**
Phone Number	**9702706485**
Email	**ns2chiro@msn.com**

Q2

Are you a (check all that apply):

Business Owner on Patterson Road

Q3

Of the following issues in the Patterson Road corridor, please mark up to three that are most important to you.

Mobility through the corridor,

Driveway Access,

Property Impacts

Q4

If you own property, a business, or live along Patterson Road, what are your concerns regarding the Access Control Plan?

Restricting the turning movements to/from my property

Q5

What statement best reflects how you feel about the Access Control Plan?

I do not support the Access Control Plan.

Q6

Do you have any other comments, questions, or concerns?

The main issue is two gas stations, both with two entrances that are caddy-corner at 25 Rd and Patterson. The greater advantage for flow and safety would be widening 25 Rd. There are multiple business inside of Foresight Circle and limiting access is only going to jam up larger intersections, namely 25 Rd and Patterson.

#28

COMPLETE

Collector: Patterson Road...al Open House (Web Link)
Started: Tuesday, January 12, 2021 9:55:49 PM
Last Modified: Tuesday, January 12, 2021 9:59:01 PM
Time Spent: 00:03:12
IP Address: 184.166.12.214

Page 1

Q1

Please provide your contact information.

Name	**Nathan Williams**
Address	**1915 Monument Canyon Drive**
City	**Grand Junction**
State	**CO**
Zip	**81507**
Phone Number	**9702703733**
Email	**nathan.w.williams1@gmail.com**

Q2

Are you a (check all that apply):

Property Owner on Patterson Road,
Renter/Lessee on Patterson Road,
Business Owner on Patterson Road,
Commuter through corridor

Q3

Of the following issues in the Patterson Road corridor, please mark up to three that are most important to you.

Mobility through the corridor,
Property Impacts,
Local Street Intersections

Q4

If you own property, a business, or live along Patterson Road, what are your concerns regarding the Access Control Plan?

Reducing the number of access points to my property

Q5

What statement best reflects how you feel about the Access Control Plan?

I do not support the Access Control Plan.

Q6

Do you have any other comments, questions, or concerns?

The access plan as written will have severe deleterious impacts to my business and the several businesses in the Foresight Park. We need to have same access we have now.

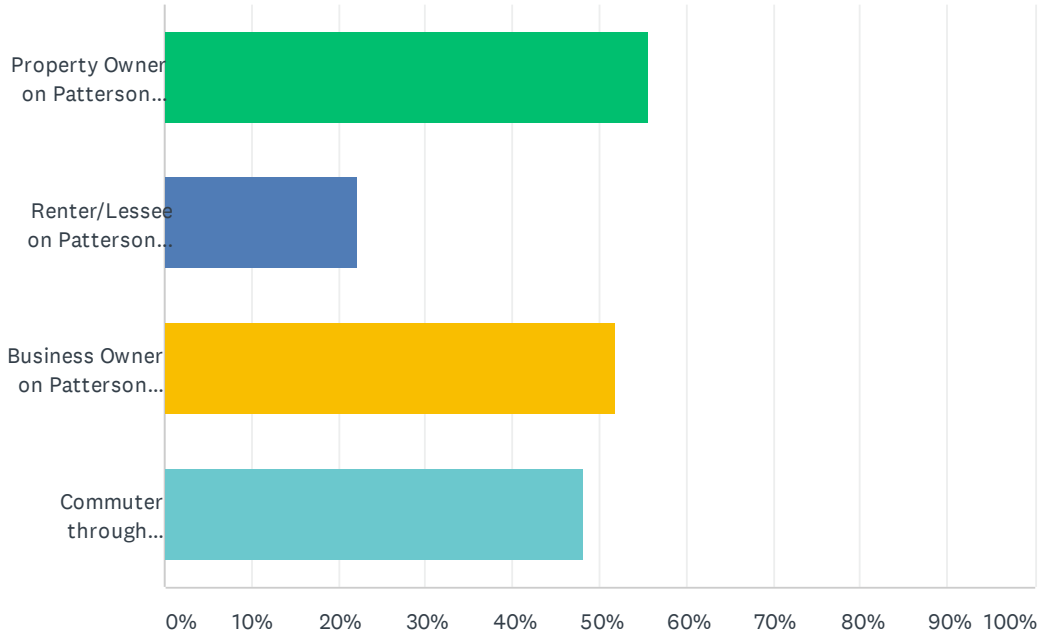
Q1 Please provide your contact information.

Answered: 28 Skipped: 0

ANSWER CHOICES	RESPONSES	
Name	100.00%	28
Address	100.00%	28
City	100.00%	28
State	100.00%	28
Zip	100.00%	28
Phone Number	85.71%	24
Email	82.14%	23

Q2 Are you a (check all that apply):

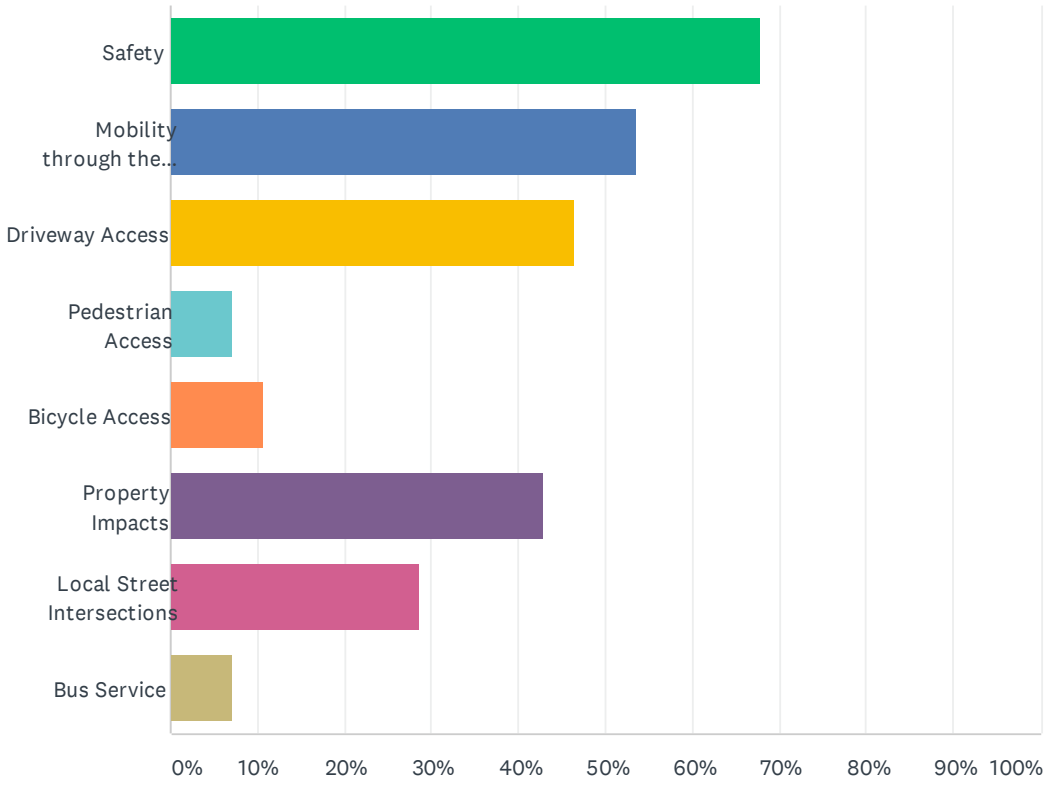
Answered: 27 Skipped: 1



ANSWER CHOICES	RESPONSES	
Property Owner on Patterson Road	55.56%	15
Renter/Lessee on Patterson Road	22.22%	6
Business Owner on Patterson Road	51.85%	14
Commuter through corridor	48.15%	13
Total Respondents: 27		

Q3 Of the following issues in the Patterson Road corridor, please mark up to three that are most important to you.

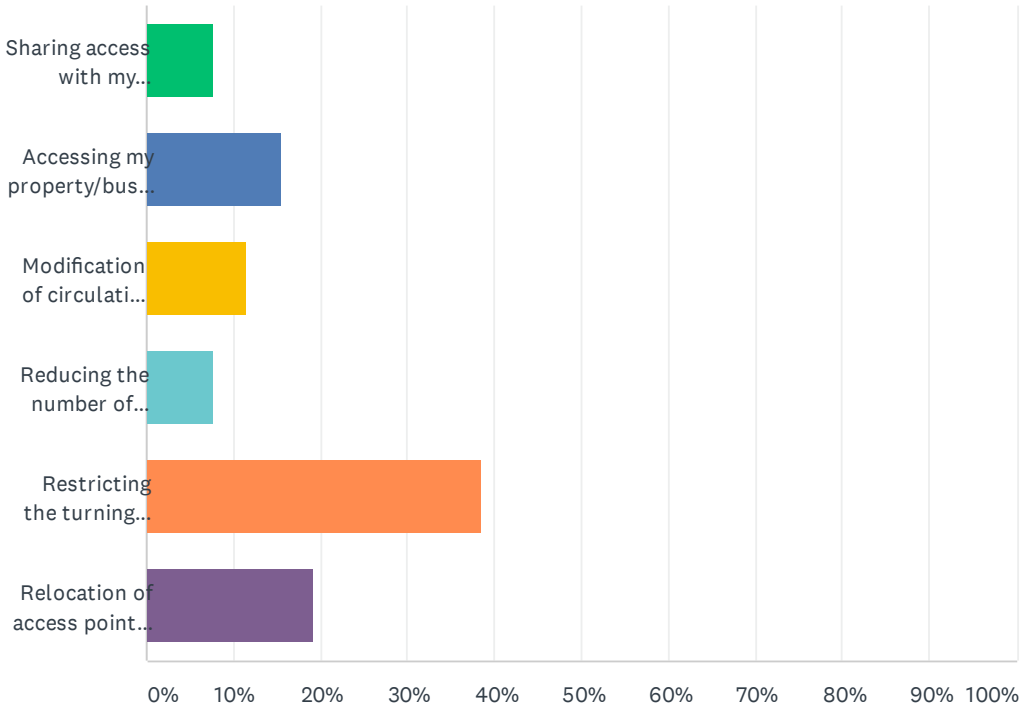
Answered: 28 Skipped: 0



ANSWER CHOICES	RESPONSES	
Safety	67.86%	19
Mobility through the corridor	53.57%	15
Driveway Access	46.43%	13
Pedestrian Access	7.14%	2
Bicycle Access	10.71%	3
Property Impacts	42.86%	12
Local Street Intersections	28.57%	8
Bus Service	7.14%	2
Total Respondents: 28		

Q4 If you own property, a business, or live along Patterson Road, what are your concerns regarding the Access Control Plan?

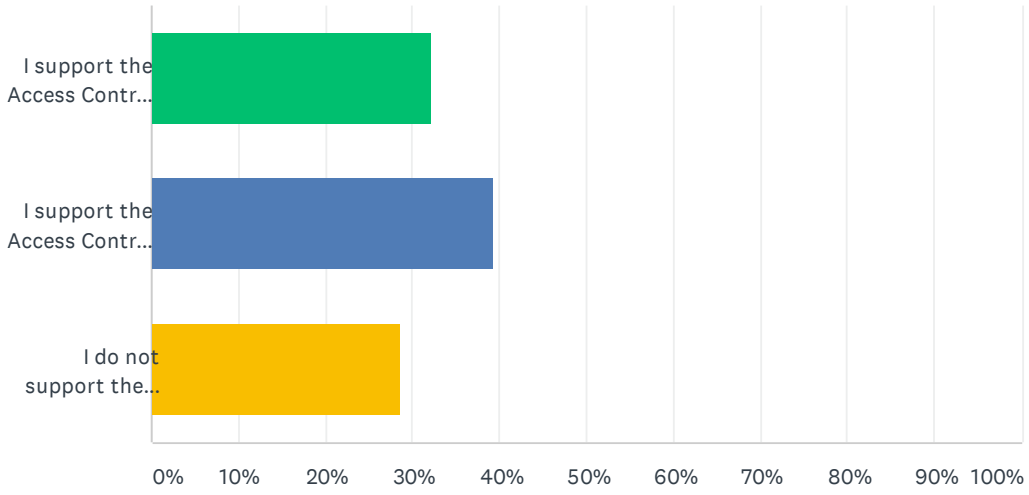
Answered: 26 Skipped: 2



ANSWER CHOICES	RESPONSES	
Sharing access with my neighbor	7.69%	2
Accessing my property/business from a roadway other than Patterson Road	15.38%	4
Modification of circulation on my property	11.54%	3
Reducing the number of access points to my property	7.69%	2
Restricting the turning movements to/from my property	38.46%	10
Relocation of access point on my property	19.23%	5
TOTAL		26

Q5 What statement best reflects how you feel about the Access Control Plan?

Answered: 28 Skipped: 0



ANSWER CHOICES	RESPONSES	
I support the Access Control Plan.	32.14%	9
I support the Access Control Plan, but have concerns about access at particular locations.	39.29%	11
I do not support the Access Control Plan.	28.57%	8
TOTAL		28

Q6 Do you have any other comments, questions, or concerns?

Answered: 27 Skipped: 1

Appendix B - Existing Access Inventory

ACCESS CONTROL PLAN
PATTERSON ROAD
I-70B(MP 0.000) to Lodgepole St (MP 7.349)

* All access points are defined by the approximate CDOT reference point (milepost) (in hundredths of a mile) based on CDOT Highway Data Explorer.

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Access ID No.	Mile Post **	Side	Description	Type	Surface Material	Gate* (Y/N)	Existing Configuration
1	0.060	LT	2384 Patterson Rd	BA	Concrete	Y	Unsig. Full Movement
2	0.133	RT	2381, 2385, 2387 Patterson Rd	BA	Asphalt	N	Unsig. Full Movement
3	0.149	LT	2384 Patterson Rd	BA	Concrete	N	Unsig. Full Movement
4	0.157	LT	2388 Patterson Rd	FA	Dirt	N	Unsig. Full Movement
5	0.167	RT	2386 Hwy 6 & 50	BA	Asphalt	N	Unsig. Full Movement
6	0.222	RT	Rae Lynn St	PRU	Asphalt		Unsig. Full Movement
7	0.226	LT	Rae Lynn St	PRU	Asphalt		Unsig. Full Movement
8	0.292	RT	24 Rd	PRS	Asphalt		Sig. Full Movement
9	0.292	LT	24 Rd	PRS	Asphalt		Sig. Full Movement
10	0.421	RT	Market St (South side is commercial access for Mesa Mall)	PRS	Asphalt		Sig. Full Movement
11	0.421	LT	Market St (South side is commercial access for Mesa Mall)	PRS	Asphalt		Sig. Full Movement
12	0.498	LT	2412 Patterson Rd	BA	Asphalt	N	Unsig. Full Movement
13	0.505	LT	2422 Patterson Rd	BA	Asphalt	N	Unsig. Full Movement
14	0.534	LT	2424 Patterson Rd	BA	Asphalt	N	Unsig. Full Movement
15	0.600	LT	2424, 2428, 2430, 2436 Patterson Rd North, and Mesa Mall South	BA	Asphalt	N	Sig. Full Movement
16	0.600	RT	2424, 2428, 2430, 2436 Patterson Rd North, and Mesa Mall South	BA	Asphalt	N	Sig. Full Movement
17	0.675	LT	2430, 2436 Patterson Rd	BA	Asphalt	N	Unsig. 3/4 Movement
18	0.734	LT	2436, 3438, 2440 Patterson Rd and 625 24 1/2 Rd	BA	Asphalt	N	Unsig. Full Movement
19	0.814	LT	2442, 2444 Patterson Rd	BA		N	Unsig. Full Movement
20	0.855	LT	2446, 2448 Patterson Rd	BA	Asphalt	N	Unsig. 3/4 Movement
21	0.944	LT	24 1/2 Rd	PRS	Asphalt		Sig. Full Movement
22	0.944	RT	24 1/2 Rd	PRS	Asphalt		Sig. Full Movement
23	1.009	LT	2452, 2454 Patterson Rd	BA	Asphalt	N	Unsig. 3/4 Movement
24	1.031	RT	2451, 2463, 2465 Patterson Rd and 590 24 1/2 Rd	BA	Asphalt	N	Unsig. Full Movement

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Access ID No.	Mile Post **	Side	Description	Type	Surface Material	Gate* (Y/N)	Existing Configuration
25	1.071	LT	2460, 2464 Patterson Rd	BA	Asphalt	N	Unsig. Full Movement
26	1.113	LT	2470, 2472, 2474 Patterson Rd North	BA	Asphalt	N	Unsig. Full Movement
27	1.113	RT	Commerce Blvd South	PRU	Asphalt		Unsig. Full Movement
28	1.176	LT	2470, 2472, 2474 Patterson Rd	BA	Asphalt	N	Unsig. Full Movement
29	1.235	LT	2478 Patterson Rd	BA	Asphalt	N	Unsig. Full Movement
30	1.308	LT	2482 Patterson Rd	BA	Asphalt	N	Unsig. Full Movement
31	1.325	RT	2488 Commerce Blvd	BA	Asphalt	N	Unsig. Full Movement
32	1.358	LT	2486, 2490 2494 Patterson Rd	BA	Asphalt	N	Unsig. Full Movement
33	1.404	RT	599 25 Rd	BA	Asphalt	N	Right In-Right Out
34	1.424	LT	2498 Patterson Rd	BA	Asphalt	N	Unsig. Full Movement
35	1.459	LT	25 Rd	PRS	Asphalt		Sig. Full Movement
36	1.459	RT	25 Rd	PRS	Asphalt		Sig. Full Movement
37	1.492	RT	596 25 Rd	BA	Asphalt	N	Unsig. Full Movement
38	1.538	RT	2515 Patterson Rd	BA	Asphalt	N	Unsig. 3/4 Movement
39	1.600	LT	Foresight Cir	PRU	Asphalt		Unsig. Full Movement
40	1.619	LT	Foresight Cir	PRU	Asphalt		Unsig. Full Movement
41	1.648	RT	Northgate Dr	PRU	Asphalt		Unsig. Full Movement
42	1.715	LT	2526, 2527 Patterson Rd	BA	Asphalt	N	Right In-Right Out
43	1.768	LT	2532 Patterson Rd	BA	Asphalt	N	Unsig. 3/4 Movement
44	1.861	LT	Burkey St	PRU	Asphalt		Unsig. Full Movement
45	1.932	RT	Drain	MA	Concrete	N	Unsig. Full Movement
46	1.954	RT	Drain	MA	Concrete	N	Unsig. Full Movement
47	1.975	LT	25 1/2 Rd	PRS	Asphalt		Sig. Full Movement

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Access ID No.	Mile Post **	Side	Description	Type	Surface Material	Gate* (Y/N)	Existing Configuration
48	1.975	RT	25 1/2 Rd	PRS	Asphalt		Sig. Full Movement
49	2.040	LT	2554, 2555, 2556, 2558, 2560 Patterson Rd	BA/R	Asphalt	N	Unsig. Full Movement
50	2.092	LT	2562 Patterson Rd	R	Gravel	N	Unsig. Full Movement
51	2.104	LT	2566 Patterson Rd	R	Asphalt/Gravel	N	Unsig. Full Movement
52	2.124	LT	2570 Patterson Rd	R	Gravel	N	Unsig. Full Movement
53	2.146	LT	2570 Patterson Rd	R	Gravel	N	Unsig. Full Movement
54	2.138	RT	Cider Mill Rd	PRU	Asphalt		Unsig. Full Movement
55	2.165	LT	2566 Patterson Rd	R	Gravel	N	Unsig. Full Movement
56	2.181	LT	2572 Patterson Rd	R	Gravel	N	Unsig. Full Movement
57	2.204	LT	2574 Patterson Rd	R	Asphalt	N	Unsig. Full Movement
58	2.209	LT	2576 Patterson Rd	BA/R	Asphalt/Gravel	N	Unsig. Full Movement
59	2.229	LT	2580 Patterson Rd	BA/R	Asphalt/Gravel	N	Unsig. Full Movement
60	2.231	RT	2945-101-00-167	R	Asphalt		Unsig. Full Movement
61	2.233	LT	2580 Patterson Rd	BA/R	Asphalt/Gravel	N	Unsig. Full Movement
62	2.237	RT	25 3/4 Rd	PRU	Asphalt		Unsig. Full Movement
63	2.268	LT	2582, 2584 Patterson Rd	BA	Asphalt	N	Unsig. Full Movement
64	2.353	LT	Meander Dr	PRU	Asphalt		Unsig. Full Movement
65	2.353	RT	Meander Dr	PRU	Asphalt		Unsig. 3/4 Movement
66	2.430	LT	2594, 2596 Patterson Rd	BA	Asphalt	N	Right In-Right Out
67	2.487	LT	26 Rd	PRS	Asphalt		Sig. Full Movement
68	2.487	RT	N 1st St	PRS	Asphalt		Sig. Full Movement
69	2.561	RT	Park Dr	PRU	Asphalt		Right In-Right Out
70	2.651	RT	2615 Patterson Rd	R	Gravel	N	Unsig. Full Movement

ACCESS CONTROL PLAN
PATTERSON ROAD
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71	2.674	RT	2615 Patterson Rd	R	Asphalt/Gravel	N	Unsig. Full Movement
72	2.706	RT	2621 Patterson Rd	R	Asphalt	N	Unsig. Full Movement
73	2.714	RT	2623 Patterson Rd	R	Gravel	N	Unsig. Full Movement
74	2.718	LT	2626 Patterson Rd	R	Asphalt/Gravel	N	Unsig. Full Movement
75	2.722	RT	2623 Patterson Rd	R	Gravel	N	Unsig. Full Movement
76	2.732	RT	2625 Patterson Rd	R	Concrete/Gravel	N	Unsig. Full Movement
77	2.740	LT	2626 Patterson Rd	R	Gravel	N	Unsig. Full Movement
78	2.746	RT	2625 Patterson Rd	R	Gravel	N	Unsig. Full Movement
79	2.749	LT	2628 Patterson Rd	R	Concrete	N	Unsig. Full Movement
80	2.756	RT	326 Belaire Dr	R	Gravel	Y	Unsig. Full Movement
81	2.761	LT	2628 Patterson Rd	R	Concrete	N	Unsig. Full Movement
82	2.765	RT	336 Belaire Dr	R	Concrete	N	Unsig. Full Movement
83	2.768	LT	2630 Patterson Rd	R	Concrete	N	Unsig. Full Movement
84	2.779	LT	2630 Patterson Rd	R	Concrete	N	Unsig. Full Movement
85	2.785	LT	2632 Patterson Rd	R	Concrete	N	Unsig. Full Movement
86	2.794	RT	Mira Vista Rd	PRU	Asphalt		Unsig. Full Movement
87	2.807	LT	2634 Patterson Rd	R	Concrete/Asphalt	N	Unsig. Full Movement
88	2.818	LT	2634 Patterson Rd	R	Concrete/Asphalt	N	Unsig. Full Movement
89	2.829	LT	2636, 2638 Patterson Rd	BA/R	Concrete	N	Unsig. Full Movement
90	2.848	LT	2640 Patterson Rd	BA	Asphalt	N	Right Out-Left Out
91	2.859	LT	2640 Patterson Rd	BA	Asphalt	N	Right In-Left In
92	2.867	LT	2642 Patterson Rd	BA	Asphalt	N	Right Out-Left Out
93	2.867	RT	2635 Patterson Rd	BA	Asphalt	N	Unsig. Full Movement

ACCESS CONTROL PLAN
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94	2.878	LT	2642 Patterson Rd	BA	Asphalt	N	Right In-Left In
95	2.894	LT	2644 Patterson Rd	BA	Asphalt	N	Unsig. Full Movement
96	2.910	LT	2646 Patterson Rd	BA	Asphalt	N	Unsig. Full Movement
97	2.943	LT	2646, 2648 Patterson Rd	BA	Asphalt	N	Unsig. Full Movement
98	2.960	LT	2648 Patterson Rd	BA	Asphalt	N	Unsig. Full Movement
99	3.000	LT	26 1/2 Rd/N 7th St	PRS	Asphalt		Sig. Full Movement
100	3.000	RT	26 1/2 Rd/N 7th St	PRS	Asphalt		Sig. Full Movement
101	3.072	LT	N 8th Ct	PRU	Asphalt		Unsig. Full Movement
102	3.136	RT	2661 Patterson Rd, 750 Wellington Ave	BA	Asphalt	N	Unsig. 3/4 Movement
103	3.164	LT	2666 Patterson Rd	R	Gravel	N	Unsig. Full Movement
104	3.190	LT	View Point Dr	PRU	Asphalt		Unsig. Full Movement
105	3.216	LT	2674 Patterson Rd	R	Asphalt	N	Unsig. Full Movement
106	3.262	LT	26 3/4 Rd	PRU	Asphalt	N	Unsig. Full Movement
107	3.308	LT	2416 Patterson Rd, 935, 959 Northern Way	R	Asphalt	N	Unsig. Full Movement
108	3.333	LT	Northern Way	PRU	Asphalt	N	Unsig. Full Movement
109	3.333	RT	Private road, 2683 Patterson Rd	BA	Asphalt	N	Unsig. Full Movement
110	3.353	RT	2683 Patterson Rd	BA	Asphalt	N	Unsig. Full Movement
111	3.358	LT	960 Northern Way	R	Asphalt	N	Unsig. Full Movement
112	3.368	LT	2686 Patterson Rd	BA	Asphalt/Concrete	N	Unsig. Full Movement
113	3.376	RT	2683 Patterson Rd	BA	Asphalt	N	Unsig. Full Movement
114	3.391	RT	2687 Patterson Rd	BA	Asphalt	N	Unsig. Full Movement
115	3.395	LT	2686 Patterson Rd	BA	Asphalt/Concrete	N	Unsig. Full Movement
116	3.426	RT	2691, 2695, 2699 Patterson Rd, 2531, 2511 N 12th St	BA	Asphalt/Concrete	N	Unsig. Full Movement

ACCESS CONTROL PLAN
PATTERSON ROAD
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117	3.447	RT	2691, 2695, 2699 Patterson Rd, 2531, 2511 N 12th St	BA	Asphalt/Concrete	N	Unsig. Full Movement
118	3.456	LT	2686 Patterson Rd	BA	Asphalt	N	Unsig. Full Movement
119	3.515	LT	N 12th St	PRS	Asphalt		Sig. Full Movement
120	3.515	RT	N 12th St	PRS	Asphalt		Sig. Full Movement
121	3.560	LT	2702 Patterson Rd	BA	Asphalt	N	Right In-Right Out
122	3.574	LT	2708 Patterson Rd	BA	Asphalt	N	Right In-Right Out
123	3.585	RT	2600 N 12th St	BA	Concrete	N	Unsig. 3/4 Movement
124	3.592	LT	2708 Patterson Rd	BA	Asphalt	N	Unsig. Full Movement
125	3.611	RT	2712 Patters	PO	Concrete	N	Right In-Right Out
125	3.619	LT	2710 Patterson Rd	BA	Concrete	N	Right In-Right Out
126	3.639	LT	2714 Patterson Rd	R	Concrete/Gravel	N	Right In-Right Out
127	3.643	LT	2718 Patterson Rd	R	Concrete	N	Right In-Right Out
128	3.659	LT	2718 Patterson Rd	R	Asphalt	N	Unsig. Full Movement
129	3.664	RT	2721 Patterson Rd	R	Asphalt	N	Unsig. Full Movement
130	3.744	RT	2721 Patterson Rd	R	Asphalt	N	Unsig. Full Movement
131	3.773	RT	N 15th St	PRS	Asphalt		Sig. Full Movement
132	3.773	LT	N 15th St	PRS	Asphalt		Sig. Full Movement
133	3.805	LT	2726 Patterson Rd	R	Concrete/Gravel	N	Unsig. Full Movement
134	3.811	LT	2728 Patterson Rd	R	Gravel	N	Unsig. Full Movement
135	3.837	RT	2680 N 15th St	BA	Asphalt	N	Unsig. Full Movement
136	3.853	LT	2734 Patterson Rd	R	Gravel	Y	Unsig. Full Movement
137	3.872	LT	2736 Patterson Rd	R	Concrete/Gravel	N	Unsig. Full Movement
138	3.875	RT	2737, 2741, 2745 Patterson Rd	R	Gravel	N	Unsig. Full Movement

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139	3.887	RT	2737 Patterson Rd	FA	Gravel	N	Unsig. Full Movement
140	3.902	LT	2738 Patterson Rd	R	Gravel	N	Unsig. Full Movement
141	3.934	RT	2737, 2741, 2745 Patterson Rd	R	Gravel	N	Unsig. Full Movement
142	3.942	LT	2742 Patterson Rd	R	Gravel	N	Unsig. Full Movement
143	3.967	LT	Empty lot	FA	Asphalt	N	Sig. Full Movement
144	4.015	LT	Empty lot	FA	Asphalt	N	Sig. Full Movement
145	4.030	LT	27 1/2 Rd	PRS	Asphalt	N	Sig. Full Movement
146	4.061	RT	2751, 2765 Patterson Rd	BA	Asphalt	N	Unsig. Full Movement
147	4.121	LT	Spring Valley Cir	PRU	Asphalt		Unsig. 3/4 Movement
148	4.121	RT	2751, 2765 Patterson Rd	R	Asphalt	N	Unsig. Full Movement
149	4.250	RT	2771, 2773, 2775 Patterson Rd	R	Concrete/Gravel	N	Unsig. Full Movement
150	4.258	LT	Beechwood St	PRU	Asphalt		Unsig. Full Movement
152	4.292	RT	2777 Patterson Rd	R	Asphalt	N	Unsig. Full Movement
153	4.323	LT	2778 Patterson Rd	R	Asphalt	N	Unsig. Full Movement
154	4.356	LT	Pheasant Trail Ct	PRU	Asphalt	N	Unsig. Full Movement
155	4.356	RT	El Corona Dr	PRU	Asphalt	N	Unsig. Full Movement
156	4.384	RT	Mount View Dr	PRU	Asphalt		Unsig. Full Movement
157	4.457	RT	Mantey Heights Dr	PRU	Asphalt		Unsig. Full Movement
158	4.504	RT	Santa Fe Dr	PRU	Asphalt		Unsig. Full Movement
159	4.546	LT	28 Rd	PRU	Asphalt		Unsig. Full Movement
160	4.558	RT	2801 Patterson Rd	R	Asphalt	N	Unsig. Full Movement
161	4.584	RT	E Park Ave	PRU	Asphalt		Unsig. Full Movement
162	4.620	RT	2811 Patterson Rd	R	Gravel	N	Unsig. Full Movement

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163	4.677	RT	Rio Grande Dr	PRU	Asphalt		Unsig. Full Movement
164	4.677	LT	2814 Patterson Rd, 615 28 1/4 Rd	R/PVRU	Asphalt		Unsig. 3/4 Movement
165	4.739	RT	2813, 2815, 2825 Patterson Rd	BA	Gravel	N	Unsig. Full Movement
166	4.776	RT	2813, 2815, 2825 Patterson Rd	BA	Asphalt	N	Unsig. Full Movement
167	4.828	RT	28 1/4 Rd	PRS	Asphalt		Sig. Full Movement
168	4.828	LT	28 1/4 Rd	PRS	Asphalt		Sig. Full Movement
169	4.866	RT	2827 Patterson Rd	BA	Asphalt	N	Unsig. Full Movement
170	4.916	RT	2835 Patterson Rd	BA	Asphalt	N	Unsig. Full Movement
171	4.930	LT	2844 Patterson Rd	PVRU	Concrete/Gravel	N	Unsig. Full Movement
172	4.946	RT	Grand Cascade Way	PRU	Asphalt		Unsig. Full Movement
173	4.972	LT	2844 Patterson Rd	R	Concrete/Gravel	Y	Unsig. Full Movement
174	4.980	LT	2844 Patterson Rd	R	Concrete/Gravel	Y	Unsig. Full Movement
175	5.000	LT	2844 Patterson Rd	R	Concrete/Gravel	Y	Unsig. Full Movement
176	5.037	LT	2844 Patterson Rd	FA	Concrete/Gravel	N	Unsig. Full Movement
177	5.048	LT	2844 Patterson Rd	FA	Concrete/Gravel	N	Unsig. Full Movement
178	5.082	LT	2854 Patterson Rd	R	Concrete/Gravel	N	Unsig. Full Movement
179	5.111	LT	2856 Patterson Rd	R	Concrete/Gravel	N	Unsig. Full Movement
180	5.153	LT	2844 Patterson Rd	FA	Concrete/Gravel	N	Unsig. Full Movement
181	5.165	RT	Legends Way	PRU	Asphalt		Unsig. Full Movement
182	5.189	LT	2872 Patterson Rd	FA	Concrete/Gravel	N	Unsig. Full Movement
183	5.229	LT	2872 Patterson Rd	FA	Concrete/Gravel	N	Unsig. Full Movement
184	5.248	LT	28 3/4 Rd	PRU	Asphalt		Unsig. Full Movement
185	5.264	RT	598 Sinatra Way	R	Concrete/Gravel	N	Unsig. Full Movement

ACCESS CONTROL PLAN
PATTERSON ROAD
I-70B(MP 0.000) to Lodgepole St (MP 7.349)

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2. MUTCD - Manual on Uniform Traffic Control Devices
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Access ID No.	Mile Post **	Side	Description	Type	Surface Material	Gate* (Y/N)	Existing Configuration
186	5.277	LT	604 28 3/4 Rd	BA	Concrete/Gravel	N	Unsig. Full Movement
187	5.280	RT	598 Sinatra Way	R	Concrete/Gravel	N	Unsig. Full Movement
188	5.288	LT	2876 Patterson Rd	R	Concrete	N	Unsig. Full Movement
189	5.302	LT	2876 Patterson Rd	R	Concrete/Gravel	N	Unsig. Full Movement
190	5.303	RT	598 Sinatra Way	R	Concrete/Gravel	N	Unsig. Full Movement
191	5.326	RT	2879 Patterson Rd	R	Concrete/Gravel	N	Unsig. Full Movement
192	5.360	RT	W Indian Creek Dr	PRU	Asphalt		Unsig. Full Movement
193	5.360	LT	W Indian Creek Dr	PRU	Asphalt		Unsig. Full Movement
194	5.438	RT	Belhavan Way	PRU	Asphalt		Unsig. Full Movement
195	5.447	RT	2893 Patterson Rd	BA	Concrete/Gravel	N	Unsig. Full Movement
196	5.488	LT	E Indian Creek Dr	PRU	Asphalt		Unsig. Full Movement
197	5.488	RT	2893 Patterson Rd	BA	Concrete/Gravel	N	Unsig. Full Movement
198	5.527	RT	2893 Patterson Rd	BA	Concrete/Gravel	N	Right In-Right Out
199	5.572	RT	29 Rd	PRS	Asphalt		Sig. Full Movement
200	5.572	LT	29 Rd	PRS	Asphalt		Sig. Full Movement
199	5.603	RT	Pull off	PO	Concrete	N	Unsig. Full Movement
201	5.610	LT	2902, 2904, 2906 Patterson Rd, 606, 608 29 Rd	BA	Concrete	N	Right In-Right Out
202	5.645	LT	2908 Patterson Rd	R	Concrete/Gravel	N	Unsig. Full Movement
203	5.662	LT	2910 Patterson Rd	R	Concrete	N	Unsig. Full Movement
204	5.679	LT	2912 Patterson Rd	R	Concrete/Dirt	N	Unsig. Full Movement
205	5.679	RT	2901, 2903, 2905, 2913, 2915 Patterson Rd	BA	Asphalt	N	Unsig. 3/4 Movement
206	5.696	LT	2914 Patterson Rd	R	Concrete	Y	Unsig. Full Movement
207	5.719	RT	2901, 2903, 2905, 2913, 2915 Patterson Rd	BA	Asphalt	N	Right In-Right Out

ACCESS CONTROL PLAN
PATTERSON ROAD
I-70B(MP 0.000) to Lodgepole St (MP 7.349)

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Access ID No.	Mile Post **	Side	Description	Type	Surface Material	Gate* (Y/N)	Existing Configuration
208	5.732	LT	Partee Dr	PRU	Asphalt		Unsig. Full Movement
209	5.750	RT	2917 Patterson Rd	R	Asphalt/Concrete	N	Unsig. Full Movement
210	5.758	LT	2918 Patterson Rd	R	Asphalt/Concrete	Y	Unsig. Full Movement
211	5.792	LT	Cris-Mar St	PRU	Asphalt		Unsig. Full Movement
212	5.795	RT	Redwing Ln	PRU	Asphalt		Unsig. Full Movement
213	5.823	LT	2943-053-40-000	R	Concrete	Y	Unsig. Full Movement
214	5.836	LT	2926 Patterson Rd	R	Concrete/Asphalt	N	Unsig. Full Movement
215	5.858	LT	2926 Patterson Rd	R	Concrete/Asphalt	N	Unsig. Full Movement
216	5.858	RT	29 1/4 Rd	PRU	Asphalt		Unsig. Full Movement
217	5.880	LT	2934 Patterson Rd	R	Concrete/Dirt	N	Unsig. Full Movement
218	5.891	LT	2934 Patterson Rd	R	Concrete/Dirt	N	Unsig. Full Movement
219	5.897	LT	2938 Patterson Rd	R	Concrete/Gravel	N	Unsig. Full Movement
220	5.905	LT	2938 Patterson Rd	R	Concrete/Gravel	N	Unsig. Full Movement
221	5.931	LT	29 3/8 Rd	PRU	Asphalt		Unsig. Full Movement
222	5.931	RT	29 3/8 Rd	PRU	Asphalt		Unsig. Full Movement
223	5.951	LT	2940 Patterson Rd	R	Concrete	N	Unsig. Full Movement
224	5.969	LT	2942 Patterson Rd	R	Concrete/Gravel	N	Unsig. Full Movement
225	5.974	RT	2939 Patterson Rd	R	Concrete	Y	Unsig. Full Movement
226	6.000	LT	2944 Patterson Rd	R	Concrete/Dirt	N	Unsig. Full Movement
227	6.020	RT	Colanwood St	PRU	Asphalt		Unsig. Full Movement
228	6.025	LT	2948 Patterson Rd	BA	Asphalt	N	Unsig. 3/4 Movement
229	6.041	RT	2945 Patterson Rd	R	Concrete/Asphalt	N	Unsig. Full Movement
230	6.057	RT	599 29 1/2 Rd	BA	Concrete/Asphalt	N	Unsig. Full Movement

ACCESS CONTROL PLAN
PATTERSON ROAD
I-70B(MP 0.000) to Lodgepole St (MP 7.349)

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Access ID No.	Mile Post **	Side	Description	Type	Surface Material	Gate* (Y/N)	Existing Configuration
231	6.087	RT	29 1/2 Rd	PRS	Asphalt		Sig. Full Movement
232	6.087	LT	29 1/2 Rd	PRS	Asphalt		Sig. Full Movement
233	6.160	RT	E Greenfield Cir	PRU	Asphalt		Unsig. Full Movement
234	6.188	LT	Pioneer Rd	PRU	Asphalt		Unsig. Full Movement
235	6.243	LT	Broken Spoke Rd	PRU	Asphalt		Unsig. Full Movement
236	6.282	RT	Darby Dr	PRU	Asphalt		Unsig. Full Movement
237	6.345	LT	Maintenance access	MA	Gravel		Unsig. Full Movement
238	6.352	RT	2977 Patterson Rd	R	Concrete/Dirt	N	Unsig. Full Movement
239	6.390	LT	2980 Patterson Rd	FA	Concrete	N	Sig. Full Movement
240	6.400	RT	Placer St	PRU	Asphalt		Unsig. Full Movement
241	6.400	LT	2982 Patterson Rd	FA	Concrete	N	Sig. Full Movement
242	6.400	LT	2982 Patterson Rd	FA	Concrete	N	Sig. Full Movement
243	6.474	RT	Maintenance access	MA	Concrete	Y	Unsig. Full Movement
244	6.497	LT	Hudson Bay Dr	PRU	Asphalt		Unsig. Full Movement
245	6.497	RT	599 30 Rd	BA	Asphalt	N	Unsig. Full Movement
246	6.528	LT	2992 Patterson Rd	BA	Asphalt	N	Unsig. 3/4 Movement
247	6.532	RT	599 30 Rd	BA	Asphalt	N	Unsig. Full Movement
248	6.600	RT	30 Rd	PRS	Asphalt		Sig. Full Movement
249	6.600	LT	30 Rd	PRS	Asphalt		Sig. Full Movement
250	6.667	LT	Ronlin Dr	PRU	Asphalt		Unsig. Full Movement
251	6.721	LT	Agana Dr	PRU	Asphalt		Unsig. Full Movement
252	6.721	RT	Agana Dr	PRU	Asphalt		Unsig. Full Movement
253	6.776	LT	Starlight Dr	PRU	Asphalt		Unsig. Full Movement

ACCESS CONTROL PLAN
PATTERSON ROAD
I-70B(MP 0.000) to Lodgepole St (MP 7.349)

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Access ID No.	Mile Post **	Side	Description	Type	Surface Material	Gate* (Y/N)	Existing Configuration
254	6.831	LT	Serenade St	PRU	Asphalt		Unsig. Full Movement
255	6.831	RT	Serenade St	PRU	Asphalt		Unsig. Full Movement
256	6.863	RT	3027 Patterson Rd	R	Concrete/Gravel	N	Unsig. Full Movement
257	6.863	LT	3026 Patterson Rd	BA	Asphalt	N	Unsig. Full Movement
258	6.882	LT	3026 Patterson Rd	BA	Asphalt	N	Unsig. Full Movement
259	6.897	LT	3028 Patterson Rd	R	Concrete/Dirt	N	Unsig. Full Movement
260	6.911	LT	3030 Patterson Rd	R	Concrete/Gravel	N	Unsig. Full Movement
261	6.913	RT	McMullin Dr	PRU	Asphalt		Unsig. Full Movement
262	6.962	RT	Gerken Rd	PRU	Asphalt		Unsig. Full Movement
263	6.962	LT	Round Table Rd	PRU	Asphalt		Unsig. Full Movement
264	6.991	RT	599 Grand Valley Dr	R	Concrete/Gravel	N	Unsig. Full Movement
265	7.002	RT	599 Grand Valley Dr	R	Concrete/Gravel	N	Unsig. Full Movement
266	7.016	RT	Grand Valley Dr	PRU	Asphalt		Unsig. Full Movement
267	7.016	LT	Grand Valley Dr	PRU	Asphalt		Unsig. Full Movement
268	7.039	RT	598 Grand Valley Dr	FA	Dirt	N	Unsig. Full Movement
269	7.053	RT	3047 Patterson Rd	R	Concrete/Gravel	N	Unsig. Full Movement
270	7.060	LT	3044 Patterson Rd	R	Concrete/Gravel	N	Unsig. Full Movement
271	7.082	RT	3047 Patterson Rd	R	Asphalt	N	Unsig. Full Movement
272	7.111	RT	3049 Patterson Rd	R	Concrete/Gravel	N	Unsig. Full Movement
273	7.120	LT	Mesa Valley Dr	PRU	Asphalt		Unsig. Full Movement
274	7.147	LT	3054 Patterson Rd	R	Concrete/Gravel	N	Unsig. Full Movement
275	7.147	RT	Shoshone St	PRU	Asphalt		Unsig. Full Movement
276	7.168	LT	3054 Patterson Rd	R	Concrete/Gravel	N	Unsig. Full Movement

ACCESS CONTROL PLAN
PATTERSON ROAD
I-70B(MP 0.000) to Lodgepole St (MP 7.349)

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Access ID No.	Mile Post **	Side	Description	Type	Surface Material	Gate* (Y/N)	Existing Configuration
277	7.221	LT	Cottage Meadows Ct	PRU	Asphalt		Unsig. Full Movement
278	7.243	RT	3065 Patterson Rd	BA	Concrete/Gravel	Y	Unsig. Full Movement
279	7.256	LT	3064 Patterson Rd	R	Concrete/Gravel	N	Unsig. Full Movement
280	7.264	LT	3066 Patterson Rd	R	Concrete/Dirt	Y	Unsig. Full Movement
281	7.276	LT	3068 Patterson Rd	R	Concrete	N	Unsig. Full Movement
282	7.279	RT	3067 Patterson Rd	R	Concrete/Gravel	N	Unsig. Full Movement
283	7.290	LT	3068 Patterson Rd	R	Concrete	N	Unsig. Full Movement
284	7.295	RT	3073 Patterson Rd	BA	Concrete/Gravel	Y	Unsig. Full Movement
285	7.319	RT	3073 Patterson Rd	FA	Concrete/Dirt	Y	Unsig. Full Movement
286	7.341	RT	3073 Patterson Rd	BA	Concrete/Asphalt	Y	Unsig. Full Movement
287	7.349	LT	Lodgepole St	PRU	Asphalt		Unsig. Full Movement

Legend	
Access Type	Abbreviation
Business/Commercial Access	BA
Field Access	FA
Maintenance Access	MA
Residential Access	R
Pull Off	PO
Public Road Signalized	PRS
Public Road Unsignalized	PRU
Private Road Unsignalized	PVRU

Appendix C - Crash History

#	Intersection	Date	Time	Severity	Distance From Int	Direction from Int	Road Description	Accident Type	Dir	Vehicle 1 Movement	Vehicle 2 Movement
1	PATTERSON RD & NORTH GATE DR	1/6/2014	11:35:00 AM	PDO	0		At Intersection	Front to Rear	S	Backing	Stop in Traff
2	PATTERSON RD & 1ST ST	1/7/2014	10:01:00 AM	PDO	0		At Intersection	Front to Rear	E	Going Straight	Stop in Traff
3	PATTERSON RD & 7TH ST	1/7/2014	10:23:00 AM	PDO	0		At Intersection	Front to Side	N	Left Turn	Going Straight
4	PATTERSON RD & 12TH ST	1/8/2014	10:19:00 AM	PDO	0		At Intersection	Front to Side	N	Right Turn	Going Straight
5	25 RD & PATTERSON RD	1/9/2014	12:30:00 PM	PDO	50	South	Non-Int	Front to Rear	N	Going Straight	Stop in Traff
6	24 1/2 RD & PATTERSON RD	1/10/2014	2:46:00 PM	PDO	30	South	Intersection Related	Front to Rear	N	Going Straight	Stop in Traff
7	1ST ST & PATTERSON RD	1/17/2014	8:31:00 AM	PDO	25	North	Non-Int	Front to Rear	S	Going Straight	Stop in Traff
8	PATTERSON RD & 29 RD	1/19/2014	12:42:00 PM	PDO	0		At Intersection	Front to Side	W	Left Turn	Going Straight
9	PATTERSON RD & 24 RD	1/22/2014	2:42:00 PM	PDO	0		Intersection Related	Front to Rear	E	Going Straight	Stop in Traff
10	24 1/2 RD & PATTERSON RD	1/24/2014	9:43:00 PM	PDO	62	South	Non-Int	Same Dir Side Side	S	Going Straight	Going Straight
11	W. INDIAN CREEK DR & PATTERSON RD	1/24/2014	3:17:00 PM	PDO	50	West	Non-Int	Front to Rear	E	Going Straight	Stop in Traff
12	PATTERSON RD & 12TH ST	1/27/2014	11:09:00 AM	INJ	0		At Intersection	Front to Front	W	Left Turn	Going Straight
13	PATTERSON RD & 25 RD	1/28/2014	12:14:00 PM	PDO	0		At Intersection	Front to Front	W	Left Turn	Going Straight
14	PATTERSON RD & MIRA VISTA RD	1/30/2014	6:21:00 PM	PDO	200	West	Non-Int	Front to Rear	E	Going Straight	Slowing
15	12TH ST & PATTERSON RD	1/31/2014	1:04:00 PM	PDO	100	South	Non-Int	Front to Rear	N	Going Straight	Stop in Traff
16	PATTERSON RD & 1ST ST	2/1/2014	9:44:00 AM	PDO	20	East	At Intersection	Same Dir Side Side	W	Changing Lanes	Going Straight
17	PATTERSON RD & 30 RD	2/3/2014	5:39:00 PM	PDO	0		At Intersection	Front to Side	N	Right Turn	Going Straight
18	PATTERSON RD & 27 1/2 RD	2/4/2014	6:30:00 AM	PDO	0		At Intersection	Front to Side	W	Going Straight	Left Turn
19	PATTERSON RD & 29 RD	2/4/2014	7:30:00 AM	PDO	0		Intersection Related	Front to Rear	S	Slowing	Stop in Traff
20	PATTERSON RD & PARTEE DR	2/6/2014	10:25:00 AM	PDO	30	West	Non-Int	Same Dir Side Side	W	Changing Lanes	Going Straight
21	PATTERSON RD & 24 1/2 RD	2/7/2014	11:49:00 AM	PDO	0		At Intersection	Front to Side	E	Left Turn	Going Straight
22	PATTERSON RD & 30 RD	2/8/2014	6:47:00 PM	PDO	350	West	Drive Acc Relat	Front to Side	E	Left Turn	Going Straight
23	PATTERSON RD & 8TH CT	2/10/2014	3:34:00 PM	PDO	0		Non-Int	Front to Rear	E	Going Straight	Stop in Traff
24	PATTERSON RD & SERANADE ST	2/13/2014	6:54:00 PM	PDO	50	West	Drive Acc Relat	Opp Dir Side Side	S	Left Turn	Going Straight
25	PATTERSON RD & GREENFIELD CIR EAST	2/14/2014	7:05:00 PM	PDO	0		At Intersection	Light/Util Pole	E	Right Turn	UNK
26	PATTERSON RD & 28 3/4 RD	2/19/2014	3:12:00 PM	PDO	80	East	Intersection Related	Front to Rear	W	Slowing	Slowing
27	25 RD & PATTERSON RD	2/19/2014	3:31:00 PM	PDO	150	North	Drive Acc Relat	Front to Side	N	Left Turn	Going Straight
28	PATTERSON RD & 12TH ST	2/22/2014	3:20:00 PM	PDO	200	West	Drive Acc Relat	Front to Side	N	Right Turn	Going Straight
29	24 1/2 RD & PATTERSON RD	2/24/2014	12:29:00 PM	PDO	500	South	Drive Acc Relat	Front to Side	E	Left Turn	Going Straight
30	PATTERSON RD & 24 1/2 RD	2/27/2014	4:35:00 PM	PDO	25	West	Intersection Related	Front to Rear	E	Changing Lanes	Stop in Traff
31	PATTERSON RD & 7TH ST	2/28/2014	1:56:00 PM	PDO	100	West	Non-Int	Front to Rear	W	Going Straight	Going Straight
32	25 RD & PATTERSON RD	3/3/2014	2:06:00 PM	PDO	175	North	Drive Acc Relat	Front to Side	N	Left Turn	Going Straight
33	PATTERSON RD & 24 1/2 RD	3/4/2014	11:23:00 AM	PDO	0		At Intersection	Same Dir Side Side	E	Right Turn	Stop in Traff
34	7TH ST & PATTERSON RD	3/5/2014	1:57:00 PM	INJ	417	North	Drive Acc Relat	Overturning	S	Going Straight	Left Turn
35	PATTERSON RD & 27 1/2 RD	3/7/2014	7:50:00 PM	PDO	1320	East	Non-Int	Same Dir Side Side	E	Changing Lanes	Going Straight
36	PATTERSON RD & 1ST ST	3/8/2014	3:24:00 PM	PDO	100	East	Non-Int	Front to Rear	W	Going Straight	Stop in Traff
37	I-70B & PATTERSON RD	3/9/2014	3:15:00 PM	INJ	1266	West	Non-Int	Front to Rear	W	Going Straight	Going Straight
38	PATTERSON RD & 7TH ST	3/11/2014	10:00:00 AM	PDO	20	East	Intersection Related	Front to Rear	W	Going Straight	Slowing
39	PATTERSON RD & 1ST ST	3/11/2014	12:48:00 PM	PDO	300	East	Non-Int	Front to Rear	W	Going Straight	Stop in Traff
40	PATTERSON RD & MARKET STREET	3/15/2014	9:37:00 PM	PDO	0		At Intersection	Front to Side	W	Going Straight	Going Straight
41	PATTERSON RD & 7TH ST	3/18/2014	11:31:00 AM	PDO	0		Intersection Related	Front to Rear	E	Going Straight	Stop in Traff
42	PATTERSON RD & 7TH ST	3/18/2014	2:01:00 PM	PDO	0		At Intersection	Front to Side	W	Going Straight	Left Turn
43	24 RD & PATTERSON RD	3/19/2014	4:29:00 PM	PDO	80	South	Non-Int	Front to Rear	S	Changing Lanes	Going Straight
44	PATTERSON RD & 24 RD	3/19/2014	2:37:00 PM	PDO	0		Non-Int	Front to Rear	W	Going Straight	Stop in Traff
45	PATTERSON RD & 12TH ST	3/20/2014	4:42:00 PM	PDO	778	West	Non-Int	Front to Rear	E	Going Straight	Stop in Traff
46	PATTERSON RD & 7TH ST	3/23/2014	7:36:00 AM	PDO	0		At Intersection	Front to Side	E	Going Straight	Going Straight
47	PATTERSON RD & BEECHWOOD ST	3/24/2014	4:01:00 PM	PDO	0		At Intersection	Front to Side	S	Right Turn	Going Straight
48	PATTERSON RD & 26 1/4 RD	3/24/2014	4:35:00 PM	PDO	0		Non-Int	Front to Rear	W	Going Straight	Slowing
49	PATTERSON RD & 12TH ST	3/26/2014	11:54:00 AM	INJ	0		At Intersection	Front to Rear	W	Going Straight	Stop in Traff
50	PATTERSON RD & 7TH ST	3/26/2014	4:15:00 PM	PDO	0		At Intersection	Front to Rear	N	Left Turn	Left Turn
51	PATTERSON RD & 12TH ST	3/28/2014	8:20:00 PM	PDO	0		At Intersection	Front to Side	E	Right Turn	Stop in Traff
52	24 1/2 RD & PATTERSON RD	3/30/2014	11:00:00 AM	PDO	500	South	Drive Acc Relat	Front to Side	E	Left Turn	Going Straight
53	PATTERSON RD & 27 1/2 RD	3/31/2014	8:00:00 AM	PDO	0		At Intersection	Front to Front	W	Going Straight	Stop in Traff
54	25 RD & PATTERSON RD	4/1/2014	11:00:00 AM	PDO	150	North	Drive Acc Relat	Front to Side	E	Left Turn	Going Straight
55	PATTERSON RD & HOME DEPOT	4/3/2014	4:34:00 PM	PDO	0		At Intersection	Front to Side	W	Left Turn	Going Straight
56	24 1/2 RD & PATTERSON RD	4/3/2014	3:39:00 PM	PDO	500	South	Drive Acc Relat	Front to Side	E	Left Turn	Going Straight
57	PATTERSON RD & 12TH ST	4/3/2014	1:47:00 PM	PDO	100	East	Non-Int	Front to Rear	W	Going Straight	Stop in Traff
58	PATTERSON RD & GRAND CASCADE WAY	4/4/2014	9:17:00 AM	PDO	0		Intersection Related	Front to Rear	N	Going Straight	Stop in Traff
59	24 1/2 RD & PATTERSON RD	4/4/2014	12:09:00 PM	PDO	500	South	Drive Acc Relat	Front to Side	E	Left Turn	Going Straight
60	PATTERSON RD & HOME DEPOT	4/5/2014	11:58:00 AM	PDO	0		Intersection Related	Front to Rear	W	Going Straight	Stop in Traff
61	PATTERSON RD & 29 1/2 RD	4/6/2014	2:09:00 PM	PDO	100	East	Intersection Related	Front to Rear	W	Slowing	Stop in Traff
62	PATTERSON RD & 24 RD	4/8/2014	2:57:00 PM	INJ	0		At Intersection	Front to Side	N	Left Turn	Going Straight
63	PATTERSON RD & 29 RD	4/10/2014	9:31:00 PM	PDO	0		Intersection Related	Front to Front	E	Right Turn	Left Turn
64	PATTERSON RD & 27 1/2 RD	4/11/2014	7:40:00 AM	PDO	0		At Intersection	Front to Side	W	Going Straight	Left Turn
65	PATTERSON RD & 24 RD	4/12/2014	9:04:00 AM	PDO	0		At Intersection	Front to Rear	W	Going Straight	Going Straight
66	25 RD & PATTERSON RD	4/16/2014	4:39:00 PM	PDO	241	South	Intersection Related	Front to Rear	N	Going Straight	Stop in Traff
67	PATTERSON RD & 7TH ST	4/17/2014	2:11:00 PM	PDO	0		At Intersection	Front to Front	E	Right Turn	Left Turn
68	PATTERSON RD & MEANDER DR	4/18/2014	3:44:00 PM	PDO	0		At Intersection	Front to Side	W	Left Turn	Going Straight
69	7TH ST & PATTERSON RD	4/18/2014	2:09:00 PM	PDO	30	South	Non-Int	Front to Rear	N	Going Straight	Stop in Traff
70	PATTERSON RD & 30 RD	4/21/2014	2:37:00 PM	PDO	0		At Intersection	Front to Side	E	Left Turn	Left Turn
71	RIO GRANDE DR & PATTERSON RD	4/21/2014	4:42:00 PM	PDO	40	East	Non-Int	Front to Rear	E	Going Straight	Stop in Traff
72	1ST ST & PATTERSON RD	4/22/2014	5:00:00 PM	PDO	20	South	Intersection Related	Front to Rear	N	Going Straight	Stop in Traff
73	SERANADE ST & PATTERSON RD	4/23/2014	7:16:00 AM	INJ	0		At Intersection	Park Motor Veh	W	Other	Parked
74	24 RD & PATTERSON RD	4/23/2014	10:53:00 AM	PDO	50	North	Intersection Related	Front to Rear	S	Backing	Stop in Traff
75	PATTERSON RD & MARKET STREET	4/25/2014	12:26:00 PM	PDO	0		At Intersection	Front to Side	E	Left Turn	Going Straight
76	PATTERSON RD & 7TH ST	4/27/2014	3:11:00 PM	PDO	0		At Intersection	Front to Rear	N	Right Turn	Going Straight
77	PATTERSON RD & 27 1/2 RD	4/28/2014	5:22:00 PM	PDO	500	West	Non-Int	Front to Rear	E	Going Straight	Slowing
78	PATTERSON RD & 28 1/4 RD	4/30/2014	8:09:00 PM	PDO	0		At Intersection	Front to Side	W	Left Turn	Going Straight
79	PATTERSON RD & 15TH ST	5/1/2014	8:18:00 AM	PDO	300	West	Drive Acc Relat	Front to Rear	W	Going Straight	Stop in Traff
80	PATTERSON RD & 28 RD	5/2/2014	5:45:00 PM	INJ	0		At Intersection	Front to Front	S	Left Turn	Going Straight
81	PATTERSON RD & 12TH ST	5/4/2014	7:24:00 AM	PDO	0		At Intersection	Front to Side	N	Going Straight	Going Straight
82	PATTERSON RD & 24 RD	5/5/2014	4:11:00 PM	PDO	0		At Intersection	Front to Side	N	Going Straight	Going Straight
83	PATTERSON RD & 7TH ST	5/5/2014	1:11:00 PM	PDO	530	West	Non-Int	Front to Rear	W	Going Straight	Stop in Traff
84	PATTERSON RD & 24 RD	5/8/2014	3:44:00 PM	PDO	0		At Intersection	Front to Rear	W	Going Straight	Going Straight
85	PATTERSON RD & 28 1/4 RD	5/8/2014	7:08:00 AM	PDO	0		At Intersection	Front to Side	E	Going Straight	Left Turn
86	PATTERSON RD & GRAND CASCADE WAY	5/8/2014	8:00:00 AM	PDO	400	East	Non-Int	Same Dir Side Side	W	U-Turn	Going Straight
87	PATTERSON RD & 1ST ST	5/9/2014	10:13:00 AM	PDO	100	West	Non-Int	Same Dir Side Side	E	Changing Lanes	Going Straight
88	PATTERSON RD & RIO GRANDE DR	5/13/2014	5:09:00 PM	PDO	10	East	Non-Int	Front to Rear	E	Going Straight	Stop in Traff
89	PATTERSON RD & PARTEE DR	5/14/2014	7:52:00 AM	PDO	200	East	Non-Int	Front to Rear	W	Going Straight	Slowing
90	PATTERSON RD & 15TH ST	5/21/2014	8:30:00 AM	PDO	0		At Intersection	Front to Side	W	Going Straight	Left Turn
91	PATTERSON RD & 7TH ST	5/28/2014	9:32:00 PM	PDO	0		At Intersection	Front to Side	E	Going Straight	Left Turn
92	PATTERSON RD & MCMULLIN DR	5/30/2014	2:02:00 PM	PDO	90	West	Drive Acc Relat	Front to Rear	W	Going Straight	Slowing
93	PATTERSON RD & 1ST ST	6/2/2014	3:14:00 PM	PDO	0		At Intersection	Front to Side	N	Right Turn	Going Straight
94	PATTERSON RD & 12TH ST	6/4/2014	10:52:00 AM	PDO	275	East	Intersection Related	Same Dir Side Side	W	Changing Lanes	Changing Lanes
95	PATTERSON RD & 29 RD	6/4/2014	6:29:00 PM	PDO	25	East	Intersection Related	Same Dir Side Side	W	Right Turn	Going Straight
96	PATTERSON RD & MARKET STREET	6/4/2014	3:16:00 PM	PDO	30	East	Intersection Related	Front to Rear	W	Slowing	Stop in Traff
97	PATTERSON RD & 29 1/2 RD	6/6/2014	9:58:00 AM	PDO	0		At Intersection	Front to Side	S	Left Turn	Going Straight
98	PATTERSON RD & 29 RD	6/7/2014	10:51:00 PM	PDO	0		At Intersection	Front to Front	E	Left Turn	Going Straight
99	PATTERSON RD & 27 1/2 RD	6/9/2014	5:24:00 PM	PDO	1320	West	Intersection Related	Front to Rear	E	Going Straight	Slowing
100	LEGENDS WAY & PATTERSON RD	6/13/2014	3:14:00 PM	PDO	20	South	Intersection Related	Front to Rear	N	Going Straight	Stop in Traff
101	PATTERSON RD & 28 RD	6/14/2014	9:44:00 AM	INJ	0		At Intersection	Front to Side	S	Left Turn	Going Straight
102	PATTERSON RD & 30 RD	6/15/2014	3:06:00 PM	PDO	50	East	Intersection Related	Front to Rear	W	Going Straight	Stop in Traff
103	29 RD & PATTERSON RD	6/18/2014	7:47:00 PM	PDO			Intersection Related	Opp Dir Side Side	W	Left Turn	Stop in Traff
104	PATTERSON RD & 29 1/2 RD	6/18/2014	1:57:00 PM	PDO	100	East	Non-Int	Front to Rear	W	Going Straight	Slowing
105	PATTERSON RD & 12TH ST	6/20/2014	8:27:00 AM	PDO	0		At Intersection	Front to Side	W	Left Turn	Going Straight
106	PATTERSON RD & 28 1/4 RD	6/21/2014	3:38:00 PM	PDO	0		At Intersection	Tree	E	Going Straight	Going Straight
107	PATTERSON RD & 25 1/2 RD	6/21/2014	1:24:00 PM	PDO	250	East	Non-Int	Front to Rear	W	Going Straight	Stop in Traff
108	PATTERSON RD & 25 3/4 RD	6/26/2014	8:42:00 PM	PDO	139	East	Non-Int	Wild Animal	W	Going Straight	UNK
109	PATTERSON RD & 12TH ST	6/27/2014	9:57:00 AM	PDO	0		At Intersection	Same Dir Side Side	N	Right Turn	Going Straight
110	PATTERSON RD & SPRING VALLEY CIR	6/27/2014	9:37:00 AM	PDO	0		Non-Int	Front to Rear	W	Going Straight	Slowing
111	PATTERSON RD & 27 1/2 RD	6/28/2014	8:44:00 AM	PDO	0		At Intersection	Front to Side	S	Right Turn	Going Straight
112	PATTERSON RD & SANTA FE DR	7/1/2014	5:21:00 PM	INJ	0		Non-Int	Front to Rear	E	Going Straight	Stop in Traff
113	PATTERSON RD & COMMERCE BLVD	7/1/2014	12:31:00 PM	PDO	200	East	Drive Acc Relat	Front to Side	N	Left Turn	Going Straight
114	25 3/4 RD & PATTERSON RD	7/2/2014	5:48:00 PM	INJ	0		At Intersection	Front to Side	N	Left Turn	Going Straight
115	25 RD & PATTERSON RD	7/6/2014	3:23:00 PM	PDO	10	South	Intersection Related	Front to Rear	N	Going Straight	Stop in Traff
116	PATTERSON RD & 28 RD	7/10/2014	3:43:00 PM	PDO	0		At Intersection	Front to Side	S	Left Turn	Going Straight
117	PATTERSON RD & 1ST ST	7/14/2014	1:44:00 PM	PDO	100	East	Intersection Related	Front to Rear	W	Going Straight	Stop in Traff
118	PATTERSON RD & BELLHAVEN WAY	7/16/2014	1:21:00 PM	PDO	0		At Intersection	Front to Side	W	Left Turn	Going Straight

#	Intersection	Date	Time	Severity	Distance From Int	Direction from Int	Road Description	Accident Type	Dir	Vehicle 1 Movement	Vehicle 2 Movement
119	PATTERSON RD & 28 RD	7/21/2014	1:03:00 PM	INJ	0		At Intersection	Front to Side	S	Left Turn	Going Straight
120	PATTERSON RD & 29 RD	7/22/2014	11:15:00 AM	PDO	0		At Intersection	Front to Front	N	Left Turn	Going Straight
121	28 1/4 RD & PATTERSON RD	7/25/2014	1:37:00 PM	PDO	50	South	At Intersection	Front to Rear	N	Going Straight	Stop in Traff
122	PATTERSON RD & MEANDER DR	7/30/2014	12:24:00 PM	PDO	0		At Intersection	Front to Side	N	Going Straight	Going Straight
123	PATTERSON RD & 29 RD	8/1/2014	6:05:00 PM	INJ	0		At Intersection	Rear to Rear	W	Left Turn	Going Straight
124	PATTERSON RD & 29 RD	8/1/2014	6:55:00 PM	INJ	1238	West	Non-Int	Front to Rear	E	Going Straight	Stop in Traff
125	PATTERSON RD & MARKET STREET	8/2/2014	4:29:00 PM	PDO	20	West	Non-Int	Front to Rear	E	Going Straight	Stop in Traff
126	PATTERSON RD & FORESIGHT CIR SOUTH	8/4/2014	3:06:00 PM	PDO	30	East	Non-Int	Front to Rear	W	Going Straight	Slowing
127	PATTERSON RD & MEANDER DR	8/4/2014	9:49:00 AM	PDO	0		At Intersection	Front to Side	S	Right Turn	Going Straight
128	PATTERSON RD & 24 1/2 RD	8/6/2014	4:09:00 PM	PDO	40	West	Intersection Related	Same Dir Side Side	E	Right Turn	Going Straight
129	PATTERSON RD & MARKET STREET	8/9/2014	12:19:00 PM	PDO	350	East	Drive Acc Relat	Front to Side	S	Left Turn	Going Straight
130	PATTERSON RD & 29 1/2 RD	8/11/2014	7:25:00 AM	PDO	200	East	Non-Int	Front to Rear	W	Going Straight	Stop in Traff
131	PATTERSON RD & 12TH ST	8/11/2014	9:24:00 AM	PDO	200	East	Non-Int	Front to Rear	W	Going Straight	Stop in Traff
132	PATTERSON RD & EAST INDIAN CREEK D	8/11/2014	5:42:00 PM	PDO	0		At Intersection	Front to Rear	E	Going Straight	Stop in Traff
133	PATTERSON RD & 27 1/2 RD	8/14/2014	10:44:00 AM	INJ	0		At Intersection	Front to Side	S	Right Turn	Going Straight
134	24 1/2 RD & PATTERSON RD	8/14/2014	1:23:00 PM	PDO	500	South	At Intersection	Front to Side	E	Left Turn	Going Straight
135	PATTERSON RD & 25 RD	8/15/2014	11:13:00 AM	PDO	0		Drive Acc Relat	Front to Rear	N	Going Straight	Going Straight
136	PATTERSON RD & 24 1/2 RD	8/15/2014	5:08:00 PM	PDO	0		At Intersection	Front to Rear	N	Going Straight	Stop in Traff
137	24 1/2 RD & PATTERSON RD	8/19/2014	10:19:00 AM	PDO	500	South	At Intersection	Front to Rear	W	Backing	Stop in Traff
138	24 RD & PATTERSON RD	8/19/2014	12:20:00 PM	PDO	0		At Intersection	Same Dir Side Side	SE	Left Turn	Left Turn
139	PATTERSON RD & MEANDER DR	8/20/2014	4:05:00 PM	INJ	15	East	At Intersection	Front to Rear	W	Going Straight	Stop in Traff
140	PATTERSON RD & 27 1/2 RD	8/20/2014	9:00:00 AM	PDO	250	West	Non-Int	Front to Rear	E	Going Straight	Stop in Traff
141	I-70B & PATTERSON RD	8/20/2014	1:57:00 PM	PDO	0		At Intersection	Sign	E	Left Turn	UNK
142	30 RD & PATTERSON RD	8/21/2014	4:40:00 PM	PDO	100	South	Non-Int	Same Dir Side Side	N	Changing Lanes	Going Straight
143	PATTERSON RD & 12TH ST	8/21/2014	7:23:00 AM	PDO	20	East	Intersection Related	Front to Rear	W	Going Straight	Right Turn
144	PATTERSON RD & RIO GRANDE DR	8/22/2014	5:23:00 PM	PDO	0		Intersection Related	Front to Rear	E	Slowing	Stop in Traff
145	PATTERSON RD & 28 1/4 RD	8/23/2014	9:00:00 AM	PDO	632	East	Drive Acc Relat	Front to Rear	W	Going Straight	Slowing
146	12TH ST & PATTERSON RD	8/23/2014	5:11:00 PM	PDO	150	South	Non-Int	Same Dir Side Side	N	Changing Lanes	Going Straight
147	PATTERSON RD & 7TH ST	8/25/2014	10:38:00 AM	PDO	100	West	Non-Int	Front to Rear	W	Going Straight	Slowing
148	PATTERSON RD & 27 1/2 RD	8/25/2014	4:48:00 PM	PDO	700	West	Non-Int	Front to Rear	E	Going Straight	Slowing
149	29 RD & PATTERSON RD	8/26/2014	12:19:00 PM	PDO	350	South	Drive Acc Relat	Same Dir Side Side	N	Right Turn	Right Turn
150	PATTERSON RD & 12TH ST	8/27/2014	8:53:00 AM	INJ	775	West	Intersection Related	Front to Rear	W	Going Straight	Stop in Traff
151	7TH ST & PATTERSON RD	8/27/2014	3:40:00 PM	INJ	30	South	Intersection Related	Front to Rear	N	Going Straight	Going Straight
152	PATTERSON RD & 1ST ST	8/27/2014	2:02:00 PM	PDO	30	West	Non-Int	Front to Rear	W	Going Straight	Slowing
153	PATTERSON RD & 7TH ST	8/27/2014	3:32:00 PM	PDO	200	West	Non-Int	Front to Rear	E	Going Straight	Going Straight
154	PATTERSON RD & MARKET STREET	8/28/2014	10:58:00 AM	PDO	0		At Intersection	Front to Side	E	Going Straight	Left Turn
155	PATTERSON RD & 29 RD	8/31/2014	3:17:00 PM	PDO	0		At Intersection	Overturning	N	Right Turn	Going Straight
156	PATTERSON RD & 7TH ST	9/1/2014	6:48:00 PM	PDO	0		Intersection Related	Front to Rear	W	Going Straight	Stop in Traff
157	PATTERSON RD & 29 RD	9/2/2014	4:22:00 PM	INJ	512	West	Non-Int	Front to Rear	E	Going Straight	Stop in Traff
158	PATTERSON RD & MIRA VISTA DR	9/2/2014	6:01:00 PM	PDO	377	West	Drive Acc Relat	Front to Side	N	Left Turn	Going Straight
159	PATTERSON RD & 24 1/2 RD	9/3/2014	10:33:00 AM	INJ	250	East	Drive Acc Relat	Front to Side	N	Right Turn	Going Straight
160	25 RD & PATTERSON RD	9/4/2014	3:18:00 PM	INJ	150	North	Drive Acc Relat	Front to Side	N	Left Turn	Going Straight
161	PATTERSON RD & 28 1/4 RD	9/5/2014	4:26:00 PM	PDO	250	East	Non-Int	Front to Rear	W	Changing Lanes	Going Straight
162	PATTERSON RD & 1ST ST	9/6/2014	7:42:00 PM	INJ	750	East	Non-Int	Front to Rear	W	Going Straight	Slowing
163	PATTERSON RD & 25 RD	9/8/2014	4:53:00 PM	PDO	0		At Intersection	Other Harm Obj	S	Backing	Stop in Traff
164	PATTERSON RD & 15TH ST	9/11/2014	7:39:00 AM	PDO	0		At Intersection	Front to Side	W	Going Straight	Left Turn
165	PATTERSON RD & 7TH ST	9/13/2014	9:25:00 PM	PDO	100	East	Non-Int	Same Dir Side Side	E	Changing Lanes	Going Straight
166	PATTERSON RD & 12TH ST	9/14/2014	9:39:00 PM	PDO	0		At Intersection	Overturning	E	Left Turn	Going Straight
167	PATTERSON RD & BURKEY ST	9/15/2014	9:38:00 AM	PDO	0		At Intersection	Front to Rear	W	Going Straight	Right Turn
168	28 RD & PATTERSON RD	9/15/2014	1:14:00 PM	PDO	30	North	Intersection Related	Front to Rear	N	Backing	Stop in Traff
169	PATTERSON RD & MESA VALLEY DR	9/17/2014	6:19:00 PM	PDO	0		Intersection Related	Front to Rear	W	Changing Lanes	Other
170	PATTERSON RD & 12TH ST	9/22/2014	11:18:00 AM	INJ	0		At Intersection	Front to Side	E	Left Turn	Going Straight
171	PATTERSON RD & CRIS-MAR ST	9/22/2014	2:54:00 PM	PDO	0		Non-Int	Same Dir Side Side	W	Changing Lanes	Going Straight
172	PATTERSON RD & BEECHWOOD ST	9/24/2014	8:03:00 AM	PDO	0		Intersection Related	Front to Rear	W	Going Straight	Slowing
173	PATTERSON RD & 24 RD	9/25/2014	1:49:00 PM	PDO	0		At Intersection	Same Dir Side Side	W	Left Turn	Left Turn
174	PATTERSON RD & 24 1/2 RD	9/25/2014	2:12:00 PM	PDO	0		At Intersection	Same Dir Side Side	E	Right Turn	Going Straight
175	25 RD & PATTERSON RD	9/29/2014	4:09:00 PM	INJ	150	North	Drive Acc Relat	Front to Side	E	Left Turn	Going Straight
176	PATTERSON RD & 12TH ST	9/29/2014	11:26:00 AM	PDO	100	East	Non-Int	Same Dir Side Side	E	Changing Lanes	Going Straight
177	PATTERSON RD & 24 1/2 RD	9/29/2014	7:22:00 PM	PDO	0		At Intersection	Front to Rear	N	Left Turn	Going Straight
178	PATTERSON RD & 25 1/2 RD	9/30/2014	1:39:00 PM	PDO	0		At Intersection	Front to Side	W	Going Straight	Going Straight
179	24 RD & PATTERSON RD	10/1/2014	5:48:00 PM	PDO	165	South	Intersection Related	Front to Rear	N	Going Straight	Slowing
180	PATTERSON RD & MARKET STREET	10/2/2014	1:53:00 PM	PDO	0		At Intersection	Front to Side	W	Going Straight	Left Turn
181	PATTERSON RD & 1ST ST	10/3/2014	12:31:00 PM	PDO	1150	East	Drive Acc Relat	Front to Rear	W	Going Straight	Stop in Traff
182	PATTERSON RD & 27 1/2 RD	10/9/2014	1:15:00 PM	PDO	0		Intersection Related	Front to Side	S	Left Turn	Left Turn
183	PATTERSON RD & HOME DEPOT	10/13/2014	2:36:00 PM	PDO	0		At Intersection	Front to Side	S	Right Turn	Going Straight
184	PATTERSON RD & 25 1/2 RD	10/14/2014	6:21:00 PM	PDO	600	West	Non-Int	Front to Side	E	U-Turn	Going Straight
185	24 1/2 RD & PATTERSON RD	10/15/2014	11:59:00 AM	PDO	500	South	Drive Acc Relat	Front to Side	E	Going Straight	Going Straight
186	PATTERSON RD & EL CORONA DR	10/15/2014	5:22:00 PM	PDO	150	West	Intersection Related	Front to Rear	E	Going Straight	Stop in Traff
187	PATTERSON RD & 26 3/4 RD	10/17/2014	4:33:00 PM	INJ	0		At Intersection	Curb	S	Left Turn	Going Straight
188	PATTERSON RD & 24 RD	10/17/2014	4:01:00 PM	PDO	0		At Intersection	Front to Side	S	Right Turn	Going Straight
189	PATTERSON RD & 29 RD	10/18/2014	1:41:00 PM	PDO	0		At Intersection	Front to Rear	W	Going Straight	Stop in Traff
190	PATTERSON RD & PHEASANT TRAIL CT	10/19/2014	2:33:00 PM	PDO	150	East	Non-Int	Same Dir Side Side	W	Other	Going Straight
191	PATTERSON RD & 28 RD	10/19/2014	12:32:00 PM	PDO	0		At Intersection	Front to Side	S	Left Turn	Going Straight
192	PATTERSON RD & PARK DR	10/19/2014	6:58:00 PM	PDO	0		At Intersection	Same Dir Side Side	E	Changing Lanes	Going Straight
193	PATTERSON RD & 7TH ST	10/21/2014	7:57:00 AM	INJ	0		At Intersection	Front to Rear	E	Going Straight	Stop in Traff
194	I-70B & PATTERSON RD	10/22/2014	3:46:00 PM	PDO	200	West	Intersection Related	Front to Rear	W	Going Straight	Slowing
195	PATTERSON RD & 28 RD	10/24/2014	9:24:00 PM	PDO	0		At Intersection	Front to Rear	W	Going Straight	Right Turn
196	PATTERSON RD & SPRING VALLEY CIR	11/4/2014	7:49:00 AM	PDO	0		Non-Int	Front to Rear	W	Going Straight	Going Straight
197	PATTERSON RD & 12TH ST	11/4/2014	1:29:00 PM	PDO	500	West	Non-Int	Front to Rear	W	Going Straight	Stop in Traff
198	PATTERSON RD & PIONEER RD	11/5/2014	11:54:00 AM	PDO	0		At Intersection	Bicycle Collision	S	Going Straight	Going Straight
199	PATTERSON RD & 25 RD	11/5/2014	9:04:00 PM	PDO	0		At Intersection	Front to Side	W	Left Turn	Going Straight
200	PATTERSON RD & VIEWPOINT DR	11/8/2014	11:48:00 AM	INJ	50	East	Non-Int	Front to Rear	W	Changing Lanes	Slowing
201	PATTERSON RD & HOME DEPOT	11/8/2014	6:08:00 PM	INJ	500	East	Non-Int	Front to Rear	W	Going Straight	Slowing
202	PATTERSON RD & 24 RD	11/11/2014	4:36:00 PM	PDO	300	East	Non-Int	Same Dir Side Side	W	Changing Lanes	Going Straight
203	PATTERSON RD & 7TH ST	11/11/2014	5:43:00 PM	PDO	0		At Intersection	Front to Side	W	Right Turn	Going Straight
204	PATTERSON RD & 26 3/4 RD	11/12/2014	5:39:00 PM	INJ	0		At Intersection	Front to Rear	E	Going Straight	Stop in Traff
205	PATTERSON RD & 15TH ST	11/14/2014	2:03:00 PM	PDO	0		At Intersection	Front to Side	N	Right Turn	Going Straight
206	PATTERSON RD & 27 1/2 RD	11/18/2014	4:05:00 PM	PDO	0		Non-Int	Front to Rear	E	Going Straight	Going Straight
207	PATTERSON RD & 29 1/2 RD	11/18/2014	5:40:00 PM	PDO	0		At Intersection	Front to Front	E	Going Straight	Left Turn
208	PATTERSON RD & 12TH ST	11/19/2014	8:50:00 AM	INJ	266	East	Non-Int	Front to Rear	W	Going Straight	Slowing
209	PATTERSON RD & 12TH ST	11/21/2014	12:45:00 PM	PDO	693	East	Non-Int	Front to Rear	W	Going Straight	Slowing
210	PATTERSON RD & 7TH ST	11/21/2014	11:23:00 AM	PDO	0		At Intersection	Front to Side	N	Left Turn	Going Straight
211	PATTERSON RD & 12TH ST	11/21/2014	5:23:00 PM	PDO	150	East	Intersection Related	Front to Rear	W	Going Straight	Slowing
212	PATTERSON RD & HOME DEPOT	11/24/2014	1:24:00 PM	INJ	0		At Intersection	Front to Side	W	Left Turn	Going Straight
213	PATTERSON RD & 28 RD	11/25/2014	11:06:00 AM	INJ	0		At Intersection	Front to Side	S	Left Turn	Going Straight
214	29 RD & PATTERSON RD	11/26/2014	7:22:00 PM	PDO	190	North	Drive Acc Relat	Front to Side	W	Left Turn	Going Straight
215	PATTERSON RD & BROKEN SPOKE RD	11/26/2014	6:57:00 AM	PDO	0		At Intersection	Front to Rear	S	Going Straight	Stop in Traff
216	MARKET STREET & PATTERSON RD	11/28/2014	2:01:00 PM	PDO	40	North	Non-Int	Same Dir Side Side	S	Changing Lanes	Going Straight
217	PATTERSON RD & HOME DEPOT	11/29/2014	12:57:00 PM	PDO	0		At Intersection	Front to Side	N	Right Turn	Going Straight
218	PATTERSON RD & VIEWPOINT DR	12/1/2014	7:40:00 AM	PDO	0		Non-Int	Wild Animal	W	Going Straight	UNK
219	PATTERSON RD & 12TH ST	12/3/2014	5:49:00 PM	PDO	0		Non-Int	Same Dir Side Side	N	Changing Lanes	Going Straight
220	PATTERSON RD & 27 1/2 RD	12/5/2014	1:24:00 PM	PDO	100	West	Intersection Related	Front to Rear	E	Going Straight	Slowing
221	PATTERSON RD & 1ST ST	12/5/2014	9:55:00 PM	PDO	0		At Intersection	Front to Front	W	Left Turn	Going Straight
222	PATTERSON RD & 12TH ST	12/6/2014	7:47:00 AM	INJ	100	East	Non-Int	Same Dir Side Side	W	Changing Lanes	Going Straight
223	25 1/2 RD & PATTERSON RD	12/8/2014	6:30:00 PM	PDO	158	North	Drive Acc Relat	Front to Side	E	Right Turn	Going Straight
224	MEANDER DR & PATTERSON RD	12/9/2014	5:18:00 PM	PDO	200	West	Non-Int	Front to Rear	E	Slowing	Stop in Traff
225	PATTERSON RD & 24 1/2 RD	12/9/2014	6:17:00 PM	PDO	0		At Intersection	Same Dir Side Side	E	Going Straight	Going Straight
226	PATTERSON RD & 15TH ST	12/12/2014	3:39:00 PM	PDO	300	East	Intersection Related	Front to Rear	W	Going Straight	Slowing
227	PATTERSON RD & 25 1/2 RD	12/12/2014	8:16:00 PM	PDO	0		At Intersection	Front to Rear	W	Going Straight	Stop in Traff
228	PATTERSON RD & 12TH ST	12/14/2014	10:44:00 PM	INJ	0		At Intersection	Front to Side	W	Left Turn	Going Straight
229	I-70B & PATTERSON RD	12/15/2014	5:24:00 PM	INJ	0		At Intersection	Front to Side	E	Left Turn	Going Straight
230	PATTERSON RD & 7TH ST	12/15/2014	5:23:00 PM	PDO	0		At Intersection	Front to Rear	N	Going Straight	Stop in Traff
231	PATTERSON RD & 25 1/2 RD	12/16/2014	5:50:00 PM	INJ	0		At Intersection	Opp Dir Side Side	W	Left Turn	Going Straight
232	PATTERSON RD & MIRA VISTA DR	12/22/2014	10:13:00 AM	PDO	0		Non-Int	Front to Front	W	Spun Out of Cntrl	Going Straight
233	PATTERSON RD & 28 1/4 RD	12/23/2014	2:26:00 PM	INJ	0		At Intersection	Front to Side	W	Left Turn	Going Straight
234	PATTERSON RD & 24 1/2 RD	12/23/2014	6:57:00 PM	PDO	0		At Intersection	Front to Side	N	Right Turn	Going Straight
235	24 1/2 RD & PATTERSON RD	12/27/2014	3:17:00 PM	PDO	500	South	Drive Acc Relat	Front to Side	E	Left Turn	Going Straight
236	PATTERSON RD & 1ST ST	12/27/2014	5:39:00 PM	PDO	0		Intersection Related	Front to Rear	E	Going Straight	Going Straight

#	Intersection	Date	Time	Severity	Distance From Int	Direction from Int	Road Description	Accident Type	Dir	Vehicle 1 Movement	Vehicle 2 Movement
237	PATTERSON RD & LEGENDS WAY	12/29/2014	11:10:00 AM	PDO	0		Non-Int	Sign	E	Right Turn	UNK
238	PATTERSON RD & 25 RD	1/1/2015	8:01:00 PM	INJ	120	E	Driveway Access Related	Front to Front	W	Left Turn	Straight
239	PATTERSON RD & 29 RD	1/5/2015	1:10:00 PM	PDO			Non-Intersection	Side to Side Same Dir	W	Changing Lanes	Straight
240	PATTERSON RD & 25 RD	1/6/2015	4:31:00 PM	PDO	1150	W	Intersection Related	Front to Front	E	Left Turn	Straight
241	25 RD & PATTERSON RD	1/7/2015	3:20:00 PM	PDO			At Intersection	Front to Rear	N	Slowing	Stopped
242	PATTERSON RD & W INDIAN CREEK DR	1/8/2015	5:38:00 PM	PDO			Non-Intersection	Front to Rear	E	Straight	Stopped
243	PATTERSON RD & E INDIAN CREEK DR	1/9/2015	10:27:00 AM	PDO			At Intersection	Front to Side	N	Left Turn	Straight/following road
244	PATTERSON RD & 27 1/2 RD	1/12/2015	5:05:00 PM	PDO			Non-Intersection	Front to Rear	E	Straight	Slowing
245	PATTERSON RD & 24 1/2 RD	1/17/2015	2:06:00 PM	PDO			At Intersection	Front to Side	W	Left Turn	Straight
246	PATTERSON RD & N 12TH ST	1/18/2015	9:58:00 AM	PDO			At Intersection	Front to Rear	E	Left Turn	Straight
247	PATTERSON RD & 25 RD	1/23/2015	12:47:00 PM	INJ	607	W	Non-Intersection	Front to Rear	W	U-Turn	Straight
248	PATTERSON RD & MARKET ST	1/27/2015	10:00:00 AM	INJ			At Intersection	Front to Side	W	Straight	Straight
249	PATTERSON RD & 25 RD	1/30/2015	3:56:00 PM	INJ			At Intersection	Front to Rear	N	Straight	Stopped
250	PATTERSON RD & 25 RD	1/30/2015	2:36:00 PM	PDO			At Intersection	Sign	S	Straight	UNK
251	PATTERSON RD & 25 1/2 RD	2/2/2015	3:46:00 PM	PDO			At Intersection	Front to Rear	E	Straight	Straight
252	PATTERSON RD & MARKET ST	2/4/2015	7:39:00 PM	PDO	600	E	At Intersection	Front to Side	W	Left Turn	Straight
253	PATTERSON RD & N 7TH ST	2/10/2015	5:34:00 PM	INJ	300	W	Non-Intersection	Front to Rear	E	Straight	Stopped
254	PATTERSON RD & N 1ST ST	2/10/2015	11:32:00 AM	PDO	30	E	At Intersection	Front to Rear	W	Straight	Stopped
255	25 RD & PATTERSON RD	2/10/2015	3:18:00 PM	PDO	300	N	Non-Intersection	Front to Front	E	Left Turn	Straight
256	24 1/2 RD & PATTERSON RD	2/11/2015	6:48:00 PM	PDO	500	S	Intersection Related	Side to Side Same Dir	N	U-Turn	Straight
257	PATTERSON RD & N 1ST ST	2/16/2015	12:34:00 PM	PDO	50	E	Non-Intersection	Front to Rear	W	Straight	Stopped
258	PATTERSON RD & N 7TH ST	2/18/2015	4:28:00 PM	PDO	350	W	Non-Intersection	Front to Rear	E	Straight	Stopped
259	N 7TH ST & PATTERSON RD	2/19/2015	12:12:00 PM	PDO	50	S	Intersection Related	Front to Rear	N	Changing Lanes	Stopped
260	PATTERSON RD & 25 1/2 RD	2/21/2015	8:47:00 PM	PDO	300	E	Driveway Access Related	Front to Rear	W	Straight	Right Turn
261	N 12TH ST & PATTERSON RD	2/23/2015	12:44:00 PM	INJ	40	S	Intersection Related	Front to Rear	N	Straight	Stopped
262	25 RD & PATTERSON RD	2/24/2015	3:16:00 PM	PDO	100	N	Driveway Access Related	Front to Side	N	Slowing	Straight
263	30 RD & PATTERSON RD	2/24/2015	7:30:00 PM	PDO	20	S	Intersection Related	Front to Rear	N	Straight	Stopped
264	PATTERSON RD & 25 RD	2/27/2015	5:23:00 PM	PDO	100	E	Non-Intersection	Front to Rear	E	Straight	Stopped
265	PATTERSON RD & BEECHWOOD ST	2/27/2015	11:07:00 AM	PDO			At Intersection	Curb	E	Left Turn	Straight
266	24 1/2 RD & PATTERSON RD	2/28/2015	12:43:00 PM	PDO			At Intersection	Side to Side Same Dir	E	Right Turn	Straight
267	PATTERSON RD & 29 RD	2/28/2015	10:13:00 PM	PDO	100	W	Intersection Related	Front to Rear	E	Straight	Stopped
268	PATTERSON RD & MIRA VISTA RD	3/2/2015	5:37:00 PM	PDO	75	E	Non-Intersection	Side to Side Same Dir	E	Changing Lanes	Straight
269	PATTERSON RD & 25 1/2 RD	3/3/2015	12:41:00 PM	INJ	80	E	Intersection Related	Front to Rear	W	Slowing	Stopped
270	PATTERSON RD & N 15TH ST	3/5/2015	11:17:00 PM	PDO			Non-Intersection	Front to Rear	W	Straight	Stopped
271	24 RD & PATTERSON RD	3/6/2015	3:46:00 AM	PDO	726	N	Non-Intersection	Sign	S	Straight	UNK
272	PATTERSON RD & 29 RD	3/6/2015	8:46:00 AM	PDO			Intersection Related	Front to Rear	W	Straight	Slowing
273	N 12TH ST & PATTERSON RD	3/7/2015	8:45:00 PM	INJ	300	S	Non-Intersection	All Other Peds	S	Straight	UNK
274	25 RD & PATTERSON RD	3/9/2015	2:20:00 PM	PDO	150	N	Driveway Access Related	Front to Front	N	Left Turn	Straight
275	PATTERSON RD & N 15TH ST	3/10/2015	3:47:00 PM	PDO	900	E	Non-Intersection	Front to Rear	W	Straight	UNK
276	PATTERSON RD & 27 1/2 RD	3/11/2015	5:52:00 AM	PDO	300	W	Non-Intersection	Front to Rear	W	Straight	Stopped
277	PATTERSON RD & 30 3/4 RD	3/12/2015	11:10:00 AM	PDO			At Intersection	Front to Side	W	Straight	Straight
278	PATTERSON RD & 27 1/2 RD	3/13/2015	5:22:00 PM	PDO	200	W	Non-Intersection	Front to Rear	E	Straight	Straight
279	29 1/2 RD & PATTERSON RD	3/13/2015	12:33:00 PM	PDO	20	N	Intersection Related	Front to Rear	S	Straight	Straight
280	PATTERSON RD & N 12TH ST	3/16/2015	8:37:00 AM	INJ			At Intersection	Front to Side	W	Straight	Straight
281	PATTERSON RD & PATTERSON RD	3/18/2015	1:26:00 PM	PDO			At Intersection	Light Pole / Utility Pole	E	Left Turn	Straight
282	PATTERSON RD & 29 1/2 RD	3/19/2015	6:44:00 AM	PDO	300	W	Non-Intersection	Front to Rear	W	Straight	Stopped
283	PATTERSON RD & EL CORONA DR	3/19/2015	8:10:00 PM	PDO			At Intersection	Front to Rear	E	Straight	Straight
284	PATTERSON RD & 25 1/2 RD	3/20/2015	6:43:00 AM	INJ			At Intersection	Front to Front	S	Left Turn	Straight
285	PATTERSON RD & MEANDER DR	3/20/2015	1:53:00 PM	PDO			Driveway Access Related	Front to Front	W	Left Turn	Straight
286	PATTERSON RD & MARKET ST	3/20/2015	8:08:00 AM	PDO			At Intersection	Front to Side	E	Straight	Straight
287	24 1/2 RD & PATTERSON RD	3/21/2015	1:09:00 PM	PDO	500	S	Driveway Access Related	Front to Front	E	Left Turn	Straight
288	PATTERSON RD & 29 RD	3/23/2015	5:31:00 PM	PDO			At Intersection	Front to Rear	W	Straight	Stopped
289	PATTERSON RD & PARK DR	3/25/2015	1:45:00 PM	PDO	50	W	Non-Intersection	Guard Rail	W	Straight	UNK
290	PATTERSON RD & 29 RD	3/27/2015	4:38:00 PM	PDO	100	E	Driveway Access Related	Side to Side Same Dir	S	Right Turn	Straight
291	PATTERSON RD & BURKEY ST	3/30/2015	7:32:00 AM	PDO	50	E	Intersection Related	Front to Rear	W	Straight	Stopped
292	N 12TH ST & PATTERSON RD	3/30/2015	5:33:00 PM	PDO			At Intersection	Side to Side Same Dir	N	Right Turn	Straight
293	PATTERSON RD & N 1ST ST	4/1/2015	12:23:00 PM	PDO			At Intersection	Front to Rear	E	Straight	Stopped
294	PATTERSON RD & N 7TH ST	4/1/2015	6:01:00 PM	PDO			At Intersection	Front to Side	S	Straight	Straight
295	PATTERSON RD & 27 1/2 RD	4/2/2015	7:09:00 PM	INJ	50	W	Intersection Related	Front to Rear	E	Straight	Stopped
296	PATTERSON RD & 25 RD	4/2/2015	4:54:00 PM	INJ	100	E	Driveway Access Related	Other - Non Collision	N	Right Turn	Straight
297	PATTERSON RD & N 15TH ST	4/6/2015	5:29:00 PM	PDO	40	W	At Intersection	Front to Rear	E	Straight	Stopped
298	25 RD & PATTERSON RD	4/8/2015	3:47:00 PM	PDO	140	N	Driveway Access Related	Front to Side	E	Left Turn	Straight
299	PATTERSON RD & 25 1/2 RD	4/9/2015	11:27:00 AM	PDO	50	E	Intersection Related	Front to Rear	W	Straight	Stopped
300	PATTERSON RD & 24 RD	4/11/2015	2:38:00 PM	INJ			At Intersection	Front to Side	E	Left Turn	Straight
301	PATTERSON RD & 27 1/2 RD	4/11/2015	11:52:00 AM	INJ	20	W	Non-Intersection	Front to Rear	W	Straight	Stopped
302	24 1/2 RD & PATTERSON RD	4/11/2015	7:44:00 PM	PDO	492	S	Driveway Access Related	Front to Side	E	Left Turn	Straight
303	PATTERSON RD & PATTERSON RD	4/11/2015	12:36:00 PM	PDO			At Intersection	Front to Rear	W	Straight	Stopped
304	PATTERSON RD & 29 1/2 RD	4/12/2015	11:36:00 AM	INJ			At Intersection	Front to Front	S	Left Turn	Straight
305	PATTERSON RD & FORESIGHT CIR	4/13/2015	6:03:00 PM	PDO	380	E	Driveway Access Related	Front to Side	W	Changing Lanes	Straight
306	PATTERSON RD & PATTERSON RD	4/13/2015	8:17:00 AM	PDO			At Intersection	Traffic Signal Pole	W	Right Turn	UNK
307	PATTERSON RD & SPRING VALLEY CIR	4/13/2015	8:18:00 AM	PDO			At Intersection	Front to Side	S	Right Turn	Straight
308	PATTERSON RD & 28 RD	4/14/2015	5:15:00 PM	PDO	100	E	Non-Intersection	Front to Rear	E	Straight	Stopped
309	PATTERSON RD & 24 1/2 RD	4/15/2015	10:40:00 AM	PDO			At Intersection	Side to Side Same Dir	N	Right Turn	Left Turn
310	PATTERSON RD & N 12TH ST	4/16/2015	10:13:00 AM	PDO	600	W	Driveway Access Related	Front to Side	S	Left Turn	Straight
311	PATTERSON RD & N 15TH ST	4/18/2015	6:29:00 PM	INJ			At Intersection	Front to Side	E	Straight	Straight
312	PATTERSON RD & NORTHERN WAY	4/19/2015	3:17:00 AM	PDO			Non-Intersection	Guard Rail	W	Straight	UNK
313	PATTERSON RD & MARKET ST	4/20/2015	8:03:00 AM	INJ			At Intersection	Overturning	W	Left Turn	Straight
314	PATTERSON RD & N 15TH ST	4/20/2015	4:51:00 PM	INJ			At Intersection	Front to Rear	N	Slowing	Stopped
315	PATTERSON RD & SPRING VALLEY CIR	4/20/2015	8:25:00 AM	PDO	60	W	Non-Intersection	Front to Rear	W	Straight	Straight
316	PATTERSON RD & N 12TH ST	4/20/2015	7:46:00 AM	PDO	750	E	Intersection Related	Front to Rear	W	Straight	Stopped
317	24 RD & PATTERSON RD	4/22/2015	4:58:00 PM	PDO	100	S	Intersection Related	Front to Rear	N	Straight	Straight
318	PATTERSON RD & N 7TH ST	4/23/2015	7:54:00 PM	PDO			At Intersection	Front to Side	S	Straight	Straight
319	N 12TH ST & PATTERSON RD	4/24/2015	7:20:00 PM	PDO	260	S	Driveway Access Related	Front to Side	E	Right Turn	Straight
320	PATTERSON RD & 25 RD	4/25/2015	11:53:00 PM	INJ			Parking Lot	Front to Side	W	Right Turn	Parked
321	PATTERSON RD & N 1ST ST	4/25/2015	8:31:00 PM	PDO			At Intersection	Front to Side	W	Straight	Left Turn
322	PATTERSON RD & N 12TH ST	5/7/2015	9:44:00 AM	FAT			At Intersection	Front to Front	E	Left Turn	Straight
323	PATTERSON RD & MARKET ST	5/7/2015	5:28:00 PM	PDO			Intersection Related	Front to Rear	W	Straight	Stopped
324	PATTERSON RD & 25 RD	5/8/2015	11:57:00 AM	PDO			At Intersection	Front to Front	S	Left Turn	Straight
325	24 RD & PATTERSON RD	5/9/2015	12:36:00 PM	PDO	100	S	Non-Intersection	Side to Side Same Dir	N	Changing Lanes	Stopped
326	25 RD & PATTERSON RD	5/10/2015	1:29:00 PM	PDO			At Intersection	Front to Front	N	Left Turn	Left Turn
327	PATTERSON RD & 24 1/2 RD	5/11/2015	3:35:00 PM	INJ			At Intersection	Front to Front	E	Left Turn	Straight
328	PATTERSON RD & 27 1/2 RD	5/13/2015	8:00:00 AM	PDO			At Intersection	Front to Side	E	Left Turn	Straight
329	PATTERSON RD & 25 1/2 RD	5/14/2015	3:28:00 PM	INJ			At Intersection	Front to Front	W	Straight	Left Turn
330	PATTERSON RD & N 7TH ST	5/15/2015	9:45:00 PM	PDO			At Intersection	Front to Front	S	Straight	Straight
331	PATTERSON RD & 25 RD	5/16/2015	7:02:00 PM	PDO	50	W	At Intersection	Front to Rear	E	Slowing	Stopped
332	N 12TH ST & PATTERSON RD	5/17/2015	7:43:00 PM	PDO			At Intersection	Front to Side	E	Straight	Left Turn
333	PATTERSON RD & N 1ST ST	5/18/2015	3:59:00 PM	INJ	500	E	Driveway Access Related	Front to Rear	W	Straight	Stopped
334	PATTERSON RD & 25 RD	5/19/2015	1:02:00 PM	PDO			At Intersection	Front to Side	S	Left Turn	Stopped
335	29 1/2 RD & PATTERSON RD	5/22/2015	1:09:00 PM	PDO	84	S	Intersection Related	Front to Side	S	Left Turn	Straight
336	24 1/2 RD & PATTERSON RD	5/23/2015	5:37:00 PM	PDO	500	S	Driveway Access Related	Front to Front	E	Left Turn	Straight
337	24 1/2 RD & PATTERSON RD	5/23/2015	5:37:00 PM	PDO	500	S	Driveway Access Related	Front to Front	E	Left Turn	Straight
338	25 RD & PATTERSON RD	5/26/2015	7:57:00 AM	PDO	129	N	Driveway Access Related	Front to Side	E	Left Turn	Straight
339	PATTERSON RD & 28 1/4 RD	5/27/2015	11:32:00 AM	PDO	460	W	Non-Intersection	Front to Rear	E	Straight	Slowing
340	PATTERSON RD & N 12TH ST	5/27/2015	4:54:00 PM	PDO	200	E	Non-Intersection	Front to Rear	E	Straight	Slowing
341	PATTERSON RD & 29 1/2 RD	6/2/2015	2:08:00 PM	INJ	400	E	Intersection Related	Front to Rear	W	Straight	Stopped
342	24 1/2 RD & PATTERSON RD	6/5/2015	3:53:00 PM	PDO	500	S	Driveway Access Related	Front to Side	E	Left Turn	Straight
343	PATTERSON RD & 30 RD	6/10/2015	4:28:00 PM	PDO	100	W	Intersection Related	Front to Rear	E	Straight	Stopped
344	25 RD & PATTERSON RD	6/11/2015	12:08:00 PM	PDO	150	N	Driveway Access Related	Front to Side	E	Right Turn	Straight
345	PATTERSON RD & N 7TH ST	6/12/2015	1:02:00 PM	PDO			At Intersection	Front to Side	N	Right Turn	Straight
346	PATTERSON RD & PATTERSON RD	6/13/2015	1:26:00 PM	PDO			At Intersection	Front to Rear	W	Straight	Stopped
347	PATTERSON RD & DARBY DR	6/14/2015	1:00:00 PM	INJ			At Intersection	Mailbox	E	Straight	Right Turn
348	PATTERSON RD & N 12TH ST	6/15/2015	2:36:00 AM	INJ			At Intersection	Front to Side	N	Straight	Straight
349	PATTERSON RD & N 12TH ST	6/15/2015	7:20:00 PM	PDO			At Intersection	Side to Side Opp Dir	W	Left Turn	Straight
350	25 RD & PATTERSON RD	6/17/2015	3:01:00 PM	PDO	50	S	Driveway Access Related	Front to Side	W	Right Turn	Straight
351	PATTERSON RD & 27 1/2 RD	6/18/2015	10:56:00 PM	PDO			At Intersection	Front to Rear	W	Straight	Stopped
352	PATTERSON RD & FORESIGHT CIR	6/19/2015	11:20:00 AM	PDO			At Intersection	Front to Side	S	Left Turn	Straight
353	PATTERSON RD & N 12TH ST	6/19/2015	8:33:00 PM	PDO			At Intersection	Front to Side	S	Straight	Straight
354	PATTERSON RD & N 12TH ST	6/20/2015	4:49:00 PM	PDO			Intersection Related	Side to Side Same Dir	S	Left Turn	Right Turn

#	Intersection	Date	Time	Severity	Distance From Int	Direction from Int	Road Description	Accident Type	Dir	Vehicle 1 Movement	Vehicle 2 Movement
355	PATTERSON RD & 29 1/2 RD	6/22/2015	12:43:00 PM	PDO	268	E	Non-Intersection	Side to Side Same Dir	E	Changing Lanes	Straight
356	PATTERSON RD & 30 RD	6/26/2015	1:00:00 PM	PDO			At Intersection	Front to Side	W	Left Turn	Straight
357	PATTERSON RD & 25 1/2 RD	6/30/2015	10:11:00 AM	PDO			At Intersection	Front to Rear	W	Changing Lanes	Slowing
358	PATTERSON RD & 30 RD	7/3/2015	11:26:00 AM	INJ			At Intersection	Front to Side	W	Straight	Straight
359	PATTERSON RD & COMMERCE BLVD	7/8/2015	12:34:00 PM	PDO	300	W	Alley Related	Side to Side Same Dir	E	Weaving	Straight
360	PATTERSON RD & 29 RD	7/8/2015	5:43:00 PM	PDO			Intersection Related	Front to Rear	E	Backing	Stopped
361	PATTERSON RD & E INDIAN CREEK DR	7/14/2015	5:11:00 PM	PDO			Non-Intersection	Front to Rear	E	Slowing	Slowing
362	PATTERSON RD & N 1ST ST	7/21/2015	10:05:00 AM	INJ			At Intersection	All Other Peds	W	Right Turn	UNK
363	PATTERSON RD & N 12TH ST	7/21/2015	3:59:00 PM	PDO	25	E	Non-Intersection	Front to Rear	E	Straight	Stopped
364	PATTERSON RD & RIO GRANDE DR DR	7/21/2015	11:18:00 AM	PDO			Intersection Related	Front to Rear	E	Straight	Straight
365	PATTERSON RD & 28 1/4 RD	7/23/2015	5:26:00 PM	INJ			At Intersection	Front to Rear	E	Straight	Stopped
366	PATTERSON RD & 27 1/2 RD	7/23/2015	11:56:00 PM	PDO	500	W	Non-Intersection	Front to Rear	W	Straight	Stopped
367	N 12TH ST & PATTERSON RD	7/24/2015	2:03:00 PM	PDO			At Intersection	Front to Rear	S	Straight	Right Turn
368	25 RD & PATTERSON RD	7/25/2015	5:58:00 PM	PDO			At Intersection	Front to Rear	N	Straight	Stopped
369	PATTERSON RD & 24 1/2 RD	7/25/2015	10:43:00 AM	PDO			At Intersection	Rear to Side	E	Left Turn	Straight
370	PATTERSON RD & N 12TH ST	7/28/2015	2:00:00 PM	PDO	300	W	Driveway Access Related	Side to Side Same Dir	E	Changing Lanes	Changing Lanes
371	24 1/2 RD & PATTERSON RD	7/28/2015	3:16:00 PM	PDO	500	S	Non-Intersection	Side to Side Same Dir	N	Changing Lanes	Straight
372	PATTERSON RD & 25 1/2 RD	7/29/2015	12:15:00 PM	INJ			At Intersection	Front to Front	W	Left Turn	Straight
373	N 12TH ST & PATTERSON RD	7/29/2015	2:32:00 PM	PDO	25	N	Intersection Related	Front to Rear	S	Straight	Stopped
374	PATTERSON RD & 25 RD	7/30/2015	2:26:00 PM	INJ			At Intersection	Front to Side	W	Left Turn	Straight
375	PATTERSON RD & 29 1/2 RD	7/30/2015	5:30:00 PM	PDO	150	W	Non-Intersection	Front to Rear	E	Straight	Stopped
376	PATTERSON RD & N 12TH ST	8/4/2015	9:06:00 PM	INJ			At Intersection	Front to Side	W	Left Turn	Straight
377	PATTERSON RD & 24 RD	8/5/2015	3:32:00 PM	PDO			Intersection Related	Front to Rear	E	Straight	Stopped
378	PATTERSON RD & 28 1/4 RD	8/6/2015	8:58:00 AM	INJ			At Intersection	All Other Peds	S	Right Turn	UNK
379	PATTERSON RD & 29 1/2 RD	8/8/2015	5:15:00 PM	PDO			At Intersection	Front to Rear	W	Straight	Stopped
380	PATTERSON RD & N 1ST ST	8/12/2015	5:29:00 PM	PDO	500	W	Non-Intersection	Front to Side	E	Changing Lanes	Straight
381	PATTERSON RD & N 12TH ST	8/13/2015	9:59:00 AM	PDO			At Intersection	Side to Side Same Dir	W	Straight	Right Turn
382	PATTERSON RD & 27 1/2 RD	8/14/2015	3:54:00 PM	PDO			Intersection Related	Front to Rear	S	Straight	Straight
383	PATTERSON RD & 29 1/2 RD	8/15/2015	7:17:00 PM	PDO			At Intersection	Front to Side	E	Left Turn	Straight
384	PATTERSON RD & MEANDER DR	8/20/2015	11:53:00 AM	PDO	203	E	Driveway Access Related	Side to Side Same Dir	E	Changing Lanes	Straight
385	PATTERSON RD & 30 RD	8/21/2015	2:45:00 PM	INJ			At Intersection	Front to Side	E	Straight	Straight
386	PATTERSON RD & 29 1/2 RD	8/21/2015	3:40:00 PM	INJ	133	E	Non-Intersection	Tree	W	Straight	Stopped
387	PATTERSON RD & 27 1/2 RD	8/22/2015	3:37:00 PM	PDO	50	W	At Intersection	Front to Rear	E	Straight	Stopped
388	PATTERSON RD & PARTEE DR	8/23/2015	9:58:00 PM	INJ			Intersection Related	Front to Side	E	Left Turn	Straight
389	PATTERSON RD & BURKEY ST	8/24/2015	3:45:00 PM	INJ			At Intersection	Front to Side	S	Left Turn	Straight
390	PATTERSON RD & BURKEY ST	8/25/2015	10:59:00 AM	INJ			At Intersection	All Other Peds	S	Right Turn	UNK
391	PATTERSON RD & BEECHWOOD ST	8/26/2015	7:51:00 AM	PDO			Non-Intersection	Front to Rear	W	Straight	Stopped
392	PATTERSON RD & N 15TH ST	8/27/2015	2:53:00 PM	PDO			Intersection Related	Front to Side	S	Right Turn	Straight
393	PATTERSON RD & N 15TH ST	8/27/2015	2:53:00 PM	PDO			Intersection Related	Front to Rear	S	Right Turn	Straight
394	PATTERSON RD & MARKET ST	8/28/2015	5:03:00 PM	INJ			At Intersection	Front to Side	W	Left Turn	Straight
395	PATTERSON RD & PATTERSON RD	8/28/2015	8:46:00 AM	PDO			Non-Intersection	Front to Rear	W	Slowing	Stopped
396	PATTERSON RD & 30 RD	8/29/2015	8:36:00 PM	PDO			At Intersection	Front to Rear	W	Slowing	Stopped
397	PATTERSON RD & GRAND CASCADE WAY	9/1/2015	7:40:00 AM	PDO	250	E	Non-Intersection	Front to Rear	W	Straight	Slowing
398	PATTERSON RD & 25 RD	9/2/2015	1:47:00 PM	PDO	500	E	Intersection Related	Front to Rear	W	Slowing	Stopped
399	PATTERSON RD & 24 RD	9/2/2015	11:35:00 AM	PDO	30	E	Intersection Related	Front to Rear	W	Straight	Stopped
400	25 RD & PATTERSON RD	9/3/2015	3:27:00 PM	PDO	150	N	Driveway Access Related	Front to Side	E	Left Turn	Straight
401	24 1/2 RD & PATTERSON RD	9/4/2015	4:57:00 PM	PDO	500	S	Driveway Access Related	Front to Side	E	Left Turn	Straight
402	PATTERSON RD & 24 1/2 RD	9/4/2015	3:00:00 PM	PDO			At Intersection	Front to Side	W	Left Turn	Straight
403	PATTERSON RD & W INDIAN CREEK DR	9/7/2015	7:34:00 PM	PDO	150	E	Non-Intersection	Sign	E	Straight	UNK
404	PATTERSON RD & 30 RD	9/8/2015	1:01:00 PM	PDO	148	E	Non-Intersection	Fence	E	Straight	UNK
405	25 RD & PATTERSON RD	9/9/2015	12:33:00 PM	PDO	150	N	Driveway Access Related	Front to Side	N	Left Turn	Straight
406	PATTERSON RD & 24 1/2 RD	9/10/2015	6:14:00 PM	PDO	205	E	Driveway Access Related	Front to Side	N	Left Turn	Straight
407	PATTERSON RD & 28 1/4 RD	9/10/2015	5:03:00 PM	PDO			At Intersection	Front to Side	W	Left Turn	Straight
408	24 RD & PATTERSON RD	9/11/2015	7:08:00 PM	INJ			Intersection Related	Front to Rear	W	Straight	Stopped
409	PATTERSON RD & N 12TH ST	9/11/2015	8:04:00 PM	INJ			At Intersection	Front to Side	E	Left Turn	Straight
410	N 1ST ST & PATTERSON RD	9/12/2015	11:30:00 AM	PDO	25	S	Intersection Related	Front to Rear	N	Straight	Stopped
411	PATTERSON RD & 28 RD	9/14/2015	10:13:00 AM	INJ			At Intersection	Front to Side	S	Left Turn	Straight
412	24 RD & PATTERSON RD	9/15/2015	7:35:00 PM	PDO			At Intersection	Front to Front	E	Left Turn	Straight
413	30 RD & PATTERSON RD	9/16/2015	6:30:00 PM	PDO	258	S	Non-Intersection	Other Fixed Object	N	Straight	UNK
414	PATTERSON RD & 29 1/2 RD	9/20/2015	3:57:00 PM	INJ			At Intersection	Front to Side	W	Left Turn	Straight
415	PATTERSON RD & 24 1/2 RD	9/24/2015	5:38:00 PM	INJ			At Intersection	Front to Front	E	Straight	Left Turn
416	PATTERSON RD & 29 RD	9/25/2015	1:31:00 PM	PDO	75	E	Intersection Related	Side to Side Same Dir	W	Changing Lanes	Straight
417	25 RD & PATTERSON RD	9/28/2015	9:28:00 AM	PDO	100	N	Driveway Access Related	Front to Side	E	Left Turn	Straight
418	PATTERSON RD & MEANDER DR	9/28/2015	5:16:00 PM	PDO			Non-Intersection	Front to Rear	E	Straight	Stopped
419	PATTERSON RD & N 1ST ST	9/29/2015	3:49:00 PM	INJ	220	E	At Intersection	Front to Rear	W	Slowing	Stopped
420	PATTERSON RD & N 12TH ST	9/29/2015	8:38:00 AM	PDO	100	E	Non-Intersection	Front to Rear	W	Slowing	Slowing
421	N 12TH ST & PATTERSON RD	9/29/2015	7:55:00 AM	PDO	100	N	Intersection Related	Front to Rear	S	Straight	Stopped
422	PATTERSON RD & 29 RD	9/29/2015	3:49:00 PM	PDO			At Intersection	Front to Rear	S	Straight	Stopped
423	PATTERSON RD & N 1ST ST	10/1/2015	11:32:00 AM	PDO	100	E	Intersection Related	Front to Rear	W	Slowing	Stopped
424	PATTERSON RD & N 12TH ST	10/3/2015	9:13:00 AM	PDO	100	W	Driveway Access Related	Front to Rear	W	Slowing	Stopped
425	PATTERSON RD & 25 RD	10/8/2015	1:20:00 PM	PDO	60	E	Intersection Related	Front to Rear	W	Changing Lanes	Stopped
426	29 RD & PATTERSON RD	10/9/2015	5:38:00 PM	PDO	50	S	At Intersection	Front to Rear	S	Straight	Slowing
427	29 RD & PATTERSON RD	10/9/2015	5:38:00 PM	PDO			At Intersection	Front to Rear	W	Left Turn	Left Turn
428	PATTERSON RD & 25 RD	10/11/2015	3:07:00 PM	PDO			At Intersection	Front to Rear	W	Straight	Stopped
429	PATTERSON RD & 29 1/2 RD	10/11/2015	5:31:00 PM	PDO			At Intersection	Front to Side	E	Left Turn	Straight
430	PATTERSON RD & 29 1/2 RD	10/12/2015	8:51:00 AM	PDO			At Intersection	Front to Side	S	Right Turn	Straight
431	29 RD & PATTERSON RD	10/13/2015	7:55:00 AM	PDO	393	S	Non-Intersection	Front to Side	S	Left Turn	Straight
432	PATTERSON RD & 24 1/2 RD	10/14/2015	4:07:00 PM	PDO			At Intersection	Side to Side Same Dir	E	Right Turn	Straight
433	PATTERSON RD & NORTHERN WAY	10/15/2015	11:50:00 AM	INJ			Driveway Access Related	Front to Side	N	Straight	Straight
434	24 1/2 RD & PATTERSON RD	10/16/2015	8:47:00 PM	INJ	500	S	At Intersection	Front to Side	E	Left Turn	Straight
435	PATTERSON RD & N 1ST ST	10/16/2015	1:56:00 PM	INJ	150	E	Non-Intersection	Front to Rear	W	Straight	Stopped
436	PATTERSON RD & N 7TH ST	10/16/2015	1:06:00 PM	PDO			At Intersection	Side to Side Same Dir	S	Right Turn	Left Turn
437	PATTERSON RD & 29 RD	10/16/2015	7:19:00 PM	PDO			At Intersection	Front to Side	W	Left Turn	Straight
438	30 RD & PATTERSON RD	10/18/2015	5:06:00 PM	PDO			At Intersection	Front to Rear	W	Slowing	Stopped
439	PATTERSON RD & 29 1/2 RD	10/19/2015	7:29:00 AM	PDO	30	E	Intersection Related	Front to Rear	N	Right Turn	Straight
440	PATTERSON RD & N 1ST ST	10/19/2015	4:18:00 PM	PDO	268	W	Intersection Related	Front to Rear	E	Straight	Stopped
441	PATTERSON RD & N 12TH ST	10/21/2015	2:05:00 PM	PDO			Intersection Related	Side to Side Same Dir	S	Right Turn	Left Turn
442	PATTERSON RD & MIRA VISTA RD	10/24/2015	2:54:00 PM	INJ	250	W	Non-Intersection	Front to Side	E	Changing Lanes	Straight
443	PATTERSON RD & N 8TH CT	10/24/2015	12:51:00 PM	PDO	200	E	Intersection Related	Front to Rear	W	Slowing	Stopped
444	N 12TH ST & PATTERSON RD	10/26/2015	8:26:00 PM	PDO			Intersection Related	Front to Side	E	Right Turn	Stopped
445	PATTERSON RD & NORTHERN WAY	10/27/2015	9:15:00 AM	INJ	308	E	Non-Intersection	Front to Front	E	Left Turn	Straight
446	N 12TH ST & PATTERSON RD	10/30/2015	9:44:00 AM	INJ	75	N	Intersection Related	Front to Rear	S	Straight	Stopped
447	PATTERSON RD & 25 RD	10/30/2015	2:28:00 PM	PDO	360	E	Non-Intersection	Side to Side Same Dir	W	Changing Lanes	Straight
448	PATTERSON RD & 27 1/2 RD	10/31/2015	12:09:00 PM	INJ	820	W	Non-Intersection	Front to Rear	W	Straight	Slowing
449	PATTERSON RD & N 1ST ST	10/31/2015	11:02:00 AM	PDO	25	E	Intersection Related	Front to Rear	W	Straight	Stopped
450	PATTERSON RD & MARKET ST	11/1/2015	1:42:00 PM	INJ	1114	E	Intersection Related	Side to Side Same Dir	W	Changing Lanes	Straight
451	24 1/2 RD & PATTERSON RD	11/3/2015	5:40:00 PM	INJ	500	S	At Intersection	Front to Side	E	Left Turn	Straight
452	PATTERSON RD & RIO GRANDE DR DR	11/6/2015	4:15:00 PM	INJ	50	E	Non-Intersection	Front to Rear	E	Straight	Stopped
453	29 RD & PATTERSON RD	11/9/2015	8:35:00 AM	INJ	417	S	Driveway Access Related	Front to Side	S	Left Turn	Straight
454	N 12TH ST & PATTERSON RD	11/10/2015	3:52:00 PM	INJ	625	S	Non-Intersection	Front to Rear	N	Straight	Stopped
455	N 12TH ST & PATTERSON RD	11/10/2015	4:39:00 PM	PDO			At Intersection	Front to Side	N	Left Turn	Straight
456	MEANDER DR & PATTERSON RD	11/11/2015	1:09:00 PM	INJ			At Intersection	Side to Side Same Dir	S	Right Turn	Right Turn
457	PATTERSON RD & N 7TH ST	11/11/2015	3:26:00 PM	PDO	400	E	Non-Intersection	Front to Rear	E	Slowing	Slowing
458	PATTERSON RD & 27 1/2 RD	11/12/2015	8:56:00 AM	PDO			At Intersection	Side to Side Same Dir	S	Left Turn	Left Turn
459	PATTERSON RD & 25 RD	11/12/2015	12:34:00 PM	PDO	150	E	Intersection Related	Side to Side Same Dir	W	Straight	Stopped
460	PATTERSON RD & SPRING VALLEY CIR	11/13/2015	8:54:00 AM	INJ			At Intersection	Front to Rear	W	Slowing	Stopped
461	PATTERSON RD & 24 RD	11/14/2015	10:59:00 AM	PDO	70	E	Intersection Related	Front to Rear	W	Straight	Stopped
462	PATTERSON RD & N 15TH ST	11/14/2015	10:56:00 AM	PDO	10	W	Intersection Related	Vehicle Debris or Cargo	E	Slowing	Stopped
463	PATTERSON RD & N 12TH ST	11/15/2015	1:42:00 PM	PDO			At Intersection	Front to Side	N	Left Turn	Straight
464	25 RD & PATTERSON RD	11/16/2015	8:30:00 PM	PDO	20	N	Intersection Related	Front to Rear	N	Backing	Stopped
465	25 RD & PATTERSON RD	11/19/2015	9:16:00 AM	PDO	150	N	Driveway Access Related	Side to Side Opp Dir	E	Backing	Stopped
466	MARKET ST & PATTERSON RD	11/19/2015	12:59:00 PM	PDO			Driveway Access Related	Front to Side	E	Right Turn	Straight
467	PATTERSON RD & N 1ST ST	11/20/2015	3:50:00 PM	PDO	80	W	Intersection Related	Front to Rear	E	Slowing	Stopped
468	24 RD & PATTERSON RD	11/23/2015	1:42:00 PM	INJ			At Intersection	Front to Rear	S	Straight	Stopped
469	N 12TH ST & PATTERSON RD	11/23/2015	9:54:00 PM	PDO	50	N	Intersection Related	Front to Rear	S	Straight	Stopped
470	PATTERSON RD & N 1ST ST	11/25/2015	4:36:00 PM	PDO			At Intersection	Front to Front	W	Left Turn	Straight
471	PATTERSON RD & PARK DR	11/29/2015	11:42:00 PM	PDO	200	E	Non-Intersection	Wall or Building	E	Straight	UNK
472	PATTERSON RD & 29 RD	11/29/2015	10:00:00 PM	PDO			At Intersection	Front to Side	W	Left Turn	Straight

#	Intersection	Date	Time	Severity	Distance From Int	Direction from Int	Road Description	Accident Type	Dir	Vehicle 1 Movement	Vehicle 2 Movement
473	N 15TH ST & PATTERSON RD	11/30/2015	8:59:00 AM	PDO	150	N	Intersection Related	Front to Rear	S	Straight	Stopped
474	PATTERSON RD & N 1ST ST	12/1/2015	8:55:00 AM	INJ	25	E	At Intersection	Front to Rear	W	Straight	Stopped
475	PATTERSON RD & N 12TH ST	12/2/2015	5:14:00 PM	INJ	200	W	Non-Intersection	Front to Rear	E	Straight	Stopped
476	PATTERSON RD & N 15TH ST	12/4/2015	1:54:00 PM	INJ			Intersection Related	Front to Side	W	Left Turn	Straight
477	PATTERSON RD & 25 RD	12/6/2015	10:21:00 AM	INJ	150	W	Non-Intersection	Front to Rear	W	Straight	Stopped
478	PATTERSON RD & PARK DR	12/7/2015	12:46:00 PM	INJ			Non-Intersection	Front to Rear	W	Straight	Stopped
479	PATTERSON RD & 25 RD	12/7/2015	11:39:00 AM	PDO	150	E	Driveway Access Related	Front to Side	N	Left Turn	Straight
480	PATTERSON RD & N 1ST ST	12/9/2015	5:50:00 PM	PDO	600	W	Non-Intersection	Front to Rear	E	Straight	Stopped
481	PATTERSON RD & 29 RD	12/9/2015	3:49:00 PM	PDO			At Intersection	Front to Side	E	Left Turn	Straight
482	PATTERSON RD & 25 1/2 RD	12/11/2015	4:44:00 PM	PDO	10	W	At Intersection	Front to Rear	E	Straight	Stopped
483	24 1/2 RD & PATTERSON RD	12/15/2015	5:14:00 PM	PDO	500	S	Driveway Access Related	Front to Side	E	Left Turn	Straight
484	24 1/2 RD & PATTERSON RD	12/15/2015	3:48:00 PM	PDO	50	S	Non-Intersection	Front to Rear	N	Straight	Stopped
485	PATTERSON RD & 28 1/4 RD	12/16/2015	12:55:00 PM	INJ	30	W	Intersection Related	Front to Rear	E	Slowing	Stopped
486	PATTERSON RD & SERANADE ST	12/17/2015	9:50:00 PM	PDO	240	E	Non-Intersection	Light Pole / Utility Pole	W	Straight	Straight
487	PATTERSON RD & N 7TH ST	12/18/2015	3:23:00 PM	INJ	300	E	Non-Intersection	Rear to Side	E	Straight	Stopped
488	PATTERSON RD & N 12TH ST	12/18/2015	3:06:00 PM	PDO	659	W	Driveway Access Related	Front to Side	W	Left Turn	Straight
489	PATTERSON RD & 25 1/2 RD	12/18/2015	6:45:00 PM	PDO	276	W	Non-Intersection	Front to Front	E	Straight	Straight
490	PATTERSON RD & SERANADE ST	12/22/2015	7:50:00 PM	INJ	290	E	Driveway Access Related	Front to Side	S	Left Turn	Straight
491	PATTERSON RD & N 12TH ST	12/23/2015	11:46:00 AM	INJ			At Intersection	Front to Front	N	Left Turn	Straight
492	PATTERSON RD & NORTHERN WAY	12/23/2015	12:45:00 PM	PDO	20	W	Non-Intersection	Front to Front	E	Changing Lanes	Straight
493	PATTERSON RD & 25 RD	12/23/2015	2:41:00 PM	PDO	475	W	Driveway Access Related	Front to Side	S	Right Turn	Straight
494	PATTERSON RD & SERANADE ST	12/23/2015	5:34:00 PM	PDO			Driveway Access Related	Front to Front	E	Left Turn	Straight
495	PATTERSON RD & N 12TH ST	12/23/2015	1:20:00 PM	PDO	100	W	Intersection Related	Front to Rear	E	Straight	Stopped
496	PATTERSON RD & EL CORONA DR	12/23/2015	3:00:00 PM	PDO			At Intersection	Front to Rear	N	Left Turn	Straight
497	PATTERSON RD & MARKET ST	12/23/2015	2:54:00 PM	PDO	348	E	At Intersection	Front to Side	S	Left Turn	Straight
498	24 RD & PATTERSON RD	12/24/2015	9:18:00 PM	PDO			At Intersection	Front to Side	W	Changing Lanes	Straight
499	PATTERSON RD & N 12TH ST	12/27/2015	5:31:00 PM	PDO			At Intersection	Rear to Side	E	Left Turn	Straight
500	N 12TH ST & PATTERSON RD	12/28/2015	8:06:00 AM	INJ	200	S	Driveway Access Related	Front to Side	N	Left Turn	Straight
501	MARKET ST & PATTERSON RD	12/29/2015	2:30:00 PM	PDO	150	N	Non-Intersection	Side to Side Same Dir	S	Passing	Stopped
502	PATTERSON RD & 24 1/2 RD	12/30/2015	2:17:00 PM	PDO			At Intersection	Side to Side Same Dir	E	Changing Lanes	Straight
503	PATTERSON RD & RIO GRANDE DR DR	12/31/2015	2:31:00 PM	PDO	145	E	Intersection Related	Front to Rear	E	Changing Lanes	Stopped
504	PATTERSON RD & SERANADE ST	12/31/2015	12:14:00 PM	PDO	40	N	Intersection Related	Front to Rear	S	Straight	Stopped
505	24 1/2 RD & PATTERSON RD	1/1/2016	2:20:00 PM	PDO	25	S	At Intersection	Front to Rear	N	Slowing	Slowing
506	PATTERSON RD & N 1ST	1/2/2016	6:14:00 PM	PDO	0		At Intersection	Front to Rear	N	Right Turn	Right Turn
507	24 1/2 RD & PATTERSON RD	1/5/2016	1:32:00 PM	PDO	500	S	Driveway Access Related	Front to Side	E	Right Turn	Straight/following RD
508	PATTERSON RD & N 7TH ST	1/7/2016	6:11:00 PM	PDO	300	W	Non-Intersection	Front to Rear	E	Straight/following RD	Stopped
509	PATTERSON RD & VIEW POINT DR	1/7/2016	2:35:00 AM	PDO	161	W	Non-Intersection	Concrete Highway Barrier	W	Straight/following RD	UNK
510	PATTERSON RD & LEGENDS WAY	1/7/2016	7:19:00 AM	PDO	0		At Intersection	Sign	E	Straight/following RD	UNK
511	PATTERSON RD & N ST	1/9/2016	5:30:00 PM	PDO	300	W	Non-Intersection	Side to Side Same Dir	E	Weaving	Straight/following RD
512	PATTERSON RD & 30	1/13/2016	4:11:00 PM	INJ	239	W	Non-Intersection	Front to Rear	W	Straight/following RD	Stopped
513	PATTERSON RD & 24 1/2 RD	1/14/2016	6:15:00 PM	PDO	500	W	Non-Intersection	Side to Side Same Dir	E	Straight/following RD	Straight/following RD
514	28 1/4 RD & PATTERSON RD	1/15/2016	6:19:00 AM	INJ	0		At Intersection	Bicycle	S	Straight/following RD	Straight/following RD
515	PATTERSON RD & 29 RD	1/20/2016	5:35:00 PM	PDO	0		Intersection Related	Front to Front	W	Left Turn	Straight/following RD
516	PATTERSON RD & N ST	1/20/2016	12:34:00 PM	PDO	0		At Intersection	Front to Side	W	Left Turn	Straight/following RD
517	PATTERSON RD & N 15TH ST	1/24/2016	1:54:00 PM	PDO	0		At Intersection	Front to Side	W	Straight/following RD	Straight/following RD
518	24 RD & PATTERSON RD	1/25/2016	3:13:00 PM	PDO	350	S	Highway Interchange	Front to Side	W	Right Turn	Straight/following RD
519	PATTERSON RD & 28 3/4 RD RD	1/28/2016	10:53:00 AM	PDO	100	E	Non-Intersection	Side to Side Same Dir	W	Changing Lanes	Straight/following RD
520	PATTERSON RD & 30 RD	1/29/2016	8:16:00 PM	INJ	0		At Intersection	Front to Rear	W	Straight/following RD	Right Turn
521	PATTERSON RD & N ST	1/30/2016	7:26:00 PM	PDO	0		At Intersection	Front to Rear	N	Right Turn	Straight/following RD
522	PATTERSON RD & 25 RD RD	2/1/2016	6:35:00 PM	INJ	0		At Intersection	Front to Front	S	Left Turn	Straight/following RD
523	NORTHERN WAY & PATTERSON RD	2/1/2016	4:02:00 PM	PDO	300	N	Non-Intersection	Rear to Side	E	Backing	Straight/following RD
524	25 RD & PATTERSON RD	2/5/2016	11:10:00 AM	PDO	130	N	Driveway Access Related	Front to Side	E	Right Turn	Straight/following RD
525	30 RD & PATTERSON RD	2/8/2016	8:56:00 AM	PDO	200	N	Driveway Access Related	Side to Side Same Dir	S	Passing	Right Turn
526	PATTERSON RD & RIO GRANDE DR	2/11/2016	5:28:00 PM	PDO	100	E	Non-Intersection	Front to Rear	E	Straight/following RD	Stopped
527	PATTERSON RD & 24 RD	2/15/2016	2:36:00 PM	PDO	0		At Intersection	Side to Side Opposite Dir	W	Straight/following RD	Stopped
528	PATTERSON RD & 29 RD	2/16/2016	6:31:00 PM	INJ	0		At Intersection	Front to Side	W	Left Turn	Straight/following RD
529	PATTERSON RD & N 12TH ST	2/19/2016	6:42:00 PM	INJ	0		At Intersection	Front to Rear	N	Straight/following RD	Stopped
530	24 RD & PATTERSON RD	2/22/2016	8:26:00 PM	PDO	250	S	Intersection Related	Front to Side	W	Right Turn	Straight/following RD
531	PATTERSON RD & MARKET ST	2/27/2016	10:45:00 AM	INJ	0		At Intersection	Front to Side	W	Straight/following RD	Straight/following RD
532	PATTERSON RD & 25 RD	2/29/2016	3:05:00 AM	INJ	50	W	Intersection Related	Tree	W	Straight/following RD	UNK
533	PATTERSON RD & 24 RD RD	3/2/2016	1:42:00 PM	PDO	200	E	Non-Intersection	Side to Side Same Dir	W	Changing Lanes	Straight/following RD
534	PATTERSON RD & 25 RD	3/4/2016	1:01:00 PM	PDO	200	W	Intersection Related	Front to Rear	E	Straight/following RD	Slowing
535	PATTERSON RD & 24 1/2 RD RD	3/4/2016	5:16:00 PM	PDO	0		Intersection Related	Front to Rear	S	Right Turn	Right Turn
536	PATTERSON RD & 29 3/8 RD RD	3/5/2016	2:35:00 PM	PDO	93	E	Driveway Access Related	Front to Rear	W	Changing Lanes	Right Turn
537	PATTERSON RD & BEECHWOOD ST	3/7/2016	3:48:00 PM	INJ	0		At Intersection	Front to Rear	W	Slowing	Stopped
538	PATTERSON RD & N 1ST	3/8/2016	8:59:00 AM	PDO	400	E	Non-Intersection	Front to Rear	W	Straight/following RD	Slowing
539	28 1/4 RD & PATTERSON RD	3/9/2016	8:41:00 AM	PDO	50	N	Intersection Related	Front to Rear	N	Slowing	Stopped
540	PATTERSON RD & NORTHERN WAY	3/10/2016	12:17:00 PM	INJ	100	E	Driveway Access Related	Side to Side Opposite Dir	S	Left Turn	Straight/following RD
541	PATTERSON RD & N 12TH ST	3/10/2016	4:12:00 PM	PDO	80	N	Intersection Related	Front to Rear	S	Slowing	Stopped
542	24 1/2 RD & PATTERSON RD	3/11/2016	12:43:00 PM	PDO	500	S	Driveway Access Related	Front to Side	W	Straight/following RD	Straight/following RD
543	24 1/2 RD & PATTERSON RD	3/18/2016	1:01:00 PM	PDO	500	S	Driveway Access Related	Front to Front	S	Left Turn	Straight/following RD
544	PATTERSON RD & PIONEER RD	3/19/2016	11:49:00 PM	PDO	0		At Intersection	Front to Side	S	Left Turn	Left Turn
545	PATTERSON RD & 25 RD	3/25/2016	2:05:00 PM	PDO	130	E	Driveway Access Related	Front to Rear	E	Straight/following RD	Slowing
546	PATTERSON RD & MEANDER DR	3/26/2016	5:01:00 PM	PDO	50	E	Non-Intersection	Front to Rear	E	Straight/following RD	Slowing
547	PATTERSON RD & 28 1/4 RD RD	3/27/2016	1:45:00 PM	PDO	1600	E	Non-Intersection	Front to Side	E	U-Turn	Straight/following RD
548	PATTERSON RD & 27 1/2 RD RD	3/29/2016	6:19:00 PM	PDO	0		At Intersection	Side to Side Same Dir	S	Right Turn	Straight/following RD
549	PATTERSON RD & N ST	4/2/2016	2:36:00 PM	INJ	318	W	Driveway Access Related	Front to Side	W	Left Turn	Straight/following RD
550	PATTERSON RD & 28 1/4 RD	4/3/2016	7:09:00 AM	PDO	0		At Intersection	Front to Side	E	Straight/following RD	Left Turn
551	PATTERSON RD & N 15TH ST	4/5/2016	11:22:00 AM	PDO	0		Intersection Related	Front to Rear	W	Straight/following RD	Slowing
552	PATTERSON RD & 25 RD	4/6/2016	4:32:00 PM	INJ	90	E	Driveway Access Related	Front to Rear	E	Straight/following RD	Slowing
553	25 RD & PATTERSON RD	4/8/2016	2:14:00 PM	INJ	100	N	Intersection Related	Front to Rear	S	Slowing	Stopped
554	PATTERSON RD & 29 3/8 RD	4/11/2016	7:54:00 AM	PDO	150	E	Non-Intersection	Front to Rear	W	Straight/following RD	Slowing
555	PATTERSON RD & N ST	4/12/2016	10:53:00 AM	PDO	0		Intersection Related	Front to Rear	E	Backing	Stopped
556	PATTERSON RD & MEANDER DR	4/12/2016	3:42:00 PM	PDO	0		Intersection Related	Side to Side Same Dir	W	Weaving	Straight/following RD
557	PATTERSON RD & N ST	4/13/2016	1:47:00 PM	PDO	880	W	Driveway Access Related	Other Object	N	Right Turn	UNK
558	PATTERSON RD & 29 1/2 RD RD	4/15/2016	7:01:00 AM	PDO	297	W	Driveway Access Related	Bicycle	S	Right Turn	Straight/following RD
559	PATTERSON RD & N 7TH ST	4/15/2016	7:12:00 AM	PDO			At Intersection	Front to Front	E	Straight/following RD	Left Turn
560	PATTERSON RD & N ST	4/15/2016	3:37:00 PM	PDO	300	E	Intersection Related	Front to Rear	W	Other	Passing
561	PATTERSON RD & N ST	4/18/2016	12:20:00 PM	PDO			Intersection Related	Front to Side	W	Passing	Straight/following RD
562	PATTERSON RD & 30 RD RD	4/19/2016	9:15:00 AM	PDO			At Intersection	Front to Front	N	Left Turn	Straight/following RD
563	PATTERSON RD & 28 RD RD	4/20/2016	2:00:00 PM	INJ			At Intersection	Front to Side	S	Left Turn	Left Turn
564	PATTERSON RD & PARK AVE	4/20/2016	2:00:00 PM	PDO			Non-Intersection	Side to Side Same Dir	E	Changing Lanes	Straight/following RD
565	PATTERSON RD & MIRA VISTA RD	4/20/2016	5:17:00 PM	PDO	20	E	At Intersection	Front to Rear	E	Straight/following RD	Stopped
566	PATTERSON RD & 28 RD RD	4/21/2016	12:01:00 PM	INJ			At Intersection	Front to Side	S	Left Turn	Straight/following RD
567	30 RD & PATTERSON RD	4/21/2016	12:17:00 PM	PDO	50	S	Intersection Related	Front to Rear	N	Slowing	Stopped
568	PATTERSON RD & BEECHWOOD ST	4/22/2016	8:00:00 AM	PDO			Driveway Access Related	Front to Side	W	Left Turn	Straight/following RD
569	PATTERSON RD & 28 1/4 RD RD	4/22/2016	11:27:00 AM	PDO	100	W	Intersection Related	Side to Side Same Dir	E	Changing Lanes	Straight/following RD
570	PATTERSON RD & 30 RD RD	4/23/2016	5:35:00 PM	INJ	225	W	At Intersection	Front to Rear	E	Slowing	Stopped
571	PATTERSON RD & N ST	4/27/2016	7:36:00 AM	INJ			At Intersection	Front to Side	W	Left Turn	Straight/following RD
572	24 RD & PATTERSON RD	4/29/2016	11:16:00 AM	INJ	70	S	Intersection Related	Front to Rear	N	Slowing	Stopped
573	PATTERSON RD & 29 1/2 RD	4/29/2016	4:29:00 PM	INJ	70	W	Non-Intersection	Front to Rear	E	Straight/following RD	Straight/following RD
574	PATTERSON RD & 25 RD	5/2/2016	2:41:00 PM	INJ	100	E	Intersection Related	Front to Rear	W	Straight/following RD	Slowing
575	PATTERSON RD & 24 1/2 RD RD	5/2/2016	5:16:00 PM	PDO			At Intersection	Front to Side	S	Left Turn	Straight/following RD
576	PATTERSON RD & N ST	5/2/2016	4:45:00 PM	PDO	600	W	Non-Intersection	Front to Rear	E	Changing Lanes	Stopped
577	PATTERSON RD & N 12TH ST	5/3/2016	7:19:00 PM	INJ	295	N	Non-Intersection	Side to Side Opposite Dir	E	Left Turn	Straight/following RD
578	PATTERSON RD & N 7TH ST	5/5/2016	4:14:00 PM	PDO	900	W	Non-Intersection	Front to Rear	E	Straight/following RD	Stopped
579	PATTERSON RD & 25 RD RD	5/6/2016	11:58:00 AM	PDO	1433	W	Driveway Access Related	Front to Side	S	Right Turn	Straight/following RD
580	PATTERSON RD & N ST	5/8/2016	11:28:00 AM	INJ	100	W	Intersection Related	Front to Rear	E	Slowing	Stopped
581	PATTERSON RD & SPRING VALLEY CIR	5/11/2016	2:26:00 PM	INJ	150	E	Non-Intersection	Front to Rear	W	Straight/following RD	Slowing
582	PATTERSON RD & BROKEN RD	5/15/2016	6:48:00 PM	INJ			At Intersection	Front to Side	E	Left Turn	Straight/following RD
583	PATTERSON RD & 24 1/2 RD	5/15/2016	2:10:00 AM	PDO			At Intersection	Traffic Signal Pole	W	Straight/following RD	UNK
584	PATTERSON RD & 25 RD	5/16/2016	2:13:00 PM	PDO	75	W	Intersection Related	Front to Rear	E	Straight/following RD	Slowing
585	PATTERSON RD & 29 RD	5/17/2016	7:41:00 AM	PDO			At Intersection	Front to Side	W	Straight/following RD	Left Turn
586	PATTERSON RD & 24 RD RD	5/18/2016	5:10:00 PM	PDO			At Intersection	Side to Side Same Dir	E	Right Turn	Left Turn
587	PATTERSON RD & 30 RD	5/19/2016	12:14:00 PM	PDO			At Intersection	Front to Side	E	Straight/following RD	Left Turn

#	Intersection	Date	Time	Severity	Distance From Int	Direction from Int	Road Description	Accident Type	Dir	Vehicle 1 Movement	Vehicle 2 Movement
588	PATTERSON RD & 29 1/2 RD RD	5/20/2016	4:39:00 PM	INJ	300	E	Intersection Related	Front to Rear	W	Slowing	Stopped
589	PATTERSON RD & NORTHGATE DR	5/24/2016	3:20:00 PM	PDO			At Intersection	Side to Side Same Dir	N	Left Turn	Straight/following RD
590	PATTERSON RD & 30 RD	5/26/2016	1:52:00 PM	INJ	100	W	Intersection Related	Front to Rear	E	Straight/following RD	Stopped
591	PATTERSON RD & 29 RD	5/27/2016	5:17:00 PM	PDO			At Intersection	Front to Side	W	Left Turn	Straight/following RD
592	24 RD & PATTERSON RD	6/1/2016	6:14:00 PM	INJ	350	S	Highway Interchange	Front to Rear	NW	Straight/following RD	Stopped
593	PATTERSON RD & 27 1/2 RD RD	6/1/2016	8:00:00 AM	PDO	250	W	Driveway Access Related	Front to Side	N	Left Turn	Straight/following RD
594	PATTERSON RD & N 1ST	6/1/2016	8:33:00 AM	PDO			At Intersection	Front to Rear	W	Straight/following RD	Straight/following RD
595	PATTERSON RD & 28 RD	6/1/2016	5:19:00 PM	PDO	70	E	Intersection Related	Front to Rear	E	Straight/following RD	Stopped
596	PATTERSON RD & N 12TH ST	6/3/2016	5:10:00 PM	INJ	300	W	Intersection Related	Front to Rear	E	Straight/following RD	Stopped
597	PATTERSON RD & 28 3/4 RD	6/3/2016	8:49:00 AM	PDO	60	E	Non-Intersection	Front to Rear	W	Straight/following RD	Stopped
598	PATTERSON RD & 25 RD RD	6/4/2016	4:27:00 PM	PDO	120	W	Driveway Access Related	Front to Side	S	Left Turn	Straight/following RD
599	PATTERSON RD & N ST	6/7/2016	9:57:00 AM	PDO	400	W	Non-Intersection	Front to Rear	W	Changing Lanes	Straight/following RD
600	PATTERSON RD & N 12TH ST	6/7/2016	2:24:00 PM	PDO			At Intersection	Front to Side	E	Straight/following RD	Left Turn
601	PATTERSON RD & 29 RD	6/8/2016	8:58:00 AM	PDO	300	E	Non-Intersection	Front to Rear	W	Straight/following RD	Slowing
602	PATTERSON RD & N 15TH ST	6/8/2016	7:32:00 PM	PDO			At Intersection	Front to Rear	E	Straight/following RD	Stopped
603	PATTERSON RD & SPRING VALLEY CIR	6/9/2016	8:57:00 AM	PDO			At Intersection	Front to Rear	E	Straight/following RD	Slowing
604	24 RD & PATTERSON RD	6/10/2016	4:57:00 PM	PDO			Intersection Related	Side to Side Same Dir	N	Right Turn	Straight/following RD
605	PATTERSON RD & 28 1/4 RD RD	6/11/2016	2:25:00 PM	PDO	500	W	Non-Intersection	Front to Rear	E	Slowing	Stopped
606	PATTERSON RD & MARKET ST	6/14/2016	9:19:00 AM	INJ			At Intersection	Front to Side	E	Straight/following RD	Left Turn
607	PATTERSON RD & VIEW POINT DR	6/15/2016	11:42:00 AM	PDO	240	W	Intersection Related	Front to Rear	W	Straight/following RD	Stopped
608	PATTERSON RD & N ST	6/16/2016	8:22:00 AM	PDO	10	E	Intersection Related	Front to Rear	W	Slowing	Stopped
609	PATTERSON RD & RIO DR	6/20/2016	10:22:00 PM	INJ			At Intersection	Front to Rear	S	Right Turn	Straight/following RD
610	PATTERSON RD & N 15TH ST	6/20/2016	4:21:00 PM	PDO	30	E	Intersection Related	Front to Rear	W	Straight/following RD	Stopped
611	PATTERSON RD & N ST	6/21/2016	8:21:00 AM	PDO			At Intersection	Front to Side	N	Left Turn	Straight/following RD
612	PATTERSON RD & N ST	6/21/2016	3:42:00 PM	PDO			At Intersection	Front to Side	N	Left Turn	Straight/following RD
613	24 1/2 RD & PATTERSON RD	6/22/2016	4:28:00 PM	INJ	500	S	At Intersection	Front to Side	E	Left Turn	Straight/following RD
614	PATTERSON RD & 29 RD	6/22/2016	9:06:00 AM	PDO			At Intersection	Front to Side	E	Straight/following RD	Straight/following RD
615	PATTERSON RD & 25 RD RD	6/24/2016	3:32:00 PM	PDO	150	E	Driveway Access Related	Front to Side	N	Left Turn	Straight/following RD
616	PATTERSON RD & 28 RD	6/25/2016	10:30:00 AM	PDO	300	W	Non-Intersection	Front to Rear	W	Straight/following RD	Straight/following RD
617	PATTERSON RD & 28 1/4 RD RD	6/27/2016	12:40:00 PM	PDO			At Intersection	Front to Front	N	Left Turn	Straight/following RD
618	PATTERSON RD & 28 RD RD	6/29/2016	2:39:00 PM	INJ			At Intersection	Side to Side Same Dir	W	Right Turn	Straight/following RD
619	PATTERSON RD & 29 RD	6/29/2016	3:04:00 PM	INJ			At Intersection	Front to Side	W	Left Turn	Straight/following RD
620	PATTERSON RD & 29 RD	7/1/2016	2:56:00 PM	INJ			At Intersection	Front to Side	W	Left Turn	Straight/following RD
621	PATTERSON RD & N 7TH ST	7/1/2016	1:04:00 PM	PDO			At Intersection	Front to Side	W	Straight/following RD	Straight/following RD
622	PATTERSON RD & 29 RD	7/3/2016	11:50:00 PM	PDO			Non-Intersection	Sign	E	Straight/following RD	UNK
623	PATTERSON RD & N ST	7/8/2016	5:05:00 PM	PDO	300	W	Driveway Access Related	Front to Side	N	Left Turn	Straight/following RD
624	PATTERSON RD & 29 1/2 RD	7/11/2016	6:45:00 AM	INJ			Non-Intersection	Front to Rear	W	Straight/following RD	Stopped
625	PATTERSON RD & LEGENDS WAY	7/12/2016	5:35:00 PM	PDO	50	W	Non-Intersection	Front to Rear	E	Slowing	Stopped
626	PATTERSON RD & 29 RD	7/14/2016	5:47:00 PM	PDO	520	E	Intersection Related	Front to Rear	W	Straight/following RD	Stopped
627	PATTERSON RD & 28 1/4 RD RD	7/16/2016	5:12:00 PM	PDO			Non-Intersection	Front to Side	W	U-Turn	Left Turn
628	PATTERSON RD & 29 1/2 RD	7/17/2016	1:51:00 PM	PDO	60	E	Intersection Related	Front to Rear	W	Straight/following RD	Stopped
629	PATTERSON RD & MIRA VISTA RD	7/19/2016	3:38:00 PM	PDO	110	E	Non-Intersection	Front to Rear	E	Straight/following RD	Stopped
630	24 RD & PATTERSON RD	7/21/2016	4:09:00 PM	PDO	500	S	Intersection Related	Side to Side Same Dir	W	Right Turn	Straight/following RD
631	PATTERSON RD & N ST	7/24/2016	5:22:00 PM	INJ	0		At Intersection	Front to Side	W	Left Turn	Straight/following RD
632	PATTERSON RD & N 12TH ST	7/29/2016	6:29:00 PM	INJ	320	S	Non-Intersection	All Other Peds	W	Straight/following RD	Straight/following RD
633	PATTERSON RD & 25 1/2 RD RD	8/1/2016	5:32:00 PM	INJ			At Intersection	Front to Side	S	Left Turn	Straight/following RD
634	PATTERSON RD & 27 1/2 RD	8/1/2016	7:08:00 PM	PDO			Driveway Access Related	Front to Rear	E	Straight/following RD	Right Turn
635	PATTERSON RD & N 1ST	8/3/2016	7:52:00 AM	INJ	30	E	At Intersection	Front to Rear	W	Straight/following RD	Stopped
636	PATTERSON RD & 27 1/2 RD	8/5/2016	4:05:00 PM	INJ	250	E	Intersection Related	Front to Rear	W	Straight/following RD	Stopped
637	PATTERSON RD & MESA MALL ACCESS	8/8/2016	5:53:00 PM	INJ	150	W	Intersection Related	Front to Rear	E	Straight/following RD	Stopped
638	PATTERSON RD & 25 RD	8/8/2016	1:51:00 PM	PDO	100	E	Intersection Related	Front to Rear	W	Straight/following RD	Stopped
639	PATTERSON RD & 28 RD RD	8/8/2016	4:52:00 PM	PDO			At Intersection	Front to Side	S	Left Turn	Straight/following RD
640	PATTERSON RD & BURKEY ST	8/10/2016	10:33:00 AM	PDO			Non-Intersection	Front to Rear	E	Slowing	Stopped
641	PATTERSON RD & BEECHWOOD ST	8/11/2016	4:00:00 PM	PDO			Driveway Access Related	Front to Rear	E	Straight/following RD	Right Turn
642	PATTERSON RD & EL DR	8/13/2016	3:28:00 PM	PDO			At Intersection	Front to Side	N	Left Turn	Left Turn
643	28 1/4 RD & PATTERSON RD	8/14/2016	5:05:00 PM	INJ			Non-Intersection	Side to Side Same Dir	S	U-Turn	Straight/following RD
644	PATTERSON RD & N ST	8/15/2016	9:15:00 AM	PDO			At Intersection	Front to Rear	N	Left Turn	Straight/following RD
645	PATTERSON RD & N 1ST	8/15/2016	3:44:00 PM	PDO	300	E	Intersection Related	Front to Rear	W	Straight/following RD	Stopped
646	PATTERSON RD & N ST	8/17/2016	7:42:00 PM	PDO			Intersection Related	Front to Rear	S	Slowing	Stopped
647	PATTERSON RD & N 15TH ST	8/23/2016	9:14:00 AM	PDO	40	E	Intersection Related	Front to Rear	W	Straight/following RD	Straight/following RD
648	PATTERSON RD & 25 1/2 RD RD	8/26/2016	2:46:00 AM	INJ			At Intersection	Front to Side	W	Right Turn	Stopped
649	PATTERSON RD & N 12TH ST	8/26/2016	12:24:00 PM	PDO	104	N	Intersection Related	Side to Side Same Dir	S	Changing Lanes	Straight/following RD
650	PATTERSON RD & 30 RD	8/30/2016	8:20:00 PM	INJ			At Intersection	Front to Side	W	Straight/following RD	Left Turn
651	PATTERSON RD & 29 RD	8/31/2016	3:53:00 PM	INJ			At Intersection	Front to Front	W	Left Turn	Straight/following RD
652	PATTERSON RD & N 12TH ST	9/5/2016	6:45:00 PM	PDO	200	S	Driveway Access Related	Side to Side Same Dir	S	Changing Lanes	Straight/following RD
653	PATTERSON RD & GRAND CASCADE WAY	9/6/2016	7:50:00 AM	INJ	400	E	Non-Intersection	Front to Rear	W	Straight/following RD	Straight/following RD
654	PATTERSON RD & MESA ACCESS	9/7/2016	9:11:00 AM	INJ			At Intersection	Front to Front	W	Left Turn	Straight/following RD
655	PATTERSON RD & PARK AVE	9/9/2016	5:18:00 PM	INJ			At Intersection	Front to Rear	E	Slowing	Stopped
656	25 RD & PATTERSON RD	9/9/2016	8:30:00 AM	PDO	120	N	Driveway Access Related	Front to Side	E	Right Turn	Straight/following RD
657	PATTERSON RD & 25 RD	9/12/2016	7:09:00 AM	INJ			At Intersection	Front to Side	E	Straight/following RD	Straight/following RD
658	PATTERSON RD & N 7TH ST	9/13/2016	2:56:00 PM	INJ	20	E	Intersection Related	Front to Rear	W	Straight/following RD	Right Turn
659	PATTERSON RD & PHEASANT TRAIL CT	9/13/2016	7:56:00 AM	INJ	150	E	Non-Intersection	Front to Rear	W	Straight/following RD	Stopped
660	PATTERSON RD & 25 1/2 RD RD	9/13/2016	7:58:00 AM	PDO			At Intersection	Front to Rear	W	Backing	Stopped
661	PATTERSON RD & 25 1/2 RD	9/13/2016	7:57:00 AM	PDO			At Intersection	Front to Side	W	Straight/following RD	Straight/following RD
662	PATTERSON RD & MARKET ST	9/16/2016	2:51:00 PM	PDO			Intersection Related	Front to Side	E	Changing Lanes	Straight/following RD
663	PATTERSON RD & N 15TH ST	9/17/2016	8:39:00 PM	INJ			Intersection Related	Front to Rear	E	Straight/following RD	Stopped
664	PATTERSON RD & GRAND CASCADE WAY	9/20/2016	12:40:00 PM	INJ	125	E	Non-Intersection	Front to Rear	W	Straight/following RD	Stopped
665	PATTERSON RD & 24 1/2 RD RD	9/21/2016	4:38:00 PM	PDO	350	E	Non-Intersection	Front to Side	N	Left Turn	Straight/following RD
666	PATTERSON RD & PIONEER RD	9/26/2016	7:47:00 AM	PDO			Non-Intersection	Front to Rear	W	Slowing	Stopped
667	PATTERSON RD & 29 RD	9/27/2016	6:41:00 AM	PDO			At Intersection	Front to Side	N	Left Turn	Straight/following RD
668	PATTERSON RD & N ST	9/28/2016	12:00:00 PM	PDO			At Intersection	Front to Front	W	Left Turn	Straight/following RD
669	25 1/2 RD & PATTERSON RD	9/29/2016	8:12:00 AM	INJ			Intersection Related	Front to Rear	S	Straight/following RD	Stopped
670	PATTERSON RD & 25 RD RD	9/29/2016	1:45:00 PM	PDO	1150	W	Driveway Access Related	Front to Side	S	Left Turn	Straight/following RD
671	PATTERSON RD & N 1ST	9/29/2016	11:36:00 AM	PDO			At Intersection	Side to Side Same Dir	N	Left Turn	Left Turn
672	PATTERSON RD & 29 RD	9/30/2016	9:18:00 PM	PDO			At Intersection	Side to Side Opposite Dir	W	Left Turn	Straight/following RD
673	PATTERSON RD & BURKEY ST	10/5/2016	3:24:00 PM	INJ			Intersection Related	Other - Non Collision	E	Slowing	Slowing
674	25 RD & PATTERSON RD	10/6/2016	9:47:00 AM	PDO	158	N	Driveway Access Related	Front to Front	E	Left Turn	Slowing
675	25 RD & PATTERSON RD	10/6/2016	3:02:00 PM	PDO	125	N	Driveway Access Related	Front to Front	E	Left Turn	Straight/following RD
676	PATTERSON RD & N ST	10/6/2016	11:59:00 AM	PDO			At Intersection	Front to Rear	E	Slowing	Stopped
677	24 1/2 RD & PATTERSON RD	10/8/2016	11:08:00 AM	PDO	315	S	Non-Intersection	Side to Side Same Dir	S	Changing Lanes	Straight/following RD
678	PATTERSON RD & N ST	10/10/2016	1:33:00 PM	INJ			At Intersection	Front to Front	W	Left Turn	Straight/following RD
679	PATTERSON RD & 25 RD RD	10/12/2016	8:20:00 PM	INJ	150	W	Intersection Related	Front to Side	S	Left Turn	Straight/following RD
680	PATTERSON RD & 24 RD	10/13/2016	7:48:00 PM	PDO	30	E	Intersection Related	Front to Rear	W	Straight/following RD	Stopped
681	PATTERSON RD & 25 1/2 RD	10/15/2016	10:08:00 AM	PDO			At Intersection	Front to Side	W	Straight/following RD	Straight/following RD
682	PATTERSON RD & 30 RD	10/17/2016	4:53:00 PM	PDO			At Intersection	Front to Side	S	Straight/following RD	Straight/following RD
683	PATTERSON RD & MARKET ST	10/18/2016	12:10:00 PM	INJ	731	E	Non-Intersection	Side to Side Same Dir	W	Changing Lanes	Straight/following RD
684	PATTERSON RD & 25 1/2 RD RD	10/18/2016	4:32:00 PM	PDO			Intersection Related	Front to Rear	N	Stopped	Stopped
685	PATTERSON RD & 29 RD	10/20/2016	3:38:00 PM	PDO			At Intersection	Front to Side	W	Left Turn	Straight/following RD
686	PATTERSON RD & 29 1/2 RD RD	10/21/2016	11:44:00 AM	PDO	50	E	Intersection Related	Front to Rear	W	Other	Stopped
687	24 1/2 RD & PATTERSON RD	10/21/2016	6:26:00 PM	PDO	500	S	Intersection Related	Front to Side	E	Left Turn	Straight/following RD
688	PATTERSON RD & N 1ST	10/23/2016	1:40:00 AM	PDO			Intersection Related	Front to Front	W	Left Turn	Stopped
689	PATTERSON RD & N 7TH ST	10/25/2016	1:22:00 PM	INJ	400	W	Non-Intersection	Front to Rear	E	Straight/following RD	Stopped
690	PATTERSON RD & MARKET ST	10/26/2016	2:42:00 PM	INJ			At Intersection	Front to Side	E	Straight/following RD	Left Turn
691	PATTERSON RD & 29 RD	10/28/2016	4:00:00 PM	PDO			At Intersection	Front to Side	W	Straight/following RD	Slowing
692	PATTERSON RD & N 15TH ST	11/2/2016	2:28:00 PM	INJ			At Intersection	Front to Side	W	Straight/following RD	Straight/following RD
693	PATTERSON RD & GRAND CASCADE WAY	11/4/2016	2:37:00 PM	INJ	450	E	Non-Intersection	Bicycle	E	Straight/following RD	Straight/following RD
694	PATTERSON RD & 24 1/2 RD	11/5/2016	6:36:00 AM	PDO	150	E	Non-Intersection	Curb	W	Straight/following RD	UNK
695	PATTERSON RD & 28 RD RD	11/9/2016	12:09:00 PM	INJ			At Intersection	Front to Side	S	Left Turn	Straight/following RD
696	PATTERSON RD & MIRA RD	11/10/2016	4:07:00 PM	PDO	300	E	Driveway Access Related	Front to Front	W	Left Turn	Straight/following RD
697	PATTERSON RD & N 15TH ST	11/10/2016	9:04:00 AM	PDO	225	W	Non-Intersection	Front to Rear	W	Straight/following RD	Stopped
698	PATTERSON RD & SPRING CIR	11/10/2016	3:26:00 PM	PDO			At Intersection	Front to Side	E	Left Turn	Straight/following RD
699	24 1/2 RD & PATTERSON RD	11/11/2016	10:30:00 AM	INJ	150	S	Driveway Access Related	Front to Rear	N	Straight/following RD	Stopped
700	PATTERSON RD & 24 1/2 RD RD	11/13/2016	6:19:00 PM	INJ	1350	W	At Intersection	Front to Side	N	Left Turn	Straight/following RD
701	PATTERSON RD & 24 1/2 RD RD	11/13/2016	11:47:00 AM	PDO			Non-Intersection	Front to Front	E	Right Turn	Straight/following RD
702	PATTERSON RD & MEANDER DR	11/14/2016	4:13:00 PM	PDO			At Intersection	Wild Animal	E	Straight/following RD	UNK
703	PATTERSON RD & N 12TH ST	11/17/2016	8:00:00 AM	PDO	80	N	Non-Intersection	Side to Side Opposite Dir	N	Straight/following RD	Straight/following RD

#	Intersection	Date	Time	Severity	Distance From Int	Direction from Int	Road Description	Accident Type	Dir	Vehicle 1 Movement	Vehicle 2 Movement
704	PATTERSON RD & 24 1/2 RD RD	11/18/2016	6:02:00 PM	PDO			At Intersection	Front to Side	W	Left Turn	Straight/following RD
705	PATTERSON RD & 30 RD	11/23/2016	4:30:00 PM	PDO	300	W	Non-Intersection	Front to Rear	E	Straight/following RD	Slowing
706	PATTERSON RD & MARKET ST	11/23/2016	5:45:00 PM	PDO			Intersection Related	Front to Rear	W	Straight/following RD	Stopped
707	PATTERSON RD & 25 3/4 RD	11/25/2016	9:14:00 PM	INJ			Non-Intersection	Front to Rear	E	Straight/following RD	Slowing
708	24 RD & PATTERSON RD	11/29/2016	11:00:00 AM	PDO	500	S	At Intersection	Side to Side Same Dir	W	Right Turn	Straight/following RD
709	25 RD & PATTERSON RD	11/30/2016	12:48:00 PM	PDO	200	N	Driveway Access Related	Front to Side	N	Left Turn	Straight/following RD
710	PATTERSON RD & 25 RD RD	12/1/2016	4:15:00 PM	PDO	300	E	Non-Intersection	Side to Side Same Dir	W	Changing Lanes	Straight/following RD
711	PATTERSON RD & 27 1/2 RD	12/1/2016	9:11:00 PM	PDO	600	W	Non-Intersection	Wild Animal	W	Straight/following RD	UNK
712	PATTERSON RD & 28 1/4 RD RD	12/1/2016	9:38:00 AM	PDO	200	E	Intersection Related	Front to Rear	W	Slowing	Slowing
713	PATTERSON RD & N ST	12/5/2016	7:42:00 PM	INJ			At Intersection	Front to Side	E	Left Turn	Straight/following RD
714	PATTERSON RD & N ST	12/5/2016	6:26:00 PM	PDO	400	W	Non-Intersection	Front to Rear	W	Slowing	Stopped
715	PATTERSON RD & N ST	12/5/2016	6:48:00 PM	PDO	100	W	Non-Intersection	Side to Side Same Dir	W	Changing Lanes	Straight/following RD
716	PATTERSON RD & MARKET ST	12/9/2016	12:58:00 PM	INJ			At Intersection	Front to Side	W	Straight/following RD	Straight/following RD
717	PATTERSON RD & MARKET ST	12/10/2016	2:24:00 PM	INJ	395	E	Driveway Access Related	Front to Side	S	Left Turn	Straight/following RD
718	PATTERSON RD & N 12TH ST	12/12/2016	10:14:00 AM	PDO			At Intersection	Front to Side	W	Straight/following RD	Straight/following RD
719	PATTERSON RD & 28 1/4 RD RD	12/14/2016	12:24:00 PM	INJ			At Intersection	Front to Side	W	Left Turn	Straight/following RD
720	PATTERSON RD & 25 RD RD	12/15/2016	1:31:00 PM	INJ	155	W	Intersection Related	Front to Rear	E	Slowing	Stopped
721	PATTERSON RD & 24 1/2 RD RD	12/19/2016	10:22:00 AM	PDO	250	E	Driveway Access Related	Front to Side	N	Right Turn	Straight/following RD
722	PATTERSON RD & N 12TH ST	12/19/2016	4:04:00 PM	PDO	560	W	Intersection Related	Front to Rear	E	Straight/following RD	Stopped
723	PATTERSON RD & N 7TH ST	12/19/2016	4:22:00 PM	PDO	60	E	Intersection Related	Front to Rear	W	Straight/following RD	Slowing
724	PATTERSON RD & 27 1/2 RD	12/19/2016	4:07:00 PM	PDO			At Intersection	Front to Rear	W	Straight/following RD	Stopped
725	PATTERSON RD & 25 RD RD	12/22/2016	12:15:00 PM	PDO	460	E	Non-Intersection	Front to Rear	W	Changing Lanes	Straight/following RD
726	25 1/2 RD & PATTERSON RD	1/2/2017	11:52:00 AM	PDO	250	N	Driveway Related	Front to Rear	N	Straight	Slowing
727	N 7TH ST & PATTERSON RD	1/9/2017	7:30:00 AM	PDO	350	N	Non-Int	Side-Side Same Dir	S	Spun Out Of Control	Spun Out Of Control
728	24 1/2 RD & PATTERSON RD	1/13/2017	8:20:00 PM	INJ	500	S	Driveway Related	Front to Side	E	Left Turn	Straight
729	24 1/2 RD & PATTERSON RD	1/18/2017	11:51:00 AM	PDO	500	S	Driveway Related	Front to Side	E	Left Turn	Straight
730	HWY 6 & 50 & PATTERSON RD	1/18/2017	1:10:00 PM	PDO			At Intersection	Front to Side	E	Left Turn	Straight
731	PATTERSON RD & COLANWOOD ST	1/19/2017	4:49:00 AM	PDO			At Intersection	Front to Side	N	Straight	Straight
732	PATTERSON RD & N 1ST ST	1/19/2017	5:24:00 PM	PDO			At Intersection	Front to Rear	W	Slowing	Stopped
733	24 1/2 RD & PATTERSON RD	1/21/2017	12:23:00 PM	INJ	500	S	At Intersection	Front to Side	W	Straight	Straight
734	N 7TH ST & PATTERSON RD	1/22/2017	9:35:00 AM	PDO			At Intersection	Front to Rear	S	Straight	Stopped
735	29 RD & PATTERSON RD	1/23/2017	4:50:00 PM	PDO	30	S	Intersection Related	Front to Rear	N	Straight	Stopped
736	25 RD & PATTERSON RD	1/25/2017	3:16:00 PM	INJ			Intersection Related	Front to Rear	N	Straight	Stopped
737	PATTERSON RD & 29 RD	1/26/2017	7:52:00 PM	PDO			At Intersection	Front to Side	W	Left Turn	Straight
738	PATTERSON RD & 29 RD	1/27/2017	3:30:00 PM	PDO			At Intersection	Front to Rear	W	Left Turn	Left Turn
739	PATTERSON RD & MESA MALL ACCESS RD	1/27/2017	7:55:00 PM	PDO			At Intersection	Front to Side	E	Left Turn	Straight
740	PATTERSON RD & N 1ST ST	1/29/2017	11:08:00 PM	PDO	415	W	Non-Int	Curb	W	Straight	UNK
741	PATTERSON RD & MARKET ST	1/30/2017	5:08:00 PM	INJ			Intersection Related	Front to Rear	S	Straight	Stopped
742	MARKET ST & PATTERSON RD	1/30/2017	5:14:00 PM	INJ	420	N	Non-Int	Curb	S	Spun Out Of Control	UNK
743	PATTERSON RD & MEANDER DR	2/2/2017	6:10:00 PM	INJ			At Intersection	Front to Rear	W	Slowing	Straight
744	PATTERSON RD & 25 RD	2/7/2017	5:52:00 PM	INJ			At Intersection	Front to Side	N	Left Turn	Straight
745	PATTERSON RD & SPRING VALLEY CIR	2/8/2017	10:19:00 AM	INJ			Intersection Related	Bicycle	W	Straight	Stopped
746	24 1/2 RD & PATTERSON RD	2/9/2017	4:51:00 PM	PDO	1000	S	Non-Int	Side-Side Same Dir	S	Changing Lanes	Straight
747	PATTERSON RD & CIDER MILL RD	2/9/2017	5:22:00 PM	PDO	245	W	Intersection Related	Front to Rear	W	Straight	Stopped
748	PATTERSON RD & 30 RD	2/12/2017	12:21:00 PM	INJ	30	W	Intersection Related	Front to Rear	E	Straight	Slowing
749	PATTERSON RD & 25 RD	2/14/2017	10:41:00 AM	INJ			At Intersection	Front to Front	N	Left Turn	Straight
750	PATTERSON RD & N 12TH ST	2/14/2017	5:58:00 PM	PDO			At Intersection	Front to Side	S	Left Turn	Straight
751	24 RD & PATTERSON RD	2/16/2017	5:39:00 PM	PDO	100	S	Intersection Related	Front to Rear	N	Straight	Stopped
752	PATTERSON RD & 29 RD	2/22/2017	6:17:00 PM	INJ			At Intersection	Front to Side	W	Left Turn	Straight
753	PATTERSON RD & 28 1/4 RD	2/25/2017	10:04:00 PM	PDO			At Intersection	Front to Front	W	Left Turn	Straight
754	PATTERSON RD & MIRA VISTA RD	2/27/2017	12:18:00 PM	PDO	309	E	Non-Int	Side-Side Same Dir	N	Left Turn	Changing Lanes
755	25 1/2 RD & PATTERSON RD	2/28/2017	10:41:00 AM	PDO	160	S	Non-Int	Curb	S	Straight	UNK
756	PATTERSON RD & N 7TH ST	2/28/2017	10:39:00 AM	PDO			At Intersection	Front to Side	E	Straight	Left Turn
757	PATTERSON RD & 27 1/2 RD	3/1/2017	10:32:00 AM	INJ			At Intersection	Front to Side	E	Straight	Left Turn
758	PATTERSON RD & 29 RD	3/6/2017	5:21:00 PM	INJ	200	E	Intersection Related	Front to Rear	W	Slowing	Stopped
759	PATTERSON RD & 29 1/2 RD	3/7/2017	2:22:00 PM	INJ	80	W	Intersection Related	Front to Rear	E	Slowing	Slowing
760	PATTERSON RD & MARKET ST	3/11/2017	3:02:00 PM	PDO	20	W	Intersection Related	Front to Rear	W	Straight	Stopped
761	PATTERSON RD & 24 1/2 RD	3/13/2017	12:02:00 PM	INJ	250	E	Intersection Related	Front to Rear	W	Straight	Slowing
762	PATTERSON RD & 25 RD	3/16/2017	9:41:00 PM	PDO			At Intersection	Front to Side	E	Left Turn	Straight
763	PATTERSON RD & 24 RD	3/18/2017	11:28:00 AM	PDO			At Intersection	Front to Side	N	Right Turn	Left Turn
764	25 RD & PATTERSON RD	3/19/2017	3:03:00 PM	INJ	50	N	Intersection Related	Front to Rear	S	Straight	Stopped
765	N 12TH ST & PATTERSON RD	3/20/2017	4:17:00 PM	PDO	30	N	Intersection Related	Front to Rear	S	Straight	Stopped
766	PATTERSON RD & 29 1/2 RD	3/23/2017	11:40:00 AM	INJ	250	E	At Intersection	Front to Rear	W	Straight	Stopped
767	29 RD & PATTERSON RD	3/24/2017	4:52:00 PM	PDO	75	S	Intersection Related	Front to Rear	N	Left Turn	Left Turn
768	PATTERSON RD & 25 RD	3/27/2017	11:12:00 AM	INJ	481	W	Driveway Related	Front to Side	S	Left Turn	Straight
769	PATTERSON RD & 30 RD	4/2/2017	4:20:00 PM	PDO			Intersection Related	Front to Rear	E	Straight	Stopped
770	PATTERSON RD & PARK DR	4/5/2017	7:13:00 PM	PDO	100	E	Non-Int	Guard Rail	W	Straight	UNK
771	PATTERSON RD & 30 RD	4/9/2017	8:07:00 PM	INJ			Intersection Related	All Other Peds	N	Right Turn	Straight
772	PATTERSON RD & 24 RD	4/9/2017	1:53:00 PM	PDO			At Intersection	Front to Side	N	Left Turn	Straight
773	PATTERSON RD & 29 RD	4/10/2017	4:52:00 PM	INJ	200	W	Non-Int	Front to Rear	E	Straight	Stopped
774	25 RD & PATTERSON RD	4/10/2017	9:49:00 AM	PDO	200	N	Driveway Related	Front to Front	E	Right Turn	Straight
775	25 1/2 RD & PATTERSON RD	4/12/2017	4:37:00 PM	PDO	20	N	Intersection Related	Front to Rear	S	Straight	Stopped
776	PATTERSON RD & MESA MALL ACCESS RD	4/13/2017	6:46:00 PM	PDO			At Intersection	Front to Side	E	Straight	Straight
777	25 RD & PATTERSON RD	4/14/2017	1:16:00 PM	PDO	100	S	Intersection Related	Front to Rear	N	Straight	Stopped
778	PATTERSON RD & N 12TH ST	4/14/2017	2:47:00 PM	PDO			At Intersection	Front to Rear	S	Left Turn	Left Turn
779	HWY 6 & 50 & PATTERSON RD	4/15/2017	4:29:00 PM	INJ			Hwy Interchange	Other - Non Collision	SW	Right Turn	UNK
780	PATTERSON RD & BROKEN SPOKE RD	4/15/2017	1:21:00 PM	PDO			At Intersection	Front to Side	S	Straight	Straight
781	PATTERSON RD & COMMERCE BLVD	4/18/2017	10:32:00 AM	INJ	305	E	Driveway Related	Front to Side	S	Left Turn	Straight
782	PATTERSON RD & MESA MALL ACCESS RD	4/20/2017	1:04:00 PM	PDO	30	E	Intersection Related	Front to Rear	W	Straight	Straight
783	PATTERSON RD & 29 RD	4/26/2017	5:12:00 PM	PDO			Intersection Related	Side-Side Same Dir	E	Other	Stopped
784	PATTERSON RD & N 1ST ST	4/27/2017	11:35:00 AM	INJ			At Intersection	Front to Side	W	Left Turn	Straight
785	PATTERSON RD & 25 RD	5/4/2017	2:20:00 PM	INJ	350	E	Non-Int	Front to Rear	W	Straight	Stopped
786	PATTERSON RD & MARKET ST	5/4/2017	7:28:00 PM	PDO			At Intersection	Front to Side	N	Straight	Straight
787	PATTERSON RD & 25 RD	5/5/2017	5:26:00 PM	INJ	135	W	Driveway Related	Front to Side	S	Left Turn	Straight
788	PATTERSON RD & N 7TH ST	5/5/2017	12:56:00 PM	PDO			At Intersection	Front to Rear	W	Left Turn	Left Turn
789	PATTERSON RD & STARLIGHT DR	5/9/2017	12:30:00 AM	INJ	130	E	Non-Int	Tree	W	Straight	UNK
790	PATTERSON RD & E INDIAN CREEK DR	5/9/2017	7:00:00 AM	PDO			At Intersection	School Age To/From School	E	Straight	Right Turn
791	24 1/2 RD & PATTERSON RD	5/10/2017	3:37:00 PM	PDO	400	N	Driveway Related	Side-Side Same Dir	S	Passing	Right Turn
792	PATTERSON RD & 28 1/4 RD	5/12/2017	10:20:00 AM	PDO	450	W	Non-Int	Front to Rear	E	Straight	Stopped
793	29 RD & PATTERSON RD	5/17/2017	11:02:00 AM	PDO	420	S	Driveway Related	Front to Side	W	Left Turn	Straight
794	24 RD & PATTERSON RD	5/19/2017	10:07:00 AM	PDO			At Intersection	Side-Side Same Dir	S	Left Turn	Left Turn
795	PATTERSON RD & 25 1/2 RD	5/20/2017	8:22:00 PM	INJ	222	W	Intersection Related	Curb	W	Straight	UNK
796	PATTERSON RD & RIO GRANDE DR	5/22/2017	3:46:00 PM	PDO	40	E	Intersection Related	Front to Rear	E	Slowing	Stopped
797	PATTERSON RD & 29 RD	5/22/2017	5:34:00 PM	PDO	500	W	Intersection Related	Front to Rear	E	Slowing	Stopped
798	PATTERSON RD & N 7TH ST	5/28/2017	11:20:00 PM	INJ			At Intersection	Front to Side	W	Straight	Straight
799	PATTERSON RD & 25 1/2 RD	5/30/2017	4:06:00 PM	INJ	200	E	Non-Int	Front to Rear	W	Straight	Stopped
800	PATTERSON RD & MIRA VISTA RD	5/30/2017	2:58:00 PM	PDO	330	E	Driveway Related	Front to Rear	E	Straight	Left Turn
801	PATTERSON RD & 29 3/8 RD	5/30/2017	7:29:00 PM	PDO			Non-Int	Side-Side Same Dir	W	Weaving	Straight
802	PATTERSON RD & N 15TH ST	5/31/2017	4:32:00 PM	PDO	100	E	Intersection Related	Front to Rear	W	Changing Lanes	Stopped
803	PATTERSON RD & N 12TH ST	6/4/2017	3:05:00 PM	PDO			At Intersection	Front to Side	N	Straight	Straight
804	27 1/2 RD & PATTERSON RD	6/7/2017	8:04:00 AM	PDO			Intersection Related	Front to Rear	S	Straight	Stopped
805	PATTERSON RD & BEECHWOOD ST	6/8/2017	2:18:00 PM	PDO			Non-Int	Front to Rear	E	Straight	Stopped
806	PATTERSON RD & 29 RD	6/8/2017	7:24:00 AM	PDO	265	E	Intersection Related	Front to Rear	W	Straight	Slowing
807	PATTERSON RD & BEECHWOOD ST	6/8/2017	2:14:00 PM	PDO			At Intersection	Front to Rear	E	Straight	Stopped
808	PATTERSON RD & N 15TH ST	6/12/2017	7:59:00 AM	INJ			At Intersection	Bicycle	N	Left Turn	Straight
809	PATTERSON RD & N 1ST ST	6/13/2017	4:54:00 PM	PDO			At Intersection	Front to Side	N	Left Turn	Straight
810	PATTERSON RD & CIDER MILL RD	6/15/2017	5:12:00 PM	INJ			Non-Int	Front to Rear	W	Straight	Straight
811	PATTERSON RD & N 15TH ST	6/17/2017	8:39:00 AM	PDO			At Intersection	Front to Side	W	Left Turn	Straight
812	PATTERSON RD & 25 1/2 RD	6/19/2017	1:18:00 PM	INJ	279	E	Driveway Related	Front to Side	S	Left Turn	Straight
813	N 12TH ST & PATTERSON RD	6/20/2017	4:13:00 PM	PDO			At Intersection	Front to Rear	S	Straight	Stopped
814	PATTERSON RD & N 1ST ST	6/21/2017	8:07:00 PM	INJ	380	W	Intersection Related	Front to Rear	E	Straight	Stopped
815	PATTERSON RD & 24 RD	6/21/2017	2:10:00 PM	PDO	449	W	Driveway Related	Front to Front	N	Right Turn	Straight
816	PATTERSON RD & N 7TH ST	6/23/2017	5:26:00 PM	PDO	300	W	Intersection Related	Front to Rear	E	Straight	Stopped
817	PATTERSON RD & 25 1/2 RD	6/26/2017	11:53:00 AM	INJ	50	W	Intersection Related	Front to Rear	E	Straight	Stopped
818	PATTERSON RD & MARKET ST	6/26/2017	12:42:00 PM	INJ			At Intersection	Front to Side	W	Straight	Straight
819	PATTERSON RD & 27 1/2 RD	6/29/2017	9:28:00 AM	INJ			At Intersection	Front to Side	E	Left Turn	Straight
820	N 7TH ST & PATTERSON RD	6/29/2017	12:53:00 PM	PDO	130	N	Driveway Related	Front to Side	E	Right Turn	Straight

#	Intersection	Date	Time	Severity	Distance From Int	Direction from Int	Road Description	Accident Type	Dir	Vehicle 1 Movement	Vehicle 2 Movement
821	PATTERSON RD & GRAND CASCADE WAY	7/6/2017	7:53:00 AM	INJ			At Intersection	Front to Side	W	Straight	Slowing
822	PATTERSON RD & 27 1/2 RD	7/7/2017	6:40:00 PM	PDO			At Intersection	Front to Side	E	Straight	Left Turn
823	PATTERSON RD & 25 RD	7/9/2017	10:51:00 AM	PDO	100	W	Driveway Related	Side-Side Same Dir	S	Left Turn	Straight
824	PATTERSON RD & 27 1/2 RD	7/9/2017	11:01:00 AM	PDO	200	E	Intersection Related	Front to Rear	W	Straight	Stopped
825	PATTERSON RD & 25 RD	7/10/2017	11:02:00 AM	PDO			At Intersection	Front to Rear	W	Left Turn	Straight
826	PATTERSON RD & N 1ST ST	7/10/2017	4:26:00 PM	PDO	200	W	Intersection Related	Front to Rear	E	Straight	Stopped
827	24 RD & PATTERSON RD	7/14/2017	8:47:00 AM	PDO			Driveway Related	Guard Rail	S	U-Turn	UNK
828	PATTERSON RD & N 1ST ST	7/17/2017	2:15:00 PM	INJ	792	E	Driveway Related	Front to Front	E	Straight	Stopped
829	PATTERSON RD & 26 3/4 RD	7/20/2017	8:34:00 AM	PDO	25	W	Non-Int	Side-Side Same Dir	W	Changing Lanes	Stopped
830	PATTERSON RD & 29 RD	7/21/2017	6:35:00 PM	INJ			At Intersection	Front to Side	W	Left Turn	Straight
831	30 RD & PATTERSON RD	7/21/2017	4:07:00 PM	PDO	260	N	Non-Int	Front to Side	W	Left Turn	Straight
832	PATTERSON RD & 24 1/2 RD	7/29/2017	8:45:00 PM	PDO			At Intersection	Front to Front	N	Left Turn	Straight
833	25 1/2 RD & PATTERSON RD	7/31/2017	11:52:00 AM	INJ			At Intersection	Front to Side	E	Left Turn	Straight
834	PATTERSON RD & 28 1/4 RD	8/1/2017	2:59:00 PM	PDO	400	W	Intersection Related	Front to Rear	E	Straight	Slowing
835	PATTERSON RD & N 15TH ST	8/2/2017	8:00:00 AM	PDO	100	W	Intersection Related	Front to Rear	W	Slowing	Stopped
836	PATTERSON RD & 30 RD	8/5/2017	4:25:00 PM	PDO			At Intersection	Front to Side	W	Straight	Straight
837	PATTERSON RD & W GREENFIELD CIR	8/5/2017	7:44:00 AM	PDO	100	E	Non-Int	Side-Side Same Dir	W	Changing Lanes	Straight
838	PATTERSON RD & N 1ST ST	8/9/2017	7:42:00 PM	INJ			At Intersection	Bicycle	W	Straight	Straight
839	PATTERSON RD & BEECHWOOD ST	8/9/2017	7:50:00 AM	PDO	226	E	Non-Int	Front to Rear	W	Slowing	Slowing
840	PATTERSON RD & N 7TH ST	8/10/2017	9:37:00 PM	PDO			At Intersection	All Other Peds	N	Left Turn	Straight
841	PATTERSON RD & 28 1/4 RD	8/11/2017	4:49:00 PM	PDO			At Intersection	Front to Side	W	Left Turn	Straight
842	24 1/2 RD & PATTERSON RD	8/12/2017	2:45:00 PM	PDO	210	S	Driveway Related	Bicycle	W	Straight	Straight
843	PATTERSON RD & 25 1/2 RD	8/12/2017	11:21:00 AM	PDO	50	E	Intersection Related	Side-Side Same Dir	W	Changing Lanes	Slowing
844	PATTERSON RD & 28 RD	8/14/2017	7:12:00 PM	INJ			At Intersection	Front to Side	S	Left Turn	Straight
845	PATTERSON RD & N 12TH ST	8/14/2017	2:09:00 PM	PDO	400	E	Non-Int	Front to Rear	E	Straight	Slowing
846	PATTERSON RD & 25 3/4 RD	8/15/2017	10:30:00 AM	PDO	225	E	Non-Int	Curb	E	Changing Lanes	Avoiding Object
847	PATTERSON RD & N 12TH ST	8/15/2017	12:15:00 PM	PDO	418	W	Driveway Related	Front to Side	N	Straight	Straight
848	PATTERSON RD & 25 1/2 RD	8/18/2017	5:08:00 PM	PDO			At Intersection	Front to Front	W	Left Turn	Straight
849	PATTERSON RD & 25 RD	8/22/2017	1:01:00 PM	PDO	190	W	Intersection Related	Front to Rear	E	Straight	Stopped
850	PATTERSON RD & COMMERCE BLVD	8/26/2017	5:09:00 PM	PDO			Intersection Related	Front to Side	E	Left Turn	Straight
851	24 1/2 RD & PATTERSON RD	8/27/2017	12:49:00 PM	PDO	500	S	Driveway Related	Front to Side	E	Straight	Straight
852	PATTERSON RD & MESA MALL ACCESS RD	8/28/2017	4:23:00 PM	PDO	60	E	Intersection Related	Other Object	N	Right Turn	UNK
853	24 RD & PATTERSON RD	8/29/2017	3:29:00 PM	PDO			Intersection Related	Side-Side Same Dir	W	Left Turn	Left Turn
854	PATTERSON RD & N 12TH ST	9/6/2017	12:08:00 PM	PDO	250	W	Driveway Related	Front to Side	N	Right Turn	Left Turn
855	PATTERSON RD & N 7TH ST	9/6/2017	6:19:00 AM	PDO			At Intersection	Front to Side	N	UNK	Straight
856	PATTERSON RD & N 15TH ST	9/6/2017	11:57:00 AM	PDO	500	E	Intersection Related	Front to Rear	W	Slowing	Stopped
857	PATTERSON RD & 25 RD	9/6/2017	8:34:00 PM	PDO			At Intersection	Front to Side	NE	Straight	Straight
858	PATTERSON RD & FORESIGHT CIR	9/7/2017	4:53:00 PM	PDO			At Intersection	Front to Side	S	Left Turn	Left Turn
859	MARKET ST & PATTERSON RD	9/9/2017	3:14:00 PM	PDO			Driveway Related	Front to Side	E	Right Turn	Left Turn
860	PATTERSON RD & N 12TH ST	9/11/2017	7:28:00 AM	PDO			At Intersection	Front to Side	W	Right Turn	Straight
861	PATTERSON RD & N 15TH ST	9/11/2017	6:23:00 PM	PDO			At Intersection	Front to Side	E	Straight	Left Turn
862	N 1ST & PATTERSON RD	9/12/2017	5:43:00 PM	PDO	750	N	Driveway Related	Front to Rear	N	Straight	Stopped
863	PATTERSON RD & 25 RD	9/14/2017	12:43:00 PM	PDO	100	W	Non-Int	Front to Rear	W	Slowing	Stopped
864	PATTERSON RD & 25 RD	9/14/2017	4:12:00 PM	PDO	500	W	Non-Int	Front to Rear	W	Straight	Stopped
865	24 RD & PATTERSON RD	9/16/2017	8:51:00 AM	PDO	40	S	Intersection Related	Front to Rear	N	Straight	Stopped
866	PATTERSON RD & N 7TH ST	9/21/2017	4:24:00 PM	PDO			Intersection Related	Front to Rear	S	Right Turn	Right Turn
867	PATTERSON RD & N 7TH ST	9/21/2017	4:46:00 PM	PDO	100	W	Intersection Related	Front to Rear	E	Straight	Stopped
868	24 1/2 RD & PATTERSON RD	9/22/2017	11:08:00 AM	PDO			At Intersection	Front to Rear	S	Right Turn	Right Turn
869	PATTERSON RD & 25 RD	9/22/2017	12:12:00 PM	PDO	190	W	Intersection Related	Front to Rear	E	Changing Lanes	Stopped
870	24 RD & PATTERSON RD	9/23/2017	10:10:00 PM	PDO	605	N	Non-Int	Curb	N	Straight	UNK
871	PATTERSON RD & N 1ST ST	9/26/2017	9:16:00 PM	PDO	856	E	Non-Int	Guard Rail	W	Straight	UNK
872	PATTERSON RD & 29 1/2 RD	9/26/2017	6:37:00 PM	PDO			At Intersection	Bicycle	W	Left Turn	Straight
873	PATTERSON RD & 30 RD	9/28/2017	7:21:00 AM	PDO			At Intersection	Front to Side	E	Straight	Left Turn
874	PATTERSON RD & CRIS-MAR ST	9/28/2017	7:43:00 AM	PDO			At Intersection	Front to Rear	W	Straight	Stopped
875	PATTERSON RD & NORTHGATE DR	9/29/2017	7:36:00 PM	PDO			Non-Int	Front to Rear	N	Straight	Straight
876	PATTERSON RD & VIEW POINT DR	10/2/2017	5:18:00 PM	PDO			Non-Int	Front to Rear	E	Straight	Stopped
877	PATTERSON RD & 30 RD	10/2/2017	3:16:00 PM	PDO	100	W	Intersection Related	Front to Rear	E	Straight	Stopped
878	25 RD & PATTERSON RD	10/4/2017	5:22:00 PM	PDO	100	N	Intersection Related	Front to Rear	N	Straight	Stopped
879	PATTERSON RD & 25 1/2 RD	10/4/2017	12:53:00 PM	PDO	75	E	Non-Int	Front to Rear	W	Straight	Stopped
880	24 RD & PATTERSON RD	10/6/2017	6:09:00 PM	INJ			Intersection Related	Front to Front	N	Left Turn	Straight
881	PATTERSON RD & N 7TH ST	10/9/2017	6:40:00 AM	PDO			At Intersection	All Other Peds	S	Right Turn	Straight
882	PATTERSON RD & 30 RD	10/11/2017	4:34:00 PM	PDO			At Intersection	Front to Rear	S	Other	Stopped
883	PATTERSON RD & N 8TH CT	10/12/2017	3:48:00 PM	PDO	500	E	Non-Int	Front to Rear	W	Straight	Stopped
884	PATTERSON RD & N 12TH ST	10/12/2017	12:08:00 PM	PDO	375	E	Intersection Related	Front to Rear	W	Straight	Stopped
885	PATTERSON RD & N 15TH ST	10/12/2017	4:11:00 PM	PDO	600	E	Intersection Related	Front to Rear	W	Straight	Stopped
886	PATTERSON RD & MESA MALL ACCESS RD	10/16/2017	6:00:00 PM	PDO			At Intersection	Front to Rear	W	Slowing	Stopped
887	PATTERSON RD & 27 1/2 RD	10/17/2017	3:15:00 PM	PDO	170	E	Intersection Related	Front to Rear	W	Straight	Stopped
888	PATTERSON RD & 27 1/2 RD	10/18/2017	5:16:00 PM	PDO			At Intersection	Front to Rear	W	Straight	Stopped
889	PATTERSON RD & 28 1/4 RD	10/19/2017	2:43:00 PM	PDO			Intersection Related	Side-Side Same Dir	E	Changing Lanes	Straight
890	PATTERSON RD & N 12TH ST	10/21/2017	1:29:00 PM	INJ			At Intersection	Front to Side	E	Left Turn	Straight
891	PATTERSON RD & MESA MALL ACCESS RD	10/21/2017	12:06:00 PM	PDO			Intersection Related	Side-Side Same Dir	W	U-Turn	Right Turn
892	PATTERSON RD & N 12TH ST	10/22/2017	1:24:00 PM	PDO			Intersection Related	Front to Side	S	Left Turn	Right Turn
893	PATTERSON RD & N 12TH ST	10/23/2017	11:14:00 AM	PDO	20	E	Intersection Related	Front to Rear	W	Slowing	Stopped
894	PATTERSON RD & N 1ST ST	10/24/2017	5:08:00 PM	PDO	300	E	Non-Int	Guard Rail	W	Straight	UNK
895	PATTERSON RD & 25 RD	10/24/2017	11:19:00 AM	PDO	40	E	Intersection Related	Front to Rear	W	Left Turn	Left Turn
896	PATTERSON RD & 24 1/2 RD	10/26/2017	5:44:00 PM	PDO	363	E	Non-Int	Sign	W	Straight	UNK
897	PATTERSON RD & RIO GRANDE DR	10/27/2017	4:06:00 PM	INJ	100	W	Non-Int	Front to Rear	E	Straight	Stopped
898	PATTERSON RD & DARBY DR	10/27/2017	6:24:00 PM	PDO			At Intersection	Front to Side	N	Left Turn	Straight
899	PATTERSON RD & 25 RD	10/28/2017	11:07:00 PM	INJ			At Intersection	Front to Front	S	Straight	Straight
900	PATTERSON RD & MARKET ST	11/2/2017	9:30:00 AM	PDO			At Intersection	Front to Side	W	Straight	Straight
901	PATTERSON RD & PARK DR	11/3/2017	11:26:00 AM	PDO	60	E	Intersection Related	Front to Rear	W	Slowing	Stopped
902	25 RD & PATTERSON RD	11/6/2017	11:48:00 AM	PDO	127	N	Driveway Related	Front to Front	N	Left Turn	Straight
903	PATTERSON RD & 25 RD	11/7/2017	4:47:00 PM	PDO	150	E	Intersection Related	Front to Rear	W	Slowing	Stopped
904	PATTERSON RD & 25 RD	11/8/2017	2:38:00 PM	PDO	199	E	Intersection Related	Front to Rear	W	Slowing	Stopped
905	PATTERSON RD & N 12TH ST	11/10/2017	9:46:00 AM	PDO	642	E	Non-Int	Side-Side Same Dir	NE	Changing Lanes	Straight
906	PATTERSON RD & 24 1/2	11/10/2017	5:53:00 PM	PDO			At Intersection	Front to Side	W	Left Turn	Straight
907	PATTERSON RD & 28 1/4	11/10/2017	6:34:00 PM	PDO			At Intersection	Front to Side	W	Left Turn	Straight
908	PATTERSON RD & 24 1/2	11/10/2017	3:19:00 PM	PDO			At Intersection	Side-Side Same Dir	SE	Changing Lanes	Straight
909	PATTERSON RD & 24 1/2	11/11/2017	10:24:00 PM	PDO			At Intersection	Front to Side	W	Straight	Straight
910	29 RD & PATTERSON RD	11/13/2017	4:04:00 PM	PDO	268	N	Intersection Related	Front to Rear	S	Passing	Stopped
911	PATTERSON RD & 28 1/4	11/17/2017	6:49:00 PM	PDO			Non-Int	Side-Side Same Dir	W	Weaving	Straight
912	PATTERSON RD & 29 RD	11/17/2017	9:08:00 AM	PDO			At Intersection	Front to Front	E	Straight	Left Turn
913	PATTERSON RD & 25 1/2	11/18/2017	12:46:00 PM	PDO			At Intersection	Front to Rear	E	Straight	Stopped
914	PATTERSON RD & N 12TH ST	11/19/2017	10:03:00 AM	PDO			Intersection Related	Front to Rear	N	Left Turn	Left Turn
915	PATTERSON RD & 30 RD	11/19/2017	4:32:00 PM	PDO			Intersection Related	Front to Rear	S	Straight	Slowing
916	PATTERSON RD & N 7TH ST	11/22/2017	2:38:00 PM	PDO	10	W	Intersection Related	Front to Rear	E	Other	Stopped
917	PATTERSON RD & N 12TH ST	11/24/2017	1:46:00 PM	PDO	350	W	Driveway Related	Front to Rear	W	Straight	Slowing
918	PATTERSON RD & N 15TH ST	11/28/2017	1:34:00 PM	PDO			At Intersection	Front to Side	E	Straight	Straight
919	PATTERSON RD & 25 1/2	11/28/2017	5:31:00 PM	PDO			At Intersection	Front to Side	N	Straight	Left Turn
920	29 RD & PATTERSON RD	12/2/2017	2:39:00 PM	PDO	350	S	Driveway Related	Front to Side	W	Left Turn	Straight
921	PATTERSON RD & N 7TH ST	12/4/2017	8:37:00 PM	PDO			At Intersection	Front to Front	N	Straight	Straight
922	PATTERSON RD & FORESIGHT CIR	12/5/2017	3:38:00 PM	PDO	480	E	Intersection Related	Front to Rear	W	Straight	Stopped
923	PATTERSON RD & N 1ST ST	12/5/2017	5:27:00 PM	PDO			Intersection Related	Front to Rear	W	Straight	Stopped
924	PATTERSON RD & 25 RD	12/7/2017	2:37:00 PM	PDO	40	E	Intersection Related	Front to Rear	W	Straight	Slowing
925	PATTERSON RD & 24 1/2	12/8/2017	12:45:00 PM	PDO			At Intersection	Front to Front	E	Left Turn	Straight
926	PATTERSON RD & 24 RD	12/8/2017	1:50:00 PM	PDO			At Intersection	Front to Side	N	Straight	Left Turn
927	PATTERSON RD & N 7TH ST	12/14/2017	1:11:00 PM	PDO			Intersection Related	Front to Side	W	Straight	Left Turn
928	PATTERSON RD & HOME DEPOT SIGNAL	12/14/2017	1:55:00 PM	PDO			At Intersection	Front to Side	W	Left Turn	Straight
929	PATTERSON RD & N 1ST ST	12/15/2017	9:50:00 PM	PDO	100	W	Non-Int	Side-Side Same Dir	E	Changing Lanes	Straight
930	PATTERSON RD & 30 RD	12/16/2017	2:49:00 PM	PDO			At Intersection	Front to Side	N	Straight	Straight
931	PATTERSON RD & 29 RD	12/17/2017	5:31:00 PM	PDO	350	E	Driveway Related	Front to Rear	N	Right Turn	Straight
932	PATTERSON RD & AGANA	12/17/2017	1:44:00 PM	PDO	130	W	Intersection Related	Fence	N	Left Turn	UNK
933	PATTERSON RD & 24 RD	12/18/2017	2:35:00 PM	PDO	160	W	Intersection Related	Front to Front	NE	Changing Lanes	Straight
934	PATTERSON RD & 25 1/2	12/21/2017	6:15:00 PM	PDO			At Intersection	Front to Side	E	Left Turn	Straight
935	PATTERSON RD & MARKET ST	12/22/2017	2:40:00 PM	PDO	25	W	Non-Int	Front to Rear	W	Straight	Stopped
936	PATTERSON RD & 29 RD	12/23/2017	4:24:00 AM	PDO			At Intersection	Traffic Signal Pole	N	Left Turn	UNK
937	PATTERSON RD & 28 RD	12/25/2017	4:17:00 PM	PDO			At Intersection	Front to Side	S	Left Turn	Straight
938	PATTERSON RD & N 1ST ST	12/29/2017	2:44:00 PM	PDO			At Intersection	Front to Rear	W	Straight	Stopped

#	Intersection	Date	Time	Severity	Distance From Int	Direction from Int	Road Description	Accident Type	Dir	Vehicle 1 Movement	Vehicle 2 Movement
939	PATTERSON RD & N 12TH ST	12/31/2017	10:07:00 PM	PDO			At Intersection	Front to Side	W	Left Turn	Straight
940	PATTERSON RD & 25 RD	1/2/2018	10:58:00 AM	PDO	1215	N	Driveway Access Related	Front to Front	E	Left Turn	Left Turn
941	PATTERSON RD & 25 RD	1/3/2018	3:01:00 PM	PDO	120	S	Intersection Related	Front to Rear	N	Straight/following road	Stopped
942	PATTERSON RD & N 15TH ST	1/3/2018	5:24:00 PM	PDO	602	E	Intersection Related	Side to Side Same Dir	E	Changing Lanes	Straight/following road
943	PATTERSON RD & 25 RD	1/4/2018	1:55:00 PM	PDO	108	E	Driveway Access Related	Front to Side	N	Left Turn	Straight/following road
944	PATTERSON RD & 29 RD	1/8/2018	5:50:00 PM	PDO	0		Intersection Related	Front to Rear	N	Straight/following road	Stopped
945	PATTERSON RD & HOME DEPOT SIGNAL	1/9/2018	11:50:00 AM	PDO	500	E	Non-Intersection	Light Pole / Utility Pole	W	Straight/following road	UNK
946	PATTERSON RD & 24 1/2 RD	1/10/2018	2:14:00 PM	PDO	500	S	At Intersection	Front to Rear	S	Changing Lanes	Stopped
947	PATTERSON RD & 24 1/2 RD	1/10/2018	2:01:00 PM	PDO	0		Intersection Related	Front to Side	E	Left Turn	Stopped
948	PATTERSON RD & 30 RD	1/12/2018	10:15:00 AM	PDO	30	S	Intersection Related	Front to Rear	N	Straight/following road	Stopped
949	636 MARKET ST & PATTERSON RD	1/12/2018	5:15:00 PM	PDO	224	N	At Intersection	Front to Side	E	Right Turn	Left Turn
950	PATTERSON RD & N 1ST ST	1/18/2018	8:57:00 AM	PDO	20	E	Intersection Related	Enbankment	N	Right Turn	Straight/following road
951	PATTERSON RD & 29 1/2 RD	1/19/2018	3:52:00 PM	FAT	0		At Intersection	Front to Side	W	Left Turn	Straight/following road
952	PATTERSON RD & 27 1/2 RD	1/19/2018	8:20:00 PM	PDO	0		At Intersection	Traffic Signal Pole	S	Left Turn	UNK
953	PATTERSON RD & HWY 6 & 50	1/19/2018	11:11:00 PM	PDO	150	N	Non-Intersection	Enbankment	W	Straight/following road	UNK
954	PATTERSON RD & N 12TH ST	1/20/2018	7:54:00 PM	INJ	200	S	Driveway Access Related	Front to Side	E	Straight/following road	Straight/following road
955	PATTERSON RD & 28 1/4 RD	1/21/2018	5:16:00 AM	PDO	0		At Intersection	Curb	N	Left Turn	UNK
956	PATTERSON RD & 25 RD	1/21/2018	12:47:00 PM	PDO	100	N	Intersection Related	Front to Rear	S	Straight/following road	Stopped
957	PATTERSON RD & N 12TH ST	1/21/2018	4:07:00 PM	PDO	0		At Intersection	Front to Side	W	Straight/following road	Straight/following road
958	PATTERSON RD & 27 1/2 RD	1/22/2018	8:54:00 AM	PDO	0		At Intersection	Side to Side Same Dir	E	Straight/following road	Stopped
959	PATTERSON RD & 29 RD	1/23/2018	5:43:00 PM	PDO	73	S	Intersection Related	Front to Rear	N	Straight/following road	Stopped
960	PATTERSON RD & N 12TH ST	1/24/2018	5:49:00 PM	PDO	0		Intersection Related	Front to Side	N	Right Turn	Left Turn
961	PATTERSON RD & N 15TH ST	1/27/2018	11:40:00 AM	PDO	600	E	Intersection Related	Front to Rear	W	Straight/following road	Stopped
962	PATTERSON RD & 25 RD	1/29/2018	10:13:00 AM	INJ	1500	E	Driveway Access Related	Front to Rear	W	Straight/following road	Slowing
963	PATTERSON RD & 24 1/2 RD	1/30/2018	7:55:00 AM	PDO	1200	E	Non-Intersection	Side to Side Same Dir	W	Changing Lanes	Straight/following road
964	PATTERSON RD & 27 1/2 RD	1/31/2018	3:25:00 PM	PDO	0		At Intersection	Front to Side	E	Left Turn	Straight/following road
965	PATTERSON RD & N 15TH ST	2/2/2018	5:32:00 PM	PDO	300	E	Non-Intersection	Side to Side Same Dir	W	Straight/following road	Straight/following road
966	PATTERSON RD & 29 RD	2/3/2018	1:00:00 PM	PDO	200	S	Intersection Related	Front to Rear	N	Straight/following road	Stopped
967	PATTERSON RD & 25 RD	2/3/2018	10:40:00 PM	PDO	50	N	At Intersection	Side to Side Same Dir	S	Changing Lanes	Straight/following road
968	PATTERSON RD & 28 1/4 RD	2/8/2018	7:40:00 AM	INJ	0		Intersection Related	Front to Rear	W	Straight/following road	Stopped
969	PATTERSON RD & 24 1/2 RD	2/8/2018	11:14:00 AM	PDO	0		Intersection Related	Front to Rear	N	Straight/following road	Straight/following road
970	PATTERSON RD & GRAND CASCADE WY	2/9/2018	7:53:00 AM	PDO	50	E	Non-Intersection	Front to Rear	W	Straight/following road	Stopped
971	PATTERSON RD & GRAND CASCADE WY	2/9/2018	7:53:00 AM	PDO	70	E	Non-Intersection	Front to Rear	W	Straight/following road	Stopped
972	PATTERSON RD & 25 1/2 RD	2/12/2018	2:02:00 PM	PDO	50	E	Intersection Related	Side to Side Same Dir	E	Changing Lanes	Straight/following road
973	PATTERSON RD & 25 1/2 RD	2/13/2018	11:51:00 AM	PDO	300	E	Intersection Related	Front to Rear	W	Straight/following road	Slowing
974	PATTERSON RD & N 12TH ST	2/14/2018	5:14:00 PM	PDO	230	E	Intersection Related	Front to Rear	W	Straight/following road	Slowing
975	PATTERSON RD & N 7TH ST	2/14/2018	10:07:00 AM	PDO	0		At Intersection	Front to Front	N	Left Turn	Straight/following road
976	PATTERSON RD & N 7TH ST	2/15/2018	6:42:00 PM	PDO	0		At Intersection	Front to Front	N	Left Turn	Straight/following road
977	PATTERSON RD & MARKET ST	2/15/2018	6:53:00 PM	PDO	0		At Intersection	Front to Rear	W	Backing	Stopped
978	PATTERSON RD & N 12TH ST	2/16/2018	8:43:00 AM	PDO	0		Intersection Related	Front to Side	W	Changing Lanes	Straight/following road
979	PATTERSON RD & N 7TH ST	2/20/2018	3:08:00 PM	PDO	0		At Intersection	Front to Side	N	Left Turn	Straight/following road
980	PATTERSON RD & SPRING VALLEY CIR	2/22/2018	7:11:00 AM	INJ	150	E	Non-Intersection	Front to Side	E	Straight/following road	Straight/following road
981	PATTERSON RD & GRAND CASCADE WY	2/22/2018	6:51:00 AM	PDO	250	E	Non-Intersection	Front to Side	W	Straight/following road	Straight/following road
982	PATTERSON RD & 24 RD	2/22/2018	7:11:00 PM	PDO	0		At Intersection	Front to Side	N	Left Turn	Straight/following road
983	PATTERSON RD & 24 1/2 RD	2/25/2018	11:44:00 AM	PDO	50	W	Intersection Related	Front to Rear	E	Straight/following road	Stopped
984	PATTERSON RD & N 12TH ST	2/26/2018	2:40:00 PM	PDO	100	W	Intersection Related	Side to Side Same Dir	E	Changing Lanes	Stopped
985	PATTERSON RD & 28 RD	2/28/2018	5:21:00 PM	PDO	70	E	Non-Intersection	Front to Rear	E	Straight/following road	Straight/following road
986	PATTERSON RD & 29 RD	2/28/2018	7:41:00 AM	PDO	0		At Intersection	Front to Side	E	Left Turn	Straight/following road
987	PATTERSON RD & N 7TH ST	2/28/2018	10:45:00 AM	PDO	0		At Intersection	Front to Side	N	Right Turn	Left Turn
988	PATTERSON RD & N 7TH ST	2/28/2018	1:24:00 PM	PDO	0		At Intersection	Front to Side	N	Left Turn	Straight/following road
989	PATTERSON RD & PARTEE DR	3/1/2018	7:45:00 AM	PDO	0		Non-Intersection	Front to Rear	W	Straight/following road	Stopped
990	PATTERSON RD & 27 1/2 RD	3/1/2018	3:22:00 PM	PDO	300	W	At Intersection	Front to Rear	E	Straight/following road	Slowing
991	PATTERSON RD & N 1ST ST	3/3/2018	10:01:00 AM	PDO	30	N	Intersection Related	Front to Rear	S	Straight/following road	Stopped
992	PATTERSON RD & N 7TH ST	3/3/2018	10:36:00 AM	PDO	20	N	Intersection Related	Front to Rear	S	Straight/following road	Stopped
993	PATTERSON RD & 24 1/2 RD	3/3/2018	2:13:00 PM	PDO	400	S	At Intersection	Front to Side	E	Left Turn	Straight/following road
994	PATTERSON RD & 30 RD	3/5/2018	3:56:00 PM	PDO	0		At Intersection	Front to Rear	W	Straight/following road	Stopped
995	PATTERSON RD & N 1ST ST	3/6/2018	5:20:00 PM	PDO	160	W	Non-Intersection	Front to Rear	E	Slowing	Stopped
996	PATTERSON RD & 25 RD	3/6/2018	4:57:00 PM	PDO	0		At Intersection	Front to Side	W	Left Turn	Straight/following road
997	PATTERSON RD & 25 RD	3/8/2018	10:47:00 AM	PDO	15	E	Intersection Related	Front to Rear	W	Straight/following road	Stopped
998	PATTERSON RD & 24 1/2 RD	3/8/2018	1:23:00 PM	PDO	0		At Intersection	Front to Side	N	Left Turn	Straight/following road
999	PATTERSON RD & BURKEY ST	3/8/2018	2:11:00 PM	PDO	0		At Intersection	Bicycle	S	Right Turn	Straight/following road
1000	PATTERSON RD & N 15TH ST	3/8/2018	9:46:00 PM	PDO	0		At Intersection	Front to Side	W	Left Turn	Straight/following road
1001	PATTERSON RD & N 1ST ST	3/9/2018	4:06:00 PM	PDO	0		Intersection Related	Front to Rear	E	Straight/following road	Stopped
1002	PATTERSON RD & 25 1/2 RD	3/14/2018	4:10:00 PM	PDO	0		At Intersection	Front to Side	UNK	UNK	Straight/following road
1003	PATTERSON RD & 30 RD	3/15/2018	12:17:00 PM	PDO	181	N	Driveway Access Related	Front to Front	W	Left Turn	Slowing
1004	PATTERSON RD & 24 1/2 RD	3/19/2018	5:15:00 PM	PDO	0		At Intersection	Front to Side	E	Left Turn	Straight/following road
1005	PATTERSON RD & N 12TH ST	3/21/2018	2:55:00 PM	PDO	220	W	Intersection Related	Front to Rear	E	Slowing	Stopped
1006	PATTERSON RD & N 12TH ST	3/21/2018	5:08:00 PM	PDO	370	W	Intersection Related	Front to Rear	E	Straight/following road	Stopped
1007	PATTERSON RD & N 1ST ST	3/24/2018	5:22:00 PM	PDO	0		At Intersection	Front to Side	E	Left Turn	Left Turn
1008	PATTERSON RD & MARKET ST	3/28/2018	10:08:00 AM	PDO	0		At Intersection	Front to Side	E	Straight/following road	Straight/following road
1009	PATTERSON RD & N 12TH ST	3/28/2018	12:30:00 PM	PDO	0		Intersection Related	Front to Rear	N	Straight/following road	Stopped
1010	PATTERSON RD & 30 RD	3/29/2018	7:10:00 AM	PDO	0		At Intersection	Front to Side	E	Straight/following road	Straight/following road
1011	PATTERSON RD & N 7TH ST	4/1/2018	8:34:00 PM	PDO	0		At Intersection	Front to Rear	S	Straight/following road	Stopped
1012	PATTERSON RD & 29 RD	4/2/2018	1:11:00 PM	PDO	0		At Intersection	Front to Side	W	Left Turn	Straight/following road
1013	PATTERSON RD & N 15TH ST	4/4/2018	7:25:00 AM	PDO	403	E	Intersection Related	Front to Rear	W	Slowing	Stopped
1014	PATTERSON RD & N 15TH ST	4/4/2018	4:17:00 PM	PDO	363	E	Intersection Related	Front to Rear	E	Straight/following road	Stopped
1015	PATTERSON RD & 24 RD	4/6/2018	12:27:00 PM	PDO	0		At Intersection	Front to Side	N	Left Turn	Straight/following road
1016	PATTERSON RD & 25 1/2 RD	4/9/2018	4:34:00 PM	PDO	0		Non-Intersection	Front to Rear	W	Straight/following road	Avoiding Object
1017	PATTERSON RD & 25 RD	4/12/2018	3:42:00 PM	PDO	0		At Intersection	Bicycle	W	Straight/following road	Right Turn
1018	PATTERSON RD & 24 1/2 RD	4/18/2018	1:27:00 PM	PDO	170	N	Driveway Access Related	Front to Side	W	Left Turn	Straight/following road
1019	PATTERSON RD & N 12TH ST	4/18/2018	12:27:00 PM	PDO	40	S	Intersection Related	Front to Rear	N	Changing Lanes	Stopped
1020	PATTERSON RD & N 1ST ST	4/20/2018	11:08:00 AM	PDO	0		At Intersection	Front to Side	N	Right Turn	Straight/following road
1021	PATTERSON RD & MIRA VISTA RD	4/21/2018	6:12:00 PM	PDO	300	W	Non-Intersection	Front to Rear	W	Straight/following road	Slowing
1022	PATTERSON RD & VIEW POINT DR	4/21/2018	3:54:00 PM	PDO	0		At Intersection	All Other Peds	S	Right Turn	Straight/following road
1023	PATTERSON RD & 29 RD	4/27/2018	3:16:00 PM	PDO	200	E	Intersection Related	Front to Rear	W	Slowing	Stopped
1024	PATTERSON RD & N 12TH ST	5/2/2018	11:30:00 AM	PDO	100	S	Driveway Access Related	Side to Side Same Dir	N	Changing Lanes	Straight/following road
1025	PATTERSON RD & 24 1/2 RD	5/2/2018	8:37:00 PM	PDO	500	S	Driveway Access Related	Front to Side	E	Left Turn	Straight/following road
1026	PATTERSON RD & 30 RD	5/2/2018	3:12:00 PM	PDO	20	E	Intersection Related	Front to Rear	W	Straight/following road	Stopped
1027	PATTERSON RD & N 12TH ST	5/2/2018	4:41:00 PM	PDO	300	E	Intersection Related	Front to Rear	W	Straight/following road	Stopped
1028	PATTERSON RD & N 15TH ST	5/3/2018	5:29:00 PM	INJ	500	E	Non-Intersection	Front to Rear	W	Straight/following road	Stopped
1029	PATTERSON RD & 27 1/2 RD	5/3/2018	10:47:00 AM	PDO	0		At Intersection	Front to Side	E	Left Turn	Straight/following road
1030	PATTERSON RD & 25 RD	5/4/2018	12:31:00 PM	PDO	0		At Intersection	Front to Front	N	Left Turn	Straight/following road
1031	PATTERSON RD & 24 RD	5/5/2018	9:05:00 PM	INJ	0		At Intersection	Front to Side	E	Left Turn	Straight/following road
1032	PATTERSON RD & N 7TH ST	5/5/2018	12:15:00 PM	PDO	570	W	Intersection Related	Front to Rear	E	Straight/following road	Stopped
1033	PATTERSON RD & 29 RD	5/6/2018	4:32:00 PM	PDO	0		At Intersection	Front to Rear	W	Straight/following road	Stopped
1034	PATTERSON RD & 24 1/2 RD	5/8/2018	12:58:00 PM	PDO	466	S	Driveway Access Related	Front to Side	E	Left Turn	Straight/following road
1035	PATTERSON RD & 25 RD	5/9/2018	1:32:00 PM	PDO	130	S	Driveway Access Related	Front to Side	E	Left Turn	Straight/following road
1036	PATTERSON RD & RIO GRANDE DR	5/9/2018	4:10:00 PM	PDO	0		Non-Intersection	Curb	W	Straight/following road	UNK
1037	PATTERSON RD & N 12TH ST	5/9/2018	6:38:00 AM	PDO	0		At Intersection	Front to Side	N	Straight/following road	Straight/following road
1038	PATTERSON RD & 25 RD	5/11/2018	12:49:00 PM	PDO	230	S	Intersection Related	Front to Rear	N	Other	Stopped
1039	PATTERSON RD & N 12TH ST	5/12/2018	6:30:00 PM	PDO	400	W	Driveway Access Related	Front to Rear	E	Straight/following road	Slowing
1040	PATTERSON RD & 25 RD	5/13/2018	9:24:00 AM	PDO	1000	W	Driveway Access Related	Side to Side Same Dir	W	Changing Lanes	Straight/following road
1041	PATTERSON RD & HWY 6 & 50	5/15/2018	2:24:00 PM	PDO	250	N	Intersection Related	Side to Side Same Dir	NE	Changing Lanes	Straight/following road
1042	PATTERSON RD & MIRA VISTA RD	5/15/2018	5:00:00 PM	PDO	355	E	Intersection Related	Front to Rear	UNK	UNK	UNK
1043	I-70B & PATTERSON RD	5/16/2018	9:51:00 AM	PDO	0		Driveway Access Related	Front to Side	W	Changing Lanes	Left Turn
1044	PATTERSON RD & 27 1/2 RD	5/18/2018	3:55:00 PM	INJ	250	W	Intersection Related	Overturning	E	Other	UNK
1045	PATTERSON RD & GRAND VALLEY DR	5/22/2018	8:55:00 AM	INJ	155	W	Non-Intersection	Front to Rear	E	Straight/following road	Straight/following road
1046	PATTERSON RD & GRAND VALLEY DR	5/22/2018	8:55:00 AM	INJ	155	W	Non-Intersection	Front to Rear	E	Straight/following road	Straight/following road
1047	PATTERSON RD & SANTA FE DR	5/23/2018	7:16:00 AM	PDO	50	E	Intersection Related	Front to Rear	W	Straight/following road	Slowing
1048	PATTERSON RD & N 15TH ST	5/23/2018	4:12:00 PM	PDO	200	E	Intersection Related	Front to Rear	UNK	UNK	Slowing
1049	PATTERSON RD & 24 1/2 RD	5/25/2018	5:46:00 PM	PDO	0		At Intersection	Front to Side	N	U-Turn	Left Turn
1050	PATTERSON RD & MARKET ST	5/27/2018	7:18:00 AM	PDO	150	E	At Intersection	Light Pole / Utility Pole	E	Straight/following road	UNK
1051	636 MARKET ST & PATTERSON RD	5/28/2018	11:43:00 AM	PDO	250	N	Intersection Related	Front to Side	E	Right Turn	Straight/following road
1052	PATTERSON RD & MEANDER DR	5/30/2018	2:38:00 PM	PDO	451	W	Driveway Access Related	Bicycle	S	Stopped	Straight/following road
1053	PATTERSON RD & 29 RD	5/30/2018	7:51:00 PM	PDO	780	W	Non-Intersection	Front to Rear	W	Straight/following road	Straight/following road
1054	PATTERSON RD & 25 1/2 RD	6/4/2018	4:24:00 PM	PDO	0		Intersection Related	Front to Rear	W	Straight/following road	Straight/following road
1055	PATTERSON RD & 24 1/2 RD	6/5/2018	10:53:00 AM	PDO	500	W	Driveway Access Related	Front to Side	W	Right Turn	Straight/following road
1056	PATTERSON RD & N 7TH ST	6/5/2018	3:13:00 PM	PDO	0		At Intersection	Front to Side	E	Straight/following road	Left Turn

#	Intersection	Date	Time	Severity	Distance From Int	Direction from Int	Road Description	Accident Type	Dir	Vehicle 1 Movement	Vehicle 2 Movement
1057	PATTERSON RD & 24 1/2 RD	6/6/2018	11:56:00 AM	PDO	0		Intersection Related	Front to Rear	W	Slowing	Stopped
1058	PATTERSON RD & 27 1/2 RD	6/6/2018	5:02:00 PM	PDO	0		At Intersection	Front to Rear	E	Straight/following road	Stopped
1059	PATTERSON RD & 25 RD	6/7/2018	12:50:00 PM	PDO	350	W	Non-Intersection	Front to Rear	E	Slowing	Slowing
1060	PATTERSON RD & 24 1/2 RD	6/7/2018	2:28:00 PM	PDO	0		At Intersection	Front to Side	E	Left Turn	Straight/following road
1061	PATTERSON RD & 28 3/4 RD	6/8/2018	4:42:00 PM	PDO	0		Non-Intersection	Front to Rear	E	Straight/following road	Stopped
1062	PATTERSON RD & N 12TH ST	6/9/2018	12:38:00 PM	PDO	0		At Intersection	Front to Side	S	Straight/following road	Straight/following road
1063	PATTERSON RD & 24 1/2 RD	6/9/2018	6:19:00 PM	PDO	0		At Intersection	Front to Rear	S	Right Turn	Right Turn
1064	PATTERSON RD & 29 1/2 RD	6/12/2018	7:05:00 AM	PDO	40	E	Non-Intersection	Side to Side Opposite Dir	E	Drove Wrong Way	Straight/following road
1065	PATTERSON RD & 24 1/2 RD	6/12/2018	3:40:00 PM	PDO	0		At Intersection	Front to Side	E	Left Turn	Straight/following road
1066	PATTERSON RD & 24 1/2 RD	6/14/2018	4:22:00 PM	PDO	500	S	Driveway Access Related	Front to Side	E	Left Turn	Straight/following road
1067	PATTERSON RD & 24 1/2 RD	6/16/2018	2:54:00 PM	PDO	0		At Intersection	Front to Rear	W	Straight/following road	Slowing
1068	PATTERSON RD & MCMULLIN DR	6/19/2018	5:13:00 PM	INJ	0		At Intersection	Front to Side	W	Left Turn	Straight/following road
1069	PATTERSON RD & N 7TH ST	6/20/2018	11:25:00 AM	PDO	150	W	Driveway Access Related	Front to Side	W	Straight/following road	Left Turn
1070	PATTERSON RD & 29 RD	6/23/2018	11:53:00 PM	PDO	750	S	Non-Intersection	Front to Rear	S	Straight/following road	Slowing
1071	PATTERSON RD & 25 RD	6/25/2018	10:38:00 AM	PDO	150	N	Intersection Related	Front to Rear	S	Straight/following road	Stopped
1072	PATTERSON RD & MIRA VISTA RD	6/27/2018	2:26:00 PM	FAT	260	W	Non-Intersection	Front to Rear	UNK	UNK	Left Turn
1073	PATTERSON RD & COMMERCE BLVD	6/27/2018	8:55:00 AM	INJ	306	E	Driveway Access Related	Front to Side	S	Left Turn	Straight/following road
1074	PATTERSON RD & N 7TH ST	6/27/2018	9:45:00 AM	PDO	580	W	Driveway Access Related	Front to Side	E	Left Turn	Straight/following road
1075	PATTERSON RD & 30 RD	6/28/2018	3:57:00 PM	PDO	0		At Intersection	Front to Side	E	Straight/following road	Straight/following road
1076	PATTERSON RD & N 1ST ST	6/29/2018	10:56:00 AM	PDO	400	W	Intersection Related	Front to Rear	E	Slowing	Stopped
1077	PATTERSON RD & 25 RD	7/2/2018	2:23:00 PM	PDO	173	N	Driveway Access Related	Front to Side	E	Left Turn	Straight/following road
1078	PATTERSON RD & N 12TH ST	7/2/2018	3:48:00 PM	PDO	50	S	Non-Intersection	Front to Rear	N	Straight/following road	Slowing
1079	PATTERSON RD & 30 RD	7/2/2018	11:19:00 PM	PDO	0		Non-Intersection	Front to Rear	E	Straight/following road	Slowing
1080	PATTERSON RD & 24 1/2 RD	7/2/2018	2:38:00 PM	PDO	0		At Intersection	Front to Front	E	Left Turn	Straight/following road
1081	PATTERSON RD & 24 RD	7/5/2018	10:04:00 AM	PDO	80	N	Intersection Related	Side to Side Same Dir	S	Right Turn	Straight/following road
1082	PATTERSON RD & SPRING VALLEY CIR	7/5/2018	12:48:00 PM	PDO	0		Intersection Related	Front to Rear	W	Straight/following road	Stopped
1083	PATTERSON RD & 28 RD	7/7/2018	10:39:00 AM	PDO	0		At Intersection	Front to Side	S	Left Turn	Straight/following road
1084	PATTERSON RD & 30 RD	7/8/2018	7:46:00 PM	INJ	0		At Intersection	Front to Rear	N	Straight/following road	Straight/following road
1085	PATTERSON RD & N 1ST ST	7/9/2018	3:17:00 PM	PDO	0		At Intersection	Front to Side	S	Left Turn	Straight/following road
1086	PATTERSON RD & N 12TH ST	7/9/2018	1:43:00 PM	PDO	0		At Intersection	Front to Rear	E	Straight/following road	Stopped
1087	PATTERSON RD & 24 1/2 RD	7/12/2018	12:57:00 PM	PDO	0		At Intersection	Front to Side	W	Left Turn	Straight/following road
1088	PATTERSON RD & N 12TH ST	7/20/2018	1:32:00 PM	PDO	150	E	Driveway Access Related	Front to Side	N	Straight/following road	Straight/following road
1089	PATTERSON RD & 25 RD	7/22/2018	12:41:00 PM	PDO	0		At Intersection	Front to Rear	E	Straight/following road	Slowing
1090	PATTERSON RD & 25 RD	7/23/2018	5:32:00 PM	PDO	132	N	Driveway Access Related	Front to Front	E	Left Turn	Slowing
1091	636 MARKET ST & PATTERSON RD	7/24/2018	9:08:00 AM	PDO	224	N	Driveway Access Related	Front to Side	E	Right Turn	Left Turn
1092	PATTERSON RD & 27 1/2 RD	7/26/2018	4:28:00 PM	PDO	50	E	Non-Intersection	Front to Rear	E	Straight/following road	Stopped
1093	PATTERSON RD & N 12TH ST	7/26/2018	5:20:00 PM	PDO	350	E	Non-Intersection	Front to Rear	E	Straight/following road	Slowing
1094	PATTERSON RD & 29 RD	7/26/2018	2:24:00 PM	PDO	0		At Intersection	Front to Front	E	Straight/following road	Left Turn
1095	PATTERSON RD & PLACER ST	7/28/2018	10:52:00 AM	PDO	286	W	Non-Intersection	Front to Front	E	Other	Straight/following road
1096	PATTERSON RD & 28 1/4 RD	7/29/2018	4:29:00 PM	PDO	0		At Intersection	Front to Side	W	Left Turn	Straight/following road
1097	PATTERSON RD & MARKET ST	7/31/2018	4:23:00 PM	PDO	0		At Intersection	Overturning	E	Straight/following road	Straight/following road
1098	PATTERSON RD & N 7TH ST	8/6/2018	11:54:00 AM	PDO	250	W	Driveway Access Related	Front to Side	S	Left Turn	Straight/following road
1099	636 MARKET ST & PATTERSON RD	8/7/2018	12:05:00 PM	PDO	294	N	At Intersection	Front to Side	E	Right Turn	Left Turn
1100	PATTERSON RD & 30 RD	8/8/2018	4:08:00 PM	PDO	0		At Intersection	Front to Side	W	Straight/following road	Straight/following road
1101	636 MARKET ST & PATTERSON RD	8/12/2018	2:24:00 PM	PDO	220	N	Driveway Access Related	Front to Side	E	Right Turn	Left Turn
1102	PATTERSON RD & 29 1/2 RD	8/12/2018	9:52:00 AM	PDO	0		At Intersection	Front to Side	N	Left Turn	Stopped
1103	PATTERSON RD & 25 RD	8/14/2018	2:16:00 PM	PDO	695	W	Non-Intersection	Side to Side Same Dir	S	Left Turn	Straight/following road
1104	PATTERSON RD & 28 1/4 RD	8/14/2018	3:19:00 PM	PDO	0		At Intersection	Front to Side	E	Straight/following road	Left Turn
1105	PATTERSON RD & 29 1/2 RD	8/14/2018	4:52:00 PM	PDO	245	W	Intersection Related	Other - Non Collision	E	Other	UNK
1106	PATTERSON RD & 29 RD	8/18/2018	6:10:00 AM	INJ	0		At Intersection	All Other Peds	N	UNK	Straight/following road
1107	PATTERSON RD & N 12TH ST	8/22/2018	11:41:00 AM	PDO	50	N	Intersection Related	Front to Rear	S	Changing Lanes	Stopped
1108	PATTERSON RD & 28 1/4 RD	8/22/2018	3:35:00 PM	PDO	0		At Intersection	Side to Side Same Dir	N	Left Turn	Left Turn
1109	PATTERSON RD & N 12TH ST	8/23/2018	6:46:00 PM	PDO	20	E	Intersection Related	Side to Side Same Dir	N	Right Turn	Straight/following road
1110	PATTERSON RD & N 15TH ST	8/26/2018	2:14:00 PM	PDO	0		At Intersection	Front to Side	E	Left Turn	Straight/following road
1111	PATTERSON RD & 30 RD	8/26/2018	8:01:00 PM	PDO	0		At Intersection	Front to Side	W	Left Turn	Straight/following road
1112	PATTERSON RD & 25 RD	8/26/2018	8:17:00 PM	PDO	0		At Intersection	Front to Front	W	Left Turn	Straight/following road
1113	PATTERSON RD & N 15TH ST	8/27/2018	5:43:00 PM	INJ	685	E	Non-Intersection	Front to Rear	E	Straight/following road	Slowing
1114	PATTERSON RD & N 7TH ST	8/29/2018	5:41:00 PM	PDO	150	E	Non-Intersection	Front to Rear	W	Straight/following road	Stopped
1115	PATTERSON RD & 25 RD	8/29/2018	12:27:00 PM	PDO	0		At Intersection	Front to Side	W	Left Turn	Straight/following road
1116	PATTERSON RD & N 1ST ST	8/29/2018	12:40:00 PM	PDO	100	E	Intersection Related	Front to Rear	W	Straight/following road	Stopped
1117	PATTERSON RD & N 7TH ST	8/29/2018	5:26:00 PM	PDO	0		At Intersection	Front to Front	S	Right Turn	Straight/following road
1118	PATTERSON RD & N 15TH ST	9/4/2018	8:03:00 AM	PDO	175	W	Non-Intersection	Front to Rear	W	Straight/following road	Slowing
1119	PATTERSON RD & 29 RD	9/4/2018	3:17:00 PM	PDO	0		At Intersection	Front to Rear	E	Straight/following road	Right Turn
1120	PATTERSON RD & 25 1/2 RD	9/5/2018	5:27:00 PM	PDO	0		At Intersection	Front to Side	E	Left Turn	Straight/following road
1121	PATTERSON RD & N 7TH ST	9/6/2018	4:05:00 PM	PDO	200	N	Driveway Access Related	Front to Side	E	Right Turn	Straight/following road
1122	PATTERSON RD & N 12TH ST	9/7/2018	11:54:00 AM	PDO	350	E	Intersection Related	Side to Side Same Dir	W	Changing Lanes	Straight/following road
1123	PATTERSON RD & N 15TH ST	9/14/2018	6:24:00 PM	INJ	15	W	At Intersection	All Other Peds	N	Left Turn	Straight/following road
1124	PATTERSON RD & N 1ST ST	9/14/2018	3:07:00 PM	INJ	0		At Intersection	Front to Side	W	Left Turn	Straight/following road
1125	PATTERSON RD & 24 1/2 RD	9/18/2018	11:30:00 AM	PDO	0		At Intersection	Front to Side	W	Straight/following road	Straight/following road
1126	PATTERSON RD & 25 RD	9/21/2018	12:36:00 PM	PDO	150	W	Non-Intersection	Front to Side	E	Left Turn	Straight/following road
1127	PATTERSON RD & 30 RD	9/25/2018	10:33:00 AM	INJ	0		At Intersection	Front to Side	S	Right Turn	Straight/following road
1128	PATTERSON RD & 24 1/2 RD	9/25/2018	1:53:00 PM	PDO	0		At Intersection	Front to Side	N	Straight/following road	Straight/following road
1129	PATTERSON RD & N 7TH ST	9/27/2018	5:25:00 PM	PDO	0		Intersection Related	Front to Rear	E	Straight/following road	Stopped
1130	PATTERSON RD & 24 1/2 RD	9/29/2018	2:15:00 PM	PDO	0		Intersection Related	Front to Rear	W	Slowing	Stopped
1131	PATTERSON RD & 25 RD	10/1/2018	5:22:00 PM	PDO	500	S	Non-Intersection	Front to Rear	N	Slowing	Stopped
1132	PATTERSON RD & 24 1/2 RD	10/6/2018	7:48:00 PM	PDO	500	S	At Intersection	Front to Side	E	Straight/following road	Straight/following road
1133	PATTERSON RD & N 12TH ST	10/7/2018	10:34:00 PM	PDO	0		At Intersection	Front to Side	S	Straight/following road	Straight/following road
1134	PATTERSON RD & BEECHWOOD ST	10/9/2018	7:59:00 AM	PDO	250	W	Non-Intersection	Front to Rear	W	Straight/following road	Slowing
1135	PATTERSON RD & N 12TH ST	10/11/2018	7:54:00 AM	PDO	600	E	Non-Intersection	Front to Rear	W	Slowing	Stopped
1136	PATTERSON RD & 25 RD	10/13/2018	2:25:00 PM	PDO	60	E	Non-Intersection	Front to Rear	E	Straight/following road	Slowing
1137	PATTERSON RD & SERANADE ST	10/13/2018	10:32:00 PM	PDO	158	E	Driveway Access Related	Front to Side	S	Left Turn	Straight/following road
1138	PATTERSON RD & N 12TH ST	10/14/2018	10:06:00 AM	PDO	0		At Intersection	Front to Side	W	Straight/following road	Straight/following road
1139	PATTERSON RD & N 15TH ST	10/17/2018	4:55:00 PM	PDO	20	E	Intersection Related	Front to Rear	E	Straight/following road	Stopped
1140	PATTERSON RD & BELHAVEN WY	10/18/2018	3:54:00 PM	PDO	0		At Intersection	Front to Rear	E	Straight/following road	Straight/following road
1141	PATTERSON RD & 25 RD	10/19/2018	12:30:00 PM	PDO	100	E	Intersection Related	Front to Rear	W	Straight/following road	Stopped
1142	PATTERSON RD & N 12TH ST	10/24/2018	11:00:00 AM	PDO	150	W	Driveway Access Related	Front to Rear	W	Slowing	Slowing
1143	PATTERSON RD & 27 1/2 RD	10/25/2018	11:09:00 AM	PDO	200	W	Non-Intersection	Front to Rear	E	Slowing	Slowing
1144	PATTERSON RD & COTTAGE MEADOWS	10/26/2018	6:04:00 PM	INJ	0		At Intersection	Other - Non Collision	W	Changing Lanes	UNK
1145	PATTERSON RD & HWY 6 & 50	10/26/2018	8:37:00 PM	INJ	0		Non-Intersection	Enbankment	SW	Straight/following road	UNK
1146	PATTERSON RD & BEECHWOOD ST	10/27/2018	3:28:00 PM	PDO	50	W	Non-Intersection	Sign	W	Straight/following road	UNK
1147	PATTERSON RD & 30 RD	10/30/2018	10:29:00 AM	PDO	0		At Intersection	Front to Rear	W	Straight/following road	Stopped
1148	PATTERSON RD & 28 1/4 RD	10/31/2018	3:06:00 PM	PDO	200	W	Intersection Related	Front to Rear	E	Straight/following road	Slowing
1149	PATTERSON RD & 25 RD	11/3/2018	4:05:00 PM	PDO	492	E	Non-Intersection	Front to Rear	W	Straight/following road	Stopped
1150	PATTERSON RD & 24 1/2 RD	11/3/2018	11:20:00 AM	PDO	0		At Intersection	Front to Side	E	Left Turn	Straight/following road
1151	PATTERSON RD & GRAND CASCADE WY	11/4/2018	7:34:00 PM	PDO	0	W	Non-Intersection	Side to Side Same Dir	W	Straight/following road	Straight/following road
1152	PATTERSON RD & 27 1/2 RD	11/6/2018	7:53:00 PM	PDO	0		Intersection Related	Front to Rear	W	Straight/following road	Stopped
1153	PATTERSON RD & 27 1/2 RD	11/7/2018	6:46:00 PM	PDO	200	E	Driveway Access Related	Front to Side	N	Left Turn	Straight/following road
1154	636 MARKET ST & PATTERSON RD	11/9/2018	11:52:00 AM	PDO	250	N	Driveway Access Related	Front to Side	E	Right Turn	Left Turn
1155	PATTERSON RD & 28 1/4 RD	11/9/2018	6:22:00 PM	PDO	400	W	Intersection Related	Front to Rear	E	UNK	Stopped
1156	PATTERSON RD & 25 RD	11/12/2018	5:28:00 PM	PDO	250	W	Driveway Access Related	Front to Side	E	Left Turn	Straight/following road
1157	PATTERSON RD & N 7TH ST	11/12/2018	6:09:00 PM	PDO	0	S	At Intersection	Front to Side	S	Left Turn	Straight/following road
1158	PATTERSON RD & MIRA VISTA RD	11/13/2018	12:13:00 PM	PDO	500	W	Non-Intersection	Front to Rear	E	Straight/following road	Slowing
1159	PATTERSON RD & 29 RD	11/14/2018	4:03:00 PM	PDO	400	S	Driveway Access Related	Front to Side	W	Left Turn	Straight/following road
1160	PATTERSON RD & 29 RD	11/16/2018	6:07:00 PM	PDO	0		At Intersection	Front to Rear	E	Slowing	Stopped
1161	PATTERSON RD & 24 1/2 RD	11/17/2018	2:38:00 PM	PDO	0		At Intersection	Front to Front	S	Left Turn	Straight/following road
1162	PATTERSON RD & MARKET ST	11/17/2018	5:18:00 PM	PDO	0		At Intersection	Front to Side	N	Right Turn	Left Turn
1163	PATTERSON RD & 30 RD	11/22/2018	5:08:00 PM	PDO	0	W	At Intersection	Front to Side	W	Left Turn	Straight/following road
1164	PATTERSON RD & 30 RD	11/28/2018	9:58:00 PM	PDO	0		At Intersection	Front to Side	S	Straight/following road	Straight/following road
1165	PATTERSON RD & GRAND CASCADE WY	11/29/2018	5:00:00 PM	PDO	0		Non-Intersection	Front to Rear	E	Slowing	Slowing
1166	PATTERSON RD & 29 RD	11/29/2018	4:20:00 PM	PDO	0		At Intersection	Front to Front	W	Left Turn	Straight/following road
1167	PATTERSON RD & BELHAVEN WY	11/29/2018	4:39:00 PM	PDO	0	N	At Intersection	Front to Side	N	Left Turn	Straight/following road
1168	PATTERSON RD & N 12TH ST	11/30/2018	6:07:00 PM	PDO	0		At Intersection	Side to Side Same Dir	E	Right Turn	Left Turn
1169	REDLANDS PKWY RAMP & PATTERSON RD	12/2/2018	8:53:00 AM	PDO	400	S	Highway Interchange	Front to Rear	NW	Changing Lanes	Changing Lanes
1170	PATTERSON RD & N 1ST ST	12/5/2018	5:15:00 PM	PDO	50	E	Intersection Related	Front to Rear	W	Slowing	Stopped
1171	PATTERSON RD & N 12TH ST	12/5/2018	9:26:00 AM	PDO	0		At Intersection	Front to Side	E	Right Turn	Straight/following road
1172	PATTERSON RD & N 1ST ST	12/7/2018	4:11:00 PM	PDO	150	W	Non-Intersection	Front to Rear	E	Straight/following road	Stopped
1173	PATTERSON RD & 25 RD	12/7/2018	12:09:00 PM	PDO	233	N	Driveway Access Related	Front to Side	E	Left Turn	Straight/following road

#	Intersection	Date	Time	Severity	Distance From Int	Direction from Int	Road Description	Accident Type	Dir	Vehicle 1 Movement	Vehicle 2 Movement
1174	PATTERSON RD & 24 1/2 RD	12/7/2018	2:52:00 PM	PDO	189	N	Driveway Access Related	Front to Side	W	Left Turn	Straight/following road
1175	PATTERSON RD & 24 1/2 RD	12/8/2018	2:21:00 PM	PDO	0		At Intersection	Front to Rear	N	Straight/following road	Stopped
1176	PATTERSON RD & 25 RD	12/10/2018	6:45:00 AM	PDO	0		At Intersection	Front to Side	N	Right Turn	Straight/following road
1177	PATTERSON RD & 24 RD	12/11/2018	8:57:00 PM	PDO	0		At Intersection	Front to Side	N	Left Turn	Straight/following road
1178	PATTERSON RD & MESA MALL ENTRANCE	12/13/2018	10:48:00 AM	PDO	0		At Intersection	Front to Side	W	Straight/following road	Left Turn
1179	PATTERSON RD & 25 RD	12/13/2018	3:19:00 PM	PDO	0		At Intersection	Front to Side	E	Straight/following road	Left Turn
1180	PATTERSON RD & 25 RD	12/14/2018	3:15:00 PM	PDO	570	W	Non-Intersection	Front to Rear	E	Straight/following road	Stopped
1181	PATTERSON RD & 24 1/2 RD	12/15/2018	4:56:00 PM	PDO	500	S	At Intersection	Front to Front	E	Left Turn	Left Turn
1182	PATTERSON RD & 30 RD	12/16/2018	3:14:00 PM	PDO	400	W	Intersection Related	Front to Rear	E	Straight/following road	Slowing
1183	PATTERSON RD & 28 1/4 RD	12/18/2018	12:23:00 PM	PDO	150	W	Non-Intersection	Front to Rear	E	Straight/following road	Stopped
1184	PATTERSON RD & MIRA VISTA RD	12/19/2018	3:51:00 PM	PDO	0		At Intersection	Front to Rear	W	Straight/following road	Stopped
1185	PATTERSON RD & 29 1/2 RD	12/23/2018	5:37:00 PM	PDO	0		At Intersection	Bicycle	W	Straight/following road	Left Turn
1186	PATTERSON RD & 29 1/2 RD	12/24/2018	2:59:00 PM	PDO	0		At Intersection	Front to Side	E	Straight/following road	Left Turn

Appendix D - Traffic Methodology, Data, and Analysis

CITY OF GRAND JUNCTION
PATTERSON ROAD ACCESS STUDY – TRAFFIC OPERATIONS

US 6/ US 50/ I-70B to Lodgepole Street

January 2021

Prepared for:

City of Grand Junction
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1.0 EXISTING TRAFFIC OPERATIONS

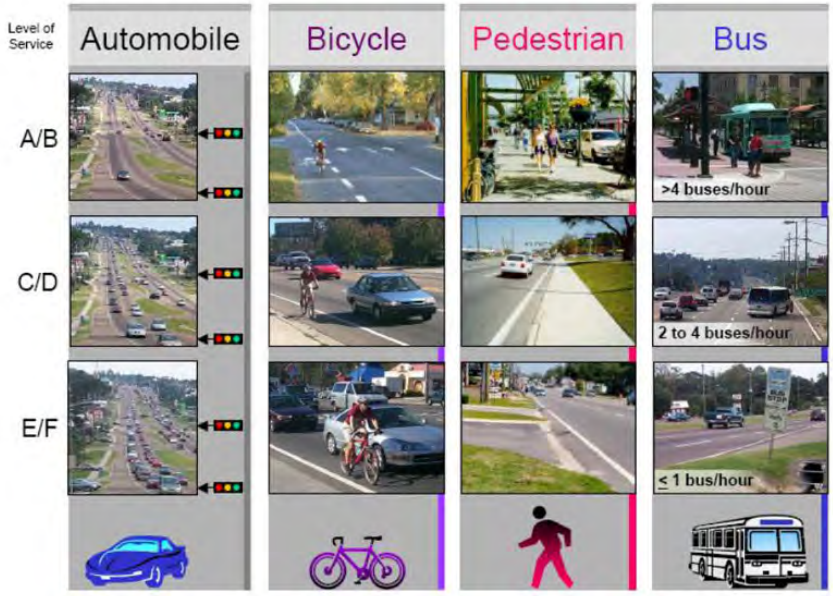
1.1 Traffic Volumes

Existing traffic volumes were collected throughout the study area. Turning movement counts were collected on Tuesday, March 3, 2020 during the AM peak period (7:00-9:00 AM) and the PM peak period (4:00-6:00 PM) at 15 intersections. Vehicle classification counts were collected at 13 locations along Patterson Rd from March 3-4, 2020. Since turning movements were not collected at 15th St, the volumes at that intersection were taken from a Traffic Impact Study conducted by Kimley Horn for the intersection of 12th St and Patterson Rd. The existing traffic counts are included in Appendix D.

1.2 Level of Service Criteria

Traffic analyses were conducted in accordance with procedures outlined in the Highway Capacity Manual, 6th Edition (HCM), and include intersection and highway segment Level-of-Service (LOS). LOS is a measure of the quality of traffic flow and ranges from LOS A (nearly ideal traffic conditions with very little delay for motorists) to LOS F (poor traffic conditions with long motorist delays). LOS C is typically considered a “good” traffic condition. LOS D or better conditions are typically desirable during peak traffic periods; however, LOS E conditions are not uncommon. LOS F, although undesirable, is also not uncommon for side street traffic movements at full movement, unsignalized intersections with high volume arterial roadways.

Where an unsignalized intersection operates at LOS E or F, a volume to capacity (V/C) ratio has been reported for the critical movement. The V/C ratio is a measure of how close a movement is to capacity, with 1.00 indicating that the movement has reached capacity. Where V/C exceeds 1.00, traffic demand during peak periods exceeds the capacity for the movement. This condition will cause queues (amount of traffic backed up at an intersection) to grow, potentially overflowing auxiliary lanes and blocking adjacent traffic lanes until demand decreases. Examples of LOS for various modes of travel are shown below.



Source: FDOT Quality/Level of Service Handbook

Table 1 provides a summary of the HCM's LOS Criteria for intersections and Table 2 provides a summary of the LOS Criteria for urban street segments.

Table 1 – Intersection LOS Criteria

Level of Service (LOS)	Signalized Intersection	Unsignalized Intersection	Traffic Characteristics
	Average Intersection Delay (sec/veh)	Worst Movement (sec/veh)	
A	<= 10	<= 10	Free Flow / Insignificant Delays
B	> 10-20	> 10-15	Stable Flow / Minimal Delays
C	> 20-35	>15-25	Stable Flow / Acceptable Delays
D	> 35-55	>25-35	Nearing Unstable / Tolerable Delays
E	> 55-80	>35-50	Unstable Flow / Significant Delays
F	> 80	> 50	Forced Flow / Excessive Delays

Table 2 – Urban Street LOS Criteria

LOS	Travel Speed Threshold by Base Free-Flow Speed (mi/h)							Volume to Capacity Ratio
	55	50	45	40	35	30	25	
A	>44	>40	>36	>32	>28	>24	>20	<=1.0
B	>37	>34	>30	>27	>23	>20	>17	
C	>28	>25	>23	>20	>18	>15	>13	
D	>22	>20	>18	>16	>14	>12	>10	
E	>17	>15	>14	>12	>11	>9	>8	
F	<=17	<=15	<=14	<=12	<=11	<=9	<=8	
F	Any							>1.0

1.3 LOS Analysis

1.3.1 Intersections

Traffic operations were evaluated using the *Highway Capacity Manual, 6th Edition* methods as

applied in the HCS 7 software. The Streets module in HCS was the primary tool used for analyzing traffic operations for both the intersections and the roadway segments between intersections along Patterson Rd. TEAPAC files containing the existing signal timings were provided by the City of Grand Junction. Since HCS is better suited to conduct the traffic analysis required by this ACP, the timings from TEAPAC were imported into the HCS models. Table 3 and

Table 4 show the existing traffic operations at the stop-controlled and signalized intersections.

Table 3 – Existing Stop-Controlled Intersection Delay & LOS

Intersection		AM			PM	
	Movement	Delay (sec)	LOS (V/C)	Movement	Delay (sec)	LOS (V/C)
28 Rd & Patterson Rd	SBL	613.0	F (1.57)	SBL	527.9	F (1.34)

Table 4 – Existing Signalized Intersection Delay & LOS

Intersection	AM		PM	
	Delay (sec)	LOS	Delay (sec)	LOS
24 Rd & Patterson Rd	31.4	C	48.6	D
Market St & Patterson Rd	11.8	B	27.8	C
Mesa Mall Access & Patterson Rd	8.4	A	19.2	B
24 1/2 Rd & Patterson Rd	15.7	B	27.4	C
25 Rd & Patterson Rd	33.2	C	108.8	F
25 1/2 Rd & Patterson Rd	21.7	C	34.0	C
N 1st St & Patterson Rd	24.3	C	19.0	B
N 7th St & Patterson Rd	26.1	C	28.2	C
N 12th St & Patterson Rd	32.9	C	39.4	D
N 15th St & Patterson Rd	5.1	A	7.1	A
27 1/2 Rd & Patterson Rd	18.9	B	18.5	B
28 1/4 Rd & Patterson Rd	18.4	B	19.0	B
29 Rd & Patterson Rd	56.1	E	54.8	D
29 1/2 Rd & Patterson Rd	19.0	B	14.1	B
30 Rd & Patterson Rd	31.7	C	30.2	C

All the signalized intersections operate at acceptable levels of service, with the exception of Patterson Rd & 25 Rd, which operates at LOS F in the PM peak hour. This is primarily due to the eastbound thru movement being over capacity. The stop-controlled intersection of Patterson Rd & 28 Rd fails in both the AM and PM time periods as a result of the southbound left turn movement having difficulty finding gaps in traffic while turning onto Patterson Rd. The V/C ratio is well over 1.00 in both time periods, indicating that queuing is likely a problem for the southbound left turning movement. Since the traffic volumes at this intersection are too low to warrant a signal, restricting the southbound left turn movement should be considered. The HCS results have been included in Appendix D.

1.3.2 Facility Operations

In accordance with HCM methods, traffic operations for both the individual urban street segments and the overall facility were analyzed. Table 5 shows the travel speed, percent of free flow speed (PFFS), and the LOS.

Table 5 – Existing Facility Operations

Segment	AM						PM					
	Eastbound			Westbound			Eastbound			Westbound		
	Travel Speed MPH	PFFS	LOS	Travel Speed MPH	PFFS	LOS	Travel Speed MPH	PFFS	LOS	Travel Speed MPH	PFFS	LOS
24 Rd to Market St	12.3	29.2	F	24.8	59.7	C	12.7	30.1	E	13.1	31.6	E
Market St to Mesa Mall Access	21.6	51.3	C	25.8	61.8	C	14.4	34.1	E	18.0	43.1	D
Mesa Mall Access to 24 1/2 Rd	30.2	75.2	B	30.3	74.5	B	26.3	65.5	C	28.9	70.9	B
24 1/2 Rd to 25 Rd	34.8	85.5	A	25.2	58.6	C	26.1	64.2	C	26.2	61.0	C
25 Rd to 25 1/2 Rd	22.2	51.4	C	35.5	82.3	A	7.4	17.2	F	30.4	70.4	B
25 1/2 Rd to 1st St	31.5	73.1	B	29.6	72.6	B	21.6	50.1	C	33.2	81.6	A
1st St to 7th St	30.6	72.5	B	27.4	68.7	B	29.8	70.7	B	24.4	61.1	C
7th St to 12th St	33.6	84.0	A	23.6	55.7	C	25.9	64.7	C	22.6	53.4	C
12th St to 15th St	14.7	36.8	E	34.1	80.7	A	14.5	36.3	E	31.7	75.1	B
15th St to 27 1/2 Rd	36.2	82.2	A	27.0	61.3	C	32.8	74.5	B	26.4	59.8	C
27 1/2 Rd to 28 1/4 Rd	36.5	84.0	A	34.7	75.6	B	37.4	85.9	A	36.4	79.4	B
28 1/4 Rd to 29 Rd	35.8	84.1	A	32.6	72.6	B	34.7	81.6	A	32.4	72.2	B
29 Rd to 29 1/2 Rd	27.6	62.8	C	31.1	70.8	B	24.5	55.9	C	36.8	83.7	A
29 1/2 Rd to 30 Rd	36.7	80.6	A	20.5	50.2	C	37.4	82.1	A	19.6	48.1	D
Facility (24 Rd to 30 Rd)	**29.2**	**68.7**	**B**	**28.5**	**66.8**	**C**	**21.9**	**51.5**	**F**	**27.3**	**64.0**	**C**

As can be seen in the table, most of the segments operate acceptably. Notably, the segment from 24 Rd to Market St operates at a LOS F for the eastbound direction in the AM, and LOS E in both directions during the PM. The segment from 25 Rd to 25 ½ Rd operates at LOS F for the eastbound direction in the PM. Overall, the facility operates at LOS B and C for the eastbound and westbound directions in the AM. The westbound direction operates at LOS C in the PM, while the eastbound direction operates at LOS F. HCS gives a facility LOS of F if any of the segments are over capacity, so while the eastbound direction in the PM is technically LOS F, it is only due to one segment operating over capacity. Overall, the travel speeds along the corridor are good.

2.0 YEAR 2045 NO BUILD TRAFFIC OPERATIONS

2.1 Year 2045 Traffic Volumes and Roadway Network

The 2045 No Build scenario models the projected traffic conditions in the year 2045, assuming the access recommendations proposed by the ACP have not been implemented. The No Build scenario is used to identify which locations will potentially develop operational issues due to growth in traffic volumes, and is used to compare operational characteristics with the Year 2045 ACP scenario. Traffic operations or conditions in the 2045 No Build scenario may be unacceptable, with potential solutions to these issues proposed in the ACP scenario.

While the roadway geometry remained consistent with the Existing scenario, the traffic volumes were increased to reflect the expected growth in the surrounding area. The 2045 intersection volumes were forecasted using the Grand Valley MPO Travel Demand Model. The primary purpose of the year 2045 Travel Demand Model is to forecast traffic and travel in communities throughout the region. Additionally, the model can support evaluation of proposed roadway projects, help evaluate potential impacts of proposed development projects, and support various other studies of the region, subareas, corridors, and other planning activities. The model has been calibrated to reflect a base year of 2018, and contains future year data reflecting the forecasted year 2045 conditions. Generally speaking, collector roadways and

above are reflected in the model. Local roadways and private accesses are not represented. Land and roadway developments that are expected to be completed by the year 2045 have been incorporated into the model, while projects that are not yet a certainty, have not been included. The City of Grand Junction has provided information on several proposed developments that are expected to be completed by the year 2045. The location of each development is listed below:

- NW corner of 27 Rd and Patterson Rd
- 2566 & 2580 Patterson
- Burkey Park
- Matchett Park
- Orange Grove and Thunder Valley
- NW of 7th and Patterson

The year 2045 model from the Grand Valley MPO has the option to include an interchange between I-70 and 29 Rd. This interchange would increase traffic volumes along a portion of Patterson Rd, and decrease the volumes along a different portion. This project is currently unfunded, and there is no certainty of it being completed by 2045. Because of the uncertainty, the year 2045 Travel Demand Model that is used for this project will not include an interchange at 29 Rd.

The Iterative Procedure – Directional Method as described in NCHRP Report 765 Analytical Travel Forecasting Approaches for Project-Level Planning and Design was used to generate intersection turning movement forecasts for the horizon year. The directional method uses an iterative approach to alternatively balance entering traffic and departing traffic volumes until an acceptable level of convergence is reached. The program Turns32 was used to balance the volumes. There were three sets of volumes for this project: year 2020 turning movement counts, year 2018 travel demand model, and year 2045 travel demand model. The increase in link volumes from the 2018 to 2045 travel demand model was calculated, and then added to the link volumes of the 2020 turning movement counts. These link volumes, along with the raw 2020 turning movement counts were input into Turns32. The turning movement counts were then increased in Turns32 to balance with the link volumes. These increased turning movements are the 2045 projected turning movements used in the traffic analysis. The 2045 projected turning movement volumes are 33% higher than the 2020 turning movement counts in the AM peak hour, and 24% higher in the PM peak hour.

2.2 Signal Warrants

In order to identify potential future traffic control at full movement intersections, traffic signal warrants were evaluated at a high level. The Manual on Uniform Traffic Control Devices (MUTCD) contains nine traffic signal warrants that help determine if installing a traffic signal at a particular location is justified. The signal warrants are listed below.

#1 – Eight-Hour Vehicular Volume
#2 – Four-Hour Vehicular Volume
#3 – Peak Hour Vehicular Volume
#4 – Pedestrian Volume
#5 – School Crossing
#6 – Coordinated Signal System
#7 – Crash Experience

#8 – Roadway Network
#9 – Intersection Near a (Railroad) Grade Crossing

The only unsignalized intersection being studied along Patterson Rd is the intersection of Patterson Rd & 28 Rd, which is currently stop-controlled. Since 2045 traffic volumes are speculative, only the Peak Hour (#3) signal warrant was evaluated at corridor intersections. In order for a signal to be warranted, the left turning movement from 28 Rd onto Patterson Rd would have to be at least 100 vph. It is projected to be 49 vph in the AM, and 77 vph in the PM, meaning that a signal is not warranted. In 2021 the City will be connecting 28 Rd to the signal at 28 ¼ Rd via Hawthorne Ave. This will alleviate the left turn delay problem.

2.3 Auxiliary Lanes

With the increased volumes expected for 2045, each turning movement was assessed to see if an auxiliary lane is warranted, based on the requirements outlined by the Grand Junction Transportation Engineering Design Standards (TEDS) Manual. The number of vehicles required to warrant an auxiliary lane is based on the number of thru lanes on the arterial, the speed limit, and whether it is a right or left turning movement. These requirements can be found in section 29.28.170 of the TEDS Manual. According to the manual, dual lefts were included in locations where the left turning movement exceeded 300 vph. The warranted auxiliary lanes were included in both the 2045 No Build and Build HCS models. Some level of ROW impacts, typical to a public project, are anticipated to occur in order to accommodate the additional auxiliary lanes. Table 6 shows the warranted auxiliary lanes that are not currently in place. The ACP found that thirteen intersections warranted auxiliary lanes as listed in the table below.

Table 6–Required Auxiliary Lanes

Intersection	Movement Warranting Auxiliary Lane	
	Left Decel	**Right Decel**
24 Rd & Patterson Rd		EBR, WBR, SBR
Market St & Patterson Rd		EBR
Mesa Mall Access & Patterson Rd		EBR
24 1/2 Rd & Patterson Rd		EBR, WBR
25 Rd & Patterson Rd		EBR, WBR
25 1/2 Rd & Patterson Rd		EBR, WBR
N 1st St & Patterson Rd		WBR
N 7th St & Patterson Rd		WBR
N 12th St & Patterson Rd	WBL (Dual Lefts)	WBR
28 1/4 Rd & Patterson Rd		EBR
29 Rd & Patterson Rd		EBR, WBR
29 1/2 Rd & Patterson Rd	NBL, SBL	EBR, WBR
30 Rd & Patterson Rd		EBR, WBR

2.4 Additional Geometric Changes to No Build Model

Along with the required auxiliary lanes that were added to the HCS models for the 2045 No Build scenario, several other intersection improvements that are expected to be completed by the year 2045 were added to the models. The intersection of Patterson Rd & 24 Rd was

modeled with two northbound thru lanes and two eastbound left turn lanes. The intersection of Patterson Rd & 12th St was assumed to have dual lefts for each approach, and the intersection of Patterson Rd & 29 Rd was assumed to have dual northbound left turn lanes. These three intersection improvements were modeled in both the 2045 No Build and the 2045 ACP models. It is anticipated that the 12th Street project will require additional ROW. The other two projects may be able to fit the proposed infrastructure within existing ROW, but may need temporary easements for tie-ins.

2.5 2045 No Build Traffic Operations

2.5.1 Intersections

Traffic operations were evaluated using *Highway Capacity Manual, 6th Edition* methods as applied in the HCS 7 software. The Streets module in HCS is the primary tool for analyzing traffic operations for both the intersections and the roadway segments between intersections along Patterson Rd. The cycle lengths, splits, and offsets were optimized to accommodate the 2045 traffic patterns. The roadway network was updated to include all of the warranted auxiliary lanes, but the specific changes proposed by this ACP are not in the No Build scenario. Table 7 and

Table 8 show the traffic operations for the intersections along Patterson Rd in the 2045 No Build scenario. The HCS printouts of the results can be found in Appendix D.

Table 7 – 2045 No Build Stop-Control Intersection Delay & LOS

Intersection	AM			PM		
	Movement	Delay (sec)	LOS (V/C)	Movement	Delay (sec)	LOS (V/C)
28 Rd & Patterson Rd	SBL	1520.1	F (3.30)	SBL	1682.2	F (3.92)

Table 8 – 2045 No Build Signalized Intersection Delay & LOS

Intersection	AM		PM	
	Delay (sec)	LOS	Delay (sec)	LOS
24 Rd & Patterson Rd	38.2	D	40.4	D
Market St & Patterson Rd	9.0	A	24.4	C
Mesa Mall Access & Patterson Rd	13.5	B	34.4	C
24 1/2 Rd & Patterson Rd	22.6	C	39.5	D
25 Rd & Patterson Rd	31.2	C	74.0	E
25 1/2 Rd & Patterson Rd	20.9	C	24.4	C
N 1st St & Patterson Rd	30.7	C	50.5	D
N 7th St & Patterson Rd	20.4	C	52.5	D
N 12th St & Patterson Rd	33.3	C	76.4	E
N 15th St & Patterson Rd	5.9	A	6.0	A
27 1/2 Rd & Patterson Rd	19.9	B	19.2	B
28 1/4 Rd & Patterson Rd	26.1	C	36.0	D
29 Rd & Patterson Rd	30.1	C	39.2	D
29 1/2 Rd & Patterson Rd	14.3	B	50.6	D
30 Rd & Patterson Rd	27.2	C	20.1	C

The stop-controlled intersection at 28 Rd & Patterson Rd is expected to continue to operate at LOS F in 2045, due to left turns out of the side streets having difficulty finding gaps in the traffic along Patterson Rd. The V/C ratio is far over 1.00, indicating that queueing will be problematic.

Delays have increased at most of the signalized intersections along the corridor due to the increase in traffic volume. The intersections of Patterson Rd & 25 Rd and of Patterson Rd & 12th St are expected to operate at LOS E in the PM. The poor level of service is caused by the eastbound thru movement operating over capacity at both intersections. Without a third eastbound thru lane, it will be difficult to allocate enough green time to the eastbound thru movement without causing operational issues for the side streets.

2.5.2 Facility Operations

Traffic operations for both the individual urban street segments and the overall facility were analyzed using the HCS Streets methods. Table 9 shows the travel speed, percent of free flow speed (PFFS), and the LOS.

Table 9 – 2045 No Build Facility Operations

Segment	AM						PM					
	Eastbound			Westbound			Eastbound			Westbound		
	Travel Speed MPH	PFFS	LOS	Travel Speed MPH	PFFS	LOS	Travel Speed MPH	PFFS	LOS	Travel Speed MPH	PFFS	LOS
24 Rd to Market St	7.5	17.9	F	18.6	44.8	D	3.2	7.7	F	10.8	26.1	F
Market St to Mesa Mall Access	29.8	70.9	B	26.5	63.6	C	18.2	43.3	D	12.3	29.6	F
Mesa Mall Access to 24 1/2 Rd	26.6	66.3	C	28.2	69.2	B	16.9	42.0	D	18.4	56.7	C
24 1/2 Rd to 25 Rd	28.1	69.2	B	23.1	53.7	C	21.0	51.6	C	12.3	28.6	F
25 Rd to 25 1/2 Rd	25.9	60.0	C	34.3	79.5	B	11.5	26.7	F	36.7	85.0	A
25 1/2 Rd to 1st St	30.6	71.0	B	23.6	57.8	C	30.1	69.9	B	26.0	63.8	C
1st St to 7th St	22.6	53.6	C	31.0	77.7	B	13.5	32.0	F	23.0	57.8	C
7th St to 12th St	29.9	74.6	B	20.2	47.8	D	11.1	27.7	F	19.2	45.3	D
12th St to 15th St	13.8	34.6	E	33.9	80.1	A	5.2	13.1	F	35.6	84.1	A
15th St to 27 1/2 Rd	32.8	74.5	B	19.0	43.2	D	28.8	65.4	C	22.4	50.8	C
27 1/2 Rd to 28 1/4 Rd	35.7	82.1	A	29.4	64.1	C	37.4	85.9	A	27.4	59.8	C
28 1/4 Rd to 29 Rd	32.8	77.0	B	28.1	62.6	C	26.2	61.6	C	24.7	54.9	C
29 Rd to 29 1/2 Rd	24.2	55.1	C	34.9	79.5	B	20.7	47.3	D	23.2	53.0	C
29 1/2 Rd to 30 Rd	41.5	91.1	A	28.1	68.9	B	14.9	32.8	F	31.9	78.1	B
Facility (24 Rd to 30 Rd)	**26.7**	**62.9**	**C**	**26.8**	**62.8**	**C**	**15.5**	**42.5**	**F**	**22.4**	**52.3**	**F**

The travel speeds along the highway segments of Patterson Rd have decreased from the Existing Conditions scenario. The roadway segment between 24 Rd and Market St is the most problematic, operating at LOS F for the eastbound direction in the AM and LOS F for both directions in the PM. Several other segments operate at LOS F for the PM time period, most notably the eastbound segment of Patterson Rd from 1st St to 15th St.

3.0 YEAR 2045 ACP TRAFFIC OPERATIONS

3.1 Year 2045 ACP Scenario

The ACP scenario analyzes the traffic conditions assuming that all of the recommendations proposed by the ACP have been implemented. The base traffic volumes remain the same as in

the 2045 No Build scenario, however, in locations where a movement has been restricted in the ACP scenario, the vehicles are rerouted, resulting in different turning movement volumes.

3.2 Auxiliary Lanes

Since the volumes of several of the turning movements in the ACP scenario differ from those in the No Build scenario, each turning movement was reassessed to see if an auxiliary lane is warranted based on the requirements outlined by the Grand Junction Transportation Engineering Design Standards (TEDS) Manual. The number of vehicles required to warrant an auxiliary lane is based on the number of thru lanes on the arterial, the speed limit, and whether it is a right or left turning movement. These requirements can be found in section 29.28.170 of the TEDS Manual. Per the TEDS Manual, dual lefts were included in locations where the left turning movement exceeded 300 vph. Along with identifying the warranted auxiliary lanes, their required lengths were calculated as well, and are shown in Table 10. The total length for both right and left turn lanes in the TEDS Manual standards is calculated by adding the taper length to the 90% queue length. The required auxiliary lanes have been included in the HCS models. It is anticipated that some level of ROW impacts, typical to a public project, will occur to accommodate the additional auxiliary lanes.

Table 10 – 2045 ACP Required Auxiliary Lanes

Intersection	Movement	Volume	Speed Limit	Taper Length	90% Queue Length	Total Length
Patterson Rd & 24 Rd	SBR	71	40	90	43	133
	EBR	207	35	60	0	60
	WBR	359	35	60	0	60
Patterson Rd & Market St	EBR	141	35	60	41	101
Patterson Rd & Home Depot	EBR	227	35	60	103	163
	NBL	279	20	60	139	199
	NBR	249	20	60	205	265
Patterson Rd & 24 1/2 Rd	EBR	251	35	60	165	225
	WBR	282	35	60	92	152
Patterson Rd & 25 Rd	EBR	181	40	90	124	214
	WBR	147	40	90	89	179
Patterson Rd & 25 1/2 Rd	EBR	144	40	90	84	174
	WBR	147	40	90	17	107
Patterson Rd & 1st St	WBR	124	35	60	93	153
Patterson Rd & 7th St	WBR	172	35	60	30	90
Patterson Rd & 12 St	SBL	288	40	90	139	229
	WBL (Dual)	382	40	90	79	169
	WBR	151	40	90	59	149
Patterson Rd & 15 St	EBR	30	40	90	175	265
	WBR	194	40	90	30	120
Patterson Rd & 28 1/4 Rd	EBR	329	40	90	73	163
Patterson Rd & 29 Rd	EBR	310	45	90	154	244
	WBR	98	45	90	21	111
Patterson Rd & 29 1/2 Rd	EBR	96	45	90	73	163
	WBR	265	45	90	114	204
	NBL	86	35	60	73	133
	SBL	155	35	60	191	251
Patterson Rd & 30 Rd	EBR	319	35	60	34	94
	WBR	69	45	90	33	123

3.3 Geometric Changes to 2045 ACP Model

The required auxiliary lanes were included in the 2045 ACP HCS models. The following three changes were added to the 2045 ACP models, just as they were to the 2045 No Build models as well. The intersection of Patterson Rd & 24 Rd was modeled with two northbound thru lanes and two eastbound left turn lanes. The intersection of Patterson Rd & 12th St was assumed to have dual lefts for each approach, and the intersection of Patterson Rd & 29 Rd was assumed to have dual northbound left turn lanes.

3.4 2045 ACP Traffic Operations

3.4.1 Intersections

Traffic operations were evaluated using *Highway Capacity Manual, 6th Edition* methods as applied in the HCS 7 software. The Streets module in HCS is the primary tool for analyzing traffic operations for both the intersections and the roadway segments between intersections along Patterson Rd. The signal cycle lengths, splits, and offsets were optimized to accommodate the changed traffic patterns. Table 11 and Table 13 show the traffic operations for the intersections along Patterson Rd in the 2045 ACP scenario. The HCS printouts of the results can be found in Appendix D.

Table 11 – 2045 ACP Stop-Control Intersection Delay & LOS

Intersection	AM			PM		
	Movement	Delay (sec)	LOS (V/C)	Movement	Delay (sec)	LOS (V/C)
28 Rd & Patterson Rd	SBR	26.4	D	SBR	16.6	C

Table 12 – 2045 ACP Signalized Intersection Delay & LOS

Intersection	AM		PM	
	Delay (sec)	LOS	Delay (sec)	LOS
24 Rd & Patterson Rd	30.1	C	37.6	D
Market St & Patterson Rd	9.7	A	22.6	C
Mesa Mall Access & Patterson Rd	8.7	A	35.5	D
24 1/2 Rd & Patterson Rd	20.5	C	35.4	D
25 Rd & Patterson Rd	28.9	C	55.7	E
25 1/2 Rd & Patterson Rd	25.7	C	31.1	C
N 1st St & Patterson Rd	27.8	C	49.0	D
N 7th St & Patterson Rd	25.6	C	34.8	C
N 12th St & Patterson Rd	27.4	C	62.4	E
N 15th St & Patterson Rd	4.5	A	10.5	B
27 1/2 Rd & Patterson Rd	20.0	C	30.4	C
28 1/4 Rd & Patterson Rd	24.5	C	33.4	C
29 Rd & Patterson Rd	26.7	C	38.4	D
29 1/2 Rd & Patterson Rd	17.8	B	32.9	C
30 Rd & Patterson Rd	21.5	C	23.0	C

The intersection results are similar to those of the 2045 No Build scenario, with the intersections of Patterson Rd & 25 Rd and Patterson Rd & 12th St still expected to operate at LOS E in the

PM. Unless geometric changes are made to increase the capacity of the eastbound thru movement, it is likely that operations at these two intersections will be problematic by year 2045.

3.4.2 Facility Operations

Traffic operations for both the individual urban street segments and the overall facility were analyzed using the HCS Streets methods. Table 13 shows the travel speed, percent of free flow speed (PFFS), and the LOS.

Table 13 – 2045 ACP Facility Operations

Segment	AM						PM					
	Eastbound			Westbound			Eastbound			Westbound		
	Travel Speed MPH	PFFS	LOS	Travel Speed MPH	PFFS	LOS	Travel Speed MPH	PFFS	LOS	Travel Speed MPH	PFFS	LOS
24 Rd to Market St	7.3	17.3	F	18.6	44.8	D	6.2	14.7	F	16.2	39.1	E
Market St to Mesa Mall Access	27.7	66.7	C	27.1	65.2	C	16.7	40.3	D	13.5	32.5	E
Mesa Mall Access to 24 1/2 Rd	31.9	79.2	B	26.6	65.0	C	16.8	41.7	D	21.3	52.2	C
24 1/2 Rd to 25 Rd	29.8	72.8	B	23.8	54.9	C	21.2	51.6	C	21.8	50.4	C
25 Rd to 25 1/2 Rd	25.7	59.9	C	29.8	69.4	B	16.1	37.6	F	31.6	73.6	B
25 1/2 Rd to 1st St	29.1	67.2	B	24.2	59.1	C	24.3	56.1	C	22.8	55.6	C
1st St to 7th St	24.3	56.8	C	27.0	66.8	C	14.7	34.5	F	29.3	72.6	B
7th St to 12th St	23.9	58.7	C	23.4	54.4	C	31.6	77.5	B	23.7	55.0	C
12th St to 15th St	14.0	34.7	E	34.4	80.7	A	6.1	15.0	F	24.2	56.8	C
15th St to 27 1/2 Rd	35.2	79.8	B	20.7	46.9	D	28.6	65.0	C	12.4	28.2	F
27 1/2 Rd to 28 1/4 Rd	37.7	87.2	A	31.6	69.4	B	36.6	84.6	A	16.4	36.0	F
28 1/4 Rd to 29 Rd	32.8	75.5	B	31.4	68.6	B	31.4	72.3	B	23.9	52.3	C
29 Rd to 29 1/2 Rd	28.1	62.6	C	32.1	71.3	B	23.3	51.8	C	31.5	70.1	B
29 1/2 Rd to 30 Rd	33.6	73.8	B	28.7	70.3	B	28.2	61.9	C	30.5	74.8	B
Facility (24 Rd to 30 Rd)	**26.8**	**62.7**	**C**	**27.4**	**63.6**	**C**	**19.9**	**46.5**	**F**	**22.3**	**51.8**	**F**

The roadway segment between 24 Rd and Market St is the most problematic, operating at LOS F for the eastbound direction during both time periods, similar to the 2045 No Build scenario. Much of Patterson Rd, between 25 Rd and 27 ½ Rd, is expected to be over capacity for the eastbound direction during the PM peak hour. Overall, however, travel times for both directions and time periods are expected to experience a slight improvement with the implementation of the ACP. This can mostly be attributed to the reduction of access points along the corridor.

3.5 Evaluated Alternatives

Prior to finalizing the ACP, several alternative designs were evaluated along Patterson Rd.

Market St as a Stop-Controlled Intersection: Due to the proximity of Market St to 24 Rd, and the resulting overlap of functional intersection areas, this alternative called for the signal to be removed from the intersection of Patterson Rd & Market St. The north side of the intersection would be right-in right-out, and the south side would be a ¾ movement. The northbound thru and left turn movements were rerouted to the Home Depot access point, while the southbound thru and left turn movements, and eastbound left turn movement were rerouted to 24 Rd. Although the intersection of Patterson Rd & Market St was expected to operate well in this scenario, it increased the volumes at the intersections of Patterson Rd & 24 Rd and Patterson Rd & Home Depot access. The southern leg of the Home Depot access would require dual northbound left turn lanes, a thru lane, and a right turn lane in order to operate acceptably. This

would result in impacts to the Mesa Mall circulation road and parking. The southbound left turn movement at 24 Rd was expected to increase from 465 vph to 808 vph in the PM. In order for the movement to operate under capacity, there would need to be three left turn lanes, or an alternative intersection design, such as a continuous flow intersection (CFI). Due to the impacts along 24 Rd and at the Mesa Mall and in consideration of the potential relief that a future extension of F 1/2 Rd as a principal arterial would provide, it was decided to keep Market St signalized.

Patterson Rd & 24 Rd as CFI: With Market St as a stop-controlled intersection, the intersection of Patterson Rd & 24 Rd was evaluated as a CFI to handle the increased southbound left turn movement. Only the northern leg of the intersection was analyzed as a CFI, since making the other legs CFI's did not provide significant improvements to traffic operations. The CFI option was expected to operate well during all time periods. Since it was decided to keep Market St as a signalized intersection, the forecasted southbound left turn volume was reduced back to 465 vph, making a CFI unnecessary. The intersection of Patterson Rd & 24 Rd will remain a conventional signalized intersection, with an additional northbound thru and eastbound left turn lane constructed to help traffic operations.

Patterson Rd & 15th St as a ¾ movement: A scenario was analyzed where 15th St was made a ¾ movement stop-controlled intersection, with the left turns out restricted. Although traffic operations were good under this alternative, the pedestrian crossings would be eliminated if the intersection were to be made stop controlled. As this intersection sees frequent pedestrian crossings, it was considered necessary for the pedestrian crossings to remain, so the intersection will remain signalized.

Memorandum

To: Patterson Road Access Control Plan (ACP) Project Team

From: Maxwell Rusch, PE

Date: March 18, 2020

Re: Patterson Road Traffic Methodology

This memorandum describes the general traffic engineering and transportation planning approach proposed by Stolfus & Associates, Inc. for the Patterson Road Access Control Plan (ACP). The purpose of this memorandum is to outline the primary assumptions and procedures that will be used in the traffic analyses for the project. All traffic analyses conducted for the ACP will be in accordance with this methodology, and used to support access-related decisions made during the course of the project. While access point consolidation is the primary goal of the project, recommendations resulting from the ACP traffic analyses, such as the addition of auxiliary lanes, may be incorporated as well.

STUDY AREA

The study area consists of a 7-mile segment of Patterson Road in Mesa County. The roadway is an undivided, 4-lane roadway. The segment begins at the intersection of I-70 Business & Patterson Road and ends at the intersection of Lodgepole St & Patterson Rd. The entirety of the study area lies within the Grand Junction City boundaries.

EXISTING TRAFFIC

Daily Classification Counts that will be conducted over a two-day period, have been proposed for the following 13 locations:

- East of 24 Road
- West of 24 Road
- East of 24½ Road
- West of 24½ Road
- West of 25 Road
- East of 25 Road
- West of 1st Street
- West of 7th Street
- West of 12th Street
- West of 28 ¼ Road
- West of 29 Road
- East of 29 Road
- East of 30 Road

Peak Hour Turning Movement Counts (7:00-9:00 AM & 4:00-6:00 PM) have been proposed for the following 15 locations:

- 24 Road & Patterson
- Market Street/Mall Access & Patterson
- Home Depot Access/Mesa Mall Access & Patterson
- 24 ½ Road & Patterson
- 25 Road & Patterson
- 25 ½ Road & Patterson
- 1st Street & Patterson
- 7th Street & Patterson
- 12th Street & Patterson
- 27 ½ Road & Patterson
- 28 Road & Patterson.
- 28 ¼ Road & Patterson
- 29 Road & Patterson
- 29 ½ Road & Patterson
- 30 Road & Patterson

FUTURE TRAFFIC

Future intersection volumes will be forecasted using the Grand Valley MPO Travel Demand Model. Models for existing conditions (year 2018-2019) and future conditions (year 2045) will be provided by the MPO. Roadway volumes from the model's base year traffic assignment will be compared to available traffic count data in order to ensure that the model is reasonably representing observed traffic patterns. Some amount of deviation between existing and modeled volumes is acceptable and expected. As is typical with regional models, traffic volumes on higher volume facilities are more reliable than traffic volumes on low volume facilities, such as collector streets and arterial streets. The table below reports the maximum desirable amount of deviation between modeled traffic volume and ground counts for the base year. If the deviation exceeds what is listed below, alterations may be made to the future models link volumes.

Model Volume Validation Criteria

Link Type	Max. Deviation
Freeway	+/- 10%
Expressway	+/- 10%
Principal Arterial	+/- 10%
Minor Arterial	+/- 15%
Collector	+/- 25%

The primary purpose of the year 2045 Travel Demand Model is to forecast traffic and travel in communities throughout the region. Additionally, the model can support evaluation of proposed roadway projects, help evaluate potential impacts of proposed development projects, and support various other studies of the region, subareas, corridors, and other planning activities. The model has been calibrated to reflect a base year of 2018 and contains future year data reflecting the forecasted year 2045 conditions. Generally speaking, Collector roadways and above are reflected in the model. Local roadways and private accesses are not represented. Land and roadway developments that are expected to be completed by the year 2045 have been incorporated into the model, while projects that are not yet a certainty, have not been included. The City of Grand Junction has provided information on several proposed developments that are expected to be completed by the year 2045. The location of each development is listed below:

- NW corner of 27 Rd and Patterson Rd
- 2566 & 2580 Patterson
- Burkey Park
- Matchett Park
- Orange Grove and Thunder Valley
- NW of 7th and Patterson

Intersection improvements have been proposed at the following intersections:

- Patterson Road & 25 Road
- Patterson Road & 28 ½ Road
- Patterson Road & 29 Road
- Patterson Road & 12th Street

Once the 2045 Travel Demand Models have been provided, they will be checked to confirm that these projects and intersection improvements are reflected in the models.

The year 2045 model will have the option to include an interchange between I-70 and 29 Rd. This interchange would increase traffic volumes along a portion of Patterson Rd, and decrease the volumes along a different portion. This project is currently unfunded, and there is no certainty of it being completed by 2045. Because of the uncertainty, the year 2045 Travel Demand Model that is used for this project will not include an interchange at 29 Rd.

The Iterative Procedure – Directional Method as described in NCHRP Report 765 Analytical Travel Forecasting Approaches for Project-Level Planning and Design will be used to generate intersection turning movement forecasts for the horizon year. The directional method uses an iterative approach to alternatively balance entering traffic and departing traffic volumes until an acceptable level of convergence is reached. This method applies existing turning movement volumes, and base and future year link volumes. The iterative procedure—directional method was previously documented in *NCHRP Report 255.* The method has been in use for many years and is widely accepted by transportation practitioners. Directional link volume forecasts and an estimate of intersection turning movement percentages are required. Estimated turning percentages can be based on existing turning movement counts, turning movement patterns at similar intersections, or professional judgment. The method alternatively balances intersection approach and departure volumes in an iterative process until an acceptable level of convergence is reached.

TRAFFIC ANALYSIS SCENARIOS

Traffic operations will be evaluated for the following three scenarios:

- Existing
- '2045 No ACP'
- '2045 ACP'

The existing scenario will be evaluated using existing count data and the existing roadway geometry. The 2045 No ACP scenario will evaluate traffic conditions using volumes from the Year 2045 Travel Demand Model. Roadway developments that are expected to occur irrespective of this ACP will be incorporated into the models. The 2045 ACP scenario will analyze the study area assuming full implementation of the proposed ACP plan. Movements will be rerouted when necessary. Traffic signal timings will be optimized in both 2045 scenarios, and where warranted by the Transportation Engineering Design Standards (TEDS) criteria, auxiliary lanes will also be assumed.

TRAFFIC ANALYSIS APPROACH

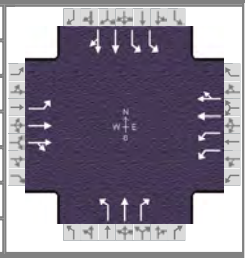
Traffic operations will be evaluated using *Highway Capacity Manual, 6th Edition* methods as applied in the HCS 7 software. The Streets module in HCS will be the primary tool for analyzing traffic operations for both the intersections and the roadway segments between intersections along Patterson Rd.

The impacts of the ACP, from a traffic operations standpoint, are applicable to two of the project goals. The first goal is to provide effective and efficient thru travel for traffic on Patterson Road. This will be evaluated by the corridor travel time in the HCS reports. A decrease in corridor travel time will be deemed favorable, while an increase will be unfavorable. The second goal is to provide safe, effective, and efficient access to and from Patterson Road for businesses, residents, and guests. This will be evaluated by looking at three metrics. The first will be to analyze the left turning movements onto and off of Patterson Road. A decrease in the number of left turning movements with unacceptable traffic operations (LOS E or F) will be deemed favorable, while an increase will be unfavorable. Another criterion that will be evaluated is the extent to which the auxiliary lanes along Patterson Road conform to the Grand Junction TEDS Manual, with the objective being to increase the compliance between the No ACP and ACP scenarios. Finally, while not a directly quantifiable measure, the amount of out of direction travel required to access stores, business, and homes from Patterson Rd, and vice versa, will be evaluated.

TEAPAC files containing the existing signal timings have been provided by the City of Grand Junction. Since HCS is better suited to conduct the traffic analysis required by this ACP, the timings from TEAPAC will be imported into the HCS models. In the year 2045 HCS models, the signal timings will be optimized to accommodate changing traffic patterns. HCS printouts summarizing the optimized timings and LOS results will be included in the technical appendices. The metrics used by HCS to determine the LOS for multimodal forms of travel along a corridor are unlikely to be changed by this ACP. As a result, while the future signal timings will ensure sufficient pedestrian crossing times, multimodal results will not be reported in this ACP.

HCS7 Signalized Intersection Results Summary

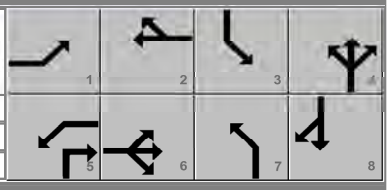
General Information				Intersection Information	
Agency	Stolfus and Associates			Duration, h	0.250
Analyst	Max Rusch	Analysis Date		Area Type	Other
Jurisdiction		Time Period	AM Peak	PHF	0.91
Urban Street	Patterson Rd	Analysis Year		Analysis Period	1> 7:00
Intersection	24 Road & Patterson	File Name	Existing AM.xus		
Project Description					



Demand Information	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Demand (v), veh/h	67	140	51	118	151	115	67	426	360	112	204	17

Signal Information			
Cycle, s	100.0	Reference Phase	6
Offset, s	85	Reference Point	Begin
Uncoordinated	No	Simult. Gap E/W	On
Force Mode	Fixed	Simult. Gap N/S	On

Green	7.8	0.5	33.2	7.8	0.9	27.8
Yellow	3.5	3.5	4.0	3.5	0.0	4.0
Red	0.5	0.5	1.0	0.5	0.0	1.0



Timer Results	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Assigned Phase	1	6	5	2	7	4	3	8
Case Number	1.1	4.0	2.0	4.0	1.1	3.0	2.0	4.0
Phase Duration, s	16.3	42.7	11.8	38.2	11.8	32.8	12.7	33.7
Change Period, ($Y+R_c$), s	4.0	5.0	4.0	5.0	4.0	5.0	4.0	5.0
Max Allow Headway (MAH), s	5.2	0.0	5.2	0.0	5.2	5.2	5.2	5.2
Queue Clearance Time (g_s), s	12.2		5.6		4.7	26.9	5.4	7.2
Green Extension Time (g_e), s	0.0	0.0	0.7	0.0	0.1	0.9	0.3	7.3
Phase Call Probability	1.00		0.97		0.87	1.00	0.97	1.00
Max Out Probability	1.00		0.00		0.08	1.00	0.17	0.19

Movement Group Results	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Assigned Movement	1	6	16	5	2	12	7	4	14	3	8	18
Adjusted Flow Rate (v), veh/h	292	436	396	130	152	140	74	468	396	123	122	121
Adjusted Saturation Flow Rate (s), veh/h/ln	1725	1841	1669	1716	1826	1571	1810	1826	1585	1730	1841	1789
Queue Service Time (g_s), s	10.2	15.6	15.2	3.6	6.1	6.5	2.7	24.9	21.4	3.4	5.1	5.2
Cycle Queue Clearance Time (g_c), s	10.2	15.6	15.2	3.6	6.1	6.5	2.7	24.9	21.4	3.4	5.1	5.2
Green Ratio (g/C)	0.47	0.38	0.38	0.08	0.33	0.33	0.36	0.28	0.36	0.09	0.29	0.29
Capacity (c), veh/h	564	694	629	267	607	522	462	508	564	301	528	513
Volume-to-Capacity Ratio (X)	0.518	0.629	0.630	0.485	0.250	0.269	0.159	0.922	0.701	0.409	0.231	0.235
Back of Queue (Q), ft/ln (90 th percentile)	175	200.8	175.1	64.1	107.5	99.9	45.9	425.2	271.7	58.6	90	91.2
Back of Queue (Q), veh/ln (90 th percentile)	7.6	8.8	7.9	2.8	4.7	4.5	2.1	18.6	12.2	2.6	4.0	3.9
Queue Storage Ratio (RQ) (90 th percentile)	0.98	0.00	0.00	0.29	0.00	0.00	0.35	0.00	1.54	0.44	0.00	0.00
Uniform Delay (d_1), s/veh	19.0	16.3	15.3	44.2	24.3	24.5	21.8	35.0	27.6	43.2	27.2	27.3
Incremental Delay (d_2), s/veh	1.1	4.3	4.7	1.7	0.9	1.1	0.2	22.3	4.2	1.3	0.3	0.3
Initial Queue Delay (d_3), 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
Control Delay (d), s/veh	20.1	20.6	20.0	45.9	25.2	25.6	22.0	57.4	31.8	44.5	27.6	27.6
Level of Service (LOS)	C	C	C	D	C	C	C	E	C	D	C	C
Approach Delay, s/veh / LOS	20.3	C		31.7	C		43.8	D		33.3	C	
Intersection Delay, s/veh / LOS	31.4						C					

Multimodal Results	EB		WB		NB		SB	
Pedestrian LOS Score / LOS	2.28	B	2.28	B	2.44	B	2.29	B
Bicycle LOS Score / LOS	0.72	A	0.84	A	2.03	B	0.79	A

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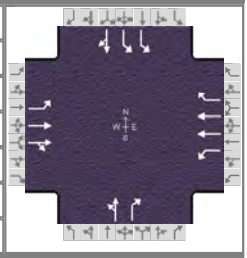
HCS7 Signalized Intersection Results Summary

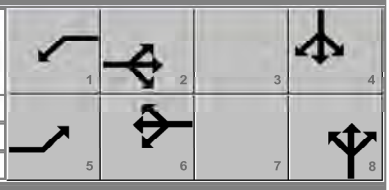
General Information				Intersection Information	
Agency	Stolfus and Associates			Duration, h	0.250
Analyst	Max Rusch	Analysis Date		Area Type	Other
Jurisdiction		Time Period	AM Peak	PHF	0.83
Urban Street	Patterson Rd	Analysis Year		Analysis Period	1> 7:00
Intersection	Market Street/Mall Acce…	File Name	Existing AM.xus		
Project Description					



Demand Information	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Demand (*v*), veh/h	44	541	31	12	348	72	12	6	10	60	7	23

Signal Information			
Cycle, s	100.0	Reference Phase	2
Offset, s	0	Reference Point	Begin
Uncoordinated	No	Simult. Gap E/W	On
Force Mode	Fixed	Simult. Gap N/S	On

Green	0.9	3.6	68.7	3.0	4.8	0.0
Yellow	3.5	0.0	4.0	4.0	4.0	0.0
Red	0.5	0.0	1.0	1.0	1.0	0.0



Timer Results	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Assigned Phase	5	2	1	6		8		4
Case Number	1.1	4.0	1.1	3.0		11.0		10.0
Phase Duration, s	8.5	77.3	4.9	73.7		8.0		9.8
Change Period, ($Y+R_c$), s	4.0	5.0	4.0	5.0		5.0		5.0
Max Allow Headway (*MAH*), s	3.1	0.0	3.1	0.0		3.3		3.3
Queue Clearance Time (g_s), s	3.3		2.1			3.2		4.1
Green Extension Time (g_e), s	0.1	0.0	0.0	0.0		0.0		0.2
Phase Call Probability	0.90		0.18			0.61		0.95
Max Out Probability	0.00		0.00			0.00		0.00

Movement Group Results	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Assigned Movement	5	2	12	1	6	16	3	8	18	7	4	14
Adjusted Flow Rate (*v*), veh/h	85	555	545	7	208	43		22	12	72	36	
Adjusted Saturation Flow Rate (*s*), veh/h/ln	1711	1856	1820	1810	1766	1522		1839	1610	1702	1670	
Queue Service Time (g_s), s	1.3	16.3	16.4	0.1	1.0	0.2		1.2	0.7	2.1	2.1	
Cycle Queue Clearance Time (g_c), s	1.3	16.3	16.4	0.1	1.0	0.2		1.2	0.7	2.1	2.1	
Green Ratio (*g/C*)	0.75	0.72	0.72	0.70	0.69	0.69		0.03	0.03	0.05	0.05	
Capacity (*c*), veh/h	912	1342	1316	369	2426	1045		56	49	162	79	
Volume-to-Capacity Ratio (*X*)	0.093	0.414	0.414	0.019	0.086	0.041		0.388	0.246	0.447	0.455	
Back of Queue (*Q*), ft/ln (90 th percentile)	14.6	227.7	219.8	1.5	13.7	3		22.1	12.2	36.6	36.1	
Back of Queue (*Q*), veh/ln (90 th percentile)	0.6	10.1	10.0	0.1	0.6	0.1		1.0	0.6	1.6	1.6	
Queue Storage Ratio (*RQ*) (90 th percentile)	0.10	0.00	0.00	0.01	0.00	0.03		0.00	0.00	0.00	0.00	
Uniform Delay (d_1), s/veh	3.4	9.1	9.1	5.8	2.6	1.0		47.6	47.4	46.3	46.4	
Incremental Delay (d_2), s/veh	0.0	0.9	0.9	0.0	0.1	0.1		1.6	1.0	0.7	1.5	
Initial Queue Delay (d_3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	
Control Delay (*d*), s/veh	3.4	9.9	10.0	5.8	2.7	1.1		49.2	48.3	47.1	47.9	
Level of Service (LOS)	A	A	B	A	A	A		D	D	D	D	
Approach Delay, s/veh / LOS	9.5	A		2.5	A		48.9	D		47.3	D	
Intersection Delay, s/veh / LOS	11.8						B					

Multimodal Results	EB		WB		NB		SB	
Pedestrian LOS Score / LOS	1.85	B	2.05	B	2.47	B	2.31	B
Bicycle LOS Score / LOS	1.10	A	0.92	A	0.54	A	0.67	A

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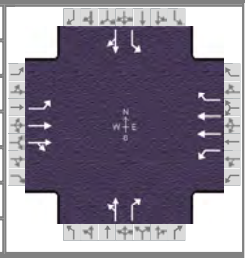
HCS7 Signalized Intersection Results Summary

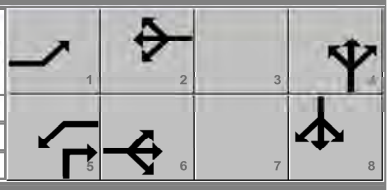
General Information				Intersection Information	
Agency	Stolfus and Associates			Duration, h	0.250
Analyst	Max Rusch	Analysis Date		Area Type	Other
Jurisdiction		Time Period	AM Peak	PHF	0.84
Urban Street	Patterson Rd	Analysis Year		Analysis Period	1> 7:00
Intersection	Home Depot Access/Me…	File Name	Existing AM.xus		
Project Description					



Demand Information	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Demand (v), veh/h	33	559	13	12	405	13	7	5	10	26	4	19

Signal Information			
Cycle, s	100.0	Reference Phase	2
Offset, s	51	Reference Point	Begin
Uncoordinated	No	Simult. Gap E/W	Off
Force Mode	Fixed	Simult. Gap N/S	Off

Green	0.9	3.3	70.2	4.0	2.6	0.0
Yellow	3.5	0.0	4.0	4.0	4.0	0.0
Red	0.5	0.0	1.0	1.0	1.0	0.0



Timer Results	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Assigned Phase	1	6	5	2		4		8
Case Number	1.1	4.0	1.1	3.0		11.0		10.0
Phase Duration, s	8.2	78.5	4.9	75.2		7.6		9.0
Change Period, ($Y+R_c$), s	4.0	5.0	4.0	5.0		5.0		5.0
Max Allow Headway (MAH), s	5.2	0.0	5.2	0.0		5.4		5.4
Queue Clearance Time (g_s), s	3.0		2.1			2.8		3.7
Green Extension Time (g_e), s	0.3	0.0	0.0	0.0		0.1		0.2
Phase Call Probability	0.85		0.18			0.52		0.80
Max Out Probability	0.00		0.00			0.00		0.00

Movement Group Results	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Assigned Movement	1	6	16	5	2	12	7	4	14	3	8	18
Adjusted Flow Rate (v), veh/h	67	587	582	7	236	8		14	12	31	27	
Adjusted Saturation Flow Rate (s), veh/h/ln	1711	1856	1840	1810	1752	1610		1846	1610	1767	1654	
Queue Service Time (g_s), s	1.0	12.4	12.4	0.1	2.5	0.2		0.8	0.7	1.7	1.6	
Cycle Queue Clearance Time (g_c), s	1.0	12.4	12.4	0.1	2.5	0.2		0.8	0.7	1.7	1.6	
Green Ratio (g/C)	0.76	0.74	0.74	0.71	0.70	0.70		0.03	0.03	0.04	0.04	
Capacity (c), veh/h	883	1364	1353	376	2459	1130		48	56	71	66	
Volume-to-Capacity Ratio (X)	0.076	0.430	0.430	0.019	0.096	0.007		0.299	0.213	0.437	0.413	
Back of Queue (Q), ft/ln (90 th percentile)	11.3	147.2	144	1.5	32.5	2.2		16.5	13.1	35.4	30.6	
Back of Queue (Q), veh/ln (90 th percentile)	0.5	6.5	6.5	0.1	1.4	0.1		0.7	0.6	1.6	1.4	
Queue Storage Ratio (RQ) (90 th percentile)	0.08	0.00	0.00	0.01	0.00	0.00		0.00	0.15	0.27	0.00	
Uniform Delay (d_1), s/veh	3.2	5.2	5.2	4.9	5.6	5.9		47.8	46.9	46.9	46.8	
Incremental Delay (d_2), s/veh	0.0	0.9	0.9	0.0	0.1	0.0		4.9	2.7	5.9	5.7	
Initial Queue Delay (d_3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	
Control Delay (d), s/veh	3.3	6.1	6.1	4.9	5.7	6.0		52.7	49.6	52.8	52.6	
Level of Service (LOS)	A	A	A	A	A	A		D	D	D	D	
Approach Delay, s/veh / LOS	6.0	A		5.7	A		51.3	D		52.7	D	
Intersection Delay, s/veh / LOS	8.4						A					

Multimodal Results	EB		WB		NB		SB	
Pedestrian LOS Score / LOS	1.85	B	1.86	B	2.46	B	2.32	B
Bicycle LOS Score / LOS	1.08	A	0.91	A	0.53	A	0.58	A

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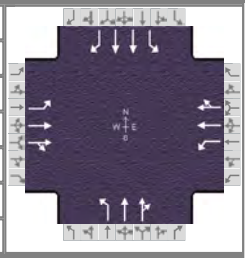
HCS7 Signalized Intersection Results Summary

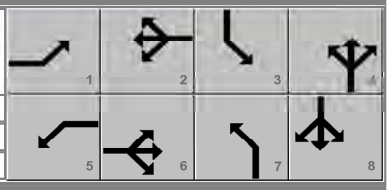
General Information				Intersection Information	
Agency	Stolfus and Associates			Duration, h	0.250
Analyst	Max Rusch	Analysis Date		Area Type	Other
Jurisdiction		Time Period	AM Peak	PHF	0.92
Urban Street	Patterson Rd	Analysis Year		Analysis Period	1> 7:00
Intersection	24 1/2 Rd & Patterson	File Name	Existing AM.xus		
Project Description					



Demand Information	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Demand (*v*), veh/h	26	502	45	71	358	102	71	121	59	117	156	24

Signal Information			
Cycle, s	100.0	Reference Phase	2
Offset, s	28	Reference Point	Begin
Uncoordinated	No	Simult. Gap E/W	On
Force Mode	Fixed	Simult. Gap N/S	On

Green	3.1	0.7	59.9	5.3	2.9	9.5
Yellow	3.5	0.0	4.0	3.5	0.0	4.0
Red	0.5	0.0	1.5	0.5	0.0	1.0



Timer Results	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Assigned Phase	1	6	5	2	7	4	3	8
Case Number	1.1	4.0	1.1	4.0	1.1	4.0	1.1	3.0
Phase Duration, s	7.9	66.1	7.1	65.4	9.3	14.5	12.2	17.4
Change Period, ($Y+R_c$), s	4.0	5.5	4.0	5.5	4.0	5.0	4.0	5.0
Max Allow Headway (*MAH*), s	5.2	0.0	5.2	0.0	5.2	5.2	5.2	5.2
Queue Clearance Time (g_s), s	3.2		2.7		5.9	7.6	8.3	6.5
Green Extension Time (g_e), s	0.2	0.0	0.1	0.0	0.1	2.0	0.1	2.2
Phase Call Probability	0.78		0.63		0.88	1.00	0.97	1.00
Max Out Probability	0.00		0.00		1.00	0.03	1.00	0.01

Movement Group Results	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Assigned Movement	1	6	16	5	2	12	7	4	14	3	8	18
Adjusted Flow Rate (*v*), veh/h	54	577	561	36	117	114	77	100	96	127	170	26
Adjusted Saturation Flow Rate (*s*), veh/h/ln	1697	1870	1816	1810	1856	1716	1767	1856	1656	1767	1738	1397
Queue Service Time (g_s), s	1.2	6.9	6.4	0.7	2.2	2.5	3.9	5.1	5.6	6.3	4.5	1.7
Cycle Queue Clearance Time (g_c), s	1.2	6.9	6.4	0.7	2.2	2.5	3.9	5.1	5.6	6.3	4.5	1.7
Green Ratio (*g/C*)	0.64	0.61	0.61	0.63	0.60	0.60	0.15	0.10	0.10	0.19	0.12	0.12
Capacity (*c*), veh/h	767	1134	1101	389	1111	1028	236	177	158	264	432	174
Volume-to-Capacity Ratio (*X*)	0.071	0.509	0.510	0.092	0.106	0.110	0.328	0.564	0.606	0.482	0.392	0.150
Back of Queue (*Q*), ft/ln (90 th percentile)	17.4	81.6	73.1	10.9	34.6	35.7	70.2	102.3	98.5	111.7	80	26.6
Back of Queue (*Q*), veh/ln (90 th percentile)	0.7	3.6	3.3	0.5	1.5	1.6	3.1	4.5	4.4	5.0	3.5	1.1
Queue Storage Ratio (*RQ*) (90 th percentile)	0.13	0.00	0.00	0.08	0.00	0.00	0.53	0.00	0.00	0.84	0.00	0.00
Uniform Delay (d_1), s/veh	7.1	2.9	2.6	7.4	6.8	7.4	38.0	43.2	43.4	35.9	40.3	39.1
Incremental Delay (d_2), s/veh	0.0	1.5	1.5	0.1	0.2	0.2	1.1	4.0	5.2	1.9	0.8	0.6
Initial Queue Delay (d_3), 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
Control Delay (*d*), s/veh	7.1	4.3	4.1	7.5	7.0	7.6	39.1	47.2	48.7	37.8	41.1	39.6
Level of Service (LOS)	A	A	A	A	A	A	D	D	D	D	D	D
Approach Delay, s/veh / LOS	4.3	A		7.3	A		45.4	D		39.7	D	
Intersection Delay, s/veh / LOS	15.7						B					

Multimodal Results	EB		WB		NB		SB	
Pedestrian LOS Score / LOS	2.24	B	2.39	B	2.31	B	2.30	B
Bicycle LOS Score / LOS	1.00	A	0.96	A	0.71	A	0.75	A

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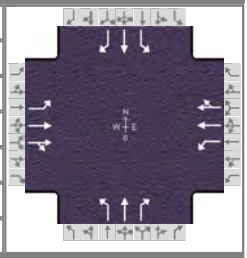
HCS7 Signalized Intersection Results Summary

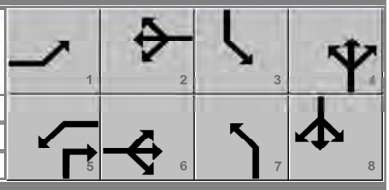
General Information				Intersection Information	
Agency	Stolfus and Associates			Duration, h	0.250
Analyst	Max Rusch	Analysis Date		Area Type	Other
Jurisdiction		Time Period	AM Peak	PHF	0.87
Urban Street	Patterson Rd	Analysis Year		Analysis Period	1> 7:00
Intersection	25 Road & Patterson	File Name	Existing AM.xus		
Project Description					



Demand Information	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Demand (*v*), veh/h	70	532	37	157	524	105	92	241	91	174	270	37

Signal Information			
Cycle, s	100.0	Reference Phase	2
Offset, s	65	Reference Point	Begin
Uncoordinated	No	Simult. Gap E/W	On
Force Mode	Fixed	Simult. Gap N/S	On

Green	10.0	36.0	10.0	25.0	0.0	0.0
Yellow	3.5	4.5	3.5	4.0	0.0	0.0
Red	0.5	1.5	0.5	1.0	0.0	0.0



Timer Results	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Assigned Phase	1	6	5	2	7	4	3	8
Case Number	1.1	4.0	1.1	4.0	1.1	3.0	1.1	3.0
Phase Duration, s	14.0	42.0	14.0	42.0	14.0	30.0	14.0	30.0
Change Period, ($Y+R_c$), s	4.0	6.0	4.0	6.0	4.0	5.0	4.0	5.0
Max Allow Headway (*MAH*), s	5.2	0.0	5.2	0.0	5.2	5.2	5.2	5.2
Queue Clearance Time (g_s), s	5.5		3.7		6.2	15.5	10.1	17.5
Green Extension Time (g_e), s	0.2	0.0	0.1	0.0	0.1	2.9	0.0	2.5
Phase Call Probability	1.00		1.00		1.00	1.00	1.00	1.00
Max Out Probability	1.00		0.35		1.00	0.46	1.00	0.65

Movement Group Results	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Assigned Movement	1	6	16	5	2	12	7	4	14	3	8	18
Adjusted Flow Rate (*v*), veh/h	117	480	469	57	115	112	106	277	87	200	310	43
Adjusted Saturation Flow Rate (*s*), veh/h/ln	1753	1870	1827	1795	1885	1777	1753	1811	1610	1795	1811	1585
Queue Service Time (g_s), s	3.5	22.7	22.6	1.7	4.9	4.9	4.2	13.5	3.7	8.1	15.5	2.1
Cycle Queue Clearance Time (g_c), s	3.5	22.7	22.6	1.7	4.9	4.9	4.2	13.5	3.7	8.1	15.5	2.1
Green Ratio (*g/C*)	0.46	0.36	0.36	0.46	0.36	0.36	0.35	0.25	0.35	0.35	0.25	0.25
Capacity (*c*), veh/h	578	673	658	319	679	640	323	453	564	349	453	396
Volume-to-Capacity Ratio (*X*)	0.202	0.713	0.713	0.177	0.169	0.175	0.327	0.612	0.155	0.574	0.685	0.107
Back of Queue (*Q*), ft/ln (90 th percentile)	51.3	341.2	331.1	29	88.6	84.2	78.5	226.9	58.2	145.7	258.5	33.6
Back of Queue (*Q*), veh/ln (90 th percentile)	2.3	15.3	14.8	1.3	4.0	3.8	3.5	9.8	2.6	6.6	11.2	1.5
Queue Storage Ratio (*RQ*) (90 th percentile)	0.29	0.00	0.00	0.16	0.00	0.00	0.35	0.00	0.33	1.10	0.00	0.25
Uniform Delay (d_1), s/veh	12.5	29.9	29.4	17.3	26.6	25.4	24.2	33.2	22.3	25.3	33.9	28.9
Incremental Delay (d_2), s/veh	0.7	5.9	6.0	1.0	0.5	0.5	2.7	6.1	0.6	6.7	8.2	0.5
Initial Queue Delay (d_3), 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
Control Delay (*d*), s/veh	13.3	35.8	35.5	18.3	27.0	25.9	26.9	39.3	22.9	32.0	42.1	29.4
Level of Service (LOS)	B	D	D	B	C	C	C	D	C	C	D	C
Approach Delay, s/veh / LOS	33.2	C		24.9	C		33.4	C		37.5	D	
Intersection Delay, s/veh / LOS	33.2						C					

Multimodal Results	EB		WB		NB		SB	
Pedestrian LOS Score / LOS	2.13	B	2.11	B	2.29	B	2.29	B
Bicycle LOS Score / LOS	1.09	A	1.23	A	1.26	A	1.40	A

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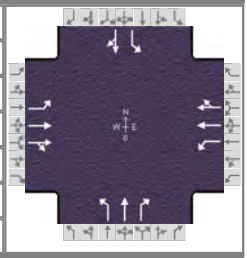
HCS7 Signalized Intersection Results Summary

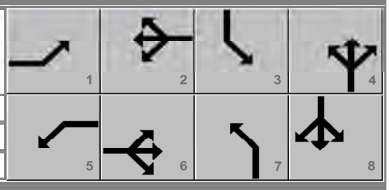
General Information				Intersection Information	
Agency	Stolfus and Associates			Duration, h	0.250
Analyst	Max Rusch	Analysis Date		Area Type	Other
Jurisdiction		Time Period	AM Peak	PHF	0.82
Urban Street	Patterson Rd	Analysis Year		Analysis Period	1> 7:00
Intersection	25 1/2 Road & Patterson	File Name	Existing AM.xus		
Project Description					



Demand Information	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Demand (*v*), veh/h	17	678	43	138	863	90	40	55	83	133	108	48

Signal Information			
Cycle, s	100.0	Reference Phase	2
Offset, s	17	Reference Point	Begin
Uncoordinated	No	Simult. Gap E/W	On
Force Mode	Fixed	Simult. Gap N/S	On

Green	3.4	2.1	53.9	8.0	13.6	0.0
Yellow	3.5	0.0	4.5	3.5	4.0	0.0
Red	0.5	0.0	1.5	0.5	1.0	0.0



Timer Results	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Assigned Phase	1	6	5	2	7	4	3	8
Case Number	1.1	4.0	1.1	4.0	1.1	3.0	1.1	4.0
Phase Duration, s	7.4	59.9	9.6	62.0	12.0	18.6	12.0	18.6
Change Period, ($Y+R_c$), s	4.0	6.0	4.0	6.0	4.0	5.0	4.0	5.0
Max Allow Headway (*MAH*), s	5.2	0.0	5.2	0.0	5.2	5.3	5.2	5.3
Queue Clearance Time (g_s), s	2.5		3.0		4.2	7.9	10.0	12.5
Green Extension Time (g_e), s	0.0	0.0	0.1	0.0	0.0	1.5	0.0	1.1
Phase Call Probability	0.43		0.69		1.00	1.00	1.00	1.00
Max Out Probability	0.00		0.00		1.00	0.14	1.00	0.66

Movement Group Results	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Assigned Movement	1	6	16	5	2	12	7	4	14	3	8	18
Adjusted Flow Rate (*v*), veh/h	20	431	422	43	148	146	49	67	101	162	190	
Adjusted Saturation Flow Rate (*s*), veh/h/ln	1810	1870	1831	1781	1870	1808	1767	1885	1585	1682	1758	
Queue Service Time (g_s), s	0.5	12.5	11.9	1.0	2.5	2.4	2.2	3.2	5.9	8.0	10.5	
Cycle Queue Clearance Time (g_c), s	0.5	12.5	11.9	1.0	2.5	2.4	2.2	3.2	5.9	8.0	10.5	
Green Ratio (*g/C*)	0.57	0.54	0.54	0.60	0.56	0.56	0.22	0.14	0.14	0.22	0.14	
Capacity (*c*), veh/h	701	1008	986	439	1048	1013	226	256	215	303	239	
Volume-to-Capacity Ratio (*X*)	0.029	0.428	0.428	0.097	0.142	0.144	0.216	0.262	0.471	0.535	0.798	
Back of Queue (*Q*), ft/ln (90 th percentile)	7.2	166.7	154.6	14.9	39.2	36.6	43.5	60.2	96.3	151.9	182.2	
Back of Queue (*Q*), veh/ln (90 th percentile)	0.3	7.5	7.0	0.7	1.8	1.6	1.9	2.7	4.3	6.4	8.1	
Queue Storage Ratio (*RQ*) (90 th percentile)	0.05	0.00	0.00	0.11	0.00	0.00	0.39	0.00	1.09	1.13	0.00	
Uniform Delay (d_1), s/veh	9.5	11.8	11.0	9.6	6.7	6.3	32.4	38.7	39.9	34.4	41.9	
Incremental Delay (d_2), s/veh	0.0	1.2	1.2	0.1	0.2	0.2	2.2	0.8	2.3	6.6	10.7	
Initial Queue Delay (d_3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Control Delay (*d*), s/veh	9.6	13.0	12.3	9.7	6.9	6.5	34.6	39.5	42.2	41.0	52.6	
Level of Service (LOS)	A	B	B	A	A	A	C	D	D	D	D	
Approach Delay, s/veh / LOS	12.5	B		7.1	A		39.6	D		47.3	D	
Intersection Delay, s/veh / LOS	21.7						C					

Multimodal Results	EB		WB		NB		SB	
Pedestrian LOS Score / LOS	2.08	B	1.89	B	2.30	B	2.30	B
Bicycle LOS Score / LOS	1.23	A	1.59	B	0.85	A	1.07	A

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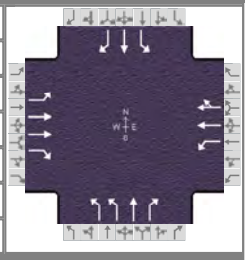
HCS7 Signalized Intersection Results Summary

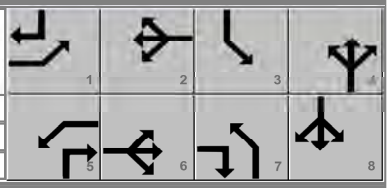
General Information				Intersection Information	
Agency	Stolfus and Associates			Duration, h	0.250
Analyst	Max Rusch	Analysis Date		Area Type	Other
Jurisdiction		Time Period	AM Peak	PHF	0.77
Urban Street	Patterson Rd	Analysis Year		Analysis Period	1> 7:00
Intersection	1st Street & Patterson	File Name	Existing AM.xus		
Project Description					



Demand Information	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Demand (*v*), veh/h	20	704	131	174	966	22	113	125	143	94	250	30

Signal Information			
Cycle, s	100.0	Reference Phase	2
Offset, s	73	Reference Point	Begin
Uncoordinated	No	Simult. Gap E/W	On
Force Mode	Fixed	Simult. Gap N/S	On

Green	2.9	3.4	48.3	5.5	1.7	19.7
Yellow	3.5	0.0	3.0	3.5	0.0	4.0
Red	0.5	0.0	2.5	0.5	0.0	1.0



Timer Results	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Assigned Phase	1	6	5	2	7	4	3	8
Case Number	1.1	3.0	1.1	4.0	1.1	3.0	1.1	3.0
Phase Duration, s	6.9	53.8	10.3	57.2	9.5	24.7	11.2	26.4
Change Period, ($Y+R_c$), s	4.0	5.5	4.0	5.5	4.0	5.0	4.0	5.0
Max Allow Headway (*MAH*), s	5.2	0.0	5.2	0.0	5.2	5.2	5.2	5.2
Queue Clearance Time (g_s), s	2.4		3.4		5.3	11.7	7.3	18.4
Green Extension Time (g_e), s	0.0	0.0	0.2	0.0	0.3	3.8	0.2	3.1
Phase Call Probability	0.36		0.79		0.98	1.00	0.97	1.00
Max Out Probability	0.00		0.00		0.73	0.17	1.00	0.41

Movement Group Results	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Assigned Movement	1	6	16	5	2	12	7	4	14	3	8	18
Adjusted Flow Rate (*v*), veh/h	16	566	105	56	159	159	147	162	186	122	325	39
Adjusted Saturation Flow Rate (*s*), veh/h/ln	1810	1766	1598	1781	1870	1855	1743	1856	1598	1810	1885	1610
Queue Service Time (g_s), s	0.4	8.5	2.2	1.4	5.0	5.0	3.3	7.7	9.7	5.3	16.4	1.9
Cycle Queue Clearance Time (g_c), s	0.4	8.5	2.2	1.4	5.0	5.0	3.3	7.7	9.7	5.3	16.4	1.9
Green Ratio (*g/C*)	0.51	0.48	0.54	0.56	0.52	0.52	0.25	0.20	0.26	0.27	0.21	0.24
Capacity (*c*), veh/h	606	1705	859	489	967	959	399	366	416	329	404	391
Volume-to-Capacity Ratio (*X*)	0.027	0.332	0.123	0.114	0.165	0.165	0.367	0.443	0.446	0.372	0.804	0.100
Back of Queue (*Q*), ft/ln (90 th percentile)	6.4	116.3	30	20.2	79.2	79.2	55.6	133.9	139.1	92.5	263.1	29
Back of Queue (*Q*), veh/ln (90 th percentile)	0.3	5.2	1.4	0.9	3.5	3.5	2.5	5.9	6.3	4.2	11.9	1.3
Queue Storage Ratio (*RQ*) (90 th percentile)	0.05	0.00	0.23	0.18	0.00	0.00	0.42	0.00	1.05	0.84	0.00	0.00
Uniform Delay (d_1), s/veh	11.6	12.9	7.5	9.9	14.4	14.3	30.7	35.3	30.9	29.0	37.3	29.4
Incremental Delay (d_2), s/veh	0.0	0.4	0.2	0.1	0.2	0.2	0.8	1.2	1.1	1.0	7.6	0.2
Initial Queue Delay (d_3), 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
Control Delay (*d*), s/veh	11.7	13.4	7.7	10.0	14.6	14.5	31.5	36.5	32.0	30.0	44.9	29.5
Level of Service (LOS)	B	B	A	A	B	B	C	D	C	C	D	C
Approach Delay, s/veh / LOS	12.5	B		13.9	B		33.3	C		39.9	D	
Intersection Delay, s/veh / LOS	24.3						C					

Multimodal Results	EB		WB		NB		SB	
Pedestrian LOS Score / LOS	2.26	B	2.09	B	2.30	B	2.45	B
Bicycle LOS Score / LOS	1.40	A	1.73	B	1.30	A	1.29	A

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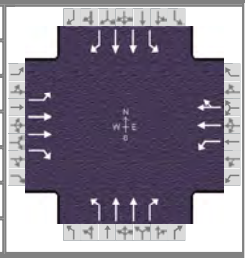
HCS7 Signalized Intersection Results Summary

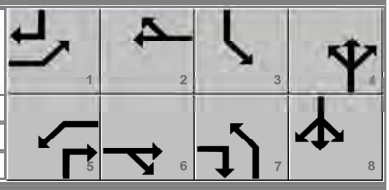
General Information				Intersection Information	
Agency	Stolfus and Associates			Duration, h	0.250
Analyst	Max Rusch	Analysis Date		Area Type	Other
Jurisdiction		Time Period	AM Peak	PHF	0.80
Urban Street	Patterson Rd	Analysis Year		Analysis Period	1> 7:00
Intersection	7th Street & Patterson	File Name	Existing AM.xus		
Project Description					



Demand Information	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Demand (*v*), veh/h	101	573	204	147	955	89	88	292	78	75	391	188

Signal Information			
Cycle, s	100.0	Reference Phase	2
Offset, s	22	Reference Point	Begin
Uncoordinated	No	Simult. Gap E/W	On
Force Mode	Fixed	Simult. Gap N/S	On

Green	4.4	2.0	49.4	5.7	1.0	19.5
Yellow	3.5	0.0	4.0	3.5	0.0	4.0
Red	0.5	0.0	1.0	0.5	0.0	1.0



Timer Results	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Assigned Phase	1	6	5	2	7	4	3	8
Case Number	2.0	3.0	2.0	4.0	1.1	3.0	1.1	3.0
Phase Duration, s	10.4	56.5	8.4	54.4	10.7	25.5	9.7	24.5
Change Period, ($Y+R_c$), s	4.0	5.0	4.0	5.0	4.0	5.0	4.0	5.0
Max Allow Headway (*MAH*), s	5.2	0.0	5.2	0.0	5.2	5.2	5.2	5.2
Queue Clearance Time (g_s), s	6.8		5.2		6.9	10.5	6.1	15.0
Green Extension Time (g_e), s	0.2	0.0	0.2	0.0	0.1	6.3	0.0	4.5
Phase Call Probability	0.91		0.82		0.95	1.00	0.93	1.00
Max Out Probability	0.26		0.00		1.00	0.43	1.00	0.73

Movement Group Results	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Assigned Movement	1	6	16	5	2	12	7	4	14	3	8	18
Adjusted Flow Rate (*v*), veh/h	87	496	154	61	217	213	110	365	81	94	489	235
Adjusted Saturation Flow Rate (*s*), veh/h/ln	1810	1766	1431	1810	1870	1816	1767	1795	1588	1795	1809	1578
Queue Service Time (g_s), s	4.8	3.9	1.0	3.2	7.9	7.9	4.9	8.5	3.8	4.1	12.6	13.0
Cycle Queue Clearance Time (g_c), s	4.8	3.9	1.0	3.2	7.9	7.9	4.9	8.5	3.8	4.1	12.6	13.0
Green Ratio (*g/C*)	0.06	0.51	0.58	0.04	0.49	0.49	0.26	0.20	0.25	0.25	0.20	0.26
Capacity (*c*), veh/h	115	1818	842	79	924	898	240	736	395	269	706	410
Volume-to-Capacity Ratio (*X*)	0.758	0.273	0.183	0.772	0.235	0.237	0.458	0.496	0.206	0.349	0.693	0.574
Back of Queue (*Q*), ft/ln (90 th percentile)	98	52.9	13.1	61.6	124.4	124.2	87.8	132.8	56.8	72.8	191.8	175.2
Back of Queue (*Q*), veh/ln (90 th percentile)	4.5	2.3	0.6	2.8	5.6	5.4	3.9	6.0	2.6	3.3	8.7	7.9
Queue Storage Ratio (*RQ*) (90 th percentile)	0.56	0.00	0.08	0.47	0.00	0.00	0.40	0.00	0.32	0.66	0.00	0.00
Uniform Delay (d_1), s/veh	48.9	5.7	1.6	39.4	18.1	17.9	30.0	32.0	27.1	30.0	37.5	32.3
Incremental Delay (d_2), s/veh	11.1	0.3	0.4	15.3	0.4	0.5	1.9	0.7	0.4	1.1	2.4	1.8
Initial Queue Delay (d_3), 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
Control Delay (*d*), s/veh	60.0	6.0	2.0	54.7	18.6	18.4	31.9	32.7	27.5	31.1	39.8	34.1
Level of Service (LOS)	E	A	A	D	B	B	C	C	C	C	D	C
Approach Delay, s/veh / LOS	11.5	B		22.9	C		31.8	C		37.2	D	
Intersection Delay, s/veh / LOS	26.1						C					

Multimodal Results	EB		WB		NB		SB	
Pedestrian LOS Score / LOS	2.43	B	2.41	B	2.30	B	2.49	B
Bicycle LOS Score / LOS	1.37	A	1.71	B	0.95	A	1.16	A

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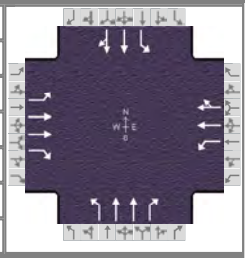
HCS7 Signalized Intersection Results Summary

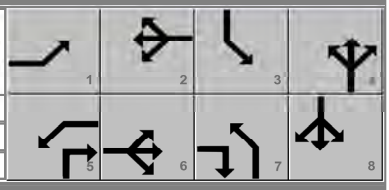
General Information				Intersection Information	
Agency	Stolfus and Associates			Duration, h	0.250
Analyst	Max Rusch	Analysis Date		Area Type	Other
Jurisdiction		Time Period	AM Peak	PHF	0.80
Urban Street	Patterson Rd	Analysis Year	Existing	Analysis Period	1> 7:00
Intersection	12th Street & Patterson	File Name	Existing AM.xus		
Project Description					



Demand Information	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Demand (*v*), veh/h	109	470	116	259	993	96	137	295	74	73	338	82

Signal Information			
Cycle, s	100.0	Reference Phase	2
Offset, s	69	Reference Point	Begin
Uncoordinated	No	Simult. Gap E/W	On
Force Mode	Fixed	Simult. Gap N/S	On

Green	9.0	12.0	24.5	11.0	21.0	0.0
Yellow	3.5	3.5	4.0	3.5	4.0	0.0
Red	0.5	0.5	1.5	0.5	1.0	0.0



Timer Results	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Assigned Phase	1	6	5	2	7	4	3	8
Case Number	1.1	3.0	1.1	4.0	1.1	3.0	1.1	4.0
Phase Duration, s	13.0	30.0	29.0	46.0	15.0	26.0	15.0	26.0
Change Period, ($Y+R_c$), s	4.0	5.5	4.0	5.5	4.0	5.0	4.0	5.0
Max Allow Headway (*MAH*), s	5.2	0.0	5.2	0.0	5.2	5.2	5.2	5.2
Queue Clearance Time (g_s), s	7.3		5.1		9.2	11.1	5.6	15.6
Green Extension Time (g_e), s	0.1	0.0	0.6	0.0	0.1	4.2	0.1	2.8
Phase Call Probability	1.00		1.00		1.00	1.00	1.00	1.00
Max Out Probability	1.00		0.00		1.00	0.55	0.90	0.97

Movement Group Results	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Assigned Movement	1	6	16	5	2	12	7	4	14	3	8	18
Adjusted Flow Rate (*v*), veh/h	131	565	139	142	303	295	171	369	93	91	270	255
Adjusted Saturation Flow Rate (*s*), veh/h/ln	1781	1766	1602	1795	1885	1826	1781	1781	1572	1795	1870	1740
Queue Service Time (g_s), s	5.3	14.0	5.9	3.1	14.0	13.8	7.2	9.1	3.4	3.6	13.3	13.6
Cycle Queue Clearance Time (g_c), s	5.3	14.0	5.9	3.1	14.0	13.8	7.2	9.1	3.4	3.6	13.3	13.6
Green Ratio (*g/C*)	0.34	0.24	0.36	0.52	0.40	0.40	0.32	0.21	0.46	0.32	0.21	0.21
Capacity (*c*), veh/h	433	866	570	599	763	740	316	748	723	362	393	365
Volume-to-Capacity Ratio (*X*)	0.302	0.653	0.245	0.237	0.397	0.399	0.543	0.493	0.128	0.252	0.688	0.698
Back of Queue (*Q*), ft/ln (90 th percentile)	83.6	187.7	81.4	46.3	225.2	215.9	133.5	150	50.3	67.1	231.5	223.7
Back of Queue (*Q*), veh/ln (90 th percentile)	3.7	8.3	3.7	2.1	10.2	9.7	6.0	6.7	2.2	3.0	10.4	10.0
Queue Storage Ratio (*RQ*) (90 th percentile)	0.47	0.00	0.56	0.18	0.00	0.00	0.60	0.00	0.23	0.51	0.00	0.00
Uniform Delay (d_1), s/veh	23.3	31.9	21.2	9.5	29.5	28.8	27.1	34.8	15.5	25.0	36.5	36.6
Incremental Delay (d_2), s/veh	1.1	2.3	0.6	0.8	1.3	1.3	6.6	2.3	0.4	1.7	9.4	10.6
Initial Queue Delay (d_3), 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
Control Delay (*d*), s/veh	24.4	34.3	21.9	10.3	30.8	30.1	33.6	37.1	15.9	26.7	45.9	47.1
Level of Service (LOS)	C	C	C	B	C	C	C	D	B	C	D	D
Approach Delay, s/veh / LOS	30.7	C		26.6	C		33.1	C		43.6	D	
Intersection Delay, s/veh / LOS	32.9						C					

Multimodal Results	EB		WB		NB		SB	
Pedestrian LOS Score / LOS	2.44	B	2.27	B	2.30	B	2.45	B
Bicycle LOS Score / LOS	1.20	A	1.88	B	1.01	A	1.00	A

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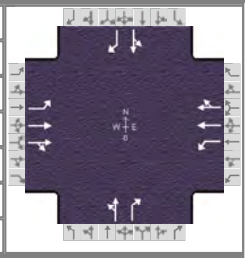
HCS7 Signalized Intersection Results Summary

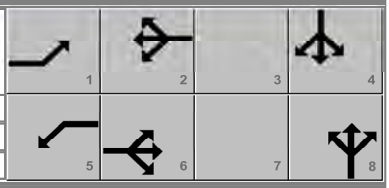
General Information				Intersection Information	
Agency	Stolfus and Associates			Duration, h	0.250
Analyst	Max Rusch	Analysis Date		Area Type	Other
Jurisdiction		Time Period	AM Peak	PHF	0.83
Urban Street	Patterson Rd	Analysis Year	Existing	Analysis Period	1> 7:00
Intersection	Patterson Rd & 15th St	File Name	Existing AM.xus		
Project Description					



Demand Information	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Demand (*v*), veh/h	37	541	12	23	1518	29	13	3	20	13	3	62

Signal Information			
Cycle, s	100.0	Reference Phase	2
Offset, s	47	Reference Point	Begin
Uncoordinated	No	Simult. Gap E/W	On
Force Mode	Fixed	Simult. Gap N/S	On

Green	1.4	2.5	75.9	6.7	0.0	0.0
Yellow	3.5	0.0	3.5	3.5	0.0	0.0
Red	1.0	0.0	1.0	1.0	0.0	0.0



Timer Results	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Assigned Phase	1	6	5	2		8		4
Case Number	1.1	4.0	1.1	4.0		7.0		7.0
Phase Duration, s	8.4	82.9	5.9	80.4		11.2		11.2
Change Period, ($Y+R_c$), s	4.5	4.5	4.5	4.5		4.5		4.5
Max Allow Headway (*MAH*), s	3.1	0.0	3.1	0.0		3.3		3.3
Queue Clearance Time (g_s), s	2.6		2.2			3.4		6.6
Green Extension Time (g_e), s	0.1	0.0	0.0	0.0		0.2		0.2
Phase Call Probability	0.78		0.28			0.98		0.98
Max Out Probability	0.00		0.00			0.00		0.00

Movement Group Results	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Assigned Movement	1	6	16	5	2	12	3	8	18	7	4	14
Adjusted Flow Rate (*v*), veh/h	54	408	405	12	405	402		19	24		19	75
Adjusted Saturation Flow Rate (*s*), veh/h/ln	1781	1870	1856	1781	1870	1858		1508	1585		1508	1585
Queue Service Time (g_s), s	0.6	2.0	2.0	0.2	3.3	3.3		0.0	1.4		0.0	4.6
Cycle Queue Clearance Time (g_c), s	0.6	2.0	2.0	0.2	3.3	3.3		1.1	1.4		1.1	4.6
Green Ratio (*g/C*)	0.80	0.78	0.78	0.77	0.76	0.76		0.07	0.07		0.07	0.07
Capacity (*c*), veh/h	632	1467	1455	597	1420	1411		166	106		166	106
Volume-to-Capacity Ratio (*X*)	0.086	0.278	0.278	0.020	0.285	0.285		0.116	0.228		0.116	0.707
Back of Queue (*Q*), ft/ln (90 th percentile)	5.3	21.8	22	1.4	35.3	35.4		18.3	23.1		18.3	76.5
Back of Queue (*Q*), veh/ln (90 th percentile)	0.2	1.0	1.0	0.1	1.6	1.6		0.8	1.0		0.8	3.4
Queue Storage Ratio (*RQ*) (90 th percentile)	0.07	0.00	0.00	0.02	0.00	0.00		0.00	0.52		0.00	1.73
Uniform Delay (d_1), s/veh	2.2	0.8	0.8	2.6	1.5	1.6		44.0	44.2		44.0	45.7
Incremental Delay (d_2), s/veh	0.0	0.4	0.4	0.0	0.4	0.4		0.1	0.4		0.1	3.2
Initial Queue Delay (d_3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0
Control Delay (*d*), s/veh	2.2	1.2	1.3	2.6	2.0	2.0		44.2	44.6		44.2	48.9
Level of Service (LOS)	A	A	A	A	A	A		D	D		D	D
Approach Delay, s/veh / LOS	1.3	A		2.0	A		44.4	D		47.9	D	
Intersection Delay, s/veh / LOS	5.1						A					

Multimodal Results	EB		WB		NB		SB	
Pedestrian LOS Score / LOS	1.83	B	1.84	B	2.31	B	2.31	B
Bicycle LOS Score / LOS	1.07	A	2.05	B	0.56	A	0.64	A

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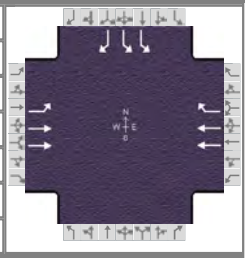
HCS7 Signalized Intersection Results Summary

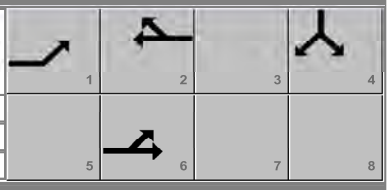
General Information				Intersection Information	
Agency	Stolfus and Associates			Duration, h	0.250
Analyst	Max Rusch	Analysis Date		Area Type	Other
Jurisdiction		Time Period	AM Peak	PHF	0.83
Urban Street	Patterson Rd	Analysis Year	Existing	Analysis Period	1> 7:00
Intersection	27 1/2 Road & Patterson	File Name	Existing AM.xus		
Project Description					



Demand Information	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Demand (v), veh/h	71	503			1418	444				344		152

Signal Information			
Cycle, s	100.0	Reference Phase	2
Offset, s	47	Reference Point	Begin
Uncoordinated	No	Simult. Gap E/W	On
Force Mode	Fixed	Simult. Gap N/S	On

Green	6.0	59.0	20.0	0.0	0.0	0.0
Yellow	3.5	4.5	4.0	0.0	0.0	0.0
Red	0.5	1.5	1.0	0.0	0.0	0.0



Timer Results	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Assigned Phase	1	6		2				4
Case Number	1.0	4.0		7.3				9.0
Phase Duration, s	10.0	75.0		65.0				25.0
Change Period, ($Y+R_c$), s	4.0	6.0		6.0				5.0
Max Allow Headway (MAH), s	5.2	0.0		0.0				5.3
Queue Clearance Time (g_s), s	3.2							12.9
Green Extension Time (g_e), s	0.0	0.0		0.0				2.2
Phase Call Probability	1.00							1.00
Max Out Probability	1.00							0.67

Movement Group Results	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Assigned Movement	1	6			2	12				7		14
Adjusted Flow Rate (v), veh/h	64	453			672	210				414		183
Adjusted Saturation Flow Rate (s), veh/h/ln	1753	1795			1795	1610				1757		1522
Queue Service Time (g_s), s	1.2	7.1			8.8	4.9				10.7		10.9
Cycle Queue Clearance Time (g_c), s	1.2	7.1			8.8	4.9				10.7		10.9
Green Ratio (g/C)	0.67	0.69			0.59	0.59				0.20		0.20
Capacity (c), veh/h	488	2477			2118	950				703		304
Volume-to-Capacity Ratio (X)	0.131	0.183			0.317	0.221				0.590		0.602
Back of Queue (Q), ft/ln (90 th percentile)	17.6	95			114.4	62				168.3		173.8
Back of Queue (Q), veh/ln (90 th percentile)	0.8	4.3			5.2	2.8				7.7		7.5
Queue Storage Ratio (RQ) (90 th percentile)	0.12	0.00			0.00	1.17				1.01		0.00
Uniform Delay (d_1), s/veh	6.2	9.8			9.4	7.2				36.3		36.4
Incremental Delay (d_2), s/veh	0.4	0.1			0.3	0.4				3.6		8.5
Initial Queue Delay (d_3), s/veh	0.0	0.0			0.0	0.0				0.0		0.0
Control Delay (d), s/veh	6.6	9.9			9.7	7.7				39.9		44.9
Level of Service (LOS)	A	A			A	A				D		D
Approach Delay, s/veh / LOS	9.5	A		9.2	A		0.0			41.4	D	
Intersection Delay, s/veh / LOS	18.9						B					

Multimodal Results	EB		WB		NB		SB	
Pedestrian LOS Score / LOS	0.66	A	2.07	B	2.32	B	2.32	B
Bicycle LOS Score / LOS	1.06	A	2.34	B				F

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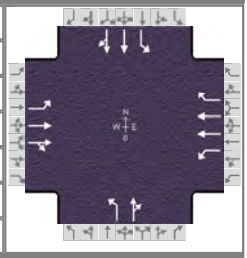
HCS7 Signalized Intersection Results Summary

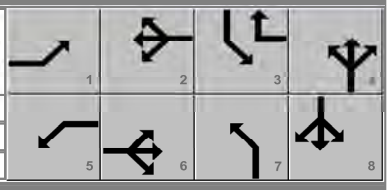
General Information				Intersection Information	
Agency	Stolfus and Associates			Duration, h	0.250
Analyst	Max Rusch	Analysis Date		Area Type	Other
Jurisdiction		Time Period	AM Peak	PHF	0.85
Urban Street	Patterson Rd	Analysis Year		Analysis Period	1> 7:00
Intersection	28 1/4 Road & Patterson	File Name	Existing AM.xus		
Project Description					



Demand Information	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Demand (v), veh/h	53	697	155	138	1550	61	207	20	47	23	11	22

Signal Information			
Cycle, s	100.0	Reference Phase	2
Offset, s	50	Reference Point	Begin
Uncoordinated	No	Simult. Gap E/W	Off
Force Mode	Fixed	Simult. Gap N/S	On

Green	10.0	50.0	5.0	1.0	11.0	0.0
Yellow	3.5	4.5	3.5	3.5	4.0	0.0
Red	0.5	1.5	0.5	0.5	1.0	0.0



Timer Results	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Assigned Phase	1	6	5	2	7	4	3	8
Case Number	1.1	4.0	1.1	3.0	1.1	4.0	1.1	4.0
Phase Duration, s	14.0	56.0	14.0	56.0	14.0	21.0	9.0	16.0
Change Period, ($Y+R_c$), s	4.0	6.0	4.0	6.0	4.0	5.0	4.0	5.0
Max Allow Headway (MAH), s	5.2	0.0	5.1	0.0	5.2	5.4	5.2	5.4
Queue Clearance Time (g_s), s	2.7		3.5		12.0	6.1	3.3	3.5
Green Extension Time (g_e), s	0.0	0.0	0.1	0.0	0.0	0.3	0.0	0.3
Phase Call Probability	1.00		1.00		1.00	1.00	1.00	1.00
Max Out Probability	0.10		0.30		1.00	0.05	1.00	0.24

Movement Group Results	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Assigned Movement	1	6	16	5	2	12	7	4	14	3	8	18
Adjusted Flow Rate (v), veh/h	31	253	240	66	744	29	244	79		27	13	26
Adjusted Saturation Flow Rate (s), veh/h/ln	1810	1885	1767	1795	1795	1610	1795	1687		1810	1900	1610
Queue Service Time (g_s), s	0.7	5.6	5.2	1.5	11.5	1.0	10.0	4.1		1.3	0.6	1.5
Cycle Queue Clearance Time (g_c), s	0.7	5.6	5.2	1.5	11.5	1.0	10.0	4.1		1.3	0.6	1.5
Green Ratio (g/C)	0.60	0.50	0.50	0.60	0.50	0.55	0.23	0.16		0.16	0.11	0.11
Capacity (c), veh/h	511	943	883	637	1795	886	383	270		295	209	177
Volume-to-Capacity Ratio (X)	0.060	0.268	0.272	0.104	0.414	0.033	0.635	0.292		0.092	0.062	0.146
Back of Queue (Q), ft/ln (90 th percentile)	11.3	84.3	75.5	21.5	136.4	28.4	210	74.3		24	12.5	25.9
Back of Queue (Q), veh/ln (90 th percentile)	0.5	3.8	3.4	1.0	6.2	1.3	9.5	3.4		1.1	0.6	1.2
Queue Storage Ratio (RQ) (90 th percentile)	0.04	0.00	0.00	0.08	0.00	0.29	0.79	0.00		0.22	0.00	0.00
Uniform Delay (d_1), s/veh	9.9	9.7	8.6	8.4	13.0	13.1	35.0	37.0		35.8	39.9	40.3
Incremental Delay (d_2), s/veh	0.2	0.5	0.6	0.2	0.5	0.0	7.8	2.7		0.6	0.6	1.7
Initial Queue Delay (d_3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Control Delay (d), s/veh	10.1	10.2	9.2	8.6	13.5	13.2	42.8	39.7		36.4	40.4	42.0
Level of Service (LOS)	B	B	A	A	B	B	D	D		D	D	D
Approach Delay, s/veh / LOS	9.7	A		13.1	B		42.0	D		39.4	D	
Intersection Delay, s/veh / LOS	18.4						B					

Multimodal Results	EB		WB		NB		SB	
Pedestrian LOS Score / LOS	2.09	B	2.09	B	2.45	B	2.30	B
Bicycle LOS Score / LOS	1.37	A	2.19	B	1.02	A	0.54	A

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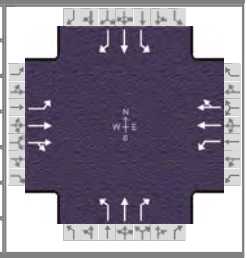
HCS7 Signalized Intersection Results Summary

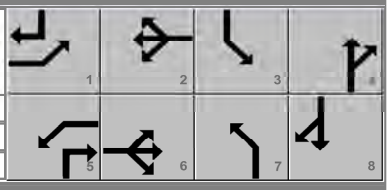
General Information				Intersection Information	
Agency	Stolfus and Associates			Duration, h	0.250
Analyst	Max Rusch	Analysis Date		Area Type	Other
Jurisdiction		Time Period	AM Peak	PHF	0.83
Urban Street	Patterson Rd	Analysis Year		Analysis Period	1> 7:00
Intersection	29 Road & Patterson	File Name	Existing AM.xus		
Project Description					



Demand Information	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Demand (*v*), veh/h	97	506	169	115	1269	62	243	157	57	50	142	267

Signal Information			
Cycle, s	100.0	Reference Phase	2
Offset, s	14	Reference Point	Begin
Uncoordinated	No	Simult. Gap E/W	On
Force Mode	Fixed	Simult. Gap N/S	On

Green	9.5	45.5	7.5	4.0	13.0	0.0
Yellow	3.5	4.5	3.5	0.0	4.0	0.0
Red	1.0	2.0	1.0	0.0	1.0	0.0



Timer Results	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Assigned Phase	1	6	5	2	7	4	3	8
Case Number	1.1	4.0	1.1	4.0	2.0	3.0	2.0	3.0
Phase Duration, s	14.0	52.0	14.0	52.0	16.0	22.0	12.0	18.0
Change Period, ($Y+R_c$), s	4.5	6.5	4.5	6.5	4.5	5.0	4.5	5.0
Max Allow Headway (*MAH*), s	4.1	0.0	4.1	0.0	4.2	4.3	4.2	4.3
Queue Clearance Time (g_s), s	3.9		4.1		13.5	11.3	5.3	15.0
Green Extension Time (g_e), s	0.1	0.0	0.1	0.0	0.0	1.4	0.0	0.0
Phase Call Probability	1.00		1.00		1.00	1.00	1.00	1.00
Max Out Probability	0.21		0.24		1.00	0.67	1.00	1.00

Movement Group Results	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Assigned Movement	1	6	16	5	2	12	7	4	14	3	8	18
Adjusted Flow Rate (*v*), veh/h	76	273	254	81	470	462	293	189	27	60	171	261
Adjusted Saturation Flow Rate (*s*), veh/h/ln	1781	1885	1724	1767	1870	1839	1767	1870	1610	1753	1870	1610
Queue Service Time (g_s), s	1.9	11.1	11.4	2.1	17.7	17.5	11.5	9.3	1.2	3.3	8.8	13.0
Cycle Queue Clearance Time (g_c), s	1.9	11.1	11.4	2.1	17.7	17.5	11.5	9.3	1.2	3.3	8.8	13.0
Green Ratio (*g/C*)	0.55	0.46	0.46	0.55	0.46	0.46	0.12	0.17	0.27	0.08	0.13	0.23
Capacity (*c*), veh/h	396	858	784	519	851	837	203	318	427	131	243	362
Volume-to-Capacity Ratio (*X*)	0.191	0.318	0.324	0.155	0.553	0.553	1.441	0.595	0.062	0.458	0.704	0.722
Back of Queue (*Q*), ft/ln (90 th percentile)	30.1	168.6	162	30.6	223.4	216.5	589.3	172.8	19.8	74.1	176.5	226.6
Back of Queue (*Q*), veh/ln (90 th percentile)	1.3	7.6	7.2	1.4	10.0	9.7	26.1	7.7	0.9	3.3	7.9	10.3
Queue Storage Ratio (*RQ*) (90 th percentile)	0.10	0.00	0.00	0.08	0.00	0.00	2.66	0.00	0.09	0.56	0.00	1.72
Uniform Delay (d_1), s/veh	12.0	22.8	22.9	10.7	18.6	18.3	44.3	38.3	27.5	44.3	41.7	35.9
Incremental Delay (d_2), s/veh	0.8	0.7	0.8	0.4	1.8	1.8	223.9	8.0	0.3	11.1	15.7	11.8
Initial Queue Delay (d_3), 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
Control Delay (*d*), s/veh	12.8	23.5	23.7	11.2	20.4	20.1	268.2	46.3	27.7	55.4	57.4	47.6
Level of Service (LOS)	B	C	C	B	C	C	F	D	C	E	E	D
Approach Delay, s/veh / LOS	22.2	C		19.5	B		173.1	F		52.0	D	
Intersection Delay, s/veh / LOS	56.1						E					

Multimodal Results	EB		WB		NB		SB	
Pedestrian LOS Score / LOS	2.15	B	2.17	B	2.30	B	2.30	B
Bicycle LOS Score / LOS	1.25	A	1.92	B	1.33	A	1.30	A

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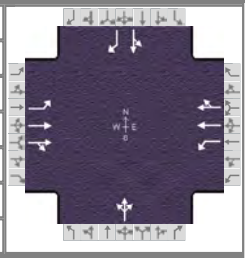
HCS7 Signalized Intersection Results Summary

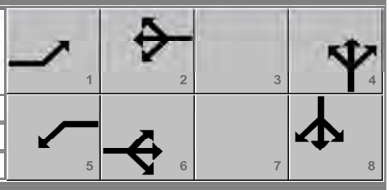
General Information				Intersection Information	
Agency	Stolfus and Associates			Duration, h	0.250
Analyst	Max Rusch	Analysis Date		Area Type	Other
Jurisdiction		Time Period	AM Peak	PHF	0.85
Urban Street	Patterson Rd	Analysis Year		Analysis Period	1> 7:00
Intersection	29 1/2 Road & Patterson	File Name	Existing AM.xus		
Project Description					



Demand Information	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Demand (*v*), veh/h	14	496	88	94	1231	129	78	34	59	71	49	56

Signal Information			
Cycle, s	100.0	Reference Phase	2
Offset, s	71	Reference Point	Begin
Uncoordinated	No	Simult. Gap E/W	On
Force Mode	Fixed	Simult. Gap N/S	On

Green	1.5	3.1	50.1	14.3	10.5	0.0
Yellow	3.5	0.0	5.0	4.0	4.0	0.0
Red	0.5	0.0	1.5	1.0	1.0	0.0



Timer Results	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Assigned Phase	1	6	5	2		4		8
Case Number	1.1	4.0	1.1	4.0		12.0		11.0
Phase Duration, s	5.5	56.6	8.6	59.8		19.3		15.5
Change Period, ($Y+R_c$), s	4.0	6.5	4.0	6.5		5.0		5.0
Max Allow Headway (*MAH*), s	4.5	0.0	4.5	0.0		4.7		4.7
Queue Clearance Time (g_s), s	2.3		4.4			13.7		9.7
Green Extension Time (g_e), s	0.0	0.0	0.3	0.0		0.6		0.9
Phase Call Probability	0.30		0.92			1.00		1.00
Max Out Probability	0.00		0.00			0.07		0.00

Movement Group Results	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Assigned Movement	1	6	16	5	2	12	7	4	14	3	8	18
Adjusted Flow Rate (*v*), veh/h	13	270	259	91	671	652		201			141	66
Adjusted Saturation Flow Rate (*s*), veh/h/ln	1810	1885	1786	1795	1885	1822		1669			1788	1585
Queue Service Time (g_s), s	0.3	5.1	4.5	2.4	22.7	21.7		11.7			7.7	3.9
Cycle Queue Clearance Time (g_c), s	0.3	5.1	4.5	2.4	22.7	21.7		11.7			7.7	3.9
Green Ratio (*g/C*)	0.52	0.50	0.50	0.56	0.53	0.53		0.14			0.11	0.11
Capacity (*c*), veh/h	219	945	895	551	1004	970		238			188	167
Volume-to-Capacity Ratio (*X*)	0.058	0.286	0.289	0.166	0.669	0.671		0.845			0.752	0.396
Back of Queue (*Q*), ft/ln (90 th percentile)	5.2	71.9	61.3	35.2	238.2	214.6		191.8			138.3	62.9
Back of Queue (*Q*), veh/ln (90 th percentile)	0.2	3.2	2.8	1.6	10.7	9.4		8.3			6.1	2.8
Queue Storage Ratio (*RQ*) (90 th percentile)	0.04	0.00	0.00	0.27	0.00	0.00		0.00			0.00	0.00
Uniform Delay (d_1), s/veh	14.4	7.7	6.6	10.9	12.8	11.5		41.8			43.5	41.8
Incremental Delay (d_2), s/veh	0.1	0.5	0.5	0.1	2.6	2.7		9.3			5.9	1.5
Initial Queue Delay (d_3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0		0.0			0.0	0.0
Control Delay (*d*), s/veh	14.5	8.2	7.2	11.0	15.4	14.2		51.1			49.4	43.3
Level of Service (LOS)	B	A	A	B	B	B		D			D	D
Approach Delay, s/veh / LOS	7.9	A		14.5	B		51.1	D		47.5	D	
Intersection Delay, s/veh / LOS	19.0						B					

Multimodal Results	EB		WB		NB		SB	
Pedestrian LOS Score / LOS	1.67	B	1.89	B	2.31	B	2.32	B
Bicycle LOS Score / LOS	1.07	A	1.90	B	0.82	A	0.83	A

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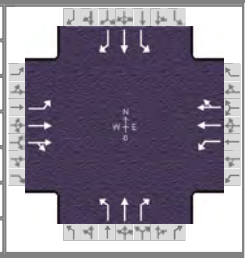
HCS7 Signalized Intersection Results Summary

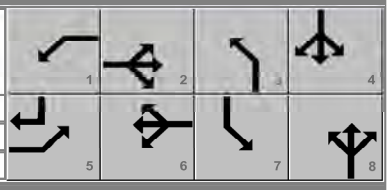
General Information				Intersection Information	
Agency	Stolfus and Associates			Duration, h	0.250
Analyst	Max Rusch	Analysis Date		Area Type	Other
Jurisdiction		Time Period	AM Peak	PHF	0.83
Urban Street	Patterson Rd	Analysis Year		Analysis Period	1> 7:00
Intersection	30 Road & Patterson	File Name	Existing AM.xus		
Project Description					



Demand Information	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Demand (*v*), veh/h	72	368	142	101	827	14	303	45	45	37	95	182

Signal Information			
Cycle, s	100.0	Reference Phase	2
Offset, s	19	Reference Point	Begin
Uncoordinated	No	Simult. Gap E/W	On
Force Mode	Fixed	Simult. Gap N/S	On

Green	10.2	40.8	8.5	6.0	11.0	0.0
Yellow	3.5	5.0	3.5	3.5	4.0	0.0
Red	0.5	1.5	0.5	0.5	1.0	0.0



Timer Results	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Assigned Phase	5	2	1	6	3	8	7	4
Case Number	1.1	4.0	1.1	4.0	1.1	3.0	1.1	3.0
Phase Duration, s	14.2	47.3	14.2	47.3	22.5	26.0	12.5	16.0
Change Period, ($Y+R_c$), s	4.0	6.5	4.0	6.5	4.0	5.0	4.0	5.0
Max Allow Headway (*MAH*), s	4.1	0.0	4.2	0.0	4.2	4.3	4.2	4.3
Queue Clearance Time (g_s), s	4.5		6.2		19.7	4.8	4.0	7.8
Green Extension Time (g_e), s	0.1	0.0	0.1	0.0	0.0	1.1	0.0	0.4
Phase Call Probability	1.00		1.00		1.00	1.00	1.00	1.00
Max Out Probability	0.19		1.00		1.00	0.00	0.73	1.00

Movement Group Results	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Assigned Movement	5	2	12	1	6	16	3	8	18	7	4	14
Adjusted Flow Rate (*v*), veh/h	87	321	294	145	607	603	365	54	53	45	114	108
Adjusted Saturation Flow Rate (*s*), veh/h/ln	1810	1885	1706	1795	1885	1874	1781	1870	1560	1810	1885	1585
Queue Service Time (g_s), s	2.5	7.6	7.7	4.2	29.4	29.4	17.7	2.4	2.8	2.0	5.8	5.8
Cycle Queue Clearance Time (g_c), s	2.5	7.6	7.7	4.2	29.4	29.4	17.7	2.4	2.8	2.0	5.8	5.8
Green Ratio (*g/C*)	0.51	0.41	0.41	0.51	0.41	0.41	0.31	0.21	0.21	0.19	0.11	0.21
Capacity (*c*), veh/h	301	769	696	508	769	765	462	393	328	370	207	336
Volume-to-Capacity Ratio (*X*)	0.289	0.417	0.422	0.286	0.789	0.789	0.790	0.138	0.162	0.121	0.552	0.323
Back of Queue (*Q*), ft/ln (90 th percentile)	41.6	98.3	92.5	67.9	449.1	447.2	285.8	45.5	46.2	37.5	122.3	97.4
Back of Queue (*Q*), veh/ln (90 th percentile)	1.9	4.4	4.2	3.1	20.2	20.2	12.8	2.0	2.0	1.7	5.5	4.4
Queue Storage Ratio (*RQ*) (90 th percentile)	0.32	0.00	0.00	0.51	0.00	0.00	1.29	0.00	0.26	0.28	0.00	0.73
Uniform Delay (d_1), s/veh	18.7	10.7	10.7	12.4	30.7	30.7	29.9	32.1	32.3	33.2	42.2	33.3
Incremental Delay (d_2), s/veh	1.6	1.1	1.3	1.4	8.0	8.1	12.9	0.7	1.1	0.7	10.2	2.5
Initial Queue Delay (d_3), 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
Control Delay (*d*), s/veh	20.3	11.8	12.0	13.8	38.8	38.8	42.8	32.9	33.4	33.9	52.3	35.9
Level of Service (LOS)	C	B	B	B	D	D	D	C	C	C	D	D
Approach Delay, s/veh / LOS	12.9	B		36.1	D		40.6	D		42.6	D	
Intersection Delay, s/veh / LOS	31.7						C					

Multimodal Results	EB		WB		NB		SB	
Pedestrian LOS Score / LOS	2.10	B	2.23	B	2.30	B	2.30	B
Bicycle LOS Score / LOS	1.07	A	1.42	A	1.27	A	0.93	A

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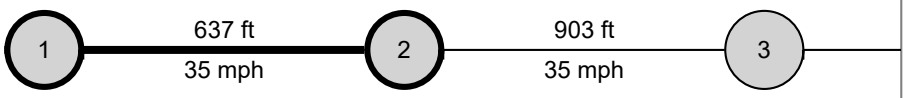
HCS7 Urban Street Segment Report

General Information				Streets Information	
Agency	Stolfus and Associates			Number of Intersections	15
Analyst	Max Rusch	Analysis Date		Number of Segments	14
Jurisdiction		Time Period	AM Peak	Number of Iterations	15
File Name	Existing AM.xus	Analysis Year	Existing	System Cycle Length, s	100
Intersections	24 Road & Patterson	Market Street/Mall Access & Patterson		Analysis Period	1> 7:00
Project Description					



Basic Segment Information (24 Rd - Market St)

Segment	Speed Limit		Through Lanes		Segment Length		Intersection Wid		Length of RM		Percent Curb		Other Delay	
	WB	EB	WB	EB	WB	EB	WB	EB	WB	EB	WB	EB	WB	EB
1	35	35	2	2	637	637	50	50	0	0	100	0	0.0	0.0

		Westbound			Eastbound		
Segment Output Data		WBL	WBT	WBR	EBL	EBT	EBR
Segment	Movement	1	6	16	5	2	12
1	Bay/Lane Spillback Time, h					never	
1	Shared Lane Spillback Time, h				never		never
1	Base Free-Flow Speed, mph	41.58			42.05		
1	Running Time, s	14.79			15.06		
1	Running Speed, mph	29.37			28.85		
1	Through Delay, s/veh	2.71			20.29		
1	Travel Time, s	17.50			35.34		
1	Travel Speed, mph	24.82			12.29		
1	Stop Rate, stops/veh	0.12			0.47		
1	Spatial Stop Rate, stops/mi	0.97			3.88		
1	Through vol/cap Ratio	0.09			0.63		
1	Percent of Base FFS	59.69			29.23		
1	Level of Service	C			F		
1	Auto Traveler Perception Score	2.28			2.76		
Multimodal Results (Segment)							
1	Pedestrian Segment LOS Score / LOS	2.30		B	3.47		C
1	Bicycle Segment LOS Score / LOS	2.00		A	2.64		B
1	Transit Segment LOS Score / LOS	1.18		A	2.57		B

Facility Output Data	Westbound		Eastbound	
Facility Travel Time, s	753.72		737.51	
Facility Travel Speed, mph	28.53		29.16	
Facility Base Free Flow Speed, mph	42.73		42.47	
Facility Percent of Base FFS	66.77		68.66	
Facility Level of Service	C		B	
Facility Auto Traveler Perception Score	2.31		2.27	
Multimodal Results (Facility)				
Pedestrian Facility LOS Score / LOS	3.20	C	3.14	C
Bicycle Facility LOS Score / LOS	2.63	C	2.66	C
Transit Facility LOS Score / LOS	1.01	A	0.92	A

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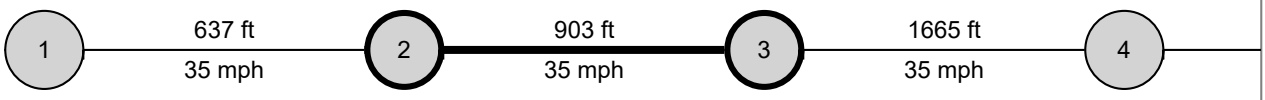
HCS7 Urban Street Segment Report

General Information				Streets Information	
Agency	Stolfus and Associates			Number of Intersections	15
Analyst	Max Rusch	Analysis Date		Number of Segments	14
Jurisdiction		Time Period	AM Peak	Number of Iterations	15
File Name	Existing AM.xus	Analysis Year	Existing	System Cycle Length, s	100
Intersections	Market Street/Mall Access & Pat	Home Depot Access/Mesa Mall Access &		Analysis Period	1> 7:00
Project Description					



Basic Segment Information (Market St - Home Depot)

Segment	Speed Limit		Through Lanes		Segment Length		Intersection Wid		Length of RM		Percent Curb		Other Delay	
	WB	EB	WB	EB	WB	EB	WB	EB	WB	EB	WB	EB	WB	EB
2	35	35	2	2	903	903	50	50	2	1	70	0	0.0	0.0

		Westbound			Eastbound		
Segment Output Data		WBL	WBT	WBR	EBL	EBT	EBR
Segment	Movement	1	6	16	5	2	12
2	Bay/Lane Spillback Time, h		never				
2	Shared Lane Spillback Time, h	never					
2	Base Free-Flow Speed, mph	41.72			42.05		
2	Running Time, s	18.20			18.58		
2	Running Speed, mph	33.83			33.13		
2	Through Delay, s/veh	5.69			9.94		
2	Travel Time, s	23.89			28.53		
2	Travel Speed, mph	25.77			21.58		
2	Stop Rate, stops/veh	0.24			0.45		
2	Spatial Stop Rate, stops/mi	1.42			2.62		
2	Through vol/cap Ratio	0.10			0.41		
2	Percent of Base FFS	61.77			51.32		
2	Level of Service	C			C		
2	Auto Traveler Perception Score	2.35			2.55		
Multimodal Results (Segment)							
2	Pedestrian Segment LOS Score / LOS	2.71		B	3.63		D
2	Bicycle Segment LOS Score / LOS	2.22		B	2.77		C
2	Transit Segment LOS Score / LOS	1.12		A	1.62		A

Facility Output Data	Westbound		Eastbound	
Facility Travel Time, s	753.72		737.51	
Facility Travel Speed, mph	28.53		29.16	
Facility Base Free Flow Speed, mph	42.73		42.47	
Facility Percent of Base FFS	66.77		68.66	
Facility Level of Service	C		B	
Facility Auto Traveler Perception Score	2.31		2.27	
Multimodal Results (Facility)				
Pedestrian Facility LOS Score / LOS	3.20	C	3.14	C
Bicycle Facility LOS Score / LOS	2.63	C	2.66	C
Transit Facility LOS Score / LOS	1.01	A	0.92	A

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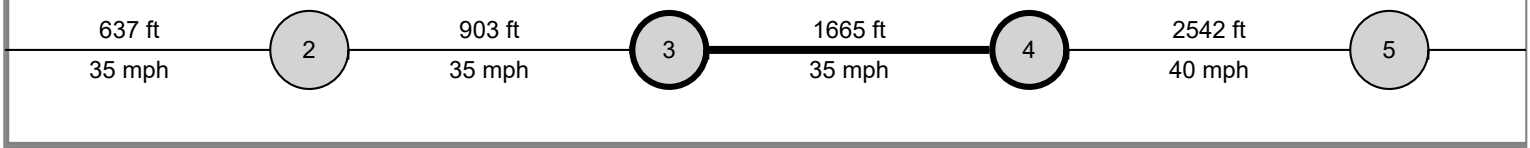
HCS7 Urban Street Segment Report

General Information				Streets Information	
Agency	Stolfus and Associates			Number of Intersections	15
Analyst	Max Rusch	Analysis Date		Number of Segments	14
Jurisdiction		Time Period	AM Peak	Number of Iterations	15
File Name	Existing AM.xus	Analysis Year	Existing	System Cycle Length, s	100
Intersections	Home Depot Access/Mesa Mall /	24 1/2 Rd & Patterson		Analysis Period	1> 7:00
Project Description					



Basic Segment Information (Home Depot - 24 1/2 Rd)

Segment	Speed Limit		Through Lanes		Segment Length		Intersection Wid		Length of RM		Percent Curb		Other Delay	
	WB	EB	WB	EB	WB	EB	WB	EB	WB	EB	WB	EB	WB	EB
3	35	35	2	2	1665	1665	50	50	550	550	70	100	0.0	0.0

		Westbound			Eastbound		
Segment Output Data		WBL	WBT	WBR	EBL	EBT	EBR
Segment	Movement	5	2	12	1	6	16
3	Bay/Lane Spillback Time, h		never			never	
3	Shared Lane Spillback Time, h	never			never		
3	Base Free-Flow Speed, mph	40.71			40.19		
3	Running Time, s	30.21			31.44		
3	Running Speed, mph	37.58			36.11		
3	Through Delay, s/veh	7.20			6.10		
3	Travel Time, s	37.41			37.54		
3	Travel Speed, mph	30.34			30.24		
3	Stop Rate, stops/veh	0.27			0.25		
3	Spatial Stop Rate, stops/mi	0.85			0.79		
3	Through vol/cap Ratio	0.11			0.43		
3	Percent of Base FFS	74.53			75.24		
3	Level of Service	B			B		
3	Auto Traveler Perception Score	2.27			2.26		
Multimodal Results (Segment)							
3	Pedestrian Segment LOS Score / LOS	2.83		C	3.58		D
3	Bicycle Segment LOS Score / LOS	2.29		B	2.82		C
3	Transit Segment LOS Score / LOS	0.81		A	0.98		A

Facility Output Data	**Westbound**	**Eastbound**
Facility Travel Time, s	753.72	737.51
Facility Travel Speed, mph	28.53	29.16
Facility Base Free Flow Speed, mph	42.73	42.47
Facility Percent of Base FFS	66.77	68.66
Facility Level of Service	C	B
Facility Auto Traveler Perception Score	2.31	2.27

Multimodal Results (Facility)				
Pedestrian Facility LOS Score / LOS	3.20	C	3.14	C
Bicycle Facility LOS Score / LOS	2.63	C	2.66	C
Transit Facility LOS Score / LOS	1.01	A	0.92	A

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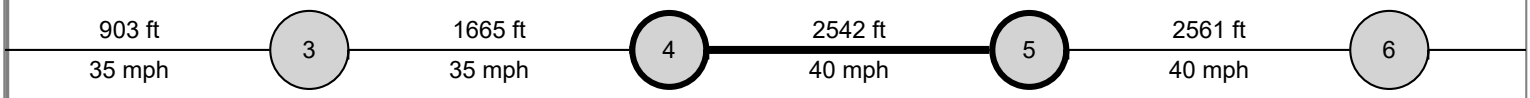
HCS7 Urban Street Segment Report

General Information				Streets Information	
Agency	Stolfus and Associates			Number of Intersections	15
Analyst	Max Rusch	Analysis Date		Number of Segments	14
Jurisdiction		Time Period	AM Peak	Number of Iterations	15
File Name	Existing AM.xus	Analysis Year	Existing	System Cycle Length, s	100
Intersections	24 1/2 Rd & Patterson	25 Road & Patterson		Analysis Period	1> 7:00
Project Description					



Basic Segment Information (24 1/2 Rd - 25 Rd)

Segment	Speed Limit		Through Lanes		Segment Length		Intersection Wid		Length of RM		Percent Curb		Other Delay	
	WB	EB	WB	EB	WB	EB	WB	EB	WB	EB	WB	EB	WB	EB
4	40	35	2	2	2542	2542	50	50	0	0	90	90	0.0	0.0

		Westbound			Eastbound		
Segment Output Data		WBL	WBT	WBR	EBL	EBT	EBR
Segment	Movement	5	2	12	1	6	16
4	Bay/Lane Spillback Time, h		never			never	
4	Shared Lane Spillback Time, h	never		never	never		
4	Base Free-Flow Speed, mph	42.99			40.64		
4	Running Time, s	42.20			45.62		
4	Running Speed, mph	41.07			37.99		
4	Through Delay, s/veh	26.61			4.26		
4	Travel Time, s	68.81			49.87		
4	Travel Speed, mph	25.19			34.75		
4	Stop Rate, stops/veh	0.69			0.12		
4	Spatial Stop Rate, stops/mi	1.44			0.26		
4	Through vol/cap Ratio	0.17			0.51		
4	Percent of Base FFS	58.59			85.52		
4	Level of Service	C			A		
4	Auto Traveler Perception Score	2.36			2.18		
Multimodal Results (Segment)							
4	Pedestrian Segment LOS Score / LOS	2.81		C	3.18		C
4	Bicycle Segment LOS Score / LOS	2.35		B	2.77		C
4	Transit Segment LOS Score / LOS	1.22		A	0.71		A

Facility Output Data	Westbound	Eastbound
Facility Travel Time, s	753.72	737.51
Facility Travel Speed, mph	28.53	29.16
Facility Base Free Flow Speed, mph	42.73	42.47
Facility Percent of Base FFS	66.77	68.66
Facility Level of Service	C	B
Facility Auto Traveler Perception Score	2.31	2.27

Multimodal Results (Facility)				
Pedestrian Facility LOS Score / LOS	3.20	C	3.14	C
Bicycle Facility LOS Score / LOS	2.63	C	2.66	C
Transit Facility LOS Score / LOS	1.01	A	0.92	A

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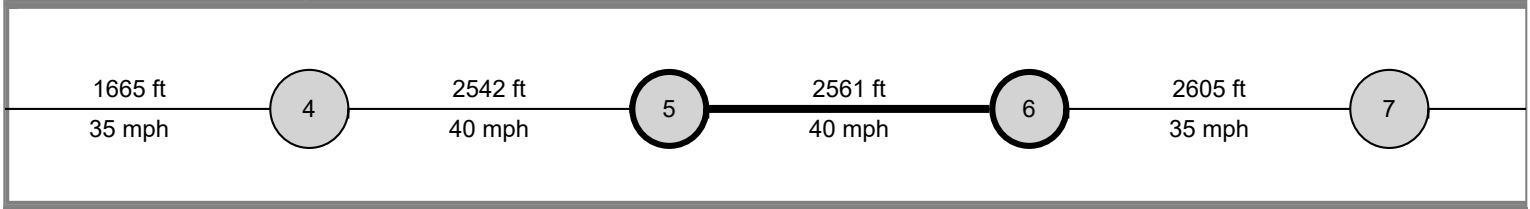
HCS7 Urban Street Segment Report

General Information				Streets Information	
Agency	Stolfus and Associates			Number of Intersections	15
Analyst	Max Rusch	Analysis Date		Number of Segments	14
Jurisdiction		Time Period	AM Peak	Number of Iterations	15
File Name	Existing AM.xus	Analysis Year	Existing	System Cycle Length, s	100
Intersections	25 Road & Patterson	25 1/2 Road & Patterson		Analysis Period	1> 7:00
Project Description					



Basic Segment Information (25 Rd - 25 1/2 Rd)

Segment	Speed Limit		Through Lanes		Segment Length		Intersection Wid		Length of RM		Percent Curb		Other Delay	
	WB	EB	WB	EB	WB	EB	WB	EB	WB	EB	WB	EB	WB	EB
5	40	40	2	2	2561	2561	50	50	260	260	90	90	0.0	0.0

		Westbound			Eastbound		
Segment Output Data		WBL	WBT	WBR	EBL	EBT	EBR
Segment	Movement	5	2	12	1	6	16
5	Bay/Lane Spillback Time, h		never			never	
5	Shared Lane Spillback Time, h	never			never		never
5	Base Free-Flow Speed, mph	43.13			43.13		
5	Running Time, s	42.42			43.26		
5	Running Speed, mph	41.16			40.37		
5	Through Delay, s/veh	6.75			35.44		
5	Travel Time, s	49.17			78.70		
5	Travel Speed, mph	35.51			22.19		
5	Stop Rate, stops/veh	0.23			0.83		
5	Spatial Stop Rate, stops/mi	0.48			1.71		
5	Through vol/cap Ratio	0.14			0.71		
5	Percent of Base FFS	82.34			51.44		
5	Level of Service	A			C		
5	Auto Traveler Perception Score	2.21			2.40		
Multimodal Results (Segment)							
5	Pedestrian Segment LOS Score / LOS	2.64		B	3.44		C
5	Bicycle Segment LOS Score / LOS	2.39		B	2.81		C
5	Transit Segment LOS Score / LOS	0.54		A	1.58		A

Facility Output Data	**Westbound**	**Eastbound**
Facility Travel Time, s	753.72	737.51
Facility Travel Speed, mph	28.53	29.16
Facility Base Free Flow Speed, mph	42.73	42.47
Facility Percent of Base FFS	66.77	68.66
Facility Level of Service	C	B
Facility Auto Traveler Perception Score	2.31	2.27

Multimodal Results (Facility)				
Pedestrian Facility LOS Score / LOS	3.20	C	3.14	C
Bicycle Facility LOS Score / LOS	2.63	C	2.66	C
Transit Facility LOS Score / LOS	1.01	A	0.92	A

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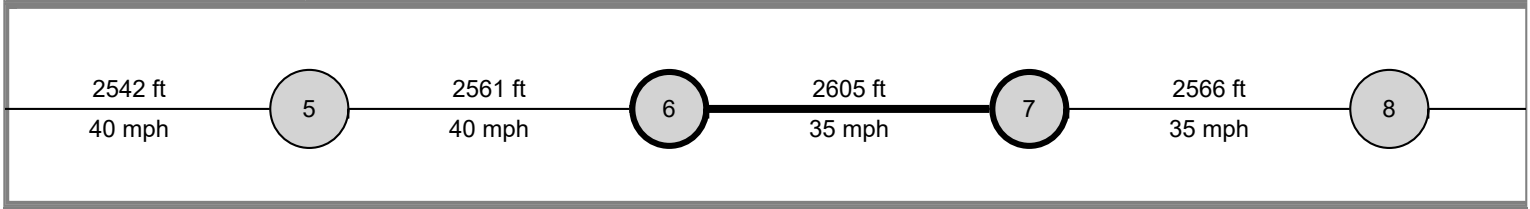
HCS7 Urban Street Segment Report

General Information				Streets Information	
Agency	Stolfus and Associates			Number of Intersections	15
Analyst	Max Rusch	Analysis Date		Number of Segments	14
Jurisdiction		Time Period	AM Peak	Number of Iterations	15
File Name	Existing AM.xus	Analysis Year	Existing	System Cycle Length, s	100
Intersections	25 1/2 Road & Patterson	1st Street & Patterson		Analysis Period	1> 7:00
Project Description					



Basic Segment Information (25 1/2 Rd - 26 Rd)

Segment	Speed Limit		Through Lanes		Segment Length		Intersection Wid		Length of RM		Percent Curb		Other Delay	
	WB	EB	WB	EB	WB	EB	WB	EB	WB	EB	WB	EB	WB	EB
6	35	40	2	2	2605	2605	50	50	0	0	90	90	0.0	0.0

		Westbound			Eastbound		
Segment Output Data		WBL	WBT	WBR	EBL	EBT	EBR
Segment	Movement	5	2	12	1	6	16
6	Bay/Lane Spillback Time, h		never			never	
6	Shared Lane Spillback Time, h	never			never		
6	Base Free-Flow Speed, mph	40.74			43.09		
6	Running Time, s	45.46			43.74		
6	Running Speed, mph	39.07			40.61		
6	Through Delay, s/veh	14.58			12.69		
6	Travel Time, s	60.04			56.42		
6	Travel Speed, mph	29.58			31.48		
6	Stop Rate, stops/veh	0.47			0.39		
6	Spatial Stop Rate, stops/mi	0.96			0.79		
6	Through vol/cap Ratio	0.16			0.42		
6	Percent of Base FFS	72.62			73.05		
6	Level of Service	B			B		
6	Auto Traveler Perception Score	2.28			2.26		
Multimodal Results (Segment)							
6	Pedestrian Segment LOS Score / LOS	2.85		C	3.12		C
6	Bicycle Segment LOS Score / LOS	2.45		B	2.73		B
6	Transit Segment LOS Score / LOS	0.90		A	0.88		A

Facility Output Data	**Westbound**	**Eastbound**
Facility Travel Time, s	753.72	737.51
Facility Travel Speed, mph	28.53	29.16
Facility Base Free Flow Speed, mph	42.73	42.47
Facility Percent of Base FFS	66.77	68.66
Facility Level of Service	C	B
Facility Auto Traveler Perception Score	2.31	2.27

Multimodal Results (Facility)				
Pedestrian Facility LOS Score / LOS	3.20	C	3.14	C
Bicycle Facility LOS Score / LOS	2.63	C	2.66	C
Transit Facility LOS Score / LOS	1.01	A	0.92	A

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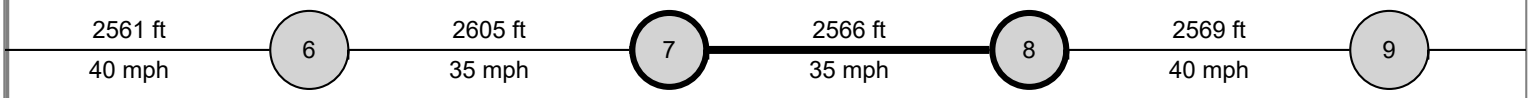
HCS7 Urban Street Segment Report

General Information				Streets Information	
Agency	Stolfus and Associates			Number of Intersections	15
Analyst	Max Rusch	Analysis Date		Number of Segments	14
Jurisdiction		Time Period	AM Peak	Number of Iterations	15
File Name	Existing AM.xus	Analysis Year	Existing	System Cycle Length, s	100
Intersections	1st Street & Patterson	7th Street & Patterson		Analysis Period	1> 7:00
Project Description					



Basic Segment Information (26 Rd - 26 1/2)

Segment	Speed Limit		Through Lanes		Segment Length		Intersection Wid		Length of RM		Percent Curb		Other Delay	
	WB	EB	WB	EB	WB	EB	WB	EB	WB	EB	WB	EB	WB	EB
7	35	40	2	2	2566	2566	50	50	0	0	90	90	0.0	0.0

		Westbound			Eastbound		
Segment Output Data		WBL	WBT	WBR	EBL	EBT	EBR
Segment	Movement	5	2	12	1	6	16
7	Bay/Lane Spillback Time, h		never			never	
7	Shared Lane Spillback Time, h	never			never		never
7	Base Free-Flow Speed, mph	39.83			42.18		
7	Running Time, s	45.92			43.76		
7	Running Speed, mph	38.10			39.98		
7	Through Delay, s/veh	18.00			13.49		
7	Travel Time, s	63.93			57.26		
7	Travel Speed, mph	27.37			30.56		
7	Stop Rate, stops/veh	0.57			0.40		
7	Spatial Stop Rate, stops/mi	1.16			0.82		
7	Through vol/cap Ratio	0.23			0.32		
7	Percent of Base FFS	68.72			72.45		
7	Level of Service	B			B		
7	Auto Traveler Perception Score	2.31			2.26		
Multimodal Results (Segment)							
7	Pedestrian Segment LOS Score / LOS	2.77		C	2.94		C
7	Bicycle Segment LOS Score / LOS	2.53		B	2.64		B
7	Transit Segment LOS Score / LOS	1.07		A	0.89		A

Facility Output Data	Westbound	Eastbound
Facility Travel Time, s	753.72	737.51
Facility Travel Speed, mph	28.53	29.16
Facility Base Free Flow Speed, mph	42.73	42.47
Facility Percent of Base FFS	66.77	68.66
Facility Level of Service	C	B
Facility Auto Traveler Perception Score	2.31	2.27

Multimodal Results (Facility)				
Pedestrian Facility LOS Score / LOS	3.20	C	3.14	C
Bicycle Facility LOS Score / LOS	2.63	C	2.66	C
Transit Facility LOS Score / LOS	1.01	A	0.92	A

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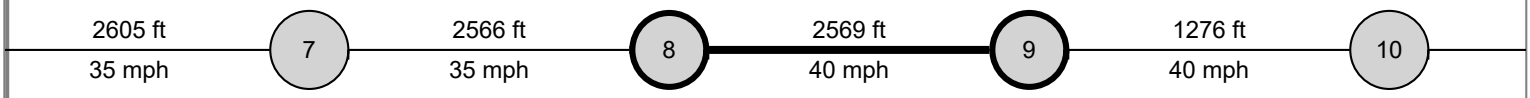
HCS7 Urban Street Segment Report

General Information				Streets Information	
Agency	Stolfus and Associates			Number of Intersections	15
Analyst	Max Rusch	Analysis Date		Number of Segments	14
Jurisdiction		Time Period	AM Peak	Number of Iterations	15
File Name	Existing AM.xus	Analysis Year	Existing	System Cycle Length, s	100
Intersections	7th Street & Patterson	12th Street & Patterson		Analysis Period	1> 7:00
Project Description					



Basic Segment Information (26 1/2 Rd to 12th St)

Segment	Speed Limit		Through Lanes		Segment Length		Intersection Wid		Length of RM		Percent Curb		Other Delay	
	WB	EB	WB	EB	WB	EB	WB	EB	WB	EB	WB	EB	WB	EB
8	40	35	2	2	2569	2569	50	50	0	0	90	90	0.0	0.0

		Westbound			Eastbound		
Segment Output Data		WBL	WBT	WBR	EBL	EBT	EBR
Segment	Movement	5	2	12	1	6	16
8	Bay/Lane Spillback Time, h		never			never	
8	Shared Lane Spillback Time, h	never			never		never
8	Base Free-Flow Speed, mph	42.34			39.99		
8	Running Time, s	43.73			46.13		
8	Running Speed, mph	40.05			37.97		
8	Through Delay, s/veh	30.49			6.04		
8	Travel Time, s	74.22			52.17		
8	Travel Speed, mph	23.60			33.57		
8	Stop Rate, stops/veh	0.83			0.19		
8	Spatial Stop Rate, stops/mi	1.71			0.39		
8	Through vol/cap Ratio	0.40			0.27		
8	Percent of Base FFS	55.74			83.95		
8	Level of Service	C			A		
8	Auto Traveler Perception Score	2.40			2.20		
Multimodal Results (Segment)							
8	Pedestrian Segment LOS Score / LOS	3.01		C	2.94		C
8	Bicycle Segment LOS Score / LOS	2.70		B	2.60		B
8	Transit Segment LOS Score / LOS	1.41		A	0.70		A

Facility Output Data	**Westbound**	**Eastbound**
Facility Travel Time, s	753.72	737.51
Facility Travel Speed, mph	28.53	29.16
Facility Base Free Flow Speed, mph	42.73	42.47
Facility Percent of Base FFS	66.77	68.66
Facility Level of Service	C	B
Facility Auto Traveler Perception Score	2.31	2.27

Multimodal Results (Facility)				
Pedestrian Facility LOS Score / LOS	3.20	C	3.14	C
Bicycle Facility LOS Score / LOS	2.63	C	2.66	C
Transit Facility LOS Score / LOS	1.01	A	0.92	A

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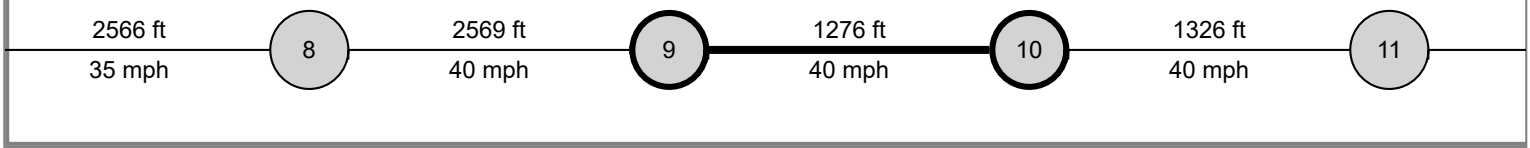
HCS7 Urban Street Segment Report

General Information				Streets Information	
Agency	Stolfus and Associates			Number of Intersections	15
Analyst	Max Rusch	Analysis Date		Number of Segments	14
Jurisdiction		Time Period	AM Peak	Number of Iterations	15
File Name	Existing AM.xus	Analysis Year	Existing	System Cycle Length, s	100
Intersections	12th Street & Patterson	Patterson Rd & 15th St		Analysis Period	1> 7:00
Project Description					



Basic Segment Information (12th St - 27 1/4 Rd)

Segment	Speed Limit		Through Lanes		Segment Length		Intersection Wid		Length of RM		Percent Curb		Other Delay	
	WB	EB	WB	EB	WB	EB	WB	EB	WB	EB	WB	EB	WB	EB
9	40	35	2	2	1276	1276	50	50	0	0	90	90	0.0	0.0

		Westbound			Eastbound		
Segment Output Data		WBL	WBT	WBR	EBL	EBT	EBR
Segment	Movement	5	2	12	1	6	16
9	Bay/Lane Spillback Time, h		never			never	
9	Shared Lane Spillback Time, h	never			never		never
9	Base Free-Flow Speed, mph	42.30			39.95		
9	Running Time, s	23.50			24.88		
9	Running Speed, mph	37.03			34.97		
9	Through Delay, s/veh	2.00			34.28		
9	Travel Time, s	25.49			59.16		
9	Travel Speed, mph	34.13			14.71		
9	Stop Rate, stops/veh	0.08			0.75		
9	Spatial Stop Rate, stops/mi	0.32			3.11		
9	Through vol/cap Ratio	0.28			0.65		
9	Percent of Base FFS	80.68			36.81		
9	Level of Service	A			E		
9	Auto Traveler Perception Score	2.19			2.63		
Multimodal Results (Segment)							
9	Pedestrian Segment LOS Score / LOS	2.99		C	3.33		C
9	Bicycle Segment LOS Score / LOS	2.67		B	2.70		B
9	Transit Segment LOS Score / LOS	0.68		A	2.25		B

Facility Output Data	**Westbound**	**Eastbound**
Facility Travel Time, s	753.72	737.51
Facility Travel Speed, mph	28.53	29.16
Facility Base Free Flow Speed, mph	42.73	42.47
Facility Percent of Base FFS	66.77	68.66
Facility Level of Service	C	B
Facility Auto Traveler Perception Score	2.31	2.27

Multimodal Results (Facility)				
Pedestrian Facility LOS Score / LOS	3.20	C	3.14	C
Bicycle Facility LOS Score / LOS	2.63	C	2.66	C
Transit Facility LOS Score / LOS	1.01	A	0.92	A

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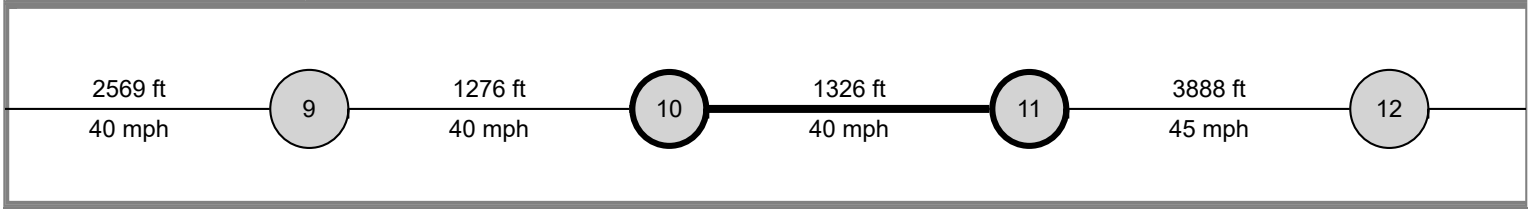
HCS7 Urban Street Segment Report

General Information				Streets Information	
Agency	Stolfus and Associates			Number of Intersections	15
Analyst	Max Rusch	Analysis Date		Number of Segments	14
Jurisdiction		Time Period	AM Peak	Number of Iterations	15
File Name	Existing AM.xus	Analysis Year	Existing	System Cycle Length, s	100
Intersections	Patterson Rd & 15th St	27 1/2 Road & Patterson		Analysis Period	1> 7:00
Project Description					



Basic Segment Information

Segment	Speed Limit		Through Lanes		Segment Length		Intersection Wid		Length of RM		Percent Curb		Other Delay	
	WB	EB	WB	EB	WB	EB	WB	EB	WB	EB	WB	EB	WB	EB
10	40	40	2	2	1326	1326	50	50	0	0	70	70	0.0	0.0

		Westbound			Eastbound		
Segment Output Data		WBL	WBT	WBR	EBL	EBT	EBR
Segment	Movement	5	2	12	1	6	16
10	Bay/Lane Spillback Time, h		never			never	
10	Shared Lane Spillback Time, h	never		never	never		
10	Base Free-Flow Speed, mph	44.07			44.07		
10	Running Time, s	23.72			23.71		
10	Running Speed, mph	38.11			38.13		
10	Through Delay, s/veh	9.73			1.25		
10	Travel Time, s	33.45			24.96		
10	Travel Speed, mph	27.03			36.22		
10	Stop Rate, stops/veh	0.33			0.05		
10	Spatial Stop Rate, stops/mi	1.32			0.19		
10	Through vol/cap Ratio	0.32			0.28		
10	Percent of Base FFS	61.33			82.20		
10	Level of Service	C			A		
10	Auto Traveler Perception Score	2.56			2.17		
Multimodal Results (Segment)							
10	Pedestrian Segment LOS Score / LOS	3.43		C	3.45		C
10	Bicycle Segment LOS Score / LOS	2.78		C	2.72		B
10	Transit Segment LOS Score / LOS	1.16		A	0.57		A

Facility Output Data	**Westbound**	**Eastbound**
Facility Travel Time, s	753.72	737.51
Facility Travel Speed, mph	28.53	29.16
Facility Base Free Flow Speed, mph	42.73	42.47
Facility Percent of Base FFS	66.77	68.66
Facility Level of Service	C	B
Facility Auto Traveler Perception Score	2.31	2.27

Multimodal Results (Facility)				
Pedestrian Facility LOS Score / LOS	3.20	C	3.14	C
Bicycle Facility LOS Score / LOS	2.63	C	2.66	C
Transit Facility LOS Score / LOS	1.01	A	0.92	A

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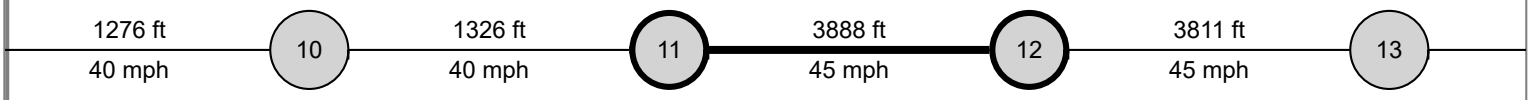
HCS7 Urban Street Segment Report

General Information				Streets Information	
Agency	Stolfus and Associates			Number of Intersections	15
Analyst	Max Rusch	Analysis Date		Number of Segments	14
Jurisdiction		Time Period	AM Peak	Number of Iterations	15
File Name	Existing AM.xus	Analysis Year	Existing	System Cycle Length, s	100
Intersections	27 1/2 Road & Patterson	28 1/4 Road & Patterson		Analysis Period	1> 7:00
Project Description					



Basic Segment Information (27 1/4 Rd - 27 1/2 Rd)

Segment	Speed Limit		Through Lanes		Segment Length		Intersection Wid		Length of RM		Percent Curb		Other Delay	
	WB	EB	WB	EB	WB	EB	WB	EB	WB	EB	WB	EB	WB	EB
11	45	40	2	2	3888	3888	50	50	0	0	90	90	0.0	0.0

		Westbound			Eastbound		
Segment Output Data		WBL	WBT	WBR	EBL	EBT	EBR
Segment	Movement		2	12	1	6	
11	Bay/Lane Spillback Time, h		never			never	
11	Shared Lane Spillback Time, h	never		never	never		
11	Base Free-Flow Speed, mph	45.84			43.49		
11	Running Time, s	60.16			62.64		
11	Running Speed, mph	44.06			42.32		
11	Through Delay, s/veh	16.34			9.91		
11	Travel Time, s	76.50			72.55		
11	Travel Speed, mph	34.65			36.54		
11	Stop Rate, stops/veh	0.48			0.40		
11	Spatial Stop Rate, stops/mi	0.65			0.55		
11	Through vol/cap Ratio	0.44			0.18		
11	Percent of Base FFS	75.59			84.01		
11	Level of Service	B			A		
11	Auto Traveler Perception Score	2.34			2.22		
Multimodal Results (Segment)							
11	Pedestrian Segment LOS Score / LOS	3.61		D	2.96		C
11	Bicycle Segment LOS Score / LOS	2.81		C	2.55		B
11	Transit Segment LOS Score / LOS	0.69		A	0.51		A

Facility Output Data	**Westbound**	**Eastbound**
Facility Travel Time, s	753.72	737.51
Facility Travel Speed, mph	28.53	29.16
Facility Base Free Flow Speed, mph	42.73	42.47
Facility Percent of Base FFS	66.77	68.66
Facility Level of Service	C	B
Facility Auto Traveler Perception Score	2.31	2.27

Multimodal Results (Facility)				
Pedestrian Facility LOS Score / LOS	3.20	C	3.14	C
Bicycle Facility LOS Score / LOS	2.63	C	2.66	C
Transit Facility LOS Score / LOS	1.01	A	0.92	A

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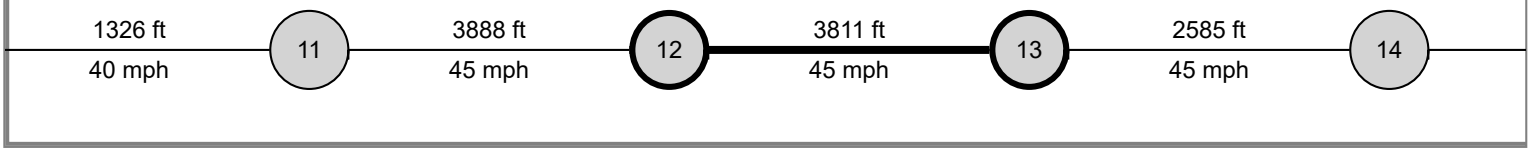
HCS7 Urban Street Segment Report

General Information				Streets Information	
Agency	Stolfus and Associates			Number of Intersections	15
Analyst	Max Rusch	Analysis Date		Number of Segments	14
Jurisdiction		Time Period	AM Peak	Number of Iterations	15
File Name	Existing AM.xus	Analysis Year	Existing	System Cycle Length, s	100
Intersections	28 1/4 Road & Patterson	29 Road & Patterson		Analysis Period	1> 7:00
Project Description					



Basic Segment Information (28 1/4 Rd - 29 Rd)

Segment	Speed Limit		Through Lanes		Segment Length		Intersection Wid		Length of RM		Percent Curb		Other Delay	
	WB	EB	WB	EB	WB	EB	WB	EB	WB	EB	WB	EB	WB	EB
12	45	40	2	2	3811	3811	50	50	0	0	90	90	0.0	0.0

		Westbound			Eastbound		
Segment Output Data		WBL	WBT	WBR	EBL	EBT	EBR
Segment	Movement	5	2	12	1	6	16
12	Bay/Lane Spillback Time, h		never			never	
12	Shared Lane Spillback Time, h	never		never	never		never
12	Base Free-Flow Speed, mph	44.90			42.55		
12	Running Time, s	59.68			62.81		
12	Running Speed, mph	43.54			41.37		
12	Through Delay, s/veh	20.06			9.82		
12	Travel Time, s	79.74			72.63		
12	Travel Speed, mph	32.58			35.78		
12	Stop Rate, stops/veh	0.53			0.30		
12	Spatial Stop Rate, stops/mi	0.74			0.41		
12	Through vol/cap Ratio	0.58			0.27		
12	Percent of Base FFS	72.57			84.07		
12	Level of Service	B			A		
12	Auto Traveler Perception Score	2.25			2.20		
Multimodal Results (Segment)							
12	Pedestrian Segment LOS Score / LOS	3.58		D	2.95		C
12	Bicycle Segment LOS Score / LOS	2.86		C	2.57		B
12	Transit Segment LOS Score / LOS	0.85		A	0.56		A

Facility Output Data	**Westbound**	**Eastbound**
Facility Travel Time, s	753.72	737.51
Facility Travel Speed, mph	28.53	29.16
Facility Base Free Flow Speed, mph	42.73	42.47
Facility Percent of Base FFS	66.77	68.66
Facility Level of Service	C	B
Facility Auto Traveler Perception Score	2.31	2.27

Multimodal Results (Facility)				
Pedestrian Facility LOS Score / LOS	3.20	C	3.14	C
Bicycle Facility LOS Score / LOS	2.63	C	2.66	C
Transit Facility LOS Score / LOS	1.01	A	0.92	A

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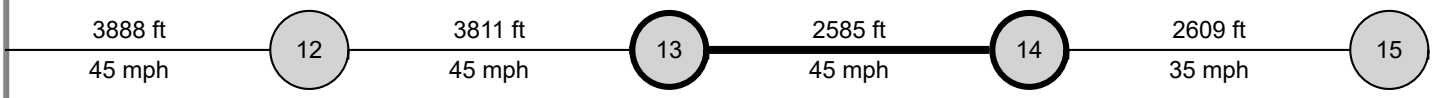
HCS7 Urban Street Segment Report

General Information				Streets Information	
Agency	Stolfus and Associates			Number of Intersections	15
Analyst	Max Rusch	Analysis Date		Number of Segments	14
Jurisdiction		Time Period	AM Peak	Number of Iterations	15
File Name	Existing AM.xus	Analysis Year	Existing	System Cycle Length, s	100
Intersections	29 Road & Patterson	29 1/2 Road & Patterson		Analysis Period	1> 7:00
Project Description					



Basic Segment Information (29 Rd - 29 1/2 Rd)

Segment	Speed Limit		Through Lanes		Segment Length		Intersection Wid		Length of RM		Percent Curb		Other Delay	
	WB	EB	WB	EB	WB	EB	WB	EB	WB	EB	WB	EB	WB	EB
13	45	45	2	2	2585	2585	50	50	0	0	90	90	0.0	0.0

		Westbound			Eastbound		
Segment Output Data		WBL	WBT	WBR	EBL	EBT	EBR
Segment	Movement	5	2	12	1	6	16
13	Bay/Lane Spillback Time, h		never			never	
13	Shared Lane Spillback Time, h	never			never		never
13	Base Free-Flow Speed, mph	43.89			43.89		
13	Running Time, s	41.28			40.34		
13	Running Speed, mph	42.69			43.69		
13	Through Delay, s/veh	15.41			23.58		
13	Travel Time, s	56.69			63.92		
13	Travel Speed, mph	31.09			27.57		
13	Stop Rate, stops/veh	0.41			0.68		
13	Spatial Stop Rate, stops/mi	0.83			1.38		
13	Through vol/cap Ratio	0.69			0.32		
13	Percent of Base FFS	70.84			62.82		
13	Level of Service	B			C		
13	Auto Traveler Perception Score	2.26			2.35		
Multimodal Results (Segment)							
13	Pedestrian Segment LOS Score / LOS	3.81		D	3.24		C
13	Bicycle Segment LOS Score / LOS	2.95		C	2.62		B
13	Transit Segment LOS Score / LOS	1.02		A	1.10		A

Facility Output Data	Westbound		Eastbound	
Facility Travel Time, s	753.72		737.51	
Facility Travel Speed, mph	28.53		29.16	
Facility Base Free Flow Speed, mph	42.73		42.47	
Facility Percent of Base FFS	66.77		68.66	
Facility Level of Service	C		B	
Facility Auto Traveler Perception Score	2.31		2.27	
Multimodal Results (Facility)				
Pedestrian Facility LOS Score / LOS	3.20	C	3.14	C
Bicycle Facility LOS Score / LOS	2.63	C	2.66	C
Transit Facility LOS Score / LOS	1.01	A	0.92	A

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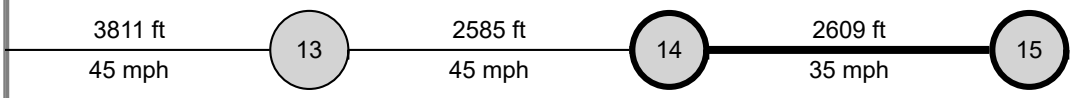
HCS7 Urban Street Segment Report

General Information				Streets Information	
Agency	Stolfus and Associates			Number of Intersections	15
Analyst	Max Rusch	Analysis Date		Number of Segments	14
Jurisdiction		Time Period	AM Peak	Number of Iterations	15
File Name	Existing AM.xus	Analysis Year	Existing	System Cycle Length, s	100
Intersections	29 1/2 Road & Patterson	30 Road & Patterson		Analysis Period	1> 7:00
Project Description					



Basic Segment Information (29 1/2 Rd - 30 Rd)

Segment	Speed Limit		Through Lanes		Segment Length		Intersection Wid		Length of RM		Percent Curb		Other Delay	
	WB	EB	WB	EB	WB	EB	WB	EB	WB	EB	WB	EB	WB	EB
14	35	45	2	2	2609	2609	50	50	0	0	90	90	0.0	0.0

		Westbound			Eastbound		
Segment Output Data		WBL	WBT	WBR	EBL	EBT	EBR
Segment	Movement	5	2	12	1	6	16
14	Bay/Lane Spillback Time, h					never	
14	Shared Lane Spillback Time, h				never		
14	Base Free-Flow Speed, mph	40.82			45.52		
14	Running Time, s	46.85			40.65		
14	Running Speed, mph	37.97			43.76		
14	Through Delay, s/veh	40.02			7.82		
14	Travel Time, s	86.88			48.46		
14	Travel Speed, mph	20.48			36.71		
14	Stop Rate, stops/veh	0.92			0.23		
14	Spatial Stop Rate, stops/mi	1.86			0.47		
14	Through vol/cap Ratio	0.81			0.29		
14	Percent of Base FFS	50.16			80.63		
14	Level of Service	C			A		
14	Auto Traveler Perception Score	2.42			2.21		
Multimodal Results (Segment)							
14	Pedestrian Segment LOS Score / LOS	3.95		D	2.92		C
14	Bicycle Segment LOS Score / LOS	2.89		C	2.56		B
14	Transit Segment LOS Score / LOS	1.77		A	0.54		A

Facility Output Data	**Westbound**	**Eastbound**
Facility Travel Time, s	753.72	737.51
Facility Travel Speed, mph	28.53	29.16
Facility Base Free Flow Speed, mph	42.73	42.47
Facility Percent of Base FFS	66.77	68.66
Facility Level of Service	C	B
Facility Auto Traveler Perception Score	2.31	2.27

Multimodal Results (Facility)				
Pedestrian Facility LOS Score / LOS	3.20	C	3.14	C
Bicycle Facility LOS Score / LOS	2.63	C	2.66	C
Transit Facility LOS Score / LOS	1.01	A	0.92	A

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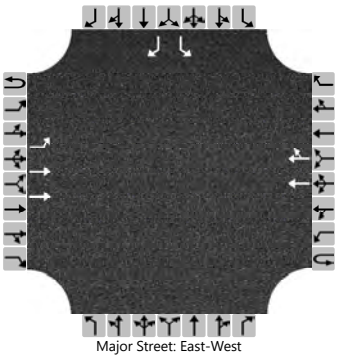
HCS7 Two-Way Stop-Control Report

General Information

Analyst		Intersection	28 RD
Agency/Co.	Stolfus and Associates	Jurisdiction	
Date Performed	4/30/2020	East/West Street	
Analysis Year	2018	North/South Street	
Time Analyzed	AM	Peak Hour Factor	0.92
Intersection Orientation	East-West	Analysis Time Period (hrs)	0.25
Project Description	Patterson ACP		

Lanes



Major Street: East-West

Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Priority	1U	1	2	3	4U	4	5	6		7	8	9		10	11	12
Number of Lanes	0	1	2	0	0	0	2	0		0	0	0		1	0	1
Configuration		L	T				T	TR						L		R
Volume (veh/h)	0	10	833				1759	57						37		58
Percent Heavy Vehicles (%)	3	1												3		0
Proportion Time Blocked																
Percent Grade (%)													0			
Right Turn Channelized													No			
Median Type | Storage	Undivided															

Critical and Follow-up Headways

Base Critical Headway (sec)		4.1												7.5		6.9
Critical Headway (sec)		4.12												6.86		6.90
Base Follow-Up Headway (sec)		2.2												3.5		3.3
Follow-Up Headway (sec)		2.21												3.53		3.30

Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)		11												40		63
Capacity, c (veh/h)		294												26		250
v/c Ratio		0.04												1.57		0.25
95% Queue Length, Q_{95} (veh)		0.1												4.9		1.0
Control Delay (s/veh)		17.7												613.0		24.2
Level of Service (LOS)		C												F		C
Approach Delay (s/veh)	0.2												253.5			
Approach LOS													F			

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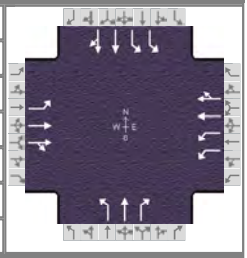
HCS7 Signalized Intersection Results Summary

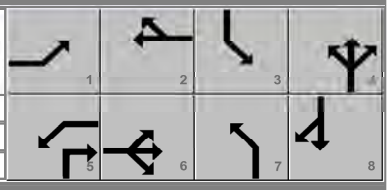
General Information				Intersection Information	
Agency	Stolfus and Associates			Duration, h	0.250
Analyst	Max Rusch	Analysis Date		Area Type	Other
Jurisdiction		Time Period	PM Peak	PHF	0.92
Urban Street	Patterson Rd	Analysis Year	2020	Analysis Period	1> 7:00
Intersection	24 Road & Patterson	File Name	Existing PM.xus		
Project Description					



Demand Information	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Demand (*v*), veh/h	63	155	176	493	322	177	42	291	215	207	444	25

Signal Information			
Cycle, s	110.0	Reference Phase	6
Offset, s	81	Reference Point	Begin
Uncoordinated	No	Simult. Gap E/W	On
Force Mode	Fixed	Simult. Gap N/S	On

Green	10.7	6.6	36.8	6.0	3.7	24.3
Yellow	3.5	3.5	4.0	3.5	0.0	4.0
Red	0.5	0.5	1.0	0.5	0.0	1.0



Timer Results	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Assigned Phase	1	6	5	2	7	4	3	8
Case Number	1.1	4.0	2.0	4.0	1.1	3.0	2.0	4.0
Phase Duration, s	14.7	41.8	25.3	52.4	10.0	29.3	13.7	32.9
Change Period, ($Y+R_c$), s	4.0	5.0	4.0	5.0	4.0	5.0	4.0	5.0
Max Allow Headway (*MAH*), s	5.2	0.0	5.2	0.0	5.2	5.2	5.2	5.2
Queue Clearance Time (g_s), s	10.1		18.1		4.1	19.3	8.9	15.3
Green Extension Time (g_e), s	0.6	0.0	3.2	0.0	0.1	5.0	0.8	6.3
Phase Call Probability	1.00		1.00		0.75	1.00	1.00	1.00
Max Out Probability	0.42		0.07		0.00	0.47	0.22	0.20

Movement Group Results	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Assigned Movement	1	6	16	5	2	12	7	4	14	3	8	18
Adjusted Flow Rate (*v*), veh/h	209	513	583	536	285	257	46	316	234	225	257	253
Adjusted Saturation Flow Rate (*s*), veh/h/ln	1810	1870	1579	1743	1885	1662	1810	1885	1598	1743	1856	1819
Queue Service Time (g_s), s	8.1	27.4	36.8	16.1	11.2	11.5	2.1	17.3	11.0	6.9	13.2	13.3
Cycle Queue Clearance Time (g_c), s	8.1	27.4	36.8	16.1	11.2	11.5	2.1	17.3	11.0	6.9	13.2	13.3
Green Ratio (*g/C*)	0.43	0.33	0.33	0.19	0.43	0.43	0.28	0.22	0.41	0.09	0.25	0.25
Capacity (*c*), veh/h	512	626	528	674	813	716	268	416	661	307	471	462
Volume-to-Capacity Ratio (*X*)	0.408	0.820	1.103	0.795	0.351	0.359	0.170	0.761	0.353	0.734	0.546	0.548
Back of Queue (*Q*), ft/ln (90 th percentile)	132.4	415	740.9	228.3	171.7	160.6	36.5	272	149.4	120.3	205.3	209.7
Back of Queue (*Q*), veh/ln (90 th percentile)	6.0	18.6	33.4	10.3	7.7	7.2	1.7	12.3	6.7	5.4	9.1	9.0
Queue Storage Ratio (*RQ*) (90 th percentile)	0.75	0.00	0.00	1.04	0.00	0.00	0.28	0.00	0.85	0.91	0.00	0.00
Uniform Delay (d_1), s/veh	20.8	32.1	41.9	42.3	21.0	21.1	30.3	40.2	22.1	48.9	35.6	35.6
Incremental Delay (d_2), s/veh	0.7	11.5	70.4	2.8	1.1	1.2	0.4	5.6	0.5	4.8	1.4	1.4
Initial Queue Delay (d_3), 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
Control Delay (*d*), s/veh	21.6	43.6	112.3	45.1	22.0	22.3	30.7	45.8	22.6	53.7	37.0	37.0
Level of Service (LOS)	C	D	F	D	C	C	C	D	C	D	D	D
Approach Delay, s/veh / LOS	70.8	E		33.5	C		35.5	D		42.1	D	
Intersection Delay, s/veh / LOS	48.6						D					

Multimodal Results	EB		WB		NB		SB	
Pedestrian LOS Score / LOS	2.29	B	2.27	B	2.45	B	2.29	B
Bicycle LOS Score / LOS	0.84	A	1.38	A	1.47	A	1.09	A

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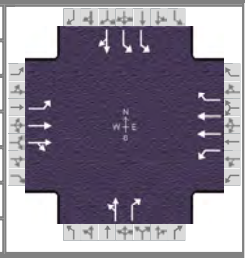
HCS7 Signalized Intersection Results Summary

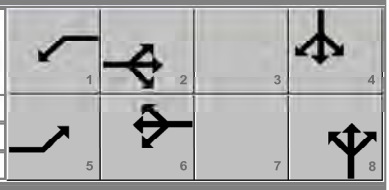
General Information				Intersection Information	
Agency	Stolfus and Associates			Duration, h	0.250
Analyst	Max Rusch	Analysis Date		Area Type	Other
Jurisdiction		Time Period	PM Peak	PHF	0.94
Urban Street	Patterson Rd	Analysis Year	2020	Analysis Period	1> 7:00
Intersection	Market Street/Mall Acce…	File Name	Existing PM.xus		
Project Description					



Demand Information	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Demand (*v*), veh/h	83	435	86	28	756	256	76	46	22	228	21	179

Signal Information			
Cycle, s	110.0	Reference Phase	2
Offset, s	0	Reference Point	Begin
Uncoordinated	No	Simult. Gap E/W	On
Force Mode	Fixed	Simult. Gap N/S	On

Green	1.5	2.2	56.7	9.7	17.0	0.0
Yellow	3.5	3.5	4.0	4.0	4.0	0.0
Red	0.5	0.5	1.0	1.0	1.0	0.0



Timer Results	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Assigned Phase	5	2	1	6		8		4
Case Number	1.1	4.0	1.1	3.0		11.0		10.0
Phase Duration, s	11.7	67.9	5.5	61.7		14.7		22.0
Change Period, ($Y+R_c$), s	4.0	5.0	4.0	5.0		5.0		5.0
Max Allow Headway (*MAH*), s	3.1	0.0	3.1	0.0		3.3		3.4
Queue Clearance Time (g_s), s	7.4		2.3			9.6		15.9
Green Extension Time (g_e), s	0.3	0.0	0.0	0.0		0.2		1.0
Phase Call Probability	1.00		0.29			0.99		1.00
Max Out Probability	0.00		0.00			0.00		0.00

Movement Group Results	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Assigned Movement	5	2	12	1	6	16	3	8	18	7	4	14
Adjusted Flow Rate (*v*), veh/h	198	639	605	11	307	104		130	23	243	213	
Adjusted Saturation Flow Rate (*s*), veh/h/ln	1810	1885	1777	1810	1795	1610		1843	1610	1757	1636	
Queue Service Time (g_s), s	5.4	28.6	29.5	0.3	6.3	5.1		7.6	1.5	6.9	13.9	
Cycle Queue Clearance Time (g_c), s	5.4	28.6	29.5	0.3	6.3	5.1		7.6	1.5	6.9	13.9	
Green Ratio (*g/C*)	0.60	0.57	0.57	0.53	0.52	0.52		0.09	0.09	0.15	0.15	
Capacity (*c*), veh/h	691	1077	1015	219	1849	830		163	142	542	252	
Volume-to-Capacity Ratio (*X*)	0.287	0.593	0.596	0.052	0.166	0.125		0.798	0.165	0.448	0.844	
Back of Queue (*Q*), ft/ln (90 th percentile)	79.8	395.5	387.5	5	103.7	79		134.6	24	115.8	197.5	
Back of Queue (*Q*), veh/ln (90 th percentile)	3.6	17.8	17.6	0.2	4.7	3.6		6.1	1.1	5.3	9.0	
Queue Storage Ratio (*RQ*) (90 th percentile)	0.55	0.00	0.00	0.05	0.00	0.75		0.00	0.00	0.00	0.00	
Uniform Delay (d_1), s/veh	10.1	21.7	22.9	14.8	18.6	20.3		49.2	46.4	42.3	45.2	
Incremental Delay (d_2), s/veh	0.1	2.0	2.1	0.0	0.2	0.3		3.4	0.2	0.2	3.0	
Initial Queue Delay (d_3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	
Control Delay (*d*), s/veh	10.2	23.6	25.0	14.9	18.7	20.6		52.6	46.6	42.5	48.2	
Level of Service (LOS)	B	C	C	B	B	C		D	D	D	D	
Approach Delay, s/veh / LOS	22.4	C		19.1	B		51.6	D		45.2	D	
Intersection Delay, s/veh / LOS	27.8						C					

Multimodal Results	EB		WB		NB		SB	
Pedestrian LOS Score / LOS	1.89	B	2.09	B	2.48	B	2.30	B
Bicycle LOS Score / LOS	1.02	A	1.40	A	0.74	A	1.24	A

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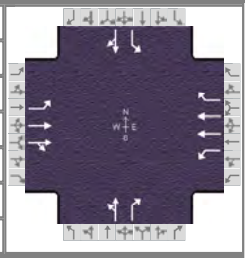
HCS7 Signalized Intersection Results Summary

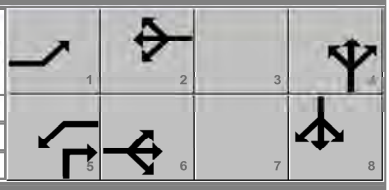
General Information				Intersection Information	
Agency	Stolfus and Associates			Duration, h	0.250
Analyst	Max Rusch	Analysis Date		Area Type	Other
Jurisdiction		Time Period	PM Peak	PHF	0.91
Urban Street	Patterson Rd	Analysis Year	2020	Analysis Period	1> 7:00
Intersection	Home Depot Access/Me…	File Name	Existing PM.xus		
Project Description					



Demand Information	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Demand (*v*), veh/h	58	598	44	74	879	65	59	22	88	89	13	89

Signal Information			
Cycle, s	110.0	Reference Phase	2
Offset, s	43	Reference Point	Begin
Uncoordinated	No	Simult. Gap E/W	Off
Force Mode	Fixed	Simult. Gap N/S	Off

Green	3.6	1.6	66.3	10.1	9.3	0.0
Yellow	3.5	0.0	4.0	4.0	4.0	0.0
Red	0.5	0.0	1.0	1.0	1.0	0.0



Timer Results	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Assigned Phase	1	6	5	2		4		8
Case Number	1.1	4.0	1.1	3.0		11.0		10.0
Phase Duration, s	9.2	73.0	7.6	71.3		14.3		15.1
Change Period, ($Y+R_c$), s	4.0	5.0	4.0	5.0		5.0		5.0
Max Allow Headway (*MAH*), s	5.2	0.0	5.2	0.0		5.5		5.5
Queue Clearance Time (g_s), s	4.8		2.9			8.3		9.3
Green Extension Time (g_e), s	0.6	0.0	0.2	0.0		1.0		0.8
Phase Call Probability	0.98		0.72			1.00		1.00
Max Out Probability	0.00		0.00			0.00		0.09

Movement Group Results	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Assigned Movement	1	6	16	5	2	12	7	4	14	3	8	18
Adjusted Flow Rate (*v*), veh/h	121	677	663	42	500	37		89	97	98	112	
Adjusted Saturation Flow Rate (*s*), veh/h/ln	1781	1885	1839	1810	1809	1610		1833	1585	1810	1642	
Queue Service Time (g_s), s	2.8	20.4	20.2	0.9	10.1	1.7		5.1	6.3	5.7	7.3	
Cycle Queue Clearance Time (g_c), s	2.8	20.4	20.2	0.9	10.1	1.7		5.1	6.3	5.7	7.3	
Green Ratio (*g/C*)	0.65	0.62	0.62	0.64	0.60	0.60		0.08	0.12	0.09	0.09	
Capacity (*c*), veh/h	594	1165	1136	297	2181	971		155	186	167	151	
Volume-to-Capacity Ratio (*X*)	0.204	0.581	0.583	0.142	0.229	0.038		0.574	0.520	0.587	0.741	
Back of Queue (*Q*), ft/ln (90 th percentile)	41.9	237.8	227.6	13.4	154.9	23.3		101.7	106.3	108.9	127.4	
Back of Queue (*Q*), veh/ln (90 th percentile)	1.9	10.7	10.3	0.6	7.0	1.1		4.6	4.8	4.9	5.8	
Queue Storage Ratio (*RQ*) (90 th percentile)	0.32	0.00	0.00	0.12	0.00	0.00		0.00	1.20	0.82	0.00	
Uniform Delay (d_1), s/veh	8.0	9.7	9.4	8.9	16.3	14.8		48.4	45.6	47.9	48.7	
Incremental Delay (d_2), s/veh	0.2	1.9	2.0	0.3	0.2	0.1		4.7	3.2	4.6	9.7	
Initial Queue Delay (d_3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	
Control Delay (*d*), s/veh	8.2	11.6	11.4	9.2	16.6	14.9		53.2	48.8	52.5	58.4	
Level of Service (LOS)	A	B	B	A	B	B		D	D	D	E	
Approach Delay, s/veh / LOS	11.2	B		15.9	B		50.9	D		55.7	E	
Intersection Delay, s/veh / LOS	19.2						B					

Multimodal Results	EB		WB		NB		SB	
Pedestrian LOS Score / LOS	1.88	B	1.88	B	2.46	B	2.32	B
Bicycle LOS Score / LOS	1.12	A	1.41	A	0.79	A	0.83	A

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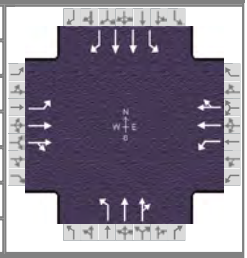
HCS7 Signalized Intersection Results Summary

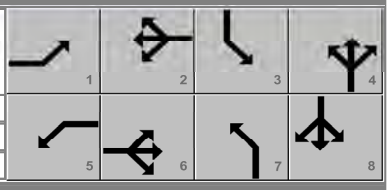
General Information				Intersection Information	
Agency	Stolfus and Associates			Duration, h	0.250
Analyst	Max Rusch	Analysis Date		Area Type	Other
Jurisdiction		Time Period	PM Peak	PHF	0.91
Urban Street	Patterson Rd	Analysis Year	2020	Analysis Period	1> 7:00
Intersection	24 1/2 Rd & Patterson	File Name	Existing PM.xus		
Project Description					



Demand Information	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Demand (*v*), veh/h	53	515	161	204	720	174	219	222	166	170	208	80

Signal Information			
Cycle, s	110.0	Reference Phase	2
Offset, s	23	Reference Point	Begin
Uncoordinated	No	Simult. Gap E/W	On
Force Mode	Fixed	Simult. Gap N/S	On

Green	5.3	0.5	58.3	9.0	1.4	13.0
Yellow	3.5	0.0	4.0	3.5	3.5	4.0
Red	0.5	0.0	1.5	0.5	0.5	1.0



Timer Results	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Assigned Phase	1	6	5	2	7	4	3	8
Case Number	1.1	4.0	1.1	4.0	1.1	4.0	1.1	3.0
Phase Duration, s	9.3	63.8	9.7	64.3	18.4	23.4	13.0	18.0
Change Period, ($Y+R_c$), s	4.0	5.5	4.0	5.5	4.0	5.0	4.0	5.0
Max Allow Headway (*MAH*), s	5.2	0.0	5.2	0.0	5.2	5.2	5.2	5.2
Queue Clearance Time (g_s), s	5.1		5.4		14.4	15.0	11.0	8.7
Green Extension Time (g_e), s	0.4	0.0	0.5	0.0	0.1	3.4	0.0	3.6
Phase Call Probability	0.97		0.98		1.00	1.00	1.00	1.00
Max Out Probability	0.01		0.00		1.00	0.36	1.00	0.30

Movement Group Results	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Assigned Movement	1	6	16	5	2	12	7	4	14	3	8	18
Adjusted Flow Rate (*v*), veh/h	112	740	692	123	277	262	241	224	202	187	229	88
Adjusted Saturation Flow Rate (*s*), veh/h/ln	1781	1885	1732	1795	1885	1758	1810	1885	1622	1795	1781	1585
Queue Service Time (g_s), s	3.1	31.2	29.8	3.4	5.8	5.6	12.4	12.4	13.0	9.0	6.7	5.7
Cycle Queue Clearance Time (g_c), s	3.1	31.2	29.8	3.4	5.8	5.6	12.4	12.4	13.0	9.0	6.7	5.7
Green Ratio (*g/C*)	0.58	0.53	0.53	0.58	0.53	0.53	0.27	0.17	0.17	0.20	0.12	0.12
Capacity (*c*), veh/h	552	1000	918	252	1008	940	365	316	272	243	421	188
Volume-to-Capacity Ratio (*X*)	0.203	0.740	0.754	0.489	0.275	0.279	0.659	0.710	0.743	0.770	0.542	0.469
Back of Queue (*Q*), ft/ln (90 th percentile)	50.3	382.9	313.2	57.3	90.1	82	195.6	204.2	192	186.6	116.6	94.6
Back of Queue (*Q*), veh/ln (90 th percentile)	2.3	17.3	14.2	2.6	4.1	3.7	8.9	9.2	8.7	8.4	5.2	4.2
Queue Storage Ratio (*RQ*) (90 th percentile)	0.38	0.00	0.00	0.43	0.00	0.00	1.48	0.00	0.00	1.41	0.00	0.00
Uniform Delay (d_1), s/veh	11.1	16.7	13.9	17.4	8.2	7.8	34.5	43.2	43.5	41.0	45.7	45.3
Incremental Delay (d_2), s/veh	0.2	4.4	5.1	1.9	0.6	0.7	4.7	4.2	6.3	14.8	1.5	2.6
Initial Queue Delay (d_3), 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
Control Delay (*d*), s/veh	11.4	21.1	19.0	19.3	8.8	8.4	39.1	47.5	49.8	55.8	47.2	47.8
Level of Service (LOS)	B	C	B	B	A	A	D	D	D	E	D	D
Approach Delay, s/veh / LOS	19.5	B		10.6	B		45.2	D		50.5	D	
Intersection Delay, s/veh / LOS	27.4						C					

Multimodal Results	EB		WB		NB		SB	
Pedestrian LOS Score / LOS	2.26	B	2.41	B	2.30	B	2.31	B
Bicycle LOS Score / LOS	1.15	A	1.48	A	1.04	A	0.90	A

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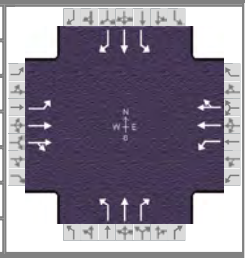
HCS7 Signalized Intersection Results Summary

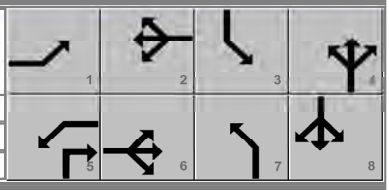
General Information				Intersection Information	
Agency	Stolfus and Associates			Duration, h	0.250
Analyst	Max Rusch	Analysis Date		Area Type	Other
Jurisdiction		Time Period	PM Peak	PHF	0.90
Urban Street	Patterson Rd	Analysis Year	2020	Analysis Period	1> 7:00
Intersection	25 Road & Patterson	File Name	Existing PM.xus		
Project Description					



Demand Information	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Demand (*v*), veh/h	66	741	147	222	834	147	180	308	176	205	301	111

Signal Information			
Cycle, s	110.0	Reference Phase	2
Offset, s	102	Reference Point	Begin
Uncoordinated	No	Simult. Gap E/W	On
Force Mode	Fixed	Simult. Gap N/S	On

Green	16.9	40.2	12.5	21.4	0.0	0.0
Yellow	3.5	4.5	3.5	4.0	0.0	0.0
Red	0.5	1.5	0.5	1.0	0.0	0.0



Timer Results	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Assigned Phase	1	6	5	2	7	4	3	8
Case Number	1.1	4.0	1.1	4.0	1.1	3.0	1.1	3.0
Phase Duration, s	20.9	46.2	20.9	46.2	16.5	26.4	16.5	26.4
Change Period, ($Y+R_c$), s	4.0	6.0	4.0	6.0	4.0	5.0	4.0	5.0
Max Allow Headway (*MAH*), s	5.2	0.0	5.2	0.0	5.2	5.2	5.2	5.2
Queue Clearance Time (g_s), s	5.6		6.5		11.6	21.7	13.1	21.3
Green Extension Time (g_e), s	0.4	0.0	0.4	0.0	0.1	0.0	0.0	0.1
Phase Call Probability	1.00		1.00		1.00	1.00	1.00	1.00
Max Out Probability	0.02		0.04		1.00	1.00	1.00	1.00

Movement Group Results	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Assigned Movement	1	6	16	5	2	12	7	4	14	3	8	18
Adjusted Flow Rate (*v*), veh/h	131	890	872	141	318	304	200	342	179	228	334	123
Adjusted Saturation Flow Rate (*s*), veh/h/ln	1810	1885	1778	1795	1885	1786	1781	1885	1598	1795	1870	1610
Queue Service Time (g_s), s	3.6	40.2	40.2	4.5	12.0	12.9	9.6	19.7	9.0	11.1	19.3	7.3
Cycle Queue Clearance Time (g_c), s	3.6	40.2	40.2	4.5	12.0	12.9	9.6	19.7	9.0	11.1	19.3	7.3
Green Ratio (*g/C*)	0.52	0.37	0.37	0.52	0.37	0.37	0.31	0.19	0.35	0.31	0.19	0.19
Capacity (*c*), veh/h	530	689	650	341	689	653	269	367	556	269	364	313
Volume-to-Capacity Ratio (*X*)	0.247	1.291	1.342	0.412	0.462	0.465	0.744	0.933	0.322	0.845	0.919	0.394
Back of Queue (*Q*), ft/ln (90 th percentile)	56.2	1399.3	1481.6	79.1	168.5	177.5	184.7	373.2	134.3	221.2	363.5	120.5
Back of Queue (*Q*), veh/ln (90 th percentile)	2.6	63.1	66.3	3.6	7.6	7.9	8.3	16.8	6.1	10.0	16.3	5.5
Queue Storage Ratio (*RQ*) (90 th percentile)	0.32	0.00	0.00	0.45	0.00	0.00	0.84	0.00	0.76	1.67	0.00	0.91
Uniform Delay (d_1), s/veh	11.9	39.5	40.3	20.7	20.4	22.5	31.7	43.6	26.3	32.2	43.5	38.6
Incremental Delay (d_2), s/veh	1.0	141.2	163.2	3.1	1.9	2.0	17.0	32.8	1.5	26.4	30.6	3.7
Initial Queue Delay (d_3), 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
Control Delay (*d*), s/veh	12.9	180.7	203.5	23.8	22.2	24.5	48.7	76.4	27.8	58.7	74.0	42.3
Level of Service (LOS)	B	F	F	C	C	C	D	E	C	E	E	D
Approach Delay, s/veh / LOS	179.6	F		23.4	C		56.7	E		63.2	E	
Intersection Delay, s/veh / LOS	108.8						F					

Multimodal Results	EB		WB		NB		SB	
Pedestrian LOS Score / LOS	2.13	B	2.11	B	2.30	B	2.30	B
Bicycle LOS Score / LOS	1.36	A	1.59	B	1.68	B	1.62	B

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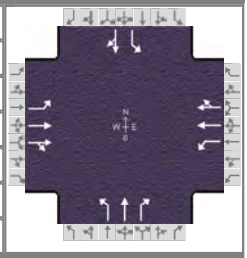
HCS7 Signalized Intersection Results Summary

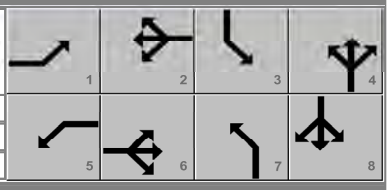
General Information				Intersection Information	
Agency	Stolfus and Associates			Duration, h	0.250
Analyst	Max Rusch	Analysis Date		Area Type	Other
Jurisdiction		Time Period	PM Peak	PHF	0.89
Urban Street	Patterson Rd	Analysis Year	2020	Analysis Period	1> 7:00
Intersection	25 1/2 Road & Patterson	File Name	Existing PM.xus		
Project Description					



Demand Information	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Demand (*v*), veh/h	36	1077	89	182	1079	104	92	145	189	185	118	46

Signal Information			
Cycle, s	110.0	Reference Phase	2
Offset, s	28	Reference Point	Begin
Uncoordinated	No	Simult. Gap E/W	On
Force Mode	Fixed	Simult. Gap N/S	On

Green	6.2	1.5	54.5	11.0	17.7	0.0
Yellow	3.5	0.0	4.5	3.5	4.0	0.0
Red	0.5	0.0	1.5	0.5	1.0	0.0



Timer Results	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Assigned Phase	1	6	5	2	7	4	3	8
Case Number	1.1	4.0	1.1	4.0	1.1	3.0	1.1	4.0
Phase Duration, s	10.2	60.5	11.8	62.1	15.0	22.7	15.0	22.7
Change Period, ($Y+R_c$), s	4.0	6.0	4.0	6.0	4.0	5.0	4.0	5.0
Max Allow Headway (*MAH*), s	5.2	0.0	5.2	0.0	5.2	5.3	5.2	5.3
Queue Clearance Time (g_s), s	3.4		5.2		7.0	16.0	12.6	12.7
Green Extension Time (g_e), s	0.1	0.0	0.3	0.0	0.1	1.7	0.0	2.3
Phase Call Probability	0.78		0.97		1.00	1.00	1.00	1.00
Max Out Probability	0.00		0.02		1.00	0.85	1.00	0.39

Movement Group Results	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Assigned Movement	1	6	16	5	2	12	7	4	14	3	8	18
Adjusted Flow Rate (*v*), veh/h	49	803	790	114	375	364	103	163	212	208	184	
Adjusted Saturation Flow Rate (*s*), veh/h/ln	1767	1885	1834	1795	1885	1826	1781	1870	1610	1795	1780	
Queue Service Time (g_s), s	1.4	42.1	42.9	3.2	12.0	11.2	5.0	8.8	14.0	10.6	10.7	
Cycle Queue Clearance Time (g_c), s	1.4	42.1	42.9	3.2	12.0	11.2	5.0	8.8	14.0	10.6	10.7	
Green Ratio (*g/C*)	0.55	0.50	0.50	0.57	0.51	0.51	0.26	0.16	0.16	0.26	0.16	
Capacity (*c*), veh/h	438	935	909	226	961	931	299	301	259	309	287	
Volume-to-Capacity Ratio (*X*)	0.112	0.860	0.869	0.503	0.390	0.391	0.346	0.541	0.819	0.673	0.643	
Back of Queue (*Q*), ft/ln (90 th percentile)	20.2	578.7	578.3	62.5	163.6	149	96.3	152.5	215.6	189.1	173.5	
Back of Queue (*Q*), veh/ln (90 th percentile)	0.9	26.1	26.1	2.8	7.4	6.6	4.3	6.8	9.8	8.5	7.8	
Queue Storage Ratio (*RQ*) (90 th percentile)	0.15	0.00	0.00	0.47	0.00	0.00	0.87	0.00	2.45	1.43	0.00	
Uniform Delay (d_1), s/veh	11.2	27.0	27.2	24.6	14.1	12.6	32.7	42.4	44.6	34.6	43.2	
Incremental Delay (d_2), s/veh	0.1	9.3	10.2	2.0	1.0	1.0	3.2	2.1	14.1	11.2	3.7	
Initial Queue Delay (d_3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Control Delay (*d*), s/veh	11.3	36.3	37.4	26.6	15.0	13.7	35.8	44.6	58.7	45.8	46.8	
Level of Service (LOS)	B	D	D	C	B	B	D	D	E	D	D	
Approach Delay, s/veh / LOS	36.1	D		16.0	B		49.0	D		46.3	D	
Intersection Delay, s/veh / LOS	34.0						C					

Multimodal Results	EB		WB		NB		SB	
Pedestrian LOS Score / LOS	2.09	B	1.90	B	2.30	B	2.30	B
Bicycle LOS Score / LOS	1.60	B	1.75	B	1.28	A	1.13	A

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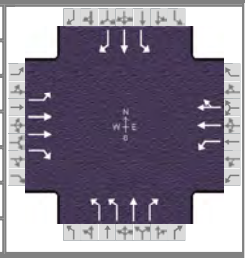
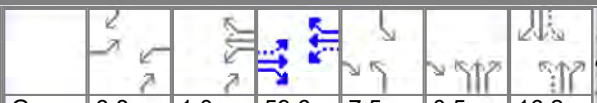
HCS7 Signalized Intersection Results Summary

General Information				Intersection Information	
Agency	Stolfus and Associates			Duration, h	0.250
Analyst	Max Rusch	Analysis Date		Area Type	Other
Jurisdiction		Time Period	PM Peak	PHF	0.93
Urban Street	Patterson Rd	Analysis Year	2020	Analysis Period	1> 7:00
Intersection	1st Street & Patterson	File Name	Existing PM.xus		
Project Description					

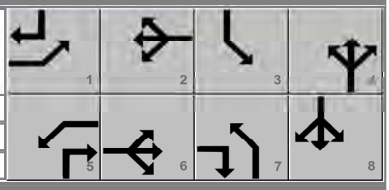


Demand Information	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Demand (*v*), veh/h	55	1203	167	187	1110	60	184	179	183	82	132	37

Signal Information			
Cycle, s	110.0	Reference Phase	2
Offset, s	74	Reference Point	Begin
Uncoordinated	No	Simult. Gap E/W	On
Force Mode	Fixed	Simult. Gap N/S	On



Green	6.8	1.0	59.6	7.5	0.5	16.2
Yellow	3.5	0.0	3.0	3.5	0.0	4.0
Red	0.5	0.0	2.5	0.5	0.0	1.0



Timer Results	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Assigned Phase	1	6	5	2	7	4	3	8
Case Number	1.1	3.0	1.1	4.0	1.1	3.0	1.1	3.0
Phase Duration, s	10.8	65.1	11.8	66.0	12.0	21.7	11.5	21.2
Change Period, ($Y+R_c$), s	4.0	5.5	4.0	5.5	4.0	5.0	4.0	5.0
Max Allow Headway (*MAH*), s	5.2	0.0	5.2	0.0	5.2	5.3	5.2	5.3
Queue Clearance Time (g_s), s	3.5		4.9		7.1	14.0	6.5	9.6
Green Extension Time (g_e), s	0.2	0.0	0.5	0.0	0.5	2.7	0.2	3.1
Phase Call Probability	0.85		0.97		1.00	1.00	0.93	1.00
Max Out Probability	0.00		0.00		0.70	0.19	0.37	0.08

Movement Group Results	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Assigned Movement	1	6	16	5	2	12	7	4	14	3	8	18
Adjusted Flow Rate (*v*), veh/h	62	1358	189	114	360	354	198	192	197	88	142	40
Adjusted Saturation Flow Rate (*s*), veh/h/ln	1781	1795	1610	1781	1885	1851	1757	1885	1598	1795	1885	1610
Queue Service Time (g_s), s	1.5	25.1	3.6	2.9	6.9	6.6	5.1	10.6	12.0	4.5	7.6	2.2
Cycle Queue Clearance Time (g_c), s	1.5	25.1	3.6	2.9	6.9	6.6	5.1	10.6	12.0	4.5	7.6	2.2
Green Ratio (*g/C*)	0.60	0.54	0.61	0.61	0.55	0.55	0.22	0.15	0.22	0.22	0.15	0.21
Capacity (*c*), veh/h	521	1943	989	296	1037	1018	576	287	356	225	278	337
Volume-to-Capacity Ratio (*X*)	0.119	0.699	0.191	0.386	0.347	0.348	0.343	0.671	0.553	0.392	0.511	0.118
Back of Queue (*Q*), ft/ln (90 th percentile)	22.1	236.5	45.3	48.5	89.6	86	87.4	179.9	169.2	81	136.1	34.8
Back of Queue (*Q*), veh/ln (90 th percentile)	1.0	10.7	2.1	2.2	4.0	3.8	4.0	8.1	7.6	3.7	6.1	1.6
Queue Storage Ratio (*RQ*) (90 th percentile)	0.17	0.00	0.34	0.44	0.00	0.00	0.66	0.00	1.28	0.73	0.00	0.00
Uniform Delay (d_1), s/veh	8.8	11.8	5.4	14.3	6.9	6.5	35.8	44.0	37.9	36.4	43.2	35.3
Incremental Delay (d_2), s/veh	0.1	1.8	0.4	0.7	0.6	0.6	0.5	3.8	1.9	1.6	2.1	0.2
Initial Queue Delay (d_3), 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
Control Delay (*d*), s/veh	8.9	13.6	5.8	15.1	7.4	7.0	36.3	47.9	39.8	37.9	45.3	35.5
Level of Service (LOS)	A	B	A	B	A	A	D	D	D	D	D	D
Approach Delay, s/veh / LOS	12.5	B		8.3	A		41.3	D		41.5	D	
Intersection Delay, s/veh / LOS	19.0						B					

Multimodal Results	EB		WB		NB		SB	
Pedestrian LOS Score / LOS	2.26	B	2.09	B	2.30	B	2.46	B
Bicycle LOS Score / LOS	1.75	B	1.69	B	1.46	A	0.93	A

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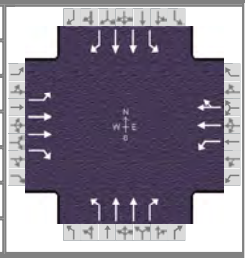
HCS7 Signalized Intersection Results Summary

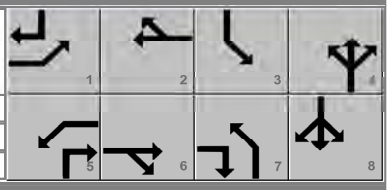
General Information				Intersection Information	
Agency	Stolfus and Associates			Duration, h	0.250
Analyst	Max Rusch	Analysis Date		Area Type	Other
Jurisdiction		Time Period	PM Peak	PHF	0.93
Urban Street	Patterson Rd	Analysis Year	2020	Analysis Period	1> 7:00
Intersection	7th Street & Patterson	File Name	Existing PM.xus		
Project Description					



Demand Information	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Demand (*v*), veh/h	142	1204	163	104	920	46	247	407	197	66	255	174

Signal Information			
Cycle, s	110.0	Reference Phase	2
Offset, s	15	Reference Point	Begin
Uncoordinated	No	Simult. Gap E/W	On
Force Mode	Fixed	Simult. Gap N/S	On

Green	7.5	0.4	46.5	7.1	4.3	18.3
Yellow	3.5	3.5	4.0	3.5	3.5	4.0
Red	0.5	0.5	1.0	0.5	0.5	1.0



Timer Results	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Assigned Phase	1	6	5	2	7	4	3	8
Case Number	2.0	3.0	2.0	4.0	1.1	3.0	1.1	3.0
Phase Duration, s	15.8	55.9	11.5	51.5	19.4	31.6	11.1	23.3
Change Period, ($Y+R_c$), s	4.0	5.0	4.0	5.0	4.0	5.0	4.0	5.0
Max Allow Headway (*MAH*), s	5.2	0.0	5.2	0.0	5.2	5.2	5.2	5.2
Queue Clearance Time (g_s), s	11.6		7.2		14.8	12.9	5.5	12.9
Green Extension Time (g_e), s	0.4	0.0	0.2	0.0	0.6	7.2	0.1	5.4
Phase Call Probability	0.99		0.93		1.00	1.00	0.89	1.00
Max Out Probability	0.41		0.01		1.00	0.20	1.00	0.50

Movement Group Results	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Assigned Movement	1	6	16	5	2	12	7	4	14	3	8	18
Adjusted Flow Rate (*v*), veh/h	156	1326	151	89	414	407	266	438	198	71	274	187
Adjusted Saturation Flow Rate (*s*), veh/h/ln	1795	1795	1438	1795	1885	1856	1810	1795	1590	1810	1781	1562
Queue Service Time (g_s), s	9.6	30.6	2.7	5.2	17.9	17.8	12.8	10.9	10.1	3.5	7.7	10.9
Cycle Queue Clearance Time (g_c), s	9.6	30.6	2.7	5.2	17.9	17.8	12.8	10.9	10.1	3.5	7.7	10.9
Green Ratio (*g/C*)	0.11	0.46	0.60	0.07	0.42	0.42	0.32	0.24	0.31	0.23	0.17	0.27
Capacity (*c*), veh/h	193	1659	889	122	797	784	410	868	493	283	591	430
Volume-to-Capacity Ratio (*X*)	0.809	0.799	0.170	0.729	0.519	0.520	0.647	0.504	0.401	0.251	0.464	0.435
Back of Queue (*Q*), ft/ln (90 th percentile)	172.2	317.5	30	91.1	251	253.1	194.9	159.6	136.1	61.6	128.5	151.8
Back of Queue (*Q*), veh/ln (90 th percentile)	7.8	14.3	1.4	4.1	11.3	11.1	8.9	7.2	6.1	2.8	5.7	6.8
Queue Storage Ratio (*RQ*) (90 th percentile)	0.98	0.00	0.19	0.69	0.00	0.00	0.89	0.00	0.77	0.56	0.00	0.00
Uniform Delay (d_1), s/veh	53.2	17.1	4.5	45.0	23.7	23.4	30.0	31.9	26.5	34.0	41.4	33.0
Incremental Delay (d_2), s/veh	9.8	3.4	0.3	8.5	1.8	1.8	2.9	0.6	0.8	0.7	0.8	1.0
Initial Queue Delay (d_3), 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
Control Delay (*d*), s/veh	63.0	20.5	4.8	53.4	25.5	25.2	33.0	32.6	27.3	34.7	42.3	34.0
Level of Service (LOS)	E	C	A	D	C	C	C	C	C	C	D	C
Approach Delay, s/veh / LOS	23.1	C		28.1	C		31.5	C		38.3	D	
Intersection Delay, s/veh / LOS	28.2						C					

Multimodal Results	EB		WB		NB		SB	
Pedestrian LOS Score / LOS	2.44	B	2.43	B	2.30	B	2.49	B
Bicycle LOS Score / LOS	1.80	B	1.43	A	1.23	A	0.93	A

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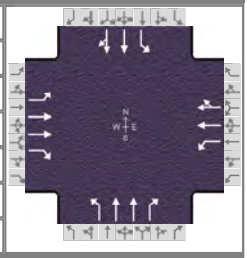
HCS7 Signalized Intersection Results Summary

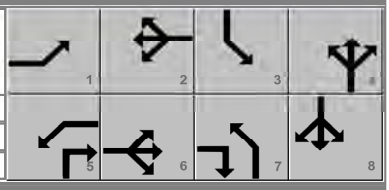
General Information				Intersection Information	
Agency	Stolfus and Associates			Duration, h	0.250
Analyst	Max Rusch	Analysis Date		Area Type	Other
Jurisdiction		Time Period	PM Peak	PHF	0.95
Urban Street	Patterson Rd	Analysis Year	2020	Analysis Period	1> 7:00
Intersection	12th Street & Patterson	File Name	Existing PM.xus		
Project Description					



Demand Information	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Demand (v), veh/h	89	1185	175	152	692	52	212	364	216	136	416	112

Signal Information			
Cycle, s	110.0	Reference Phase	2
Offset, s	85	Reference Point	Begin
Uncoordinated	No	Simult. Gap E/W	On
Force Mode	Fixed	Simult. Gap N/S	On

Green	12.5	44.0	10.3	2.6	18.1	0.0
Yellow	3.5	4.0	3.5	3.5	4.0	0.0
Red	0.5	1.5	0.5	0.5	1.0	0.0



Timer Results	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Assigned Phase	1	6	5	2	7	4	3	8
Case Number	1.1	3.0	1.1	4.0	1.1	3.0	1.1	4.0
Phase Duration, s	16.5	49.5	16.5	49.5	20.9	29.7	14.3	23.1
Change Period, ($Y+R_c$), s	4.0	5.5	4.0	5.5	4.0	5.0	4.0	5.0
Max Allow Headway (MAH), s	5.2	0.0	5.2	0.0	5.2	5.2	5.2	5.2
Queue Clearance Time (g_s), s	5.2		9.1		12.3	14.1	9.0	18.8
Green Extension Time (g_e), s	0.2	0.0	0.3	0.0	0.5	5.2	0.1	0.0
Phase Call Probability	1.00		1.00		1.00	1.00	1.00	1.00
Max Out Probability	0.23		1.00		1.00	0.59	1.00	1.00

Movement Group Results	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Assigned Movement	1	6	16	5	2	12	7	4	14	3	8	18
Adjusted Flow Rate (v), veh/h	97	1295	191	210	521	508	223	383	227	143	287	269
Adjusted Saturation Flow Rate (s), veh/h/ln	1781	1809	1593	1795	1885	1838	1810	1809	1598	1810	1885	1741
Queue Service Time (g_s), s	3.2	36.3	6.1	7.1	25.5	25.8	10.3	10.1	12.1	7.0	16.5	16.8
Cycle Queue Clearance Time (g_c), s	3.2	36.3	6.1	7.1	25.5	25.8	10.3	10.1	12.1	7.0	16.5	16.8
Green Ratio (g/C)	0.51	0.40	0.55	0.51	0.40	0.40	0.34	0.22	0.34	0.26	0.16	0.16
Capacity (c), veh/h	349	1447	883	288	754	735	354	812	540	329	310	287
Volume-to-Capacity Ratio (X)	0.279	0.895	0.217	0.730	0.691	0.691	0.631	0.472	0.421	0.435	0.925	0.938
Back of Queue (Q), ft/ln (90 th percentile)	57.3	434.5	80	128.8	356.7	356.7	178	162.4	171.4	127.2	327.7	321.2
Back of Queue (Q), veh/ln (90 th percentile)	2.6	19.8	3.6	5.8	16.1	16.1	8.1	7.4	7.7	5.8	14.8	14.4
Queue Storage Ratio (RQ) (90 th percentile)	0.32	0.00	0.55	0.49	0.00	0.00	0.81	0.00	0.78	0.96	0.00	0.00
Uniform Delay (d_1), s/veh	19.6	28.6	11.0	22.2	28.3	29.2	29.4	37.0	28.1	33.0	45.3	45.4
Incremental Delay (d_2), s/veh	1.2	5.7	0.3	12.7	4.3	4.4	8.3	2.0	2.4	4.1	35.1	39.5
Initial Queue Delay (d_3), 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
Control Delay (d), s/veh	20.9	34.4	11.4	34.9	32.6	33.6	37.7	39.0	30.5	37.2	80.4	84.9
Level of Service (LOS)	C	C	B	C	C	C	D	D	C	D	F	F
Approach Delay, s/veh / LOS	30.8	C		33.4	C		36.3	D		73.3	E	
Intersection Delay, s/veh / LOS	39.4						D					

Multimodal Results	EB		WB		NB		SB	
Pedestrian LOS Score / LOS	2.43	B	2.28	B	2.30	B	2.46	B
Bicycle LOS Score / LOS	1.75	B	1.27	A	1.18	A	1.06	A

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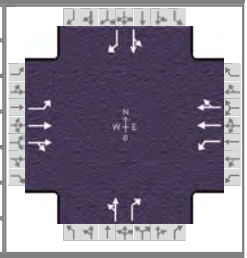
HCS7 Signalized Intersection Results Summary

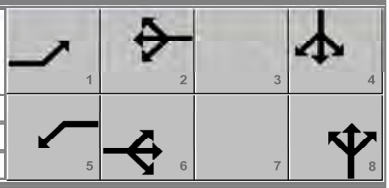
General Information				Intersection Information	
Agency	Stolfus and Associates			Duration, h	0.250
Analyst	Max Rusch	Analysis Date		Area Type	Other
Jurisdiction		Time Period	PM Peak	PHF	0.95
Urban Street	Patterson Rd	Analysis Year	2020	Analysis Period	1> 7:00
Intersection	Patterson Rd & 15th St	File Name	Existing PM.xus		
Project Description					



Demand Information	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Demand (*v*), veh/h	90	1577	39	35	1002	39	20	6	53	65	5	85

Signal Information			
Cycle, s	110.0	Reference Phase	2
Offset, s	88	Reference Point	Begin
Uncoordinated	No	Simult. Gap E/W	On
Force Mode	Fixed	Simult. Gap N/S	On

Green	3.6	1.0	83.4	8.5	0.0	0.0
Yellow	3.5	0.0	3.5	3.5	0.0	0.0
Red	1.0	0.0	1.0	1.0	0.0	0.0



Timer Results	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Assigned Phase	1	6	5	2		8		4
Case Number	1.1	4.0	1.1	4.0		7.0		7.0
Phase Duration, s	9.1	88.9	8.1	87.9		13.0		13.0
Change Period, ($Y+R_c$), s	4.5	4.5	4.5	4.5		4.5		4.5
Max Allow Headway (*MAH*), s	3.1	0.0	3.1	0.0		3.3		3.3
Queue Clearance Time (g_s), s	3.1		2.6			5.7		8.1
Green Extension Time (g_e), s	0.1	0.0	0.0	0.0		0.4		0.4
Phase Call Probability	0.92		0.72			1.00		1.00
Max Out Probability	0.00		0.00			0.00		0.00

Movement Group Results	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Assigned Movement	1	6	16	5	2	12	3	8	18	7	4	14
Adjusted Flow Rate (*v*), veh/h	83	750	745	42	632	624		27	56		74	89
Adjusted Saturation Flow Rate (*s*), veh/h/ln	1781	1856	1840	1781	1885	1860		1522	1585		1435	1585
Queue Service Time (g_s), s	1.1	9.9	10.1	0.6	9.6	9.3		0.0	3.7		3.8	6.1
Cycle Queue Clearance Time (g_c), s	1.1	9.9	10.1	0.6	9.6	9.3		1.7	3.7		5.5	6.1
Green Ratio (*g/C*)	0.80	0.77	0.77	0.79	0.76	0.76		0.08	0.08		0.08	0.08
Capacity (*c*), veh/h	437	1424	1412	355	1430	1411		175	122		174	122
Volume-to-Capacity Ratio (*X*)	0.191	0.527	0.528	0.119	0.442	0.442		0.156	0.457		0.425	0.733
Back of Queue (*Q*), ft/ln (90 th percentile)	9.9	90.1	88.7	5.5	90.9	86.4		28.7	60.2		80.3	100.9
Back of Queue (*Q*), veh/ln (90 th percentile)	0.4	4.0	4.0	0.2	4.1	3.9		1.3	2.7		3.6	4.5
Queue Storage Ratio (*RQ*) (90 th percentile)	0.12	0.00	0.00	0.06	0.00	0.00		0.00	1.36		0.00	2.28
Uniform Delay (d_1), s/veh	2.8	2.1	2.2	3.2	3.0	2.8		47.6	48.6		49.4	49.7
Incremental Delay (d_2), s/veh	0.1	1.1	1.1	0.0	0.6	0.7		0.2	1.0		0.6	3.2
Initial Queue Delay (d_3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0
Control Delay (*d*), s/veh	2.9	3.3	3.3	3.2	3.6	3.5		47.8	49.6		50.0	52.8
Level of Service (LOS)	A	A	A	A	A	A		D	D		D	D
Approach Delay, s/veh / LOS	3.3	A		3.5	A		49.0	D		51.6	D	
Intersection Delay, s/veh / LOS	7.1						A					

Multimodal Results	EB		WB		NB		SB	
Pedestrian LOS Score / LOS	1.84	B	1.84	B	2.31	B	2.31	B
Bicycle LOS Score / LOS	1.97	B	1.42	A	0.62	A	0.76	A

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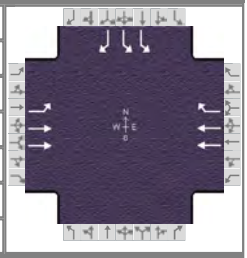
HCS7 Signalized Intersection Results Summary

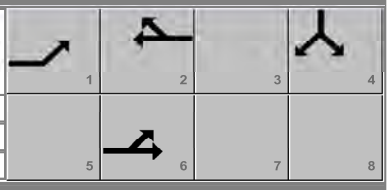
General Information				Intersection Information	
Agency	Stolfus and Associates			Duration, h	0.250
Analyst	Max Rusch	Analysis Date		Area Type	Other
Jurisdiction		Time Period	PM Peak	PHF	0.99
Urban Street	Patterson Rd	Analysis Year	2020	Analysis Period	1> 7:00
Intersection	27 1/2 Road & Patterson	File Name	Existing PM.xus		
Project Description					



Demand Information	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Demand (*v*), veh/h	138	1436			822	342				545		124

Signal Information			
Cycle, s	110.0	Reference Phase	2
Offset, s	88	Reference Point	Begin
Uncoordinated	No	Simult. Gap E/W	On
Force Mode	Fixed	Simult. Gap N/S	On

Green	10.3	64.4	20.3	0.0	0.0	0.0
Yellow	3.5	4.5	4.0	0.0	0.0	0.0
Red	0.5	1.5	1.0	0.0	0.0	0.0



Timer Results	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Assigned Phase	1	6		2				4
Case Number	1.0	4.0		7.3				9.0
Phase Duration, s	14.3	84.7		70.4				25.3
Change Period, ($Y+R_c$), s	4.0	6.0		6.0				5.0
Max Allow Headway (*MAH*), s	5.2	0.0		0.0				5.3
Queue Clearance Time (g_s), s	4.0							18.7
Green Extension Time (g_e), s	0.2	0.0		0.0				0.7
Phase Call Probability	1.00							1.00
Max Out Probability	0.43							1.00

Movement Group Results	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Assigned Movement	1	6			2	12				7		14
Adjusted Flow Rate (*v*), veh/h	99	1028			932	388				551		125
Adjusted Saturation Flow Rate (*s*), veh/h/ln	1810	1795			1795	1610				1757		1610
Queue Service Time (g_s), s	2.0	13.4			13.3	10.4				16.7		7.6
Cycle Queue Clearance Time (g_c), s	2.0	13.4			13.3	10.4				16.7		7.6
Green Ratio (*g/C*)	0.70	0.72			0.59	0.59				0.18		0.18
Capacity (*c*), veh/h	431	2568			2101	943				649		297
Volume-to-Capacity Ratio (*X*)	0.229	0.400			0.443	0.411				0.849		0.422
Back of Queue (*Q*), ft/ln (90 th percentile)	30.5	150.9			154.1	115				263.8		124.3
Back of Queue (*Q*), veh/ln (90 th percentile)	1.4	6.8			6.9	5.2				12.0		5.7
Queue Storage Ratio (*RQ*) (90 th percentile)	0.20	0.00			0.00	2.18				1.58		0.00
Uniform Delay (d_1), s/veh	7.2	6.9			9.7	7.7				43.4		39.7
Incremental Delay (d_2), s/veh	0.9	0.3			0.6	1.1				13.1		4.3
Initial Queue Delay (d_3), s/veh	0.0	0.0			0.0	0.0				0.0		0.0
Control Delay (*d*), s/veh	8.1	7.3			10.2	8.8				56.4		44.0
Level of Service (LOS)	A	A			B	A				E		D
Approach Delay, s/veh / LOS	7.3	A		9.8	A		0.0			54.1	D	
Intersection Delay, s/veh / LOS	18.5						B					

Multimodal Results	EB		WB		NB		SB	
Pedestrian LOS Score / LOS	0.66	A	2.08	B	2.32	B	2.32	B
Bicycle LOS Score / LOS	1.80	B	1.46	A				F

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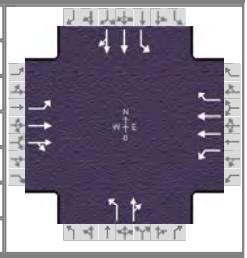
HCS7 Signalized Intersection Results Summary

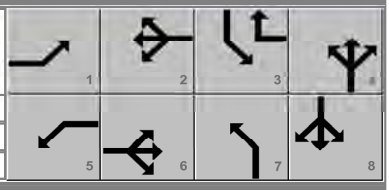
General Information				Intersection Information	
Agency	Stolfus and Associates			Duration, h	0.250
Analyst	Max Rusch	Analysis Date		Area Type	Other
Jurisdiction		Time Period	PM Peak	PHF	0.97
Urban Street	Patterson Rd	Analysis Year	2020	Analysis Period	1> 7:00
Intersection	28 1/4 Road & Patterson	File Name	Existing PM.xus		
Project Description					



Demand Information	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Demand (*v*), veh/h	29	1509	266	95	913	26	226	14	156	39	22	45

Signal Information			
Cycle, s	110.0	Reference Phase	2
Offset, s	63	Reference Point	Begin
Uncoordinated	No	Simult. Gap E/W	Off
Force Mode	Fixed	Simult. Gap N/S	On

Green	9.2	57.8	7.0	0.4	12.6	0.0
Yellow	3.5	4.5	3.5	3.5	4.0	0.0
Red	0.5	1.5	0.5	0.5	1.0	0.0



Timer Results	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Assigned Phase	1	6	5	2	7	4	3	8
Case Number	1.1	4.0	1.1	3.0	1.1	4.0	1.1	4.0
Phase Duration, s	13.2	63.8	13.2	63.8	15.4	22.0	11.0	17.6
Change Period, ($Y+R_c$), s	4.0	6.0	4.0	6.0	4.0	5.0	4.0	5.0
Max Allow Headway (*MAH*), s	5.2	0.0	5.1	0.0	5.2	5.4	5.2	5.4
Queue Clearance Time (g_s), s	2.5		4.2		13.4	13.2	4.1	4.9
Green Extension Time (g_e), s	0.0	0.0	0.1	0.0	0.0	0.5	0.0	0.8
Phase Call Probability	1.00		1.00		1.00	1.00	1.00	1.00
Max Out Probability	0.13		1.00		1.00	1.00	1.00	0.38

Movement Group Results	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Assigned Movement	1	6	16	5	2	12	7	4	14	3	8	18
Adjusted Flow Rate (*v*), veh/h	18	561	532	90	868	25	233	175		40	23	46
Adjusted Saturation Flow Rate (*s*), veh/h/ln	1810	1885	1786	1810	1795	1560	1810	1631		1810	1900	1610
Queue Service Time (g_s), s	0.5	15.8	14.2	2.2	13.5	0.6	11.4	11.2		2.1	1.2	2.9
Cycle Queue Clearance Time (g_c), s	0.5	15.8	14.2	2.2	13.5	0.6	11.4	11.2		2.1	1.2	2.9
Green Ratio (*g/C*)	0.61	0.53	0.53	0.61	0.53	0.59	0.24	0.15		0.18	0.11	0.11
Capacity (*c*), veh/h	460	991	939	407	1886	919	372	252		223	218	184
Volume-to-Capacity Ratio (*X*)	0.039	0.566	0.567	0.222	0.460	0.027	0.626	0.695		0.180	0.104	0.252
Back of Queue (*Q*), ft/ln (90 th percentile)	7.2	169.1	144.2	33.9	148.5	7.8	206.4	186.8		40.1	24.1	51.9
Back of Queue (*Q*), veh/ln (90 th percentile)	0.3	7.6	6.4	1.5	6.7	0.3	9.4	8.5		1.8	1.1	2.4
Queue Storage Ratio (*RQ*) (90 th percentile)	0.03	0.00	0.00	0.13	0.00	0.08	0.78	0.00		0.36	0.00	0.00
Uniform Delay (d_1), s/veh	10.3	9.8	8.3	10.2	11.7	7.6	37.3	44.0		38.4	43.6	44.4
Incremental Delay (d_2), s/veh	0.1	1.8	1.9	0.8	0.5	0.0	7.7	14.7		1.8	1.0	3.2
Initial Queue Delay (d_3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Control Delay (*d*), s/veh	10.4	11.6	10.2	11.0	12.3	7.6	45.0	58.8		40.1	44.6	47.6
Level of Service (LOS)	B	B	B	B	B	A	D	E		D	D	D
Approach Delay, s/veh / LOS	10.9	B		12.0	B		50.9	D		44.2	D	
Intersection Delay, s/veh / LOS	19.0						B					

Multimodal Results	EB		WB		NB		SB	
Pedestrian LOS Score / LOS	2.09	B	2.09	B	2.46	B	2.31	B
Bicycle LOS Score / LOS	2.02	B	1.37	A	1.16	A	0.58	A

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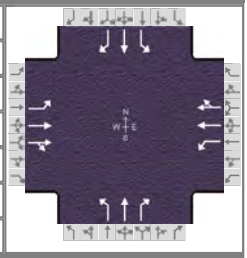
HCS7 Signalized Intersection Results Summary

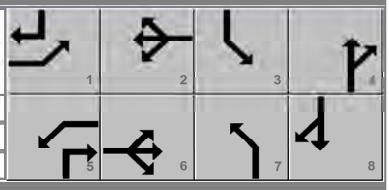
General Information				Intersection Information	
Agency	Stolfus and Associates			Duration, h	0.250
Analyst	Max Rusch	Analysis Date		Area Type	Other
Jurisdiction		Time Period	PM Peak	PHF	0.95
Urban Street	Patterson Rd	Analysis Year	2020	Analysis Period	1> 7:00
Intersection	29 Road & Patterson	File Name	Existing PM.xus		
Project Description					



Demand Information	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Demand (*v*), veh/h	155	1207	310	127	766	28	238	136	183	52	83	76

Signal Information			
Cycle, s	110.0	Reference Phase	2
Offset, s	18	Reference Point	Begin
Uncoordinated	No	Simult. Gap E/W	On
Force Mode	Fixed	Simult. Gap N/S	On

Green	11.5	51.5	9.5	17.0	0.0	0.0
Yellow	3.5	4.5	3.5	4.0	0.0	0.0
Red	1.0	2.0	1.0	1.0	0.0	0.0



Timer Results	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Assigned Phase	1	6	5	2	7	4	3	8
Case Number	1.1	4.0	1.1	4.0	2.0	3.0	2.0	3.0
Phase Duration, s	16.0	58.0	16.0	58.0	14.0	22.0	14.0	22.0
Change Period, ($Y+R_c$), s	4.5	6.5	4.5	6.5	4.5	5.0	4.5	5.0
Max Allow Headway (*MAH*), s	4.1	0.0	4.1	0.0	4.2	4.3	4.2	4.3
Queue Clearance Time (g_s), s	5.0		6.5		11.5	10.8	5.3	6.7
Green Extension Time (g_e), s	0.1	0.0	0.2	0.0	0.0	0.9	0.0	1.2
Phase Call Probability	1.00		1.00		1.00	1.00	1.00	1.00
Max Out Probability	0.11		0.50		1.00	0.44	1.00	0.07

Movement Group Results	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Assigned Movement	1	6	16	5	2	12	7	4	14	3	8	18
Adjusted Flow Rate (*v*), veh/h	111	562	523	158	498	491	251	143	156	55	87	27
Adjusted Saturation Flow Rate (*s*), veh/h/ln	1795	1885	1751	1795	1885	1861	1795	1826	1598	1711	1826	1560
Queue Service Time (g_s), s	3.0	27.5	27.7	4.5	19.8	19.7	9.5	7.9	8.8	3.3	4.7	1.5
Cycle Queue Clearance Time (g_c), s	3.0	27.5	27.7	4.5	19.8	19.7	9.5	7.9	8.8	3.3	4.7	1.5
Green Ratio (*g/C*)	0.57	0.47	0.47	0.57	0.47	0.47	0.09	0.15	0.26	0.09	0.15	0.26
Capacity (*c*), veh/h	408	883	820	357	883	871	155	282	414	148	282	404
Volume-to-Capacity Ratio (*X*)	0.272	0.637	0.637	0.443	0.564	0.564	1.616	0.507	0.376	0.370	0.310	0.068
Back of Queue (*Q*), ft/ln (90 th percentile)	47.1	378.7	366.9	73	245.6	241.3	579.9	151.1	135.7	70.7	95.1	23.7
Back of Queue (*Q*), veh/ln (90 th percentile)	2.1	17.1	16.3	3.3	11.1	10.8	26.1	6.6	6.1	3.0	4.2	1.0
Queue Storage Ratio (*RQ*) (90 th percentile)	0.15	0.00	0.00	0.18	0.00	0.00	2.63	0.00	0.62	0.53	0.00	0.18
Uniform Delay (d_1), s/veh	12.5	28.0	28.6	16.2	19.0	18.7	50.3	42.7	33.5	47.4	41.3	30.7
Incremental Delay (d_2), s/veh	1.2	2.6	2.8	2.7	1.8	1.8	304.8	6.4	2.6	7.0	2.8	0.3
Initial Queue Delay (d_3), 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
Control Delay (*d*), s/veh	13.8	30.6	31.4	18.9	20.8	20.5	355.0	49.0	36.1	54.4	44.1	31.1
Level of Service (LOS)	B	C	C	B	C	C	F	D	D	D	D	C
Approach Delay, s/veh / LOS	29.4	C		20.4	C		184.9	F		45.3	D	
Intersection Delay, s/veh / LOS	54.8						D					

Multimodal Results	EB		WB		NB		SB	
Pedestrian LOS Score / LOS	2.15	B	2.17	B	2.30	B	2.30	B
Bicycle LOS Score / LOS	1.94	B	1.29	A	1.39	A	0.77	A

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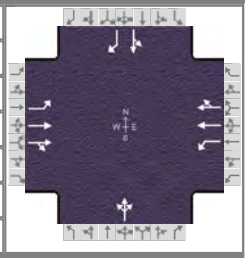
HCS7 Signalized Intersection Results Summary

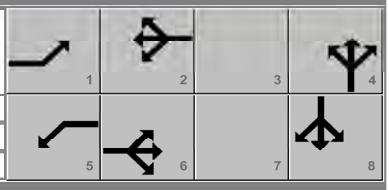
General Information				Intersection Information	
Agency	Stolfus and Associates			Duration, h	0.250
Analyst	Max Rusch	Analysis Date		Area Type	Other
Jurisdiction		Time Period	PM Peak	PHF	0.97
Urban Street	Patterson Rd	Analysis Year	2020	Analysis Period	1> 7:00
Intersection	29 1/2 Road & Patterson	File Name	Existing PM.xus		
Project Description					



Demand Information	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Demand (v), veh/h	69	1265	73	61	793	59	82	46	124	84	19	32

Signal Information			
Cycle, s	110.0	Reference Phase	2
Offset, s	56	Reference Point	Begin
Uncoordinated	No	Simult. Gap E/W	On
Force Mode	Fixed	Simult. Gap N/S	On

Green	4.0	0.5	61.9	28.0	0.0	0.0
Yellow	3.5	0.0	5.0	4.0	0.0	0.0
Red	0.5	0.0	1.5	1.0	0.0	0.0



Timer Results	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Assigned Phase	1	6	5	2		4		8
Case Number	1.1	4.0	1.1	4.0		8.0		7.0
Phase Duration, s	8.0	68.4	8.6	69.0		33.0		33.0
Change Period, ($Y+R_c$), s	4.0	6.5	4.0	6.5		5.0		5.0
Max Allow Headway (MAH), s	4.5	0.0	4.5	0.0		4.8		4.8
Queue Clearance Time (g_s), s	3.4		4.0			30.0		16.0
Green Extension Time (g_e), s	0.1	0.0	0.1	0.0		0.0		1.5
Phase Call Probability	0.81		0.91			1.00		1.00
Max Out Probability	0.01		0.04			1.00		0.08

Movement Group Results	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Assigned Movement	1	6	16	5	2	12	7	4	14	3	8	18
Adjusted Flow Rate (v), veh/h	54	525	514	79	562	548		260			106	33
Adjusted Saturation Flow Rate (s), veh/h/ln	1810	1885	1849	1810	1885	1839		1009			712	1572
Queue Service Time (g_s), s	1.4	9.7	9.3	2.0	11.2	10.6		14.0			0.0	1.8
Cycle Queue Clearance Time (g_c), s	1.4	9.7	9.3	2.0	11.2	10.6		28.0			14.0	1.8
Green Ratio (g/C)	0.60	0.56	0.56	0.60	0.57	0.57		0.25			0.25	0.25
Capacity (c), veh/h	363	1062	1041	403	1071	1044		300			241	400
Volume-to-Capacity Ratio (X)	0.148	0.494	0.494	0.197	0.525	0.525		0.865			0.441	0.082
Back of Queue (Q), ft/ln (90 th percentile)	20	102.1	96.6	29.9	116.4	110.5		282.7			106.8	27.3
Back of Queue (Q), veh/ln (90 th percentile)	0.9	4.6	4.4	1.4	5.2	4.9		12.6			4.6	1.2
Queue Storage Ratio (RQ) (90 th percentile)	0.15	0.00	0.00	0.23	0.00	0.00		0.00			0.00	0.00
Uniform Delay (d_1), s/veh	10.3	5.5	5.2	9.9	5.8	5.4		43.6			35.5	31.2
Incremental Delay (d_2), s/veh	0.1	1.1	1.1	0.2	1.3	1.4		22.2			1.3	0.1
Initial Queue Delay (d_3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0		0.0			0.0	0.0
Control Delay (d), s/veh	10.4	6.6	6.3	10.1	7.2	6.7		65.9			36.8	31.3
Level of Service (LOS)	B	A	A	B	A	A		E			D	C
Approach Delay, s/veh / LOS	6.6	A		7.2	A		65.9	E		35.5	D	
Intersection Delay, s/veh / LOS	14.1						B					

Multimodal Results	EB		WB		NB		SB	
Pedestrian LOS Score / LOS	1.67	B	1.89	B	2.29	B	2.29	B
Bicycle LOS Score / LOS	1.68	B	1.26	A	0.92	A	0.72	A

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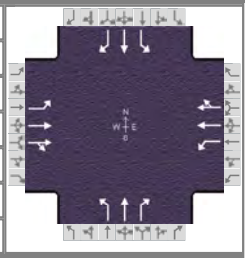
HCS7 Signalized Intersection Results Summary

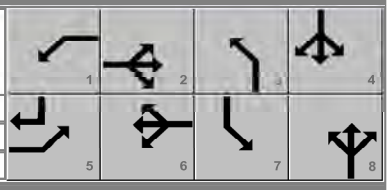
General Information				Intersection Information	
Agency	Stolfus and Associates			Duration, h	0.250
Analyst	Max Rusch	Analysis Date		Area Type	Other
Jurisdiction		Time Period	PM Peak	PHF	0.96
Urban Street	Patterson Rd	Analysis Year	2020	Analysis Period	1> 7:00
Intersection	30 Road & Patterson	File Name	Existing PM.xus		
Project Description					



Demand Information	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Demand (*v*), veh/h	155	933	219	55	580	52	197	87	80	36	55	97

Signal Information			
Cycle, s	110.0	Reference Phase	2
Offset, s	26	Reference Point	Begin
Uncoordinated	No	Simult. Gap E/W	On
Force Mode	Fixed	Simult. Gap N/S	On

Green	10.0	1.0	41.5	10.0	24.0	0.0
Yellow	3.5	3.5	5.0	3.5	4.0	0.0
Red	0.5	0.5	1.5	0.5	1.0	0.0



Timer Results	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Assigned Phase	5	2	1	6	3	8	7	4
Case Number	1.1	4.0	1.1	4.0	1.1	3.0	1.1	3.0
Phase Duration, s	19.0	53.0	14.0	48.0	14.0	29.0	14.0	29.0
Change Period, ($Y+R_c$), s	4.0	6.5	4.0	6.5	4.0	5.0	4.0	5.0
Max Allow Headway (*MAH*), s	4.1	0.0	4.2	0.0	4.2	4.2	4.2	4.2
Queue Clearance Time (g_s), s	7.1		5.1		12.0	6.6	3.6	4.7
Green Extension Time (g_e), s	0.3	0.0	0.1	0.0	0.0	0.7	0.0	0.8
Phase Call Probability	1.00		1.00		1.00	1.00	1.00	1.00
Max Out Probability	0.05		0.50		1.00	0.00	0.06	0.00

Movement Group Results	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Assigned Movement	5	2	12	1	6	16	3	8	18	7	4	14
Adjusted Flow Rate (*v*), veh/h	161	619	581	92	537	521	205	91	82	38	57	5
Adjusted Saturation Flow Rate (*s*), veh/h/ln	1795	1885	1761	1810	1885	1830	1767	1900	1610	1810	1900	1572
Queue Service Time (g_s), s	5.1	23.6	23.8	3.1	29.0	29.0	10.0	4.3	4.6	1.6	2.7	0.2
Cycle Queue Clearance Time (g_c), s	5.1	23.6	23.8	3.1	29.0	29.0	10.0	4.3	4.6	1.6	2.7	0.2
Green Ratio (*g/C*)	0.53	0.42	0.42	0.47	0.38	0.38	0.31	0.22	0.22	0.31	0.22	0.35
Capacity (*c*), veh/h	371	797	744	319	711	690	460	415	351	428	415	558
Volume-to-Capacity Ratio (*X*)	0.435	0.777	0.780	0.289	0.755	0.755	0.446	0.219	0.234	0.088	0.138	0.009
Back of Queue (*Q*), ft/ln (90 th percentile)	82.2	203.4	195	56.1	449	440.1	164.7	83.8	77.4	29.1	51.8	3.7
Back of Queue (*Q*), veh/ln (90 th percentile)	3.7	9.2	8.8	2.6	20.2	19.8	7.3	3.8	3.5	1.3	2.4	0.2
Queue Storage Ratio (*RQ*) (90 th percentile)	0.62	0.00	0.00	0.43	0.00	0.00	0.74	0.00	0.44	0.22	0.00	0.03
Uniform Delay (d_1), s/veh	19.5	12.9	12.9	18.0	36.6	36.8	29.8	35.3	35.4	27.0	34.7	23.0
Incremental Delay (d_2), s/veh	2.5	5.1	5.5	2.3	7.3	7.5	3.1	1.2	1.6	0.4	0.7	0.0
Initial Queue Delay (d_3), 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
Control Delay (*d*), s/veh	22.0	18.0	18.4	20.3	43.9	44.3	32.9	36.5	37.0	27.4	35.4	23.0
Level of Service (LOS)	C	B	B	C	D	D	C	D	D	C	D	C
Approach Delay, s/veh / LOS	18.6	B		42.2	D		34.7	C		31.7	C	
Intersection Delay, s/veh / LOS	30.2						C					

Multimodal Results	EB		WB		NB		SB	
Pedestrian LOS Score / LOS	2.11	B	2.24	B	2.30	B	2.30	B
Bicycle LOS Score / LOS	1.61	B	1.08	A	1.11	A	0.65	A

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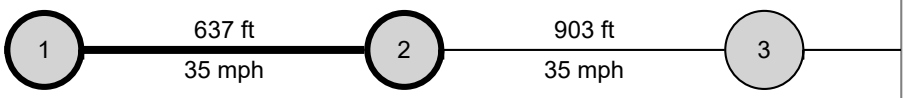
HCS7 Urban Street Segment Report

General Information				Streets Information	
Agency	Stolfus and Associates			Number of Intersections	15
Analyst	Max Rusch	Analysis Date		Number of Segments	14
Jurisdiction		Time Period	PM Peak	Number of Iterations	15
File Name	Existing PM.xus	Analysis Year	2020	System Cycle Length, s	110
Intersections	24 Road & Patterson	Market Street/Mall Access & Patterson		Analysis Period	1> 7:00
Project Description					



Basic Segment Information (24 Rd - Market St)

Segment	Speed Limit		Through Lanes		Segment Length		Intersection Wid		Length of RM		Percent Curb		Other Delay	
	WB	EB	WB	EB	WB	EB	WB	EB	WB	EB	WB	EB	WB	EB
1	35	35	2	2	637	637	50	50	0	0	100	0	0.0	0.0

		Westbound			Eastbound		
Segment Output Data		WBL	WBT	WBR	EBL	EBT	EBR
Segment	Movement		2	12	1	6	
1	Bay/Lane Spillback Time, h				0.02	never	
1	Shared Lane Spillback Time, h				0.15		never
1	Base Free-Flow Speed, mph	41.58			42.05		
1	Running Time, s	14.85			15.15		
1	Running Speed, mph	29.24			28.67		
1	Through Delay, s/veh	18.20			19.12		
1	Travel Time, s	33.05			34.27		
1	Travel Speed, mph	13.14			12.67		
1	Stop Rate, stops/veh	0.55			0.46		
1	Spatial Stop Rate, stops/mi	4.53			3.77		
1	Through vol/cap Ratio	0.17			0.22		
1	Percent of Base FFS	31.60			30.14		
1	Level of Service	E			E		
1	Auto Traveler Perception Score	2.88			2.75		
Multimodal Results (Segment)							
1	Pedestrian Segment LOS Score / LOS	2.52		B	3.63		D
1	Bicycle Segment LOS Score / LOS	2.20		B	2.65		B
1	Transit Segment LOS Score / LOS	2.34		B	2.55		B

Facility Output Data	**Westbound**	**Eastbound**
Facility Travel Time, s	786.87	983.12
Facility Travel Speed, mph	27.34	21.89
Facility Base Free Flow Speed, mph	42.73	42.47
Facility Percent of Base FFS	63.99	51.53
Facility Level of Service	C	F
Facility Auto Traveler Perception Score	2.32	2.34

Multimodal Results (Facility)				
Pedestrian Facility LOS Score / LOS	3.47	C	3.69	D
Bicycle Facility LOS Score / LOS	2.77	C	2.89	C
Transit Facility LOS Score / LOS	1.10	A	1.37	A

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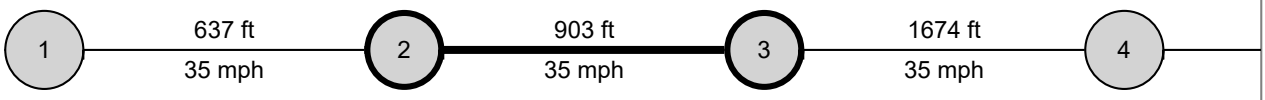
HCS7 Urban Street Segment Report

General Information				Streets Information	
Agency	Stolfus and Associates			Number of Intersections	15
Analyst	Max Rusch	Analysis Date		Number of Segments	14
Jurisdiction		Time Period	PM Peak	Number of Iterations	15
File Name	Existing PM.xus	Analysis Year	2020	System Cycle Length, s	110
Intersections	Market Street/Mall Access & Pat	Home Depot Access/Mesa Mall Access &		Analysis Period	1> 7:00
Project Description					



Basic Segment Information (Market St - Home Depot)

Segment	Speed Limit		Through Lanes		Segment Length		Intersection Wid		Length of RM		Percent Curb		Other Delay	
	WB	EB	WB	EB	WB	EB	WB	EB	WB	EB	WB	EB	WB	EB
2	35	35	2	2	903	903	50	50	2	1	70	0	0.0	0.0

		Westbound			Eastbound		
Segment Output Data		WBL	WBT	WBR	EBL	EBT	EBR
Segment	Movement	5	2	12	1	6	16
2	Bay/Lane Spillback Time, h		never				
2	Shared Lane Spillback Time, h	never					
2	Base Free-Flow Speed, mph	41.72			42.05		
2	Running Time, s	18.36			18.75		
2	Running Speed, mph	33.53			32.83		
2	Through Delay, s/veh	15.91			24.16		
2	Travel Time, s	34.27			42.91		
2	Travel Speed, mph	17.97			14.35		
2	Stop Rate, stops/veh	0.56			0.71		
2	Spatial Stop Rate, stops/mi	3.26			4.13		
2	Through vol/cap Ratio	0.23			0.59		
2	Percent of Base FFS	43.06			34.12		
2	Level of Service	D			E		
2	Auto Traveler Perception Score	2.66			2.81		
Multimodal Results (Segment)							
2	Pedestrian Segment LOS Score / LOS	2.93		C	3.87		D
2	Bicycle Segment LOS Score / LOS	2.47		B	2.77		C
2	Transit Segment LOS Score / LOS	1.86		A	2.37		B

Facility Output Data	Westbound	Eastbound
Facility Travel Time, s	786.87	983.12
Facility Travel Speed, mph	27.34	21.89
Facility Base Free Flow Speed, mph	42.73	42.47
Facility Percent of Base FFS	63.99	51.53
Facility Level of Service	C	F
Facility Auto Traveler Perception Score	2.32	2.34

Multimodal Results (Facility)				
Pedestrian Facility LOS Score / LOS	3.47	C	3.69	D
Bicycle Facility LOS Score / LOS	2.77	C	2.89	C
Transit Facility LOS Score / LOS	1.10	A	1.37	A

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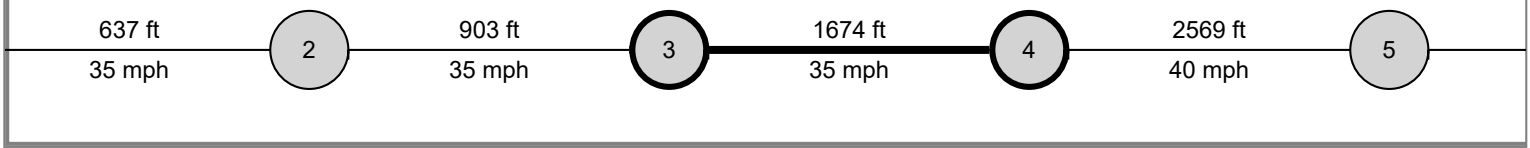
HCS7 Urban Street Segment Report

General Information				Streets Information	
Agency	Stolfus and Associates			Number of Intersections	15
Analyst	Max Rusch	Analysis Date		Number of Segments	14
Jurisdiction		Time Period	PM Peak	Number of Iterations	15
File Name	Existing PM.xus	Analysis Year	2020	System Cycle Length, s	110
Intersections	Home Depot Access/Mesa Mall /	24 1/2 Rd & Patterson		Analysis Period	1> 7:00
Project Description					



Basic Segment Information (Home Depot - 24 1/2 Rd)

Segment	Speed Limit		Through Lanes		Segment Length		Intersection Wid		Length of RM		Percent Curb		Other Delay	
	WB	EB	WB	EB	WB	EB	WB	EB	WB	EB	WB	EB	WB	EB
3	35	35	2	2	1674	1674	50	50	550	550	70	100	0.0	0.0

		Westbound			Eastbound		
Segment Output Data		WBL	WBT	WBR	EBL	EBT	EBR
Segment	Movement	5	2	12	1	6	16
3	Bay/Lane Spillback Time, h		never			never	
3	Shared Lane Spillback Time, h	never			never		
3	Base Free-Flow Speed, mph	40.72			40.20		
3	Running Time, s	30.68			31.84		
3	Running Speed, mph	37.21			35.84		
3	Through Delay, s/veh	8.84			11.51		
3	Travel Time, s	39.52			43.35		
3	Travel Speed, mph	28.88			26.33		
3	Stop Rate, stops/veh	0.27			0.35		
3	Spatial Stop Rate, stops/mi	0.85			1.11		
3	Through vol/cap Ratio	0.28			0.58		
3	Percent of Base FFS	70.93			65.49		
3	Level of Service	B			C		
3	Auto Traveler Perception Score	2.27			2.31		
Multimodal Results (Segment)							
3	Pedestrian Segment LOS Score / LOS	3.21		C	3.66		D
3	Bicycle Segment LOS Score / LOS	2.61		B	2.84		C
3	Transit Segment LOS Score / LOS	0.99		A	1.30		A

Facility Output Data	**Westbound**	**Eastbound**
Facility Travel Time, s	786.87	983.12
Facility Travel Speed, mph	27.34	21.89
Facility Base Free Flow Speed, mph	42.73	42.47
Facility Percent of Base FFS	63.99	51.53
Facility Level of Service	C	F
Facility Auto Traveler Perception Score	2.32	2.34

Multimodal Results (Facility)				
Pedestrian Facility LOS Score / LOS	3.47	C	3.69	D
Bicycle Facility LOS Score / LOS	2.77	C	2.89	C
Transit Facility LOS Score / LOS	1.10	A	1.37	A

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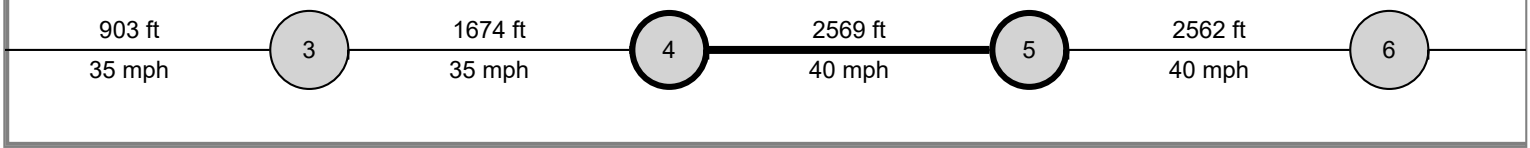
HCS7 Urban Street Segment Report

General Information				Streets Information	
Agency	Stolfus and Associates			Number of Intersections	15
Analyst	Max Rusch	Analysis Date		Number of Segments	14
Jurisdiction		Time Period	PM Peak	Number of Iterations	15
File Name	Existing PM.xus	Analysis Year	2020	System Cycle Length, s	110
Intersections	24 1/2 Rd & Patterson	25 Road & Patterson		Analysis Period	1> 7:00
Project Description					



Basic Segment Information (24 1/2 Rd - 25 Rd)

Segment	Speed Limit		Through Lanes		Segment Length		Intersection Wid		Length of RM		Percent Curb		Other Delay	
	WB	EB	WB	EB	WB	EB	WB	EB	WB	EB	WB	EB	WB	EB
4	40	35	2	2	2569	2569	50	50	0	0	90	90	0.0	0.0

		Westbound			Eastbound		
Segment Output Data		WBL	WBT	WBR	EBL	EBT	EBR
Segment	Movement	5	2	12	1	6	16
4	Bay/Lane Spillback Time, h		never			never	
4	Shared Lane Spillback Time, h	never		never	never		
4	Base Free-Flow Speed, mph	43.00			40.65		
4	Running Time, s	43.15			46.64		
4	Running Speed, mph	40.60			37.55		
4	Through Delay, s/veh	23.66			20.46		
4	Travel Time, s	66.81			67.10		
4	Travel Speed, mph	26.22			26.10		
4	Stop Rate, stops/veh	0.55			0.54		
4	Spatial Stop Rate, stops/mi	1.12			1.12		
4	Through vol/cap Ratio	0.46			0.74		
4	Percent of Base FFS	60.98			64.22		
4	Level of Service	C			C		
4	Auto Traveler Perception Score	2.31			2.31		
Multimodal Results (Segment)							
4	Pedestrian Segment LOS Score / LOS	3.32		C	3.68		D
4	Bicycle Segment LOS Score / LOS	2.70		B	2.86		C
4	Transit Segment LOS Score / LOS	1.18		A	1.36		A

Facility Output Data	Westbound		Eastbound	
Facility Travel Time, s	786.87		983.12	
Facility Travel Speed, mph	27.34		21.89	
Facility Base Free Flow Speed, mph	42.73		42.47	
Facility Percent of Base FFS	63.99		51.53	
Facility Level of Service	C		F	
Facility Auto Traveler Perception Score	2.32		2.34	
Multimodal Results (Facility)				
Pedestrian Facility LOS Score / LOS	3.47	C	3.69	D
Bicycle Facility LOS Score / LOS	2.77	C	2.89	C
Transit Facility LOS Score / LOS	1.10	A	1.37	A

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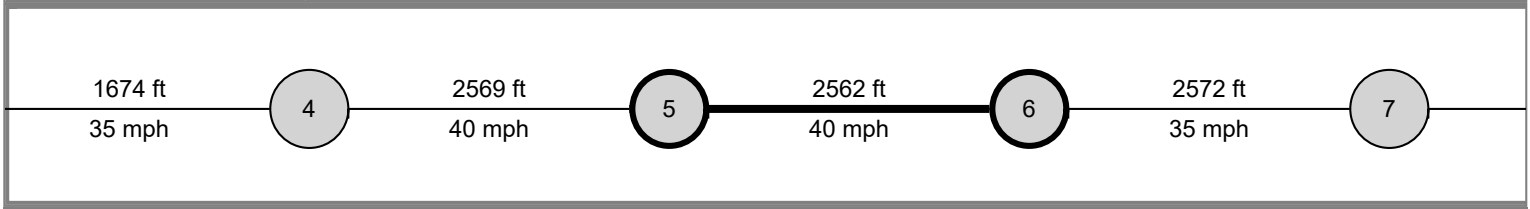
HCS7 Urban Street Segment Report

General Information				Streets Information	
Agency	Stolfus and Associates			Number of Intersections	15
Analyst	Max Rusch	Analysis Date		Number of Segments	14
Jurisdiction		Time Period	PM Peak	Number of Iterations	15
File Name	Existing PM.xus	Analysis Year	2020	System Cycle Length, s	110
Intersections	25 Road & Patterson	25 1/2 Road & Patterson		Analysis Period	1> 7:00
Project Description					



Basic Segment Information (25 Rd - 25 1/2 Rd)

Segment	Speed Limit		Through Lanes		Segment Length		Intersection Wid		Length of RM		Percent Curb		Other Delay	
	WB	EB	WB	EB	WB	EB	WB	EB	WB	EB	WB	EB	WB	EB
5	40	40	2	2	2562	2562	50	50	260	260	90	90	0.0	0.0

		Westbound			Eastbound		
Segment Output Data		WBL	WBT	WBR	EBL	EBT	EBR
Segment	Movement	5	2	12	1	6	16
5	Bay/Lane Spillback Time, h		never		never	0.65	
5	Shared Lane Spillback Time, h	never			never		0.25
5	Base Free-Flow Speed, mph	43.13			43.13		
5	Running Time, s	43.02			44.51		
5	Running Speed, mph	40.61			39.25		
5	Through Delay, s/veh	14.48			190.39		
5	Travel Time, s	57.50			234.90		
5	Travel Speed, mph	30.38			7.44		
5	Stop Rate, stops/veh	0.41			1.93		
5	Spatial Stop Rate, stops/mi	0.84			3.97		
5	Through vol/cap Ratio	0.39			1.31		
5	Percent of Base FFS	70.44			17.24		
5	Level of Service	B			F		
5	Auto Traveler Perception Score	2.26			2.78		
Multimodal Results (Segment)							
5	Pedestrian Segment LOS Score / LOS	3.22		C	4.11		D
5	Bicycle Segment LOS Score / LOS	2.71		B	3.00		C
5	Transit Segment LOS Score / LOS	0.95		A	3.37		C

Facility Output Data	Westbound	Eastbound
Facility Travel Time, s	786.87	983.12
Facility Travel Speed, mph	27.34	21.89
Facility Base Free Flow Speed, mph	42.73	42.47
Facility Percent of Base FFS	63.99	51.53
Facility Level of Service	C	F
Facility Auto Traveler Perception Score	2.32	2.34

Multimodal Results (Facility)				
Pedestrian Facility LOS Score / LOS	3.47	C	3.69	D
Bicycle Facility LOS Score / LOS	2.77	C	2.89	C
Transit Facility LOS Score / LOS	1.10	A	1.37	A

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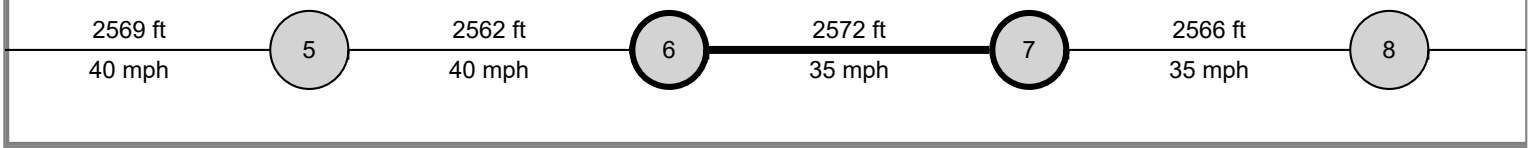
HCS7 Urban Street Segment Report

General Information				Streets Information	
Agency	Stolfus and Associates			Number of Intersections	15
Analyst	Max Rusch	Analysis Date		Number of Segments	14
Jurisdiction		Time Period	PM Peak	Number of Iterations	15
File Name	Existing PM.xus	Analysis Year	2020	System Cycle Length, s	110
Intersections	25 1/2 Road & Patterson	1st Street & Patterson		Analysis Period	1> 7:00
Project Description					



Basic Segment Information (25 1/2 Rd - 26 Rd)

Segment	Speed Limit		Through Lanes		Segment Length		Intersection Wid		Length of RM		Percent Curb		Other Delay	
	WB	EB	WB	EB	WB	EB	WB	EB	WB	EB	WB	EB	WB	EB
6	35	40	2	2	2572	2572	50	50	0	0	90	90	0.0	0.0

		Westbound			Eastbound		
Segment Output Data		WBL	WBT	WBR	EBL	EBT	EBR
Segment	Movement	5	2	12	1	6	16
6	Bay/Lane Spillback Time, h		never			never	
6	Shared Lane Spillback Time, h	never			never		
6	Base Free-Flow Speed, mph	40.73			43.08		
6	Running Time, s	45.51			44.31		
6	Running Speed, mph	38.53			39.57		
6	Through Delay, s/veh	7.25			36.91		
6	Travel Time, s	52.76			81.23		
6	Travel Speed, mph	33.24			21.59		
6	Stop Rate, stops/veh	0.22			0.84		
6	Spatial Stop Rate, stops/mi	0.45			1.73		
6	Through vol/cap Ratio	0.35			0.87		
6	Percent of Base FFS	81.61			50.12		
6	Level of Service	A			C		
6	Auto Traveler Perception Score	2.21			2.40		
Multimodal Results (Segment)							
6	Pedestrian Segment LOS Score / LOS	3.26		C	3.95		D
6	Bicycle Segment LOS Score / LOS	2.71		B	2.97		C
6	Transit Segment LOS Score / LOS	0.75		A	1.72		A

Facility Output Data	**Westbound**	**Eastbound**
Facility Travel Time, s	786.87	983.12
Facility Travel Speed, mph	27.34	21.89
Facility Base Free Flow Speed, mph	42.73	42.47
Facility Percent of Base FFS	63.99	51.53
Facility Level of Service	C	F
Facility Auto Traveler Perception Score	2.32	2.34

Multimodal Results (Facility)				
Pedestrian Facility LOS Score / LOS	3.47	C	3.69	D
Bicycle Facility LOS Score / LOS	2.77	C	2.89	C
Transit Facility LOS Score / LOS	1.10	A	1.37	A

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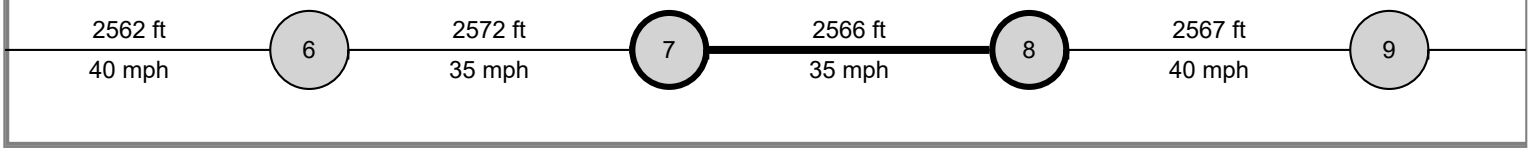
HCS7 Urban Street Segment Report

General Information				Streets Information	
Agency	Stolfus and Associates			Number of Intersections	15
Analyst	Max Rusch	Analysis Date		Number of Segments	14
Jurisdiction		Time Period	PM Peak	Number of Iterations	15
File Name	Existing PM.xus	Analysis Year	2020	System Cycle Length, s	110
Intersections	1st Street & Patterson	7th Street & Patterson		Analysis Period	1> 7:00
Project Description					



Basic Segment Information (26 Rd - 26 1/2)

Segment	Speed Limit		Through Lanes		Segment Length		Intersection Wid		Length of RM		Percent Curb		Other Delay	
	WB	EB	WB	EB	WB	EB	WB	EB	WB	EB	WB	EB	WB	EB
7	35	40	2	2	2566	2566	50	50	0	0	90	90	0.0	0.0

		Westbound			Eastbound		
Segment Output Data		WBL	WBT	WBR	EBL	EBT	EBR
Segment	Movement	5	2	12	1	6	16
7	Bay/Lane Spillback Time, h		never			never	
7	Shared Lane Spillback Time, h	never			never		never
7	Base Free-Flow Speed, mph	39.83			42.18		
7	Running Time, s	46.50			45.07		
7	Running Speed, mph	37.63			38.82		
7	Through Delay, s/veh	25.35			13.61		
7	Travel Time, s	71.85			58.68		
7	Travel Speed, mph	24.35			29.82		
7	Stop Rate, stops/veh	0.64			0.36		
7	Spatial Stop Rate, stops/mi	1.32			0.74		
7	Through vol/cap Ratio	0.52			0.70		
7	Percent of Base FFS	61.14			70.69		
7	Level of Service	C			B		
7	Auto Traveler Perception Score	2.34			2.25		
Multimodal Results (Segment)							
7	Pedestrian Segment LOS Score / LOS	3.33		C	3.59		D
7	Bicycle Segment LOS Score / LOS	2.74		B	2.94		C
7	Transit Segment LOS Score / LOS	1.37		A	1.09		A

Facility Output Data	**Westbound**	**Eastbound**
Facility Travel Time, s	786.87	983.12
Facility Travel Speed, mph	27.34	21.89
Facility Base Free Flow Speed, mph	42.73	42.47
Facility Percent of Base FFS	63.99	51.53
Facility Level of Service	C	F
Facility Auto Traveler Perception Score	2.32	2.34

Multimodal Results (Facility)				
Pedestrian Facility LOS Score / LOS	3.47	C	3.69	D
Bicycle Facility LOS Score / LOS	2.77	C	2.89	C
Transit Facility LOS Score / LOS	1.10	A	1.37	A

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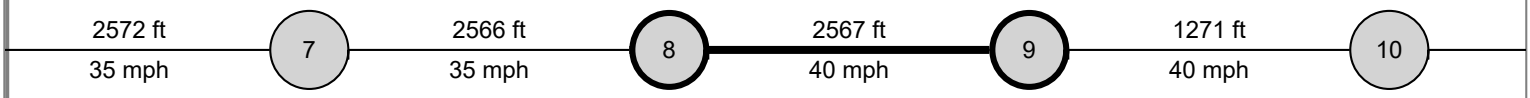
HCS7 Urban Street Segment Report

General Information				Streets Information	
Agency	Stolfus and Associates			Number of Intersections	15
Analyst	Max Rusch	Analysis Date		Number of Segments	14
Jurisdiction		Time Period	PM Peak	Number of Iterations	15
File Name	Existing PM.xus	Analysis Year	2020	System Cycle Length, s	110
Intersections	7th Street & Patterson	12th Street & Patterson		Analysis Period	1> 7:00
Project Description					



Basic Segment Information (26 1/2 Rd to 12th St)

Segment	Speed Limit		Through Lanes		Segment Length		Intersection Wid		Length of RM		Percent Curb		Other Delay	
	WB	EB	WB	EB	WB	EB	WB	EB	WB	EB	WB	EB	WB	EB
8	40	35	2	2	2567	2567	50	50	0	0	90	90	0.0	0.0

		Westbound			Eastbound		
Segment Output Data		WBL	WBT	WBR	EBL	EBT	EBR
Segment	Movement	5	2	12	1	6	16
8	Bay/Lane Spillback Time, h	never	never		never	never	
8	Shared Lane Spillback Time, h	never			never		never
8	Base Free-Flow Speed, mph	42.34			39.99		
8	Running Time, s	44.36			47.57		
8	Running Speed, mph	39.46			36.80		
8	Through Delay, s/veh	33.07			20.13		
8	Travel Time, s	77.42			67.69		
8	Travel Speed, mph	22.61			25.86		
8	Stop Rate, stops/veh	0.77			0.51		
8	Spatial Stop Rate, stops/mi	1.57			1.05		
8	Through vol/cap Ratio	0.69			0.80		
8	Percent of Base FFS	53.39			64.65		
8	Level of Service	C			C		
8	Auto Traveler Perception Score	2.38			2.30		
Multimodal Results (Segment)							
8	Pedestrian Segment LOS Score / LOS	3.56		D	3.64		D
8	Bicycle Segment LOS Score / LOS	2.82		C	2.92		C
8	Transit Segment LOS Score / LOS	1.56		A	1.37		A

Facility Output Data	Westbound	Eastbound
Facility Travel Time, s	786.87	983.12
Facility Travel Speed, mph	27.34	21.89
Facility Base Free Flow Speed, mph	42.73	42.47
Facility Percent of Base FFS	63.99	51.53
Facility Level of Service	C	F
Facility Auto Traveler Perception Score	2.32	2.34

Multimodal Results (Facility)				
Pedestrian Facility LOS Score / LOS	3.47	C	3.69	D
Bicycle Facility LOS Score / LOS	2.77	C	2.89	C
Transit Facility LOS Score / LOS	1.10	A	1.37	A

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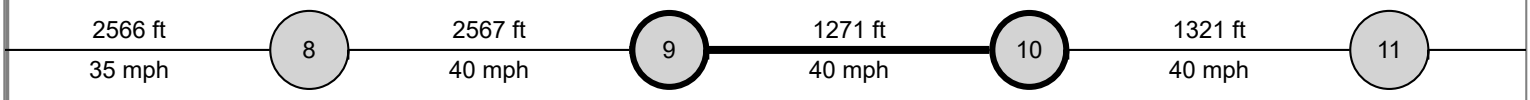
HCS7 Urban Street Segment Report

General Information				Streets Information	
Agency	Stolfus and Associates			Number of Intersections	15
Analyst	Max Rusch	Analysis Date		Number of Segments	14
Jurisdiction		Time Period	PM Peak	Number of Iterations	15
File Name	Existing PM.xus	Analysis Year	2020	System Cycle Length, s	110
Intersections	12th Street & Patterson	Patterson Rd & 15th St		Analysis Period	1> 7:00
Project Description					



Basic Segment Information (12th St - 27 1/4 Rd)

Segment	Speed Limit		Through Lanes		Segment Length		Intersection Wid		Length of RM		Percent Curb		Other Delay	
	WB	EB	WB	EB	WB	EB	WB	EB	WB	EB	WB	EB	WB	EB
9	40	35	2	2	1271	1271	50	50	0	0	90	90	0.0	0.0

		Westbound			Eastbound		
Segment Output Data		WBL	WBT	WBR	EBL	EBT	EBR
Segment	Movement	5	2	12	1	6	16
9	Bay/Lane Spillback Time, h		never		never	never	never
9	Shared Lane Spillback Time, h	never			never		never
9	Base Free-Flow Speed, mph	42.29			39.94		
9	Running Time, s	23.76			25.45		
9	Running Speed, mph	36.48			34.05		
9	Through Delay, s/veh	3.54			34.36		
9	Travel Time, s	27.30			59.82		
9	Travel Speed, mph	31.74			14.49		
9	Stop Rate, stops/veh	0.13			0.80		
9	Spatial Stop Rate, stops/mi	0.52			3.31		
9	Through vol/cap Ratio	0.44			0.89		
9	Percent of Base FFS	75.05			36.27		
9	Level of Service	B			E		
9	Auto Traveler Perception Score	2.22			2.67		
Multimodal Results (Segment)							
9	Pedestrian Segment LOS Score / LOS	3.57		D	4.07		D
9	Bicycle Segment LOS Score / LOS	2.73		B	2.93		C
9	Transit Segment LOS Score / LOS	0.91		A	2.40		B

Facility Output Data	**Westbound**	**Eastbound**
Facility Travel Time, s	786.87	983.12
Facility Travel Speed, mph	27.34	21.89
Facility Base Free Flow Speed, mph	42.73	42.47
Facility Percent of Base FFS	63.99	51.53
Facility Level of Service	C	F
Facility Auto Traveler Perception Score	2.32	2.34

Multimodal Results (Facility)				
Pedestrian Facility LOS Score / LOS	3.47	C	3.69	D
Bicycle Facility LOS Score / LOS	2.77	C	2.89	C
Transit Facility LOS Score / LOS	1.10	A	1.37	A

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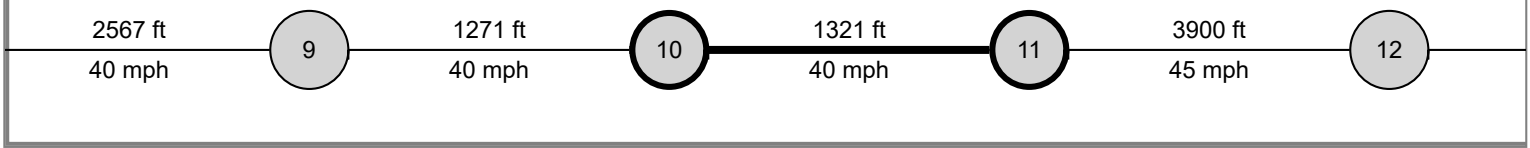
HCS7 Urban Street Segment Report

General Information				Streets Information	
Agency	Stolfus and Associates			Number of Intersections	15
Analyst	Max Rusch	Analysis Date		Number of Segments	14
Jurisdiction		Time Period	PM Peak	Number of Iterations	15
File Name	Existing PM.xus	Analysis Year	2020	System Cycle Length, s	110
Intersections	Patterson Rd & 15th St	27 1/2 Road & Patterson		Analysis Period	1> 7:00
Project Description					



Basic Segment Information

Segment	Speed Limit		Through Lanes		Segment Length		Intersection Wid		Length of RM		Percent Curb		Other Delay	
	WB	EB	WB	EB	WB	EB	WB	EB	WB	EB	WB	EB	WB	EB
10	40	40	2	2	1321	1321	50	50	0	0	70	70	0.0	0.0

		Westbound			Eastbound		
Segment Output Data		WBL	WBT	WBR	EBL	EBT	EBR
Segment	Movement	5	2	12	1	6	16
10	Bay/Lane Spillback Time, h		never			never	
10	Shared Lane Spillback Time, h	never		never	never		
10	Base Free-Flow Speed, mph	44.07			44.07		
10	Running Time, s	23.96			24.17		
10	Running Speed, mph	37.59			37.27		
10	Through Delay, s/veh	10.22			3.28		
10	Travel Time, s	34.18			27.44		
10	Travel Speed, mph	26.35			32.82		
10	Stop Rate, stops/veh	0.31			0.10		
10	Spatial Stop Rate, stops/mi	1.26			0.40		
10	Through vol/cap Ratio	0.44			0.53		
10	Percent of Base FFS	59.80			74.48		
10	Level of Service	C			B		
10	Auto Traveler Perception Score	2.55			2.20		
Multimodal Results (Segment)							
10	Pedestrian Segment LOS Score / LOS	3.87		D	4.14		D
10	Bicycle Segment LOS Score / LOS	2.90		C	2.96		C
10	Transit Segment LOS Score / LOS	1.28		A	0.89		A

Facility Output Data	Westbound		Eastbound	
Facility Travel Time, s	786.87		983.12	
Facility Travel Speed, mph	27.34		21.89	
Facility Base Free Flow Speed, mph	42.73		42.47	
Facility Percent of Base FFS	63.99		51.53	
Facility Level of Service	C		F	
Facility Auto Traveler Perception Score	2.32		2.34	
Multimodal Results (Facility)				
Pedestrian Facility LOS Score / LOS	3.47	C	3.69	D
Bicycle Facility LOS Score / LOS	2.77	C	2.89	C
Transit Facility LOS Score / LOS	1.10	A	1.37	A

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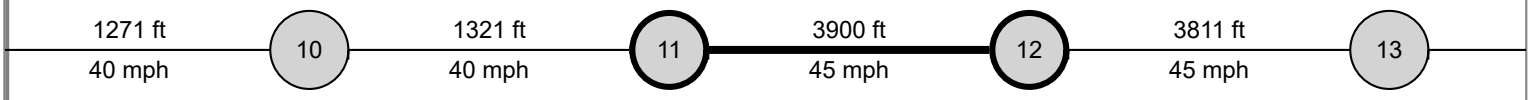
HCS7 Urban Street Segment Report

General Information				Streets Information	
Agency	Stolfus and Associates			Number of Intersections	15
Analyst	Max Rusch	Analysis Date		Number of Segments	14
Jurisdiction		Time Period	PM Peak	Number of Iterations	15
File Name	Existing PM.xus	Analysis Year	2020	System Cycle Length, s	110
Intersections	27 1/2 Road & Patterson	28 1/4 Road & Patterson		Analysis Period	1> 7:00
Project Description					



Basic Segment Information (27 1/4 Rd - 27 1/2 Rd)

Segment	Speed Limit		Through Lanes		Segment Length		Intersection Wid		Length of RM		Percent Curb		Other Delay	
	WB	EB	WB	EB	WB	EB	WB	EB	WB	EB	WB	EB	WB	EB
11	45	40	2	2	3900	3900	50	50	0	0	90	90	0.0	0.0

		Westbound			Eastbound		
Segment Output Data		WBL	WBT	WBR	EBL	EBT	EBR
Segment	Movement		2	12	1	6	
11	Bay/Lane Spillback Time, h		never			never	
11	Shared Lane Spillback Time, h	never		never	never		
11	Base Free-Flow Speed, mph	45.85			43.50		
11	Running Time, s	60.72			63.94		
11	Running Speed, mph	43.79			41.59		
11	Through Delay, s/veh	12.38			7.25		
11	Travel Time, s	73.10			71.20		
11	Travel Speed, mph	36.38			37.35		
11	Stop Rate, stops/veh	0.34			0.28		
11	Spatial Stop Rate, stops/mi	0.46			0.39		
11	Through vol/cap Ratio	0.47			0.40		
11	Percent of Base FFS	79.35			85.87		
11	Level of Service	B			A		
11	Auto Traveler Perception Score	2.31			2.20		
Multimodal Results (Segment)							
11	Pedestrian Segment LOS Score / LOS	3.81		D	3.59		D
11	Bicycle Segment LOS Score / LOS	2.86		C	2.87		C
11	Transit Segment LOS Score / LOS	0.62		A	0.57		A

Facility Output Data	**Westbound**	**Eastbound**
Facility Travel Time, s	786.87	983.12
Facility Travel Speed, mph	27.34	21.89
Facility Base Free Flow Speed, mph	42.73	42.47
Facility Percent of Base FFS	63.99	51.53
Facility Level of Service	C	F
Facility Auto Traveler Perception Score	2.32	2.34

Multimodal Results (Facility)				
Pedestrian Facility LOS Score / LOS	3.47	C	3.69	D
Bicycle Facility LOS Score / LOS	2.77	C	2.89	C
Transit Facility LOS Score / LOS	1.10	A	1.37	A

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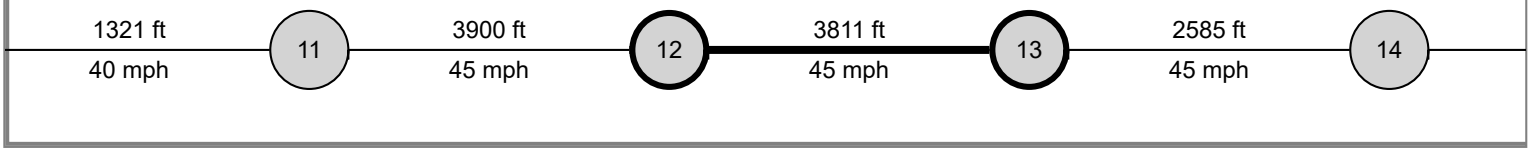
HCS7 Urban Street Segment Report

General Information				Streets Information	
Agency	Stolfus and Associates			Number of Intersections	15
Analyst	Max Rusch	Analysis Date		Number of Segments	14
Jurisdiction		Time Period	PM Peak	Number of Iterations	15
File Name	Existing PM.xus	Analysis Year	2020	System Cycle Length, s	110
Intersections	28 1/4 Road & Patterson	29 Road & Patterson		Analysis Period	1> 7:00
Project Description					



Basic Segment Information (28 1/4 Rd - 29 Rd)

Segment	Speed Limit		Through Lanes		Segment Length		Intersection Wid		Length of RM		Percent Curb		Other Delay	
	WB	EB	WB	EB	WB	EB	WB	EB	WB	EB	WB	EB	WB	EB
12	45	40	2	2	3811	3811	50	50	0	0	90	90	0.0	0.0

		Westbound			Eastbound		
Segment Output Data		WBL	WBT	WBR	EBL	EBT	EBR
Segment	Movement	5	2	12	1	6	16
12	Bay/Lane Spillback Time, h		never			never	
12	Shared Lane Spillback Time, h	never		never	never		never
12	Base Free-Flow Speed, mph	44.90			42.55		
12	Running Time, s	59.86			63.85		
12	Running Speed, mph	43.41			40.69		
12	Through Delay, s/veh	20.26			11.02		
12	Travel Time, s	80.12			74.87		
12	Travel Speed, mph	32.43			34.70		
12	Stop Rate, stops/veh	0.51			0.28		
12	Spatial Stop Rate, stops/mi	0.71			0.39		
12	Through vol/cap Ratio	0.57			0.57		
12	Percent of Base FFS	72.23			81.55		
12	Level of Service	B			A		
12	Auto Traveler Perception Score	2.25			2.20		
Multimodal Results (Segment)							
12	Pedestrian Segment LOS Score / LOS	3.78		D	3.55		D
12	Bicycle Segment LOS Score / LOS	2.88		C	2.86		C
12	Transit Segment LOS Score / LOS	0.87		A	0.73		A

Facility Output Data	**Westbound**	**Eastbound**
Facility Travel Time, s	786.87	983.12
Facility Travel Speed, mph	27.34	21.89
Facility Base Free Flow Speed, mph	42.73	42.47
Facility Percent of Base FFS	63.99	51.53
Facility Level of Service	C	F
Facility Auto Traveler Perception Score	2.32	2.34

Multimodal Results (Facility)				
Pedestrian Facility LOS Score / LOS	3.47	C	3.69	D
Bicycle Facility LOS Score / LOS	2.77	C	2.89	C
Transit Facility LOS Score / LOS	1.10	A	1.37	A

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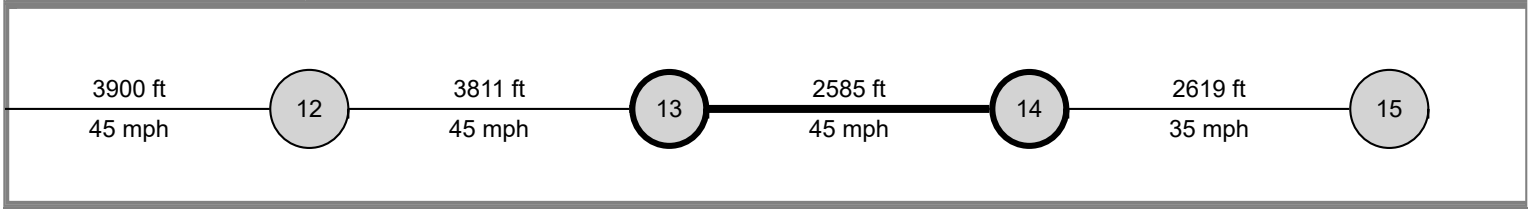
HCS7 Urban Street Segment Report

General Information				Streets Information	
Agency	Stolfus and Associates			Number of Intersections	15
Analyst	Max Rusch	Analysis Date		Number of Segments	14
Jurisdiction		Time Period	PM Peak	Number of Iterations	15
File Name	Existing PM.xus	Analysis Year	2020	System Cycle Length, s	110
Intersections	29 Road & Patterson	29 1/2 Road & Patterson		Analysis Period	1> 7:00
Project Description					



Basic Segment Information (29 Rd - 29 1/2 Rd)

Segment	Speed Limit		Through Lanes		Segment Length		Intersection Wid		Length of RM		Percent Curb		Other Delay	
	WB	EB	WB	EB	WB	EB	WB	EB	WB	EB	WB	EB	WB	EB
13	45	45	2	2	2585	2585	50	50	0	0	90	90	0.0	0.0

		Westbound			Eastbound		
Segment Output Data		WBL	WBT	WBR	EBL	EBT	EBR
Segment	Movement	5	2	12	1	6	16
13	Bay/Lane Spillback Time, h		never			never	
13	Shared Lane Spillback Time, h	never			never		never
13	Base Free-Flow Speed, mph	43.89			43.89		
13	Running Time, s	40.98			40.98		
13	Running Speed, mph	43.01			43.01		
13	Through Delay, s/veh	6.98			30.88		
13	Travel Time, s	47.96			71.86		
13	Travel Speed, mph	36.75			24.53		
13	Stop Rate, stops/veh	0.18			0.77		
13	Spatial Stop Rate, stops/mi	0.38			1.57		
13	Through vol/cap Ratio	0.53			0.64		
13	Percent of Base FFS	83.72			55.88		
13	Level of Service	A			C		
13	Auto Traveler Perception Score	2.20			2.38		
Multimodal Results (Segment)							
13	Pedestrian Segment LOS Score / LOS	3.67		D	3.41		C
13	Bicycle Segment LOS Score / LOS	2.85		C	2.90		C
13	Transit Segment LOS Score / LOS	0.63		A	1.42		A

Facility Output Data	Westbound	Eastbound
Facility Travel Time, s	786.87	983.12
Facility Travel Speed, mph	27.34	21.89
Facility Base Free Flow Speed, mph	42.73	42.47
Facility Percent of Base FFS	63.99	51.53
Facility Level of Service	C	F
Facility Auto Traveler Perception Score	2.32	2.34

Multimodal Results (Facility)				
Pedestrian Facility LOS Score / LOS	3.47	C	3.69	D
Bicycle Facility LOS Score / LOS	2.77	C	2.89	C
Transit Facility LOS Score / LOS	1.10	A	1.37	A

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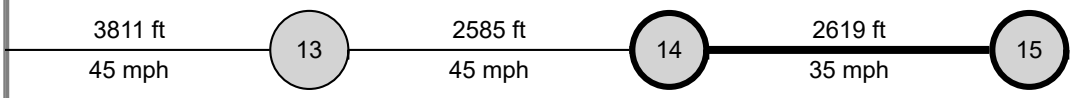
HCS7 Urban Street Segment Report

General Information				Streets Information	
Agency	Stolfus and Associates			Number of Intersections	15
Analyst	Max Rusch	Analysis Date		Number of Segments	14
Jurisdiction		Time Period	PM Peak	Number of Iterations	15
File Name	Existing PM.xus	Analysis Year	2020	System Cycle Length, s	110
Intersections	29 1/2 Road & Patterson	30 Road & Patterson		Analysis Period	1> 7:00
Project Description					



Basic Segment Information (29 1/2 Rd - 30 Rd)

Segment	Speed Limit		Through Lanes		Segment Length		Intersection Wid		Length of RM		Percent Curb		Other Delay	
	WB	EB	WB	EB	WB	EB	WB	EB	WB	EB	WB	EB	WB	EB
14	35	45	2	2	2619	2619	50	50	0	0	90	90	0.0	0.0

		Westbound			Eastbound		
Segment Output Data		WBL	WBT	WBR	EBL	EBT	EBR
Segment	Movement	5	2	12	1	6	16
14	Bay/Lane Spillback Time, h					never	
14	Shared Lane Spillback Time, h				never		
14	Base Free-Flow Speed, mph	40.83			45.53		
14	Running Time, s	46.66			41.38		
14	Running Speed, mph	38.27			43.15		
14	Through Delay, s/veh	44.37			6.43		
14	Travel Time, s	91.03			47.81		
14	Travel Speed, mph	19.62			37.35		
14	Stop Rate, stops/veh	0.94			0.17		
14	Spatial Stop Rate, stops/mi	1.89			0.35		
14	Through vol/cap Ratio	0.76			0.49		
14	Percent of Base FFS	48.05			82.05		
14	Level of Service	D			A		
14	Auto Traveler Perception Score	2.43			2.19		
Multimodal Results (Segment)							
14	Pedestrian Segment LOS Score / LOS	3.27		C	3.40		C
14	Bicycle Segment LOS Score / LOS	2.82		C	2.81		C
14	Transit Segment LOS Score / LOS	1.81		A	0.58		A

Facility Output Data	Westbound		Eastbound	
Facility Travel Time, s	786.87		983.12	
Facility Travel Speed, mph	27.34		21.89	
Facility Base Free Flow Speed, mph	42.73		42.47	
Facility Percent of Base FFS	63.99		51.53	
Facility Level of Service	C		F	
Facility Auto Traveler Perception Score	2.32		2.34	
Multimodal Results (Facility)				
Pedestrian Facility LOS Score / LOS	3.47	C	3.69	D
Bicycle Facility LOS Score / LOS	2.77	C	2.89	C
Transit Facility LOS Score / LOS	1.10	A	1.37	A

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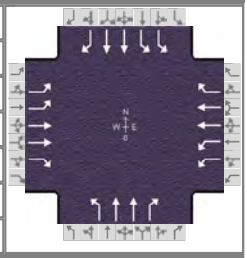
HCS7 Signalized Intersection Results Summary

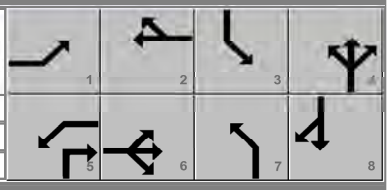
General Information				Intersection Information	
Agency	Stolfus and Associates			Duration, h	0.250
Analyst	Max Rusch	Analysis Date		Area Type	Other
Jurisdiction		Time Period	AM Peak	PHF	0.91
Urban Street	Patterson Rd	Analysis Year	2045	Analysis Period	1> 7:00
Intersection	24 Road & Patterson	File Name	2045 NoBuild AM Optimized Timings.xus		
Project Description					



Demand Information	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Demand (*v*), veh/h	216	235	72	125	217	278	87	934	412	413	633	71

Signal Information			
Cycle, s	100.0	Reference Phase	6
Offset, s	85	Reference Point	Begin
Uncoordinated	No	Simult. Gap E/W	On
Force Mode	Fixed	Simult. Gap N/S	On

Green	7.8	3.0	18.4	8.4	2.6	37.8
Yellow	3.5	3.5	4.0	3.5	0.0	4.0
Red	0.5	0.5	1.0	0.5	0.0	1.0



Timer Results	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Assigned Phase	1	6	5	2	7	4	3	8
Case Number	1.1	3.0	2.0	3.0	1.1	3.0	2.0	3.0
Phase Duration, s	18.8	30.4	11.8	23.4	12.4	42.8	15.0	45.4
Change Period, ($Y+R_c$), s	4.0	5.0	4.0	5.0	4.0	5.0	4.0	5.0
Max Allow Headway (*MAH*), s	5.2	0.0	5.2	0.0	5.2	5.2	5.2	5.2
Queue Clearance Time (g_s), s	14.5		5.8		5.0	28.1	13.0	16.8
Green Extension Time (g_e), s	0.3	0.0	0.5	0.0	0.2	9.7	0.0	18.0
Phase Call Probability	1.00		0.98		0.93	1.00	1.00	1.00
Max Out Probability	1.00		0.02		0.27	0.85	1.00	0.62

Movement Group Results	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Assigned Movement	1	6	16	5	2	12	7	4	14	3	8	18
Adjusted Flow Rate (*v*), veh/h	540	587	180	137	238	305	96	1026	453	454	696	78
Adjusted Saturation Flow Rate (*s*), veh/h/ln	1675	1752		1716	1738		1810	1738	1585	1730	1752	1518
Queue Service Time (g_s), s	12.5	15.4		3.8	6.0		3.0	26.1	21.7	11.0	14.8	3.2
Cycle Queue Clearance Time (g_c), s	12.5	15.4		3.8	6.0		3.0	26.1	21.7	11.0	14.8	3.2
Green Ratio (*g/C*)	0.35	0.25		0.08	0.18		0.46	0.38	0.46	0.11	0.40	0.40
Capacity (*c*), veh/h	847	890		269	641		391	1314	723	381	1417	614
Volume-to-Capacity Ratio (*X*)	0.637	0.660		0.512	0.372		0.245	0.781	0.626	1.193	0.491	0.127
Back of Queue (*Q*), ft/ln (90 th percentile)	172.3	240.8		68.1	105.1		49.2	346	258.8	346.8	201.6	46.3
Back of Queue (*Q*), veh/ln (90 th percentile)	7.5	10.6		3.0	4.6		2.2	15.1	11.6	15.5	8.9	2.0
Queue Storage Ratio (*RQ*) (90 th percentile)	0.97	0.00		0.31	0.00		0.37	0.00	1.46	2.62	0.00	0.71
Uniform Delay (d_1), s/veh	24.2	36.1		44.3	35.7		16.5	27.5	20.7	44.5	22.1	18.7
Incremental Delay (d_2), s/veh	1.8	3.8		1.9	1.5		0.5	3.0	1.8	109.8	0.4	0.1
Initial Queue Delay (d_3), s/veh	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (*d*), s/veh	26.0	39.9	0.0	46.2	37.2	0.0	16.9	30.5	22.5	154.3	22.5	18.8
Level of Service (LOS)	C	D	A	D	D	A	B	C	C	F	C	B
Approach Delay, s/veh / LOS	28.6	C		22.3	C		27.4	C		71.0	E	
Intersection Delay, s/veh / LOS	38.2						D					

Multimodal Results	EB		WB		NB		SB	
Pedestrian LOS Score / LOS	2.44	B	2.59	C	2.57	C	2.57	C
Bicycle LOS Score / LOS	0.96	A	1.05	A	1.79	B	1.50	B

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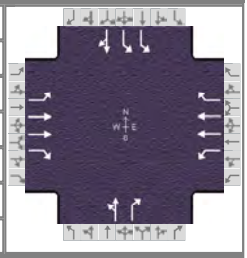
HCS7 Signalized Intersection Results Summary

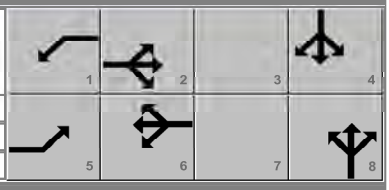
General Information				Intersection Information	
Agency	Stolfus and Associates			Duration, h	0.250
Analyst	Max Rusch	Analysis Date		Area Type	Other
Jurisdiction		Time Period	AM Peak	PHF	0.83
Urban Street	Patterson Rd	Analysis Year	2045	Analysis Period	1> 7:00
Intersection	Market Street/Mall Acce…	File Name	2045 NoBuild AM Optimized Timings.xus		
Project Description					



Demand Information	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Demand (*v*), veh/h	71	848	83	25	580	94	30	12	19	87	17	44

Signal Information			
Cycle, s	100.0	Reference Phase	2
Offset, s	52	Reference Point	Begin
Uncoordinated	No	Simult. Gap E/W	On
Force Mode	Fixed	Simult. Gap N/S	On

Green	1.7	3.0	65.6	4.4	6.4	0.0
Yellow	3.5	0.0	4.0	4.0	4.0	0.0
Red	0.5	0.0	1.0	1.0	1.0	0.0



Timer Results	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Assigned Phase	5	2	1	6		8		4
Case Number	1.1	3.0	1.1	3.0		11.0		10.0
Phase Duration, s	8.7	73.6	5.7	70.6		9.4		11.4
Change Period, ($Y+R_c$), s	4.0	5.0	4.0	5.0		5.0		5.0
Max Allow Headway (*MAH*), s	3.1	0.0	3.1	0.0		3.3		3.3
Queue Clearance Time (g_s), s	3.7		2.3			4.7		6.3
Green Extension Time (g_e), s	0.2	0.0	0.0	0.0		0.0		0.2
Phase Call Probability	0.94		0.34			0.87		0.99
Max Out Probability	0.00		0.00			1.00		0.32

Movement Group Results	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Assigned Movement	5	2	12	1	6	16	3	8	18	7	4	14
Adjusted Flow Rate (*v*), veh/h	99	1179	115	15	342	55		51	23	105	73	
Adjusted Saturation Flow Rate (*s*), veh/h/ln	1711	1766	1610	1810	1766	1522		1834	1610	1702	1682	
Queue Service Time (g_s), s	1.7	4.6	0.3	0.3	4.7	2.3		2.7	1.4	3.0	4.3	
Cycle Queue Clearance Time (g_c), s	1.7	4.6	0.3	0.3	4.7	2.3		2.7	1.4	3.0	4.3	
Green Ratio (*g/C*)	0.71	0.69	0.69	0.67	0.66	0.66		0.04	0.04	0.06	0.06	
Capacity (*c*), veh/h	759	2423	1104	402	2317	998		80	70	217	107	
Volume-to-Capacity Ratio (*X*)	0.130	0.487	0.105	0.037	0.148	0.056		0.634	0.327	0.482	0.685	
Back of Queue (*Q*), ft/ln (90 th percentile)	22.5	43.1	4.7	3.4	67.8	30.5		52	22.7	52.4	74.4	
Back of Queue (*Q*), veh/ln (90 th percentile)	1.0	1.9	0.2	0.2	3.0	1.3		2.4	1.0	2.3	3.4	
Queue Storage Ratio (*RQ*) (90 th percentile)	0.15	0.00	0.04	0.03	0.00	0.28		0.00	0.00	0.00	0.00	
Uniform Delay (d_1), s/veh	4.8	1.4	0.6	5.2	8.7	11.6		47.0	46.4	45.2	45.8	
Incremental Delay (d_2), s/veh	0.0	0.6	0.2	0.0	0.1	0.1		3.1	1.0	0.6	2.9	
Initial Queue Delay (d_3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	
Control Delay (*d*), s/veh	4.8	1.9	0.7	5.2	8.8	11.7		50.1	47.4	45.8	48.7	
Level of Service (LOS)	A	A	A	A	A	B		D	D	D	D	
Approach Delay, s/veh / LOS	2.0	A		9.1	A		49.3	D		47.0	D	
Intersection Delay, s/veh / LOS	9.0						A					

Multimodal Results	EB		WB		NB		SB	
Pedestrian LOS Score / LOS	1.86	B	2.06	B	2.47	B	2.46	B
Bicycle LOS Score / LOS	1.48	A	1.18	A	0.61	A	0.78	A

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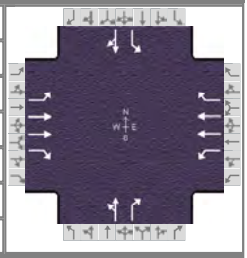
HCS7 Signalized Intersection Results Summary

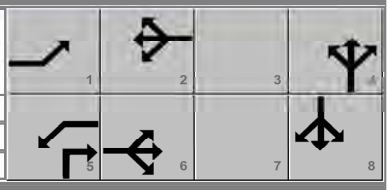
General Information				Intersection Information	
Agency	Stolfus and Associates			Duration, h	0.250
Analyst	Max Rusch	Analysis Date		Area Type	Other
Jurisdiction		Time Period	AM Peak	PHF	0.84
Urban Street	Patterson Rd	Analysis Year	2045	Analysis Period	1> 7:00
Intersection	Home Depot Access/Me…	File Name	2045 NoBuild AM Optimized Timings.xus		
Project Description					



Demand Information	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Demand (*v*), veh/h	39	756	189	87	571	13	70	21	47	25	30	28

Signal Information			
Cycle, s	100.0	Reference Phase	2
Offset, s	27	Reference Point	Begin
Uncoordinated	No	Simult. Gap E/W	Off
Force Mode	Fixed	Simult. Gap N/S	Off

Green	3.9	0.3	62.2	5.8	8.7	0.0
Yellow	3.5	0.0	4.0	4.0	4.0	0.0
Red	0.5	0.0	1.0	1.0	1.0	0.0



Timer Results	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Assigned Phase	1	6	5	2		4		8
Case Number	1.1	3.0	1.1	3.0		11.0		10.0
Phase Duration, s	8.2	67.5	7.9	67.2		13.7		10.8
Change Period, ($Y+R_c$), s	4.0	5.0	4.0	5.0		5.0		5.0
Max Allow Headway (*MAH*), s	5.2	0.0	5.2	0.0		5.4		5.4
Queue Clearance Time (g_s), s	3.4		3.1			7.7		5.9
Green Extension Time (g_e), s	0.4	0.0	0.3	0.0		1.0		0.4
Phase Call Probability	0.85		0.79			0.99		0.94
Max Out Probability	0.00		0.00			0.00		0.00

Movement Group Results	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Assigned Movement	1	6	16	5	2	12	7	4	14	3	8	18
Adjusted Flow Rate (*v*), veh/h	67	1308	327	56	367	8		108	56	30	69	
Adjusted Saturation Flow Rate (*s*), veh/h/ln	1711	1766	1598	1810	1752	1610		1830	1610	1767	1748	
Queue Service Time (g_s), s	1.4	20.2	8.1	1.1	2.8	0.1		5.7	3.1	1.6	3.9	
Cycle Queue Clearance Time (g_c), s	1.4	20.2	8.1	1.1	2.8	0.1		5.7	3.1	1.6	3.9	
Green Ratio (*g/C*)	0.66	0.63	0.63	0.66	0.62	0.62		0.09	0.13	0.06	0.06	
Capacity (*c*), veh/h	719	2209	999	269	2182	1002		159	203	103	102	
Volume-to-Capacity Ratio (*X*)	0.094	0.592	0.327	0.208	0.168	0.008		0.683	0.275	0.288	0.676	
Back of Queue (*Q*), ft/ln (90 th percentile)	19.3	220	100.2	16	38.8	2		112.7	51.9	31.4	78.7	
Back of Queue (*Q*), veh/ln (90 th percentile)	0.8	9.8	4.5	0.7	1.7	0.1		5.1	2.4	1.4	3.6	
Queue Storage Ratio (*RQ*) (90 th percentile)	0.14	0.00	0.50	0.15	0.00	0.00		0.00	0.59	0.24	0.00	
Uniform Delay (d_1), s/veh	6.1	9.5	7.0	9.0	4.8	5.4		44.3	39.6	45.1	46.1	
Incremental Delay (d_2), s/veh	0.1	1.1	0.8	0.5	0.2	0.0		7.2	1.0	2.2	10.5	
Initial Queue Delay (d_3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	
Control Delay (*d*), s/veh	6.2	10.6	7.8	9.5	4.9	5.4		51.5	40.6	47.2	56.7	
Level of Service (LOS)	A	B	A	A	A	A		D	D	D	E	
Approach Delay, s/veh / LOS	9.8	A		5.5	A		47.8	D		53.8	D	
Intersection Delay, s/veh / LOS	13.5						B					

Multimodal Results	EB		WB		NB		SB	
Pedestrian LOS Score / LOS	1.88	B	1.88	B	2.46	B	2.47	B
Bicycle LOS Score / LOS	1.45	A	1.15	A	0.76	A	0.65	A

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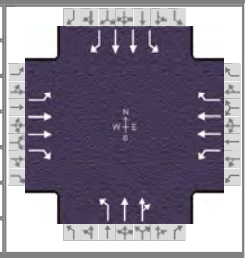
HCS7 Signalized Intersection Results Summary

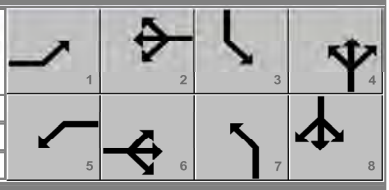
General Information				Intersection Information	
Agency	Stolfus and Associates			Duration, h	0.250
Analyst	Max Rusch	Analysis Date		Area Type	Other
Jurisdiction		Time Period	AM Peak	PHF	0.92
Urban Street	Patterson Rd	Analysis Year	2045	Analysis Period	1> 7:00
Intersection	24 1/2 Rd & Patterson	File Name	2045 NoBuild AM Optimized Timings.xus		
Project Description					



Demand Information	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Demand (*v*), veh/h	40	724	70	147	442	121	144	138	62	211	307	83

Signal Information			
Cycle, s	100.0	Reference Phase	2
Offset, s	15	Reference Point	Begin
Uncoordinated	No	Simult. Gap E/W	On
Force Mode	Fixed	Simult. Gap N/S	On

Green	4.4	0.3	52.6	10.0	1.0	13.2
Yellow	3.5	0.0	4.0	3.5	0.0	4.0
Red	0.5	0.0	1.5	0.5	0.0	1.0



Timer Results	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Assigned Phase	1	6	5	2	7	4	3	8
Case Number	1.1	3.0	1.1	3.0	1.1	4.0	1.1	3.0
Phase Duration, s	8.4	58.1	8.7	58.4	14.0	18.2	15.0	19.2
Change Period, ($Y+R_c$), s	4.0	5.5	4.0	5.5	4.0	5.0	4.0	5.0
Max Allow Headway (*MAH*), s	5.2	0.0	5.2	0.0	5.2	5.2	5.2	5.2
Queue Clearance Time (g_s), s	4.1		4.5		9.5	7.9	13.0	11.1
Green Extension Time (g_e), s	0.4	0.0	0.3	0.0	0.7	3.4	0.0	3.1
Phase Call Probability	0.88		0.94		0.99	1.00	1.00	1.00
Max Out Probability	0.00		0.01		0.00	0.15	1.00	0.24

Movement Group Results	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Assigned Movement	1	6	16	5	2	12	7	4	14	3	8	18
Adjusted Flow Rate (*v*), veh/h	78	1405	136	100	301	82	157	111	106	229	334	90
Adjusted Saturation Flow Rate (*s*), veh/h/ln	1697	1781	1610	1810	1766	1598	1767	1856	1665	1767	1738	1397
Queue Service Time (g_s), s	2.1	26.8	3.0	2.5	3.6	2.3	7.5	5.5	5.9	11.0	9.1	5.9
Cycle Queue Clearance Time (g_c), s	2.1	26.8	3.0	2.5	3.6	2.3	7.5	5.5	5.9	11.0	9.1	5.9
Green Ratio (*g/C*)	0.57	0.53	0.53	0.57	0.53	0.53	0.23	0.13	0.13	0.24	0.14	0.14
Capacity (*c*), veh/h	597	1873	847	245	1867	844	279	245	220	351	493	198
Volume-to-Capacity Ratio (*X*)	0.130	0.750	0.160	0.409	0.161	0.098	0.562	0.453	0.483	0.654	0.676	0.455
Back of Queue (*Q*), ft/ln (90 th percentile)	29.2	271	40.8	41.2	54.9	33	127.2	105.4	100.8	182.8	149.8	95.8
Back of Queue (*Q*), veh/ln (90 th percentile)	1.2	12.1	1.9	1.9	2.4	1.5	5.6	4.7	4.5	8.1	6.5	3.8
Queue Storage Ratio (*RQ*) (90 th percentile)	0.22	0.00	0.18	0.31	0.00	0.13	0.96	0.00	0.00	1.38	0.00	0.00
Uniform Delay (d_1), s/veh	9.3	12.8	8.1	15.1	9.7	10.6	32.9	40.1	40.2	33.4	40.7	39.4
Incremental Delay (d_2), s/veh	0.1	2.5	0.4	1.4	0.2	0.2	2.5	1.9	2.3	4.9	2.3	2.3
Initial Queue Delay (d_3), 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
Control Delay (*d*), s/veh	9.4	15.3	8.5	16.5	9.9	10.8	35.4	41.9	42.5	38.3	43.0	41.7
Level of Service (LOS)	A	B	A	B	A	B	D	D	D	D	D	D
Approach Delay, s/veh / LOS	14.5	B		11.4	B		39.4	D		41.2	D	
Intersection Delay, s/veh / LOS	22.6						C					

Multimodal Results	EB		WB		NB		SB	
Pedestrian LOS Score / LOS	2.25	B	2.41	B	2.46	B	2.45	B
Bicycle LOS Score / LOS	1.24	A	1.12	A	0.80	A	1.03	A

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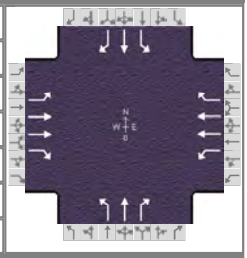
HCS7 Signalized Intersection Results Summary

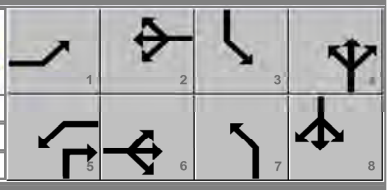
General Information				Intersection Information	
Agency	Stolfus and Associates			Duration, h	0.250
Analyst	Max Rusch	Analysis Date		Area Type	Other
Jurisdiction		Time Period	AM Peak	PHF	0.87
Urban Street	Patterson Rd	Analysis Year	2045	Analysis Period	1> 7:00
Intersection	25 Road & Patterson	File Name	2045 NoBuild AM Optimized Timings.xus		
Project Description					



Demand Information	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Demand (*v*), veh/h	83	774	55	206	687	109	125	261	120	190	305	41

Signal Information			
Cycle, s	100.0	Reference Phase	2
Offset, s	40	Reference Point	Begin
Uncoordinated	No	Simult. Gap E/W	On
Force Mode	Fixed	Simult. Gap N/S	On

Green	6.0	9.0	31.0	6.0	2.0	23.0
Yellow	3.5	3.5	4.5	3.5	0.0	4.0
Red	0.5	0.5	1.5	0.5	0.0	1.0



Timer Results	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Assigned Phase	1	6	5	2	7	4	3	8
Case Number	1.1	3.0	1.1	3.0	1.1	3.0	1.1	3.0
Phase Duration, s	23.0	50.0	10.0	37.0	10.0	28.0	12.0	30.0
Change Period, ($Y+R_c$), s	4.0	6.0	4.0	6.0	4.0	5.0	4.0	5.0
Max Allow Headway (*MAH*), s	5.2	0.0	5.2	0.0	5.2	5.2	5.2	5.2
Queue Clearance Time (g_s), s	5.1		6.2		8.0	17.3	10.0	20.0
Green Extension Time (g_e), s	0.5	0.0	0.0	0.0	0.0	2.4	0.0	2.1
Phase Call Probability	1.00		1.00		1.00	1.00	1.00	1.00
Max Out Probability	0.00		1.00		1.00	0.92	1.00	1.00

Movement Group Results	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Assigned Movement	1	6	16	5	2	12	7	4	14	3	8	18
Adjusted Flow Rate (*v*), veh/h	135	1262	90	113	376	60	144	300	121	218	351	47
Adjusted Saturation Flow Rate (*s*), veh/h/ln	1753	1781	1585	1795	1795	1585	1753	1811	1610	1795	1811	1585
Queue Service Time (g_s), s	3.1	28.7	2.2	4.2	9.1	2.8	6.0	15.3	5.8	8.0	18.0	2.3
Cycle Queue Clearance Time (g_c), s	3.1	28.7	2.2	4.2	9.1	2.8	6.0	15.3	5.8	8.0	18.0	2.3
Green Ratio (*g/C*)	0.52	0.44	0.44	0.37	0.31	0.31	0.29	0.23	0.29	0.31	0.25	0.25
Capacity (*c*), veh/h	610	1567	697	234	1113	491	226	417	467	291	453	396
Volume-to-Capacity Ratio (*X*)	0.222	0.806	0.129	0.481	0.338	0.121	0.637	0.720	0.258	0.751	0.774	0.119
Back of Queue (*Q*), ft/ln (90 th percentile)	45.7	320.8	30.8	84.2	144.5	43.5	131	261.3	92.6	182.8	302.9	37.3
Back of Queue (*Q*), veh/ln (90 th percentile)	2.0	14.3	1.4	3.8	6.5	1.9	5.8	11.3	4.2	8.2	13.1	1.7
Queue Storage Ratio (*RQ*) (90 th percentile)	0.26	0.00	0.19	0.48	0.00	0.34	0.59	0.00	0.53	1.38	0.00	0.28
Uniform Delay (d_1), s/veh	9.0	19.1	10.3	23.8	32.0	25.6	30.2	35.5	27.2	30.9	34.9	29.0
Incremental Delay (d_2), s/veh	0.8	4.2	0.4	5.9	0.7	0.4	12.9	10.3	1.3	16.3	12.2	0.6
Initial Queue Delay (d_3), 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
Control Delay (*d*), s/veh	9.8	23.3	10.6	29.6	32.7	26.0	43.1	45.8	28.6	47.2	47.1	29.6
Level of Service (LOS)	A	C	B	C	C	C	D	D	C	D	D	C
Approach Delay, s/veh / LOS	21.3	C		31.3	C		41.4	D		45.8	D	
Intersection Delay, s/veh / LOS	31.2						C					

Multimodal Results	EB		WB		NB		SB	
Pedestrian LOS Score / LOS	2.12	B	2.12	B	2.45	B	2.44	B
Bicycle LOS Score / LOS	1.35	A	1.44	A	1.42	A	1.50	B

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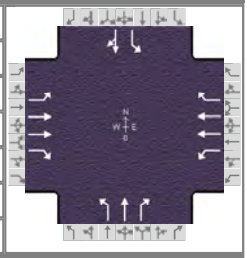
HCS7 Signalized Intersection Results Summary

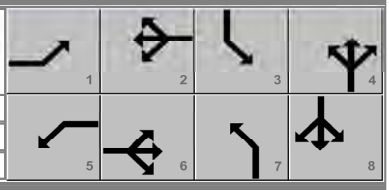
General Information				Intersection Information	
Agency	Stolfus and Associates			Duration, h	0.250
Analyst	Max Rusch	Analysis Date		Area Type	Other
Jurisdiction		Time Period	AM Peak	PHF	0.82
Urban Street	Patterson Rd	Analysis Year	2045	Analysis Period	1> 7:00
Intersection	25 1/2 Road & Patterson	File Name	2045 NoBuild AM Optimized Timings.xus		
Project Description					



Demand Information	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Demand (*v*), veh/h	32	934	51	137	986	90	73	89	98	212	149	118

Signal Information			
Cycle, s	100.0	Reference Phase	2
Offset, s	98	Reference Point	Begin
Uncoordinated	No	Simult. Gap E/W	On
Force Mode	Fixed	Simult. Gap N/S	On

Green	5.2	1.4	45.1	6.0	1.0	18.3
Yellow	3.5	0.0	4.5	3.5	3.5	4.0
Red	0.5	0.0	1.5	0.5	0.5	1.0



Timer Results	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Assigned Phase	1	6	5	2	7	4	3	8
Case Number	1.1	3.0	1.1	3.0	1.1	3.0	1.1	4.0
Phase Duration, s	9.2	51.1	10.6	52.5	10.0	23.3	15.0	28.3
Change Period, ($Y+R_c$), s	4.0	6.0	4.0	6.0	4.0	5.0	4.0	5.0
Max Allow Headway (*MAH*), s	5.2	0.0	5.2	0.0	5.2	5.3	5.2	5.3
Queue Clearance Time (g_s), s	3.1		3.9		6.0	8.7	13.0	19.9
Green Extension Time (g_e), s	0.1	0.0	0.3	0.0	0.0	3.5	0.0	3.3
Phase Call Probability	0.65		0.83		1.00	1.00	1.00	1.00
Max Out Probability	0.00		0.00		1.00	0.01	1.00	0.03

Movement Group Results	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Assigned Movement	1	6	16	5	2	12	7	4	14	3	8	18
Adjusted Flow Rate (*v*), veh/h	38	1109	61	64	460	42	89	109	120	259	326	
Adjusted Saturation Flow Rate (*s*), veh/h/ln	1810	1781	1598	1781	1781	1572	1767	1885	1585	1682	1719	
Queue Service Time (g_s), s	1.1	18.7	0.6	1.9	4.4	0.4	4.0	5.0	6.7	11.0	17.9	
Cycle Queue Clearance Time (g_c), s	1.1	18.7	0.6	1.9	4.4	0.4	4.0	5.0	6.7	11.0	17.9	
Green Ratio (*g/C*)	0.50	0.45	0.45	0.52	0.47	0.47	0.24	0.18	0.18	0.31	0.23	
Capacity (*c*), veh/h	532	1606	720	317	1657	732	213	344	289	402	400	
Volume-to-Capacity Ratio (*X*)	0.071	0.691	0.084	0.202	0.278	0.057	0.418	0.315	0.413	0.644	0.814	
Back of Queue (*Q*), ft/ln (90 th percentile)	17.3	177.1	8.8	30.1	60.5	5.6	82.3	93	105.5	207.8	260.5	
Back of Queue (*Q*), veh/ln (90 th percentile)	0.8	7.9	0.4	1.3	2.7	0.3	3.7	4.2	4.7	8.8	11.6	
Queue Storage Ratio (*RQ*) (90 th percentile)	0.13	0.00	0.07	0.23	0.00	0.04	0.74	0.00	1.19	1.55	0.00	
Uniform Delay (d_1), s/veh	13.4	11.7	3.8	15.1	7.8	3.4	31.4	35.4	36.1	29.0	36.3	
Incremental Delay (d_2), s/veh	0.1	2.2	0.2	0.4	0.3	0.1	5.9	0.7	1.3	7.7	5.7	
Initial Queue Delay (d_3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Control Delay (*d*), s/veh	13.5	13.9	4.0	15.5	8.1	3.5	37.4	36.2	37.5	36.8	42.0	
Level of Service (LOS)	B	B	A	B	A	A	D	D	D	D	D	
Approach Delay, s/veh / LOS	13.4	B		8.6	A		37.0	D		39.7	D	
Intersection Delay, s/veh / LOS	20.9						C					

Multimodal Results	EB		WB		NB		SB	
Pedestrian LOS Score / LOS	2.10	B	1.90	B	2.45	B	2.45	B
Bicycle LOS Score / LOS	1.51	B	1.71	B	1.01	A	1.45	A

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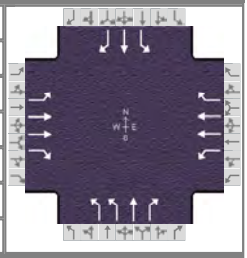
HCS7 Signalized Intersection Results Summary

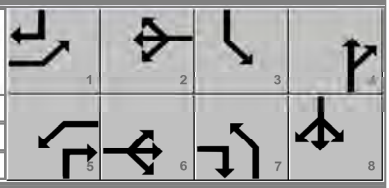
General Information				Intersection Information	
Agency	Stolfus and Associates			Duration, h	0.250
Analyst	Max Rusch	Analysis Date		Area Type	Other
Jurisdiction		Time Period	AM Peak	PHF	0.77
Urban Street	Patterson Rd	Analysis Year	2045	Analysis Period	1> 7:00
Intersection	1st Street & Patterson	File Name	2045 NoBuild AM Optimized Timings.xus		
Project Description					



Demand Information	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Demand (*v*), veh/h	54	966	180	173	1046	40	114	213	143	178	475	67

Signal Information			
Cycle, s	100.0	Reference Phase	2
Offset, s	47	Reference Point	Begin
Uncoordinated	No	Simult. Gap E/W	On
Force Mode	Fixed	Simult. Gap N/S	On

Green	5.7	1.8	30.0	6.9	4.0	33.1
Yellow	3.5	0.0	3.0	3.5	0.0	4.0
Red	0.5	0.0	2.5	0.5	0.0	1.0



Timer Results	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Assigned Phase	1	6	5	2	7	4	3	8
Case Number	1.1	3.0	1.1	3.0	2.0	3.0	1.1	3.0
Phase Duration, s	9.7	35.5	11.4	37.3	10.9	38.1	14.9	42.1
Change Period, ($Y+R_c$), s	4.0	5.5	4.0	5.5	4.0	5.0	4.0	5.0
Max Allow Headway (*MAH*), s	5.2	0.0	5.2	0.0	5.2	5.2	5.2	5.2
Queue Clearance Time (g_s), s	3.5		5.5		6.1	13.7	9.9	32.6
Green Extension Time (g_e), s	0.1	0.0	0.3	0.0	0.9	8.0	1.0	4.5
Phase Call Probability	0.71		0.93		0.98	1.00	1.00	1.00
Max Out Probability	0.01		0.00		0.00	0.20	0.02	0.74

Movement Group Results	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Assigned Movement	1	6	16	5	2	12	7	4	14	3	8	18
Adjusted Flow Rate (*v*), veh/h	44	791	147	95	576	22	148	277	186	231	617	87
Adjusted Saturation Flow Rate (*s*), veh/h/ln	1810	1766	1598	1781	1781	1572	1743	1856	1598	1810	1885	1610
Queue Service Time (g_s), s	1.5	19.7	5.4	3.5	13.4	0.9	4.1	11.7	7.8	7.9	30.6	3.3
Cycle Queue Clearance Time (g_c), s	1.5	19.7	5.4	3.5	13.4	0.9	4.1	11.7	7.8	7.9	30.6	3.3
Green Ratio (*g/C*)	0.36	0.30	0.37	0.37	0.32	0.32	0.07	0.33	0.41	0.46	0.37	0.43
Capacity (*c*), veh/h	312	1061	590	266	1132	500	242	614	648	471	700	689
Volume-to-Capacity Ratio (*X*)	0.142	0.746	0.250	0.358	0.509	0.044	0.612	0.450	0.287	0.491	0.882	0.126
Back of Queue (*Q*), ft/ln (90 th percentile)	23.6	260.3	76.8	57.6	182.7	13.7	74.9	181.6	111.9	123.2	452.2	47.4
Back of Queue (*Q*), veh/ln (90 th percentile)	1.1	11.5	3.5	2.6	8.2	0.6	3.4	8.1	5.0	5.6	20.4	2.2
Queue Storage Ratio (*RQ*) (90 th percentile)	0.18	0.00	0.58	0.52	0.00	0.13	0.57	0.00	0.85	1.12	0.00	0.00
Uniform Delay (d_1), s/veh	19.4	29.2	17.2	22.2	28.5	21.6	45.2	26.3	20.0	17.9	29.4	17.3
Incremental Delay (d_2), s/veh	0.2	4.0	0.8	0.7	1.0	0.1	3.5	0.7	0.3	1.1	11.4	0.1
Initial Queue Delay (d_3), 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
Control Delay (*d*), s/veh	19.6	33.3	18.1	22.9	29.5	21.7	48.8	27.0	20.3	19.1	40.8	17.4
Level of Service (LOS)	B	C	B	C	C	C	D	C	C	B	D	B
Approach Delay, s/veh / LOS	30.4	C		28.4	C		30.3	C		33.2	C	
Intersection Delay, s/veh / LOS	30.7						C					

Multimodal Results	EB		WB		NB		SB	
Pedestrian LOS Score / LOS	2.29	B	2.11	B	2.43	B	2.43	B
Bicycle LOS Score / LOS	1.77	B	1.84	B	1.49	A	2.03	B

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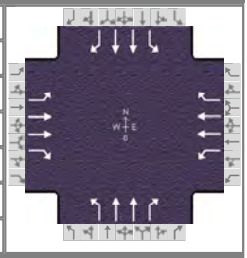
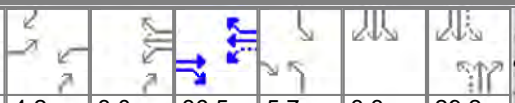
HCS7 Signalized Intersection Results Summary

General Information				Intersection Information	
Agency	Stolfus and Associates			Duration, h	0.250
Analyst	Max Rusch	Analysis Date		Area Type	Other
Jurisdiction		Time Period	AM Peak	PHF	0.80
Urban Street	Patterson Rd	Analysis Year	2045	Analysis Period	1> 7:00
Intersection	7th Street & Patterson	File Name	2045 NoBuild AM Optimized Timings.xus		
Project Description					

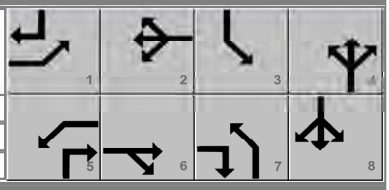


Demand Information	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Demand (*v*), veh/h	69	716	189	238	1007	106	80	301	147	168	654	204

Signal Information			
Cycle, s	100.0	Reference Phase	2
Offset, s	0	Reference Point	Begin
Uncoordinated	No	Simult. Gap E/W	On
Force Mode	Fixed	Simult. Gap N/S	On



Green	4.2	3.0	36.5	5.7	3.3	29.2
Yellow	3.5	0.0	4.0	3.5	0.0	4.0
Red	0.5	0.0	1.0	0.5	0.0	1.0



Timer Results	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Assigned Phase	1	6	5	2	7	4	3	8
Case Number	2.0	3.0	1.1	3.0	1.1	3.0	1.1	3.0
Phase Duration, s	8.2	41.5	11.2	44.6	9.7	34.2	13.0	37.5
Change Period, ($Y+R_c$), s	4.0	5.0	4.0	5.0	4.0	5.0	4.0	5.0
Max Allow Headway (*MAH*), s	5.2	0.0	5.2	0.0	5.2	5.2	5.2	5.2
Queue Clearance Time (g_s), s	5.1		6.7		5.9	9.4	10.0	21.7
Green Extension Time (g_e), s	0.2	0.0	0.7	0.0	0.2	13.2	0.0	10.8
Phase Call Probability	0.79		0.98		0.94	1.00	1.00	1.00
Max Out Probability	0.00		0.00		0.53	0.28	1.00	0.46

Movement Group Results	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Assigned Movement	1	6	16	5	2	12	7	4	14	3	8	18
Adjusted Flow Rate (*v*), veh/h	57	589	134	142	602	60	100	376	168	210	818	255
Adjusted Saturation Flow Rate (*s*), veh/h/ln	1810	1766	1374	1810	1781	1543	1767	1795	1591	1795	1809	1586
Queue Service Time (g_s), s	3.1	7.8	1.6	4.7	6.9	0.7	3.9	7.4	6.7	8.0	19.7	12.1
Cycle Queue Clearance Time (g_c), s	3.1	7.8	1.6	4.7	6.9	0.7	3.9	7.4	6.7	8.0	19.7	12.1
Green Ratio (*g/C*)	0.04	0.37	0.42	0.45	0.40	0.40	0.35	0.29	0.36	0.40	0.33	0.37
Capacity (*c*), veh/h	76	1291	592	416	1410	611	229	1049	581	423	1176	583
Volume-to-Capacity Ratio (*X*)	0.746	0.456	0.227	0.342	0.427	0.099	0.436	0.359	0.288	0.497	0.695	0.438
Back of Queue (*Q*), ft/ln (90 th percentile)	69.5	98.6	19.9	78.5	86.5	10.6	68.9	115.6	94.6	127.6	268.2	160.3
Back of Queue (*Q*), veh/ln (90 th percentile)	3.2	4.4	0.9	3.6	3.9	0.5	3.1	5.2	4.3	5.8	12.2	7.2
Queue Storage Ratio (*RQ*) (90 th percentile)	0.39	0.00	0.13	0.59	0.00	0.07	0.31	0.00	0.54	1.16	0.00	0.00
Uniform Delay (d_1), s/veh	49.2	11.5	3.7	17.6	9.5	4.9	24.5	23.9	19.2	21.2	29.4	23.9
Incremental Delay (d_2), s/veh	15.3	0.9	0.7	0.5	0.7	0.2	1.9	0.3	0.4	1.3	1.3	0.7
Initial Queue Delay (d_3), 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
Control Delay (*d*), s/veh	64.6	12.4	4.4	18.1	10.2	5.1	26.4	24.2	19.6	22.5	30.7	24.6
Level of Service (LOS)	E	B	A	B	B	A	C	C	B	C	C	C
Approach Delay, s/veh / LOS	14.8	B		11.2	B		23.3	C		28.2	C	
Intersection Delay, s/veh / LOS	20.4						C					

Multimodal Results	EB		WB		NB		SB	
Pedestrian LOS Score / LOS	2.45	B	2.43	B	2.45	B	2.47	B
Bicycle LOS Score / LOS	1.47	A	1.88	B	1.02	A	1.55	B

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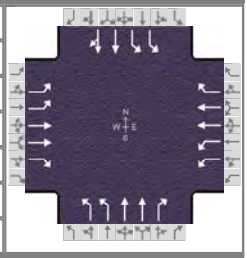
HCS7 Signalized Intersection Results Summary

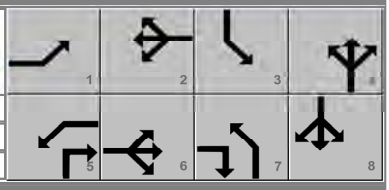
General Information				Intersection Information	
Agency	Stolfus and Associates			Duration, h	0.250
Analyst	Max Rusch	Analysis Date		Area Type	Other
Jurisdiction		Time Period	AM Peak	PHF	0.80
Urban Street	Patterson Rd	Analysis Year	2045	Analysis Period	1> 7:00
Intersection	12th Street & Patterson	File Name	2045 NoBuild AM Optimized Timings.xus		
Project Description					



Demand Information	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Demand (*v*), veh/h	135	571	179	382	1138	114	224	501	122	96	570	107

Signal Information			
Cycle, s	100.0	Reference Phase	2
Offset, s	45	Reference Point	Begin
Uncoordinated	No	Simult. Gap E/W	On
Force Mode	Fixed	Simult. Gap N/S	On

Green	9.0	1.0	18.5	14.0	2.0	29.0
Yellow	3.5	3.5	4.0	3.5	3.5	4.0
Red	0.5	0.5	1.5	0.5	0.5	1.0



Timer Results	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Assigned Phase	1	6	5	2	7	4	3	8
Case Number	1.1	3.0	1.1	3.0	1.1	3.0	1.1	4.0
Phase Duration, s	13.0	24.0	18.0	29.0	24.0	40.0	18.0	34.0
Change Period, ($Y+R_c$), s	4.0	5.5	4.0	5.5	4.0	5.0	4.0	5.0
Max Allow Headway (*MAH*), s	5.2	0.0	5.2	0.0	5.2	5.2	5.2	5.2
Queue Clearance Time (g_s), s	4.9		6.2		6.3	15.9	4.0	23.6
Green Extension Time (g_e), s	0.2	0.0	0.7	0.0	1.4	10.4	0.4	4.0
Phase Call Probability	1.00		1.00		1.00	1.00	1.00	1.00
Max Out Probability	1.00		0.25		0.02	0.48	0.04	0.99

Movement Group Results	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Assigned Movement	1	6	16	5	2	12	7	4	14	3	8	18
Adjusted Flow Rate (*v*), veh/h	128	540	169	224	667	67	280	626	153	120	435	411
Adjusted Saturation Flow Rate (*s*), veh/h/ln	1730	1766	1600	1743	1795	1598	1730	1781	1572	1743	1870	1764
Queue Service Time (g_s), s	2.9	13.9	6.4	4.2	17.5	3.0	4.3	13.9	5.5	2.0	21.5	21.6
Cycle Queue Clearance Time (g_c), s	2.9	13.9	6.4	4.2	17.5	3.0	4.3	13.9	5.5	2.0	21.5	21.6
Green Ratio (*g/C*)	0.28	0.18	0.39	0.34	0.24	0.24	0.51	0.35	0.49	0.43	0.29	0.29
Capacity (*c*), veh/h	513	654	618	700	844	375	933	1246	771	900	542	512
Volume-to-Capacity Ratio (*X*)	0.249	0.826	0.274	0.320	0.790	0.178	0.300	0.502	0.198	0.133	0.803	0.803
Back of Queue (*Q*), ft/ln (90 th percentile)	50.5	174	77.3	65.4	254.4	47.3	68.5	202.1	80.6	33	346.5	332.3
Back of Queue (*Q*), veh/ln (90 th percentile)	2.3	7.7	3.5	2.9	11.5	2.1	3.1	9.0	3.6	1.5	15.5	14.9
Queue Storage Ratio (*RQ*) (90 th percentile)	0.29	0.00	0.53	0.25	0.00	0.36	0.31	0.00	0.36	0.25	0.00	0.00
Uniform Delay (d_1), s/veh	30.4	30.8	16.3	21.3	36.3	26.9	16.6	25.6	14.4	17.4	32.9	32.9
Incremental Delay (d_2), s/veh	0.7	7.3	0.7	1.0	6.3	0.9	0.8	1.4	0.6	0.3	11.9	12.6
Initial Queue Delay (d_3), 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
Control Delay (*d*), s/veh	31.1	38.0	17.0	22.3	42.6	27.7	17.4	27.1	15.0	17.7	44.7	45.4
Level of Service (LOS)	C	D	B	C	D	C	B	C	B	B	D	D
Approach Delay, s/veh / LOS	32.7	C		36.8	D		22.8	C		41.7	D	
Intersection Delay, s/veh / LOS	33.3						C					

Multimodal Results	EB		WB		NB		SB	
Pedestrian LOS Score / LOS	2.59	C	2.45	B	2.57	C	2.58	C
Bicycle LOS Score / LOS	1.40	A	2.17	B	1.36	A	1.28	A

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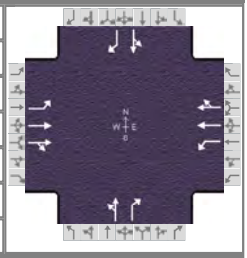
HCS7 Signalized Intersection Results Summary

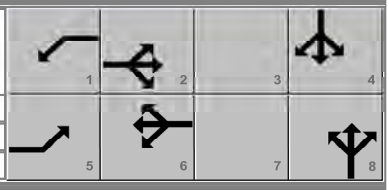
General Information				Intersection Information	
Agency	Stolfus and Associates			Duration, h	0.250
Analyst	Max Rusch	Analysis Date		Area Type	Other
Jurisdiction		Time Period	AM Peak	PHF	0.83
Urban Street	Patterson Rd	Analysis Year	2045	Analysis Period	1> 7:00
Intersection	Patterson Rd & 15th St	File Name	2045 NoBuild AM Optimized Timings.xus		
Project Description					



Demand Information	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Demand (v), veh/h	140	623	15	51	1800	194	12	3	20	12	3	61

Signal Information			
Cycle, s	100.0	Reference Phase	2
Offset, s	9	Reference Point	End
Uncoordinated	No	Simult. Gap E/W	On
Force Mode	Fixed	Simult. Gap N/S	On

Green	3.2	2.8	75.4	6.6	0.0	0.0
Yellow	4.0	0.0	4.0	4.0	0.0	0.0
Red	0.0	0.0	0.0	0.0	0.0	0.0



Timer Results	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Assigned Phase	5	2	1	6		8		4
Case Number	1.1	4.0	1.1	4.0		7.0		7.0
Phase Duration, s	10.0	82.2	7.2	79.4		10.6		10.6
Change Period, ($Y+R_c$), s	4.0	4.0	4.0	4.0		4.0		4.0
Max Allow Headway (MAH), s	3.1	0.0	3.1	0.0		3.3		3.3
Queue Clearance Time (g_s), s	4.0		2.3			3.4		6.5
Green Extension Time (g_e), s	0.3	0.0	0.0	0.0		0.2		0.2
Phase Call Probability	0.99		0.53			0.98		0.98
Max Out Probability	0.00		0.00			0.00		0.00

Movement Group Results	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Assigned Movement	5	2	12	1	6	16	3	8	18	7	4	14
Adjusted Flow Rate (v), veh/h	179	410	407	27	536	518		18	24		18	73
Adjusted Saturation Flow Rate (s), veh/h/ln	1781	1856	1840	1781	1885	1820		1515	1585		1515	1585
Queue Service Time (g_s), s	2.0	8.7	8.6	0.3	4.8	4.2		0.0	1.4		0.0	4.5
Cycle Queue Clearance Time (g_c), s	2.0	8.7	8.6	0.3	4.8	4.2		1.0	1.4		1.0	4.5
Green Ratio (g/C)	0.82	0.78	0.78	0.79	0.75	0.75		0.07	0.07		0.07	0.07
Capacity (c), veh/h	556	1451	1439	580	1422	1373		165	105		165	105
Volume-to-Capacity Ratio (X)	0.322	0.283	0.283	0.046	0.377	0.377		0.110	0.230		0.110	0.701
Back of Queue (Q), ft/ln (90 th percentile)	13.3	103.2	98.8	2.9	46	39		17.1	23.1		17.1	75.1
Back of Queue (Q), veh/ln (90 th percentile)	0.6	4.6	4.5	0.1	2.1	1.8		0.8	1.0		0.8	3.4
Queue Storage Ratio (RQ) (90 th percentile)	0.17	0.00	0.00	0.03	0.00	0.00		0.00	0.52		0.00	1.70
Uniform Delay (d_1), s/veh	2.0	4.8	4.7	2.7	1.6	1.4		44.1	44.3		44.1	45.7
Incremental Delay (d_2), s/veh	0.1	0.5	0.5	0.0	0.5	0.5		0.1	0.4		0.1	3.2
Initial Queue Delay (d_3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0
Control Delay (d), s/veh	2.1	5.3	5.2	2.7	2.1	1.9		44.2	44.7		44.2	48.9
Level of Service (LOS)	A	A	A	A	A	A		D	D		D	D
Approach Delay, s/veh / LOS	4.7	A		2.0	A		44.5	D		47.9	D	
Intersection Delay, s/veh / LOS	5.9						A					

Multimodal Results	EB		WB		NB		SB	
Pedestrian LOS Score / LOS	1.83	B	1.84	B	2.31	B	2.31	B
Bicycle LOS Score / LOS	1.26	A	2.52	C	0.56	A	0.64	A

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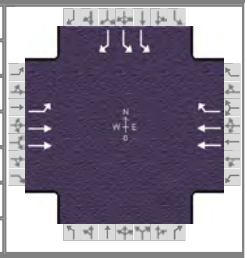
HCS7 Signalized Intersection Results Summary

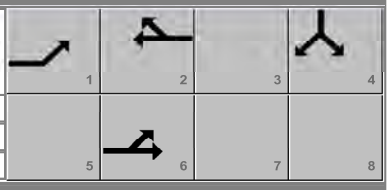
General Information				Intersection Information	
Agency	Stolfus and Associates			Duration, h	0.250
Analyst	Max Rusch	Analysis Date		Area Type	Other
Jurisdiction		Time Period	AM Peak	PHF	0.83
Urban Street	Patterson Rd	Analysis Year	2045	Analysis Period	1> 7:00
Intersection	27 1/2 Road & Patterson	File Name	2045 NoBuild AM Optimized Timings.xus		
Project Description					



Demand Information	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Demand (*v*), veh/h	70	647			1589	304				385		214

Signal Information			
Cycle, s	100.0	Reference Phase	2
Offset, s	59	Reference Point	Begin
Uncoordinated	No	Simult. Gap E/W	On
Force Mode	Fixed	Simult. Gap N/S	On

Green	6.0	38.0	41.0	0.0	0.0	0.0
Yellow	3.5	4.5	4.0	0.0	0.0	0.0
Red	0.5	1.5	1.0	0.0	0.0	0.0



Timer Results	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Assigned Phase	1	6		2				4
Case Number	1.0	4.0		7.3				9.0
Phase Duration, s	10.0	54.0		44.0				46.0
Change Period, ($Y+R_c$), s	4.0	6.0		6.0				5.0
Max Allow Headway (*MAH*), s	5.2	0.0		0.0				5.3
Queue Clearance Time (g_s), s	3.9							14.0
Green Extension Time (g_e), s	0.0	0.0		0.0				5.2
Phase Call Probability	1.00							1.00
Max Out Probability	1.00							0.02

Movement Group Results	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Assigned Movement	1	6			2	12				7		14
Adjusted Flow Rate (*v*), veh/h	58	533			872	167				464		258
Adjusted Saturation Flow Rate (*s*), veh/h/ln	1753	1795			1795	1610				1757		1522
Queue Service Time (g_s), s	1.9	6.9			18.8	6.1				9.0		12.0
Cycle Queue Clearance Time (g_c), s	1.9	6.9			18.8	6.1				9.0		12.0
Green Ratio (*g/C*)	0.46	0.48			0.38	0.38				0.41		0.41
Capacity (*c*), veh/h	280	1723			1364	612				1441		624
Volume-to-Capacity Ratio (*X*)	0.206	0.309			0.639	0.273				0.322		0.413
Back of Queue (*Q*), ft/ln (90 th percentile)	33.9	92.9			231.7	87.9				134.4		166.8
Back of Queue (*Q*), veh/ln (90 th percentile)	1.5	4.2			10.4	4.0				6.1		7.2
Queue Storage Ratio (*RQ*) (90 th percentile)	0.22	0.00			0.00	1.67				0.80		0.00
Uniform Delay (d_1), s/veh	18.5	11.0			22.2	17.5				20.1		21.0
Incremental Delay (d_2), s/veh	1.2	0.3			1.9	0.9				0.6		2.0
Initial Queue Delay (d_3), s/veh	0.0	0.0			0.0	0.0				0.0		0.0
Control Delay (*d*), s/veh	19.7	11.4			24.1	18.4				20.6		23.0
Level of Service (LOS)	B	B			C	B				C		C
Approach Delay, s/veh / LOS	12.2	B		23.2	C		0.0			21.5	C	
Intersection Delay, s/veh / LOS	19.9						B					

Multimodal Results	EB		WB		NB		SB	
Pedestrian LOS Score / LOS	0.70	A	2.11	B	2.32	B	2.32	B
Bicycle LOS Score / LOS	1.20	A	2.37	B				F

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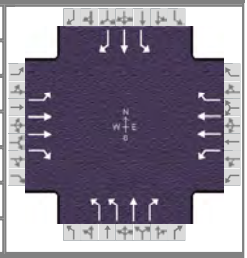
HCS7 Signalized Intersection Results Summary

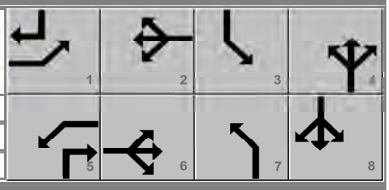
General Information				Intersection Information	
Agency	Stolfus and Associates			Duration, h	0.250
Analyst	Max Rusch	Analysis Date		Area Type	Other
Jurisdiction		Time Period	AM Peak	PHF	0.83
Urban Street	Patterson Rd	Analysis Year	2045	Analysis Period	1> 7:00
Intersection	29 Road & Patterson	File Name	2045 NoBuild AM Optimized Timings.xus		
Project Description					



Demand Information	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Demand (*v*), veh/h	129	532	231	187	1461	98	194	173	49	73	271	360

Signal Information			
Cycle, s	100.0	Reference Phase	2
Offset, s	50	Reference Point	Begin
Uncoordinated	No	Simult. Gap E/W	On
Force Mode	Fixed	Simult. Gap N/S	On

Green	7.5	1.5	26.5	9.5	1.0	29.0
Yellow	3.5	3.5	4.5	3.5	0.0	4.0
Red	1.0	1.0	2.0	1.0	0.0	1.0



Timer Results	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Assigned Phase	1	6	5	2	7	4	3	8
Case Number	1.1	3.0	1.1	3.0	1.1	3.0	1.1	3.0
Phase Duration, s	12.0	33.0	18.0	39.0	14.0	34.0	15.0	35.0
Change Period, ($Y+R_c$), s	4.5	6.5	4.5	6.5	4.5	5.0	4.5	5.0
Max Allow Headway (*MAH*), s	4.1	0.0	4.1	0.0	4.2	4.3	4.2	4.3
Queue Clearance Time (g_s), s	6.4		7.0		6.5	10.9	5.2	20.9
Green Extension Time (g_e), s	0.0	0.0	0.2	0.0	0.3	3.7	0.1	2.8
Phase Call Probability	1.00		1.00		1.00	1.00	1.00	1.00
Max Out Probability	1.00		0.13		1.00	0.06	0.34	0.38

Movement Group Results	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Assigned Movement	1	6	16	5	2	12	7	4	14	3	8	18
Adjusted Flow Rate (*v*), veh/h	111	457	198	133	1042	70	234	208	17	88	327	373
Adjusted Saturation Flow Rate (*s*), veh/h/ln	1781	1795	1572	1767	1781	1585	1716	1870	1610	1753	1870	1610
Queue Service Time (g_s), s	4.4	10.8	9.7	5.0	26.8	1.9	4.5	8.9	0.6	3.2	14.8	18.9
Cycle Queue Clearance Time (g_c), s	4.4	10.8	9.7	5.0	26.8	1.9	4.5	8.9	0.6	3.2	14.8	18.9
Green Ratio (*g/C*)	0.34	0.26	0.26	0.42	0.32	0.32	0.38	0.29	0.43	0.40	0.30	0.38
Capacity (*c*), veh/h	226	951	417	457	1157	515	665	542	684	485	561	604
Volume-to-Capacity Ratio (*X*)	0.491	0.480	0.476	0.292	0.900	0.136	0.351	0.384	0.025	0.181	0.582	0.619
Back of Queue (*Q*), ft/ln (90 th percentile)	80.5	154.8	124.5	85.8	289.7	28.1	76.3	152.8	9.2	56.2	236.1	247.8
Back of Queue (*Q*), veh/ln (90 th percentile)	3.6	7.0	5.5	3.8	13.0	1.3	3.4	6.8	0.4	2.5	10.6	11.3
Queue Storage Ratio (*RQ*) (90 th percentile)	0.26	0.00	0.45	0.22	0.00	0.32	0.34	0.00	0.04	0.42	0.00	1.88
Uniform Delay (d_1), s/veh	25.5	31.2	26.3	22.0	24.4	14.1	21.8	28.4	16.7	19.7	29.7	25.4
Incremental Delay (d_2), s/veh	5.5	1.3	2.9	1.1	8.1	0.4	1.5	2.1	0.1	0.8	4.4	4.7
Initial Queue Delay (d_3), 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
Control Delay (*d*), s/veh	31.1	32.4	29.2	23.1	32.5	14.5	23.2	30.4	16.8	20.5	34.0	30.1
Level of Service (LOS)	C	C	C	C	C	B	C	C	B	C	C	C
Approach Delay, s/veh / LOS	31.4	C		30.5	C		26.3	C		30.7	C	
Intersection Delay, s/veh / LOS	30.1						C					

Multimodal Results	EB		WB		NB		SB	
Pedestrian LOS Score / LOS	2.34	B	2.18	B	2.44	B	2.44	B
Bicycle LOS Score / LOS	1.37	A	2.22	B	1.25	A	1.79	B

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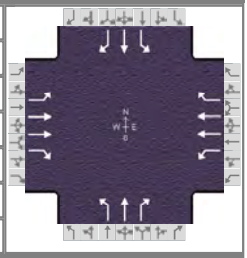
HCS7 Signalized Intersection Results Summary

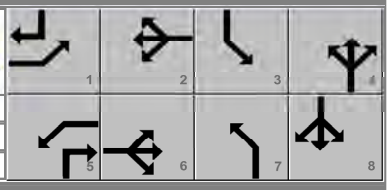
General Information				Intersection Information	
Agency	Stolfus and Associates			Duration, h	0.250
Analyst	Max Rusch	Analysis Date		Area Type	Other
Jurisdiction		Time Period	AM Peak	PHF	0.83
Urban Street	Patterson Rd	Analysis Year	2045	Analysis Period	1> 7:00
Intersection	29 Road & Patterson	File Name	2045 NoBuild AM Optimized Timings.xus		
Project Description					



Demand Information	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Demand (*v*), veh/h	129	532	231	187	1461	98	194	173	49	73	271	360

Signal Information			
Cycle, s	100.0	Reference Phase	2
Offset, s	50	Reference Point	Begin
Uncoordinated	No	Simult. Gap E/W	On
Force Mode	Fixed	Simult. Gap N/S	On

Green	7.5	1.5	26.5	9.5	1.0	29.0
Yellow	3.5	3.5	4.5	3.5	0.0	4.0
Red	1.0	1.0	2.0	1.0	0.0	1.0



Timer Results	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Assigned Phase	1	6	5	2	7	4	3	8
Case Number	1.1	3.0	1.1	3.0	1.1	3.0	1.1	3.0
Phase Duration, s	12.0	33.0	18.0	39.0	14.0	34.0	15.0	35.0
Change Period, ($Y+R_c$), s	4.5	6.5	4.5	6.5	4.5	5.0	4.5	5.0
Max Allow Headway (*MAH*), s	4.1	0.0	4.1	0.0	4.2	4.3	4.2	4.3
Queue Clearance Time (g_s), s	6.4		7.0		11.4	10.9	5.2	20.9
Green Extension Time (g_e), s	0.0	0.0	0.2	0.0	0.0	3.7	0.1	2.8
Phase Call Probability	1.00		1.00		1.00	1.00	1.00	1.00
Max Out Probability	1.00		0.13		1.00	0.06	0.34	0.38

Movement Group Results	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Assigned Movement	1	6	16	5	2	12	7	4	14	3	8	18
Adjusted Flow Rate (*v*), veh/h	111	457	198	133	1042	70	234	208	17	88	327	373
Adjusted Saturation Flow Rate (*s*), veh/h/ln	1781	1795	1572	1767	1781	1585	1767	1870	1610	1753	1870	1610
Queue Service Time (g_s), s	4.4	10.8	9.7	5.0	26.8	1.9	9.4	8.9	0.6	3.2	14.8	18.9
Cycle Queue Clearance Time (g_c), s	4.4	10.8	9.7	5.0	26.8	1.9	9.4	8.9	0.6	3.2	14.8	18.9
Green Ratio (*g/C*)	0.34	0.26	0.26	0.42	0.32	0.32	0.38	0.29	0.43	0.40	0.30	0.38
Capacity (*c*), veh/h	226	951	417	457	1157	515	338	542	684	485	561	604
Volume-to-Capacity Ratio (*X*)	0.491	0.480	0.476	0.292	0.900	0.136	0.692	0.384	0.025	0.181	0.582	0.619
Back of Queue (*Q*), ft/ln (90 th percentile)	80.5	154.6	124.5	85.8	289.7	28.1	171.2	152.8	9.2	56.2	236.1	247.8
Back of Queue (*Q*), veh/ln (90 th percentile)	3.6	7.0	5.5	3.8	13.0	1.3	7.6	6.8	0.4	2.5	10.6	11.3
Queue Storage Ratio (*RQ*) (90 th percentile)	0.26	0.00	0.45	0.22	0.00	0.32	0.77	0.00	0.04	0.42	0.00	1.88
Uniform Delay (d_1), s/veh	25.5	31.2	26.3	22.0	24.4	14.1	23.6	28.4	16.7	19.7	29.7	25.4
Incremental Delay (d_2), s/veh	5.5	1.3	2.9	1.1	8.1	0.4	11.1	2.1	0.1	0.8	4.4	4.7
Initial Queue Delay (d_3), 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
Control Delay (*d*), s/veh	31.1	32.4	29.2	23.1	32.5	14.5	34.7	30.4	16.8	20.5	34.0	30.1
Level of Service (LOS)	C	C	C	C	C	B	C	C	B	C	C	C
Approach Delay, s/veh / LOS	31.4	C		30.5	C		32.1	C		30.7	C	
Intersection Delay, s/veh / LOS	31.0						C					

Multimodal Results	EB		WB		NB		SB	
Pedestrian LOS Score / LOS	2.17	B	2.18	B	2.44	B	2.44	B
Bicycle LOS Score / LOS	1.37	A	2.22	B	1.25	A	1.79	B

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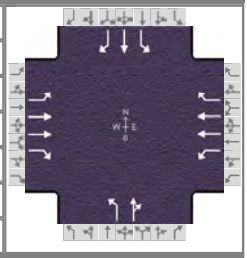
HCS7 Signalized Intersection Results Summary

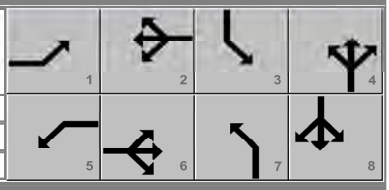
General Information				Intersection Information	
Agency	Stolfus and Associates			Duration, h	0.250
Analyst	Max Rusch	Analysis Date		Area Type	Other
Jurisdiction		Time Period	AM Peak	PHF	0.85
Urban Street	Patterson Rd	Analysis Year	2045	Analysis Period	1> 7:00
Intersection	29 1/2 Road & Patterson	File Name	2045 NoBuild AM Optimized Timings.xus		
Project Description					



Demand Information	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Demand (*v*), veh/h	13	531	96	222	1549	265	48	34	67	150	106	64

Signal Information			
Cycle, s	100.0	Reference Phase	2
Offset, s	32	Reference Point	Begin
Uncoordinated	No	Simult. Gap E/W	On
Force Mode	Fixed	Simult. Gap N/S	On

Green	1.5	1.6	53.8	9.0	10.6	0.0
Yellow	3.5	3.5	5.0	4.0	4.0	0.0
Red	0.5	0.5	1.5	0.0	1.0	0.0



Timer Results	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Assigned Phase	1	6	5	2	7	4	3	8
Case Number	1.1	3.0	1.1	3.0	1.1	4.0	1.1	3.0
Phase Duration, s	5.5	60.3	11.1	65.9	13.0	15.6	13.0	15.6
Change Period, ($Y+R_c$), s	4.0	6.5	4.0	6.5	4.0	5.0	4.0	5.0
Max Allow Headway (*MAH*), s	4.5	0.0	4.5	0.0	3.7	4.7	3.7	4.7
Queue Clearance Time (g_s), s	2.3		6.4		4.7	9.1	10.8	8.5
Green Extension Time (g_e), s	0.0	0.0	0.8	0.0	0.0	1.5	0.0	1.5
Phase Call Probability	0.29		0.99		1.00	1.00	1.00	1.00
Max Out Probability	0.00		0.00		0.40	0.00	1.00	0.00

Movement Group Results	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Assigned Movement	1	6	16	5	2	12	7	4	14	3	8	18
Adjusted Flow Rate (*v*), veh/h	13	511	92	186	1300	222	56	119		176	125	75
Adjusted Saturation Flow Rate (*s*), veh/h/ln	1810	1795	1598	1795	1795	1560	1767	1618		1781	1841	1585
Queue Service Time (g_s), s	0.3	1.5	0.4	4.4	17.8	2.6	2.7	7.1		8.8	6.5	4.5
Cycle Queue Clearance Time (g_c), s	0.3	1.5	0.4	4.4	17.8	2.6	2.7	7.1		8.8	6.5	4.5
Green Ratio (*g/C*)	0.55	0.54	0.54	0.63	0.59	0.59	0.20	0.11		0.20	0.11	0.11
Capacity (*c*), veh/h	236	1930	859	629	2133	927	256	172		252	195	168
Volume-to-Capacity Ratio (*X*)	0.053	0.265	0.107	0.296	0.610	0.240	0.221	0.693		0.701	0.639	0.448
Back of Queue (*Q*), ft/ln (90 th percentile)	4.6	19.6	6.3	55.2	157.2	29.9	51.1	121.2		170.3	121.4	72.6
Back of Queue (*Q*), veh/ln (90 th percentile)	0.2	0.9	0.3	2.5	7.1	1.3	2.3	5.3		7.6	5.3	3.2
Queue Storage Ratio (*RQ*) (90 th percentile)	0.04	0.00	0.07	0.42	0.00	0.13	0.66	0.00		1.24	0.00	0.00
Uniform Delay (d_1), s/veh	11.3	2.0	1.5	7.5	8.0	3.1	33.8	43.1		36.4	42.9	42.0
Incremental Delay (d_2), s/veh	0.1	0.2	0.2	0.2	0.9	0.4	2.0	4.9		15.1	3.5	1.9
Initial Queue Delay (d_3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Control Delay (*d*), s/veh	11.3	2.2	1.6	7.7	8.9	3.5	35.7	48.1		51.4	46.3	43.8
Level of Service (LOS)	B	A	A	A	A	A	D	D		D	D	D
Approach Delay, s/veh / LOS	2.3	A		8.1	A		44.1	D		48.2	D	
Intersection Delay, s/veh / LOS	14.3						B					

Multimodal Results	EB		WB		NB		SB	
Pedestrian LOS Score / LOS	1.89	B	2.07	B	2.46	B	2.46	B
Bicycle LOS Score / LOS	1.11	A	2.46	B	0.78	A	1.11	A

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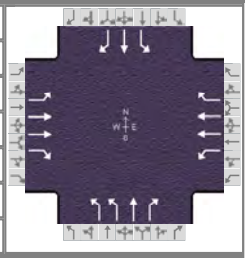
HCS7 Signalized Intersection Results Summary

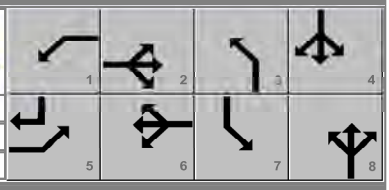
General Information				Intersection Information	
Agency	Stolfus and Associates			Duration, h	0.250
Analyst	Max Rusch	Analysis Date		Area Type	Other
Jurisdiction		Time Period	AM Peak	PHF	0.83
Urban Street	Patterson Rd	Analysis Year	2045	Analysis Period	1> 7:00
Intersection	30 Road & Patterson	File Name	2045 NoBuild AM Optimized Timings.xus		
Project Description					



Demand Information	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Demand (*v*), veh/h	95	420	203	137	1188	17	438	57	49	42	138	279

Signal Information			
Cycle, s	100.0	Reference Phase	2
Offset, s	60	Reference Point	Begin
Uncoordinated	No	Simult. Gap E/W	On
Force Mode	Fixed	Simult. Gap N/S	On

Green	6.0	17.0	24.5	7.0	2.0	20.0
Yellow	3.5	3.5	5.0	3.5	0.0	4.0
Red	0.5	0.5	1.5	0.5	0.0	1.0



Timer Results	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Assigned Phase	5	2	1	6	3	8	7	4
Case Number	1.1	3.0	1.1	3.0	1.1	3.0	1.1	3.0
Phase Duration, s	10.0	31.0	31.0	52.0	11.0	25.0	13.0	27.0
Change Period, ($Y+R_c$), s	4.0	6.5	4.0	6.5	4.0	5.0	4.0	5.0
Max Allow Headway (*MAH*), s	4.1	0.0	4.2	0.0	4.2	4.3	4.2	4.3
Queue Clearance Time (g_s), s	6.7		5.4		9.0	5.1	4.0	13.9
Green Extension Time (g_e), s	0.0	0.0	0.5	0.0	0.0	1.8	0.0	1.3
Phase Call Probability	1.00		1.00		1.00	1.00	1.00	1.00
Max Out Probability	1.00		0.00		1.00	0.02	0.41	0.26

Movement Group Results	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Assigned Movement	5	2	12	1	6	16	3	8	18	7	4	14
Adjusted Flow Rate (*v*), veh/h	114	506	245	146	1268	18	528	69	58	51	166	225
Adjusted Saturation Flow Rate (*s*), veh/h/ln	1810	1795	1598	1795	1795	1598	1730	1870	1560	1810	1885	1585
Queue Service Time (g_s), s	4.7	10.9	12.2	3.4	23.9	0.3	7.0	3.0	3.1	2.0	7.5	11.9
Cycle Queue Clearance Time (g_c), s	4.7	10.9	12.2	3.4	23.9	0.3	7.0	3.0	3.1	2.0	7.5	11.9
Green Ratio (*g/C*)	0.30	0.24	0.24	0.54	0.46	0.46	0.27	0.20	0.20	0.29	0.22	0.28
Capacity (*c*), veh/h	266	879	391	654	1633	727	633	374	312	453	415	444
Volume-to-Capacity Ratio (*X*)	0.430	0.575	0.625	0.223	0.776	0.025	0.833	0.184	0.185	0.112	0.401	0.508
Back of Queue (*Q*), ft/ln (90 th percentile)	82.1	138.3	145.1	53	217.4	4.8	150.1	59.3	51.5	36.7	137	174
Back of Queue (*Q*), veh/ln (90 th percentile)	3.7	6.2	6.5	2.4	9.8	0.2	6.7	2.7	2.3	1.7	6.2	7.8
Queue Storage Ratio (*RQ*) (90 th percentile)	0.93	0.00	0.52	0.52	0.00	0.08	0.68	0.00	0.29	0.28	0.00	1.31
Uniform Delay (d_1), s/veh	25.9	25.6	25.9	9.8	12.6	7.4	36.3	33.2	33.2	26.0	33.4	30.2
Incremental Delay (d_2), s/veh	3.4	1.9	5.1	0.8	3.7	0.1	12.2	1.1	1.3	0.5	2.9	4.1
Initial Queue Delay (d_3), 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
Control Delay (*d*), s/veh	29.4	27.4	31.0	10.6	16.3	7.4	48.5	34.3	34.5	26.5	36.2	34.3
Level of Service (LOS)	C	C	C	B	B	A	D	C	C	C	D	C
Approach Delay, s/veh / LOS	28.7	C		15.6	B		45.8	D		34.1	C	
Intersection Delay, s/veh / LOS	27.2						C					

Multimodal Results	EB		WB		NB		SB	
Pedestrian LOS Score / LOS	2.29	B	2.23	B	2.45	B	2.45	B
Bicycle LOS Score / LOS	1.20	A	1.82	B	1.57	B	1.22	A

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HCS7 Two-Way Stop-Control Report

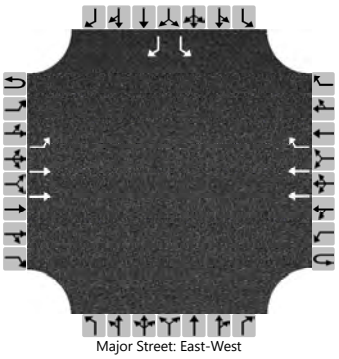
General Information

Analyst	
Agency/Co.	Stolfus and Associates
Date Performed	4/30/2020
Analysis Year	2018
Time Analyzed	AM
Intersection Orientation	East-West
Project Description	Patterson ACP

Site Information

Intersection	28 RD
Jurisdiction	
East/West Street	
North/South Street	
Peak Hour Factor	0.92
Analysis Time Period (hrs)	0.25

Lanes



Major Street: East-West

Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Priority	1U	1	2	3	4U	4	5	6		7	8	9		10	11	12
Number of Lanes	0	1	2	0	0	0	2	1		0	0	0		1	0	1
Configuration		L	T				T	R						L		R
Volume (veh/h)	0	51	987				1760	266						49		72
Percent Heavy Vehicles (%)	3	3												3		3
Proportion Time Blocked																
Percent Grade (%)													0			
Right Turn Channelized					No								No			
Median Type | Storage	Undivided															

Critical and Follow-up Headways

Base Critical Headway (sec)		4.1												7.5		6.9
Critical Headway (sec)		4.16												6.86		6.96
Base Follow-Up Headway (sec)		2.2												3.5		3.3
Follow-Up Headway (sec)		2.23												3.53		3.33

Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)		55												53		78
Capacity, c (veh/h)		232												16		256
v/c Ratio		0.24												3.30		0.31
95% Queue Length, Q_{95} (veh)		0.9												7.4		1.2
Control Delay (s/veh)		25.3												1520.1		25.1
Level of Service (LOS)		D												F		D
Approach Delay (s/veh)	1.2												630.5			
Approach LOS													F			

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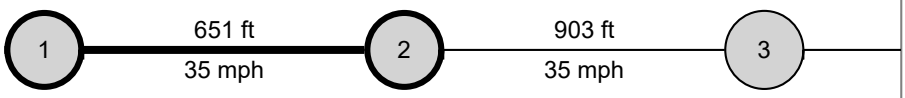
HCS7 Urban Street Segment Report

General Information				Streets Information	
Agency	Stolfus and Associates			Number of Intersections	15
Analyst	Max Rusch	Analysis Date		Number of Segments	14
Jurisdiction		Time Period	AM Peak	Number of Iterations	15
File Name	2045 NoBuild AM Optimized Tim	Analysis Year	2045	System Cycle Length, s	100
Intersections	24 Road & Patterson	Market Street/Mall Access & Patterson		Analysis Period	1> 7:00
Project Description					



Basic Segment Information (24 Rd - Market St)

Segment	Speed Limit		Through Lanes		Segment Length		Intersection Wid		Length of RM		Percent Curb		Other Delay	
	WB	EB	WB	EB	WB	EB	WB	EB	WB	EB	WB	EB	WB	EB
1	35	35	2	2	651	651	50	50	0	0	100	0	0.0	0.0

		Westbound			Eastbound		
Segment Output Data		WBL	WBT	WBR	EBL	EBT	EBR
Segment	Movement	1	6	16	5	2	12
1	Bay/Lane Spillback Time, h				0.06	never	
1	Shared Lane Spillback Time, h				0.18		never
1	Base Free-Flow Speed, mph	41.58			42.05		
1	Running Time, s	15.01			15.32		
1	Running Speed, mph	29.57			28.98		
1	Through Delay, s/veh	8.80			43.66		
1	Travel Time, s	23.81			58.97		
1	Travel Speed, mph	18.64			7.53		
1	Stop Rate, stops/veh	0.35			0.92		
1	Spatial Stop Rate, stops/mi	2.85			7.48		
1	Through vol/cap Ratio	0.15			0.72		
1	Percent of Base FFS	44.83			17.90		
1	Level of Service	D			F		
1	Auto Traveler Perception Score	2.59			3.44		
Multimodal Results (Segment)							
1	Pedestrian Segment LOS Score / LOS	2.22		B	3.66		D
1	Bicycle Segment LOS Score / LOS	2.12		B	2.68		B
1	Transit Segment LOS Score / LOS	1.75		A	3.26		C

Facility Output Data	Westbound	Eastbound
Facility Travel Time, s	801.37	804.78
Facility Travel Speed, mph	26.83	26.72
Facility Base Free Flow Speed, mph	42.73	42.47
Facility Percent of Base FFS	62.79	62.91
Facility Level of Service	C	C
Facility Auto Traveler Perception Score	2.32	2.29

Multimodal Results (Facility)				
Pedestrian Facility LOS Score / LOS	3.23	C	3.15	C
Bicycle Facility LOS Score / LOS	2.76	C	2.72	C
Transit Facility LOS Score / LOS	1.16	A	1.08	A

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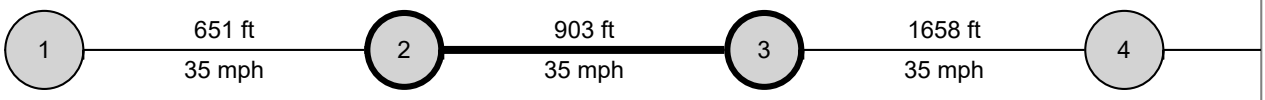
HCS7 Urban Street Segment Report

General Information				Streets Information	
Agency	Stolfus and Associates			Number of Intersections	15
Analyst	Max Rusch	Analysis Date		Number of Segments	14
Jurisdiction		Time Period	AM Peak	Number of Iterations	15
File Name	2045 NoBuild AM Optimized Tim	Analysis Year	2045	System Cycle Length, s	100
Intersections	Market Street/Mall Access & Pat	Home Depot Access/Mesa Mall Access &		Analysis Period	1> 7:00
Project Description					



Basic Segment Information (Market St - Home Depot)

Segment	Speed Limit		Through Lanes		Segment Length		Intersection Wid		Length of RM		Percent Curb		Other Delay	
	WB	EB	WB	EB	WB	EB	WB	EB	WB	EB	WB	EB	WB	EB
2	35	35	2	2	903	903	50	50	2	1	70	0	0.0	0.0

		Westbound			Eastbound		
Segment Output Data		WBL	WBT	WBR	EBL	EBT	EBR
Segment	Movement	1	6	16	5	2	12
2	Bay/Lane Spillback Time, h		never				
2	Shared Lane Spillback Time, h	never		never			
2	Base Free-Flow Speed, mph	41.72			42.05		
2	Running Time, s	18.29			18.72		
2	Running Speed, mph	33.67			32.89		
2	Through Delay, s/veh	4.93			1.93		
2	Travel Time, s	23.22			20.65		
2	Travel Speed, mph	26.51			29.81		
2	Stop Rate, stops/veh	0.19			0.06		
2	Spatial Stop Rate, stops/mi	1.09			0.38		
2	Through vol/cap Ratio	0.17			0.49		
2	Percent of Base FFS	63.55			70.89		
2	Level of Service	C			B		
2	Auto Traveler Perception Score	2.30			2.20		
Multimodal Results (Segment)							
2	Pedestrian Segment LOS Score / LOS	2.88		C	3.70		D
2	Bicycle Segment LOS Score / LOS	2.41		B	2.80		C
2	Transit Segment LOS Score / LOS	1.10		A	1.03		A

Facility Output Data	Westbound	Eastbound
Facility Travel Time, s	801.37	804.78
Facility Travel Speed, mph	26.83	26.72
Facility Base Free Flow Speed, mph	42.73	42.47
Facility Percent of Base FFS	62.79	62.91
Facility Level of Service	C	C
Facility Auto Traveler Perception Score	2.32	2.29

Multimodal Results (Facility)				
Pedestrian Facility LOS Score / LOS	3.23	C	3.15	C
Bicycle Facility LOS Score / LOS	2.76	C	2.72	C
Transit Facility LOS Score / LOS	1.16	A	1.08	A

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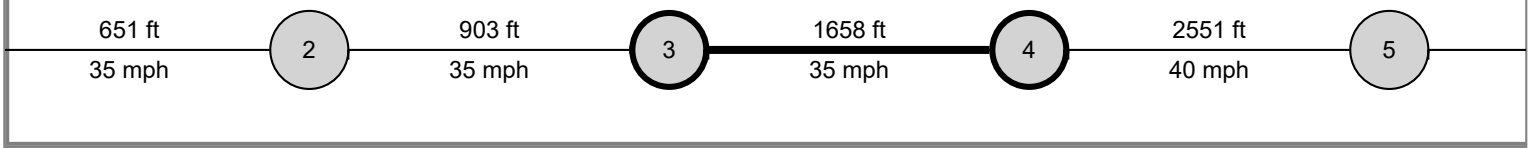
HCS7 Urban Street Segment Report

General Information				Streets Information	
Agency	Stolfus and Associates			Number of Intersections	15
Analyst	Max Rusch	Analysis Date		Number of Segments	14
Jurisdiction		Time Period	AM Peak	Number of Iterations	15
File Name	2045 NoBuild AM Optimized Tim	Analysis Year	2045	System Cycle Length, s	100
Intersections	Home Depot Access/Mesa Mall /	24 1/2 Rd & Patterson		Analysis Period	1> 7:00
Project Description					



Basic Segment Information (Home Depot - 24 1/2 Rd)

Segment	Speed Limit		Through Lanes		Segment Length		Intersection Wid		Length of RM		Percent Curb		Other Delay	
	WB	EB	WB	EB	WB	EB	WB	EB	WB	EB	WB	EB	WB	EB
3	35	35	2	2	1658	1658	50	50	550	550	70	100	0.0	0.0

		Westbound			Eastbound		
Segment Output Data		WBL	WBT	WBR	EBL	EBT	EBR
Segment	Movement	5	2	12	1	6	16
3	Bay/Lane Spillback Time, h		never			never	
3	Shared Lane Spillback Time, h	never		never	never		never
3	Base Free-Flow Speed, mph	40.71			40.19		
3	Running Time, s	30.27			31.88		
3	Running Speed, mph	37.34			35.46		
3	Through Delay, s/veh	9.88			10.55		
3	Travel Time, s	40.15			42.44		
3	Travel Speed, mph	28.15			26.64		
3	Stop Rate, stops/veh	0.32			0.36		
3	Spatial Stop Rate, stops/mi	1.03			1.16		
3	Through vol/cap Ratio	0.16			0.59		
3	Percent of Base FFS	69.16			66.29		
3	Level of Service	B			C		
3	Auto Traveler Perception Score	2.29			2.31		
Multimodal Results (Segment)							
3	Pedestrian Segment LOS Score / LOS	3.04		C	3.83		D
3	Bicycle Segment LOS Score / LOS	2.50		B	2.91		C
3	Transit Segment LOS Score / LOS	1.01		A	1.31		A

Facility Output Data	**Westbound**	**Eastbound**
Facility Travel Time, s	801.37	804.78
Facility Travel Speed, mph	26.83	26.72
Facility Base Free Flow Speed, mph	42.73	42.47
Facility Percent of Base FFS	62.79	62.91
Facility Level of Service	C	C
Facility Auto Traveler Perception Score	2.32	2.29

Multimodal Results (Facility)				
Pedestrian Facility LOS Score / LOS	3.23	C	3.15	C
Bicycle Facility LOS Score / LOS	2.76	C	2.72	C
Transit Facility LOS Score / LOS	1.16	A	1.08	A

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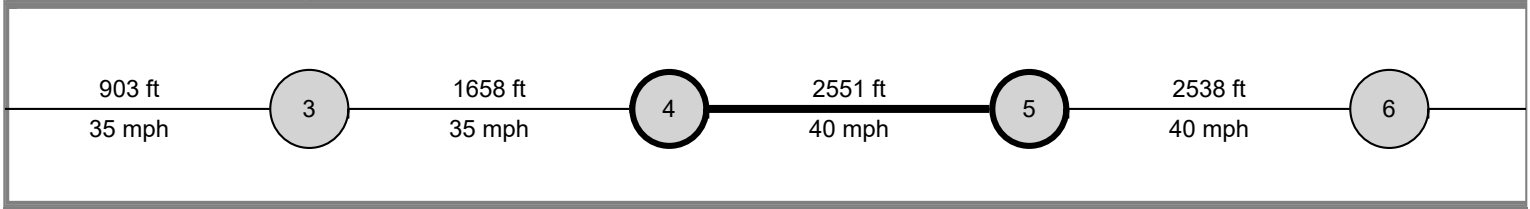
HCS7 Urban Street Segment Report

General Information				Streets Information	
Agency	Stolfus and Associates			Number of Intersections	15
Analyst	Max Rusch	Analysis Date		Number of Segments	14
Jurisdiction		Time Period	AM Peak	Number of Iterations	15
File Name	2045 NoBuild AM Optimized Tim	Analysis Year	2045	System Cycle Length, s	100
Intersections	24 1/2 Rd & Patterson	25 Road & Patterson		Analysis Period	1> 7:00
Project Description					



Basic Segment Information (24 1/2 Rd - 25 Rd)

Segment	Speed Limit		Through Lanes		Segment Length		Intersection Wid		Length of RM		Percent Curb		Other Delay	
	WB	EB	WB	EB	WB	EB	WB	EB	WB	EB	WB	EB	WB	EB
4	40	35	2	2	2551	2551	50	50	0	0	90	90	0.0	0.0

		Westbound			Eastbound		
Segment Output Data		WBL	WBT	WBR	EBL	EBT	EBR
Segment	Movement	5	2	12	1	6	16
4	Bay/Lane Spillback Time, h		never			never	
4	Shared Lane Spillback Time, h	never		never	never		never
4	Base Free-Flow Speed, mph	42.99			40.64		
4	Running Time, s	42.62			46.47		
4	Running Speed, mph	40.81			37.43		
4	Through Delay, s/veh	32.67			15.35		
4	Travel Time, s	75.30			61.82		
4	Travel Speed, mph	23.10			28.13		
4	Stop Rate, stops/veh	0.79			0.44		
4	Spatial Stop Rate, stops/mi	1.64			0.91		
4	Through vol/cap Ratio	0.34			0.75		
4	Percent of Base FFS	53.73			69.23		
4	Level of Service	C			B		
4	Auto Traveler Perception Score	2.39			2.28		
Multimodal Results (Segment)							
4	Pedestrian Segment LOS Score / LOS	2.99		C	3.53		D
4	Bicycle Segment LOS Score / LOS	2.58		B	2.91		C
4	Transit Segment LOS Score / LOS	1.42		A	1.20		A

Facility Output Data	**Westbound**	**Eastbound**
Facility Travel Time, s	801.37	804.78
Facility Travel Speed, mph	26.83	26.72
Facility Base Free Flow Speed, mph	42.73	42.47
Facility Percent of Base FFS	62.79	62.91
Facility Level of Service	C	C
Facility Auto Traveler Perception Score	2.32	2.29

Multimodal Results (Facility)				
Pedestrian Facility LOS Score / LOS	3.23	C	3.15	C
Bicycle Facility LOS Score / LOS	2.76	C	2.72	C
Transit Facility LOS Score / LOS	1.16	A	1.08	A

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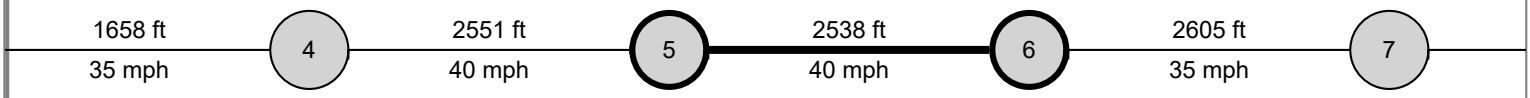
HCS7 Urban Street Segment Report

General Information				Streets Information	
Agency	Stolfus and Associates			Number of Intersections	15
Analyst	Max Rusch	Analysis Date		Number of Segments	14
Jurisdiction		Time Period	AM Peak	Number of Iterations	15
File Name	2045 NoBuild AM Optimized Tim	Analysis Year	2045	System Cycle Length, s	100
Intersections	25 Road & Patterson	25 1/2 Road & Patterson		Analysis Period	1> 7:00
Project Description					



Basic Segment Information (25 Rd - 25 1/2 Rd)

Segment	Speed Limit		Through Lanes		Segment Length		Intersection Wid		Length of RM		Percent Curb		Other Delay	
	WB	EB	WB	EB	WB	EB	WB	EB	WB	EB	WB	EB	WB	EB
5	40	40	2	2	2538	2538	50	50	260	260	90	90	0.0	0.0

		Westbound			Eastbound		
Segment Output Data		WBL	WBT	WBR	EBL	EBT	EBR
Segment	Movement	5	2	12	1	6	16
5	Bay/Lane Spillback Time, h		never			never	
5	Shared Lane Spillback Time, h	never		never	never		never
5	Base Free-Flow Speed, mph	43.12			43.12		
5	Running Time, s	42.32			43.49		
5	Running Speed, mph	40.89			39.79		
5	Through Delay, s/veh	8.14			23.34		
5	Travel Time, s	50.46			66.83		
5	Travel Speed, mph	34.29			25.89		
5	Stop Rate, stops/veh	0.24			0.59		
5	Spatial Stop Rate, stops/mi	0.49			1.23		
5	Through vol/cap Ratio	0.28			0.81		
5	Percent of Base FFS	79.52			60.04		
5	Level of Service	B			C		
5	Auto Traveler Perception Score	2.21			2.32		
Multimodal Results (Segment)							
5	Pedestrian Segment LOS Score / LOS	2.80		C	3.62		D
5	Bicycle Segment LOS Score / LOS	2.57		B	2.91		C
5	Transit Segment LOS Score / LOS	0.64		A	1.35		A

Facility Output Data	**Westbound**	**Eastbound**
Facility Travel Time, s	801.37	804.78
Facility Travel Speed, mph	26.83	26.72
Facility Base Free Flow Speed, mph	42.73	42.47
Facility Percent of Base FFS	62.79	62.91
Facility Level of Service	C	C
Facility Auto Traveler Perception Score	2.32	2.29

Multimodal Results (Facility)				
Pedestrian Facility LOS Score / LOS	3.23	C	3.15	C
Bicycle Facility LOS Score / LOS	2.76	C	2.72	C
Transit Facility LOS Score / LOS	1.16	A	1.08	A

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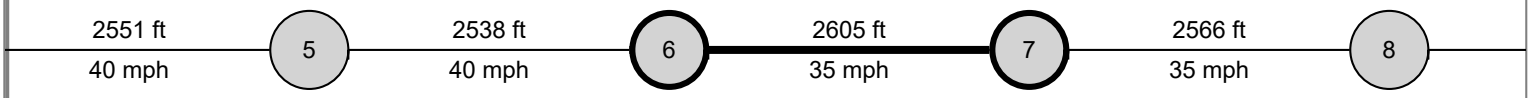
HCS7 Urban Street Segment Report

General Information				Streets Information	
Agency	Stolfus and Associates			Number of Intersections	15
Analyst	Max Rusch	Analysis Date		Number of Segments	14
Jurisdiction		Time Period	AM Peak	Number of Iterations	15
File Name	2045 NoBuild AM Optimized Tim	Analysis Year	2045	System Cycle Length, s	100
Intersections	25 1/2 Road & Patterson	1st Street & Patterson		Analysis Period	1> 7:00
Project Description					



Basic Segment Information (25 1/2 Rd - 26 Rd)

Segment	Speed Limit		Through Lanes		Segment Length		Intersection Wid		Length of RM		Percent Curb		Other Delay	
	WB	EB	WB	EB	WB	EB	WB	EB	WB	EB	WB	EB	WB	EB
6	35	40	2	2	2605	2605	50	50	0	0	90	90	0.0	0.0

		Westbound			Eastbound		
Segment Output Data		WBL	WBT	WBR	EBL	EBT	EBR
Segment	Movement	5	2	12	1	6	16
6	Bay/Lane Spillback Time, h		never			never	
6	Shared Lane Spillback Time, h	never		never	never		never
6	Base Free-Flow Speed, mph	40.74			43.09		
6	Running Time, s	45.86			44.19		
6	Running Speed, mph	38.73			40.20		
6	Through Delay, s/veh	29.53			13.90		
6	Travel Time, s	75.39			58.09		
6	Travel Speed, mph	23.56			30.58		
6	Stop Rate, stops/veh	0.72			0.33		
6	Spatial Stop Rate, stops/mi	1.46			0.68		
6	Through vol/cap Ratio	0.51			0.69		
6	Percent of Base FFS	57.83			70.96		
6	Level of Service	C			B		
6	Auto Traveler Perception Score	2.36			2.24		
Multimodal Results (Segment)							
6	Pedestrian Segment LOS Score / LOS	2.90		C	3.04		C
6	Bicycle Segment LOS Score / LOS	2.66		B	2.80		C
6	Transit Segment LOS Score / LOS	1.39		A	0.98		A

Facility Output Data	Westbound		Eastbound	
Facility Travel Time, s	801.37		804.78	
Facility Travel Speed, mph	26.83		26.72	
Facility Base Free Flow Speed, mph	42.73		42.47	
Facility Percent of Base FFS	62.79		62.91	
Facility Level of Service	C		C	
Facility Auto Traveler Perception Score	2.32		2.29	
Multimodal Results (Facility)				
Pedestrian Facility LOS Score / LOS	3.23	C	3.15	C
Bicycle Facility LOS Score / LOS	2.76	C	2.72	C
Transit Facility LOS Score / LOS	1.16	A	1.08	A

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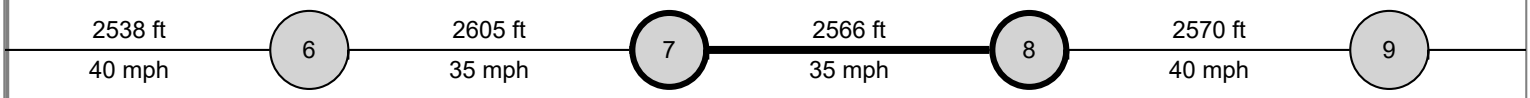
HCS7 Urban Street Segment Report

General Information				Streets Information	
Agency	Stolfus and Associates			Number of Intersections	15
Analyst	Max Rusch	Analysis Date		Number of Segments	14
Jurisdiction		Time Period	AM Peak	Number of Iterations	15
File Name	2045 NoBuild AM Optimized Tim	Analysis Year	2045	System Cycle Length, s	100
Intersections	1st Street & Patterson	7th Street & Patterson		Analysis Period	1> 7:00
Project Description					



Basic Segment Information (26 Rd - 26 1/2)

Segment	Speed Limit		Through Lanes		Segment Length		Intersection Wid		Length of RM		Percent Curb		Other Delay	
	WB	EB	WB	EB	WB	EB	WB	EB	WB	EB	WB	EB	WB	EB
7	35	40	2	2	2566	2566	50	50	0	0	90	90	0.0	0.0

		Westbound			Eastbound		
Segment Output Data		WBL	WBT	WBR	EBL	EBT	EBR
Segment	Movement	5	2	12	1	6	16
7	Bay/Lane Spillback Time, h		never			never	
7	Shared Lane Spillback Time, h	never		never	never		never
7	Base Free-Flow Speed, mph	39.83			42.18		
7	Running Time, s	46.35			44.16		
7	Running Speed, mph	37.75			39.62		
7	Through Delay, s/veh	10.19			33.27		
7	Travel Time, s	56.54			77.42		
7	Travel Speed, mph	30.95			22.60		
7	Stop Rate, stops/veh	0.27			0.75		
7	Spatial Stop Rate, stops/mi	0.55			1.53		
7	Through vol/cap Ratio	0.43			0.75		
7	Percent of Base FFS	77.70			53.58		
7	Level of Service	B			C		
7	Auto Traveler Perception Score	2.22			2.37		
Multimodal Results (Segment)							
7	Pedestrian Segment LOS Score / LOS	2.70		B	2.96		C
7	Bicycle Segment LOS Score / LOS	2.68		B	2.76		C
7	Transit Segment LOS Score / LOS	0.88		A	1.53		A

Facility Output Data	**Westbound**	**Eastbound**
Facility Travel Time, s	801.37	804.78
Facility Travel Speed, mph	26.83	26.72
Facility Base Free Flow Speed, mph	42.73	42.47
Facility Percent of Base FFS	62.79	62.91
Facility Level of Service	C	C
Facility Auto Traveler Perception Score	2.32	2.29

Multimodal Results (Facility)				
Pedestrian Facility LOS Score / LOS	3.23	C	3.15	C
Bicycle Facility LOS Score / LOS	2.76	C	2.72	C
Transit Facility LOS Score / LOS	1.16	A	1.08	A

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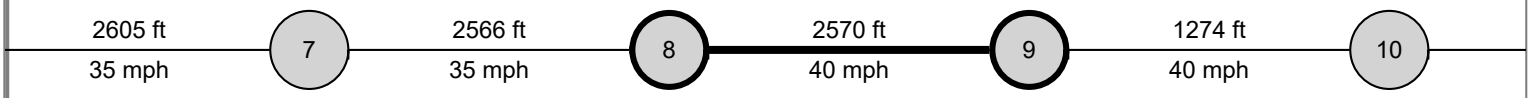
HCS7 Urban Street Segment Report

General Information				Streets Information	
Agency	Stolfus and Associates			Number of Intersections	15
Analyst	Max Rusch	Analysis Date		Number of Segments	14
Jurisdiction		Time Period	AM Peak	Number of Iterations	15
File Name	2045 NoBuild AM Optimized Tim	Analysis Year	2045	System Cycle Length, s	100
Intersections	7th Street & Patterson	12th Street & Patterson		Analysis Period	1> 7:00
Project Description					



Basic Segment Information (26 1/2 Rd to 12th St)

Segment	Speed Limit		Through Lanes		Segment Length		Intersection Wid		Length of RM		Percent Curb		Other Delay	
	WB	EB	WB	EB	WB	EB	WB	EB	WB	EB	WB	EB	WB	EB
8	40	35	2	2	2570	2570	50	50	0	0	90	90	0.0	0.0

		Westbound			Eastbound		
Segment Output Data		WBL	WBT	WBR	EBL	EBT	EBR
Segment	Movement	5	2	12	1	6	16
8	Bay/Lane Spillback Time, h		never			never	
8	Shared Lane Spillback Time, h	never		never	never		never
8	Base Free-Flow Speed, mph	42.34			39.99		
8	Running Time, s	44.02			46.24		
8	Running Speed, mph	39.80			37.90		
8	Through Delay, s/veh	42.61			12.47		
8	Travel Time, s	86.63			58.71		
8	Travel Speed, mph	20.23			29.85		
8	Stop Rate, stops/veh	0.88			0.31		
8	Spatial Stop Rate, stops/mi	1.81			0.64		
8	Through vol/cap Ratio	0.79			0.46		
8	Percent of Base FFS	47.77			74.63		
8	Level of Service	D			B		
8	Auto Traveler Perception Score	2.42			2.24		
Multimodal Results (Segment)							
8	Pedestrian Segment LOS Score / LOS	2.88		C	2.72		B
8	Bicycle Segment LOS Score / LOS	2.79		C	2.62		B
8	Transit Segment LOS Score / LOS	1.73		A	0.95		A

Facility Output Data	**Westbound**	**Eastbound**
Facility Travel Time, s	801.37	804.78
Facility Travel Speed, mph	26.83	26.72
Facility Base Free Flow Speed, mph	42.73	42.47
Facility Percent of Base FFS	62.79	62.91
Facility Level of Service	C	C
Facility Auto Traveler Perception Score	2.32	2.29

Multimodal Results (Facility)				
Pedestrian Facility LOS Score / LOS	3.23	C	3.15	C
Bicycle Facility LOS Score / LOS	2.76	C	2.72	C
Transit Facility LOS Score / LOS	1.16	A	1.08	A

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HCS7 Urban Street Segment Report

General Information				Streets Information	
Agency	Stolfus and Associates			Number of Intersections	15
Analyst	Max Rusch	Analysis Date		Number of Segments	14
Jurisdiction		Time Period	AM Peak	Number of Iterations	15
File Name	2045 NoBuild AM Optimized Tim	Analysis Year	2045	System Cycle Length, s	100
Intersections	12th Street & Patterson	Patterson Rd & 15th St		Analysis Period	1> 7:00
Project Description					

Basic Segment Information (12th St - 27 1/4 Rd)

Segment	Speed Limit		Through Lanes		Segment Length		Intersection Wid		Length of RM		Percent Curb		Other Delay	
	WB	EB	WB	EB	WB	EB	WB	EB	WB	EB	WB	EB	WB	EB
9	40	35	2	2	1274	1274	50	50	0	0	90	90	0.0	0.0

		Westbound			Eastbound		
Segment Output Data		WBL	WBT	WBR	EBL	EBT	EBR
Segment	Movement	5	2	12	1	6	16
9	Bay/Lane Spillback Time, h				never	never	
9	Shared Lane Spillback Time, h				never		never
9	Base Free-Flow Speed, mph	42.29			39.94		
9	Running Time, s	23.65			24.85		
9	Running Speed, mph	36.74			34.96		
9	Through Delay, s/veh	2.01			38.03		
9	Travel Time, s	25.65			62.88		
9	Travel Speed, mph	33.86			13.81		
9	Stop Rate, stops/veh	0.07			0.72		
9	Spatial Stop Rate, stops/mi	0.30			2.98		
9	Through vol/cap Ratio	0.38			0.83		
9	Percent of Base FFS	80.07			34.58		
9	Level of Service	A			E		
9	Auto Traveler Perception Score	2.19			2.61		
Multimodal Results (Segment)							
9	Pedestrian Segment LOS Score / LOS	3.00		C	3.33		C
9	Bicycle Segment LOS Score / LOS	2.82		C	2.70		B
9	Transit Segment LOS Score / LOS	0.74		A	2.36		B

Facility Output Data	**Westbound**	**Eastbound**
Facility Travel Time, s	801.37	804.78
Facility Travel Speed, mph	26.83	26.72
Facility Base Free Flow Speed, mph	42.73	42.47
Facility Percent of Base FFS	62.79	62.91
Facility Level of Service	C	C
Facility Auto Traveler Perception Score	2.32	2.29

Multimodal Results (Facility)				
Pedestrian Facility LOS Score / LOS	3.23	C	3.15	C
Bicycle Facility LOS Score / LOS	2.76	C	2.72	C
Transit Facility LOS Score / LOS	1.16	A	1.08	A

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HCS7 Urban Street Segment Report

General Information				Streets Information	
Agency	Stolfus and Associates			Number of Intersections	15
Analyst	Max Rusch	Analysis Date		Number of Segments	14
Jurisdiction		Time Period	AM Peak	Number of Iterations	15
File Name	2045 NoBuild AM Optimized Tim	Analysis Year	2045	System Cycle Length, s	100
Intersections	Patterson Rd & 15th St	27 1/2 Road & Patterson		Analysis Period	1> 7:00
Project Description					

Basic Segment Information

Segment	Speed Limit		Through Lanes		Segment Length		Intersection Wid		Length of RM		Percent Curb		Other Delay	
	WB	EB	WB	EB	WB	EB	WB	EB	WB	EB	WB	EB	WB	EB
10	40	40	2	2	1346	1346	50	50	0	0	70	70	0.0	0.0

		Westbound			Eastbound		
Segment Output Data		WBL	WBT	WBR	EBL	EBT	EBR
Segment	Movement	1	6	16	5	2	12
10	Bay/Lane Spillback Time, h		never				
10	Shared Lane Spillback Time, h	never		never			
10	Base Free-Flow Speed, mph	44.07			44.07		
10	Running Time, s	24.12			24.09		
10	Running Speed, mph	38.05			38.10		
10	Through Delay, s/veh	24.13			3.87		
10	Travel Time, s	48.24			27.95		
10	Travel Speed, mph	19.02			32.83		
10	Stop Rate, stops/veh	0.60			0.16		
10	Spatial Stop Rate, stops/mi	2.36			0.62		
10	Through vol/cap Ratio	0.64			0.28		
10	Percent of Base FFS	43.16			74.49		
10	Level of Service	D			B		
10	Auto Traveler Perception Score	2.74			2.23		
Multimodal Results (Segment)							
10	Pedestrian Segment LOS Score / LOS	3.56		D	3.55		D
10	Bicycle Segment LOS Score / LOS	2.84		C	2.66		B
10	Transit Segment LOS Score / LOS	1.85		A	0.79		A

Facility Output Data	**Westbound**	**Eastbound**
Facility Travel Time, s	801.37	804.78
Facility Travel Speed, mph	26.83	26.72
Facility Base Free Flow Speed, mph	42.73	42.47
Facility Percent of Base FFS	62.79	62.91
Facility Level of Service	C	C
Facility Auto Traveler Perception Score	2.32	2.29

Multimodal Results (Facility)				
Pedestrian Facility LOS Score / LOS	3.23	C	3.15	C
Bicycle Facility LOS Score / LOS	2.76	C	2.72	C
Transit Facility LOS Score / LOS	1.16	A	1.08	A

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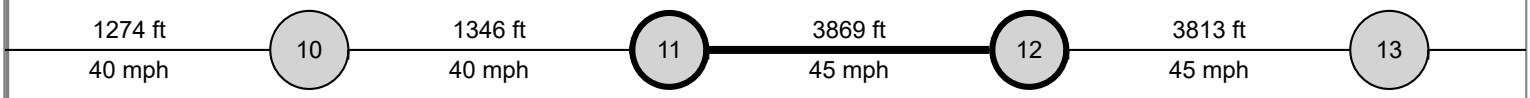
HCS7 Urban Street Segment Report

General Information				Streets Information	
Agency	Stolfus and Associates			Number of Intersections	15
Analyst	Max Rusch	Analysis Date		Number of Segments	14
Jurisdiction		Time Period	AM Peak	Number of Iterations	15
File Name	2045 NoBuild AM Optimized Tim	Analysis Year	2045	System Cycle Length, s	100
Intersections	27 1/2 Road & Patterson	28 1/4 Road & Patterson		Analysis Period	1> 7:00
Project Description					



Basic Segment Information (27 1/4 Rd - 27 1/2 Rd)

Segment	Speed Limit		Through Lanes		Segment Length		Intersection Wid		Length of RM		Percent Curb		Other Delay	
	WB	EB	WB	EB	WB	EB	WB	EB	WB	EB	WB	EB	WB	EB
11	45	40	2	2	3869	3869	50	50	0	0	90	90	0.0	0.0

		Westbound			Eastbound		
Segment Output Data		WBL	WBT	WBR	EBL	EBT	EBR
Segment	Movement		2	12	1	6	
11	Bay/Lane Spillback Time, h		never			never	
11	Shared Lane Spillback Time, h	never		never	never		
11	Base Free-Flow Speed, mph	45.84			43.49		
11	Running Time, s	60.41			62.49		
11	Running Speed, mph	43.67			42.22		
11	Through Delay, s/veh	29.37			11.38		
11	Travel Time, s	89.78			73.87		
11	Travel Speed, mph	29.38			35.71		
11	Stop Rate, stops/veh	0.73			0.33		
11	Spatial Stop Rate, stops/mi	0.99			0.45		
11	Through vol/cap Ratio	0.65			0.31		
11	Percent of Base FFS	64.10			82.11		
11	Level of Service	C			A		
11	Auto Traveler Perception Score	2.39			2.21		
Multimodal Results (Segment)							
11	Pedestrian Segment LOS Score / LOS	3.87		D	2.76		C
11	Bicycle Segment LOS Score / LOS	2.90		C	2.57		B
11	Transit Segment LOS Score / LOS	1.06		A	0.57		A

Facility Output Data	**Westbound**	**Eastbound**
Facility Travel Time, s	801.37	804.78
Facility Travel Speed, mph	26.83	26.72
Facility Base Free Flow Speed, mph	42.73	42.47
Facility Percent of Base FFS	62.79	62.91
Facility Level of Service	C	C
Facility Auto Traveler Perception Score	2.32	2.29

Multimodal Results (Facility)				
Pedestrian Facility LOS Score / LOS	3.23	C	3.15	C
Bicycle Facility LOS Score / LOS	2.76	C	2.72	C
Transit Facility LOS Score / LOS	1.16	A	1.08	A

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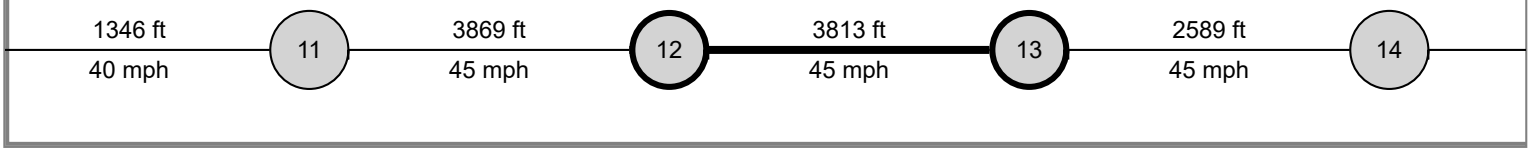
HCS7 Urban Street Segment Report

General Information				Streets Information	
Agency	Stolfus and Associates			Number of Intersections	15
Analyst	Max Rusch	Analysis Date		Number of Segments	14
Jurisdiction		Time Period	AM Peak	Number of Iterations	15
File Name	2045 NoBuild AM Optimized Tim	Analysis Year	2045	System Cycle Length, s	100
Intersections	28 1/4 Road & Patterson	29 Road & Patterson		Analysis Period	1> 7:00
Project Description					



Basic Segment Information (28 1/4 Rd - 29 Rd)

Segment	Speed Limit		Through Lanes		Segment Length		Intersection Wid		Length of RM		Percent Curb		Other Delay	
	WB	EB	WB	EB	WB	EB	WB	EB	WB	EB	WB	EB	WB	EB
12	45	40	2	2	3813	3813	50	50	0	0	90	90	0.0	0.0

		Westbound			Eastbound		
Segment Output Data		WBL	WBT	WBR	EBL	EBT	EBR
Segment	Movement	5	2	12	1	6	16
12	Bay/Lane Spillback Time, h	never	never			never	
12	Shared Lane Spillback Time, h	never		never	never		never
12	Base Free-Flow Speed, mph	44.90			42.55		
12	Running Time, s	60.03			62.97		
12	Running Speed, mph	43.30			41.28		
12	Through Delay, s/veh	32.49			16.34		
12	Travel Time, s	92.52			79.31		
12	Travel Speed, mph	28.10			32.78		
12	Stop Rate, stops/veh	0.67			0.37		
12	Spatial Stop Rate, stops/mi	0.93			0.51		
12	Through vol/cap Ratio	0.90			0.44		
12	Percent of Base FFS	62.57			77.03		
12	Level of Service	C			B		
12	Auto Traveler Perception Score	2.28			2.22		
Multimodal Results (Segment)							
12	Pedestrian Segment LOS Score / LOS	3.64		D	2.76		C
12	Bicycle Segment LOS Score / LOS	2.92		C	2.60		B
12	Transit Segment LOS Score / LOS	1.17		A	0.74		A

Facility Output Data	**Westbound**	**Eastbound**
Facility Travel Time, s	801.37	804.78
Facility Travel Speed, mph	26.83	26.72
Facility Base Free Flow Speed, mph	42.73	42.47
Facility Percent of Base FFS	62.79	62.91
Facility Level of Service	C	C
Facility Auto Traveler Perception Score	2.32	2.29

Multimodal Results (Facility)				
Pedestrian Facility LOS Score / LOS	3.23	C	3.15	C
Bicycle Facility LOS Score / LOS	2.76	C	2.72	C
Transit Facility LOS Score / LOS	1.16	A	1.08	A

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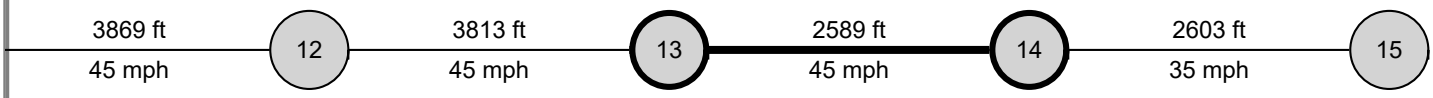
HCS7 Urban Street Segment Report

General Information				Streets Information	
Agency	Stolfus and Associates			Number of Intersections	15
Analyst	Max Rusch	Analysis Date		Number of Segments	14
Jurisdiction		Time Period	AM Peak	Number of Iterations	15
File Name	2045 NoBuild AM Optimized Tim	Analysis Year	2045	System Cycle Length, s	100
Intersections	29 Road & Patterson	29 1/2 Road & Patterson		Analysis Period	1> 7:00
Project Description					



Basic Segment Information (29 Rd - 29 1/2 Rd)

Segment	Speed Limit		Through Lanes		Segment Length		Intersection Wid		Length of RM		Percent Curb		Other Delay	
	WB	EB	WB	EB	WB	EB	WB	EB	WB	EB	WB	EB	WB	EB
13	45	45	2	2	2589	2589	50	50	0	0	90	90	0.0	0.0

		Westbound			Eastbound		
Segment Output Data		WBL	WBT	WBR	EBL	EBT	EBR
Segment	Movement	5	2	12	1	6	16
13	Bay/Lane Spillback Time, h		never			never	
13	Shared Lane Spillback Time, h	never		never	never		never
13	Base Free-Flow Speed, mph	43.89			43.89		
13	Running Time, s	41.68			40.57		
13	Running Speed, mph	42.35			43.51		
13	Through Delay, s/veh	8.91			32.44		
13	Travel Time, s	50.59			73.01		
13	Travel Speed, mph	34.90			24.18		
13	Stop Rate, stops/veh	0.26			0.73		
13	Spatial Stop Rate, stops/mi	0.53			1.48		
13	Through vol/cap Ratio	0.61			0.48		
13	Percent of Base FFS	79.50			55.08		
13	Level of Service	B			C		
13	Auto Traveler Perception Score	2.22			2.36		
Multimodal Results (Segment)							
13	Pedestrian Segment LOS Score / LOS	3.48		C	3.37		C
13	Bicycle Segment LOS Score / LOS	3.02		C	2.72		B
13	Transit Segment LOS Score / LOS	0.81		A	1.38		A

Facility Output Data	**Westbound**	**Eastbound**
Facility Travel Time, s	801.37	804.78
Facility Travel Speed, mph	26.83	26.72
Facility Base Free Flow Speed, mph	42.73	42.47
Facility Percent of Base FFS	62.79	62.91
Facility Level of Service	C	C
Facility Auto Traveler Perception Score	2.32	2.29

Multimodal Results (Facility)				
Pedestrian Facility LOS Score / LOS	3.23	C	3.15	C
Bicycle Facility LOS Score / LOS	2.76	C	2.72	C
Transit Facility LOS Score / LOS	1.16	A	1.08	A

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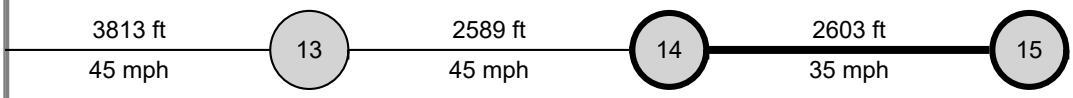
HCS7 Urban Street Segment Report

General Information				Streets Information	
Agency	Stolfus and Associates			Number of Intersections	15
Analyst	Max Rusch	Analysis Date		Number of Segments	14
Jurisdiction		Time Period	AM Peak	Number of Iterations	15
File Name	2045 NoBuild AM Optimized Tim	Analysis Year	2045	System Cycle Length, s	100
Intersections	29 1/2 Road & Patterson	30 Road & Patterson		Analysis Period	1> 7:00
Project Description					



Basic Segment Information (29 1/2 Rd - 30 Rd)

Segment	Speed Limit		Through Lanes		Segment Length		Intersection Wid		Length of RM		Percent Curb		Other Delay	
	WB	EB	WB	EB	WB	EB	WB	EB	WB	EB	WB	EB	WB	EB
14	35	45	2	2	2603	2603	50	50	0	0	90	90	0.0	0.0

		Westbound			Eastbound		
Segment Output Data		WBL	WBT	WBR	EBL	EBT	EBR
Segment	Movement	5	2	12	1	6	16
14	Bay/Lane Spillback Time, h					never	
14	Shared Lane Spillback Time, h				never		never
14	Base Free-Flow Speed, mph	40.82			45.52		
14	Running Time, s	46.83			40.63		
14	Running Speed, mph	37.90			43.68		
14	Through Delay, s/veh	16.25			2.19		
14	Travel Time, s	63.09			42.81		
14	Travel Speed, mph	28.13			41.45		
14	Stop Rate, stops/veh	0.37			0.07		
14	Spatial Stop Rate, stops/mi	0.75			0.14		
14	Through vol/cap Ratio	0.78			0.26		
14	Percent of Base FFS	68.92			91.07		
14	Level of Service	B			A		
14	Auto Traveler Perception Score	2.25			2.16		
Multimodal Results (Segment)							
14	Pedestrian Segment LOS Score / LOS	3.75		D	2.98		C
14	Bicycle Segment LOS Score / LOS	2.92		C	2.62		B
14	Transit Segment LOS Score / LOS	1.17		A	0.29		A

Facility Output Data	Westbound	Eastbound
Facility Travel Time, s	801.37	804.78
Facility Travel Speed, mph	26.83	26.72
Facility Base Free Flow Speed, mph	42.73	42.47
Facility Percent of Base FFS	62.79	62.91
Facility Level of Service	C	C
Facility Auto Traveler Perception Score	2.32	2.29

Multimodal Results (Facility)				
Pedestrian Facility LOS Score / LOS	3.23	C	3.15	C
Bicycle Facility LOS Score / LOS	2.76	C	2.72	C
Transit Facility LOS Score / LOS	1.16	A	1.08	A

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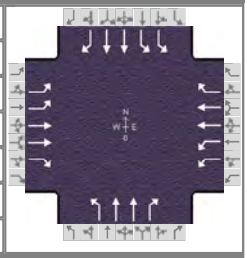
HCS7 Signalized Intersection Results Summary

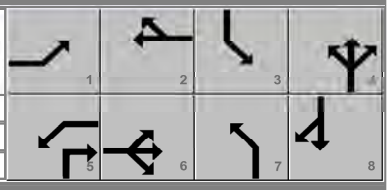
General Information				Intersection Information	
Agency	Stolfus and Associates			Duration, h	0.250
Analyst	Max Rusch	Analysis Date		Area Type	Other
Jurisdiction		Time Period	PM Peak	PHF	0.91
Urban Street	Patterson Rd	Analysis Year	2045	Analysis Period	1> 7:00
Intersection	24 Road & Patterson	File Name	2045 NoBuild PM Optimized Timings.xus		
Project Description					



Demand Information	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Demand (*v*), veh/h	127	195	207	583	327	359	53	741	341	467	936	45

Signal Information			
Cycle, s	100.0	Reference Phase	6
Offset, s	85	Reference Point	Begin
Uncoordinated	No	Simult. Gap E/W	On
Force Mode	Fixed	Simult. Gap N/S	On

Green	11.2	4.1	15.0	7.2	3.8	32.7
Yellow	3.5	3.5	4.0	3.5	3.5	4.0
Red	0.5	0.5	1.0	0.5	0.5	1.0



Timer Results	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Assigned Phase	1	6	5	2	7	4	3	8
Case Number	1.1	3.0	2.0	3.0	1.1	3.0	2.0	3.0
Phase Duration, s	15.2	20.0	23.3	28.1	11.2	37.7	19.0	45.5
Change Period, ($Y+R_c$), s	4.0	5.0	4.0	5.0	4.0	5.0	4.0	5.0
Max Allow Headway (*MAH*), s	5.2	0.0	5.2	0.0	5.2	5.2	5.2	5.2
Queue Clearance Time (g_s), s	11.2		20.5		4.0	22.6	16.8	26.7
Green Extension Time (g_e), s	0.0	0.0	0.0	0.0	0.2	10.1	0.0	12.5
Phase Call Probability	1.00		1.00		0.80	1.00	1.00	1.00
Max Out Probability	1.00		1.00		0.00	0.84	1.00	0.77

Movement Group Results	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Assigned Movement	1	6	16	5	2	12	7	4	14	3	8	18
Adjusted Flow Rate (*v*), veh/h	370	568	603	641	359	395	58	814	375	513	1029	49
Adjusted Saturation Flow Rate (*s*), veh/h/ln	1675	1752		1716	1738		1810	1738	1585	1730	1752	1518
Queue Service Time (g_s), s	9.2	15.0		18.5	8.9		2.0	20.6	14.9	14.8	24.7	2.0
Cycle Queue Clearance Time (g_c), s	9.2	15.0		18.5	8.9		2.0	20.6	14.9	14.8	24.7	2.0
Green Ratio (*g/C*)	0.26	0.15		0.19	0.23		0.40	0.33	0.52	0.15	0.40	0.40
Capacity (*c*), veh/h	688	526		664	803		275	1136	824	519	1418	614
Volume-to-Capacity Ratio (*X*)	0.538	1.081		0.966	0.447		0.211	0.717	0.455	0.989	0.725	0.081
Back of Queue (*Q*), ft/ln (90 th percentile)	156.9	383.6		308.3	141.9		33.9	283.7	179.7	280.2	318.3	28.8
Back of Queue (*Q*), veh/ln (90 th percentile)	6.8	16.9		13.7	6.2		1.5	12.4	8.0	12.5	14.0	1.2
Queue Storage Ratio (*RQ*) (90 th percentile)	0.88	0.00		1.39	0.00		0.26	0.00	1.02	2.11	0.00	0.44
Uniform Delay (d_1), s/veh	34.2	49.8		40.0	33.0		20.7	29.6	15.1	42.4	25.1	18.3
Incremental Delay (d_2), s/veh	1.1	62.8		24.8	1.6		0.5	2.1	0.6	36.6	1.9	0.1
Initial Queue Delay (d_3), s/veh	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (*d*), s/veh	35.3	112.7	0.0	64.8	34.6	0.0	21.2	31.7	15.6	79.0	27.0	18.4
Level of Service (LOS)	D	F	A	E	C	A	C	C	B	E	C	B
Approach Delay, s/veh / LOS	50.0	D		38.7	D		26.4	C		43.5	D	
Intersection Delay, s/veh / LOS	40.4						D					

Multimodal Results	EB		WB		NB		SB	
Pedestrian LOS Score / LOS	2.45	B	2.59	C	2.58	C	2.57	C
Bicycle LOS Score / LOS	0.97	A	1.64	B	1.52	B	1.80	B

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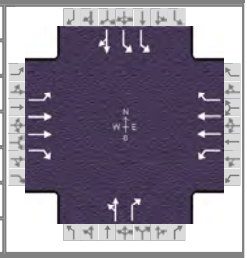
HCS7 Signalized Intersection Results Summary

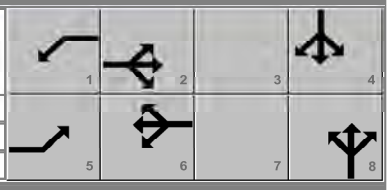
General Information				Intersection Information	
Agency	Stolfus and Associates			Duration, h	0.250
Analyst	Max Rusch	Analysis Date		Area Type	Other
Jurisdiction		Time Period	PM Peak	PHF	0.83
Urban Street	Patterson Rd	Analysis Year	2045	Analysis Period	1> 7:00
Intersection	Market Street/Mall Acce…	File Name	2045 NoBuild PM Optimized Timings.xus		
Project Description					



Demand Information	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Demand (*v*), veh/h	159	732	141	31	905	336	124	82	34	315	28	257

Signal Information			
Cycle, s	100.0	Reference Phase	2
Offset, s	97	Reference Point	Begin
Uncoordinated	No	Simult. Gap E/W	On
Force Mode	Fixed	Simult. Gap N/S	On

Green	1.4	6.5	29.7	24.0	15.5	0.0
Yellow	3.5	3.5	4.0	4.0	4.0	0.0
Red	0.5	0.5	1.0	1.0	1.0	0.0



Timer Results	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Assigned Phase	5	2	1	6		8		4
Case Number	1.1	3.0	1.1	3.0		11.0		10.0
Phase Duration, s	15.9	45.2	5.4	34.7		20.5		29.0
Change Period, ($Y+R_c$), s	4.0	5.0	4.0	5.0		5.0		5.0
Max Allow Headway (*MAH*), s	3.1	0.0	3.1	0.0		3.3		3.4
Queue Clearance Time (g_s), s	11.6		2.4			15.1		22.2
Green Extension Time (g_e), s	0.3	0.0	0.0	0.0		0.3		1.8
Phase Call Probability	1.00		0.27			1.00		1.00
Max Out Probability	0.01		0.00			0.12		0.00

Movement Group Results	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Assigned Movement	5	2	12	1	6	16	3	8	18	7	4	14
Adjusted Flow Rate (*v*), veh/h	243	1120	216	11	332	123		248	41	380	343	
Adjusted Saturation Flow Rate (*s*), veh/h/ln	1711	1766	1610	1810	1766	1522		1844	1610	1702	1635	
Queue Service Time (g_s), s	9.6	21.9	2.8	0.4	6.4	5.1		13.1	2.2	9.5	20.2	
Cycle Queue Clearance Time (g_c), s	9.6	21.9	2.8	0.4	6.4	5.1		13.1	2.2	9.5	20.2	
Green Ratio (*g/C*)	0.44	0.40	0.40	0.31	0.30	0.30		0.15	0.15	0.24	0.24	
Capacity (*c*), veh/h	511	1421	648	180	1049	452		285	249	816	392	
Volume-to-Capacity Ratio (*X*)	0.476	0.788	0.333	0.063	0.317	0.273		0.871	0.165	0.465	0.876	
Back of Queue (*Q*), ft/ln (90 th percentile)	108.9	164.5	33.9	7.5	103.4	78.9		226.1	34.9	147.8	271.6	
Back of Queue (*Q*), veh/ln (90 th percentile)	4.7	7.3	1.5	0.3	4.6	3.4		10.3	1.6	6.5	12.3	
Queue Storage Ratio (*RQ*) (90 th percentile)	0.74	0.00	0.27	0.07	0.00	0.74		0.00	0.00	0.00	0.00	
Uniform Delay (d_1), s/veh	17.1	13.1	4.6	25.2	22.6	20.9		41.3	36.7	32.5	36.6	
Incremental Delay (d_2), s/veh	0.1	2.1	0.6	0.1	0.7	1.4		11.9	0.1	0.2	5.3	
Initial Queue Delay (d_3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	
Control Delay (*d*), s/veh	17.2	15.2	5.3	25.2	23.4	22.3		53.2	36.8	32.7	41.9	
Level of Service (LOS)	B	B	A	C	C	C		D	D	C	D	
Approach Delay, s/veh / LOS	14.2	B		23.1	C		50.9	D		37.0	D	
Intersection Delay, s/veh / LOS	24.4						C					

Multimodal Results	EB		WB		NB		SB	
Pedestrian LOS Score / LOS	1.91	B	2.12	B	2.47	B	2.45	B
Bicycle LOS Score / LOS	1.51	B	1.75	B	0.96	A	1.68	B

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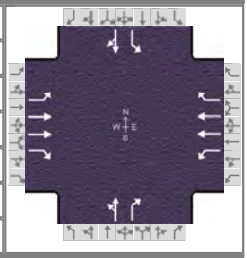
HCS7 Signalized Intersection Results Summary

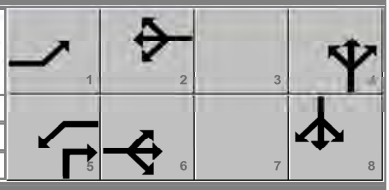
General Information				Intersection Information	
Agency	Stolfus and Associates			Duration, h	0.250
Analyst	Max Rusch	Analysis Date		Area Type	Other
Jurisdiction		Time Period	PM Peak	PHF	0.84
Urban Street	Patterson Rd	Analysis Year	2045	Analysis Period	1> 7:00
Intersection	Home Depot Access/Me…	File Name	2045 NoBuild PM Optimized Timings.xus		
Project Description					



Demand Information	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Demand (*v*), veh/h	85	760	227	130	876	65	279	72	249	88	45	127

Signal Information			
Cycle, s	100.0	Reference Phase	2
Offset, s	78	Reference Point	Begin
Uncoordinated	No	Simult. Gap E/W	Off
Force Mode	Fixed	Simult. Gap N/S	Off

Green	5.4	1.8	32.9	14.6	26.4	0.0
Yellow	3.5	0.0	4.0	4.0	4.0	0.0
Red	0.5	0.0	1.0	1.0	1.0	0.0



Timer Results	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Assigned Phase	1	6	5	2		4		8
Case Number	1.1	3.0	1.1	3.0		11.0		10.0
Phase Duration, s	11.2	39.7	9.4	37.9		31.4		19.6
Change Period, ($Y+R_c$), s	4.0	5.0	4.0	5.0		5.0		5.0
Max Allow Headway (*MAH*), s	5.2	0.0	5.2	0.0		5.4		5.5
Queue Clearance Time (g_s), s	7.0		5.5			23.8		13.9
Green Extension Time (g_e), s	0.4	0.0	0.3	0.0		2.5		0.7
Phase Call Probability	0.97		0.93			1.00		1.00
Max Out Probability	0.05		0.00			0.83		1.00

Movement Group Results	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Assigned Movement	1	6	16	5	2	12	7	4	14	3	8	18
Adjusted Flow Rate (*v*), veh/h	132	1178	352	96	647	48		418	296	105	205	
Adjusted Saturation Flow Rate (*s*), veh/h/ln	1711	1766	1598	1810	1752	1610		1827	1610	1767	1677	
Queue Service Time (g_s), s	5.0	31.4	9.4	3.5	15.8	2.5		21.8	15.4	5.4	11.9	
Cycle Queue Clearance Time (g_c), s	5.0	31.4	9.4	3.5	15.8	2.5		21.8	15.4	5.4	11.9	
Green Ratio (*g/C*)	0.40	0.35	0.35	0.38	0.33	0.33		0.26	0.32	0.15	0.15	
Capacity (*c*), veh/h	318	1225	554	174	1153	530		482	511	257	244	
Volume-to-Capacity Ratio (*X*)	0.415	0.961	0.635	0.552	0.561	0.091		0.867	0.580	0.407	0.839	
Back of Queue (*Q*), ft/ln (90 th percentile)	91.7	323.1	102.5	62.2	233.8	39.2		345.9	204.8	99.4	203.2	
Back of Queue (*Q*), veh/ln (90 th percentile)	3.9	14.3	4.6	2.8	10.3	1.8		15.7	9.3	4.4	9.2	
Queue Storage Ratio (*RQ*) (90 th percentile)	0.68	0.00	0.51	0.57	0.00	0.00		0.00	2.33	0.75	0.00	
Uniform Delay (d_1), s/veh	22.6	18.7	8.0	25.1	30.1	28.5		35.1	28.5	38.8	41.6	
Incremental Delay (d_2), s/veh	1.1	16.9	5.0	3.6	1.8	0.3		13.1	1.6	1.5	17.2	
Initial Queue Delay (d_3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	
Control Delay (*d*), s/veh	23.7	35.6	13.0	28.7	31.9	28.8		48.3	30.1	40.3	58.8	
Level of Service (LOS)	C	D	B	C	C	C		D	C	D	E	
Approach Delay, s/veh / LOS	29.9	C		31.3	C		40.7	D		52.5	D	
Intersection Delay, s/veh / LOS	34.4						C					

Multimodal Results	EB		WB		NB		SB	
Pedestrian LOS Score / LOS	1.92	B	1.92	B	2.44	B	2.47	B
Bicycle LOS Score / LOS	1.54	B	1.54	B	1.67	B	1.00	A

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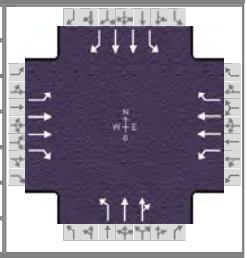
HCS7 Signalized Intersection Results Summary

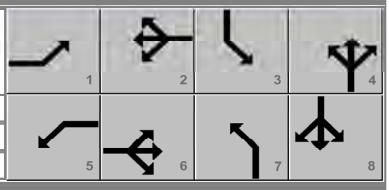
General Information				Intersection Information	
Agency	Stolfus and Associates			Duration, h	0.250
Analyst	Max Rusch	Analysis Date		Area Type	Other
Jurisdiction		Time Period	PM Peak	PHF	0.92
Urban Street	Patterson Rd	Analysis Year	2045	Analysis Period	1> 7:00
Intersection	24 1/2 Rd & Patterson	File Name	2045 NoBuild PM Optimized Timings.xus		
Project Description					



Demand Information	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Demand (*v*), veh/h	102	670	251	267	735	282	254	410	206	227	333	100

Signal Information			
Cycle, s	100.0	Reference Phase	2
Offset, s	61	Reference Point	Begin
Uncoordinated	No	Simult. Gap E/W	On
Force Mode	Fixed	Simult. Gap N/S	On

Green	8.9	1.6	40.8	6.0	2.0	22.1
Yellow	3.5	0.0	4.0	3.5	0.0	4.0
Red	0.5	0.0	1.5	0.5	0.0	1.0



Timer Results	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Assigned Phase	1	6	5	2	7	4	3	8
Case Number	1.1	3.0	1.1	3.0	1.1	4.0	1.1	3.0
Phase Duration, s	12.9	46.3	14.5	48.0	10.0	27.1	12.0	29.1
Change Period, ($Y+R_c$), s	4.0	5.5	4.0	5.5	4.0	5.0	4.0	5.0
Max Allow Headway (*MAH*), s	5.2	0.0	5.2	0.0	5.2	5.2	5.2	5.2
Queue Clearance Time (g_s), s	8.0		9.2		8.0	20.5	10.0	10.8
Green Extension Time (g_e), s	1.0	0.0	1.4	0.0	0.0	1.6	0.0	6.1
Phase Call Probability	0.99		1.00		1.00	1.00	1.00	1.00
Max Out Probability	0.00		0.00		1.00	1.00	1.00	0.41

Movement Group Results	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Assigned Movement	1	6	16	5	2	12	7	4	14	3	8	18
Adjusted Flow Rate (*v*), veh/h	182	1197	449	235	647	248	276	353	317	247	362	109
Adjusted Saturation Flow Rate (*s*), veh/h/ln	1697	1781	1610	1810	1766	1598	1767	1856	1646	1767	1738	1397
Queue Service Time (g_s), s	6.0	31.1	24.2	7.2	11.8	12.7	6.0	18.3	18.5	8.0	8.8	6.4
Cycle Queue Clearance Time (g_c), s	6.0	31.1	24.2	7.2	11.8	12.7	6.0	18.3	18.5	8.0	8.8	6.4
Green Ratio (*g/C*)	0.50	0.41	0.41	0.51	0.42	0.42	0.28	0.22	0.22	0.30	0.24	0.24
Capacity (*c*), veh/h	393	1454	658	292	1500	678	300	410	364	241	838	337
Volume-to-Capacity Ratio (*X*)	0.464	0.823	0.682	0.804	0.432	0.366	0.921	0.860	0.870	1.026	0.432	0.323
Back of Queue (*Q*), ft/ln (90 th percentile)	101.4	426.6	321.8	125.9	161.5	181.3	222.4	314.7	290.1	217.7	140.7	98.6
Back of Queue (*Q*), veh/ln (90 th percentile)	4.3	19.1	14.6	5.7	7.2	8.2	9.9	14.0	13.1	9.7	6.1	3.9
Queue Storage Ratio (*RQ*) (90 th percentile)	0.76	0.00	1.46	0.95	0.00	0.73	1.67	0.00	0.00	1.64	0.00	0.00
Uniform Delay (d_1), s/veh	16.0	31.1	28.2	22.1	17.6	25.8	37.4	37.5	37.6	34.4	32.1	31.2
Incremental Delay (d_2), s/veh	1.1	4.8	5.0	6.6	0.8	1.4	32.5	16.3	19.2	64.8	0.5	0.8
Initial Queue Delay (d_3), 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
Control Delay (*d*), s/veh	17.0	36.0	33.3	28.7	18.4	27.2	70.0	53.7	56.8	99.3	32.6	32.0
Level of Service (LOS)	B	D	C	C	B	C	E	D	E	F	C	C
Approach Delay, s/veh / LOS	33.4	C		22.5	C		59.5	E		55.5	E	
Intersection Delay, s/veh / LOS	39.5						D					

Multimodal Results	EB		WB		NB		SB	
Pedestrian LOS Score / LOS	2.27	B	2.42	B	2.45	B	2.44	B
Bicycle LOS Score / LOS	1.40	A	1.64	B	1.27	A	1.08	A

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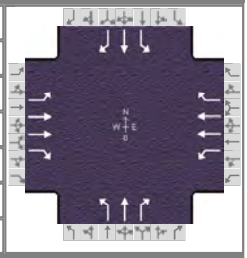
HCS7 Signalized Intersection Results Summary

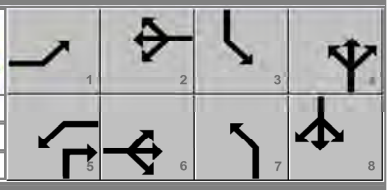
General Information				Intersection Information	
Agency	Stolfus and Associates			Duration, h	0.250
Analyst	Max Rusch	Analysis Date		Area Type	Other
Jurisdiction		Time Period	PM Peak	PHF	0.87
Urban Street	Patterson Rd	Analysis Year	2045	Analysis Period	1> 7:00
Intersection	25 Road & Patterson	File Name	2045 NoBuild PM Optimized Timings.xus		
Project Description					



Demand Information	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Demand (*v*), veh/h	66	921	181	281	905	147	223	338	257	218	317	110

Signal Information			
Cycle, s	100.0	Reference Phase	2
Offset, s	38	Reference Point	Begin
Uncoordinated	No	Simult. Gap E/W	On
Force Mode	Fixed	Simult. Gap N/S	On

Green	9.0	14.0	18.0	7.0	3.0	22.0
Yellow	3.5	3.5	4.5	3.5	3.5	4.0
Red	0.5	0.5	1.5	0.5	0.5	1.0



Timer Results	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Assigned Phase	1	6	5	2	7	4	3	8
Case Number	1.1	3.0	1.1	3.0	1.1	3.0	1.1	3.0
Phase Duration, s	31.0	42.0	13.0	24.0	18.0	34.0	11.0	27.0
Change Period, ($Y+R_c$), s	4.0	6.0	4.0	6.0	4.0	5.0	4.0	5.0
Max Allow Headway (*MAH*), s	5.2	0.0	5.2	0.0	5.2	5.2	5.2	5.2
Queue Clearance Time (g_s), s	5.2		11.0		12.6	21.4	9.0	21.6
Green Extension Time (g_e), s	0.5	0.0	0.0	0.0	0.2	4.1	0.0	0.2
Phase Call Probability	1.00		1.00		1.00	1.00	1.00	1.00
Max Out Probability	0.00		1.00		1.00	0.80	1.00	1.00

Movement Group Results	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Assigned Movement	1	6	16	5	2	12	7	4	14	3	8	18
Adjusted Flow Rate (*v*), veh/h	108	1501	295	218	701	114	256	389	278	251	364	126
Adjusted Saturation Flow Rate (*s*), veh/h/ln	1753	1781	1585	1795	1795	1585	1753	1811	1610	1795	1811	1585
Queue Service Time (g_s), s	3.2	36.0	9.4	9.0	18.0	6.8	10.6	19.4	12.9	7.0	19.6	6.8
Cycle Queue Clearance Time (g_c), s	3.2	36.0	9.4	9.0	18.0	6.8	10.6	19.4	12.9	7.0	19.6	6.8
Green Ratio (*g/C*)	0.47	0.36	0.36	0.27	0.18	0.18	0.38	0.29	0.38	0.29	0.22	0.22
Capacity (*c*), veh/h	545	1282	571	234	646	285	338	525	612	257	398	349
Volume-to-Capacity Ratio (*X*)	0.197	1.171	0.517	0.931	1.084	0.399	0.757	0.740	0.455	0.976	0.914	0.363
Back of Queue (*Q*), ft/ln (90 th percentile)	52.9	786.2	104.8	216	390.1	125.2	196	311.2	177.4	210.5	367.2	111.4
Back of Queue (*Q*), veh/ln (90 th percentile)	2.3	35.2	4.7	9.7	17.6	5.6	8.6	13.5	8.1	9.5	15.9	5.0
Queue Storage Ratio (*RQ*) (90 th percentile)	0.30	0.00	0.66	1.22	0.00	0.96	0.88	0.00	1.01	1.59	0.00	0.84
Uniform Delay (d_1), s/veh	15.4	22.3	12.0	33.3	40.2	40.2	25.3	32.1	23.2	36.3	38.1	33.1
Incremental Delay (d_2), s/veh	0.8	85.0	3.1	38.9	57.8	3.5	14.6	9.0	2.4	50.4	28.0	2.9
Initial Queue Delay (d_3), 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
Control Delay (*d*), s/veh	16.2	107.3	15.1	72.1	98.0	43.7	39.9	41.1	25.7	86.7	66.1	36.0
Level of Service (LOS)	B	F	B	E	F	D	D	D	C	F	E	D
Approach Delay, s/veh / LOS	87.9	F		86.5	F		36.1	D		67.9	E	
Intersection Delay, s/veh / LOS	74.0						E					

Multimodal Results	EB		WB		NB		SB	
Pedestrian LOS Score / LOS	2.13	B	2.13	B	2.44	B	2.45	B
Bicycle LOS Score / LOS	1.60	B	1.75	B	2.01	B	1.71	B

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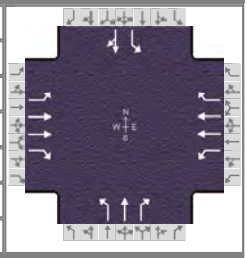
HCS7 Signalized Intersection Results Summary

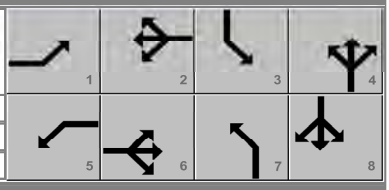
General Information				Intersection Information	
Agency	Stolfus and Associates			Duration, h	0.250
Analyst	Max Rusch	Analysis Date		Area Type	Other
Jurisdiction		Time Period	PM Peak	PHF	0.82
Urban Street	Patterson Rd	Analysis Year	2045	Analysis Period	1> 7:00
Intersection	25 1/2 Road & Patterson	File Name	2045 NoBuild PM Optimized Timings.xus		
Project Description					



Demand Information	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Demand (*v*), veh/h	92	1205	144	181	1180	147	93	190	189	184	159	75

Signal Information			
Cycle, s	100.0	Reference Phase	2
Offset, s	80	Reference Point	Begin
Uncoordinated	No	Simult. Gap E/W	On
Force Mode	Fixed	Simult. Gap N/S	On

Green	7.6	0.1	48.9	6.0	1.0	17.4
Yellow	3.5	0.0	4.5	3.5	0.0	4.0
Red	0.5	0.0	1.5	0.5	0.0	1.0



Timer Results	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Assigned Phase	1	6	5	2	7	4	3	8
Case Number	1.1	3.0	1.1	3.0	1.1	3.0	1.1	4.0
Phase Duration, s	11.6	54.9	11.7	55.0	10.0	22.4	11.0	23.4
Change Period, ($Y+R_c$), s	4.0	6.0	4.0	6.0	4.0	5.0	4.0	5.0
Max Allow Headway (*MAH*), s	5.2	0.0	5.2	0.0	5.2	5.3	5.2	5.3
Queue Clearance Time (g_s), s	4.9		5.3		7.3	16.1	9.0	17.9
Green Extension Time (g_e), s	0.3	0.0	0.6	0.0	0.0	0.9	0.0	0.5
Phase Call Probability	0.95		0.97		1.00	1.00	1.00	1.00
Max Out Probability	0.17		0.00		1.00	1.00	1.00	1.00

Movement Group Results	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Assigned Movement	1	6	16	5	2	12	7	4	14	3	8	18
Adjusted Flow Rate (*v*), veh/h	111	1449	173	123	805	100	113	232	230	224	285	
Adjusted Saturation Flow Rate (*s*), veh/h/ln	1810	1781	1598	1781	1781	1572	1767	1885	1585	1682	1754	
Queue Service Time (g_s), s	2.9	26.8	1.5	3.3	5.0	0.3	5.3	11.6	14.1	7.0	15.9	
Cycle Queue Clearance Time (g_c), s	2.9	26.8	1.5	3.3	5.0	0.3	5.3	11.6	14.1	7.0	15.9	
Green Ratio (*g/C*)	0.56	0.49	0.49	0.57	0.49	0.49	0.23	0.17	0.17	0.24	0.18	
Capacity (*c*), veh/h	473	1740	781	279	1744	770	184	328	276	241	323	
Volume-to-Capacity Ratio (*X*)	0.234	0.833	0.222	0.443	0.462	0.130	0.617	0.706	0.836	0.931	0.884	
Back of Queue (*Q*), ft/ln (90 th percentile)	45.6	193.5	21.2	54.5	55.3	6.4	115.7	199.4	227.4	189.2	283.2	
Back of Queue (*Q*), veh/ln (90 th percentile)	2.1	8.7	1.0	2.4	2.5	0.3	5.1	9.0	10.2	8.0	12.6	
Queue Storage Ratio (*RQ*) (90 th percentile)	0.35	0.00	0.17	0.41	0.00	0.05	1.04	0.00	2.57	1.41	0.00	
Uniform Delay (d_1), s/veh	11.1	9.5	2.9	17.8	3.7	1.2	32.9	38.9	39.9	38.4	39.8	
Incremental Delay (d_2), s/veh	0.3	4.4	0.6	1.3	0.7	0.3	14.5	7.0	19.3	42.6	23.5	
Initial Queue Delay (d_3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Control Delay (*d*), s/veh	11.5	13.9	3.5	19.0	4.4	1.4	47.4	45.9	59.3	81.0	63.3	
Level of Service (LOS)	B	B	A	B	A	A	D	D	E	F	E	
Approach Delay, s/veh / LOS	12.7	B		5.9	A		51.5	D		71.1	E	
Intersection Delay, s/veh / LOS	24.4						C					

Multimodal Results	EB		WB		NB		SB	
Pedestrian LOS Score / LOS	2.09	B	1.90	B	2.45	B	2.45	B
Bicycle LOS Score / LOS	1.94	B	2.00	B	1.44	A	1.33	A

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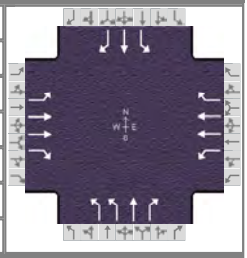
HCS7 Signalized Intersection Results Summary

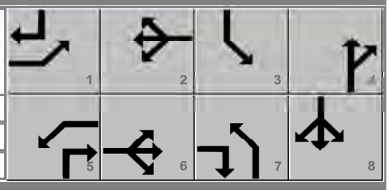
General Information				Intersection Information	
Agency	Stolfus and Associates			Duration, h	0.250
Analyst	Max Rusch	Analysis Date		Area Type	Other
Jurisdiction		Time Period	PM Peak	PHF	0.77
Urban Street	Patterson Rd	Analysis Year	2045	Analysis Period	1> 7:00
Intersection	1st Street & Patterson	File Name	2045 NoBuild PM Optimized Timings.xus		
Project Description					



Demand Information	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Demand (*v*), veh/h	115	1234	197	217	1180	124	210	394	193	165	311	80

Signal Information			
Cycle, s	100.0	Reference Phase	2
Offset, s	50	Reference Point	Begin
Uncoordinated	No	Simult. Gap E/W	On
Force Mode	Fixed	Simult. Gap N/S	On

Green	7.8	36.0	7.0	3.2	27.5	0.0
Yellow	3.5	3.0	3.5	0.0	4.0	0.0
Red	0.5	2.5	0.5	0.0	1.0	0.0



Timer Results	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Assigned Phase	1	6	5	2	7	4	3	8
Case Number	1.1	3.0	1.1	3.0	2.0	3.0	1.1	3.0
Phase Duration, s	11.8	41.4	11.9	41.5	14.2	35.8	11.0	32.5
Change Period, ($Y+R_c$), s	4.0	5.5	4.0	5.5	4.0	5.0	4.0	5.0
Max Allow Headway (*MAH*), s	5.2	0.0	5.2	0.0	5.2	5.2	5.2	5.2
Queue Clearance Time (g_s), s	6.4		7.0		9.6	28.4	9.0	21.8
Green Extension Time (g_e), s	0.6	0.0	0.7	0.0	0.6	2.4	0.0	4.2
Phase Call Probability	0.97		0.98		1.00	1.00	1.00	1.00
Max Out Probability	0.00		0.00		1.00	1.00	1.00	0.87

Movement Group Results	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Assigned Movement	1	6	16	5	2	12	7	4	14	3	8	18
Adjusted Flow Rate (*v*), veh/h	129	1385	221	144	784	82	273	512	251	214	404	104
Adjusted Saturation Flow Rate (*s*), veh/h/ln	1810	1766	1598	1781	1781	1572	1743	1856	1598	1810	1885	1610
Queue Service Time (g_s), s	4.4	35.9	7.6	5.0	16.1	2.4	7.6	26.4	11.4	7.0	19.8	4.5
Cycle Queue Clearance Time (g_c), s	4.4	35.9	7.6	5.0	16.1	2.4	7.6	26.4	11.4	7.0	19.8	4.5
Green Ratio (*g/C*)	0.44	0.36	0.46	0.44	0.36	0.36	0.10	0.31	0.39	0.35	0.28	0.35
Capacity (*c*), veh/h	329	1267	737	212	1280	565	357	571	617	216	519	569
Volume-to-Capacity Ratio (*X*)	0.393	1.093	0.300	0.680	0.612	0.146	0.764	0.896	0.406	0.993	0.778	0.183
Back of Queue (*Q*), ft/ln (90 th percentile)	75.5	695.5	99.6	76	184.5	35.4	131.5	423.2	152.7	181.8	306.4	66.5
Back of Queue (*Q*), veh/ln (90 th percentile)	3.4	30.9	4.5	3.4	8.3	1.6	5.9	18.8	6.9	8.3	13.8	3.0
Queue Storage Ratio (*RQ*) (90 th percentile)	0.57	0.00	0.75	0.69	0.00	0.32	0.99	0.00	1.15	1.65	0.00	0.00
Uniform Delay (d_1), s/veh	20.3	31.3	13.8	21.8	20.5	14.1	43.7	33.1	22.3	31.6	33.4	22.4
Incremental Delay (d_2), s/veh	0.9	52.8	0.9	3.3	1.3	0.3	6.0	16.3	0.6	59.1	7.3	0.2
Initial Queue Delay (d_3), 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
Control Delay (*d*), s/veh	21.3	84.2	14.6	25.1	21.9	14.5	49.7	49.4	23.0	90.6	40.7	22.6
Level of Service (LOS)	C	F	B	C	C	B	D	D	C	F	D	C
Approach Delay, s/veh / LOS	70.6	E		21.7	C		43.1	D		52.9	D	
Intersection Delay, s/veh / LOS	50.5						D					

Multimodal Results	EB		WB		NB		SB	
Pedestrian LOS Score / LOS	2.28	B	2.11	B	2.44	B	2.44	B
Bicycle LOS Score / LOS	2.14	B	2.12	B	2.20	B	1.68	B

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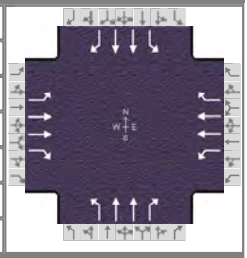
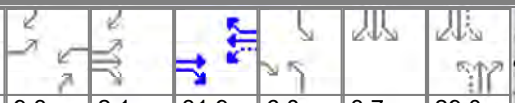
HCS7 Signalized Intersection Results Summary

General Information				Intersection Information	
Agency	Stolfus and Associates			Duration, h	0.250
Analyst	Max Rusch	Analysis Date		Area Type	Other
Jurisdiction		Time Period	PM Peak	PHF	0.80
Urban Street	Patterson Rd	Analysis Year	2045	Analysis Period	1> 7:00
Intersection	7th Street & Patterson	File Name	2045 NoBuild PM Optimized Timings.xus		
Project Description					

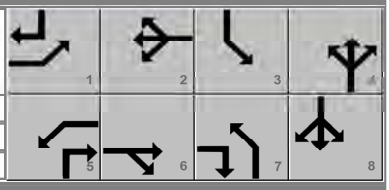


Demand Information	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Demand (*v*), veh/h	147	1222	163	202	934	172	245	586	275	151	311	173

Signal Information			
Cycle, s	100.0	Reference Phase	2
Offset, s	10	Reference Point	Begin
Uncoordinated	No	Simult. Gap E/W	On
Force Mode	Fixed	Simult. Gap N/S	On



Green	9.3	2.1	31.9	6.0	3.7	29.0
Yellow	3.5	0.0	4.0	3.5	0.0	4.0
Red	0.5	0.0	1.0	0.5	0.0	1.0



Timer Results	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Assigned Phase	1	6	5	2	7	4	3	8
Case Number	2.0	3.0	1.1	3.0	1.1	3.0	1.1	3.0
Phase Duration, s	15.5	39.0	13.3	36.9	10.0	34.0	13.7	37.6
Change Period, ($Y+R_c$), s	4.0	5.0	4.0	5.0	4.0	5.0	4.0	5.0
Max Allow Headway (*MAH*), s	5.2	0.0	5.2	0.0	5.2	5.2	5.2	5.2
Queue Clearance Time (g_s), s	11.3		8.5		8.0	19.2	9.0	10.8
Green Extension Time (g_e), s	0.3	0.0	0.9	0.0	0.0	9.8	0.7	13.6
Phase Call Probability	0.99		0.99		1.00	1.00	0.99	1.00
Max Out Probability	1.00		0.00		1.00	0.58	0.05	0.32

Movement Group Results	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Assigned Movement	1	6	16	5	2	12	7	4	14	3	8	18
Adjusted Flow Rate (*v*), veh/h	172	1429	160	179	827	148	306	733	328	189	389	216
Adjusted Saturation Flow Rate (*s*), veh/h/ln	1810	1766	1359	1810	1781	1542	1767	1795	1591	1795	1809	1586
Queue Service Time (g_s), s	9.3	34.0	4.3	6.5	19.5	7.6	6.0	17.2	15.1	7.0	8.1	8.8
Cycle Queue Clearance Time (g_c), s	9.3	34.0	4.3	6.5	19.5	7.6	6.0	17.2	15.1	7.0	8.1	8.8
Green Ratio (*g/C*)	0.11	0.34	0.40	0.41	0.32	0.32	0.35	0.29	0.38	0.40	0.33	0.44
Capacity (*c*), veh/h	207	1203	557	240	1136	492	360	1041	610	309	1181	701
Volume-to-Capacity Ratio (*X*)	0.829	1.188	0.288	0.744	0.728	0.301	0.850	0.704	0.537	0.612	0.329	0.309
Back of Queue (*Q*), ft/ln (90 th percentile)	160.8	745.7	46.9	98	241.4	132.7	209.2	223.1	174.5	117.8	127.7	121
Back of Queue (*Q*), veh/ln (90 th percentile)	7.3	33.1	2.1	4.5	10.8	5.8	9.3	10.1	7.9	5.3	5.8	5.5
Queue Storage Ratio (*RQ*) (90 th percentile)	0.91	0.00	0.30	0.74	0.00	0.87	0.94	0.00	0.99	1.07	0.00	0.00
Uniform Delay (d_1), s/veh	42.5	20.5	8.8	22.0	25.7	27.3	32.2	27.1	20.5	22.7	25.4	18.1
Incremental Delay (d_2), s/veh	13.7	91.7	1.1	4.8	3.1	1.2	17.8	1.7	1.0	2.8	0.2	0.4
Initial Queue Delay (d_3), 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
Control Delay (*d*), s/veh	56.2	112.1	9.9	26.8	28.8	28.4	50.0	28.7	21.5	25.4	25.6	18.4
Level of Service (LOS)	E	F	A	C	C	C	D	C	C	C	C	B
Approach Delay, s/veh / LOS	97.4	F		28.4	C		31.8	C		23.6	C	
Intersection Delay, s/veh / LOS	52.5						D					

Multimodal Results	EB		WB		NB		SB	
Pedestrian LOS Score / LOS	2.45	B	2.44	B	2.45	B	2.47	B
Bicycle LOS Score / LOS	2.04	B	1.83	B	1.61	B	1.14	A

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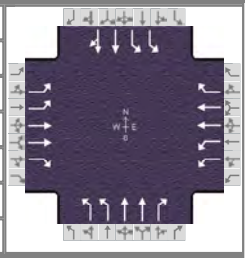
HCS7 Signalized Intersection Results Summary

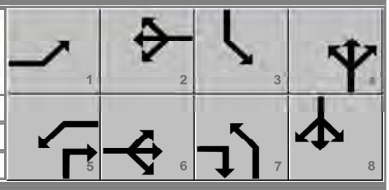
General Information				Intersection Information	
Agency	Stolfus and Associates			Duration, h	0.250
Analyst	Max Rusch	Analysis Date		Area Type	Other
Jurisdiction		Time Period	PM Peak	PHF	0.80
Urban Street	Patterson Rd	Analysis Year	2045	Analysis Period	1> 7:00
Intersection	12th Street & Patterson	File Name	2045 NoBuild PM Optimized Timings.xus		
Project Description					



Demand Information	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Demand (*v*), veh/h	246	1289	117	106	795	151	145	629	146	288	542	238

Signal Information			
Cycle, s	100.0	Reference Phase	2
Offset, s	59	Reference Point	Begin
Uncoordinated	No	Simult. Gap E/W	On
Force Mode	Fixed	Simult. Gap N/S	On

Green	9.0	6.0	29.5	7.0	26.0	0.0
Yellow	3.5	3.5	4.0	3.5	4.0	0.0
Red	0.5	0.5	1.5	0.5	1.0	0.0



Timer Results	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Assigned Phase	1	6	5	2	7	4	3	8
Case Number	1.1	3.0	1.1	3.0	1.1	3.0	1.1	4.0
Phase Duration, s	23.0	45.0	13.0	35.0	11.0	31.0	11.0	31.0
Change Period, ($Y+R_c$), s	4.0	5.5	4.0	5.5	4.0	5.0	4.0	5.0
Max Allow Headway (*MAH*), s	5.2	0.0	5.2	0.0	5.2	5.2	5.2	5.2
Queue Clearance Time (g_s), s	7.1		4.6		5.7	23.0	9.0	28.0
Green Extension Time (g_e), s	1.6	0.0	0.2	0.0	0.1	2.6	0.0	0.0
Phase Call Probability	1.00		1.00		1.00	1.00	1.00	1.00
Max Out Probability	0.07		1.00		1.00	1.00	1.00	1.00

Movement Group Results	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Assigned Movement	1	6	16	5	2	12	7	4	14	3	8	18
Adjusted Flow Rate (*v*), veh/h	327	1715	156	136	1020	194	181	786	183	360	515	460
Adjusted Saturation Flow Rate (*s*), veh/h/ln	1730	1766	1605	1743	1795	1598	1730	1781	1572	1743	1870	1670
Queue Service Time (g_s), s	5.1	39.5	6.3	2.6	27.7	7.1	3.7	21.0	8.5	7.0	26.0	26.0
Cycle Queue Clearance Time (g_c), s	5.1	39.5	6.3	2.6	27.7	7.1	3.7	21.0	8.5	7.0	26.0	26.0
Green Ratio (*g/C*)	0.50	0.40	0.47	0.38	0.30	0.30	0.33	0.26	0.35	0.33	0.26	0.26
Capacity (*c*), veh/h	818	1396	747	458	1059	471	386	926	550	424	486	434
Volume-to-Capacity Ratio (*X*)	0.400	1.229	0.208	0.297	0.963	0.411	0.469	0.849	0.332	0.850	1.059	1.059
Back of Queue (*Q*), ft/ln (90 th percentile)	76.1	1123.4	118.3	45.7	370.4	93.2	68.2	314.8	127.7	151.7	574.5	527
Back of Queue (*Q*), veh/ln (90 th percentile)	3.4	49.8	5.4	2.1	16.7	4.2	3.1	14.1	5.7	6.8	25.7	23.6
Queue Storage Ratio (*RQ*) (90 th percentile)	0.43	0.00	0.81	0.17	0.00	0.70	0.31	0.00	0.58	1.15	0.00	0.00
Uniform Delay (d_1), s/veh	18.2	33.0	17.8	26.2	29.1	17.5	27.1	35.1	23.9	29.9	37.0	37.0
Incremental Delay (d_2), s/veh	0.9	107.1	0.4	1.4	17.8	2.2	4.1	9.6	1.6	18.8	57.4	59.7
Initial Queue Delay (d_3), 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
Control Delay (*d*), s/veh	19.1	140.1	18.2	27.6	46.9	19.7	31.1	44.7	25.5	48.7	94.4	96.7
Level of Service (LOS)	B	F	B	C	D	B	C	D	C	D	F	F
Approach Delay, s/veh / LOS	113.5	F		41.1	D		39.5	D		82.9	F	
Intersection Delay, s/veh / LOS	76.4						E					

Multimodal Results	EB		WB		NB		SB	
Pedestrian LOS Score / LOS	2.57	C	2.44	B	2.58	C	2.58	C
Bicycle LOS Score / LOS	2.19	B	1.57	B	1.44	A	1.59	B

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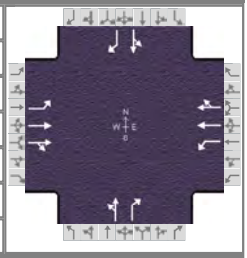
HCS7 Signalized Intersection Results Summary

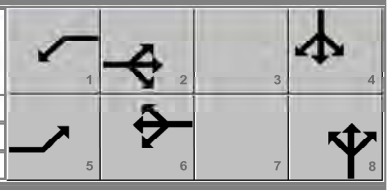
General Information				Intersection Information	
Agency	Stolfus and Associates			Duration, h	0.250
Analyst	Max Rusch	Analysis Date		Area Type	Other
Jurisdiction		Time Period	PM Peak	PHF	0.95
Urban Street	Patterson Rd	Analysis Year	2045	Analysis Period	1> 7:00
Intersection	Patterson Rd & 15th St	File Name	2045 NoBuild PM Optimized Timings.xus		
Project Description					



Demand Information	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Demand (v), veh/h	69	1629	30	22	1052	27	14	4	36	43	2	64

Signal Information			
Cycle, s	100.0	Reference Phase	2
Offset, s	53	Reference Point	End
Uncoordinated	No	Simult. Gap E/W	On
Force Mode	Fixed	Simult. Gap N/S	On

Green	3.4	2.1	76.1	6.4	0.0	0.0
Yellow	4.0	0.0	4.0	4.0	0.0	0.0
Red	0.0	0.0	0.0	0.0	0.0	0.0



Timer Results	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Assigned Phase	5	2	1	6		8		4
Case Number	1.1	4.0	1.1	4.0		7.0		7.0
Phase Duration, s	9.5	82.2	7.4	80.1		10.4		10.4
Change Period, ($Y+R_c$), s	4.0	4.0	4.0	4.0		4.0		4.0
Max Allow Headway (MAH), s	3.1	0.0	3.1	0.0		3.3		3.3
Queue Clearance Time (g_s), s	3.0		2.4			4.3		6.2
Green Extension Time (g_e), s	0.2	0.0	0.0	0.0		0.3		0.3
Phase Call Probability	0.92		0.56			0.99		0.99
Max Out Probability	0.00		0.00			0.00		0.00

Movement Group Results	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Assigned Movement	5	2	12	1	6	16	3	8	18	7	4	14
Adjusted Flow Rate (v), veh/h	90	1077	1077	30	729	724		19	38		47	67
Adjusted Saturation Flow Rate (s), veh/h/ln	1781	1856	1844	1781	1885	1868		1529	1585		1434	1585
Queue Service Time (g_s), s	1.0	26.7	27.3	0.4	1.7	1.6		0.0	2.3		2.1	4.2
Cycle Queue Clearance Time (g_c), s	1.0	26.7	27.3	0.4	1.7	1.6		1.1	2.3		3.2	4.2
Green Ratio (g/C)	0.82	0.78	0.78	0.79	0.76	0.76		0.06	0.06		0.06	0.06
Capacity (c), veh/h	442	1451	1441	222	1434	1421		163	102		163	102
Volume-to-Capacity Ratio (X)	0.203	0.742	0.747	0.133	0.508	0.509		0.117	0.371		0.291	0.659
Back of Queue (Q), ft/ln (90 th percentile)	6.7	178.7	177.3	6.3	12.1	11.6		18	37		46.2	68.4
Back of Queue (Q), veh/ln (90 th percentile)	0.3	7.9	8.1	0.3	0.5	0.5		0.8	1.7		2.1	3.1
Queue Storage Ratio (RQ) (90 th percentile)	0.08	0.00	0.00	0.07	0.00	0.00		0.00	0.84		0.00	1.55
Uniform Delay (d_1), s/veh	1.8	4.4	4.5	6.8	0.3	0.3		44.2	44.8		45.2	45.7
Incremental Delay (d_2), s/veh	0.1	2.2	2.3	0.0	0.2	0.2		0.1	0.8		0.4	2.7
Initial Queue Delay (d_3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0
Control Delay (d), s/veh	1.8	6.6	6.7	6.8	0.5	0.5		44.3	45.7		45.6	48.4
Level of Service (LOS)	A	A	A	A	A	A		D	D		D	D
Approach Delay, s/veh / LOS	6.4	A		0.6	A		45.2	D		47.2	D	
Intersection Delay, s/veh / LOS	6.0						A					

Multimodal Results	EB		WB		NB		SB	
Pedestrian LOS Score / LOS	1.83	B	1.84	B	2.31	B	2.31	B
Bicycle LOS Score / LOS	1.99	B	1.44	A	0.58	A	0.68	A

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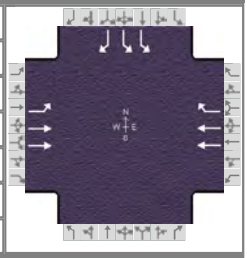
HCS7 Signalized Intersection Results Summary

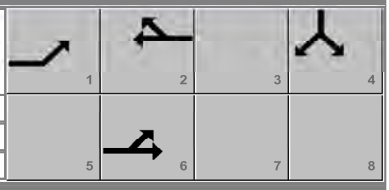
General Information				Intersection Information	
Agency	Stolfus and Associates			Duration, h	0.250
Analyst	Max Rusch	Analysis Date		Area Type	Other
Jurisdiction		Time Period	PM Peak	PHF	0.83
Urban Street	Patterson Rd	Analysis Year	2045	Analysis Period	1> 7:00
Intersection	27 1/2 Road & Patterson	File Name	2045 NoBuild PM Optimized Timings.xus		
Project Description					



Demand Information	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Demand (*v*), veh/h	217	1478			941	362				543		135

Signal Information			
Cycle, s	100.0	Reference Phase	2
Offset, s	19	Reference Point	Begin
Uncoordinated	No	Simult. Gap E/W	On
Force Mode	Fixed	Simult. Gap N/S	On

Green	16.0	48.0	21.0	0.0	0.0	0.0
Yellow	3.5	4.5	4.0	0.0	0.0	0.0
Red	0.5	1.5	1.0	0.0	0.0	0.0



Timer Results	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Assigned Phase	1	6		2				4
Case Number	1.0	4.0		7.3				9.0
Phase Duration, s	20.0	74.0		54.0				26.0
Change Period, ($Y+R_c$), s	4.0	6.0		6.0				5.0
Max Allow Headway (*MAH*), s	5.2	0.0		0.0				5.3
Queue Clearance Time (g_s), s	7.3							20.1
Green Extension Time (g_e), s	0.8	0.0		0.0				0.5
Phase Call Probability	1.00							1.00
Max Out Probability	0.20							1.00

Movement Group Results	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Assigned Movement	1	6			2	12				7		14
Adjusted Flow Rate (*v*), veh/h	233	1589			1082	416				654		163
Adjusted Saturation Flow Rate (*s*), veh/h/ln	1753	1795			1795	1610				1757		1522
Queue Service Time (g_s), s	5.3	17.9			19.9	15.0				18.1		9.5
Cycle Queue Clearance Time (g_c), s	5.3	17.9			19.9	15.0				18.1		9.5
Green Ratio (*g/C*)	0.66	0.68			0.48	0.48				0.21		0.21
Capacity (*c*), veh/h	449	2441			1723	773				738		320
Volume-to-Capacity Ratio (*X*)	0.519	0.651			0.628	0.539				0.887		0.509
Back of Queue (*Q*), ft/ln (90 th percentile)	116.9	134.8			219.3	161.6				284.7		150.6
Back of Queue (*Q*), veh/ln (90 th percentile)	5.1	6.1			9.9	7.3				12.9		6.5
Queue Storage Ratio (*RQ*) (90 th percentile)	0.77	0.00			0.00	3.06				1.70		0.00
Uniform Delay (d_1), s/veh	15.9	4.8			15.1	13.1				38.3		34.9
Incremental Delay (d_2), s/veh	3.2	1.0			1.5	2.2				14.8		5.7
Initial Queue Delay (d_3), s/veh	0.0	0.0			0.0	0.0				0.0		0.0
Control Delay (*d*), s/veh	19.1	5.8			16.5	15.3				53.1		40.6
Level of Service (LOS)	B	A			B	B				D		D
Approach Delay, s/veh / LOS	7.5	A		16.2	B		0.0			50.6	D	
Intersection Delay, s/veh / LOS	19.2						B					

Multimodal Results	EB		WB		NB		SB	
Pedestrian LOS Score / LOS	0.67	A	2.09	B	2.32	B	2.32	B
Bicycle LOS Score / LOS	2.17	B	1.78	B				F

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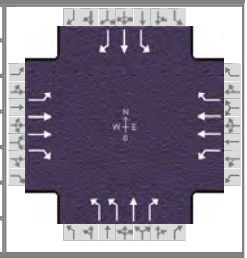
HCS7 Signalized Intersection Results Summary

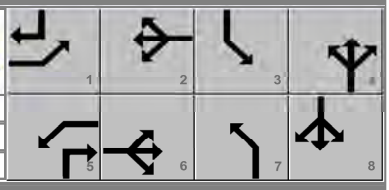
General Information				Intersection Information	
Agency	Stolfus and Associates			Duration, h	0.250
Analyst	Max Rusch	Analysis Date		Area Type	Other
Jurisdiction		Time Period	PM Peak	PHF	0.83
Urban Street	Patterson Rd	Analysis Year	2045	Analysis Period	1> 7:00
Intersection	29 Road & Patterson	File Name	2045 NoBuild PM Optimized Timings.xus		
Project Description					



Demand Information	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Demand (*v*), veh/h	220	1249	310	126	809	57	245	273	267	161	95	166

Signal Information			
Cycle, s	100.0	Reference Phase	2
Offset, s	69	Reference Point	Begin
Uncoordinated	No	Simult. Gap E/W	On
Force Mode	Fixed	Simult. Gap N/S	On

Green	9.5	2.0	33.5	12.5	2.0	20.0
Yellow	3.5	0.0	4.5	3.5	0.0	4.0
Red	1.0	0.0	2.0	1.0	0.0	1.0



Timer Results	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Assigned Phase	1	6	5	2	7	4	3	8
Case Number	1.1	3.0	1.1	3.0	1.1	3.0	1.1	3.0
Phase Duration, s	16.0	42.0	14.0	40.0	17.0	25.0	19.0	27.0
Change Period, ($Y+R_c$), s	4.5	6.5	4.5	6.5	4.5	5.0	4.5	5.0
Max Allow Headway (*MAH*), s	4.1	0.0	4.1	0.0	4.2	4.3	4.2	4.3
Queue Clearance Time (g_s), s	9.7		8.4		8.4	19.1	10.1	8.3
Green Extension Time (g_e), s	0.1	0.0	0.1	0.0	0.5	0.4	0.2	3.1
Phase Call Probability	1.00		1.00		1.00	1.00	1.00	1.00
Max Out Probability	1.00		1.00		1.00	1.00	0.91	0.13

Movement Group Results	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Assigned Movement	1	6	16	5	2	12	7	4	14	3	8	18
Adjusted Flow Rate (*v*), veh/h	222	1258	312	177	1134	80	295	329	280	194	114	140
Adjusted Saturation Flow Rate (*s*), veh/h/ln	1781	1795	1572	1767	1781	1585	1716	1870	1610	1753	1870	1610
Queue Service Time (g_s), s	7.7	34.6	10.3	6.4	31.1	4.1	6.4	17.1	14.8	8.1	5.1	6.3
Cycle Queue Clearance Time (g_c), s	7.7	34.6	10.3	6.4	31.1	4.1	6.4	17.1	14.8	8.1	5.1	6.3
Green Ratio (*g/C*)	0.45	0.36	0.36	0.43	0.34	0.34	0.32	0.20	0.30	0.34	0.22	0.34
Capacity (*c*), veh/h	289	1274	558	240	1193	531	906	374	475	350	411	539
Volume-to-Capacity Ratio (*X*)	0.767	0.987	0.559	0.736	0.950	0.150	0.326	0.879	0.588	0.555	0.278	0.259
Back of Queue (*Q*), ft/ln (90 th percentile)	150.4	392.1	103.6	103.4	414.9	89.4	106.3	317.8	208.2	145.6	98.7	99.9
Back of Queue (*Q*), veh/ln (90 th percentile)	6.7	17.7	4.6	4.6	18.6	4.0	4.7	14.2	9.5	6.4	4.4	4.5
Queue Storage Ratio (*RQ*) (90 th percentile)	0.49	0.00	0.38	0.26	0.00	1.03	0.48	0.00	0.95	1.09	0.00	0.76
Uniform Delay (d_1), s/veh	25.4	23.4	12.1	19.7	32.6	28.2	25.1	38.8	30.1	25.9	32.4	24.2
Incremental Delay (d_2), s/veh	13.5	18.9	3.0	12.8	12.6	0.4	1.0	24.2	5.3	6.2	1.7	1.2
Initial Queue Delay (d_3), 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
Control Delay (*d*), s/veh	38.8	42.3	15.1	32.6	45.2	28.6	26.0	63.1	35.3	32.2	34.1	25.4
Level of Service (LOS)	D	D	B	C	D	C	C	E	D	C	C	C
Approach Delay, s/veh / LOS	37.1	D		42.6	D		42.4	D		30.5	C	
Intersection Delay, s/veh / LOS	39.2						D					

Multimodal Results	EB		WB		NB		SB	
Pedestrian LOS Score / LOS	2.33	B	2.18	B	2.45	B	2.45	B
Bicycle LOS Score / LOS	2.26	B	1.47	A	1.98	B	1.23	A

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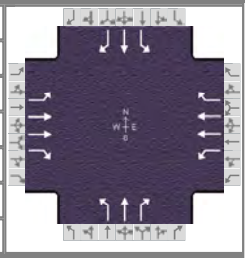
HCS7 Signalized Intersection Results Summary

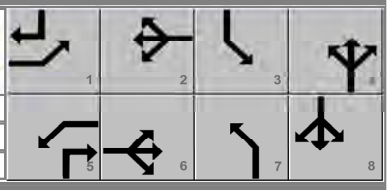
General Information				Intersection Information	
Agency	Stolfus and Associates			Duration, h	0.250
Analyst	Max Rusch	Analysis Date		Area Type	Other
Jurisdiction		Time Period	PM Peak	PHF	0.83
Urban Street	Patterson Rd	Analysis Year	2045	Analysis Period	1> 7:00
Intersection	29 Road & Patterson	File Name	2045 NoBuild PM Optimized Timings.xus		
Project Description					



Demand Information	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Demand (*v*), veh/h	220	1249	310	126	809	57	245	273	267	161	95	166

Signal Information			
Cycle, s	100.0	Reference Phase	2
Offset, s	69	Reference Point	Begin
Uncoordinated	No	Simult. Gap E/W	On
Force Mode	Fixed	Simult. Gap N/S	On

Green	9.5	2.0	33.5	12.5	2.0	20.0
Yellow	3.5	0.0	4.5	3.5	0.0	4.0
Red	1.0	0.0	2.0	1.0	0.0	1.0



Timer Results	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Assigned Phase	1	6	5	2	7	4	3	8
Case Number	1.1	3.0	1.1	3.0	1.1	3.0	1.1	3.0
Phase Duration, s	16.0	42.0	14.0	40.0	17.0	25.0	19.0	27.0
Change Period, ($Y+R_c$), s	4.5	6.5	4.5	6.5	4.5	5.0	4.5	5.0
Max Allow Headway (*MAH*), s	4.1	0.0	4.1	0.0	4.2	4.3	4.2	4.3
Queue Clearance Time (g_s), s	9.7		8.4		14.5	19.1	10.1	8.3
Green Extension Time (g_e), s	0.1	0.0	0.1	0.0	0.0	0.4	0.2	3.1
Phase Call Probability	1.00		1.00		1.00	1.00	1.00	1.00
Max Out Probability	1.00		1.00		1.00	1.00	0.91	0.13

Movement Group Results	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Assigned Movement	1	6	16	5	2	12	7	4	14	3	8	18
Adjusted Flow Rate (*v*), veh/h	222	1258	312	177	1134	80	295	329	280	194	114	140
Adjusted Saturation Flow Rate (*s*), veh/h/ln	1781	1795	1572	1767	1781	1585	1767	1870	1610	1753	1870	1610
Queue Service Time (g_s), s	7.7	34.6	10.3	6.4	31.1	4.1	12.5	17.1	14.8	8.1	5.1	6.3
Cycle Queue Clearance Time (g_c), s	7.7	34.6	10.3	6.4	31.1	4.1	12.5	17.1	14.8	8.1	5.1	6.3
Green Ratio (*g/C*)	0.45	0.36	0.36	0.43	0.34	0.34	0.32	0.20	0.30	0.34	0.22	0.34
Capacity (*c*), veh/h	289	1274	558	240	1193	531	459	374	475	350	411	539
Volume-to-Capacity Ratio (*X*)	0.767	0.987	0.559	0.736	0.950	0.150	0.643	0.879	0.588	0.555	0.278	0.259
Back of Queue (*Q*), ft/ln (90 th percentile)	150.4	391.8	103.6	103.4	414.5	89.4	216.9	317.8	208.2	145.6	98.7	99.9
Back of Queue (*Q*), veh/ln (90 th percentile)	6.7	17.7	4.6	4.6	18.5	4.0	9.6	14.2	9.5	6.4	4.4	4.5
Queue Storage Ratio (*RQ*) (90 th percentile)	0.49	0.00	0.38	0.26	0.00	1.03	0.98	0.00	0.95	1.09	0.00	0.76
Uniform Delay (d_1), s/veh	25.4	23.4	12.1	19.7	32.6	28.2	27.9	38.8	30.1	25.9	32.4	24.2
Incremental Delay (d_2), s/veh	13.5	18.9	3.0	12.8	12.6	0.4	6.8	24.2	5.3	6.2	1.7	1.2
Initial Queue Delay (d_3), 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
Control Delay (*d*), s/veh	38.8	42.3	15.1	32.6	45.2	28.6	34.7	63.1	35.3	32.2	34.1	25.4
Level of Service (LOS)	D	D	B	C	D	C	C	E	D	C	C	C
Approach Delay, s/veh / LOS	37.1	D		42.6	D		45.2	D		30.5	C	
Intersection Delay, s/veh / LOS	39.8						D					

Multimodal Results	EB		WB		NB		SB	
Pedestrian LOS Score / LOS	2.16	B	2.18	B	2.45	B	2.45	B
Bicycle LOS Score / LOS	2.26	B	1.47	A	1.98	B	1.23	A

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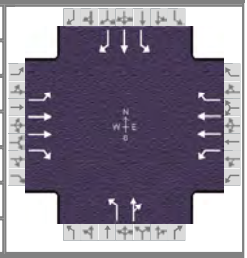
HCS7 Signalized Intersection Results Summary

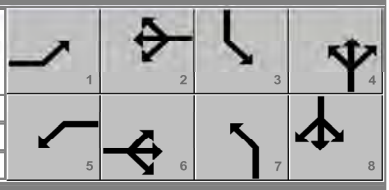
General Information				Intersection Information	
Agency	Stolfus and Associates			Duration, h	0.250
Analyst	Max Rusch	Analysis Date		Area Type	Other
Jurisdiction		Time Period	PM Peak	PHF	0.85
Urban Street	Patterson Rd	Analysis Year	2045	Analysis Period	1> 7:00
Intersection	29 1/2 Road & Patterson	File Name	2045 NoBuild PM Optimized Timings.xus		
Project Description					



Demand Information	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Demand (*v*), veh/h	91	1484	73	99	859	129	86	98	235	155	29	32

Signal Information			
Cycle, s	100.0	Reference Phase	2
Offset, s	54	Reference Point	Begin
Uncoordinated	No	Simult. Gap E/W	On
Force Mode	Fixed	Simult. Gap N/S	On

Green	4.8	2.7	37.1	9.0	5.0	17.9
Yellow	3.5	0.0	5.0	4.0	4.0	4.0
Red	0.5	0.0	1.5	0.0	0.0	1.0



Timer Results	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Assigned Phase	1	6	5	2	7	4	3	8
Case Number	1.1	3.0	1.1	3.0	1.1	4.0	1.1	3.0
Phase Duration, s	8.8	43.6	11.5	46.3	22.0	31.9	13.0	22.9
Change Period, ($Y+R_c$), s	4.0	6.5	4.0	6.5	4.0	5.0	4.0	5.0
Max Allow Headway (*MAH*), s	4.5	0.0	4.5	0.0	3.7	4.8	3.7	4.8
Queue Clearance Time (g_s), s	5.0		7.0		5.8	25.6	10.3	4.0
Green Extension Time (g_e), s	0.3	0.0	0.6	0.0	0.2	1.3	0.0	2.3
Phase Call Probability	0.91		0.98		1.00	1.00	1.00	1.00
Max Out Probability	0.00		0.00		0.00	0.60	1.00	0.01

Movement Group Results	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Assigned Movement	1	6	16	5	2	12	7	4	14	3	8	18
Adjusted Flow Rate (*v*), veh/h	88	1438	71	148	1287	193	101	392		182	34	38
Adjusted Saturation Flow Rate (*s*), veh/h/ln	1810	1795	1598	1795	1795	1560	1767	1607		1781	1841	1585
Queue Service Time (g_s), s	3.0	37.1	3.2	5.0	33.3	8.8	3.8	23.6		8.3	1.6	2.0
Cycle Queue Clearance Time (g_c), s	3.0	37.1	3.2	5.0	33.3	8.8	3.8	23.6		8.3	1.6	2.0
Green Ratio (*g/C*)	0.42	0.37	0.37	0.45	0.40	0.40	0.38	0.27		0.27	0.18	0.18
Capacity (*c*), veh/h	175	1333	593	206	1430	621	605	432		245	329	283
Volume-to-Capacity Ratio (*X*)	0.503	1.078	0.119	0.719	0.900	0.311	0.167	0.907		0.744	0.104	0.133
Back of Queue (*Q*), ft/ln (90 th percentile)	47.3	666	76.9	72.7	398.5	147.8	65.4	353.5		168.2	28.5	31.2
Back of Queue (*Q*), veh/ln (90 th percentile)	2.2	30.0	3.5	3.3	18.0	6.5	2.9	15.3		7.5	1.3	1.4
Queue Storage Ratio (*RQ*) (90 th percentile)	0.36	0.00	0.91	0.55	0.00	0.63	0.84	0.00		1.23	0.00	0.00
Uniform Delay (d_1), s/veh	23.4	32.7	22.7	20.6	26.5	21.8	20.5	35.4		31.3	34.4	34.5
Incremental Delay (d_2), s/veh	1.5	44.8	0.3	3.4	7.1	0.9	0.6	17.9		18.4	0.1	0.2
Initial Queue Delay (d_3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Control Delay (*d*), s/veh	24.9	77.5	22.9	24.0	33.6	22.7	21.1	53.2		49.7	34.5	34.8
Level of Service (LOS)	C	F	C	C	C	C	C	D		D	C	C
Approach Delay, s/veh / LOS	72.2	E		31.4	C		46.7	D		45.5	D	
Intersection Delay, s/veh / LOS	50.6						D					

Multimodal Results	EB		WB		NB		SB	
Pedestrian LOS Score / LOS	1.92	B	2.10	B	2.44	B	2.45	B
Bicycle LOS Score / LOS	2.09	B	1.54	B	1.30	A	0.91	A

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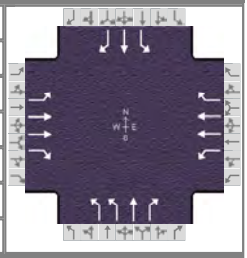
HCS7 Signalized Intersection Results Summary

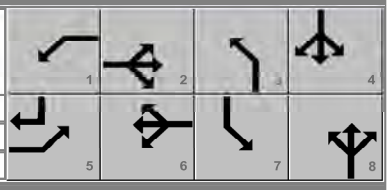
General Information				Intersection Information	
Agency	Stolfus and Associates			Duration, h	0.250
Analyst	Max Rusch	Analysis Date		Area Type	Other
Jurisdiction		Time Period	PM Peak	PHF	0.83
Urban Street	Patterson Rd	Analysis Year	2045	Analysis Period	1> 7:00
Intersection	30 Road & Patterson	File Name	2045 NoBuild PM Optimized Timings.xus		
Project Description					



Demand Information	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Demand (*v*), veh/h	227	1174	319	72	669	69	258	132	104	47	83	128

Signal Information			
Cycle, s	100.0	Reference Phase	2
Offset, s	53	Reference Point	Begin
Uncoordinated	No	Simult. Gap E/W	On
Force Mode	Fixed	Simult. Gap N/S	On

Green	10.0	52.5	6.0	1.0	7.0	0.0
Yellow	3.5	5.0	3.5	0.0	4.0	0.0
Red	0.5	1.5	0.5	0.0	1.0	0.0



Timer Results	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Assigned Phase	5	2	1	6	3	8	7	4
Case Number	1.1	3.0	1.1	3.0	1.1	3.0	1.1	3.0
Phase Duration, s	18.0	63.0	14.0	59.0	11.0	13.0	10.0	12.0
Change Period, ($Y+R_c$), s	4.0	6.5	4.0	6.5	4.0	5.0	4.0	5.0
Max Allow Headway (*MAH*), s	4.1	0.0	4.2	0.0	4.2	4.3	4.2	4.3
Queue Clearance Time (g_s), s	7.6		4.9		9.0	10.0	4.8	7.2
Green Extension Time (g_e), s	0.5	0.0	0.1	0.0	0.0	0.0	0.0	0.0
Phase Call Probability	1.00		1.00		1.00	1.00	1.00	1.00
Max Out Probability	0.26		0.48		1.00	1.00	1.00	1.00

Movement Group Results	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Assigned Movement	5	2	12	1	6	16	3	8	18	7	4	14
Adjusted Flow Rate (*v*), veh/h	273	1414	384	127	1178	121	311	159	124	57	100	43
Adjusted Saturation Flow Rate (*s*), veh/h/ln	1810	1795	1598	1795	1795	1598	1730	1870	1560	1810	1885	1585
Queue Service Time (g_s), s	5.6	6.7	2.3	2.9	14.8	1.6	7.0	8.0	8.0	2.8	5.2	2.2
Cycle Queue Clearance Time (g_c), s	5.6	6.7	2.3	2.9	14.8	1.6	7.0	8.0	8.0	2.8	5.2	2.2
Green Ratio (*g/C*)	0.68	0.56	0.56	0.62	0.52	0.52	0.14	0.08	0.08	0.13	0.07	0.21
Capacity (*c*), veh/h	488	2028	903	378	1884	839	431	150	125	181	132	333
Volume-to-Capacity Ratio (*X*)	0.561	0.697	0.426	0.336	0.625	0.145	0.722	1.063	0.994	0.314	0.758	0.130
Back of Queue (*Q*), ft/ln (90 th percentile)	79.1	49.5	28.1	53.5	143.6	22.5	42.4	250	200.8	57.5	133.7	36.8
Back of Queue (*Q*), veh/ln (90 th percentile)	3.6	2.2	1.3	2.4	6.5	1.0	1.9	11.2	8.8	2.6	6.0	1.6
Queue Storage Ratio (*RQ*) (90 th percentile)	0.90	0.00	0.10	0.53	0.00	0.38	0.19	0.00	1.13	0.44	0.00	0.28
Uniform Delay (d_1), s/veh	9.7	1.5	1.3	8.6	7.4	4.6	41.7	46.0	46.0	39.3	45.7	32.1
Incremental Delay (d_2), s/veh	3.2	1.4	1.0	2.4	1.6	0.4	10.0	91.3	79.1	4.5	32.8	0.8
Initial Queue Delay (d_3), 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
Control Delay (*d*), s/veh	12.9	2.8	2.3	11.0	8.9	4.9	51.7	137.3	125.1	43.8	78.5	32.9
Level of Service (LOS)	B	A	A	B	A	A	D	F	F	D	E	C
Approach Delay, s/veh / LOS	4.1	A		8.8	A		90.0	F		58.8	E	
Intersection Delay, s/veh / LOS	20.1						C					

Multimodal Results	EB		WB		NB		SB	
Pedestrian LOS Score / LOS	2.25	B	2.22	B	2.46	B	2.46	B
Bicycle LOS Score / LOS	2.20	B	1.29	A	1.47	A	0.82	A

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HCS7 Two-Way Stop-Control Report

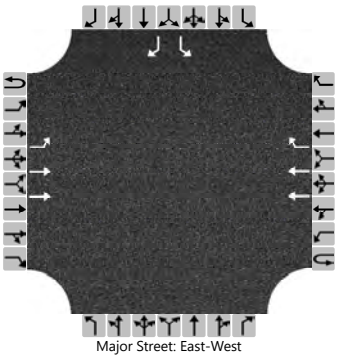
General Information

Analyst	
Agency/Co.	Stolfus and Associates
Date Performed	4/30/2020
Analysis Year	2018
Time Analyzed	AM
Intersection Orientation	East-West
Project Description	Patterson ACP

Site Information

Intersection	28 RD
Jurisdiction	
East/West Street	
North/South Street	
Peak Hour Factor	0.92
Analysis Time Period (hrs)	0.25

Lanes



Major Street: East-West

Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Priority	1U	1	2	3	4U	4	5	6		7	8	9		10	11	12
Number of Lanes	0	1	2	0	0	0	2	1		0	0	0		1	0	1
Configuration		L	T				T	R						L		R
Volume (veh/h)	0	57	1861				1221	130						77		83
Percent Heavy Vehicles (%)	3	3												3		3
Proportion Time Blocked																
Percent Grade (%)													0			
Right Turn Channelized					No								No			
Median Type | Storage	Undivided															

Critical and Follow-up Headways

Base Critical Headway (sec)		4.1												7.5		6.9
Critical Headway (sec)		4.16												6.86		6.96
Base Follow-Up Headway (sec)		2.2												3.5		3.3
Follow-Up Headway (sec)		2.23												3.53		3.33

Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)		62												84		90
Capacity, c (veh/h)		450												21		401
v/c Ratio		0.14												3.92		0.22
95% Queue Length, Q_{95} (veh)		0.5												10.7		0.9
Control Delay (s/veh)		14.3												1682.2		16.6
Level of Service (LOS)		B												F		C
Approach Delay (s/veh)	0.4												818.1			
Approach LOS													F			

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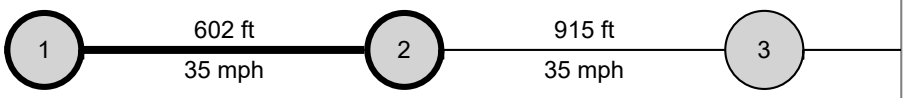
HCS7 Urban Street Segment Report

General Information				Streets Information	
Agency	Stolfus and Associates			Number of Intersections	15
Analyst	Max Rusch	Analysis Date		Number of Segments	14
Jurisdiction		Time Period	PM Peak	Number of Iterations	15
File Name	2045 NoBuild PM Optimized Tim	Analysis Year	2045	System Cycle Length, s	100
Intersections	24 Road & Patterson	Market Street/Mall Access & Patterson		Analysis Period	1> 7:00
Project Description					



Basic Segment Information (24 Rd - Market St)

Segment	Speed Limit		Through Lanes		Segment Length		Intersection Wid		Length of RM		Percent Curb		Other Delay	
	WB	EB	WB	EB	WB	EB	WB	EB	WB	EB	WB	EB	WB	EB
1	35	35	2	2	602	602	50	50	0	0	100	0	0.0	0.0

		Westbound			Eastbound		
Segment Output Data		WBL	WBT	WBR	EBL	EBT	EBR
Segment	Movement	1	6	16	5	2	12
1	Bay/Lane Spillback Time, h				0.15	1.19	0.03
1	Shared Lane Spillback Time, h				0.24		0.07
1	Base Free-Flow Speed, mph	41.58			42.05		
1	Running Time, s	14.47			14.87		
1	Running Speed, mph	28.37			27.61		
1	Through Delay, s/veh	23.38			112.51		
1	Travel Time, s	37.85			127.37		
1	Travel Speed, mph	10.84			3.22		
1	Stop Rate, stops/veh	0.56			1.58		
1	Spatial Stop Rate, stops/mi	4.93			13.84		
1	Through vol/cap Ratio	0.32			1.08		
1	Percent of Base FFS	26.08			7.66		
1	Level of Service	F			F		
1	Auto Traveler Perception Score	2.95			4.67		
Multimodal Results (Segment)							
1	Pedestrian Segment LOS Score / LOS	2.26		B	3.79		D
1	Bicycle Segment LOS Score / LOS	2.29		B	2.42		B
1	Transit Segment LOS Score / LOS	2.64		B	4.03		D

Facility Output Data	Westbound		Eastbound	
Facility Travel Time, s	960.05		1381.81	
Facility Travel Speed, mph	22.36		15.53	
Facility Base Free Flow Speed, mph	42.73		42.46	
Facility Percent of Base FFS	52.33		36.59	
Facility Level of Service	F		F	
Facility Auto Traveler Perception Score	2.37		2.44	
Multimodal Results (Facility)				
Pedestrian Facility LOS Score / LOS	3.43	C	3.75	D
Bicycle Facility LOS Score / LOS	2.83	C	2.97	C
Transit Facility LOS Score / LOS	1.47	A	1.97	A

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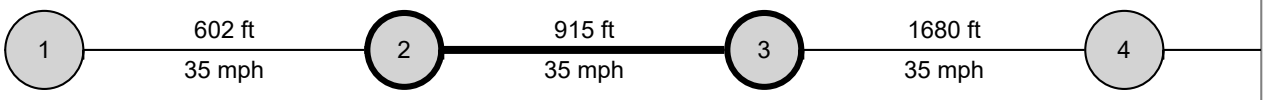
HCS7 Urban Street Segment Report

General Information				Streets Information	
Agency	Stolfus and Associates			Number of Intersections	15
Analyst	Max Rusch	Analysis Date		Number of Segments	14
Jurisdiction		Time Period	PM Peak	Number of Iterations	15
File Name	2045 NoBuild PM Optimized Tim	Analysis Year	2045	System Cycle Length, s	100
Intersections	Market Street/Mall Access & Pat	Home Depot Access/Mesa Mall Access &		Analysis Period	1> 7:00
Project Description					



Basic Segment Information (Market St - Home Depot)

Segment	Speed Limit		Through Lanes		Segment Length		Intersection Wid		Length of RM		Percent Curb		Other Delay	
	WB	EB	WB	EB	WB	EB	WB	EB	WB	EB	WB	EB	WB	EB
2	35	35	2	2	915	915	50	50	2	1	70	0	0.0	0.0

		Westbound			Eastbound		
Segment Output Data		WBL	WBT	WBR	EBL	EBT	EBR
Segment	Movement	1	6	16	5	2	12
2	Bay/Lane Spillback Time, h	never	never				
2	Shared Lane Spillback Time, h	never		never			
2	Base Free-Flow Speed, mph	41.72			42.05		
2	Running Time, s	18.64			19.02		
2	Running Speed, mph	33.47			32.81		
2	Through Delay, s/veh	31.92			15.23		
2	Travel Time, s	50.56			34.25		
2	Travel Speed, mph	12.34			18.22		
2	Stop Rate, stops/veh	0.78			0.34		
2	Spatial Stop Rate, stops/mi	4.51			1.97		
2	Through vol/cap Ratio	0.56			0.79		
2	Percent of Base FFS	29.58			43.32		
2	Level of Service	F			D		
2	Auto Traveler Perception Score	2.88			2.44		
Multimodal Results (Segment)							
2	Pedestrian Segment LOS Score / LOS	2.98		C	3.29		C
2	Bicycle Segment LOS Score / LOS	2.53		B	2.69		B
2	Transit Segment LOS Score / LOS	2.52		B	2.00		A

Facility Output Data	Westbound		Eastbound	
Facility Travel Time, s	960.05		1381.81	
Facility Travel Speed, mph	22.36		15.53	
Facility Base Free Flow Speed, mph	42.73		42.46	
Facility Percent of Base FFS	52.33		36.59	
Facility Level of Service	F		F	
Facility Auto Traveler Perception Score	2.37		2.44	
Multimodal Results (Facility)				
Pedestrian Facility LOS Score / LOS	3.43	C	3.75	D
Bicycle Facility LOS Score / LOS	2.83	C	2.97	C
Transit Facility LOS Score / LOS	1.47	A	1.97	A

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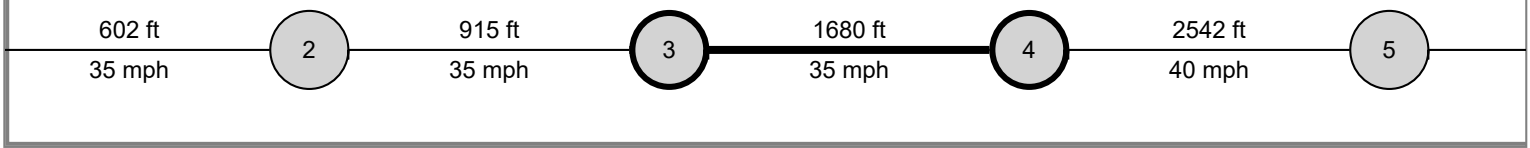
HCS7 Urban Street Segment Report

General Information				Streets Information	
Agency	Stolfus and Associates			Number of Intersections	15
Analyst	Max Rusch	Analysis Date		Number of Segments	14
Jurisdiction		Time Period	PM Peak	Number of Iterations	15
File Name	2045 NoBuild PM Optimized Tim	Analysis Year	2045	System Cycle Length, s	100
Intersections	Home Depot Access/Mesa Mall /	24 1/2 Rd & Patterson		Analysis Period	1> 7:00
Project Description					



Basic Segment Information (Home Depot - 24 1/2 Rd)

Segment	Speed Limit		Through Lanes		Segment Length		Intersection Wid		Length of RM		Percent Curb		Other Delay	
	WB	EB	WB	EB	WB	EB	WB	EB	WB	EB	WB	EB	WB	EB
3	35	35	2	2	1680	1680	50	50	550	550	70	100	0.0	0.0

		Westbound			Eastbound		
Segment Output Data		WBL	WBT	WBR	EBL	EBT	EBR
Segment	Movement	5	2	12	1	6	16
3	Bay/Lane Spillback Time, h		never		never	never	never
3	Shared Lane Spillback Time, h	never		never	never		never
3	Base Free-Flow Speed, mph	40.72			40.21		
3	Running Time, s	31.22			32.19		
3	Running Speed, mph	36.69			35.59		
3	Through Delay, s/veh	18.44			35.58		
3	Travel Time, s	49.66			67.77		
3	Travel Speed, mph	23.07			16.90		
3	Stop Rate, stops/veh	0.51			0.64		
3	Spatial Stop Rate, stops/mi	1.59			2.00		
3	Through vol/cap Ratio	0.43			0.96		
3	Percent of Base FFS	56.65			42.04		
3	Level of Service	C			D		
3	Auto Traveler Perception Score	2.38			2.45		
Multimodal Results (Segment)							
3	Pedestrian Segment LOS Score / LOS	3.66		D	3.52		D
3	Bicycle Segment LOS Score / LOS	2.73		B	2.87		C
3	Transit Segment LOS Score / LOS	1.50		A	2.16		B

Facility Output Data	**Westbound**	**Eastbound**
Facility Travel Time, s	960.05	1381.81
Facility Travel Speed, mph	22.36	15.53
Facility Base Free Flow Speed, mph	42.73	42.46
Facility Percent of Base FFS	52.33	36.59
Facility Level of Service	F	F
Facility Auto Traveler Perception Score	2.37	2.44

Multimodal Results (Facility)				
Pedestrian Facility LOS Score / LOS	3.43	C	3.75	D
Bicycle Facility LOS Score / LOS	2.83	C	2.97	C
Transit Facility LOS Score / LOS	1.47	A	1.97	A

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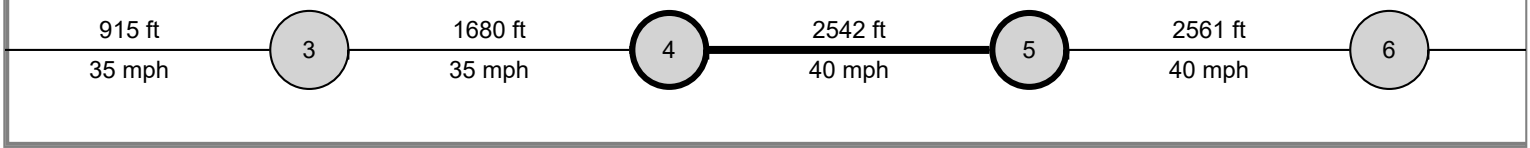
HCS7 Urban Street Segment Report

General Information				Streets Information	
Agency	Stolfus and Associates			Number of Intersections	15
Analyst	Max Rusch	Analysis Date		Number of Segments	14
Jurisdiction		Time Period	PM Peak	Number of Iterations	15
File Name	2045 NoBuild PM Optimized Tim	Analysis Year	2045	System Cycle Length, s	100
Intersections	24 1/2 Rd & Patterson	25 Road & Patterson		Analysis Period	1> 7:00
Project Description					



Basic Segment Information (24 1/2 Rd - 25 Rd)

Segment	Speed Limit		Through Lanes		Segment Length		Intersection Wid		Length of RM		Percent Curb		Other Delay	
	WB	EB	WB	EB	WB	EB	WB	EB	WB	EB	WB	EB	WB	EB
4	40	35	2	2	2542	2542	50	50	0	0	90	90	0.0	0.0

		Westbound			Eastbound		
Segment Output Data		WBL	WBT	WBR	EBL	EBT	EBR
Segment	Movement	5	2	12	1	6	16
4	Bay/Lane Spillback Time, h	never	4.15	never	never	never	never
4	Shared Lane Spillback Time, h	never		never	never		never
4	Base Free-Flow Speed, mph	42.99			40.64		
4	Running Time, s	43.07			46.71		
4	Running Speed, mph	40.25			37.11		
4	Through Delay, s/veh	97.98			35.96		
4	Travel Time, s	141.04			82.67		
4	Travel Speed, mph	12.29			20.96		
4	Stop Rate, stops/veh	1.37			0.87		
4	Spatial Stop Rate, stops/mi	2.84			1.81		
4	Through vol/cap Ratio	1.08			0.82		
4	Percent of Base FFS	28.59			51.59		
4	Level of Service	F			C		
4	Auto Traveler Perception Score	2.59			2.42		
Multimodal Results (Segment)							
4	Pedestrian Segment LOS Score / LOS	3.11		C	3.48		C
4	Bicycle Segment LOS Score / LOS	2.79		C	2.93		C
4	Transit Segment LOS Score / LOS	2.60		B	1.80		A

Facility Output Data	Westbound		Eastbound	
Facility Travel Time, s	960.05		1381.81	
Facility Travel Speed, mph	22.36		15.53	
Facility Base Free Flow Speed, mph	42.73		42.46	
Facility Percent of Base FFS	52.33		36.59	
Facility Level of Service	F		F	
Facility Auto Traveler Perception Score	2.37		2.44	
Multimodal Results (Facility)				
Pedestrian Facility LOS Score / LOS	3.43	C	3.75	D
Bicycle Facility LOS Score / LOS	2.83	C	2.97	C
Transit Facility LOS Score / LOS	1.47	A	1.97	A

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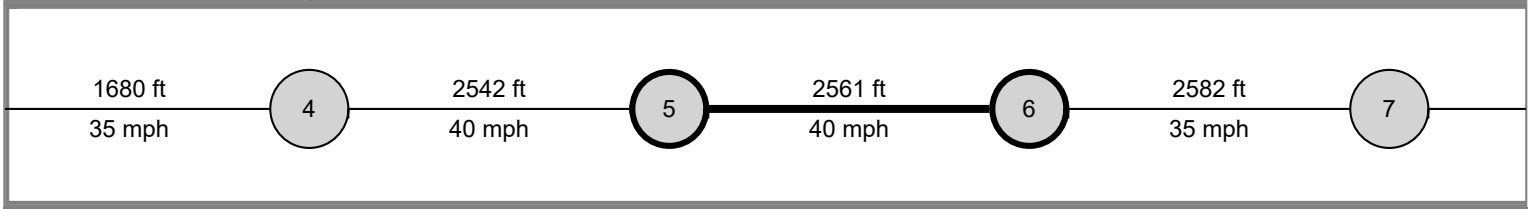
HCS7 Urban Street Segment Report

General Information				Streets Information	
Agency	Stolfus and Associates			Number of Intersections	15
Analyst	Max Rusch	Analysis Date		Number of Segments	14
Jurisdiction		Time Period	PM Peak	Number of Iterations	15
File Name	2045 NoBuild PM Optimized Tim	Analysis Year	2045	System Cycle Length, s	100
Intersections	25 Road & Patterson	25 1/2 Road & Patterson		Analysis Period	1> 7:00
Project Description					



Basic Segment Information (25 Rd - 25 1/2 Rd)

Segment	Speed Limit		Through Lanes		Segment Length		Intersection Wid		Length of RM		Percent Curb		Other Delay	
	WB	EB	WB	EB	WB	EB	WB	EB	WB	EB	WB	EB	WB	EB
5	40	40	2	2	2561	2561	50	50	260	260	90	90	0.0	0.0

		Westbound			Eastbound		
Segment Output Data		WBL	WBT	WBR	EBL	EBT	EBR
Segment	Movement	5	2	12	1	6	16
5	Bay/Lane Spillback Time, h		never		never	1.04	never
5	Shared Lane Spillback Time, h	never		never	never		never
5	Base Free-Flow Speed, mph	43.13			43.13		
5	Running Time, s	43.22			44.51		
5	Running Speed, mph	40.40			39.23		
5	Through Delay, s/veh	4.42			107.29		
5	Travel Time, s	47.64			151.80		
5	Travel Speed, mph	36.65			11.50		
5	Stop Rate, stops/veh	0.12			1.31		
5	Spatial Stop Rate, stops/mi	0.25			2.70		
5	Through vol/cap Ratio	0.46			1.17		
5	Percent of Base FFS	84.98			26.67		
5	Level of Service	A			F		
5	Auto Traveler Perception Score	2.18			2.56		
Multimodal Results (Segment)							
5	Pedestrian Segment LOS Score / LOS	3.20		C	3.93		D
5	Bicycle Segment LOS Score / LOS	2.77		C	3.01		C
5	Transit Segment LOS Score / LOS	0.59		A	2.84		C

Facility Output Data	Westbound	Eastbound
Facility Travel Time, s	960.05	1381.81
Facility Travel Speed, mph	22.36	15.53
Facility Base Free Flow Speed, mph	42.73	42.46
Facility Percent of Base FFS	52.33	36.59
Facility Level of Service	F	F
Facility Auto Traveler Perception Score	2.37	2.44

Multimodal Results (Facility)				
Pedestrian Facility LOS Score / LOS	3.43	C	3.75	D
Bicycle Facility LOS Score / LOS	2.83	C	2.97	C
Transit Facility LOS Score / LOS	1.47	A	1.97	A

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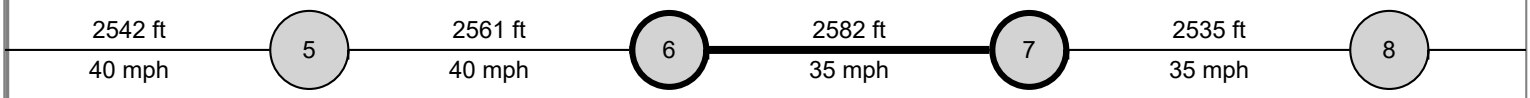
HCS7 Urban Street Segment Report

General Information				Streets Information	
Agency	Stolfus and Associates			Number of Intersections	15
Analyst	Max Rusch	Analysis Date		Number of Segments	14
Jurisdiction		Time Period	PM Peak	Number of Iterations	15
File Name	2045 NoBuild PM Optimized Tim	Analysis Year	2045	System Cycle Length, s	100
Intersections	25 1/2 Road & Patterson	1st Street & Patterson		Analysis Period	1> 7:00
Project Description					



Basic Segment Information (25 1/2 Rd - 26 Rd)

Segment	Speed Limit		Through Lanes		Segment Length		Intersection Wid		Length of RM		Percent Curb		Other Delay	
	WB	EB	WB	EB	WB	EB	WB	EB	WB	EB	WB	EB	WB	EB
6	35	40	2	2	2582	2582	50	50	0	0	90	90	0.0	0.0

		Westbound			Eastbound		
Segment Output Data		WBL	WBT	WBR	EBL	EBT	EBR
Segment	Movement	5	2	12	1	6	16
6	Bay/Lane Spillback Time, h		never			never	
6	Shared Lane Spillback Time, h	never		never	never		never
6	Base Free-Flow Speed, mph	40.73			43.08		
6	Running Time, s	45.93			44.61		
6	Running Speed, mph	38.33			39.47		
6	Through Delay, s/veh	21.87			13.88		
6	Travel Time, s	67.80			58.49		
6	Travel Speed, mph	25.97			30.10		
6	Stop Rate, stops/veh	0.54			0.28		
6	Spatial Stop Rate, stops/mi	1.10			0.58		
6	Through vol/cap Ratio	0.61			0.83		
6	Percent of Base FFS	63.75			69.87		
6	Level of Service	C			B		
6	Auto Traveler Perception Score	2.30			2.23		
Multimodal Results (Segment)							
6	Pedestrian Segment LOS Score / LOS	3.24		C	3.40		C
6	Bicycle Segment LOS Score / LOS	2.80		C	2.96		C
6	Transit Segment LOS Score / LOS	1.26		A	1.10		A

Facility Output Data	**Westbound**	**Eastbound**
Facility Travel Time, s	960.05	1381.81
Facility Travel Speed, mph	22.36	15.53
Facility Base Free Flow Speed, mph	42.73	42.46
Facility Percent of Base FFS	52.33	36.59
Facility Level of Service	F	F
Facility Auto Traveler Perception Score	2.37	2.44

Multimodal Results (Facility)				
Pedestrian Facility LOS Score / LOS	3.43	C	3.75	D
Bicycle Facility LOS Score / LOS	2.83	C	2.97	C
Transit Facility LOS Score / LOS	1.47	A	1.97	A

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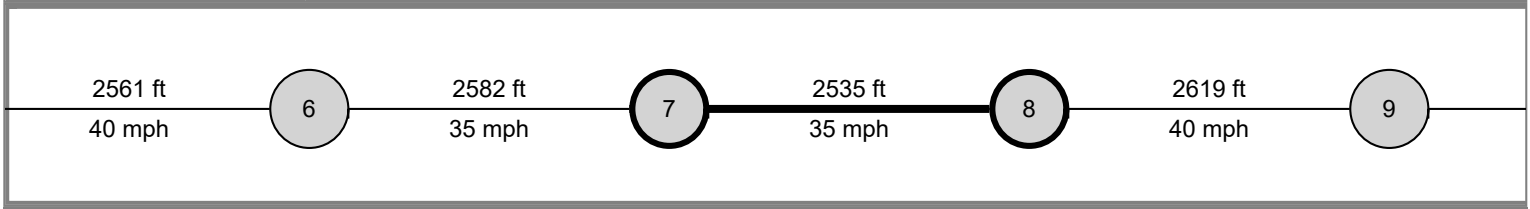
HCS7 Urban Street Segment Report

General Information				Streets Information	
Agency	Stolfus and Associates			Number of Intersections	15
Analyst	Max Rusch	Analysis Date		Number of Segments	14
Jurisdiction		Time Period	PM Peak	Number of Iterations	15
File Name	2045 NoBuild PM Optimized Tim	Analysis Year	2045	System Cycle Length, s	100
Intersections	1st Street & Patterson	7th Street & Patterson		Analysis Period	1> 7:00
Project Description					



Basic Segment Information (26 Rd - 26 1/2)

Segment	Speed Limit		Through Lanes		Segment Length		Intersection Wid		Length of RM		Percent Curb		Other Delay	
	WB	EB	WB	EB	WB	EB	WB	EB	WB	EB	WB	EB	WB	EB
7	35	40	2	2	2535	2535	50	50	0	0	90	90	0.0	0.0

		Westbound			Eastbound		
Segment Output Data		WBL	WBT	WBR	EBL	EBT	EBR
Segment	Movement	5	2	12	1	6	16
7	Bay/Lane Spillback Time, h	never	never		never	1.92	never
7	Shared Lane Spillback Time, h	never		never	never		never
7	Base Free-Flow Speed, mph	39.80			42.15		
7	Running Time, s	46.36			44.79		
7	Running Speed, mph	37.28			38.59		
7	Through Delay, s/veh	28.78			83.23		
7	Travel Time, s	75.15			128.02		
7	Travel Speed, mph	23.00			13.50		
7	Stop Rate, stops/veh	0.67			1.27		
7	Spatial Stop Rate, stops/mi	1.40			2.64		
7	Through vol/cap Ratio	0.73			1.09		
7	Percent of Base FFS	57.78			32.03		
7	Level of Service	C			F		
7	Auto Traveler Perception Score	2.35			2.55		
Multimodal Results (Segment)							
7	Pedestrian Segment LOS Score / LOS	3.10		C	3.42		C
7	Bicycle Segment LOS Score / LOS	2.80		C	2.97		C
7	Transit Segment LOS Score / LOS	1.51		A	2.56		B

Facility Output Data	Westbound	Eastbound
Facility Travel Time, s	960.05	1381.81
Facility Travel Speed, mph	22.36	15.53
Facility Base Free Flow Speed, mph	42.73	42.46
Facility Percent of Base FFS	52.33	36.59
Facility Level of Service	F	F
Facility Auto Traveler Perception Score	2.37	2.44

Multimodal Results (Facility)				
Pedestrian Facility LOS Score / LOS	3.43	C	3.75	D
Bicycle Facility LOS Score / LOS	2.83	C	2.97	C
Transit Facility LOS Score / LOS	1.47	A	1.97	A

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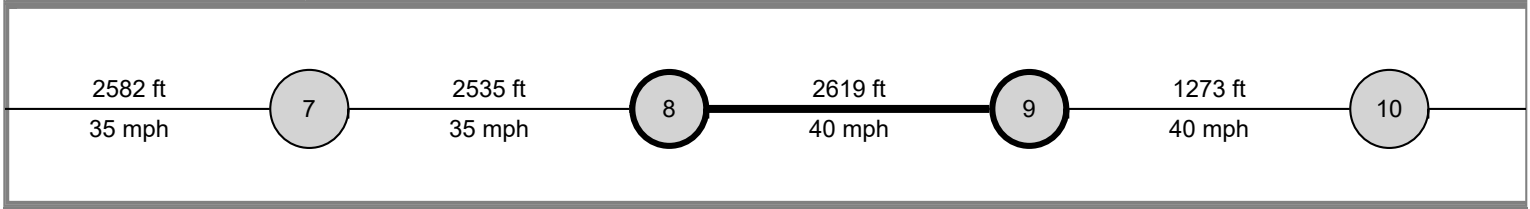
HCS7 Urban Street Segment Report

General Information				Streets Information	
Agency	Stolfus and Associates			Number of Intersections	15
Analyst	Max Rusch	Analysis Date		Number of Segments	14
Jurisdiction		Time Period	PM Peak	Number of Iterations	15
File Name	2045 NoBuild PM Optimized Tim	Analysis Year	2045	System Cycle Length, s	100
Intersections	7th Street & Patterson	12th Street & Patterson		Analysis Period	1> 7:00
Project Description					



Basic Segment Information (26 1/2 Rd to 12th St)

Segment	Speed Limit		Through Lanes		Segment Length		Intersection Wid		Length of RM		Percent Curb		Other Delay	
	WB	EB	WB	EB	WB	EB	WB	EB	WB	EB	WB	EB	WB	EB
8	40	35	2	2	2619	2619	50	50	0	0	90	90	0.0	0.0

		Westbound			Eastbound		
Segment Output Data		WBL	WBT	WBR	EBL	EBT	EBR
Segment	Movement	5	2	12	1	6	16
8	Bay/Lane Spillback Time, h	never	never	never	never	1.03	never
8	Shared Lane Spillback Time, h	never		never	never		never
8	Base Free-Flow Speed, mph	42.37			40.02		
8	Running Time, s	45.32			48.68		
8	Running Speed, mph	39.40			36.68		
8	Through Delay, s/veh	47.70			112.15		
8	Travel Time, s	93.02			160.83		
8	Travel Speed, mph	19.20			11.10		
8	Stop Rate, stops/veh	0.90			1.30		
8	Spatial Stop Rate, stops/mi	1.82			2.61		
8	Through vol/cap Ratio	0.96			1.19		
8	Percent of Base FFS	45.30			27.74		
8	Level of Service	D			F		
8	Auto Traveler Perception Score	2.42			2.55		
Multimodal Results (Segment)							
8	Pedestrian Segment LOS Score / LOS	3.11		C	3.52		D
8	Bicycle Segment LOS Score / LOS	2.85		C	2.97		C
8	Transit Segment LOS Score / LOS	1.89		A	2.86		C

Facility Output Data	**Westbound**	**Eastbound**
Facility Travel Time, s	960.05	1381.81
Facility Travel Speed, mph	22.36	15.53
Facility Base Free Flow Speed, mph	42.73	42.46
Facility Percent of Base FFS	52.33	36.59
Facility Level of Service	F	F
Facility Auto Traveler Perception Score	2.37	2.44

Multimodal Results (Facility)				
Pedestrian Facility LOS Score / LOS	3.43	C	3.75	D
Bicycle Facility LOS Score / LOS	2.83	C	2.97	C
Transit Facility LOS Score / LOS	1.47	A	1.97	A

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HCS7 Urban Street Segment Report

General Information				Streets Information	
Agency	Stolfus and Associates			Number of Intersections	15
Analyst	Max Rusch	Analysis Date		Number of Segments	14
Jurisdiction		Time Period	PM Peak	Number of Iterations	15
File Name	2045 NoBuild PM Optimized Tim	Analysis Year	2045	System Cycle Length, s	100
Intersections	12th Street & Patterson	Patterson Rd & 15th St		Analysis Period	1> 7:00
Project Description					

Basic Segment Information (12th St - 27 1/4 Rd)

Segment	Speed Limit		Through Lanes		Segment Length		Intersection Wid		Length of RM		Percent Curb		Other Delay	
	WB	EB	WB	EB	WB	EB	WB	EB	WB	EB	WB	EB	WB	EB
9	40	35	2	2	1273	1273	50	50	0	0	90	90	0.0	0.0

		Westbound			Eastbound		
Segment Output Data		WBL	WBT	WBR	EBL	EBT	EBR
Segment	Movement	5	2	12	1	6	16
9	Bay/Lane Spillback Time, h				never	0.35	never
9	Shared Lane Spillback Time, h				never		never
9	Base Free-Flow Speed, mph	42.29			39.94		
9	Running Time, s	23.94			26.20		
9	Running Speed, mph	36.26			33.13		
9	Through Delay, s/veh	0.46			140.13		
9	Travel Time, s	24.40			166.33		
9	Travel Speed, mph	35.57			5.22		
9	Stop Rate, stops/veh	0.01			1.73		
9	Spatial Stop Rate, stops/mi	0.06			7.16		
9	Through vol/cap Ratio	0.51			1.23		
9	Percent of Base FFS	84.10			13.06		
9	Level of Service	A			F		
9	Auto Traveler Perception Score	2.15			3.38		
Multimodal Results (Segment)							
9	Pedestrian Segment LOS Score / LOS	3.33		C	4.47		E
9	Bicycle Segment LOS Score / LOS	2.78		C	3.05		C
9	Transit Segment LOS Score / LOS	0.71		A	3.80		D

Facility Output Data	**Westbound**	**Eastbound**
Facility Travel Time, s	960.05	1381.81
Facility Travel Speed, mph	22.36	15.53
Facility Base Free Flow Speed, mph	42.73	42.46
Facility Percent of Base FFS	52.33	36.59
Facility Level of Service	F	F
Facility Auto Traveler Perception Score	2.37	2.44

Multimodal Results (Facility)				
Pedestrian Facility LOS Score / LOS	3.43	C	3.75	D
Bicycle Facility LOS Score / LOS	2.83	C	2.97	C
Transit Facility LOS Score / LOS	1.47	A	1.97	A

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HCS7 Urban Street Segment Report

General Information				Streets Information	
Agency	Stolfus and Associates			Number of Intersections	15
Analyst	Max Rusch	Analysis Date		Number of Segments	14
Jurisdiction		Time Period	PM Peak	Number of Iterations	15
File Name	2045 NoBuild PM Optimized Tim	Analysis Year	2045	System Cycle Length, s	100
Intersections	Patterson Rd & 15th St	27 1/2 Road & Patterson		Analysis Period	1> 7:00
Project Description					

Basic Segment Information

Segment	Speed Limit		Through Lanes		Segment Length		Intersection Wid		Length of RM		Percent Curb		Other Delay	
	WB	EB	WB	EB	WB	EB	WB	EB	WB	EB	WB	EB	WB	EB
10	40	40	2	2	1345	1345	50	50	0	0	70	70	0.0	0.0

		Westbound			Eastbound		
Segment Output Data		WBL	WBT	WBR	EBL	EBT	EBR
Segment	Movement	1	6	16	5	2	12
10	Bay/Lane Spillback Time, h		never				
10	Shared Lane Spillback Time, h	never		never			
10	Base Free-Flow Speed, mph	44.07			44.07		
10	Running Time, s	24.45			25.16		
10	Running Speed, mph	37.50			36.45		
10	Through Delay, s/veh	16.55			6.64		
10	Travel Time, s	41.00			31.80		
10	Travel Speed, mph	22.37			28.83		
10	Stop Rate, stops/veh	0.46			0.19		
10	Spatial Stop Rate, stops/mi	1.79			0.74		
10	Through vol/cap Ratio	0.63			0.74		
10	Percent of Base FFS	50.75			65.43		
10	Level of Service	C			C		
10	Auto Traveler Perception Score	2.64			2.25		
Multimodal Results (Segment)							
10	Pedestrian Segment LOS Score / LOS	3.97		D	4.79		E
10	Bicycle Segment LOS Score / LOS	2.96		C	3.01		C
10	Transit Segment LOS Score / LOS	1.63		A	1.25		A

Facility Output Data	**Westbound**	**Eastbound**
Facility Travel Time, s	960.05	1381.81
Facility Travel Speed, mph	22.36	15.53
Facility Base Free Flow Speed, mph	42.73	42.46
Facility Percent of Base FFS	52.33	36.59
Facility Level of Service	F	F
Facility Auto Traveler Perception Score	2.37	2.44

Multimodal Results (Facility)				
Pedestrian Facility LOS Score / LOS	3.43	C	3.75	D
Bicycle Facility LOS Score / LOS	2.83	C	2.97	C
Transit Facility LOS Score / LOS	1.47	A	1.97	A

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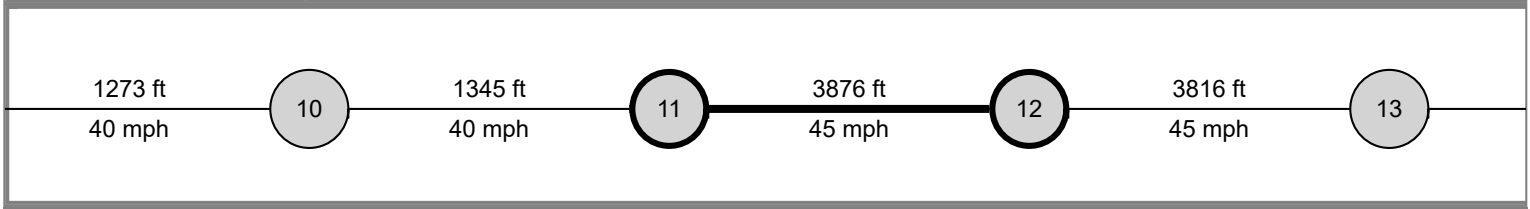
HCS7 Urban Street Segment Report

General Information				Streets Information	
Agency	Stolfus and Associates			Number of Intersections	15
Analyst	Max Rusch	Analysis Date		Number of Segments	14
Jurisdiction		Time Period	PM Peak	Number of Iterations	15
File Name	2045 NoBuild PM Optimized Tim	Analysis Year	2045	System Cycle Length, s	100
Intersections	27 1/2 Road & Patterson	28 1/4 Road & Patterson		Analysis Period	1> 7:00
Project Description					



Basic Segment Information (27 1/4 Rd - 27 1/2 Rd)

Segment	Speed Limit		Through Lanes		Segment Length		Intersection Wid		Length of RM		Percent Curb		Other Delay	
	WB	EB	WB	EB	WB	EB	WB	EB	WB	EB	WB	EB	WB	EB
11	45	40	2	2	3876	3876	50	50	0	0	90	90	0.0	0.0

		Westbound			Eastbound		
Segment Output Data		WBL	WBT	WBR	EBL	EBT	EBR
Segment	Movement		2	12	1	6	
11	Bay/Lane Spillback Time, h	never	never			never	
11	Shared Lane Spillback Time, h	never		never	never		
11	Base Free-Flow Speed, mph	45.84			43.49		
11	Running Time, s	60.70			64.97		
11	Running Speed, mph	43.53			40.68		
11	Through Delay, s/veh	35.63			5.78		
11	Travel Time, s	96.33			70.75		
11	Travel Speed, mph	27.43			37.36		
11	Stop Rate, stops/veh	0.75			0.18		
11	Spatial Stop Rate, stops/mi	1.02			0.24		
11	Through vol/cap Ratio	0.90			0.65		
11	Percent of Base FFS	59.84			85.89		
11	Level of Service	C			A		
11	Auto Traveler Perception Score	2.40			2.18		
Multimodal Results (Segment)							
11	Pedestrian Segment LOS Score / LOS	3.97		D	3.87		D
11	Bicycle Segment LOS Score / LOS	2.91		C	3.04		C
11	Transit Segment LOS Score / LOS	1.22		A	0.68		A

Facility Output Data	Westbound		Eastbound	
Facility Travel Time, s	960.05		1381.81	
Facility Travel Speed, mph	22.36		15.53	
Facility Base Free Flow Speed, mph	42.73		42.46	
Facility Percent of Base FFS	52.33		36.59	
Facility Level of Service	F		F	
Facility Auto Traveler Perception Score	2.37		2.44	
Multimodal Results (Facility)				
Pedestrian Facility LOS Score / LOS	3.43	C	3.75	D
Bicycle Facility LOS Score / LOS	2.83	C	2.97	C
Transit Facility LOS Score / LOS	1.47	A	1.97	A

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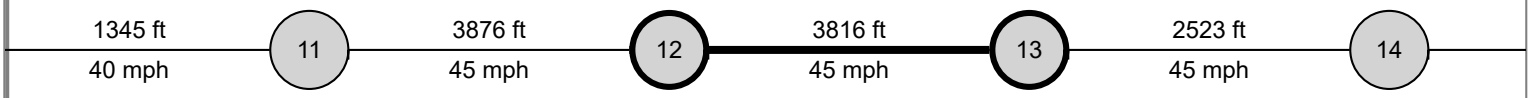
HCS7 Urban Street Segment Report

General Information				Streets Information	
Agency	Stolfus and Associates			Number of Intersections	15
Analyst	Max Rusch	Analysis Date		Number of Segments	14
Jurisdiction		Time Period	PM Peak	Number of Iterations	15
File Name	2045 NoBuild PM Optimized Tim	Analysis Year	2045	System Cycle Length, s	100
Intersections	28 1/4 Road & Patterson	29 Road & Patterson		Analysis Period	1> 7:00
Project Description					



Basic Segment Information (28 1/4 Rd - 29 Rd)

Segment	Speed Limit		Through Lanes		Segment Length		Intersection Wid		Length of RM		Percent Curb		Other Delay	
	WB	EB	WB	EB	WB	EB	WB	EB	WB	EB	WB	EB	WB	EB
12	45	40	2	2	3816	3816	50	50	0	0	90	90	0.0	0.0

		Westbound			Eastbound		
Segment Output Data		WBL	WBT	WBR	EBL	EBT	EBR
Segment	Movement	5	2	12	1	6	16
12	Bay/Lane Spillback Time, h	never	never	never		never	never
12	Shared Lane Spillback Time, h	never		never	never		never
12	Base Free-Flow Speed, mph	44.91			42.56		
12	Running Time, s	60.34			65.36		
12	Running Speed, mph	43.12			39.81		
12	Through Delay, s/veh	45.20			33.90		
12	Travel Time, s	105.54			99.26		
12	Travel Speed, mph	24.65			26.21		
12	Stop Rate, stops/veh	0.92			0.85		
12	Spatial Stop Rate, stops/mi	1.28			1.17		
12	Through vol/cap Ratio	0.95			0.87		
12	Percent of Base FFS	54.90			61.59		
12	Level of Service	C			C		
12	Auto Traveler Perception Score	2.33			2.32		
Multimodal Results (Segment)							
12	Pedestrian Segment LOS Score / LOS	3.62		D	3.76		D
12	Bicycle Segment LOS Score / LOS	2.91		C	3.02		C
12	Transit Segment LOS Score / LOS	1.45		A	1.38		A

Facility Output Data	Westbound		Eastbound	
Facility Travel Time, s	960.05		1381.81	
Facility Travel Speed, mph	22.36		15.53	
Facility Base Free Flow Speed, mph	42.73		42.46	
Facility Percent of Base FFS	52.33		36.59	
Facility Level of Service	F		F	
Facility Auto Traveler Perception Score	2.37		2.44	
Multimodal Results (Facility)				
Pedestrian Facility LOS Score / LOS	3.43	C	3.75	D
Bicycle Facility LOS Score / LOS	2.83	C	2.97	C
Transit Facility LOS Score / LOS	1.47	A	1.97	A

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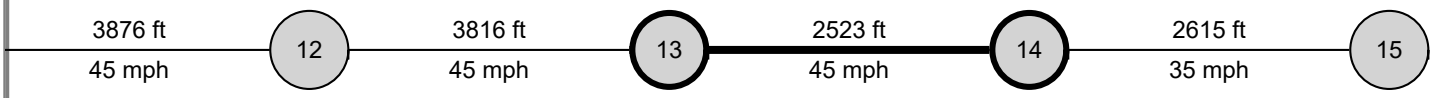
HCS7 Urban Street Segment Report

General Information				Streets Information	
Agency	Stolfus and Associates			Number of Intersections	15
Analyst	Max Rusch	Analysis Date		Number of Segments	14
Jurisdiction		Time Period	PM Peak	Number of Iterations	15
File Name	2045 NoBuild PM Optimized Tim	Analysis Year	2045	System Cycle Length, s	100
Intersections	29 Road & Patterson	29 1/2 Road & Patterson		Analysis Period	1> 7:00
Project Description					



Basic Segment Information (29 Rd - 29 1/2 Rd)

Segment	Speed Limit		Through Lanes		Segment Length		Intersection Wid		Length of RM		Percent Curb		Other Delay	
	WB	EB	WB	EB	WB	EB	WB	EB	WB	EB	WB	EB	WB	EB
13	45	45	2	2	2523	2523	50	50	0	0	90	90	0.0	0.0

		Westbound			Eastbound		
Segment Output Data		WBL	WBT	WBR	EBL	EBT	EBR
Segment	Movement	5	2	12	1	6	16
13	Bay/Lane Spillback Time, h	never	never	never	never	never	never
13	Shared Lane Spillback Time, h	never		never	never		never
13	Base Free-Flow Speed, mph	43.83			43.83		
13	Running Time, s	40.55			40.76		
13	Running Speed, mph	42.43			42.20		
13	Through Delay, s/veh	33.55			42.27		
13	Travel Time, s	74.10			83.03		
13	Travel Speed, mph	23.21			20.72		
13	Stop Rate, stops/veh	0.78			0.78		
13	Spatial Stop Rate, stops/mi	1.63			1.63		
13	Through vol/cap Ratio	0.90			0.99		
13	Percent of Base FFS	52.97			47.27		
13	Level of Service	C			D		
13	Auto Traveler Perception Score	2.39			2.39		
Multimodal Results (Segment)							
13	Pedestrian Segment LOS Score / LOS	3.65		D	3.62		D
13	Bicycle Segment LOS Score / LOS	2.93		C	3.02		C
13	Transit Segment LOS Score / LOS	1.60		A	1.84		A

Facility Output Data	Westbound	Eastbound
Facility Travel Time, s	960.05	1381.81
Facility Travel Speed, mph	22.36	15.53
Facility Base Free Flow Speed, mph	42.73	42.46
Facility Percent of Base FFS	52.33	36.59
Facility Level of Service	F	F
Facility Auto Traveler Perception Score	2.37	2.44

Multimodal Results (Facility)				
Pedestrian Facility LOS Score / LOS	3.43	C	3.75	D
Bicycle Facility LOS Score / LOS	2.83	C	2.97	C
Transit Facility LOS Score / LOS	1.47	A	1.97	A

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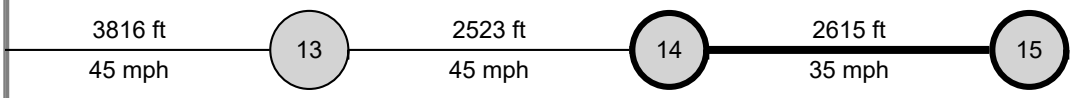
HCS7 Urban Street Segment Report

General Information				Streets Information	
Agency	Stolfus and Associates			Number of Intersections	15
Analyst	Max Rusch	Analysis Date		Number of Segments	14
Jurisdiction		Time Period	PM Peak	Number of Iterations	15
File Name	2045 NoBuild PM Optimized Tim	Analysis Year	2045	System Cycle Length, s	100
Intersections	29 1/2 Road & Patterson	30 Road & Patterson		Analysis Period	1> 7:00
Project Description					



Basic Segment Information (29 1/2 Rd - 30 Rd)

Segment	Speed Limit		Through Lanes		Segment Length		Intersection Wid		Length of RM		Percent Curb		Other Delay	
	WB	EB	WB	EB	WB	EB	WB	EB	WB	EB	WB	EB	WB	EB
14	35	45	2	2	2615	2615	50	50	0	0	90	90	0.0	0.0

		Westbound			Eastbound		
Segment Output Data		WBL	WBT	WBR	EBL	EBT	EBR
Segment	Movement	5	2	12	1	6	16
14	Bay/Lane Spillback Time, h				never	2.24	never
14	Shared Lane Spillback Time, h				never		never
14	Base Free-Flow Speed, mph	40.82			45.52		
14	Running Time, s	47.02			41.94		
14	Running Speed, mph	37.92			42.52		
14	Through Delay, s/veh	8.94			77.51		
14	Travel Time, s	55.96			119.44		
14	Travel Speed, mph	31.86			14.93		
14	Stop Rate, stops/veh	0.24			1.23		
14	Spatial Stop Rate, stops/mi	0.49			2.49		
14	Through vol/cap Ratio	0.63			1.08		
14	Percent of Base FFS	78.05			32.79		
14	Level of Service	B			F		
14	Auto Traveler Perception Score	2.21			2.53		
Multimodal Results (Segment)							
14	Pedestrian Segment LOS Score / LOS	3.55		D	4.09		D
14	Bicycle Segment LOS Score / LOS	2.85		C	3.00		C
14	Transit Segment LOS Score / LOS	0.92		A	2.39		B

Facility Output Data	**Westbound**	**Eastbound**
Facility Travel Time, s	960.05	1381.81
Facility Travel Speed, mph	22.36	15.53
Facility Base Free Flow Speed, mph	42.73	42.46
Facility Percent of Base FFS	52.33	36.59
Facility Level of Service	F	F
Facility Auto Traveler Perception Score	2.37	2.44

Multimodal Results (Facility)				
Pedestrian Facility LOS Score / LOS	3.43	C	3.75	D
Bicycle Facility LOS Score / LOS	2.83	C	2.97	C
Transit Facility LOS Score / LOS	1.47	A	1.97	A

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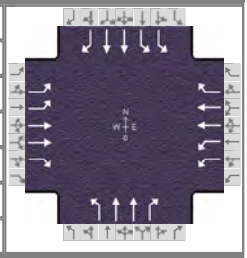
HCS7 Signalized Intersection Results Summary

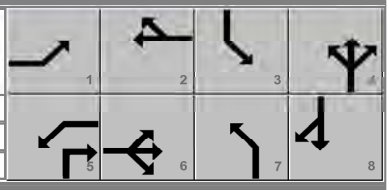
General Information				Intersection Information	
Agency	Stolfus and Associates			Duration, h	0.250
Analyst	Max Rusch	Analysis Date		Area Type	Other
Jurisdiction		Time Period	AM Peak	PHF	0.91
Urban Street	Patterson Rd	Analysis Year	2045	Analysis Period	1> 7:00
Intersection	24 Road & Patterson	File Name	2045 ACP AM.xus		
Project Description					



Demand Information	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Demand (*v*), veh/h	216	235	72	125	217	278	87	934	412	412	633	71

Signal Information			
Cycle, s	100.0	Reference Phase	6
Offset, s	85	Reference Point	Begin
Uncoordinated	No	Simult. Gap E/W	On
Force Mode	Fixed	Simult. Gap N/S	On

Green	7.8	1.9	20.0	8.4	3.0	36.9
Yellow	3.5	0.0	4.0	3.5	3.5	4.0
Red	0.5	0.0	1.0	0.5	0.5	1.0



Timer Results	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Assigned Phase	1	6	5	2	7	4	3	8
Case Number	1.1	3.0	2.0	3.0	1.1	3.0	2.0	3.0
Phase Duration, s	13.7	26.9	11.8	25.0	12.4	41.9	19.4	48.9
Change Period, ($Y+R_c$), s	4.0	5.0	4.0	5.0	4.0	5.0	4.0	5.0
Max Allow Headway (*MAH*), s	5.2	0.0	5.2	0.0	5.2	5.2	5.2	5.2
Queue Clearance Time (g_s), s	11.7		5.8		5.1	28.4	14.7	15.9
Green Extension Time (g_e), s	0.0	0.0	0.4	0.0	0.5	8.5	0.6	19.8
Phase Call Probability	1.00		0.98		0.93	1.00	1.00	1.00
Max Out Probability	1.00		0.17		0.00	0.89	1.00	0.56

Movement Group Results	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Assigned Movement	1	6	16	5	2	12	7	4	14	3	8	18
Adjusted Flow Rate (*v*), veh/h	539	587	180	137	238	305	96	1026	453	453	696	78
Adjusted Saturation Flow Rate (*s*), veh/h/ln	1675	1752		1716	1738		1810	1738	1585	1730	1752	1518
Queue Service Time (g_s), s	9.7	15.7		3.8	5.9		3.1	26.4	22.1	12.7	13.9	3.0
Cycle Queue Clearance Time (g_c), s	9.7	15.7		3.8	5.9		3.1	26.4	22.1	12.7	13.9	3.0
Green Ratio (*g/C*)	0.30	0.22		0.08	0.20		0.45	0.37	0.45	0.15	0.44	0.44
Capacity (*c*), veh/h	705	767		269	695		422	1283	709	532	1539	667
Volume-to-Capacity Ratio (*X*)	0.765	0.765		0.512	0.343		0.227	0.800	0.639	0.851	0.452	0.117
Back of Queue (*Q*), ft/ln (90 th percentile)	89.8	243.7		68.1	103		50	352.9	264.3	206.6	189.3	42.9
Back of Queue (*Q*), veh/ln (90 th percentile)	3.9	10.7		3.0	4.5		2.3	15.4	11.8	9.2	8.3	1.8
Queue Storage Ratio (*RQ*) (90 th percentile)	0.50	0.00		0.31	0.00		0.38	0.00	1.50	1.56	0.00	0.66
Uniform Delay (d_1), s/veh	31.4	36.4		44.3	34.4		16.3	28.2	21.4	41.2	19.6	16.6
Incremental Delay (d_2), s/veh	5.4	7.2		1.9	1.2		0.4	3.6	2.1	11.3	0.3	0.1
Initial Queue Delay (d_3), s/veh	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (*d*), s/veh	36.8	43.6	0.0	46.2	35.6	0.0	16.7	31.9	23.5	52.4	19.9	16.7
Level of Service (LOS)	D	D	A	D	D	A	B	C	C	D	B	B
Approach Delay, s/veh / LOS	34.8	C		21.8	C		28.5	C		31.7	C	
Intersection Delay, s/veh / LOS	30.1						C					

Multimodal Results	EB		WB		NB		SB	
Pedestrian LOS Score / LOS	2.45	B	2.59	C	2.57	C	2.56	C
Bicycle LOS Score / LOS	0.96	A	1.05	A	1.79	B	1.50	A

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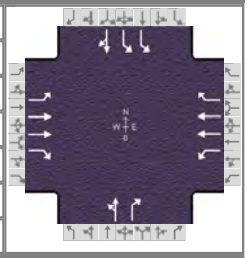
HCS7 Signalized Intersection Results Summary

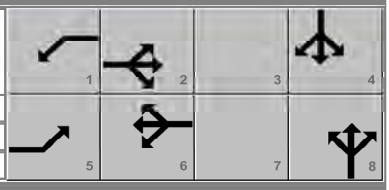
General Information				Intersection Information	
Agency	Stolfus and Associates			Duration, h	0.250
Analyst	Max Rusch	Analysis Date		Area Type	Other
Jurisdiction		Time Period	AM Peak	PHF	0.83
Urban Street	Patterson Rd	Analysis Year	2045	Analysis Period	1> 7:00
Intersection	Market Street/Mall Acce…	File Name	2045 ACP AM.xus		
Project Description					



Demand Information	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Demand (*v*), veh/h	71	848	83	25	580	94	30	12	19	87	17	44

Signal Information			
Cycle, s	100.0	Reference Phase	2
Offset, s	1	Reference Point	End
Uncoordinated	No	Simult. Gap E/W	On
Force Mode	Fixed	Simult. Gap N/S	On

Green	1.7	3.0	65.6	6.3	4.4	0.0
Yellow	3.5	0.0	4.0	4.0	4.0	0.0
Red	0.5	0.0	1.0	1.0	1.0	0.0



Timer Results	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Assigned Phase	5	2	1	6		8		4
Case Number	1.1	3.0	1.1	3.0		11.0		10.0
Phase Duration, s	8.7	73.6	5.7	70.6		9.4		11.3
Change Period, ($Y+R_c$), s	4.0	5.0	4.0	5.0		5.0		5.0
Max Allow Headway (*MAH*), s	3.1	0.0	3.1	0.0		3.3		3.3
Queue Clearance Time (g_s), s	3.8		2.3			4.7		6.3
Green Extension Time (g_e), s	0.2	0.0	0.0	0.0		0.0		0.1
Phase Call Probability	0.94		0.34			0.87		0.99
Max Out Probability	0.00		0.00			0.03		1.00

Movement Group Results	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Assigned Movement	5	2	12	1	6	16	3	8	18	7	4	14
Adjusted Flow Rate (*v*), veh/h	99	1178	115	15	342	55		51	23	105	73	
Adjusted Saturation Flow Rate (*s*), veh/h/ln	1711	1766	1610	1810	1766	1522		1834	1610	1702	1682	
Queue Service Time (g_s), s	1.8	8.1	0.9	0.3	4.4	1.4		2.7	1.4	3.0	4.3	
Cycle Queue Clearance Time (g_c), s	1.8	8.1	0.9	0.3	4.4	1.4		2.7	1.4	3.0	4.3	
Green Ratio (*g/C*)	0.71	0.69	0.69	0.67	0.66	0.66		0.04	0.04	0.06	0.06	
Capacity (*c*), veh/h	763	2425	1105	385	2319	999		80	70	216	107	
Volume-to-Capacity Ratio (*X*)	0.129	0.486	0.104	0.038	0.147	0.055		0.634	0.327	0.486	0.690	
Back of Queue (*Q*), ft/ln (90 th percentile)	20.9	79.6	10.9	3.6	62.4	18.5		52	22.7	52.4	74.5	
Back of Queue (*Q*), veh/ln (90 th percentile)	0.9	3.5	0.5	0.2	2.8	0.8		2.4	1.0	2.3	3.4	
Queue Storage Ratio (*RQ*) (90 th percentile)	0.14	0.00	0.09	0.03	0.00	0.17		0.00	0.00	0.00	0.00	
Uniform Delay (d_1), s/veh	4.4	2.8	1.7	5.7	8.0	6.9		47.0	46.4	45.3	45.9	
Incremental Delay (d_2), s/veh	0.0	0.6	0.2	0.0	0.1	0.1		3.1	1.0	0.6	2.9	
Initial Queue Delay (d_3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	
Control Delay (*d*), s/veh	4.5	3.4	1.9	5.8	8.1	7.0		50.1	47.4	45.9	48.8	
Level of Service (LOS)	A	A	A	A	A	A		D	D	D	D	
Approach Delay, s/veh / LOS	3.3	A		7.9	A		49.3	D		47.1	D	
Intersection Delay, s/veh / LOS	9.7						A					

Multimodal Results	EB		WB		NB		SB	
Pedestrian LOS Score / LOS	1.86	B	2.06	B	2.47	B	2.46	B
Bicycle LOS Score / LOS	1.48	A	1.18	A	0.61	A	0.78	A

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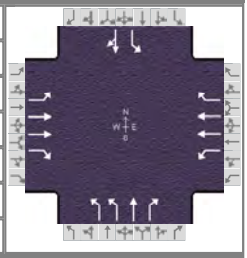
HCS7 Signalized Intersection Results Summary

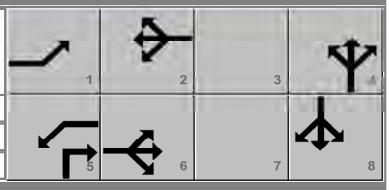
General Information				Intersection Information	
Agency	Stolfus and Associates			Duration, h	0.250
Analyst	Max Rusch	Analysis Date		Area Type	Other
Jurisdiction		Time Period	AM Peak	PHF	0.84
Urban Street	Patterson Rd	Analysis Year	2045	Analysis Period	1> 7:00
Intersection	Home Depot Access/Me…	File Name	2045 ACP AM.xus		
Project Description					



Demand Information	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Demand (*v*), veh/h	39	756	189	87	571	13	70	21	47	25	30	28

Signal Information			
Cycle, s	100.0	Reference Phase	2
Offset, s	37	Reference Point	Begin
Uncoordinated	No	Simult. Gap E/W	Off
Force Mode	Fixed	Simult. Gap N/S	Off

Green	3.9	0.3	65.3	5.6	5.9	0.0
Yellow	3.5	0.0	4.0	4.0	4.0	0.0
Red	0.5	0.0	1.0	1.0	1.0	0.0



Timer Results	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Assigned Phase	1	6	5	2		4		8
Case Number	1.1	3.0	1.1	3.0		9.0		10.0
Phase Duration, s	8.2	70.6	7.9	70.3		10.9		10.6
Change Period, ($Y+R_c$), s	4.0	5.0	4.0	5.0		5.0		5.0
Max Allow Headway (*MAH*), s	5.2	0.0	5.2	0.0		5.4		5.4
Queue Clearance Time (g_s), s	3.3		3.0			5.2		5.9
Green Extension Time (g_e), s	0.3	0.0	0.2	0.0		0.7		0.1
Phase Call Probability	0.85		0.79			0.99		0.94
Max Out Probability	0.00		0.00			0.01		1.00

Movement Group Results	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Assigned Movement	1	6	16	5	2	12	7	4	14	3	8	18
Adjusted Flow Rate (*v*), veh/h	67	1307	327	56	367	8	83	25	56	30	69	
Adjusted Saturation Flow Rate (*s*), veh/h/ln	1711	1766	1598	1810	1752	1610	1743	1900	1610	1767	1748	
Queue Service Time (g_s), s	1.3	9.2	2.0	1.0	2.8	0.1	2.3	1.3	3.2	1.6	3.9	
Cycle Queue Clearance Time (g_c), s	1.3	9.2	2.0	1.0	2.8	0.1	2.3	1.3	3.2	1.6	3.9	
Green Ratio (*g/C*)	0.69	0.66	0.66	0.69	0.65	0.65	0.06	0.06	0.10	0.06	0.06	
Capacity (*c*), veh/h	749	2316	1047	313	2287	1051	207	113	159	98	97	
Volume-to-Capacity Ratio (*X*)	0.090	0.564	0.312	0.179	0.160	0.008	0.403	0.222	0.352	0.302	0.709	
Back of Queue (*Q*), ft/ln (90 th percentile)	16.9	84.5	25.6	13.7	36.8	1.9	42	25.3	54.6	31.6	80.6	
Back of Queue (*Q*), veh/ln (90 th percentile)	0.7	3.7	1.2	0.6	1.6	0.1	1.9	1.1	2.5	1.4	3.7	
Queue Storage Ratio (*RQ*) (90 th percentile)	0.13	0.00	0.13	0.12	0.00	0.00	0.24	0.00	0.25	0.24	0.00	
Uniform Delay (d_1), s/veh	5.1	2.8	1.2	5.7	4.3	4.8	45.3	44.8	42.1	45.3	46.4	
Incremental Delay (d_2), s/veh	0.1	0.9	0.7	0.4	0.1	0.0	1.8	1.4	1.9	2.4	12.6	
Initial Queue Delay (d_3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Control Delay (*d*), s/veh	5.1	3.7	2.0	6.0	4.5	4.8	47.1	46.2	44.0	47.8	59.0	
Level of Service (LOS)	A	A	A	A	A	A	D	D	D	D	E	
Approach Delay, s/veh / LOS	3.4	A		4.7	A		45.9	D		55.6	E	
Intersection Delay, s/veh / LOS	8.7						A					

Multimodal Results	EB		WB		NB		SB	
Pedestrian LOS Score / LOS	2.23	B	1.87	B	2.46	B	2.47	B
Bicycle LOS Score / LOS	1.45	A	1.15	A	0.76	A	0.65	A

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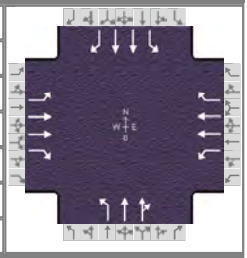
HCS7 Signalized Intersection Results Summary

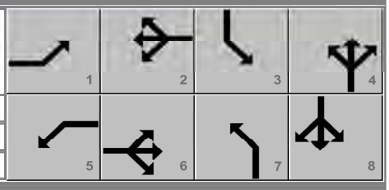
General Information				Intersection Information	
Agency	Stolfus and Associates			Duration, h	0.250
Analyst	Max Rusch	Analysis Date		Area Type	Other
Jurisdiction		Time Period	AM Peak	PHF	0.92
Urban Street	Patterson Rd	Analysis Year	2045	Analysis Period	1> 7:00
Intersection	24 1/2 Rd & Patterson	File Name	2045 ACP AM.xus		
Project Description					



Demand Information	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Demand (*v*), veh/h	40	724	70	147	442	121	144	138	62	211	307	83

Signal Information			
Cycle, s	100.0	Reference Phase	2
Offset, s	11	Reference Point	Begin
Uncoordinated	No	Simult. Gap E/W	On
Force Mode	Fixed	Simult. Gap N/S	On

Green	4.4	0.4	50.9	7.0	2.5	12.3
Yellow	3.5	0.0	4.0	3.5	3.5	4.0
Red	0.5	0.0	1.5	0.5	0.5	1.0



Timer Results	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Assigned Phase	1	6	5	2	7	4	3	8
Case Number	1.1	3.0	1.1	3.0	1.1	4.0	1.1	3.0
Phase Duration, s	8.4	56.4	8.8	56.8	11.0	17.3	17.5	23.8
Change Period, ($Y+R_c$), s	4.0	5.5	4.0	5.5	4.0	5.0	4.0	5.0
Max Allow Headway (*MAH*), s	5.2	0.0	5.2	0.0	5.2	5.2	5.2	5.2
Queue Clearance Time (g_s), s	4.1		4.6		9.0	8.0	12.8	10.6
Green Extension Time (g_e), s	0.4	0.0	0.5	0.0	0.0	4.3	0.8	4.4
Phase Call Probability	0.88		0.94		0.99	1.00	1.00	1.00
Max Out Probability	0.00		0.00		1.00	0.00	0.16	0.00

Movement Group Results	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Assigned Movement	1	6	16	5	2	12	7	4	14	3	8	18
Adjusted Flow Rate (*v*), veh/h	78	1404	136	100	301	82	157	111	106	229	334	90
Adjusted Saturation Flow Rate (*s*), veh/h/ln	1697	1781	1610	1810	1766	1598	1767	1856	1665	1767	1738	1397
Queue Service Time (g_s), s	2.1	23.7	1.7	2.6	4.3	3.0	7.0	5.6	6.0	10.8	8.6	5.6
Cycle Queue Clearance Time (g_c), s	2.1	23.7	1.7	2.6	4.3	3.0	7.0	5.6	6.0	10.8	8.6	5.6
Green Ratio (*g/C*)	0.55	0.51	0.51	0.56	0.51	0.51	0.19	0.12	0.12	0.28	0.19	0.19
Capacity (*c*), veh/h	575	1813	820	251	1811	819	274	228	204	384	654	263
Volume-to-Capacity Ratio (*X*)	0.135	0.774	0.166	0.398	0.166	0.101	0.571	0.488	0.520	0.597	0.510	0.343
Back of Queue (*Q*), ft/ln (90 th percentile)	33.1	187.8	23	41.7	67.6	44.7	135.1	106.9	102.8	167.9	140.1	88.1
Back of Queue (*Q*), veh/ln (90 th percentile)	1.4	8.4	1.0	1.9	3.0	2.0	6.0	4.7	4.6	7.4	6.1	3.5
Queue Storage Ratio (*RQ*) (90 th percentile)	0.25	0.00	0.10	0.32	0.00	0.18	1.02	0.00	0.00	1.26	0.00	0.00
Uniform Delay (d_1), s/veh	10.8	9.3	4.3	14.2	12.3	14.6	36.3	40.9	41.1	30.3	36.5	35.2
Incremental Delay (d_2), s/veh	0.1	2.9	0.4	1.3	0.2	0.2	3.5	2.3	2.9	2.1	0.9	1.1
Initial Queue Delay (d_3), 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
Control Delay (*d*), s/veh	10.9	12.2	4.7	15.6	12.4	14.8	39.8	43.2	44.0	32.5	37.3	36.3
Level of Service (LOS)	B	B	A	B	B	B	D	D	D	C	D	D
Approach Delay, s/veh / LOS	11.5	B		13.5	B		42.0	D		35.5	D	
Intersection Delay, s/veh / LOS	20.5						C					

Multimodal Results	EB		WB		NB		SB	
Pedestrian LOS Score / LOS	2.26	B	2.41	B	2.46	B	2.45	B
Bicycle LOS Score / LOS	1.24	A	1.12	A	0.80	A	1.03	A

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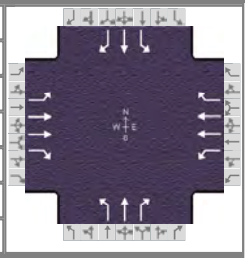
HCS7 Signalized Intersection Results Summary

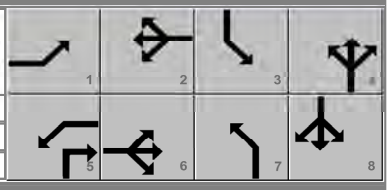
General Information				Intersection Information	
Agency	Stolfus and Associates			Duration, h	0.250
Analyst	Max Rusch	Analysis Date		Area Type	Other
Jurisdiction		Time Period	AM Peak	PHF	0.87
Urban Street	Patterson Rd	Analysis Year	2045	Analysis Period	1> 7:00
Intersection	25 Road & Patterson	File Name	2045 ACP AM.xus		
Project Description					



Demand Information	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Demand (*v*), veh/h	83	774	55	206	687	109	125	261	120	190	305	41

Signal Information			
Cycle, s	100.0	Reference Phase	2
Offset, s	35	Reference Point	Begin
Uncoordinated	No	Simult. Gap E/W	On
Force Mode	Fixed	Simult. Gap N/S	On

Green	6.0	1.0	36.0	6.0	24.0	0.0
Yellow	3.5	3.5	4.5	3.5	4.0	0.0
Red	0.5	0.5	1.5	0.5	1.0	0.0



Timer Results	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Assigned Phase	1	6	5	2	7	4	3	8
Case Number	1.1	3.0	1.1	3.0	1.1	3.0	1.1	3.0
Phase Duration, s	15.0	47.0	10.0	42.0	10.0	29.0	14.0	33.0
Change Period, ($Y+R_c$), s	4.0	6.0	4.0	6.0	4.0	5.0	4.0	5.0
Max Allow Headway (*MAH*), s	5.2	0.0	5.2	0.0	5.2	5.2	5.2	5.2
Queue Clearance Time (g_s), s	6.3		5.9		8.0	17.1	10.9	19.3
Green Extension Time (g_e), s	0.2	0.0	0.0	0.0	0.0	2.7	0.0	3.2
Phase Call Probability	1.00		1.00		1.00	1.00	1.00	1.00
Max Out Probability	1.00		1.00		1.00	0.76	1.00	0.58

Movement Group Results	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Assigned Movement	1	6	16	5	2	12	7	4	14	3	8	18
Adjusted Flow Rate (*v*), veh/h	135	1261	90	113	376	60	144	300	121	218	351	47
Adjusted Saturation Flow Rate (*s*), veh/h/ln	1753	1781	1585	1795	1795	1585	1753	1811	1610	1795	1811	1585
Queue Service Time (g_s), s	4.3	29.1	1.6	3.9	9.1	2.9	6.0	15.1	5.7	8.9	17.3	2.2
Cycle Queue Clearance Time (g_c), s	4.3	29.1	1.6	3.9	9.1	2.9	6.0	15.1	5.7	8.9	17.3	2.2
Green Ratio (*g/C*)	0.49	0.41	0.41	0.42	0.36	0.36	0.30	0.24	0.30	0.36	0.28	0.28
Capacity (*c*), veh/h	517	1460	650	220	1292	571	262	435	483	338	507	444
Volume-to-Capacity Ratio (*X*)	0.262	0.864	0.138	0.512	0.291	0.104	0.549	0.690	0.250	0.646	0.691	0.106
Back of Queue (*Q*), ft/ln (90 th percentile)	71.3	284.2	23.1	71	145	65.6	122.7	254.4	90.9	159.9	279.4	35.4
Back of Queue (*Q*), veh/ln (90 th percentile)	3.1	12.7	1.0	3.2	6.5	2.9	5.4	11.0	4.1	7.2	12.1	1.6
Queue Storage Ratio (*RQ*) (90 th percentile)	0.40	0.00	0.14	0.40	0.00	0.50	0.55	0.00	0.52	1.21	0.00	0.27
Uniform Delay (d_1), s/veh	14.8	17.0	7.6	20.0	30.3	24.7	28.6	34.6	26.5	25.2	32.1	26.7
Incremental Delay (d_2), s/veh	1.1	6.6	0.4	7.0	0.5	0.3	8.0	8.7	1.2	9.2	7.5	0.5
Initial Queue Delay (d_3), 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
Control Delay (*d*), s/veh	16.0	23.6	8.1	27.0	30.8	25.0	36.6	43.3	27.7	34.4	39.7	27.2
Level of Service (LOS)	B	C	A	C	C	C	D	D	C	C	D	C
Approach Delay, s/veh / LOS	22.0	C		29.4	C		38.3	D		36.8	D	
Intersection Delay, s/veh / LOS	28.9						C					

Multimodal Results	EB		WB		NB		SB	
Pedestrian LOS Score / LOS	2.12	B	2.11	B	2.45	B	2.44	B
Bicycle LOS Score / LOS	1.35	A	1.44	A	1.42	A	1.50	B

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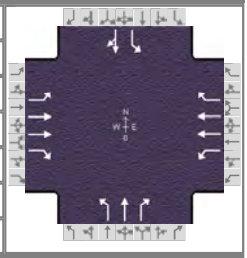
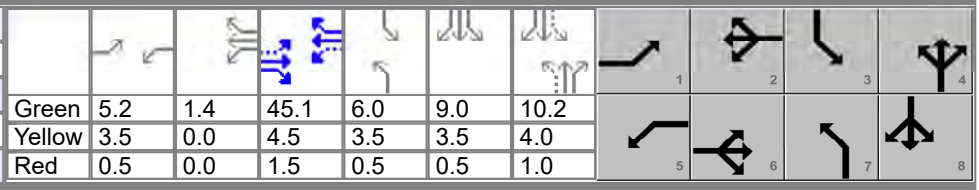
HCS7 Signalized Intersection Results Summary

General Information				Intersection Information	
Agency	Stolfus and Associates			Duration, h	0.250
Analyst	Max Rusch	Analysis Date		Area Type	Other
Jurisdiction		Time Period	AM Peak	PHF	0.82
Urban Street	Patterson Rd	Analysis Year	2045	Analysis Period	1> 7:00
Intersection	25 1/2 Road & Patterson	File Name	2045 ACP AM.xus		
Project Description					



Demand Information	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Demand (*v*), veh/h	32	934	51	137	986	90	73	89	98	212	149	118

Signal Information									
Cycle, s	100.0	Reference Phase	2						
Offset, s	89	Reference Point	Begin	Green	5.2	1.4	45.1	6.0	9.0	10.2
Uncoordinated	No	Simult. Gap E/W	On	Yellow	3.5	0.0	4.5	3.5	3.5	4.0
Force Mode	Fixed	Simult. Gap N/S	On	Red	0.5	0.0	1.5	0.5	0.5	1.0



Timer Results	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Assigned Phase	1	6	5	2	7	4	3	8
Case Number	1.1	3.0	1.1	3.0	1.1	3.0	1.1	4.0
Phase Duration, s	9.2	51.1	10.6	52.6	10.0	15.2	23.0	28.2
Change Period, ($Y+R_c$), s	4.0	6.0	4.0	6.0	4.0	5.0	4.0	5.0
Max Allow Headway (*MAH*), s	5.2	0.0	5.2	0.0	5.2	5.3	5.2	5.3
Queue Clearance Time (g_s), s	3.0		3.5		6.4	9.3	14.5	19.9
Green Extension Time (g_e), s	0.0	0.0	0.1	0.0	0.0	0.9	0.5	1.5
Phase Call Probability	0.65		0.83		1.00	1.00	1.00	1.00
Max Out Probability	0.07		0.01		1.00	1.00	1.00	1.00

Movement Group Results	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Assigned Movement	1	6	16	5	2	12	7	4	14	3	8	18
Adjusted Flow Rate (*v*), veh/h	38	1108	60	64	460	42	89	109	120	259	326	
Adjusted Saturation Flow Rate (*s*), veh/h/ln	1810	1781	1598	1781	1781	1572	1767	1885	1585	1682	1719	
Queue Service Time (g_s), s	1.0	21.0	1.4	1.5	7.5	1.4	4.4	5.5	7.3	12.5	17.9	
Cycle Queue Clearance Time (g_c), s	1.0	21.0	1.4	1.5	7.5	1.4	4.4	5.5	7.3	12.5	17.9	
Green Ratio (*g/C*)	0.50	0.45	0.45	0.52	0.47	0.47	0.16	0.10	0.10	0.31	0.23	
Capacity (*c*), veh/h	504	1608	721	306	1659	732	212	192	162	443	399	
Volume-to-Capacity Ratio (*X*)	0.075	0.689	0.084	0.209	0.278	0.057	0.420	0.564	0.739	0.584	0.816	
Back of Queue (*Q*), ft/ln (90 th percentile)	15.6	217.5	20.4	20	108.4	39.5	90.8	106.8	129.9	202.3	278.8	
Back of Queue (*Q*), veh/ln (90 th percentile)	0.7	9.7	0.9	0.9	4.8	1.8	4.0	4.8	5.8	8.6	12.4	
Queue Storage Ratio (*RQ*) (90 th percentile)	0.12	0.00	0.16	0.15	0.00	0.30	0.82	0.00	1.47	1.50	0.00	
Uniform Delay (d_1), s/veh	12.3	14.9	9.9	10.2	15.2	14.2	37.2	42.8	43.6	28.3	36.4	
Incremental Delay (d_2), s/veh	0.1	2.2	0.2	0.4	0.3	0.1	6.0	3.7	13.7	5.5	11.7	
Initial Queue Delay (d_3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Control Delay (*d*), s/veh	12.4	17.1	10.1	10.6	15.5	14.3	43.2	46.4	57.3	33.9	48.1	
Level of Service (LOS)	B	B	B	B	B	B	D	D	E	C	D	
Approach Delay, s/veh / LOS	16.6	B		14.9	B		49.6	D		41.8	D	
Intersection Delay, s/veh / LOS	25.7						C					

Multimodal Results	EB		WB		NB		SB	
Pedestrian LOS Score / LOS	2.10	B	1.90	B	2.46	B	2.45	B
Bicycle LOS Score / LOS	1.51	B	1.71	B	1.01	A	1.45	A

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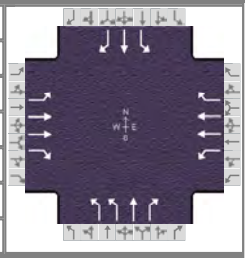
HCS7 Signalized Intersection Results Summary

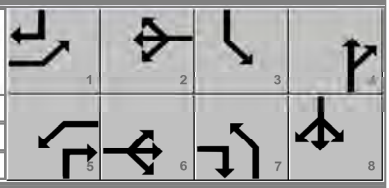
General Information				Intersection Information	
Agency	Stolfus and Associates			Duration, h	0.250
Analyst	Max Rusch	Analysis Date		Area Type	Other
Jurisdiction		Time Period	AM Peak	PHF	0.77
Urban Street	Patterson Rd	Analysis Year	2045	Analysis Period	1> 7:00
Intersection	1st Street & Patterson	File Name	2045 ACP AM.xus		
Project Description					



Demand Information	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Demand (v), veh/h	54	966	180	173	1046	40	114	213	143	178	475	67

Signal Information			
Cycle, s	100.0	Reference Phase	2
Offset, s	47	Reference Point	Begin
Uncoordinated	No	Simult. Gap E/W	On
Force Mode	Fixed	Simult. Gap N/S	On

Green	4.9	2.5	29.3	6.3	3.5	34.9
Yellow	3.5	0.0	3.0	3.5	0.0	4.0
Red	0.5	0.0	2.5	0.5	0.0	1.0



Timer Results	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Assigned Phase	1	6	5	2	7	4	3	8
Case Number	1.1	3.0	1.1	3.0	2.0	3.0	1.1	3.0
Phase Duration, s	8.9	34.8	11.4	37.3	10.3	39.9	13.9	43.4
Change Period, ($Y+R_c$), s	4.0	5.5	4.0	5.5	4.0	5.0	4.0	5.0
Max Allow Headway (MAH), s	5.2	0.0	5.2	0.0	5.2	5.2	5.2	5.2
Queue Clearance Time (g_s), s	3.7		5.4		6.2	13.4	9.9	32.0
Green Extension Time (g_e), s	0.1	0.0	0.4	0.0	0.3	8.7	0.0	6.5
Phase Call Probability	0.71		0.93		0.98	1.00	1.00	1.00
Max Out Probability	0.00		0.00		1.00	0.11	1.00	0.43

Movement Group Results	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Assigned Movement	1	6	16	5	2	12	7	4	14	3	8	18
Adjusted Flow Rate (v), veh/h	44	789	147	95	576	22	148	277	186	231	617	87
Adjusted Saturation Flow Rate (s), veh/h/ln	1810	1766	1598	1781	1781	1572	1743	1856	1598	1810	1885	1610
Queue Service Time (g_s), s	1.7	18.5	3.6	3.4	12.9	0.8	4.2	11.4	7.6	7.9	30.0	3.2
Cycle Queue Clearance Time (g_c), s	1.7	18.5	3.6	3.4	12.9	0.8	4.2	11.4	7.6	7.9	30.0	3.2
Green Ratio (g/C)	0.34	0.29	0.36	0.37	0.32	0.32	0.06	0.35	0.42	0.46	0.38	0.43
Capacity (c), veh/h	302	1036	570	269	1132	500	221	647	676	472	724	698
Volume-to-Capacity Ratio (X)	0.146	0.762	0.258	0.355	0.509	0.044	0.669	0.427	0.275	0.489	0.852	0.125
Back of Queue (Q), ft/ln (90 th percentile)	28.8	213.8	47.2	50.7	172.4	11.9	76.7	176.8	108.7	122.8	425.8	46.7
Back of Queue (Q), veh/ln (90 th percentile)	1.3	9.5	2.1	2.3	7.7	0.5	3.5	7.8	4.9	5.6	19.2	2.1
Queue Storage Ratio (RQ) (90 th percentile)	0.22	0.00	0.36	0.46	0.00	0.11	0.58	0.00	0.82	1.12	0.00	0.00
Uniform Delay (d_1), s/veh	24.1	23.9	10.6	19.4	26.8	18.6	45.8	24.9	18.8	17.6	28.2	17.0
Incremental Delay (d_2), s/veh	0.3	4.5	0.9	0.7	1.0	0.1	4.9	0.6	0.3	1.1	7.5	0.1
Initial Queue Delay (d_3), 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
Control Delay (d), s/veh	24.3	28.3	11.5	20.1	27.8	18.7	50.7	25.5	19.1	18.8	35.7	17.1
Level of Service (LOS)	C	C	B	C	C	B	D	C	B	B	D	B
Approach Delay, s/veh / LOS	25.6	C		26.4	C		29.7	C		29.8	C	
Intersection Delay, s/veh / LOS	27.8						C					

Multimodal Results	EB		WB		NB		SB	
Pedestrian LOS Score / LOS	2.29	B	2.11	B	2.43	B	2.43	B
Bicycle LOS Score / LOS	1.77	B	1.84	B	1.49	A	2.03	B

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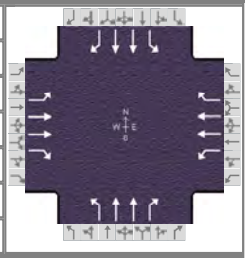
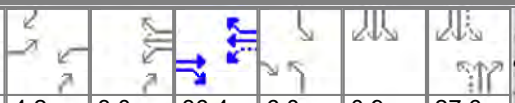
HCS7 Signalized Intersection Results Summary

General Information				Intersection Information	
Agency	Stolfus and Associates			Duration, h	0.250
Analyst	Max Rusch	Analysis Date		Area Type	Other
Jurisdiction		Time Period	AM Peak	PHF	0.80
Urban Street	Patterson Rd	Analysis Year	2045	Analysis Period	1> 7:00
Intersection	7th Street & Patterson	File Name	2045 ACP AM.xus		
Project Description					

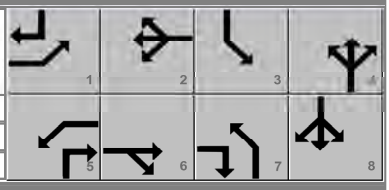


Demand Information	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Demand (*v*), veh/h	69	716	189	238	1007	106	80	301	147	168	654	204

Signal Information			
Cycle, s	100.0	Reference Phase	2
Offset, s	11	Reference Point	Begin
Uncoordinated	No	Simult. Gap E/W	On
Force Mode	Fixed	Simult. Gap N/S	On



Green	4.2	3.0	36.4	6.0	0.9	27.6
Yellow	3.5	0.0	4.0	3.5	3.5	4.0
Red	0.5	0.0	1.0	0.5	0.5	1.0



Timer Results	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Assigned Phase	1	6	5	2	7	4	3	8
Case Number	2.0	3.0	1.1	3.0	1.1	3.0	1.1	3.0
Phase Duration, s	8.2	41.4	11.2	44.4	10.0	32.6	14.8	37.4
Change Period, ($Y+R_c$), s	4.0	5.0	4.0	5.0	4.0	5.0	4.0	5.0
Max Allow Headway (*MAH*), s	5.2	0.0	5.2	0.0	5.2	5.2	5.2	5.2
Queue Clearance Time (g_s), s	5.1		6.9		6.0	9.7	9.9	21.7
Green Extension Time (g_e), s	0.2	0.0	0.4	0.0	0.4	12.7	1.0	10.7
Phase Call Probability	0.79		0.98		0.94	1.00	1.00	1.00
Max Out Probability	0.00		0.12		0.00	0.32	0.00	0.47

Movement Group Results	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Assigned Movement	1	6	16	5	2	12	7	4	14	3	8	18
Adjusted Flow Rate (*v*), veh/h	57	587	134	142	602	60	100	376	168	210	818	255
Adjusted Saturation Flow Rate (*s*), veh/h/ln	1810	1766	1373	1810	1781	1543	1767	1795	1591	1795	1809	1586
Queue Service Time (g_s), s	3.1	13.4	7.9	4.9	11.0	2.4	4.0	7.7	7.0	7.9	19.7	12.1
Cycle Queue Clearance Time (g_c), s	3.1	13.4	7.9	4.9	11.0	2.4	4.0	7.7	7.0	7.9	19.7	12.1
Green Ratio (*g/C*)	0.04	0.36	0.42	0.45	0.39	0.39	0.34	0.28	0.35	0.40	0.32	0.37
Capacity (*c*), veh/h	75	1287	594	373	1404	608	233	989	553	439	1173	581
Volume-to-Capacity Ratio (*X*)	0.749	0.456	0.225	0.382	0.429	0.099	0.429	0.380	0.303	0.478	0.697	0.439
Back of Queue (*Q*), ft/ln (90 th percentile)	65.5	195.6	150.6	57.2	144.9	35.8	70.6	119.4	99	125.5	268.6	160.8
Back of Queue (*Q*), veh/ln (90 th percentile)	3.0	8.7	6.7	2.6	6.5	1.6	3.1	5.4	4.5	5.7	12.2	7.2
Queue Storage Ratio (*RQ*) (90 th percentile)	0.37	0.00	0.97	0.43	0.00	0.23	0.32	0.00	0.56	1.14	0.00	0.00
Uniform Delay (d_1), s/veh	45.8	26.9	25.5	13.3	18.4	18.2	25.2	25.4	20.6	20.7	29.5	23.9
Incremental Delay (d_2), s/veh	15.6	0.9	0.7	0.7	0.7	0.2	1.8	0.3	0.4	1.2	1.3	0.7
Initial Queue Delay (d_3), 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
Control Delay (*d*), s/veh	61.4	27.8	26.3	14.0	19.1	18.5	27.0	25.7	21.0	21.9	30.8	24.7
Level of Service (LOS)	E	C	C	B	B	B	C	C	C	C	C	C
Approach Delay, s/veh / LOS	30.0	C		18.1	B		24.7	C		28.1	C	
Intersection Delay, s/veh / LOS	25.6						C					

Multimodal Results	EB		WB		NB		SB	
Pedestrian LOS Score / LOS	2.45	B	2.43	B	2.45	B	2.47	B
Bicycle LOS Score / LOS	1.47	A	1.88	B	1.02	A	1.55	B

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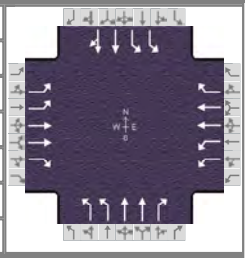
HCS7 Signalized Intersection Results Summary

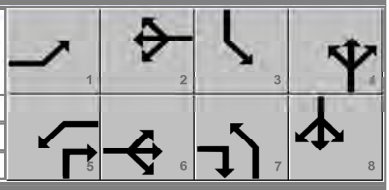
General Information				Intersection Information	
Agency	Stolfus and Associates			Duration, h	0.250
Analyst	Max Rusch	Analysis Date		Area Type	Other
Jurisdiction		Time Period	AM Peak	PHF	0.80
Urban Street	Patterson Rd	Analysis Year	2045	Analysis Period	1> 7:00
Intersection	12th Street & Patterson	File Name	2045 ACP AM.xus		
Project Description					



Demand Information	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Demand (*v*), veh/h	135	571	179	382	1138	114	224	501	122	96	570	107

Signal Information			
Cycle, s	100.0	Reference Phase	2
Offset, s	19	Reference Point	Begin
Uncoordinated	No	Simult. Gap E/W	On
Force Mode	Fixed	Simult. Gap N/S	On

Green	9.0	26.5	7.0	39.0	0.0	0.0
Yellow	3.5	4.0	3.5	4.0	0.0	0.0
Red	0.5	1.5	0.5	1.0	0.0	0.0



Timer Results	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Assigned Phase	1	6	5	2	7	4	3	8
Case Number	1.1	3.0	1.1	3.0	1.1	3.0	1.1	4.0
Phase Duration, s	13.0	32.0	13.0	32.0	11.0	44.0	11.0	44.0
Change Period, ($Y+R_c$), s	4.0	5.5	4.0	5.5	4.0	5.0	4.0	5.0
Max Allow Headway (*MAH*), s	5.2	0.0	5.2	0.0	5.2	5.2	5.2	5.2
Queue Clearance Time (g_s), s	4.4		6.5		6.8	15.0	3.9	20.5
Green Extension Time (g_e), s	0.2	0.0	0.3	0.0	0.0	11.8	0.1	10.2
Phase Call Probability	1.00		1.00		1.00	1.00	1.00	1.00
Max Out Probability	1.00		1.00		1.00	0.37	1.00	0.50

Movement Group Results	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Assigned Movement	1	6	16	5	2	12	7	4	14	3	8	18
Adjusted Flow Rate (*v*), veh/h	127	537	168	224	667	67	280	626	153	120	435	411
Adjusted Saturation Flow Rate (*s*), veh/h/ln	1730	1766	1603	1743	1795	1598	1730	1781	1572	1743	1870	1765
Queue Service Time (g_s), s	2.4	13.8	8.4	4.5	15.7	2.1	4.8	13.0	5.6	1.9	18.5	18.5
Cycle Queue Clearance Time (g_c), s	2.4	13.8	8.4	4.5	15.7	2.1	4.8	13.0	5.6	1.9	18.5	18.5
Green Ratio (*g/C*)	0.36	0.26	0.34	0.36	0.26	0.26	0.46	0.39	0.48	0.46	0.39	0.39
Capacity (*c*), veh/h	582	936	537	618	951	423	627	1389	755	723	729	688
Volume-to-Capacity Ratio (*X*)	0.218	0.573	0.313	0.362	0.701	0.158	0.447	0.451	0.202	0.166	0.597	0.597
Back of Queue (*Q*), ft/ln (90 th percentile)	40.3	198.5	145.2	79.4	202.2	32.5	80.5	188.9	82.6	31.3	275.4	263.6
Back of Queue (*Q*), veh/ln (90 th percentile)	1.8	8.8	6.6	3.6	9.1	1.5	3.6	8.4	3.7	1.4	12.3	11.8
Queue Storage Ratio (*RQ*) (90 th percentile)	0.23	0.00	1.00	0.30	0.00	0.24	0.36	0.00	0.37	0.24	0.00	0.00
Uniform Delay (d_1), s/veh	23.0	35.3	28.1	25.5	27.9	17.7	18.5	22.6	15.0	16.3	24.2	24.3
Incremental Delay (d_2), s/veh	0.5	1.6	0.9	1.4	3.6	0.7	2.3	1.1	0.6	0.5	3.6	3.8
Initial Queue Delay (d_3), 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
Control Delay (*d*), s/veh	23.5	36.9	29.0	26.8	31.5	18.3	20.8	23.6	15.6	16.8	27.8	28.1
Level of Service (LOS)	C	D	C	C	C	B	C	C	B	B	C	C
Approach Delay, s/veh / LOS	33.2	C		29.5	C		21.7	C		26.6	C	
Intersection Delay, s/veh / LOS	27.4						C					

Multimodal Results	EB		WB		NB		SB	
Pedestrian LOS Score / LOS	2.58	C	2.44	B	2.57	C	2.57	C
Bicycle LOS Score / LOS	1.40	A	2.17	B	1.36	A	1.28	A

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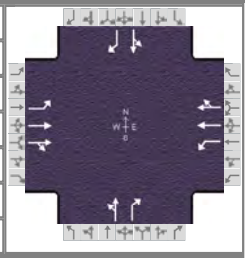
HCS7 Signalized Intersection Results Summary

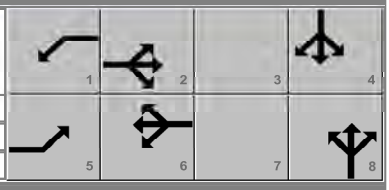
General Information				Intersection Information	
Agency	Stolfus and Associates			Duration, h	0.250
Analyst	Max Rusch	Analysis Date		Area Type	Other
Jurisdiction		Time Period	AM Peak	PHF	0.83
Urban Street	Patterson Rd	Analysis Year	2045	Analysis Period	1> 7:00
Intersection	Patterson Rd & 15th St	File Name	2045 ACP AM.xus		
Project Description					



Demand Information	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Demand (v), veh/h	140	623	15	51	1800	194	12	3	20	12	3	61

Signal Information			
Cycle, s	100.0	Reference Phase	2
Offset, s	9	Reference Point	End
Uncoordinated	No	Simult. Gap E/W	On
Force Mode	Fixed	Simult. Gap N/S	On

Green	3.2	2.8	75.4	6.6	0.0	0.0
Yellow	4.0	0.0	4.0	4.0	0.0	0.0
Red	0.0	0.0	0.0	0.0	0.0	0.0



Timer Results	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Assigned Phase	5	2	1	6		8		4
Case Number	1.1	4.0	1.1	4.0		7.0		7.0
Phase Duration, s	10.0	82.2	7.2	79.4		10.6		10.6
Change Period, ($Y+R_c$), s	4.0	4.0	4.0	4.0		4.0		4.0
Max Allow Headway (MAH), s	3.1	0.0	3.1	0.0		3.3		3.3
Queue Clearance Time (g_s), s	4.0		2.3			3.4		6.5
Green Extension Time (g_e), s	0.3	0.0	0.0	0.0		0.3		0.3
Phase Call Probability	0.99		0.53			0.98		0.98
Max Out Probability	0.00		0.00			0.00		0.00

Movement Group Results	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Assigned Movement	5	2	12	1	6	16	3	8	18	7	4	14
Adjusted Flow Rate (v), veh/h	178	408	405	27	536	518		18	24		18	73
Adjusted Saturation Flow Rate (s), veh/h/ln	1781	1856	1840	1781	1885	1820		1514	1585		1514	1585
Queue Service Time (g_s), s	2.0	3.6	3.7	0.3	3.3	2.9		0.0	1.4		0.0	4.5
Cycle Queue Clearance Time (g_c), s	2.0	3.6	3.7	0.3	3.3	2.9		1.0	1.4		1.0	4.5
Green Ratio (g/C)	0.82	0.78	0.78	0.79	0.75	0.75		0.07	0.07		0.07	0.07
Capacity (c), veh/h	564	1451	1439	616	1422	1373		165	105		165	105
Volume-to-Capacity Ratio (X)	0.316	0.281	0.281	0.044	0.377	0.377		0.109	0.229		0.109	0.699
Back of Queue (Q), ft/ln (90 th percentile)	13.3	36.1	35.9	3	33.5	29.8		17.1	23.1		17.1	75.1
Back of Queue (Q), veh/ln (90 th percentile)	0.6	1.6	1.6	0.1	1.5	1.4		0.8	1.0		0.8	3.4
Queue Storage Ratio (RQ) (90 th percentile)	0.17	0.00	0.00	0.03	0.00	0.00		0.00	0.52		0.00	1.70
Uniform Delay (d_1), s/veh	1.9	1.6	1.6	2.4	1.0	0.9		44.0	44.3		44.0	45.7
Incremental Delay (d_2), s/veh	0.1	0.5	0.5	0.0	0.6	0.6		0.1	0.4		0.1	3.1
Initial Queue Delay (d_3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0
Control Delay (d), s/veh	2.0	2.0	2.1	2.5	1.6	1.5		44.1	44.7		44.1	48.8
Level of Service (LOS)	A	A	A	A	A	A		D	D		D	D
Approach Delay, s/veh / LOS	2.0	A		1.6	A		44.4	D		47.9	D	
Intersection Delay, s/veh / LOS	4.5						A					

Multimodal Results	EB		WB		NB		SB	
Pedestrian LOS Score / LOS	1.83	B	1.84	B	2.31	B	2.31	B
Bicycle LOS Score / LOS	1.26	A	2.52	C	0.56	A	0.64	A

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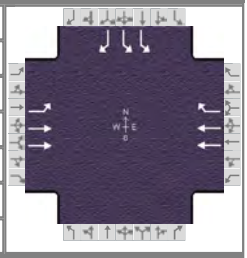
HCS7 Signalized Intersection Results Summary

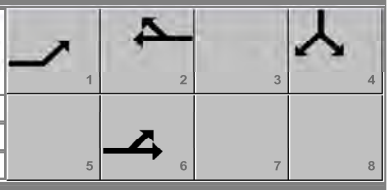
General Information				Intersection Information	
Agency	Stolfus and Associates			Duration, h	0.250
Analyst	Max Rusch	Analysis Date		Area Type	Other
Jurisdiction		Time Period	AM Peak	PHF	0.83
Urban Street	Patterson Rd	Analysis Year	2045	Analysis Period	1> 7:00
Intersection	27 1/2 Road & Patterson	File Name	2045 ACP AM.xus		
Project Description					



Demand Information	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Demand (v), veh/h	80	647			1589	304				395		214

Signal Information			
Cycle, s	100.0	Reference Phase	2
Offset, s	88	Reference Point	Begin
Uncoordinated	No	Simult. Gap E/W	On
Force Mode	Fixed	Simult. Gap N/S	On

Green	11.0	43.0	31.0	0.0	0.0	0.0
Yellow	3.5	4.5	4.0	0.0	0.0	0.0
Red	0.5	1.5	1.0	0.0	0.0	0.0



Timer Results	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Assigned Phase	1	6		2				4
Case Number	1.0	4.0		7.3				9.0
Phase Duration, s	15.0	64.0		49.0				36.0
Change Period, ($Y+R_c$), s	4.0	6.0		6.0				5.0
Max Allow Headway (MAH), s	5.2	0.0		0.0				5.3
Queue Clearance Time (g_s), s	3.4							16.1
Green Extension Time (g_e), s	0.1	0.0		0.0				4.3
Phase Call Probability	1.00							1.00
Max Out Probability	0.12							0.18

Movement Group Results	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Assigned Movement	1	6			2	12				7		14
Adjusted Flow Rate (v), veh/h	64	515			872	167				476		258
Adjusted Saturation Flow Rate (s), veh/h/ln	1753	1795			1795	1610				1757		1522
Queue Service Time (g_s), s	1.4	5.1			17.3	5.7				10.8		14.1
Cycle Queue Clearance Time (g_c), s	1.4	5.1			17.3	5.7				10.8		14.1
Green Ratio (g/C)	0.56	0.58			0.43	0.43				0.31		0.31
Capacity (c), veh/h	402	2082			1543	692				1089		472
Volume-to-Capacity Ratio (X)	0.158	0.247			0.565	0.241				0.437		0.546
Back of Queue (Q), ft/ln (90 th percentile)	22.2	68.6			214.2	81				161.8		199.7
Back of Queue (Q), veh/ln (90 th percentile)	1.0	3.1			9.7	3.7				7.4		8.6
Queue Storage Ratio (RQ) (90 th percentile)	0.15	0.00			0.00	1.53				0.97		0.00
Uniform Delay (d_1), s/veh	9.8	6.9			19.2	15.0				27.5		28.7
Incremental Delay (d_2), s/veh	0.6	0.2			1.2	0.7				1.3		4.5
Initial Queue Delay (d_3), s/veh	0.0	0.0			0.0	0.0				0.0		0.0
Control Delay (d), s/veh	10.5	7.1			20.5	15.7				28.8		33.2
Level of Service (LOS)	B	A			C	B				C		C
Approach Delay, s/veh / LOS	7.5	A		19.7	B		0.0			30.3	C	
Intersection Delay, s/veh / LOS	20.0						C					

Multimodal Results	EB		WB		NB		SB	
Pedestrian LOS Score / LOS	0.69	A	2.10	B	2.32	B	2.32	B
Bicycle LOS Score / LOS	1.21	A	2.37	B				F

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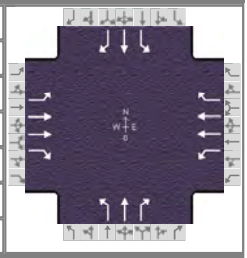
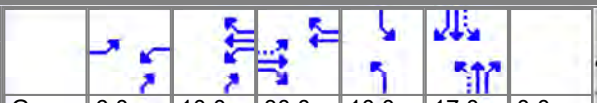
HCS7 Signalized Intersection Results Summary

General Information				Intersection Information	
Agency	Stolfus and Associates			Duration, h	0.250
Analyst	Max Rusch	Analysis Date		Area Type	Other
Jurisdiction		Time Period	AM Peak	PHF	0.85
Urban Street	Patterson Rd	Analysis Year	2045	Analysis Period	1> 7:00
Intersection	28 1/4 Road & Patterson	File Name	2045 ACP AM.xus		
Project Description					

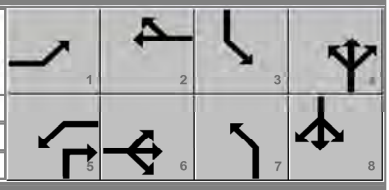


Demand Information	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Demand (v), veh/h	53	718	264	289	1672	73	290	31	81	80	31	32

Signal Information			
Cycle, s	100.0	Reference Phase	2
Offset, s	95	Reference Point	Begin
Uncoordinated	No	Simult. Gap E/W	Off
Force Mode	Fixed	Simult. Gap N/S	On



Green	6.0	10.0	30.0	10.0	17.0	0.0
Yellow	3.5	4.0	4.5	3.5	4.0	0.0
Red	0.5	0.0	1.5	0.5	1.0	0.0



Timer Results	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Assigned Phase	1	6	5	2	7	4	3	8
Case Number	1.1	3.0	2.0	3.0	1.1	3.0	1.1	3.0
Phase Duration, s	10.0	36.0	24.0	50.0	18.0	26.0	14.0	22.0
Change Period, ($Y+R_c$), s	4.0	6.0	4.0	6.0	4.0	5.0	4.0	5.0
Max Allow Headway (MAH), s	5.2	0.0	3.1	0.0	3.2	5.3	5.2	5.3
Queue Clearance Time (g_s), s	3.2		9.1		16.0	5.7	6.0	4.0
Green Extension Time (g_e), s	0.0	0.0	0.2	0.0	0.0	0.9	0.1	0.9
Phase Call Probability	1.00		1.00		1.00	1.00	1.00	1.00
Max Out Probability	1.00		0.00		1.00	0.01	1.00	0.02

Movement Group Results	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Assigned Movement	1	6	16	5	2	12	7	4	14	3	8	18
Adjusted Flow Rate (v), veh/h	31	419	154	151	871	38	341	36	95	94	36	38
Adjusted Saturation Flow Rate (s), veh/h/ln	1810	1795	1585	1795	1795	1610	1795	1900	1610	1810	1900	1610
Queue Service Time (g_s), s	1.2	6.5	4.2	7.1	18.4	2.0	14.0	1.5	3.7	4.0	1.6	2.0
Cycle Queue Clearance Time (g_c), s	1.2	6.5	4.2	7.1	18.4	2.0	14.0	1.5	3.7	4.0	1.6	2.0
Green Ratio (g/C)	0.36	0.30	0.30	0.20	0.44	0.44	0.33	0.21	0.41	0.27	0.17	0.17
Capacity (c), veh/h	327	1077	476	359	1579	708	529	399	660	470	323	274
Volume-to-Capacity Ratio (X)	0.094	0.389	0.324	0.419	0.552	0.054	0.645	0.091	0.144	0.200	0.113	0.138
Back of Queue (Q), ft/ln (90 th percentile)	20.5	91	55.6	111.3	229.4	54.2	241	29.7	56.6	72.2	31.9	33.6
Back of Queue (Q), veh/ln (90 th percentile)	0.9	4.1	2.5	5.0	10.3	2.5	10.9	1.4	2.6	3.3	1.4	1.5
Queue Storage Ratio (RQ) (90 th percentile)	0.08	0.00	0.19	0.42	0.00	0.56	0.91	0.00	0.00	0.66	0.00	0.00
Uniform Delay (d_1), s/veh	22.3	16.8	12.6	33.5	21.8	24.5	28.2	31.8	18.5	28.1	35.1	35.3
Incremental Delay (d_2), s/veh	0.4	0.8	1.4	2.4	0.9	0.1	6.0	0.5	0.5	1.0	0.7	1.0
Initial Queue Delay (d_3), 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
Control Delay (d), s/veh	22.7	17.6	13.9	35.8	22.7	24.6	34.2	32.3	19.0	29.1	35.8	36.3
Level of Service (LOS)	C	B	B	D	C	C	C	C	B	C	D	D
Approach Delay, s/veh / LOS	16.9	B		24.7	C		30.9	C		32.2	C	
Intersection Delay, s/veh / LOS	24.5						C					

Multimodal Results	EB		WB		NB		SB	
Pedestrian LOS Score / LOS	2.12	B	2.10	B	2.45	B	2.45	B
Bicycle LOS Score / LOS	1.49	A	2.46	B	1.27	A	0.77	A

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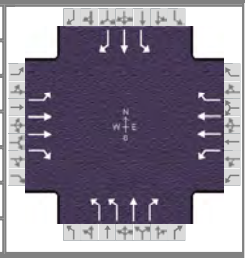
HCS7 Signalized Intersection Results Summary

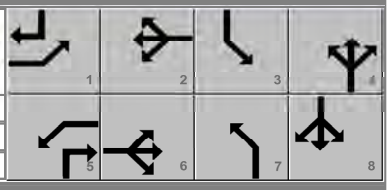
General Information				Intersection Information	
Agency	Stolfus and Associates			Duration, h	0.250
Analyst	Max Rusch	Analysis Date		Area Type	Other
Jurisdiction		Time Period	AM Peak	PHF	0.83
Urban Street	Patterson Rd	Analysis Year	2045	Analysis Period	1> 7:00
Intersection	29 Road & Patterson	File Name	2045 ACP AM.xus		
Project Description					



Demand Information	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Demand (*v*), veh/h	129	532	231	187	1461	98	194	173	49	73	271	360

Signal Information			
Cycle, s	100.0	Reference Phase	2
Offset, s	50	Reference Point	Begin
Uncoordinated	No	Simult. Gap E/W	On
Force Mode	Fixed	Simult. Gap N/S	On

Green	8.5	36.5	8.5	4.0	22.0	0.0
Yellow	3.5	4.5	3.5	0.0	4.0	0.0
Red	1.0	2.0	1.0	0.0	1.0	0.0



Timer Results	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Assigned Phase	1	6	5	2	7	4	3	8
Case Number	1.1	3.0	1.1	3.0	1.1	3.0	1.1	3.0
Phase Duration, s	13.0	43.0	13.0	43.0	13.0	27.0	17.0	31.0
Change Period, ($Y+R_c$), s	4.5	6.5	4.5	6.5	4.5	5.0	4.5	5.0
Max Allow Headway (*MAH*), s	4.1	0.0	4.1	0.0	4.2	4.3	4.2	4.3
Queue Clearance Time (g_s), s	5.7		6.6		7.1	11.8	5.4	21.8
Green Extension Time (g_e), s	0.1	0.0	0.1	0.0	0.1	2.9	0.1	1.6
Phase Call Probability	1.00		1.00		1.00	1.00	1.00	1.00
Max Out Probability	1.00		1.00		1.00	0.31	0.06	1.00

Movement Group Results	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Assigned Movement	1	6	16	5	2	12	7	4	14	3	8	18
Adjusted Flow Rate (*v*), veh/h	111	457	198	134	1046	70	234	208	17	88	327	373
Adjusted Saturation Flow Rate (*s*), veh/h/ln	1781	1795	1572	1767	1781	1585	1716	1870	1610	1753	1870	1610
Queue Service Time (g_s), s	3.7	8.8	6.9	4.6	23.6	1.5	5.1	9.8	0.7	3.4	15.7	19.8
Cycle Queue Clearance Time (g_c), s	3.7	8.8	6.9	4.6	23.6	1.5	5.1	9.8	0.7	3.4	15.7	19.8
Green Ratio (*g/C*)	0.45	0.36	0.36	0.45	0.36	0.36	0.30	0.22	0.31	0.36	0.26	0.35
Capacity (*c*), veh/h	282	1310	574	460	1300	579	559	411	491	430	486	556
Volume-to-Capacity Ratio (*X*)	0.392	0.349	0.346	0.291	0.805	0.121	0.418	0.507	0.034	0.205	0.671	0.672
Back of Queue (*Q*), ft/ln (90 th percentile)	69.4	124.2	89.3	78.4	223.2	21.1	89.4	171.5	11.6	60.6	256.2	263.9
Back of Queue (*Q*), veh/ln (90 th percentile)	3.1	5.6	4.0	3.5	10.0	0.9	4.0	7.7	0.5	2.7	11.5	12.0
Queue Storage Ratio (*RQ*) (90 th percentile)	0.22	0.00	0.33	0.20	0.00	0.24	0.40	0.00	0.05	0.46	0.00	2.00
Uniform Delay (d_1), s/veh	21.9	21.6	15.6	18.6	19.3	9.9	27.0	34.2	24.4	22.3	33.2	27.9
Incremental Delay (d_2), s/veh	3.0	0.5	1.2	1.1	3.7	0.3	2.3	4.4	0.1	1.1	7.2	6.4
Initial Queue Delay (d_3), 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
Control Delay (*d*), s/veh	24.9	22.1	16.8	19.7	23.0	10.2	29.3	38.6	24.5	23.3	40.4	34.3
Level of Service (LOS)	C	C	B	B	C	B	C	D	C	C	D	C
Approach Delay, s/veh / LOS	21.2	C		21.9	C		33.4	C		35.6	D	
Intersection Delay, s/veh / LOS	26.7						C					

Multimodal Results	EB		WB		NB		SB	
Pedestrian LOS Score / LOS	2.33	B	2.18	B	2.45	B	2.44	B
Bicycle LOS Score / LOS	1.37	A	2.22	B	1.25	A	1.79	B

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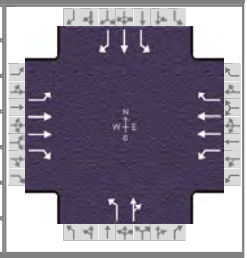
HCS7 Signalized Intersection Results Summary

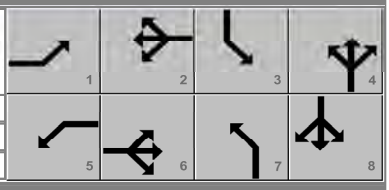
General Information				Intersection Information	
Agency	Stolfus and Associates			Duration, h	0.250
Analyst	Max Rusch	Analysis Date		Area Type	Other
Jurisdiction		Time Period	AM Peak	PHF	0.85
Urban Street	Patterson Rd	Analysis Year	2045	Analysis Period	1> 7:00
Intersection	29 1/2 Road & Patterson	File Name	2045 ACP AM.xus		
Project Description					



Demand Information	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Demand (*v*), veh/h	13	531	96	222	1549	265	48	34	67	150	106	64

Signal Information			
Cycle, s	100.0	Reference Phase	2
Offset, s	48	Reference Point	Begin
Uncoordinated	No	Simult. Gap E/W	On
Force Mode	Fixed	Simult. Gap N/S	On

Green	1.5	2.2	50.4	7.0	1.0	10.4
Yellow	3.5	3.5	5.0	4.0	4.0	4.0
Red	0.5	0.5	1.5	0.0	0.0	1.0



Timer Results	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Assigned Phase	1	6	5	2	7	4	3	8
Case Number	1.1	3.0	1.1	3.0	1.1	4.0	1.1	3.0
Phase Duration, s	5.5	56.9	11.7	63.2	11.0	15.4	16.0	20.4
Change Period, ($Y+R_c$), s	4.0	6.5	4.0	6.5	4.0	5.0	4.0	5.0
Max Allow Headway (*MAH*), s	4.5	0.0	4.5	0.0	3.7	4.7	3.7	4.7
Queue Clearance Time (g_s), s	2.3		6.9		4.7	9.1	10.3	8.1
Green Extension Time (g_e), s	0.0	0.0	0.8	0.0	0.0	1.3	0.1	1.4
Phase Call Probability	0.29		0.99		1.00	1.00	1.00	1.00
Max Out Probability	0.00		0.00		1.00	0.01	1.00	0.00

Movement Group Results	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Assigned Movement	1	6	16	5	2	12	7	4	14	3	8	18
Adjusted Flow Rate (*v*), veh/h	13	511	92	187	1304	223	56	119		176	125	75
Adjusted Saturation Flow Rate (*s*), veh/h/ln	1810	1795	1598	1795	1795	1560	1767	1618		1781	1841	1585
Queue Service Time (g_s), s	0.3	7.1	2.7	4.9	22.6	6.6	2.7	7.1		8.3	6.1	4.2
Cycle Queue Clearance Time (g_c), s	0.3	7.1	2.7	4.9	22.6	6.6	2.7	7.1		8.3	6.1	4.2
Green Ratio (*g/C*)	0.52	0.50	0.50	0.60	0.57	0.57	0.17	0.10		0.24	0.15	0.15
Capacity (*c*), veh/h	210	1810	806	566	2034	884	281	168		327	283	244
Volume-to-Capacity Ratio (*X*)	0.060	0.282	0.115	0.330	0.641	0.252	0.201	0.708		0.539	0.441	0.309
Back of Queue (*Q*), ft/ln (90 th percentile)	4.9	93.9	73	55.3	225.4	113.6	51.9	121.9		148.5	112.7	66.8
Back of Queue (*Q*), veh/ln (90 th percentile)	0.2	4.2	3.3	2.5	10.2	5.0	2.3	5.3		6.6	5.0	3.0
Queue Storage Ratio (*RQ*) (90 th percentile)	0.04	0.00	0.86	0.42	0.00	0.48	0.67	0.00		1.08	0.00	0.00
Uniform Delay (d_1), s/veh	13.0	11.9	11.4	8.3	12.2	9.7	35.3	43.3		32.2	38.4	37.6
Incremental Delay (d_2), s/veh	0.1	0.3	0.2	0.2	1.1	0.5	1.6	5.4		6.2	1.1	0.7
Initial Queue Delay (d_3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Control Delay (*d*), s/veh	13.1	12.1	11.6	8.5	13.3	10.2	36.9	48.7		38.5	39.5	38.3
Level of Service (LOS)	B	B	B	A	B	B	D	D		D	D	D
Approach Delay, s/veh / LOS	12.1	B		12.4	B		44.9	D		38.8	D	
Intersection Delay, s/veh / LOS	17.8						B					

Multimodal Results	EB		WB		NB		SB	
Pedestrian LOS Score / LOS	1.90	B	2.08	B	2.46	B	2.45	B
Bicycle LOS Score / LOS	1.11	A	2.46	B	0.78	A	1.11	A

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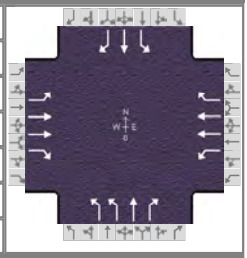
HCS7 Signalized Intersection Results Summary

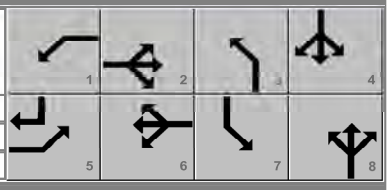
General Information				Intersection Information	
Agency	Stolfus and Associates			Duration, h	0.250
Analyst	Max Rusch	Analysis Date		Area Type	Other
Jurisdiction		Time Period	AM Peak	PHF	0.83
Urban Street	Patterson Rd	Analysis Year	2045	Analysis Period	1> 7:00
Intersection	30 Road & Patterson	File Name	2045 ACP AM.xus		
Project Description					



Demand Information	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Demand (v), veh/h	95	420	203	137	1188	17	438	57	49	42	138	279

Signal Information			
Cycle, s	100.0	Reference Phase	2
Offset, s	55	Reference Point	Begin
Uncoordinated	No	Simult. Gap E/W	On
Force Mode	Fixed	Simult. Gap N/S	On

Green	7.0	46.5	6.0	3.0	18.0	0.0
Yellow	3.5	5.0	3.5	0.0	4.0	0.0
Red	0.5	1.5	0.5	0.0	1.0	0.0



Timer Results	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Assigned Phase	5	2	1	6	3	8	7	4
Case Number	1.1	3.0	1.1	3.0	1.1	3.0	1.1	3.0
Phase Duration, s	11.0	53.0	11.0	53.0	13.0	26.0	10.0	23.0
Change Period, ($Y+R_c$), s	4.0	6.5	4.0	6.5	4.0	5.0	4.0	5.0
Max Allow Headway (MAH), s	4.1	0.0	4.2	0.0	4.2	4.3	4.2	4.3
Queue Clearance Time (g_s), s	5.1		6.1		11.0	5.0	4.2	14.4
Green Extension Time (g_e), s	0.0	0.0	0.0	0.0	0.0	1.8	0.0	0.8
Phase Call Probability	1.00		1.00		1.00	1.00	1.00	1.00
Max Out Probability	1.00		1.00		1.00	0.02	1.00	1.00

Movement Group Results	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Assigned Movement	5	2	12	1	6	16	3	8	18	7	4	14
Adjusted Flow Rate (v), veh/h	114	506	245	147	1271	18	528	69	58	51	166	225
Adjusted Saturation Flow Rate (s), veh/h/ln	1810	1795	1598	1795	1795	1598	1730	1870	1560	1810	1885	1585
Queue Service Time (g_s), s	3.1	4.1	4.6	4.1	22.8	0.3	9.0	3.0	3.0	2.2	7.9	12.4
Cycle Queue Clearance Time (g_c), s	3.1	4.1	4.6	4.1	22.8	0.3	9.0	3.0	3.0	2.2	7.9	12.4
Green Ratio (g/C)	0.54	0.46	0.46	0.54	0.46	0.46	0.28	0.21	0.21	0.24	0.18	0.25
Capacity (c), veh/h	293	1669	743	487	1669	743	655	393	328	386	339	396
Volume-to-Capacity Ratio (X)	0.390	0.303	0.329	0.301	0.761	0.024	0.805	0.175	0.177	0.131	0.490	0.569
Back of Queue (Q), ft/ln (90 th percentile)	53.5	53.8	56.3	70	203.5	4.5	113.6	58.2	50.6	40	147.1	184.1
Back of Queue (Q), veh/ln (90 th percentile)	2.4	2.4	2.5	3.2	9.2	0.2	5.1	2.6	2.2	1.8	6.6	8.2
Queue Storage Ratio (RQ) (90 th percentile)	0.61	0.00	0.20	0.69	0.00	0.08	0.51	0.00	0.29	0.30	0.00	1.39
Uniform Delay (d_1), s/veh	15.7	6.5	6.5	11.9	11.5	6.7	34.2	32.4	32.4	29.7	36.9	32.8
Incremental Delay (d_2), s/veh	2.6	0.3	0.8	1.6	3.3	0.1	10.2	1.0	1.2	0.7	5.0	5.8
Initial Queue Delay (d_3), 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
Control Delay (d), s/veh	18.4	6.8	7.3	13.5	14.9	6.8	44.4	33.4	33.6	30.4	41.9	38.6
Level of Service (LOS)	B	A	A	B	B	A	D	C	C	C	D	D
Approach Delay, s/veh / LOS	8.5	A		14.6	B		42.3	D		38.9	D	
Intersection Delay, s/veh / LOS	21.5						C					

Multimodal Results	EB		WB		NB		SB	
Pedestrian LOS Score / LOS	2.27	B	2.23	B	2.45	B	2.45	B
Bicycle LOS Score / LOS	1.20	A	1.82	B	1.57	B	1.22	A

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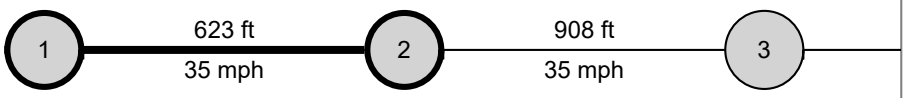
HCS7 Urban Street Segment Report

General Information				Streets Information	
Agency	Stolfus and Associates			Number of Intersections	15
Analyst	Max Rusch	Analysis Date		Number of Segments	14
Jurisdiction		Time Period	AM Peak	Number of Iterations	15
File Name	2045 ACP AM.xus	Analysis Year	2045	System Cycle Length, s	100
Intersections	24 Road & Patterson	Market Street/Mall Access & Patterson		Analysis Period	1> 7:00
Project Description					



Basic Segment Information (24 Rd - Market St)

Segment	Speed Limit		Through Lanes		Segment Length		Intersection Wid		Length of RM		Percent Curb		Other Delay	
	WB	EB	WB	EB	WB	EB	WB	EB	WB	EB	WB	EB	WB	EB
1	35	35	2	2	623	623	50	50	0	0	100	0	0.0	0.0

		Westbound			Eastbound		
Segment Output Data		WBL	WBT	WBR	EBL	EBT	EBR
Segment	Movement	1	6	16	5	2	12
1	Bay/Lane Spillback Time, h						
1	Shared Lane Spillback Time, h						
1	Base Free-Flow Speed, mph	41.58			42.05		
1	Running Time, s	14.68			14.98		
1	Running Speed, mph	28.93			28.35		
1	Through Delay, s/veh	8.14			43.57		
1	Travel Time, s	22.83			58.56		
1	Travel Speed, mph	18.61			7.25		
1	Stop Rate, stops/veh	0.32			0.89		
1	Spatial Stop Rate, stops/mi	2.75			7.56		
1	Through vol/cap Ratio	0.15			0.77		
1	Percent of Base FFS	44.75			17.25		
1	Level of Service	D			F		
1	Auto Traveler Perception Score	2.57			3.46		
Multimodal Results (Segment)							
1	Pedestrian Segment LOS Score / LOS	2.20		B	3.65		D
1	Bicycle Segment LOS Score / LOS	2.10		B	2.67		B
1	Transit Segment LOS Score / LOS	1.75		A	3.30		C

Facility Output Data	Westbound	Eastbound
Facility Travel Time, s	784.82	800.42
Facility Travel Speed, mph	27.36	26.83
Facility Base Free Flow Speed, mph	43.04	42.77
Facility Percent of Base FFS	63.57	62.72
Facility Level of Service	C	C
Facility Auto Traveler Perception Score	2.32	2.29

Multimodal Results (Facility)				
Pedestrian Facility LOS Score / LOS	3.20	C	3.21	C
Bicycle Facility LOS Score / LOS	2.76	C	2.73	C
Transit Facility LOS Score / LOS	1.13	A	1.08	A

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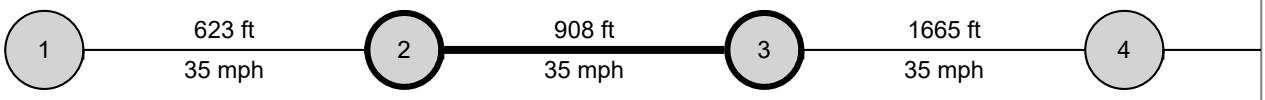
HCS7 Urban Street Segment Report

General Information				Streets Information	
Agency	Stolfus and Associates			Number of Intersections	15
Analyst	Max Rusch	Analysis Date		Number of Segments	14
Jurisdiction		Time Period	AM Peak	Number of Iterations	15
File Name	2045 ACP AM.xus	Analysis Year	2045	System Cycle Length, s	100
Intersections	Market Street/Mall Access & Pat	Home Depot Access/Mesa Mall Access &		Analysis Period	1> 7:00
Project Description					



Basic Segment Information (Market St to Home Depot)

Segment	Speed Limit		Through Lanes		Segment Length		Intersection Wid		Length of RM		Percent Curb		Other Delay	
	WB	EB	WB	EB	WB	EB	WB	EB	WB	EB	WB	EB	WB	EB
2	35	35	2	2	908	908	50	50	0	0	70	70	0.0	0.0

		Westbound			Eastbound		
Segment Output Data		WBL	WBT	WBR	EBL	EBT	EBR
Segment	Movement	1	6	16	5	2	12
2	Bay/Lane Spillback Time, h						
2	Shared Lane Spillback Time, h						
2	Base Free-Flow Speed, mph	41.48			41.48		
2	Running Time, s	18.43			18.98		
2	Running Speed, mph	33.59			32.62		
2	Through Delay, s/veh	4.46			3.39		
2	Travel Time, s	22.89			22.37		
2	Travel Speed, mph	27.05			27.68		
2	Stop Rate, stops/veh	0.18			0.12		
2	Spatial Stop Rate, stops/mi	1.03			0.70		
2	Through vol/cap Ratio	0.16			0.49		
2	Percent of Base FFS	65.20			66.73		
2	Level of Service	C			C		
2	Auto Traveler Perception Score	2.29			2.24		
Multimodal Results (Segment)							
2	Pedestrian Segment LOS Score / LOS	2.88		C	3.75		D
2	Bicycle Segment LOS Score / LOS	2.41		B	2.81		C
2	Transit Segment LOS Score / LOS	1.06		A	1.17		A

Facility Output Data	Westbound	Eastbound
Facility Travel Time, s	784.82	800.42
Facility Travel Speed, mph	27.36	26.83
Facility Base Free Flow Speed, mph	43.04	42.77
Facility Percent of Base FFS	63.57	62.72
Facility Level of Service	C	C
Facility Auto Traveler Perception Score	2.32	2.29

Multimodal Results (Facility)				
Pedestrian Facility LOS Score / LOS	3.20	C	3.21	C
Bicycle Facility LOS Score / LOS	2.76	C	2.73	C
Transit Facility LOS Score / LOS	1.13	A	1.08	A

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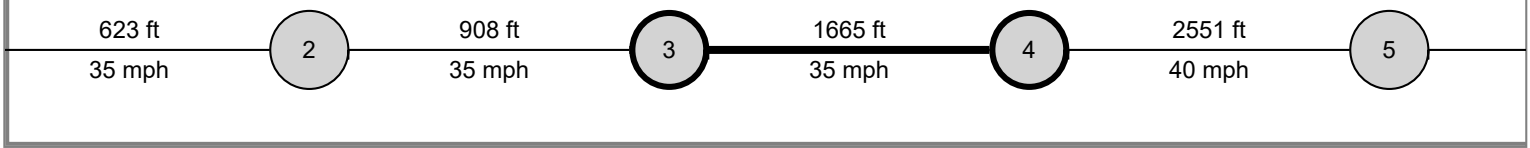
HCS7 Urban Street Segment Report

General Information				Streets Information	
Agency	Stolfus and Associates			Number of Intersections	15
Analyst	Max Rusch	Analysis Date		Number of Segments	14
Jurisdiction		Time Period	AM Peak	Number of Iterations	15
File Name	2045 ACP AM.xus	Analysis Year	2045	System Cycle Length, s	100
Intersections	Home Depot Access/Mesa Mall /	24 1/2 Rd & Patterson		Analysis Period	1> 7:00
Project Description					



Basic Segment Information (Home Depot - 24 1/2 Rd)

Segment	Speed Limit		Through Lanes		Segment Length		Intersection Wid		Length of RM		Percent Curb		Other Delay	
	WB	EB	WB	EB	WB	EB	WB	EB	WB	EB	WB	EB	WB	EB
3	35	35	2	2	1665	1665	50	50	550	550	70	100	0.0	0.0

		Westbound			Eastbound		
Segment Output Data		WBL	WBT	WBR	EBL	EBT	EBR
Segment	Movement	5	2	12	1	6	16
3	Bay/Lane Spillback Time, h						
3	Shared Lane Spillback Time, h						
3	Base Free-Flow Speed, mph	40.84			40.32		
3	Running Time, s	30.30			31.90		
3	Running Speed, mph	37.46			35.59		
3	Through Delay, s/veh	12.44			3.67		
3	Travel Time, s	42.74			35.57		
3	Travel Speed, mph	26.56			31.92		
3	Stop Rate, stops/veh	0.40			0.11		
3	Spatial Stop Rate, stops/mi	1.26			0.36		
3	Through vol/cap Ratio	0.17			0.56		
3	Percent of Base FFS	65.04			79.16		
3	Level of Service	C			B		
3	Auto Traveler Perception Score	2.33			2.19		
Multimodal Results (Segment)							
3	Pedestrian Segment LOS Score / LOS	3.04		C	3.86		D
3	Bicycle Segment LOS Score / LOS	2.50		B	2.91		C
3	Transit Segment LOS Score / LOS	1.12		A	0.96		A

Facility Output Data	**Westbound**	**Eastbound**
Facility Travel Time, s	784.82	800.42
Facility Travel Speed, mph	27.36	26.83
Facility Base Free Flow Speed, mph	43.04	42.77
Facility Percent of Base FFS	63.57	62.72
Facility Level of Service	C	C
Facility Auto Traveler Perception Score	2.32	2.29

Multimodal Results (Facility)				
Pedestrian Facility LOS Score / LOS	3.20	C	3.21	C
Bicycle Facility LOS Score / LOS	2.76	C	2.73	C
Transit Facility LOS Score / LOS	1.13	A	1.08	A

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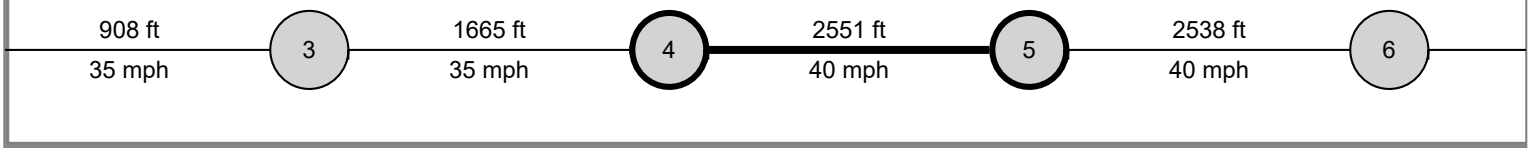
HCS7 Urban Street Segment Report

General Information				Streets Information	
Agency	Stolfus and Associates			Number of Intersections	15
Analyst	Max Rusch	Analysis Date		Number of Segments	14
Jurisdiction		Time Period	AM Peak	Number of Iterations	15
File Name	2045 ACP AM.xus	Analysis Year	2045	System Cycle Length, s	100
Intersections	24 1/2 Rd & Patterson	25 Road & Patterson		Analysis Period	1> 7:00
Project Description					



Basic Segment Information (24 1/2 Rd - 25 Rd)

Segment	Speed Limit		Through Lanes		Segment Length		Intersection Wid		Length of RM		Percent Curb		Other Delay	
	WB	EB	WB	EB	WB	EB	WB	EB	WB	EB	WB	EB	WB	EB
4	40	35	2	2	2551	2551	50	50	0	0	90	90	0.0	0.0

		Westbound			Eastbound		
Segment Output Data		WBL	WBT	WBR	EBL	EBT	EBR
Segment	Movement	5	2	12	1	6	16
4	Bay/Lane Spillback Time, h						
4	Shared Lane Spillback Time, h						
4	Base Free-Flow Speed, mph	43.32			40.97		
4	Running Time, s	42.33			46.11		
4	Running Speed, mph	41.09			37.72		
4	Through Delay, s/veh	30.81			12.21		
4	Travel Time, s	73.14			58.32		
4	Travel Speed, mph	23.78			29.82		
4	Stop Rate, stops/veh	0.80			0.28		
4	Spatial Stop Rate, stops/mi	1.65			0.59		
4	Through vol/cap Ratio	0.29			0.77		
4	Percent of Base FFS	54.90			72.79		
4	Level of Service	C			B		
4	Auto Traveler Perception Score	2.39			2.23		
Multimodal Results (Segment)							
4	Pedestrian Segment LOS Score / LOS	2.90		C	3.50		C
4	Bicycle Segment LOS Score / LOS	2.58		B	2.90		C
4	Transit Segment LOS Score / LOS	1.36		A	1.09		A

Facility Output Data	Westbound	Eastbound
Facility Travel Time, s	784.82	800.42
Facility Travel Speed, mph	27.36	26.83
Facility Base Free Flow Speed, mph	43.04	42.77
Facility Percent of Base FFS	63.57	62.72
Facility Level of Service	C	C
Facility Auto Traveler Perception Score	2.32	2.29

Multimodal Results (Facility)				
Pedestrian Facility LOS Score / LOS	3.20	C	3.21	C
Bicycle Facility LOS Score / LOS	2.76	C	2.73	C
Transit Facility LOS Score / LOS	1.13	A	1.08	A

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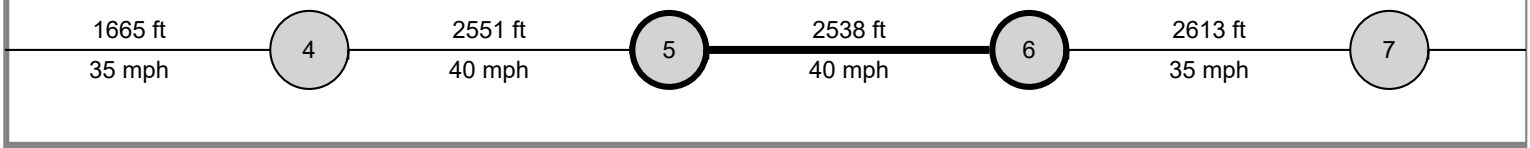
HCS7 Urban Street Segment Report

General Information				Streets Information	
Agency	Stolfus and Associates			Number of Intersections	15
Analyst	Max Rusch	Analysis Date		Number of Segments	14
Jurisdiction		Time Period	AM Peak	Number of Iterations	15
File Name	2045 ACP AM.xus	Analysis Year	2045	System Cycle Length, s	100
Intersections	25 Road & Patterson	25 1/2 Road & Patterson		Analysis Period	1> 7:00
Project Description					



Basic Segment Information (25 Rd - 25 1/2 Rd)

Segment	Speed Limit		Through Lanes		Segment Length		Intersection Wid		Length of RM		Percent Curb		Other Delay	
	WB	EB	WB	EB	WB	EB	WB	EB	WB	EB	WB	EB	WB	EB
5	40	40	2	2	2538	2538	50	50	260	260	90	90	0.0	0.0

		Westbound			Eastbound		
Segment Output Data		WBL	WBT	WBR	EBL	EBT	EBR
Segment	Movement	5	2	12	1	6	16
5	Bay/Lane Spillback Time, h						
5	Shared Lane Spillback Time, h						
5	Base Free-Flow Speed, mph	42.96			42.96		
5	Running Time, s	42.47			43.65		
5	Running Speed, mph	40.74			39.65		
5	Through Delay, s/veh	15.54			23.59		
5	Travel Time, s	58.01			67.24		
5	Travel Speed, mph	29.83			25.74		
5	Stop Rate, stops/veh	0.45			0.51		
5	Spatial Stop Rate, stops/mi	0.94			1.07		
5	Through vol/cap Ratio	0.28			0.86		
5	Percent of Base FFS	69.44			59.91		
5	Level of Service	B			C		
5	Auto Traveler Perception Score	2.28			2.30		
Multimodal Results (Segment)							
5	Pedestrian Segment LOS Score / LOS	2.74		B	3.86		D
5	Bicycle Segment LOS Score / LOS	2.58		B	2.91		C
5	Transit Segment LOS Score / LOS	0.92		A	1.36		A

Facility Output Data	Westbound	Eastbound
Facility Travel Time, s	784.82	800.42
Facility Travel Speed, mph	27.36	26.83
Facility Base Free Flow Speed, mph	43.04	42.77
Facility Percent of Base FFS	63.57	62.72
Facility Level of Service	C	C
Facility Auto Traveler Perception Score	2.32	2.29

Multimodal Results (Facility)				
Pedestrian Facility LOS Score / LOS	3.20	C	3.21	C
Bicycle Facility LOS Score / LOS	2.76	C	2.73	C
Transit Facility LOS Score / LOS	1.13	A	1.08	A

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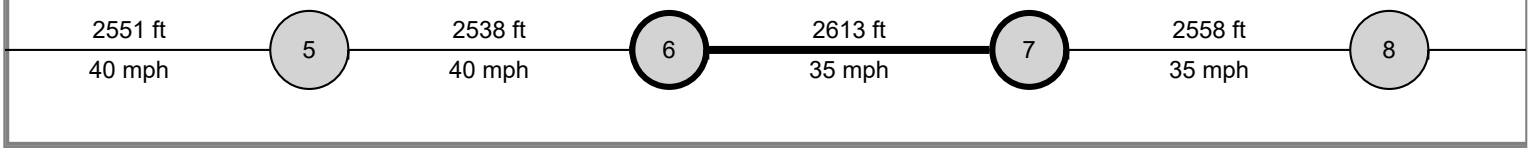
HCS7 Urban Street Segment Report

General Information				Streets Information	
Agency	Stolfus and Associates			Number of Intersections	15
Analyst	Max Rusch	Analysis Date		Number of Segments	14
Jurisdiction		Time Period	AM Peak	Number of Iterations	15
File Name	2045 ACP AM.xus	Analysis Year	2045	System Cycle Length, s	100
Intersections	25 1/2 Road & Patterson	1st Street & Patterson		Analysis Period	1> 7:00
Project Description					



Basic Segment Information (25 1/2 Rd - 26 Rd)

Segment	Speed Limit		Through Lanes		Segment Length		Intersection Wid		Length of RM		Percent Curb		Other Delay	
	WB	EB	WB	EB	WB	EB	WB	EB	WB	EB	WB	EB	WB	EB
6	35	40	2	2	2613	2613	50	50	0	0	90	90	0.0	0.0

		Westbound			Eastbound		
Segment Output Data		WBL	WBT	WBR	EBL	EBT	EBR
Segment	Movement	5	2	12	1	6	16
6	Bay/Lane Spillback Time, h						
6	Shared Lane Spillback Time, h						
6	Base Free-Flow Speed, mph	40.98			43.33		
6	Running Time, s	45.74			44.08		
6	Running Speed, mph	38.95			40.42		
6	Through Delay, s/veh	27.77			17.11		
6	Travel Time, s	73.50			61.19		
6	Travel Speed, mph	24.24			29.12		
6	Stop Rate, stops/veh	0.67			0.43		
6	Spatial Stop Rate, stops/mi	1.36			0.87		
6	Through vol/cap Ratio	0.51			0.69		
6	Percent of Base FFS	59.14			67.19		
6	Level of Service	C			B		
6	Auto Traveler Perception Score	2.35			2.27		
Multimodal Results (Segment)							
6	Pedestrian Segment LOS Score / LOS	2.90		C	3.00		C
6	Bicycle Segment LOS Score / LOS	2.66		B	2.80		C
6	Transit Segment LOS Score / LOS	1.34		A	1.08		A

Facility Output Data	Westbound	Eastbound
Facility Travel Time, s	784.82	800.42
Facility Travel Speed, mph	27.36	26.83
Facility Base Free Flow Speed, mph	43.04	42.77
Facility Percent of Base FFS	63.57	62.72
Facility Level of Service	C	C
Facility Auto Traveler Perception Score	2.32	2.29

Multimodal Results (Facility)				
Pedestrian Facility LOS Score / LOS	3.20	C	3.21	C
Bicycle Facility LOS Score / LOS	2.76	C	2.73	C
Transit Facility LOS Score / LOS	1.13	A	1.08	A

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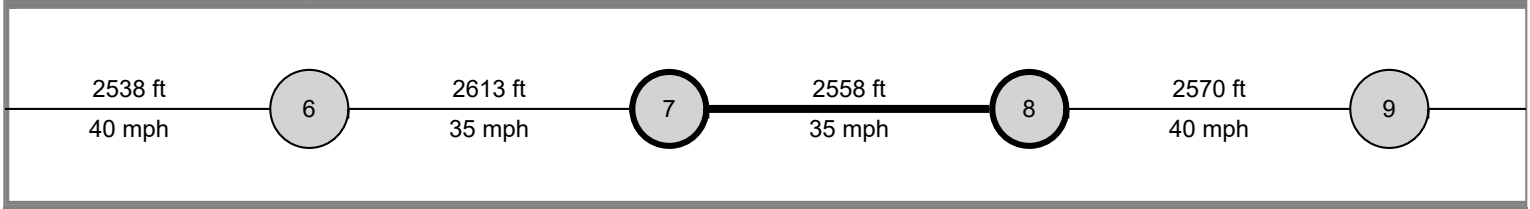
HCS7 Urban Street Segment Report

General Information				Streets Information	
Agency	Stolfus and Associates			Number of Intersections	15
Analyst	Max Rusch	Analysis Date		Number of Segments	14
Jurisdiction		Time Period	AM Peak	Number of Iterations	15
File Name	2045 ACP AM.xus	Analysis Year	2045	System Cycle Length, s	100
Intersections	1st Street & Patterson	7th Street & Patterson		Analysis Period	1> 7:00
Project Description					



Basic Segment Information (26 Rd - 26 1/2)

Segment	Speed Limit		Through Lanes		Segment Length		Intersection Wid		Length of RM		Percent Curb		Other Delay	
	WB	EB	WB	EB	WB	EB	WB	EB	WB	EB	WB	EB	WB	EB
7	35	40	2	2	2558	2558	50	50	0	0	90	90	0.0	0.0

		Westbound			Eastbound		
Segment Output Data		WBL	WBT	WBR	EBL	EBT	EBR
Segment	Movement	5	2	12	1	6	16
7	Bay/Lane Spillback Time, h						
7	Shared Lane Spillback Time, h						
7	Base Free-Flow Speed, mph	40.40			42.75		
7	Running Time, s	45.60			43.48		
7	Running Speed, mph	38.24			40.12		
7	Through Delay, s/veh	19.06			28.35		
7	Travel Time, s	64.67			71.83		
7	Travel Speed, mph	26.97			24.28		
7	Stop Rate, stops/veh	0.50			0.59		
7	Spatial Stop Rate, stops/mi	1.04			1.22		
7	Through vol/cap Ratio	0.43			0.76		
7	Percent of Base FFS	66.77			56.81		
7	Level of Service	C			C		
7	Auto Traveler Perception Score	2.30			2.32		
Multimodal Results (Segment)							
7	Pedestrian Segment LOS Score / LOS	2.68		B	3.01		C
7	Bicycle Segment LOS Score / LOS	2.68		B	2.76		C
7	Transit Segment LOS Score / LOS	1.15		A	1.39		A

Facility Output Data	**Westbound**	**Eastbound**
Facility Travel Time, s	784.82	800.42
Facility Travel Speed, mph	27.36	26.83
Facility Base Free Flow Speed, mph	43.04	42.77
Facility Percent of Base FFS	63.57	62.72
Facility Level of Service	C	C
Facility Auto Traveler Perception Score	2.32	2.29

Multimodal Results (Facility)				
Pedestrian Facility LOS Score / LOS	3.20	C	3.21	C
Bicycle Facility LOS Score / LOS	2.76	C	2.73	C
Transit Facility LOS Score / LOS	1.13	A	1.08	A

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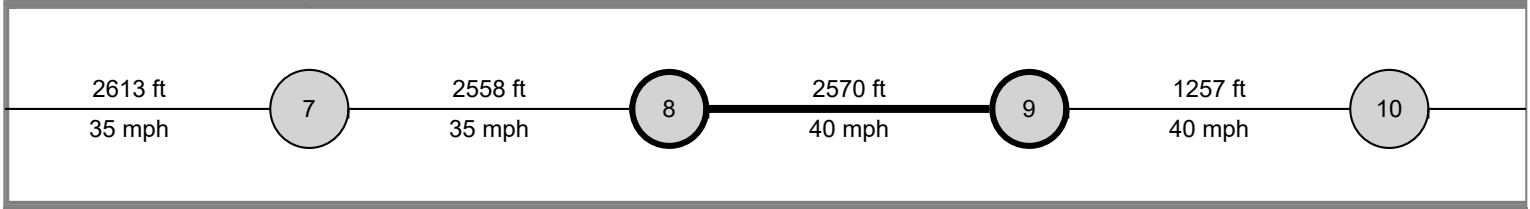
HCS7 Urban Street Segment Report

General Information				Streets Information	
Agency	Stolfus and Associates			Number of Intersections	15
Analyst	Max Rusch	Analysis Date		Number of Segments	14
Jurisdiction		Time Period	AM Peak	Number of Iterations	15
File Name	2045 ACP AM.xus	Analysis Year	2045	System Cycle Length, s	100
Intersections	7th Street & Patterson	12th Street & Patterson		Analysis Period	1> 7:00
Project Description					



Basic Segment Information (26 1/2 Rd to 12th St)

Segment	Speed Limit		Through Lanes		Segment Length		Intersection Wid		Length of RM		Percent Curb		Other Delay	
	WB	EB	WB	EB	WB	EB	WB	EB	WB	EB	WB	EB	WB	EB
8	40	35	2	2	2570	2570	50	50	0	0	90	90	0.0	0.0

		Westbound			Eastbound		
Segment Output Data		WBL	WBT	WBR	EBL	EBT	EBR
Segment	Movement	5	2	12	1	6	16
8	Bay/Lane Spillback Time, h						
8	Shared Lane Spillback Time, h						
8	Base Free-Flow Speed, mph	43.08			40.73		
8	Running Time, s	43.32			45.45		
8	Running Speed, mph	40.45			38.55		
8	Through Delay, s/veh	31.46			27.81		
8	Travel Time, s	74.78			73.26		
8	Travel Speed, mph	23.43			23.92		
8	Stop Rate, stops/veh	0.67			0.72		
8	Spatial Stop Rate, stops/mi	1.38			1.48		
8	Through vol/cap Ratio	0.70			0.46		
8	Percent of Base FFS	54.39			58.72		
8	Level of Service	C			C		
8	Auto Traveler Perception Score	2.35			2.36		
Multimodal Results (Segment)							
8	Pedestrian Segment LOS Score / LOS	2.90		C	2.65		B
8	Bicycle Segment LOS Score / LOS	2.79		C	2.64		B
8	Transit Segment LOS Score / LOS	1.46		A	1.38		A

Facility Output Data	**Westbound**	**Eastbound**
Facility Travel Time, s	784.82	800.42
Facility Travel Speed, mph	27.36	26.83
Facility Base Free Flow Speed, mph	43.04	42.77
Facility Percent of Base FFS	63.57	62.72
Facility Level of Service	C	C
Facility Auto Traveler Perception Score	2.32	2.29

Multimodal Results (Facility)				
Pedestrian Facility LOS Score / LOS	3.20	C	3.21	C
Bicycle Facility LOS Score / LOS	2.76	C	2.73	C
Transit Facility LOS Score / LOS	1.13	A	1.08	A

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HCS7 Urban Street Segment Report

General Information				Streets Information	
Agency	Stolfus and Associates			Number of Intersections	15
Analyst	Max Rusch	Analysis Date		Number of Segments	14
Jurisdiction		Time Period	AM Peak	Number of Iterations	15
File Name	2045 ACP AM.xus	Analysis Year	2045	System Cycle Length, s	100
Intersections	12th Street & Patterson	Patterson Rd & 15th St		Analysis Period	1> 7:00
Project Description					

Basic Segment Information (12th St - 27 1/4 Rd)

Segment	Speed Limit		Through Lanes		Segment Length		Intersection Wid		Length of RM		Percent Curb		Other Delay	
	WB	EB	WB	EB	WB	EB	WB	EB	WB	EB	WB	EB	WB	EB
9	40	35	2	2	1257	1257	50	50	0	0	90	90	0.0	0.0

		Westbound			Eastbound		
Segment Output Data		WBL	WBT	WBR	EBL	EBT	EBR
Segment	Movement	5	2	12	1	6	16
9	Bay/Lane Spillback Time, h						
9	Shared Lane Spillback Time, h						
9	Base Free-Flow Speed, mph	42.61			40.26		
9	Running Time, s	23.36			24.41		
9	Running Speed, mph	36.68			35.11		
9	Through Delay, s/veh	1.57			36.87		
9	Travel Time, s	24.93			61.28		
9	Travel Speed, mph	34.38			13.98		
9	Stop Rate, stops/veh	0.05			0.84		
9	Spatial Stop Rate, stops/mi	0.23			3.55		
9	Through vol/cap Ratio	0.38			0.57		
9	Percent of Base FFS	80.68			34.73		
9	Level of Service	A			E		
9	Auto Traveler Perception Score	2.17			2.71		
Multimodal Results (Segment)							
9	Pedestrian Segment LOS Score / LOS	2.79		C	3.33		C
9	Bicycle Segment LOS Score / LOS	2.82		C	2.70		B
9	Transit Segment LOS Score / LOS	0.71		A	2.34		B

Facility Output Data	**Westbound**	**Eastbound**
Facility Travel Time, s	784.82	800.42
Facility Travel Speed, mph	27.36	26.83
Facility Base Free Flow Speed, mph	43.04	42.77
Facility Percent of Base FFS	63.57	62.72
Facility Level of Service	C	C
Facility Auto Traveler Perception Score	2.32	2.29

Multimodal Results (Facility)				
Pedestrian Facility LOS Score / LOS	3.20	C	3.21	C
Bicycle Facility LOS Score / LOS	2.76	C	2.73	C
Transit Facility LOS Score / LOS	1.13	A	1.08	A

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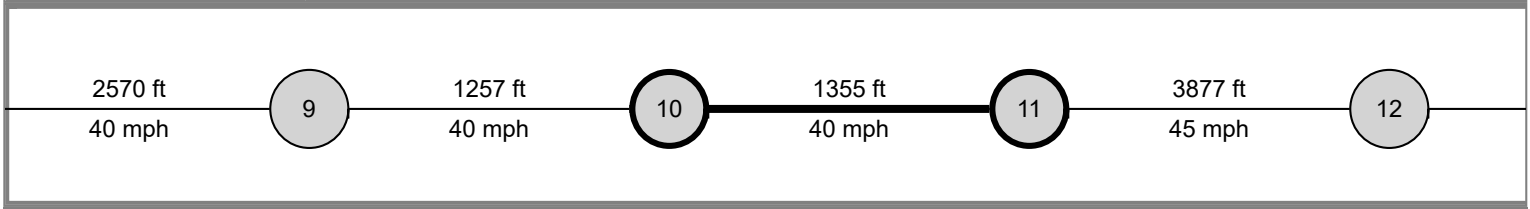
HCS7 Urban Street Segment Report

General Information				Streets Information	
Agency	Stolfus and Associates			Number of Intersections	15
Analyst	Max Rusch	Analysis Date		Number of Segments	14
Jurisdiction		Time Period	AM Peak	Number of Iterations	15
File Name	2045 ACP AM.xus	Analysis Year	2045	System Cycle Length, s	100
Intersections	Patterson Rd & 15th St	27 1/2 Road & Patterson		Analysis Period	1> 7:00
Project Description					



Basic Segment Information

Segment	Speed Limit		Through Lanes		Segment Length		Intersection Wid		Length of RM		Percent Curb		Other Delay	
	WB	EB	WB	EB	WB	EB	WB	EB	WB	EB	WB	EB	WB	EB
10	40	40	2	2	1355	1355	50	50	0	0	70	70	0.0	0.0

		Westbound			Eastbound		
Segment Output Data		WBL	WBT	WBR	EBL	EBT	EBR
Segment	Movement	1	6	16	5	2	12
10	Bay/Lane Spillback Time, h						
10	Shared Lane Spillback Time, h						
10	Base Free-Flow Speed, mph	44.07			44.07		
10	Running Time, s	24.25			24.22		
10	Running Speed, mph	38.10			38.15		
10	Through Delay, s/veh	20.49			2.04		
10	Travel Time, s	44.74			26.26		
10	Travel Speed, mph	20.65			35.18		
10	Stop Rate, stops/veh	0.55			0.08		
10	Spatial Stop Rate, stops/mi	2.14			0.31		
10	Through vol/cap Ratio	0.56			0.28		
10	Percent of Base FFS	46.86			79.84		
10	Level of Service	D			B		
10	Auto Traveler Perception Score	2.70			2.19		
Multimodal Results (Segment)							
10	Pedestrian Segment LOS Score / LOS	3.57		D	3.56		D
10	Bicycle Segment LOS Score / LOS	2.84		C	2.68		B
10	Transit Segment LOS Score / LOS	1.70		A	0.65		A

Facility Output Data	Westbound		Eastbound	
Facility Travel Time, s	784.82		800.42	
Facility Travel Speed, mph	27.36		26.83	
Facility Base Free Flow Speed, mph	43.04		42.77	
Facility Percent of Base FFS	63.57		62.72	
Facility Level of Service	C		C	
Facility Auto Traveler Perception Score	2.32		2.29	
Multimodal Results (Facility)				
Pedestrian Facility LOS Score / LOS	3.20	C	3.21	C
Bicycle Facility LOS Score / LOS	2.76	C	2.73	C
Transit Facility LOS Score / LOS	1.13	A	1.08	A

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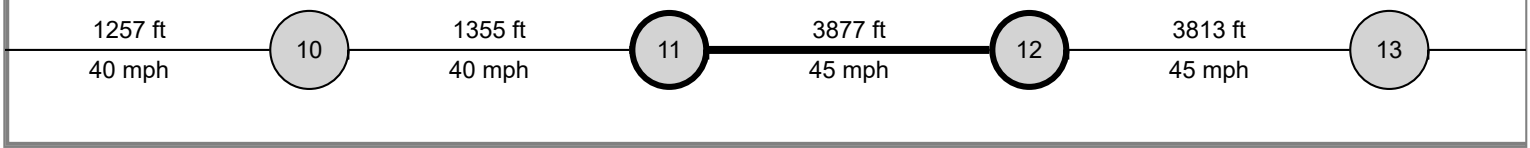
HCS7 Urban Street Segment Report

General Information				Streets Information	
Agency	Stolfus and Associates			Number of Intersections	15
Analyst	Max Rusch	Analysis Date		Number of Segments	14
Jurisdiction		Time Period	AM Peak	Number of Iterations	15
File Name	2045 ACP AM.xus	Analysis Year	2045	System Cycle Length, s	100
Intersections	27 1/2 Road & Patterson	28 1/4 Road & Patterson		Analysis Period	1> 7:00
Project Description					



Basic Segment Information (27 1/2 RD - 28 1/4 RD)

Segment	Speed Limit		Through Lanes		Segment Length		Intersection Wid		Length of RM		Percent Curb		Other Delay	
	WB	EB	WB	EB	WB	EB	WB	EB	WB	EB	WB	EB	WB	EB
11	45	40	2	2	3877	3877	50	50	0	0	90	90	0.0	0.0

		Westbound			Eastbound		
Segment Output Data		WBL	WBT	WBR	EBL	EBT	EBR
Segment	Movement		2	12	1	6	
11	Bay/Lane Spillback Time, h						
11	Shared Lane Spillback Time, h						
11	Base Free-Flow Speed, mph	45.57			43.22		
11	Running Time, s	60.87			63.04		
11	Running Speed, mph	43.43			41.93		
11	Through Delay, s/veh	22.73			7.12		
11	Travel Time, s	83.60			70.16		
11	Travel Speed, mph	31.62			37.68		
11	Stop Rate, stops/veh	0.62			0.24		
11	Spatial Stop Rate, stops/mi	0.84			0.33		
11	Through vol/cap Ratio	0.55			0.25		
11	Percent of Base FFS	69.38			87.16		
11	Level of Service	B			A		
11	Auto Traveler Perception Score	2.37			2.19		
Multimodal Results (Segment)							
11	Pedestrian Segment LOS Score / LOS	3.86		D	2.93		C
11	Bicycle Segment LOS Score / LOS	2.90		C	2.60		B
11	Transit Segment LOS Score / LOS	0.91		A	0.47		A

Facility Output Data	Westbound	Eastbound
Facility Travel Time, s	784.82	800.42
Facility Travel Speed, mph	27.36	26.83
Facility Base Free Flow Speed, mph	43.04	42.77
Facility Percent of Base FFS	63.57	62.72
Facility Level of Service	C	C
Facility Auto Traveler Perception Score	2.32	2.29

Multimodal Results (Facility)				
Pedestrian Facility LOS Score / LOS	3.20	C	3.21	C
Bicycle Facility LOS Score / LOS	2.76	C	2.73	C
Transit Facility LOS Score / LOS	1.13	A	1.08	A

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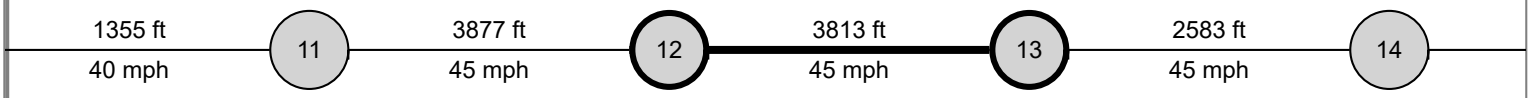
HCS7 Urban Street Segment Report

General Information				Streets Information	
Agency	Stolfus and Associates			Number of Intersections	15
Analyst	Max Rusch	Analysis Date		Number of Segments	14
Jurisdiction		Time Period	AM Peak	Number of Iterations	15
File Name	2045 ACP AM.xus	Analysis Year	2045	System Cycle Length, s	100
Intersections	28 1/4 Road & Patterson	29 Road & Patterson		Analysis Period	1> 7:00
Project Description					



Basic Segment Information (28 1/4 Rd - 29 Rd)

Segment	Speed Limit		Through Lanes		Segment Length		Intersection Wid		Length of RM		Percent Curb		Other Delay	
	WB	EB	WB	EB	WB	EB	WB	EB	WB	EB	WB	EB	WB	EB
12	45	40	2	2	3813	3813	50	50	0	0	90	90	0.0	0.0

		Westbound			Eastbound		
Segment Output Data		WBL	WBT	WBR	EBL	EBT	EBR
Segment	Movement	5	2	12	1	6	16
12	Bay/Lane Spillback Time, h						
12	Shared Lane Spillback Time, h						
12	Base Free-Flow Speed, mph	45.78			43.43		
12	Running Time, s	59.75			61.76		
12	Running Speed, mph	43.51			42.09		
12	Through Delay, s/veh	22.99			17.55		
12	Travel Time, s	82.74			79.31		
12	Travel Speed, mph	31.42			32.78		
12	Stop Rate, stops/veh	0.49			0.41		
12	Spatial Stop Rate, stops/mi	0.68			0.57		
12	Through vol/cap Ratio	0.80			0.39		
12	Percent of Base FFS	68.64			75.47		
12	Level of Service	B			B		
12	Auto Traveler Perception Score	2.24			2.22		
Multimodal Results (Segment)							
12	Pedestrian Segment LOS Score / LOS	3.56		D	2.91		C
12	Bicycle Segment LOS Score / LOS	2.93		C	2.62		B
12	Transit Segment LOS Score / LOS	0.95		A	0.75		A

Facility Output Data	**Westbound**	**Eastbound**
Facility Travel Time, s	784.82	800.42
Facility Travel Speed, mph	27.36	26.83
Facility Base Free Flow Speed, mph	43.04	42.77
Facility Percent of Base FFS	63.57	62.72
Facility Level of Service	C	C
Facility Auto Traveler Perception Score	2.32	2.29

Multimodal Results (Facility)				
Pedestrian Facility LOS Score / LOS	3.20	C	3.21	C
Bicycle Facility LOS Score / LOS	2.76	C	2.73	C
Transit Facility LOS Score / LOS	1.13	A	1.08	A

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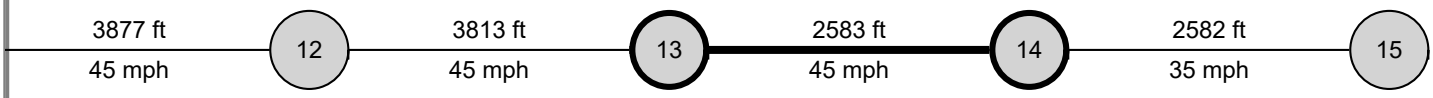
HCS7 Urban Street Segment Report

General Information				Streets Information	
Agency	Stolfus and Associates			Number of Intersections	15
Analyst	Max Rusch	Analysis Date		Number of Segments	14
Jurisdiction		Time Period	AM Peak	Number of Iterations	15
File Name	2045 ACP AM.xus	Analysis Year	2045	System Cycle Length, s	100
Intersections	29 Road & Patterson	29 1/2 Road & Patterson		Analysis Period	1> 7:00
Project Description					



Basic Segment Information (29 Rd - 29 1/2 Rd)

Segment	Speed Limit		Through Lanes		Segment Length		Intersection Wid		Length of RM		Percent Curb		Other Delay	
	WB	EB	WB	EB	WB	EB	WB	EB	WB	EB	WB	EB	WB	EB
13	45	45	2	2	2583	2583	50	50	0	0	90	90	0.0	0.0

		Westbound			Eastbound		
Segment Output Data		WBL	WBT	WBR	EBL	EBT	EBR
Segment	Movement	5	2	12	1	6	16
13	Bay/Lane Spillback Time, h						
13	Shared Lane Spillback Time, h						
13	Base Free-Flow Speed, mph	44.94			44.94		
13	Running Time, s	41.59			40.48		
13	Running Speed, mph	42.34			43.51		
13	Through Delay, s/veh	13.34			22.15		
13	Travel Time, s	54.93			62.63		
13	Travel Speed, mph	32.06			28.12		
13	Stop Rate, stops/veh	0.40			0.56		
13	Spatial Stop Rate, stops/mi	0.82			1.14		
13	Through vol/cap Ratio	0.64			0.35		
13	Percent of Base FFS	71.34			62.57		
13	Level of Service	B			C		
13	Auto Traveler Perception Score	2.26			2.31		
Multimodal Results (Segment)							
13	Pedestrian Segment LOS Score / LOS	3.59		D	3.37		C
13	Bicycle Segment LOS Score / LOS	3.02		C	2.71		B
13	Transit Segment LOS Score / LOS	0.98		A	1.09		A

Facility Output Data	**Westbound**	**Eastbound**
Facility Travel Time, s	784.82	800.42
Facility Travel Speed, mph	27.36	26.83
Facility Base Free Flow Speed, mph	43.04	42.77
Facility Percent of Base FFS	63.57	62.72
Facility Level of Service	C	C
Facility Auto Traveler Perception Score	2.32	2.29

Multimodal Results (Facility)				
Pedestrian Facility LOS Score / LOS	3.20	C	3.21	C
Bicycle Facility LOS Score / LOS	2.76	C	2.73	C
Transit Facility LOS Score / LOS	1.13	A	1.08	A

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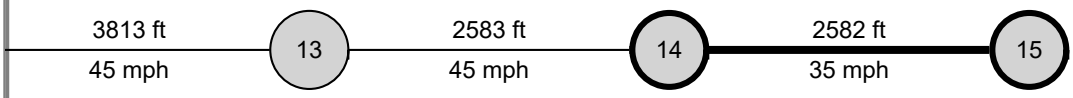
HCS7 Urban Street Segment Report

General Information				Streets Information	
Agency	Stolfus and Associates			Number of Intersections	15
Analyst	Max Rusch	Analysis Date		Number of Segments	14
Jurisdiction		Time Period	AM Peak	Number of Iterations	15
File Name	2045 ACP AM.xus	Analysis Year	2045	System Cycle Length, s	100
Intersections	29 1/2 Road & Patterson	30 Road & Patterson		Analysis Period	1> 7:00
Project Description					



Basic Segment Information (29 1/2 Rd - 30 Rd)

Segment	Speed Limit		Through Lanes		Segment Length		Intersection Wid		Length of RM		Percent Curb		Other Delay	
	WB	EB	WB	EB	WB	EB	WB	EB	WB	EB	WB	EB	WB	EB
14	35	45	2	2	2582	2582	50	50	0	0	90	90	0.0	0.0

		Westbound			Eastbound		
Segment Output Data		WBL	WBT	WBR	EBL	EBT	EBR
Segment	Movement	5	2	12	1	6	16
14	Bay/Lane Spillback Time, h						
14	Shared Lane Spillback Time, h						
14	Base Free-Flow Speed, mph	40.81			45.51		
14	Running Time, s	46.49			40.31		
14	Running Speed, mph	37.87			43.67		
14	Through Delay, s/veh	14.85			12.14		
14	Travel Time, s	61.35			52.45		
14	Travel Speed, mph	28.70			33.57		
14	Stop Rate, stops/veh	0.34			0.36		
14	Spatial Stop Rate, stops/mi	0.70			0.74		
14	Through vol/cap Ratio	0.76			0.28		
14	Percent of Base FFS	70.31			73.75		
14	Level of Service	B			B		
14	Auto Traveler Perception Score	2.24			2.25		
Multimodal Results (Segment)							
14	Pedestrian Segment LOS Score / LOS	3.63		D	2.97		C
14	Bicycle Segment LOS Score / LOS	2.91		C	2.62		B
14	Transit Segment LOS Score / LOS	1.13		A	0.71		A

Facility Output Data	**Westbound**	**Eastbound**
Facility Travel Time, s	784.82	800.42
Facility Travel Speed, mph	27.36	26.83
Facility Base Free Flow Speed, mph	43.04	42.77
Facility Percent of Base FFS	63.57	62.72
Facility Level of Service	C	C
Facility Auto Traveler Perception Score	2.32	2.29

Multimodal Results (Facility)				
Pedestrian Facility LOS Score / LOS	3.20	C	3.21	C
Bicycle Facility LOS Score / LOS	2.76	C	2.73	C
Transit Facility LOS Score / LOS	1.13	A	1.08	A

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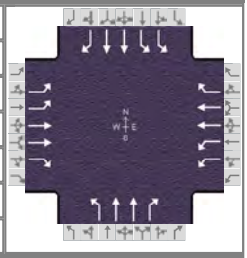
HCS7 Signalized Intersection Results Summary

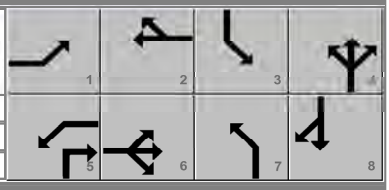
General Information				Intersection Information	
Agency	Stolfus and Associates			Duration, h	0.250
Analyst	Max Rusch	Analysis Date		Area Type	Other
Jurisdiction		Time Period	PM Peak	PHF	0.91
Urban Street	Patterson Rd	Analysis Year	2045	Analysis Period	1> 7:00
Intersection	24 Road & Patterson	File Name	2045 ACP PM.xus		
Project Description					



Demand Information	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Demand (*v*), veh/h	127	195	207	583	327	359	53	741	341	467	936	45

Signal Information			
Cycle, s	100.0	Reference Phase	6
Offset, s	85	Reference Point	Begin
Uncoordinated	No	Simult. Gap E/W	On
Force Mode	Fixed	Simult. Gap N/S	On

Green	12.8	5.3	19.1	7.2	2.8	26.8
Yellow	3.5	3.5	4.0	3.5	3.5	4.0
Red	0.5	0.5	1.0	0.5	0.5	1.0



Timer Results	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Assigned Phase	1	6	5	2	7	4	3	8
Case Number	1.1	3.0	2.0	3.0	1.1	3.0	2.0	3.0
Phase Duration, s	16.8	24.1	26.1	33.4	11.2	31.8	18.0	38.6
Change Period, ($Y+R_c$), s	4.0	5.0	4.0	5.0	4.0	5.0	4.0	5.0
Max Allow Headway (*MAH*), s	5.2	0.0	5.2	0.0	5.2	5.2	5.2	5.2
Queue Clearance Time (g_s), s	10.8		19.9		4.2	24.4	16.0	29.6
Green Extension Time (g_e), s	2.0	0.0	2.2	0.0	0.2	2.4	0.0	3.7
Phase Call Probability	1.00		1.00		0.80	1.00	1.00	1.00
Max Out Probability	0.06		0.78		0.00	1.00	1.00	1.00

Movement Group Results	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Assigned Movement	1	6	16	5	2	12	7	4	14	3	8	18
Adjusted Flow Rate (*v*), veh/h	379	582	618	641	359	395	58	814	375	513	1029	49
Adjusted Saturation Flow Rate (*s*), veh/h/ln	1675	1752		1716	1738		1810	1738	1585	1730	1752	1517
Queue Service Time (g_s), s	8.8	16.1		17.9	8.3		2.2	22.4	15.8	14.0	27.6	2.2
Cycle Queue Clearance Time (g_c), s	8.8	16.1		17.9	8.3		2.2	22.4	15.8	14.0	27.6	2.2
Green Ratio (*g/C*)	0.32	0.19		0.22	0.28		0.34	0.27	0.49	0.14	0.34	0.34
Capacity (*c*), veh/h	823	670		759	988		224	931	775	484	1176	509
Volume-to-Capacity Ratio (*X*)	0.461	0.870		0.844	0.364		0.261	0.875	0.484	1.060	0.875	0.097
Back of Queue (*Q*), ft/ln (90 th percentile)	148.3	267.8		256.2	131.4		38.3	332.2	192.3	312.8	380.2	33
Back of Queue (*Q*), veh/ln (90 th percentile)	6.4	11.8		11.4	5.7		1.7	14.5	8.6	14.0	16.7	1.4
Queue Storage Ratio (*RQ*) (90 th percentile)	0.83	0.00		1.16	0.00		0.29	0.00	1.09	2.36	0.00	0.51
Uniform Delay (d_1), s/veh	29.3	39.5		37.3	28.6		25.4	35.0	17.1	43.0	31.2	22.8
Incremental Delay (d_2), s/veh	0.6	14.4		6.3	0.9		0.9	9.5	0.7	57.6	7.7	0.1
Initial Queue Delay (d_3), s/veh	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (*d*), s/veh	29.9	53.9	0.0	43.6	29.5	0.0	26.3	44.5	17.8	100.6	38.9	22.9
Level of Service (LOS)	C	D	A	D	C	A	C	D	B	F	D	C
Approach Delay, s/veh / LOS	27.0	C		27.6	C		35.6	D		58.3	E	
Intersection Delay, s/veh / LOS	37.6						D					

Multimodal Results	EB		WB		NB		SB	
Pedestrian LOS Score / LOS	2.45	B	2.58	C	2.58	C	2.58	C
Bicycle LOS Score / LOS	0.97	A	1.64	B	1.52	B	1.80	B

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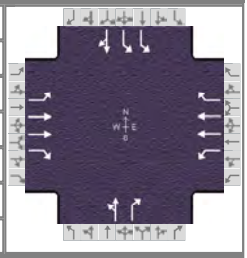
HCS7 Signalized Intersection Results Summary

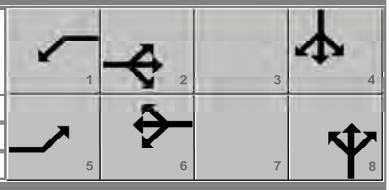
General Information				Intersection Information	
Agency	Stolfus and Associates			Duration, h	0.250
Analyst	Max Rusch	Analysis Date		Area Type	Other
Jurisdiction		Time Period	PM Peak	PHF	0.83
Urban Street	Patterson Rd	Analysis Year	2045	Analysis Period	1> 7:00
Intersection	Market Street/Mall Acce…	File Name	2045 ACP PM.xus		
Project Description					



Demand Information	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Demand (*v*), veh/h	159	732	141	31	905	336	124	82	34	315	28	257

Signal Information			
Cycle, s	100.0	Reference Phase	2
Offset, s	14	Reference Point	End
Uncoordinated	No	Simult. Gap E/W	On
Force Mode	Fixed	Simult. Gap N/S	On

Green	1.4	6.6	29.4	24.0	15.6	0.0
Yellow	3.5	3.5	4.0	4.0	4.0	0.0
Red	0.5	0.5	1.0	1.0	1.0	0.0



Timer Results	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Assigned Phase	5	2	1	6		8		4
Case Number	1.1	3.0	1.1	3.0		11.0		10.0
Phase Duration, s	15.9	45.0	5.4	34.4		20.6		29.0
Change Period, ($Y+R_c$), s	4.0	5.0	4.0	5.0		5.0		5.0
Max Allow Headway (*MAH*), s	3.1	0.0	3.1	0.0		3.3		3.4
Queue Clearance Time (g_s), s	11.6		2.4			15.1		22.2
Green Extension Time (g_e), s	0.4	0.0	0.0	0.0		0.5		1.8
Phase Call Probability	1.00		0.27			1.00		1.00
Max Out Probability	0.00		0.00			0.00		0.00

Movement Group Results	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Assigned Movement	5	2	12	1	6	16	3	8	18	7	4	14
Adjusted Flow Rate (*v*), veh/h	252	1160	223	11	332	123		248	41	380	343	
Adjusted Saturation Flow Rate (*s*), veh/h/ln	1711	1766	1610	1810	1766	1522		1844	1610	1702	1635	
Queue Service Time (g_s), s	9.6	24.7	3.3	0.4	3.5	1.3		13.1	2.2	9.5	20.2	
Cycle Queue Clearance Time (g_c), s	9.6	24.7	3.3	0.4	3.5	1.3		13.1	2.2	9.5	20.2	
Green Ratio (*g/C*)	0.43	0.40	0.40	0.31	0.29	0.29		0.16	0.16	0.24	0.24	
Capacity (*c*), veh/h	537	1413	644	162	1039	448		288	252	818	393	
Volume-to-Capacity Ratio (*X*)	0.469	0.821	0.347	0.070	0.320	0.276		0.861	0.163	0.464	0.874	
Back of Queue (*Q*), ft/ln (90 th percentile)	139.9	198.3	40.8	7.5	51.9	22.3		206.4	34.8	147.7	263.2	
Back of Queue (*Q*), veh/ln (90 th percentile)	6.0	8.8	1.9	0.3	2.3	1.0		9.4	1.6	6.5	12.0	
Queue Storage Ratio (*RQ*) (90 th percentile)	0.95	0.00	0.33	0.07	0.00	0.21		0.00	0.00	0.00	0.00	
Uniform Delay (d_1), s/veh	20.7	14.9	5.4	25.8	10.7	4.3		41.1	36.5	32.5	36.5	
Incremental Delay (d_2), s/veh	0.1	3.0	0.8	0.1	0.8	1.5		3.0	0.1	0.2	2.5	
Initial Queue Delay (d_3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	
Control Delay (*d*), s/veh	20.8	17.9	6.1	25.9	11.5	5.8		44.1	36.6	32.6	39.0	
Level of Service (LOS)	C	B	A	C	B	A		D	D	C	D	
Approach Delay, s/veh / LOS	16.7	B		10.3	B		43.0	D		35.6	D	
Intersection Delay, s/veh / LOS	22.6						C					

Multimodal Results	EB		WB		NB		SB	
Pedestrian LOS Score / LOS	1.91	B	2.12	B	2.47	B	2.45	B
Bicycle LOS Score / LOS	1.51	B	1.75	B	0.96	A	1.68	B

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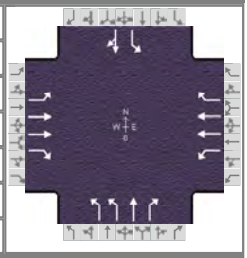
HCS7 Signalized Intersection Results Summary

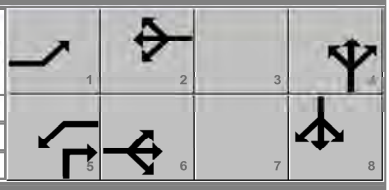
General Information				Intersection Information	
Agency	Stolfus and Associates			Duration, h	0.250
Analyst	Max Rusch	Analysis Date		Area Type	Other
Jurisdiction		Time Period	PM Peak	PHF	0.84
Urban Street	Patterson Rd	Analysis Year	2045	Analysis Period	1> 7:00
Intersection	Home Depot Access/Me…	File Name	2045 ACP PM.xus		
Project Description					



Demand Information	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Demand (*v*), veh/h	85	760	227	130	876	65	279	72	249	88	45	127

Signal Information			
Cycle, s	100.0	Reference Phase	2
Offset, s	81	Reference Point	Begin
Uncoordinated	No	Simult. Gap E/W	Off
Force Mode	Fixed	Simult. Gap N/S	Off

Green	5.0	2.1	41.0	15.0	18.0	0.0
Yellow	3.5	0.0	4.0	4.0	4.0	0.0
Red	0.5	0.0	1.0	1.0	1.0	0.0



Timer Results	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Assigned Phase	1	6	5	2		4		8
Case Number	1.1	3.0	1.1	3.0		9.0		10.0
Phase Duration, s	11.0	48.1	9.0	46.0		23.0		20.0
Change Period, ($Y+R_c$), s	4.0	5.0	4.0	5.0		5.0		5.0
Max Allow Headway (*MAH*), s	5.2	0.0	5.2	0.0		5.4		5.5
Queue Clearance Time (g_s), s	6.6		5.0			19.4		13.8
Green Extension Time (g_e), s	0.6	0.0	0.3	0.0		0.0		1.2
Phase Call Probability	0.98		0.93			1.00		1.00
Max Out Probability	0.00		0.01			1.00		0.27

Movement Group Results	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Assigned Movement	1	6	16	5	2	12	7	4	14	3	8	18
Adjusted Flow Rate (*v*), veh/h	138	1234	369	96	647	48	332	86	296	105	205	
Adjusted Saturation Flow Rate (*s*), veh/h/ln	1711	1766	1598	1810	1752	1610	1743	1900	1610	1767	1677	
Queue Service Time (g_s), s	4.6	32.3	21.7	3.0	15.1	2.1	8.6	3.9	17.4	5.4	11.8	
Cycle Queue Clearance Time (g_c), s	4.6	32.3	21.7	3.0	15.1	2.1	8.6	3.9	17.4	5.4	11.8	
Green Ratio (*g/C*)	0.48	0.43	0.43	0.46	0.41	0.41	0.18	0.18	0.23	0.15	0.15	
Capacity (*c*), veh/h	379	1521	688	190	1437	660	626	341	369	266	252	
Volume-to-Capacity Ratio (*X*)	0.364	0.811	0.536	0.506	0.450	0.073	0.530	0.251	0.804	0.394	0.812	
Back of Queue (*Q*), ft/ln (90 th percentile)	72.7	446.6	327.4	52.9	225	31.8	139.4	73.6	258.6	98.6	188.7	
Back of Queue (*Q*), veh/ln (90 th percentile)	3.1	19.8	14.8	2.4	9.9	1.4	6.3	3.3	11.8	4.4	8.6	
Queue Storage Ratio (*RQ*) (90 th percentile)	0.54	0.00	1.64	0.48	0.00	0.00	0.78	0.00	1.18	0.74	0.00	
Uniform Delay (d_1), s/veh	15.8	31.4	34.7	22.3	26.2	20.9	37.2	35.2	36.4	38.4	41.1	
Incremental Delay (d_2), s/veh	0.8	4.4	2.7	2.8	1.0	0.2	1.1	0.5	12.7	1.4	9.7	
Initial Queue Delay (d_3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Control Delay (*d*), s/veh	16.5	35.8	37.4	25.0	27.2	21.1	38.3	35.8	49.1	39.7	50.8	
Level of Service (LOS)	B	D	D	C	C	C	D	D	D	D	D	
Approach Delay, s/veh / LOS	34.6	C		26.6	C		42.5	D		47.0	D	
Intersection Delay, s/veh / LOS	35.5						D					

Multimodal Results	EB		WB		NB		SB	
Pedestrian LOS Score / LOS	2.27	B	1.91	B	2.45	B	2.47	B
Bicycle LOS Score / LOS	1.54	B	1.54	B	1.67	B	1.00	A

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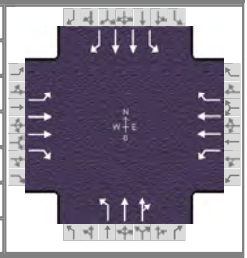
HCS7 Signalized Intersection Results Summary

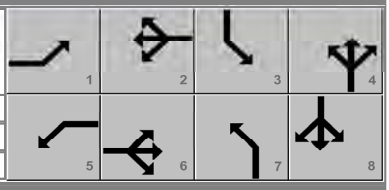
General Information				Intersection Information	
Agency	Stolfus and Associates			Duration, h	0.250
Analyst	Max Rusch	Analysis Date		Area Type	Other
Jurisdiction		Time Period	PM Peak	PHF	0.92
Urban Street	Patterson Rd	Analysis Year	2045	Analysis Period	1> 7:00
Intersection	24 1/2 Rd & Patterson	File Name	2045 ACP PM.xus		
Project Description					



Demand Information	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Demand (*v*), veh/h	102	670	251	267	735	282	254	410	206	227	333	100

Signal Information			
Cycle, s	100.0	Reference Phase	2
Offset, s	6	Reference Point	Begin
Uncoordinated	No	Simult. Gap E/W	On
Force Mode	Fixed	Simult. Gap N/S	On

Green	9.7	1.9	38.0	7.0	3.4	17.5
Yellow	3.5	0.0	4.0	3.5	3.5	4.0
Red	0.5	0.0	1.5	0.5	0.5	1.0



Timer Results	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Assigned Phase	1	6	5	2	7	4	3	8
Case Number	1.1	3.0	1.1	3.0	1.1	4.0	1.1	3.0
Phase Duration, s	13.7	43.5	15.7	45.4	18.4	29.9	11.0	22.5
Change Period, ($Y+R_c$), s	4.0	5.5	4.0	5.5	4.0	5.0	4.0	5.0
Max Allow Headway (*MAH*), s	5.2	0.0	5.2	0.0	5.2	5.2	5.2	5.2
Queue Clearance Time (g_s), s	8.8		10.3		14.2	19.9	9.0	11.6
Green Extension Time (g_e), s	1.0	0.0	1.3	0.0	0.1	5.0	0.0	5.3
Phase Call Probability	1.00		1.00		1.00	1.00	1.00	1.00
Max Out Probability	0.00		0.00		1.00	0.61	1.00	0.56

Movement Group Results	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Assigned Movement	1	6	16	5	2	12	7	4	14	3	8	18
Adjusted Flow Rate (*v*), veh/h	195	1283	481	235	647	248	276	353	317	247	362	109
Adjusted Saturation Flow Rate (*s*), veh/h/ln	1697	1781	1610	1810	1766	1598	1767	1856	1646	1767	1738	1397
Queue Service Time (g_s), s	6.8	33.9	20.1	8.3	13.3	7.4	12.2	17.7	17.9	7.0	9.6	7.0
Cycle Queue Clearance Time (g_c), s	6.8	33.9	20.1	8.3	13.3	7.4	12.2	17.7	17.9	7.0	9.6	7.0
Green Ratio (*g/C*)	0.48	0.38	0.38	0.50	0.40	0.40	0.34	0.25	0.25	0.25	0.18	0.18
Capacity (*c*), veh/h	383	1352	611	294	1410	638	398	461	409	234	609	244
Volume-to-Capacity Ratio (*X*)	0.510	0.949	0.786	0.799	0.459	0.389	0.693	0.765	0.774	1.056	0.595	0.445
Back of Queue (*Q*), ft/ln (90 th percentile)	110	396.4	164.8	152.5	186.5	92.2	193.8	275.9	251.4	243.4	153.5	110.8
Back of Queue (*Q*), veh/ln (90 th percentile)	4.7	17.7	7.5	6.9	8.3	4.2	8.6	12.2	11.3	10.8	6.7	4.4
Queue Storage Ratio (*RQ*) (90 th percentile)	0.82	0.00	0.75	1.16	0.00	0.37	1.46	0.00	0.00	1.83	0.00	0.00
Uniform Delay (d_1), s/veh	17.1	21.6	12.5	28.2	21.6	12.0	26.9	34.9	35.0	38.5	38.0	36.9
Incremental Delay (d_2), s/veh	1.3	13.7	8.8	6.4	1.0	1.6	5.4	5.9	7.1	74.6	1.3	1.8
Initial Queue Delay (d_3), 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
Control Delay (*d*), s/veh	18.4	35.3	21.3	34.6	22.6	13.6	32.3	40.8	42.0	113.0	39.3	38.7
Level of Service (LOS)	B	D	C	C	C	B	C	D	D	F	D	D
Approach Delay, s/veh / LOS	30.2	C		23.1	C		38.7	D		64.6	E	
Intersection Delay, s/veh / LOS	35.4						D					

Multimodal Results	EB		WB		NB		SB	
Pedestrian LOS Score / LOS	2.28	B	2.43	B	2.44	B	2.45	B
Bicycle LOS Score / LOS	1.40	A	1.64	B	1.27	A	1.08	A

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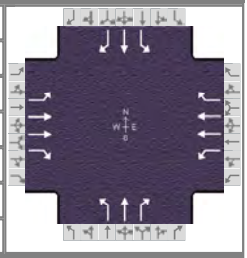
HCS7 Signalized Intersection Results Summary

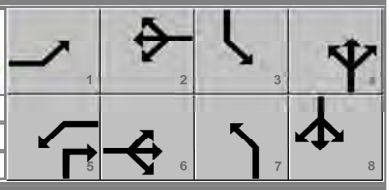
General Information				Intersection Information	
Agency	Stolfus and Associates			Duration, h	0.250
Analyst	Max Rusch	Analysis Date		Area Type	Other
Jurisdiction		Time Period	PM Peak	PHF	0.87
Urban Street	Patterson Rd	Analysis Year	2045	Analysis Period	1> 7:00
Intersection	25 Road & Patterson	File Name	2045 ACP PM.xus		
Project Description					



Demand Information	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Demand (*v*), veh/h	66	921	181	281	905	147	223	338	257	218	317	110

Signal Information			
Cycle, s	100.0	Reference Phase	2
Offset, s	45	Reference Point	Begin
Uncoordinated	No	Simult. Gap E/W	On
Force Mode	Fixed	Simult. Gap N/S	On

Green	6.0	6.0	30.0	6.0	3.0	22.0
Yellow	3.5	3.5	4.5	3.5	3.5	4.0
Red	0.5	0.5	1.5	0.5	0.5	1.0



Timer Results	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Assigned Phase	1	6	5	2	7	4	3	8
Case Number	1.1	3.0	1.1	3.0	1.1	3.0	1.1	3.0
Phase Duration, s	20.0	46.0	10.0	36.0	17.0	34.0	10.0	27.0
Change Period, ($Y+R_c$), s	4.0	6.0	4.0	6.0	4.0	5.0	4.0	5.0
Max Allow Headway (*MAH*), s	5.2	0.0	5.2	0.0	5.2	5.2	5.2	5.2
Queue Clearance Time (g_s), s	4.9		8.0		12.8	21.4	8.0	21.6
Green Extension Time (g_e), s	0.3	0.0	0.0	0.0	0.0	4.1	0.0	0.2
Phase Call Probability	1.00		1.00		1.00	1.00	1.00	1.00
Max Out Probability	0.02		1.00		1.00	0.80	1.00	1.00

Movement Group Results	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Assigned Movement	1	6	16	5	2	12	7	4	14	3	8	18
Adjusted Flow Rate (*v*), veh/h	107	1498	294	218	701	114	256	389	278	251	364	126
Adjusted Saturation Flow Rate (*s*), veh/h/ln	1753	1781	1585	1795	1795	1585	1753	1811	1610	1795	1811	1585
Queue Service Time (g_s), s	2.9	40.0	10.6	6.0	17.7	5.6	10.8	19.4	13.6	6.0	19.6	6.8
Cycle Queue Clearance Time (g_c), s	2.9	40.0	10.6	6.0	17.7	5.6	10.8	19.4	13.6	6.0	19.6	6.8
Green Ratio (*g/C*)	0.48	0.40	0.40	0.36	0.30	0.30	0.37	0.29	0.35	0.28	0.22	0.22
Capacity (*c*), veh/h	433	1424	634	180	1077	476	321	525	564	239	398	349
Volume-to-Capacity Ratio (*X*)	0.248	1.052	0.464	1.210	0.651	0.239	0.799	0.740	0.494	1.050	0.914	0.363
Back of Queue (*Q*), ft/ln (90 th percentile)	46.9	629.5	123.9	298.7	256.5	88.5	206.3	311.2	187.1	252.5	367.2	111.4
Back of Queue (*Q*), veh/ln (90 th percentile)	2.1	28.2	5.5	13.5	11.6	4.0	9.1	13.5	8.5	11.4	15.9	5.0
Queue Storage Ratio (*RQ*) (90 th percentile)	0.26	0.00	0.77	1.69	0.00	0.68	0.93	0.00	1.06	1.91	0.00	0.84
Uniform Delay (d_1), s/veh	13.2	25.3	14.7	28.9	34.1	27.4	26.0	32.1	25.5	37.8	38.1	33.1
Incremental Delay (d_2), s/veh	1.3	37.9	2.3	129.9	2.6	1.0	18.5	9.0	3.1	71.8	28.0	2.9
Initial Queue Delay (d_3), 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
Control Delay (*d*), s/veh	14.5	63.2	17.0	158.8	36.7	28.4	44.5	41.1	28.6	109.6	66.1	36.0
Level of Service (LOS)	B	F	B	F	D	C	D	D	C	F	E	D
Approach Delay, s/veh / LOS	53.3	D		61.5	E		38.3	D		75.6	E	
Intersection Delay, s/veh / LOS	55.7						E					

Multimodal Results	EB		WB		NB		SB	
Pedestrian LOS Score / LOS	2.13	B	2.12	B	2.44	B	2.45	B
Bicycle LOS Score / LOS	1.60	B	1.75	B	2.01	B	1.71	B

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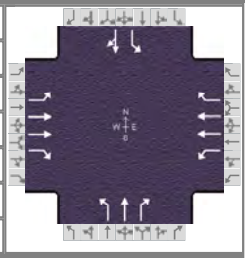
HCS7 Signalized Intersection Results Summary

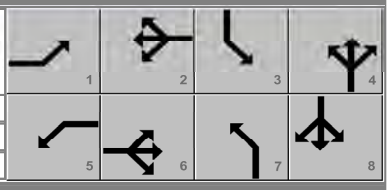
General Information				Intersection Information	
Agency	Stolfus and Associates			Duration, h	0.250
Analyst	Max Rusch	Analysis Date		Area Type	Other
Jurisdiction		Time Period	PM Peak	PHF	0.82
Urban Street	Patterson Rd	Analysis Year	2045	Analysis Period	1> 7:00
Intersection	25 1/2 Road & Patterson	File Name	2045 ACP PM.xus		
Project Description					



Demand Information	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Demand (*v*), veh/h	92	1205	144	181	1180	147	93	190	189	184	159	75

Signal Information			
Cycle, s	100.0	Reference Phase	2
Offset, s	3	Reference Point	Begin
Uncoordinated	No	Simult. Gap E/W	On
Force Mode	Fixed	Simult. Gap N/S	On

Green	7.6	0.2	48.2	6.0	2.0	17.0
Yellow	3.5	0.0	4.5	3.5	0.0	4.0
Red	0.5	0.0	1.5	0.5	0.0	1.0



Timer Results	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Assigned Phase	1	6	5	2	7	4	3	8
Case Number	1.1	3.0	1.1	3.0	1.1	3.0	1.1	4.0
Phase Duration, s	11.6	54.2	11.8	54.4	10.0	22.0	12.0	24.0
Change Period, ($Y+R_c$), s	4.0	6.0	4.0	6.0	4.0	5.0	4.0	5.0
Max Allow Headway (*MAH*), s	5.2	0.0	5.2	0.0	5.2	5.3	5.2	5.3
Queue Clearance Time (g_s), s	4.9		5.5		7.3	16.1	10.0	17.7
Green Extension Time (g_e), s	0.6	0.0	0.7	0.0	0.0	0.9	0.0	1.0
Phase Call Probability	0.95		0.97		1.00	1.00	1.00	1.00
Max Out Probability	0.00		0.00		1.00	1.00	1.00	1.00

Movement Group Results	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Assigned Movement	1	6	16	5	2	12	7	4	14	3	8	18
Adjusted Flow Rate (*v*), veh/h	110	1445	173	130	848	106	113	232	230	224	285	
Adjusted Saturation Flow Rate (*s*), veh/h/ln	1810	1781	1598	1781	1781	1572	1767	1885	1585	1682	1754	
Queue Service Time (g_s), s	2.9	35.8	5.8	3.5	12.0	1.2	5.3	11.6	14.1	8.0	15.7	
Cycle Queue Clearance Time (g_c), s	2.9	35.8	5.8	3.5	12.0	1.2	5.3	11.6	14.1	8.0	15.7	
Green Ratio (*g/C*)	0.56	0.48	0.48	0.56	0.48	0.48	0.23	0.17	0.17	0.25	0.19	
Capacity (*c*), veh/h	415	1717	770	249	1723	761	192	320	269	254	333	
Volume-to-Capacity Ratio (*X*)	0.265	0.841	0.224	0.522	0.492	0.139	0.592	0.724	0.856	0.885	0.857	
Back of Queue (*Q*), ft/ln (90 th percentile)	45.4	443.4	83.8	62.5	136.7	16.9	114.2	201.6	232.6	159.2	271.1	
Back of Queue (*Q*), veh/ln (90 th percentile)	2.1	19.8	3.8	2.8	6.1	0.7	5.1	9.1	10.4	6.7	12.0	
Queue Storage Ratio (*RQ*) (90 th percentile)	0.34	0.00	0.66	0.47	0.00	0.13	1.03	0.00	2.63	1.18	0.00	
Uniform Delay (d_1), s/veh	12.1	23.7	13.5	22.0	10.9	4.1	33.1	39.3	40.3	36.9	39.2	
Incremental Delay (d_2), s/veh	0.4	4.7	0.6	2.0	0.8	0.3	12.7	7.8	21.8	33.2	18.6	
Initial Queue Delay (d_3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Control Delay (*d*), s/veh	12.6	28.4	14.1	24.0	11.7	4.4	45.8	47.1	62.1	70.1	57.8	
Level of Service (LOS)	B	C	B	C	B	A	D	D	E	E	E	
Approach Delay, s/veh / LOS	26.0	C		12.4	B		52.9	D		63.2	E	
Intersection Delay, s/veh / LOS	31.1						C					

Multimodal Results	EB		WB		NB		SB	
Pedestrian LOS Score / LOS	2.09	B	1.90	B	2.45	B	2.45	B
Bicycle LOS Score / LOS	1.94	B	2.00	B	1.44	A	1.33	A

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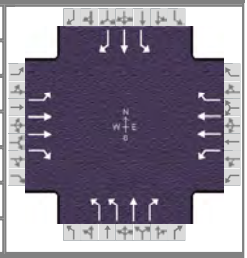
HCS7 Signalized Intersection Results Summary

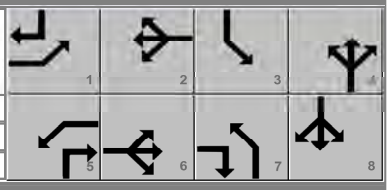
General Information				Intersection Information	
Agency	Stolfus and Associates			Duration, h	0.250
Analyst	Max Rusch	Analysis Date		Area Type	Other
Jurisdiction		Time Period	PM Peak	PHF	0.77
Urban Street	Patterson Rd	Analysis Year	2045	Analysis Period	1> 7:00
Intersection	1st Street & Patterson	File Name	2045 ACP PM.xus		
Project Description					



Demand Information	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Demand (*v*), veh/h	115	1234	197	217	1180	124	210	394	193	165	311	80

Signal Information			
Cycle, s	100.0	Reference Phase	2
Offset, s	72	Reference Point	Begin
Uncoordinated	No	Simult. Gap E/W	On
Force Mode	Fixed	Simult. Gap N/S	On

Green	7.8	0.1	35.7	9.0	2.4	26.6
Yellow	3.5	0.0	3.0	3.5	0.0	4.0
Red	0.5	0.0	2.5	0.5	0.0	1.0



Timer Results	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Assigned Phase	1	6	5	2	7	4	3	8
Case Number	1.1	3.0	1.1	3.0	1.1	3.0	1.1	3.0
Phase Duration, s	11.8	41.2	11.9	41.3	13.0	31.6	15.4	33.9
Change Period, ($Y+R_c$), s	4.0	5.5	4.0	5.5	4.0	5.0	4.0	5.0
Max Allow Headway (*MAH*), s	5.2	0.0	5.2	0.0	5.2	5.2	5.2	5.2
Queue Clearance Time (g_s), s	6.2		7.2		7.5	28.5	10.3	21.4
Green Extension Time (g_e), s	0.5	0.0	0.7	0.0	1.5	0.0	1.1	4.4
Phase Call Probability	0.97		0.98		1.00	1.00	1.00	1.00
Max Out Probability	0.00		0.00		0.00	1.00	0.00	0.83

Movement Group Results	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Assigned Movement	1	6	16	5	2	12	7	4	14	3	8	18
Adjusted Flow Rate (*v*), veh/h	126	1349	215	150	817	86	273	512	251	214	404	104
Adjusted Saturation Flow Rate (*s*), veh/h/ln	1810	1766	1598	1781	1781	1572	1743	1856	1598	1810	1885	1610
Queue Service Time (g_s), s	4.2	35.7	7.5	5.2	20.1	4.4	5.5	26.5	12.2	8.3	19.4	4.4
Cycle Queue Clearance Time (g_c), s	4.2	35.7	7.5	5.2	20.1	4.4	5.5	26.5	12.2	8.3	19.4	4.4
Green Ratio (*g/C*)	0.43	0.36	0.45	0.44	0.36	0.36	0.36	0.27	0.34	0.38	0.29	0.37
Capacity (*c*), veh/h	299	1261	714	212	1276	563	590	492	550	279	545	590
Volume-to-Capacity Ratio (*X*)	0.420	1.070	0.301	0.707	0.640	0.152	0.462	1.040	0.456	0.768	0.741	0.176
Back of Queue (*Q*), ft/ln (90 th percentile)	62.9	627.7	99.1	82.4	269	93	89.7	556.4	163.5	140.8	296.1	64.8
Back of Queue (*Q*), veh/ln (90 th percentile)	2.9	27.8	4.5	3.7	12.0	4.1	4.0	24.7	7.4	6.4	13.4	2.9
Queue Storage Ratio (*RQ*) (90 th percentile)	0.48	0.00	0.75	0.75	0.00	0.85	0.68	0.00	1.24	1.28	0.00	0.00
Uniform Delay (d_1), s/veh	18.2	29.6	14.3	23.0	30.4	26.8	24.7	36.7	25.5	25.2	32.2	21.4
Incremental Delay (d_2), s/veh	1.1	44.3	0.9	3.7	1.5	0.4	0.8	51.2	0.8	6.2	5.8	0.2
Initial Queue Delay (d_3), 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
Control Delay (*d*), s/veh	19.3	73.9	15.2	26.7	31.9	27.2	25.5	88.0	26.4	31.4	37.9	21.6
Level of Service (LOS)	B	F	B	C	C	C	C	F	C	C	D	C
Approach Delay, s/veh / LOS	62.4	E		30.8	C		56.6	E		33.6	C	
Intersection Delay, s/veh / LOS	49.0						D					

Multimodal Results	EB		WB		NB		SB	
Pedestrian LOS Score / LOS	2.28	B	2.11	B	2.44	B	2.44	B
Bicycle LOS Score / LOS	2.14	B	2.12	B	2.20	B	1.68	B

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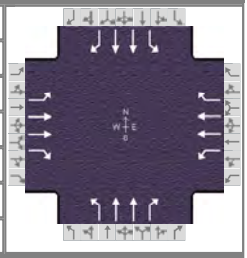
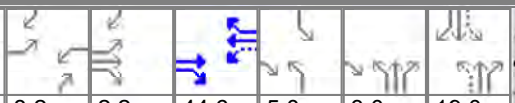
HCS7 Signalized Intersection Results Summary

General Information				Intersection Information	
Agency	Stolfus and Associates			Duration, h	0.250
Analyst	Max Rusch	Analysis Date		Area Type	Other
Jurisdiction		Time Period	PM Peak	PHF	0.80
Urban Street	Patterson Rd	Analysis Year	2045	Analysis Period	1> 7:00
Intersection	7th Street & Patterson	File Name	2045 ACP PM.xus		
Project Description					

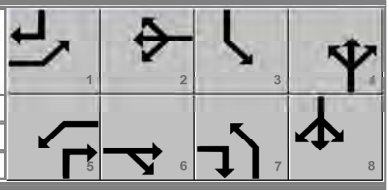


Demand Information	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Demand (*v*), veh/h	147	1222	163	202	934	172	245	586	275	151	311	173

Signal Information			
Cycle, s	100.0	Reference Phase	2
Offset, s	26	Reference Point	Begin
Uncoordinated	No	Simult. Gap E/W	On
Force Mode	Fixed	Simult. Gap N/S	On



Green	8.2	2.2	44.6	5.0	3.0	19.0
Yellow	3.5	0.0	4.0	3.5	0.0	4.0
Red	0.5	0.0	1.0	0.5	0.0	1.0



Timer Results	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Assigned Phase	1	6	5	2	7	4	3	8
Case Number	2.0	3.0	1.1	3.0	1.1	3.0	1.1	3.0
Phase Duration, s	14.4	51.8	12.2	49.6	12.0	27.0	9.0	24.0
Change Period, ($Y+R_c$), s	4.0	5.0	4.0	5.0	4.0	5.0	4.0	5.0
Max Allow Headway (*MAH*), s	5.2	0.0	5.2	0.0	5.2	5.2	5.2	5.2
Queue Clearance Time (g_s), s	9.8		7.2		10.0	21.8	7.0	13.2
Green Extension Time (g_e), s	0.8	0.0	1.1	0.0	0.0	0.2	0.0	4.4
Phase Call Probability	0.98		0.99		1.00	1.00	0.99	1.00
Max Out Probability	0.00		0.00		1.00	1.00	1.00	0.97

Movement Group Results	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Assigned Movement	1	6	16	5	2	12	7	4	14	3	8	18
Adjusted Flow Rate (*v*), veh/h	142	1184	133	184	851	152	306	733	328	189	389	216
Adjusted Saturation Flow Rate (*s*), veh/h/ln	1810	1766	1417	1810	1781	1543	1767	1795	1589	1795	1809	1577
Queue Service Time (g_s), s	7.8	15.7	0.9	5.2	13.1	2.2	8.0	19.8	18.0	5.0	9.8	11.2
Cycle Queue Clearance Time (g_c), s	7.8	15.7	0.9	5.2	13.1	2.2	8.0	19.8	18.0	5.0	9.8	11.2
Green Ratio (*g/C*)	0.10	0.47	0.55	0.53	0.45	0.45	0.28	0.22	0.30	0.24	0.19	0.29
Capacity (*c*), veh/h	188	1653	789	345	1589	689	288	789	481	163	686	466
Volume-to-Capacity Ratio (*X*)	0.756	0.716	0.168	0.534	0.535	0.221	1.064	0.929	0.681	1.161	0.566	0.465
Back of Queue (*Q*), ft/ln (90 th percentile)	141.4	126.5	12.3	88.9	145.6	29.6	291.8	303.5	220.2	239.2	154.6	153.3
Back of Queue (*Q*), veh/ln (90 th percentile)	6.4	5.6	0.5	4.0	6.5	1.3	12.9	13.7	9.9	10.8	7.0	6.9
Queue Storage Ratio (*RQ*) (90 th percentile)	0.80	0.00	0.08	0.67	0.00	0.19	1.32	0.00	1.25	2.17	0.00	0.00
Uniform Delay (d_1), s/veh	48.0	6.9	1.8	15.8	12.4	5.3	37.0	34.6	27.7	38.1	36.8	28.9
Incremental Delay (d_2), s/veh	7.0	2.2	0.4	1.4	1.0	0.5	70.9	17.4	4.3	120.4	1.4	1.0
Initial Queue Delay (d_3), 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
Control Delay (*d*), s/veh	55.0	9.1	2.2	17.2	13.3	5.8	107.9	51.9	32.1	158.6	38.1	29.9
Level of Service (LOS)	D	A	A	B	B	A	F	D	C	F	D	C
Approach Delay, s/veh / LOS	12.9	B		13.0	B		59.7	E		64.5	E	
Intersection Delay, s/veh / LOS	34.8						C					

Multimodal Results	EB		WB		NB		SB	
Pedestrian LOS Score / LOS	2.43	B	2.42	B	2.45	B	2.49	B
Bicycle LOS Score / LOS	2.04	B	1.83	B	1.61	B	1.14	A

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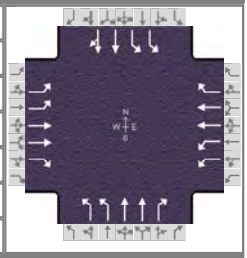
HCS7 Signalized Intersection Results Summary

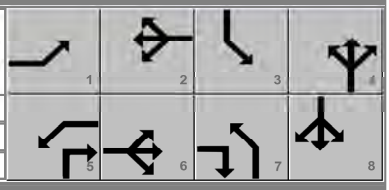
General Information				Intersection Information	
Agency	Stolfus and Associates			Duration, h	0.250
Analyst	Max Rusch	Analysis Date		Area Type	Other
Jurisdiction		Time Period	PM Peak	PHF	0.80
Urban Street	Patterson Rd	Analysis Year	2045	Analysis Period	1> 7:00
Intersection	12th Street & Patterson	File Name	2045 ACP PM.xus		
Project Description					



Demand Information	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Demand (*v*), veh/h	246	1289	117	106	795	151	145	629	146	288	542	238

Signal Information			
Cycle, s	100.0	Reference Phase	2
Offset, s	49	Reference Point	Begin
Uncoordinated	No	Simult. Gap E/W	On
Force Mode	Fixed	Simult. Gap N/S	On

Green	6.0	45.5	5.0	1.0	20.0	0.0
Yellow	3.5	4.0	3.5	3.5	4.0	0.0
Red	0.5	1.5	0.5	0.5	1.0	0.0



Timer Results	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Assigned Phase	1	6	5	2	7	4	3	8
Case Number	1.1	3.0	1.1	3.0	1.1	3.0	1.1	4.0
Phase Duration, s	10.0	51.0	10.0	51.0	9.0	25.0	14.0	30.0
Change Period, ($Y+R_c$), s	4.0	5.5	4.0	5.5	4.0	5.0	4.0	5.0
Max Allow Headway (*MAH*), s	5.2	0.0	5.2	0.0	5.2	5.2	5.2	5.2
Queue Clearance Time (g_s), s	7.2		4.0		6.1	22.0	9.8	27.0
Green Extension Time (g_e), s	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0
Phase Call Probability	1.00		1.00		1.00	1.00	1.00	1.00
Max Out Probability	1.00		1.00		1.00	1.00	1.00	1.00

Movement Group Results	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Assigned Movement	1	6	16	5	2	12	7	4	14	3	8	18
Adjusted Flow Rate (*v*), veh/h	333	1743	158	137	1024	194	181	786	183	360	515	460
Adjusted Saturation Flow Rate (*s*), veh/h/ln	1730	1766	1606	1743	1795	1598	1730	1781	1572	1743	1870	1670
Queue Service Time (g_s), s	5.2	45.5	5.5	2.0	19.6	4.5	4.1	20.0	9.7	7.8	25.0	25.0
Cycle Queue Clearance Time (g_c), s	5.2	45.5	5.5	2.0	19.6	4.5	4.1	20.0	9.7	7.8	25.0	25.0
Green Ratio (*g/C*)	0.52	0.46	0.51	0.52	0.46	0.46	0.25	0.20	0.26	0.32	0.25	0.25
Capacity (*c*), veh/h	570	1607	811	353	1633	727	317	712	409	493	468	417
Volume-to-Capacity Ratio (*X*)	0.584	1.084	0.195	0.387	0.627	0.268	0.572	1.104	0.446	0.731	1.102	1.102
Back of Queue (*Q*), ft/ln (90 th percentile)	78.2	804.4	105.4	33.1	221.7	58.7	81	470.4	147.8	139.3	619.7	567.1
Back of Queue (*Q*), veh/ln (90 th percentile)	3.5	35.7	4.8	1.5	10.0	2.6	3.6	21.0	6.6	6.3	27.7	25.4
Queue Storage Ratio (*RQ*) (90 th percentile)	0.44	0.00	0.73	0.13	0.00	0.44	0.37	0.00	0.67	1.05	0.00	0.00
Uniform Delay (d_1), s/veh	16.3	28.3	14.0	22.1	16.6	8.9	31.7	40.0	31.0	28.2	37.5	37.5
Incremental Delay (d_2), s/veh	2.7	45.3	0.3	2.6	1.5	0.7	7.3	65.8	3.5	9.2	72.2	74.4
Initial Queue Delay (d_3), 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
Control Delay (*d*), s/veh	19.0	73.6	14.4	24.7	18.2	9.6	39.0	105.8	34.5	37.4	109.7	111.9
Level of Service (LOS)	B	F	B	C	B	A	D	F	C	D	F	F
Approach Delay, s/veh / LOS	61.3	E		17.6	B		84.0	F		91.0	F	
Intersection Delay, s/veh / LOS	62.4						E					

Multimodal Results	EB		WB		NB		SB	
Pedestrian LOS Score / LOS	2.56	C	2.42	B	2.59	C	2.59	C
Bicycle LOS Score / LOS	2.19	B	1.57	B	1.44	A	1.59	B

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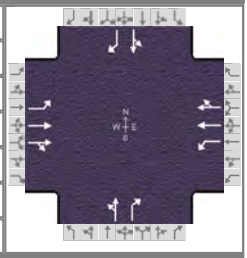
HCS7 Signalized Intersection Results Summary

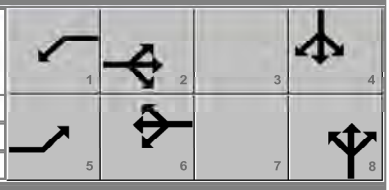
General Information				Intersection Information	
Agency	Stolfus and Associates			Duration, h	0.250
Analyst	Max Rusch	Analysis Date		Area Type	Other
Jurisdiction		Time Period	PM Peak	PHF	0.83
Urban Street	Patterson Rd	Analysis Year	2045	Analysis Period	1> 7:00
Intersection	Patterson Rd & 15th St	File Name	2045 ACP PM.xus		
Project Description					



Demand Information	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Demand (*v*), veh/h	69	1629	30	22	1052	27	14	4	36	43	2	64

Signal Information			
Cycle, s	100.0	Reference Phase	2
Offset, s	66	Reference Point	End
Uncoordinated	No	Simult. Gap E/W	On
Force Mode	Fixed	Simult. Gap N/S	On

Green	3.2	2.3	75.4	7.1	0.0	0.0
Yellow	4.0	0.0	4.0	4.0	0.0	0.0
Red	0.0	0.0	0.0	0.0	0.0	0.0



Timer Results	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Assigned Phase	5	2	1	6		8		4
Case Number	1.1	4.0	1.1	4.0		7.0		7.0
Phase Duration, s	9.5	81.8	7.2	79.4		11.1		11.1
Change Period, ($Y+R_c$), s	4.0	4.0	4.0	4.0		4.0		4.0
Max Allow Headway (*MAH*), s	3.1	0.0	3.1	0.0		3.3		3.3
Queue Clearance Time (g_s), s	3.0		2.3			4.6		6.8
Green Extension Time (g_e), s	0.2	0.0	0.0	0.0		0.4		0.3
Phase Call Probability	0.92		0.53			1.00		1.00
Max Out Probability	0.00		0.00			0.00		0.00

Movement Group Results	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Assigned Movement	5	2	12	1	6	16	3	8	18	7	4	14
Adjusted Flow Rate (*v*), veh/h	90	1083	1083	27	668	663		22	43		54	77
Adjusted Saturation Flow Rate (*s*), veh/h/ln	1781	1856	1844	1781	1885	1868		1526	1585		1433	1585
Queue Service Time (g_s), s	1.0	27.0	27.6	0.3	22.3	22.6		0.0	2.6		2.4	4.8
Cycle Queue Clearance Time (g_c), s	1.0	27.0	27.6	0.3	22.3	22.6		1.2	2.6		3.6	4.8
Green Ratio (*g/C*)	0.81	0.78	0.78	0.79	0.75	0.75		0.07	0.07		0.07	0.07
Capacity (*c*), veh/h	388	1443	1433	216	1422	1409		172	112		172	112
Volume-to-Capacity Ratio (*X*)	0.232	0.751	0.756	0.125	0.470	0.470		0.126	0.387		0.316	0.688
Back of Queue (*Q*), ft/ln (90 th percentile)	14.2	176.2	174.8	5.2	292	291.3		20.5	42.1		52.7	78.2
Back of Queue (*Q*), veh/ln (90 th percentile)	0.6	7.8	7.9	0.2	13.2	13.2		0.9	1.9		2.4	3.5
Queue Storage Ratio (*RQ*) (90 th percentile)	0.18	0.00	0.00	0.06	0.00	0.00		0.00	0.95		0.00	1.77
Uniform Delay (d_1), s/veh	5.2	4.4	4.4	6.2	11.2	11.4		43.7	44.4		44.9	45.4
Incremental Delay (d_2), s/veh	0.1	2.3	2.3	0.1	0.7	0.7		0.1	0.8		0.4	2.8
Initial Queue Delay (d_3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0
Control Delay (*d*), s/veh	5.2	6.6	6.8	6.3	11.9	12.1		43.8	45.2		45.2	48.2
Level of Service (LOS)	A	A	A	A	B	B		D	D		D	D
Approach Delay, s/veh / LOS	6.6	A		11.9	B		44.8	D		47.0	D	
Intersection Delay, s/veh / LOS	10.5						B					

Multimodal Results	EB		WB		NB		SB	
Pedestrian LOS Score / LOS	1.83	B	1.84	B	2.31	B	2.31	B
Bicycle LOS Score / LOS	2.21	B	1.58	B	0.59	A	0.70	A

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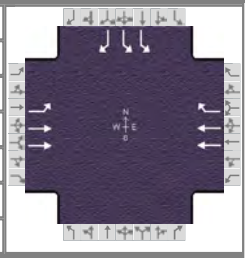
HCS7 Signalized Intersection Results Summary

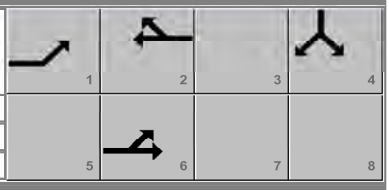
General Information				Intersection Information	
Agency	Stolfus and Associates			Duration, h	0.250
Analyst	Max Rusch	Analysis Date		Area Type	Other
Jurisdiction		Time Period	PM Peak	PHF	0.83
Urban Street	Patterson Rd	Analysis Year	2045	Analysis Period	1> 7:00
Intersection	27 1/2 Road & Patterson	File Name	2045 ACP PM.xus		
Project Description					



Demand Information	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Demand (v), veh/h	227	1478			941	362				558		135

Signal Information			
Cycle, s	100.0	Reference Phase	2
Offset, s	56	Reference Point	Begin
Uncoordinated	No	Simult. Gap E/W	On
Force Mode	Fixed	Simult. Gap N/S	On

Green	33.0	31.0	21.0	0.0	0.0	0.0
Yellow	3.5	4.5	4.0	0.0	0.0	0.0
Red	0.5	1.5	1.0	0.0	0.0	0.0



Timer Results	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Assigned Phase	1	6		2				4
Case Number	1.0	4.0		7.3				9.0
Phase Duration, s	37.0	74.0		37.0				26.0
Change Period, ($Y+R_c$), s	4.0	6.0		6.0				5.0
Max Allow Headway (MAH), s	5.2	0.0		0.0				5.3
Queue Clearance Time (g_s), s	5.6							20.7
Green Extension Time (g_e), s	1.4	0.0		0.0				0.2
Phase Call Probability	1.00							1.00
Max Out Probability	0.00							1.00

Movement Group Results	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Assigned Movement	1	6			2	12				7		14
Adjusted Flow Rate (v), veh/h	243	1584			1005	386				672		163
Adjusted Saturation Flow Rate (s), veh/h/ln	1753	1795			1795	1610				1757		1522
Queue Service Time (g_s), s	3.6	19.8			27.3	22.6				18.7		9.5
Cycle Queue Clearance Time (g_c), s	3.6	19.8			27.3	22.6				18.7		9.5
Green Ratio (g/C)	0.66	0.68			0.31	0.31				0.21		0.21
Capacity (c), veh/h	665	2441			1113	499				738		320
Volume-to-Capacity Ratio (X)	0.366	0.649			0.903	0.774				0.911		0.509
Back of Queue (Q), ft/ln (90 th percentile)	45.7	157.7			403.4	346.4				298.7		150.6
Back of Queue (Q), veh/ln (90 th percentile)	2.0	7.1			18.2	15.7				13.6		6.5
Queue Storage Ratio (RQ) (90 th percentile)	0.30	0.00			0.00	6.56				1.79		0.00
Uniform Delay (d_1), s/veh	6.6	5.7			38.5	35.9				38.6		34.9
Incremental Delay (d_2), s/veh	1.2	1.0			10.1	9.4				17.4		5.7
Initial Queue Delay (d_3), s/veh	0.0	0.0			0.0	0.0				0.0		0.0
Control Delay (d), s/veh	7.8	6.7			48.6	45.3				56.0		40.6
Level of Service (LOS)	A	A			D	D				E		D
Approach Delay, s/veh / LOS	6.9	A		47.7	D		0.0			53.0	D	
Intersection Delay, s/veh / LOS	30.4						C					

Multimodal Results	EB		WB		NB		SB	
Pedestrian LOS Score / LOS	0.67	A	2.12	B	2.32	B	2.32	B
Bicycle LOS Score / LOS	2.18	B	1.78	B				F

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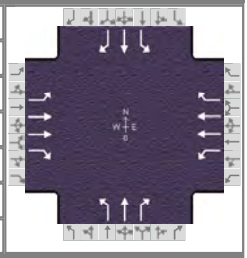
HCS7 Signalized Intersection Results Summary

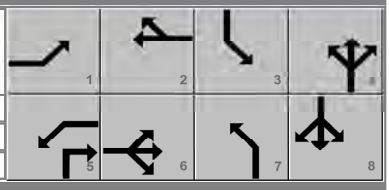
General Information				Intersection Information	
Agency	Stolfus and Associates			Duration, h	0.250
Analyst	Max Rusch	Analysis Date		Area Type	Other
Jurisdiction		Time Period	PM Peak	PHF	0.85
Urban Street	Patterson Rd	Analysis Year	2045	Analysis Period	1> 7:00
Intersection	28 1/4 Road & Patterson	File Name	2045 ACP PM.xus		
Project Description					



Demand Information	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Demand (*v*), veh/h	38	1469	329	159	965	46	288	30	259	116	37	47

Signal Information			
Cycle, s	100.0	Reference Phase	2
Offset, s	72	Reference Point	Begin
Uncoordinated	No	Simult. Gap E/W	Off
Force Mode	Fixed	Simult. Gap N/S	On

Green	11.0	46.0	14.0	2.0	8.0	0.0
Yellow	3.5	4.5	3.5	0.0	4.0	0.0
Red	0.5	1.5	0.5	0.0	1.0	0.0



Timer Results	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Assigned Phase	1	6	5	2	7	4	3	8
Case Number	1.1	3.0	2.0	3.0	1.1	3.0	1.1	3.0
Phase Duration, s	15.0	52.0	15.0	52.0	20.0	15.0	18.0	13.0
Change Period, ($Y+R_c$), s	4.0	6.0	4.0	6.0	4.0	5.0	4.0	5.0
Max Allow Headway (*MAH*), s	5.2	0.0	3.1	0.0	3.2	5.4	5.2	5.4
Queue Clearance Time (g_s), s	2.9		10.4		18.0	12.0	8.4	5.3
Green Extension Time (g_e), s	0.1	0.0	0.0	0.0	0.0	0.0	0.3	0.7
Phase Call Probability	1.00		1.00		1.00	1.00	1.00	1.00
Max Out Probability	0.05		1.00		1.00	1.00	0.77	1.00

Movement Group Results	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Assigned Movement	1	6	16	5	2	12	7	4	14	3	8	18
Adjusted Flow Rate (*v*), veh/h	38	1456	326	156	944	45	339	35	305	136	44	55
Adjusted Saturation Flow Rate (*s*), veh/h/ln	1810	1795	1585	1795	1795	1610	1795	1900	1610	1810	1900	1610
Queue Service Time (g_s), s	0.9	35.0	9.9	8.4	23.7	2.4	16.0	1.7	10.0	6.4	2.2	3.3
Cycle Queue Clearance Time (g_c), s	0.9	35.0	9.9	8.4	23.7	2.4	16.0	1.7	10.0	6.4	2.2	3.3
Green Ratio (*g/C*)	0.57	0.46	0.46	0.11	0.46	0.46	0.24	0.10	0.21	0.22	0.08	0.08
Capacity (*c*), veh/h	388	1651	729	197	1651	741	436	190	338	392	152	129
Volume-to-Capacity Ratio (*X*)	0.097	0.882	0.447	0.788	0.572	0.061	0.778	0.186	0.901	0.348	0.286	0.429
Back of Queue (*Q*), ft/ln (90 th percentile)	13.8	366.2	109.6	150.8	325.4	67.2	286.2	35.6	304.4	114.7	47.4	65.2
Back of Queue (*Q*), veh/ln (90 th percentile)	0.6	16.5	4.9	6.8	14.7	3.1	12.9	1.6	13.8	5.2	2.2	3.0
Queue Storage Ratio (*RQ*) (90 th percentile)	0.05	0.00	0.38	0.57	0.00	0.69	1.08	0.00	0.00	1.04	0.00	0.00
Uniform Delay (d_1), s/veh	12.1	19.0	10.9	42.7	31.0	24.4	35.9	41.3	38.5	32.9	43.3	43.8
Incremental Delay (d_2), s/veh	0.4	5.5	1.5	18.7	1.0	0.1	12.8	2.1	29.3	2.4	4.7	10.1
Initial Queue Delay (d_3), 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
Control Delay (*d*), s/veh	12.5	24.5	12.3	61.4	32.0	24.5	48.7	43.4	67.8	35.4	48.0	53.9
Level of Service (LOS)	B	C	B	E	C	C	D	D	E	D	D	D
Approach Delay, s/veh / LOS	22.1	C		35.7	D		57.0	E		42.1	D	
Intersection Delay, s/veh / LOS	33.4						C					

Multimodal Results	EB		WB		NB		SB	
Pedestrian LOS Score / LOS	2.10	B	2.10	B	2.46	B	2.46	B
Bicycle LOS Score / LOS	2.27	B	1.62	B	1.61	B	0.88	A

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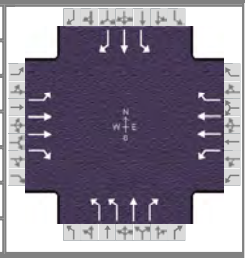
HCS7 Signalized Intersection Results Summary

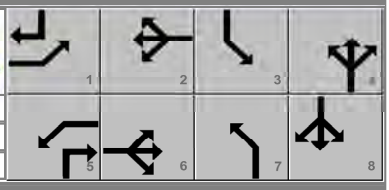
General Information				Intersection Information	
Agency	Stolfus and Associates			Duration, h	0.250
Analyst	Max Rusch	Analysis Date		Area Type	Other
Jurisdiction		Time Period	PM Peak	PHF	0.83
Urban Street	Patterson Rd	Analysis Year	2045	Analysis Period	1> 7:00
Intersection	29 Road & Patterson	File Name	2045 ACP PM.xus		
Project Description					



Demand Information	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Demand (*v*), veh/h	220	1249	310	126	809	57	245	273	267	161	95	166

Signal Information			
Cycle, s	100.0	Reference Phase	2
Offset, s	8	Reference Point	Begin
Uncoordinated	No	Simult. Gap E/W	On
Force Mode	Fixed	Simult. Gap N/S	On

Green	9.5	5.5	29.5	10.5	6.5	9.0
Yellow	3.5	3.5	4.5	3.5	3.5	4.0
Red	1.0	1.0	2.0	1.0	1.0	1.0



Timer Results	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Assigned Phase	1	6	5	2	7	4	3	8
Case Number	1.1	3.0	1.1	3.0	1.1	3.0	1.1	3.0
Phase Duration, s	24.0	46.0	14.0	36.0	26.0	25.0	15.0	14.0
Change Period, ($Y+R_c$), s	4.5	6.5	4.5	6.5	4.5	5.0	4.5	5.0
Max Allow Headway (*MAH*), s	4.1	0.0	4.1	0.0	4.2	4.3	4.2	4.3
Queue Clearance Time (g_s), s	8.3		7.8		8.4	19.1	12.0	8.8
Green Extension Time (g_e), s	0.6	0.0	0.1	0.0	1.0	0.4	0.0	0.1
Phase Call Probability	1.00		1.00		1.00	1.00	1.00	1.00
Max Out Probability	0.01		1.00		0.00	1.00	1.00	1.00

Movement Group Results	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Assigned Movement	1	6	16	5	2	12	7	4	14	3	8	18
Adjusted Flow Rate (*v*), veh/h	230	1304	324	153	983	69	295	329	280	194	114	140
Adjusted Saturation Flow Rate (*s*), veh/h/ln	1781	1795	1572	1767	1781	1585	1716	1870	1610	1753	1870	1610
Queue Service Time (g_s), s	6.3	33.9	13.5	5.8	27.1	3.2	6.4	17.1	14.8	10.0	5.9	6.8
Cycle Queue Clearance Time (g_c), s	6.3	33.9	13.5	5.8	27.1	3.2	6.4	17.1	14.8	10.0	5.9	6.8
Green Ratio (*g/C*)	0.51	0.40	0.40	0.39	0.30	0.30	0.32	0.20	0.30	0.20	0.09	0.29
Capacity (*c*), veh/h	433	1418	621	255	1051	468	950	374	475	264	168	459
Volume-to-Capacity Ratio (*X*)	0.530	0.920	0.521	0.601	0.936	0.148	0.311	0.879	0.588	0.736	0.680	0.305
Back of Queue (*Q*), ft/ln (90 th percentile)	87.3	396.6	153.6	107.8	382.1	49.5	106.1	317.8	208.2	190.7	135.9	108.1
Back of Queue (*Q*), veh/ln (90 th percentile)	3.9	17.9	6.8	4.8	17.1	2.2	4.7	14.2	9.5	8.4	6.1	4.9
Queue Storage Ratio (*RQ*) (90 th percentile)	0.28	0.00	0.56	0.27	0.00	0.57	0.48	0.00	0.95	1.43	0.00	0.82
Uniform Delay (d_1), s/veh	13.3	25.1	17.7	26.9	36.9	26.0	25.3	38.8	30.1	36.8	44.1	28.0
Incremental Delay (d_2), s/veh	3.4	8.7	2.3	7.0	12.0	0.5	0.9	24.2	5.3	16.7	20.0	1.7
Initial Queue Delay (d_3), 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
Control Delay (*d*), s/veh	16.8	33.8	20.0	33.8	48.9	26.5	26.1	63.1	35.3	53.5	64.1	29.7
Level of Service (LOS)	B	C	B	C	D	C	C	E	D	D	E	C
Approach Delay, s/veh / LOS	29.3	C		45.7	D		42.4	D		48.8	D	
Intersection Delay, s/veh / LOS	38.4						D					

Multimodal Results	EB		WB		NB		SB	
Pedestrian LOS Score / LOS	2.32	B	2.19	B	2.45	B	2.46	B
Bicycle LOS Score / LOS	2.26	B	1.47	A	1.98	B	1.23	A

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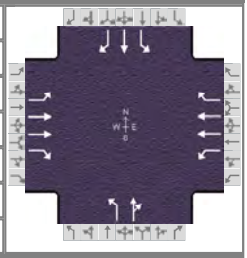
HCS7 Signalized Intersection Results Summary

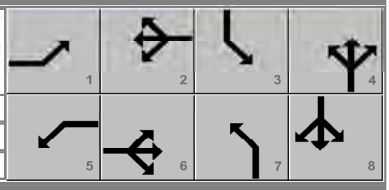
General Information				Intersection Information	
Agency	Stolfus and Associates			Duration, h	0.250
Analyst	Max Rusch	Analysis Date		Area Type	Other
Jurisdiction		Time Period	PM Peak	PHF	0.85
Urban Street	Patterson Rd	Analysis Year	2045	Analysis Period	1> 7:00
Intersection	29 1/2 Road & Patterson	File Name	2045 ACP PM.xus		
Project Description					



Demand Information	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Demand (*v*), veh/h	91	1484	73	99	859	129	86	98	235	155	29	32

Signal Information			
Cycle, s	100.0	Reference Phase	2
Offset, s	58	Reference Point	Begin
Uncoordinated	No	Simult. Gap E/W	On
Force Mode	Fixed	Simult. Gap N/S	On

Green	4.6	1.8	44.2	9.0	9.0	8.0
Yellow	3.5	0.0	5.0	4.0	4.0	4.0
Red	0.5	0.0	1.5	0.0	0.0	1.0



Timer Results	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Assigned Phase	1	6	5	2	7	4	3	8
Case Number	1.1	3.0	1.1	3.0	1.1	4.0	1.1	3.0
Phase Duration, s	8.6	50.7	10.3	52.4	26.0	26.0	13.0	13.0
Change Period, ($Y+R_c$), s	4.0	6.5	4.0	6.5	4.0	5.0	4.0	5.0
Max Allow Headway (*MAH*), s	4.5	0.0	4.5	0.0	3.7	4.8	3.7	4.8
Queue Clearance Time (g_s), s	4.6		6.0		6.1	23.0	11.0	4.2
Green Extension Time (g_e), s	0.3	0.0	0.5	0.0	0.2	0.0	0.0	0.9
Phase Call Probability	0.91		0.98		1.00	1.00	1.00	1.00
Max Out Probability	0.00		0.00		0.00	1.00	1.00	1.00

Movement Group Results	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Assigned Movement	1	6	16	5	2	12	7	4	14	3	8	18
Adjusted Flow Rate (*v*), veh/h	88	1438	71	135	1168	175	101	392		182	34	38
Adjusted Saturation Flow Rate (*s*), veh/h/ln	1810	1795	1598	1795	1795	1560	1767	1607		1781	1841	1585
Queue Service Time (g_s), s	2.6	33.7	1.3	4.0	20.8	2.4	4.1	21.0		9.0	1.7	2.2
Cycle Queue Clearance Time (g_c), s	2.6	33.7	1.3	4.0	20.8	2.4	4.1	21.0		9.0	1.7	2.2
Green Ratio (*g/C*)	0.49	0.44	0.44	0.50	0.46	0.46	0.32	0.21		0.17	0.08	0.08
Capacity (*c*), veh/h	250	1585	706	222	1649	716	543	337		232	147	127
Volume-to-Capacity Ratio (*X*)	0.352	0.907	0.100	0.606	0.709	0.245	0.186	1.161		0.785	0.232	0.297
Back of Queue (*Q*), ft/ln (90 th percentile)	40.3	251.3	18.3	67.6	184.3	30.7	73.2	567.9		190.6	33.2	36.6
Back of Queue (*Q*), veh/ln (90 th percentile)	1.8	11.3	0.8	3.0	8.3	1.4	3.2	24.6		8.5	1.5	1.6
Queue Storage Ratio (*RQ*) (90 th percentile)	0.31	0.00	0.22	0.51	0.00	0.13	0.94	0.00		1.39	0.00	0.00
Uniform Delay (d_1), s/veh	16.5	14.8	7.8	23.0	12.7	4.8	24.6	39.5		39.0	43.1	43.3
Incremental Delay (d_2), s/veh	0.6	6.3	0.2	1.9	1.9	0.6	0.8	100.2		22.9	0.8	1.3
Initial Queue Delay (d_3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Control Delay (*d*), s/veh	17.1	21.1	8.0	24.9	14.6	5.4	25.4	139.7		61.9	43.9	44.6
Level of Service (LOS)	B	C	A	C	B	A	C	F		E	D	D
Approach Delay, s/veh / LOS	20.3	C		14.4	B		116.2	F		56.9	E	
Intersection Delay, s/veh / LOS	32.9						C					

Multimodal Results	EB		WB		NB		SB	
Pedestrian LOS Score / LOS	1.91	B	2.10	B	2.45	B	2.46	B
Bicycle LOS Score / LOS	2.09	B	1.54	B	1.30	A	0.91	A

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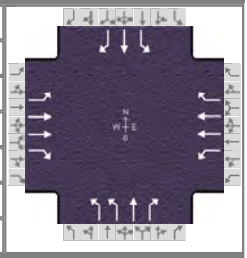
HCS7 Signalized Intersection Results Summary

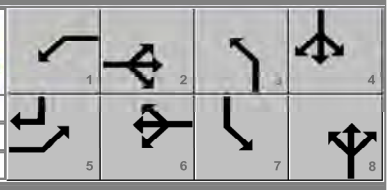
General Information				Intersection Information	
Agency	Stolfus and Associates			Duration, h	0.250
Analyst	Max Rusch	Analysis Date		Area Type	Other
Jurisdiction		Time Period	PM Peak	PHF	0.83
Urban Street	Patterson Rd	Analysis Year	2045	Analysis Period	1> 7:00
Intersection	30 Road & Patterson	File Name	2045 ACP PM.xus		
Project Description					



Demand Information	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Demand (*v*), veh/h	227	1174	319	72	669	69	258	132	104	47	83	128

Signal Information			
Cycle, s	100.0	Reference Phase	2
Offset, s	90	Reference Point	Begin
Uncoordinated	No	Simult. Gap E/W	On
Force Mode	Fixed	Simult. Gap N/S	On

Green	11.0	2.0	53.5	6.0	3.0	5.0
Yellow	3.5	0.0	5.0	3.5	0.0	4.0
Red	0.5	0.0	1.5	0.5	0.0	1.0



Timer Results	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Assigned Phase	5	2	1	6	3	8	7	4
Case Number	1.1	3.0	1.1	3.0	1.1	3.0	1.1	3.0
Phase Duration, s	17.0	62.0	15.0	60.0	13.0	13.0	10.0	10.0
Change Period, ($Y+R_c$), s	4.0	6.5	4.0	6.5	4.0	5.0	4.0	5.0
Max Allow Headway (*MAH*), s	4.1	0.0	4.2	0.0	4.2	4.3	4.2	4.3
Queue Clearance Time (g_s), s	8.0		4.4		10.4	10.0	4.9	7.0
Green Extension Time (g_e), s	0.4	0.0	0.2	0.0	0.0	0.0	0.0	0.0
Phase Call Probability	1.00		1.00		1.00	1.00	1.00	1.00
Max Out Probability	0.58		0.12		1.00	1.00	1.00	1.00

Movement Group Results	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Assigned Movement	5	2	12	1	6	16	3	8	18	7	4	14
Adjusted Flow Rate (*v*), veh/h	273	1414	384	116	1080	111	311	159	124	57	100	43
Adjusted Saturation Flow Rate (*s*), veh/h/ln	1810	1795	1598	1795	1795	1598	1730	1870	1560	1810	1885	1585
Queue Service Time (g_s), s	6.0	8.6	3.0	2.4	15.9	2.4	8.4	8.0	8.0	2.9	5.0	2.3
Cycle Queue Clearance Time (g_c), s	6.0	8.6	3.0	2.4	15.9	2.4	8.4	8.0	8.0	2.9	5.0	2.3
Green Ratio (*g/C*)	0.66	0.56	0.56	0.64	0.54	0.54	0.15	0.08	0.08	0.11	0.05	0.18
Capacity (*c*), veh/h	487	1992	887	388	1920	855	455	150	125	181	94	285
Volume-to-Capacity Ratio (*X*)	0.562	0.710	0.433	0.299	0.562	0.130	0.683	1.063	0.994	0.314	1.061	0.152
Back of Queue (*Q*), ft/ln (90 th percentile)	84.6	61.1	34	40	176.4	33.1	146.6	250	200.8	58.8	183	38.9
Back of Queue (*Q*), veh/ln (90 th percentile)	3.8	2.8	1.5	1.8	8.0	1.5	6.6	11.2	8.8	2.7	8.3	1.7
Queue Storage Ratio (*RQ*) (90 th percentile)	0.96	0.00	0.12	0.39	0.00	0.56	0.66	0.00	1.13	0.45	0.00	0.29
Uniform Delay (d_1), s/veh	9.6	2.0	1.8	7.0	10.3	7.7	39.9	46.0	46.0	41.0	47.5	34.6
Incremental Delay (d_2), s/veh	3.2	1.5	1.1	2.0	1.2	0.3	8.1	91.3	79.1	4.5	110.2	1.1
Initial Queue Delay (d_3), 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
Control Delay (*d*), s/veh	12.7	3.5	2.8	9.0	11.5	8.0	47.9	137.3	125.1	45.5	157.7	35.7
Level of Service (LOS)	B	A	A	A	B	A	D	F	F	D	F	D
Approach Delay, s/veh / LOS	4.6	A		10.9	B		88.0	F		99.5	F	
Intersection Delay, s/veh / LOS	23.0						C					

Multimodal Results	EB		WB		NB		SB	
Pedestrian LOS Score / LOS	2.25	B	2.21	B	2.46	B	2.46	B
Bicycle LOS Score / LOS	2.20	B	1.29	A	1.47	A	0.82	A

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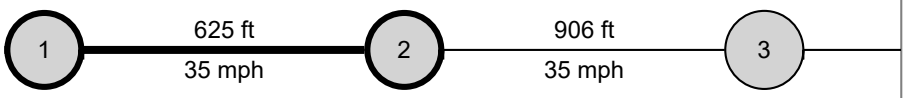
HCS7 Urban Street Segment Report

General Information				Streets Information	
Agency	Stolfus and Associates			Number of Intersections	15
Analyst	Max Rusch	Analysis Date		Number of Segments	14
Jurisdiction		Time Period	PM Peak	Number of Iterations	15
File Name	2045 ACP PM.xus	Analysis Year	2045	System Cycle Length, s	100
Intersections	24 Road & Patterson	Market Street/Mall Access & Patterson		Analysis Period	1> 7:00
Project Description					



Basic Segment Information (24 Rd - Market St)

Segment	Speed Limit		Through Lanes		Segment Length		Intersection Wid		Length of RM		Percent Curb		Other Delay	
	WB	EB	WB	EB	WB	EB	WB	EB	WB	EB	WB	EB	WB	EB
1	35	35	2	2	625	625	50	50	0	0	100	0	0.0	0.0

		Westbound			Eastbound		
Segment Output Data		WBL	WBT	WBR	EBL	EBT	EBR
Segment	Movement	1	6	16	5	2	12
1	Bay/Lane Spillback Time, h						
1	Shared Lane Spillback Time, h						
1	Base Free-Flow Speed, mph	41.58			42.05		
1	Running Time, s	14.73			15.15		
1	Running Speed, mph	28.93			28.12		
1	Through Delay, s/veh	11.51			53.88		
1	Travel Time, s	26.24			69.04		
1	Travel Speed, mph	16.24			6.17		
1	Stop Rate, stops/veh	0.28			1.01		
1	Spatial Stop Rate, stops/mi	2.34			8.50		
1	Through vol/cap Ratio	0.32			0.87		
1	Percent of Base FFS	39.06			14.68		
1	Level of Service	E			F		
1	Auto Traveler Perception Score	2.50			3.64		
Multimodal Results (Segment)							
1	Pedestrian Segment LOS Score / LOS	2.37		B	3.85		D
1	Bicycle Segment LOS Score / LOS	2.30		B	2.45		B
1	Transit Segment LOS Score / LOS	2.00		A	3.52		D

Facility Output Data	**Westbound**	**Eastbound**
Facility Travel Time, s	964.15	1079.36
Facility Travel Speed, mph	22.28	19.91
Facility Base Free Flow Speed, mph	43.04	42.78
Facility Percent of Base FFS	51.77	46.54
Facility Level of Service	F	F
Facility Auto Traveler Perception Score	2.39	2.38

Multimodal Results (Facility)				
Pedestrian Facility LOS Score / LOS	3.50	C	3.86	D
Bicycle Facility LOS Score / LOS	2.82	C	2.98	C
Transit Facility LOS Score / LOS	1.51	A	1.63	A

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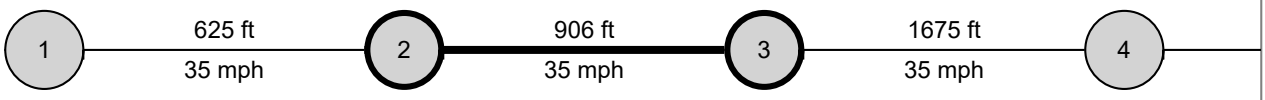
HCS7 Urban Street Segment Report

General Information				Streets Information	
Agency	Stolfus and Associates			Number of Intersections	15
Analyst	Max Rusch	Analysis Date		Number of Segments	14
Jurisdiction		Time Period	PM Peak	Number of Iterations	15
File Name	2045 ACP PM.xus	Analysis Year	2045	System Cycle Length, s	100
Intersections	Market Street/Mall Access & Pat	Home Depot Access/Mesa Mall Access &		Analysis Period	1> 7:00
Project Description					



Basic Segment Information (Market St to Home Deopt Access)

Segment	Speed Limit		Through Lanes		Segment Length		Intersection Wid		Length of RM		Percent Curb		Other Delay	
	WB	EB	WB	EB	WB	EB	WB	EB	WB	EB	WB	EB	WB	EB
2	35	35	2	2	906	906	50	50	0	0	70	70	0.0	0.0

		Westbound			Eastbound		
Segment Output Data		WBL	WBT	WBR	EBL	EBT	EBR
Segment	Movement	1	6	16	5	2	12
2	Bay/Lane Spillback Time, h						
2	Shared Lane Spillback Time, h						
2	Base Free-Flow Speed, mph	41.48			41.48		
2	Running Time, s	18.59			19.12		
2	Running Speed, mph	33.23			32.31		
2	Through Delay, s/veh	27.20			17.86		
2	Travel Time, s	45.79			36.98		
2	Travel Speed, mph	13.49			16.70		
2	Stop Rate, stops/veh	0.75			0.40		
2	Spatial Stop Rate, stops/mi	4.35			2.33		
2	Through vol/cap Ratio	0.45			0.82		
2	Percent of Base FFS	32.53			40.27		
2	Level of Service	E			D		
2	Auto Traveler Perception Score	2.85			2.50		
Multimodal Results (Segment)							
2	Pedestrian Segment LOS Score / LOS	2.99		C	3.54		D
2	Bicycle Segment LOS Score / LOS	2.53		B	2.74		B
2	Transit Segment LOS Score / LOS	2.38		B	2.16		B

Facility Output Data	Westbound		Eastbound	
Facility Travel Time, s	964.15		1079.36	
Facility Travel Speed, mph	22.28		19.91	
Facility Base Free Flow Speed, mph	43.04		42.78	
Facility Percent of Base FFS	51.77		46.54	
Facility Level of Service	F		F	
Facility Auto Traveler Perception Score	2.39		2.38	
Multimodal Results (Facility)				
Pedestrian Facility LOS Score / LOS	3.50	C	3.86	D
Bicycle Facility LOS Score / LOS	2.82	C	2.98	C
Transit Facility LOS Score / LOS	1.51	A	1.63	A

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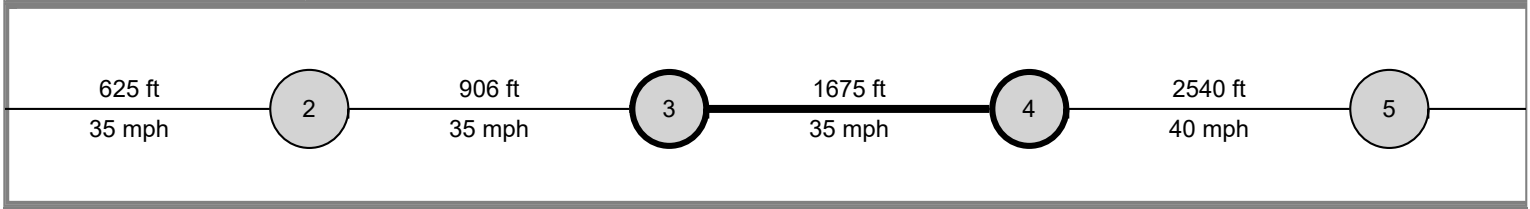
HCS7 Urban Street Segment Report

General Information				Streets Information	
Agency	Stolfus and Associates			Number of Intersections	15
Analyst	Max Rusch	Analysis Date		Number of Segments	14
Jurisdiction		Time Period	PM Peak	Number of Iterations	15
File Name	2045 ACP PM.xus	Analysis Year	2045	System Cycle Length, s	100
Intersections	Home Depot Access/Mesa Mall /	24 1/2 Rd & Patterson		Analysis Period	1> 7:00
Project Description					



Basic Segment Information (Home Depot - 24 1/2 Rd)

Segment	Speed Limit		Through Lanes		Segment Length		Intersection Wid		Length of RM		Percent Curb		Other Delay	
	WB	EB	WB	EB	WB	EB	WB	EB	WB	EB	WB	EB	WB	EB
3	35	35	2	2	1675	1675	50	50	550	550	70	100	0.0	0.0

		Westbound			Eastbound		
Segment Output Data		WBL	WBT	WBR	EBL	EBT	EBR
Segment	Movement	5	2	12	1	6	16
3	Bay/Lane Spillback Time, h						
3	Shared Lane Spillback Time, h						
3	Base Free-Flow Speed, mph	40.85			40.33		
3	Running Time, s	31.05			32.12		
3	Running Speed, mph	36.78			35.56		
3	Through Delay, s/veh	22.56			35.80		
3	Travel Time, s	53.61			67.92		
3	Travel Speed, mph	21.30			16.81		
3	Stop Rate, stops/veh	0.60			0.88		
3	Spatial Stop Rate, stops/mi	1.90			2.77		
3	Through vol/cap Ratio	0.46			0.81		
3	Percent of Base FFS	52.15			41.69		
3	Level of Service	C			D		
3	Auto Traveler Perception Score	2.43			2.57		
Multimodal Results (Segment)							
3	Pedestrian Segment LOS Score / LOS	3.66		D	3.49		C
3	Bicycle Segment LOS Score / LOS	2.75		C	2.87		C
3	Transit Segment LOS Score / LOS	1.65		A	2.18		B

Facility Output Data	**Westbound**	**Eastbound**
Facility Travel Time, s	964.15	1079.36
Facility Travel Speed, mph	22.28	19.91
Facility Base Free Flow Speed, mph	43.04	42.78
Facility Percent of Base FFS	51.77	46.54
Facility Level of Service	F	F
Facility Auto Traveler Perception Score	2.39	2.38

Multimodal Results (Facility)				
Pedestrian Facility LOS Score / LOS	3.50	C	3.86	D
Bicycle Facility LOS Score / LOS	2.82	C	2.98	C
Transit Facility LOS Score / LOS	1.51	A	1.63	A

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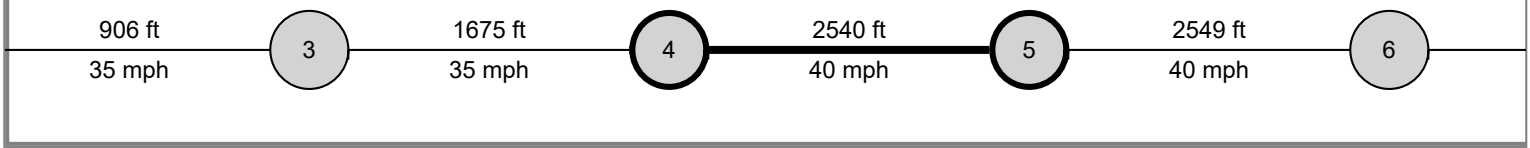
HCS7 Urban Street Segment Report

General Information				Streets Information	
Agency	Stolfus and Associates			Number of Intersections	15
Analyst	Max Rusch	Analysis Date		Number of Segments	14
Jurisdiction		Time Period	PM Peak	Number of Iterations	15
File Name	2045 ACP PM.xus	Analysis Year	2045	System Cycle Length, s	100
Intersections	24 1/2 Rd & Patterson	25 Road & Patterson		Analysis Period	1> 7:00
Project Description					



Basic Segment Information (24 1/2 Rd - 25 Rd)

Segment	Speed Limit		Through Lanes		Segment Length		Intersection Wid		Length of RM		Percent Curb		Other Delay	
	WB	EB	WB	EB	WB	EB	WB	EB	WB	EB	WB	EB	WB	EB
4	40	35	2	2	2540	2540	50	50	0	0	90	90	0.0	0.0

		Westbound			Eastbound		
Segment Output Data		WBL	WBT	WBR	EBL	EBT	EBR
Segment	Movement	5	2	12	1	6	16
4	Bay/Lane Spillback Time, h						
4	Shared Lane Spillback Time, h						
4	Base Free-Flow Speed, mph	43.32			40.97		
4	Running Time, s	42.73			46.56		
4	Running Speed, mph	40.53			37.20		
4	Through Delay, s/veh	36.66			35.33		
4	Travel Time, s	79.39			81.89		
4	Travel Speed, mph	21.81			21.15		
4	Stop Rate, stops/veh	0.84			0.75		
4	Spatial Stop Rate, stops/mi	1.75			1.55		
4	Through vol/cap Ratio	0.65			0.95		
4	Percent of Base FFS	50.36			51.62		
4	Level of Service	C			C		
4	Auto Traveler Perception Score	2.41			2.38		
Multimodal Results (Segment)							
4	Pedestrian Segment LOS Score / LOS	3.28		C	3.56		D
4	Bicycle Segment LOS Score / LOS	2.79		C	2.97		C
4	Transit Segment LOS Score / LOS	1.61		A	1.81		A

Facility Output Data	Westbound	Eastbound
Facility Travel Time, s	964.15	1079.36
Facility Travel Speed, mph	22.28	19.91
Facility Base Free Flow Speed, mph	43.04	42.78
Facility Percent of Base FFS	51.77	46.54
Facility Level of Service	F	F
Facility Auto Traveler Perception Score	2.39	2.38

Multimodal Results (Facility)				
Pedestrian Facility LOS Score / LOS	3.50	C	3.86	D
Bicycle Facility LOS Score / LOS	2.82	C	2.98	C
Transit Facility LOS Score / LOS	1.51	A	1.63	A

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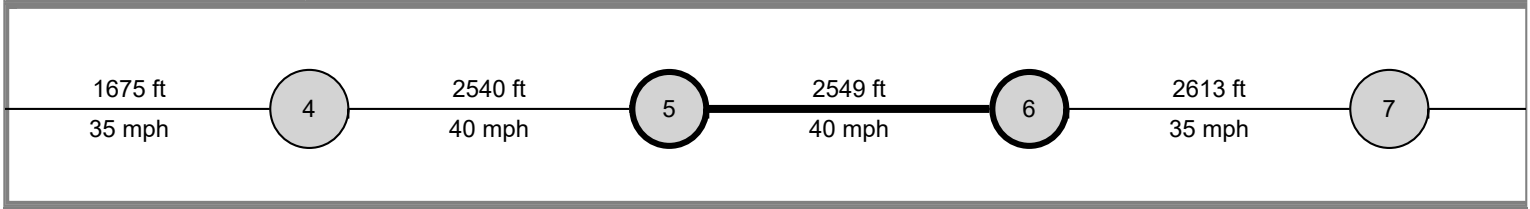
HCS7 Urban Street Segment Report

General Information				Streets Information	
Agency	Stolfus and Associates			Number of Intersections	15
Analyst	Max Rusch	Analysis Date		Number of Segments	14
Jurisdiction		Time Period	PM Peak	Number of Iterations	15
File Name	2045 ACP PM.xus	Analysis Year	2045	System Cycle Length, s	100
Intersections	25 Road & Patterson	25 1/2 Road & Patterson		Analysis Period	1> 7:00
Project Description					



Basic Segment Information (25 Rd - 25 1/2 Rd)

Segment	Speed Limit		Through Lanes		Segment Length		Intersection Wid		Length of RM		Percent Curb		Other Delay	
	WB	EB	WB	EB	WB	EB	WB	EB	WB	EB	WB	EB	WB	EB
5	40	40	2	2	2549	2549	50	50	260	260	90	90	0.0	0.0

		Westbound			Eastbound		
Segment Output Data		WBL	WBT	WBR	EBL	EBT	EBR
Segment	Movement	5	2	12	1	6	16
5	Bay/Lane Spillback Time, h						
5	Shared Lane Spillback Time, h						
5	Base Free-Flow Speed, mph	42.96			42.96		
5	Running Time, s	43.26			44.48		
5	Running Speed, mph	40.17			39.08		
5	Through Delay, s/veh	11.67			63.19		
5	Travel Time, s	54.94			107.67		
5	Travel Speed, mph	31.64			16.14		
5	Stop Rate, stops/veh	0.33			1.07		
5	Spatial Stop Rate, stops/mi	0.68			2.21		
5	Through vol/cap Ratio	0.49			1.05		
5	Percent of Base FFS	73.64			37.57		
5	Level of Service	B			F		
5	Auto Traveler Perception Score	2.24			2.48		
Multimodal Results (Segment)							
5	Pedestrian Segment LOS Score / LOS	3.23		C	3.94		D
5	Bicycle Segment LOS Score / LOS	2.80		C	3.01		C
5	Transit Segment LOS Score / LOS	0.89		A	2.29		B

Facility Output Data	Westbound	Eastbound
Facility Travel Time, s	964.15	1079.36
Facility Travel Speed, mph	22.28	19.91
Facility Base Free Flow Speed, mph	43.04	42.78
Facility Percent of Base FFS	51.77	46.54
Facility Level of Service	F	F
Facility Auto Traveler Perception Score	2.39	2.38

Multimodal Results (Facility)				
Pedestrian Facility LOS Score / LOS	3.50	C	3.86	D
Bicycle Facility LOS Score / LOS	2.82	C	2.98	C
Transit Facility LOS Score / LOS	1.51	A	1.63	A

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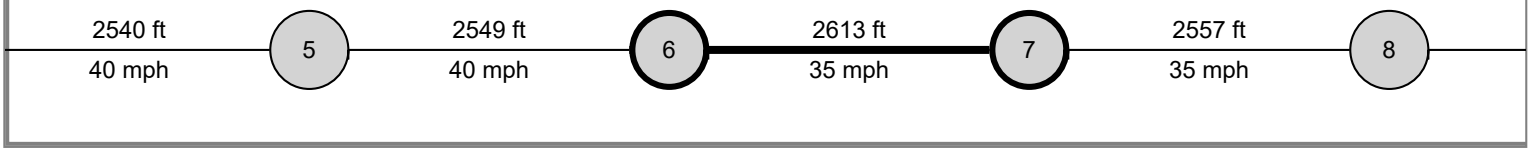
HCS7 Urban Street Segment Report

General Information				Streets Information	
Agency	Stolfus and Associates			Number of Intersections	15
Analyst	Max Rusch	Analysis Date		Number of Segments	14
Jurisdiction		Time Period	PM Peak	Number of Iterations	15
File Name	2045 ACP PM.xus	Analysis Year	2045	System Cycle Length, s	100
Intersections	25 1/2 Road & Patterson	1st Street & Patterson		Analysis Period	1> 7:00
Project Description					



Basic Segment Information (25 1/2 Rd - 26 Rd)

Segment	Speed Limit		Through Lanes		Segment Length		Intersection Wid		Length of RM		Percent Curb		Other Delay	
	WB	EB	WB	EB	WB	EB	WB	EB	WB	EB	WB	EB	WB	EB
6	35	40	2	2	2613	2613	50	50	0	0	90	90	0.0	0.0

		Westbound			Eastbound		
Segment Output Data		WBL	WBT	WBR	EBL	EBT	EBR
Segment	Movement	5	2	12	1	6	16
6	Bay/Lane Spillback Time, h						
6	Shared Lane Spillback Time, h						
6	Base Free-Flow Speed, mph	40.98			43.33		
6	Running Time, s	46.23			44.84		
6	Running Speed, mph	38.54			39.73		
6	Through Delay, s/veh	31.92			28.42		
6	Travel Time, s	78.15			73.26		
6	Travel Speed, mph	22.80			24.32		
6	Stop Rate, stops/veh	0.80			0.75		
6	Spatial Stop Rate, stops/mi	1.61			1.52		
6	Through vol/cap Ratio	0.64			0.84		
6	Percent of Base FFS	55.62			56.12		
6	Level of Service	C			C		
6	Auto Traveler Perception Score	2.38			2.37		
Multimodal Results (Segment)							
6	Pedestrian Segment LOS Score / LOS	3.26		C	3.52		D
6	Bicycle Segment LOS Score / LOS	2.82		C	2.97		C
6	Transit Segment LOS Score / LOS	1.52		A	1.51		A

Facility Output Data	**Westbound**	**Eastbound**
Facility Travel Time, s	964.15	1079.36
Facility Travel Speed, mph	22.28	19.91
Facility Base Free Flow Speed, mph	43.04	42.78
Facility Percent of Base FFS	51.77	46.54
Facility Level of Service	F	F
Facility Auto Traveler Perception Score	2.39	2.38

Multimodal Results (Facility)				
Pedestrian Facility LOS Score / LOS	3.50	C	3.86	D
Bicycle Facility LOS Score / LOS	2.82	C	2.98	C
Transit Facility LOS Score / LOS	1.51	A	1.63	A

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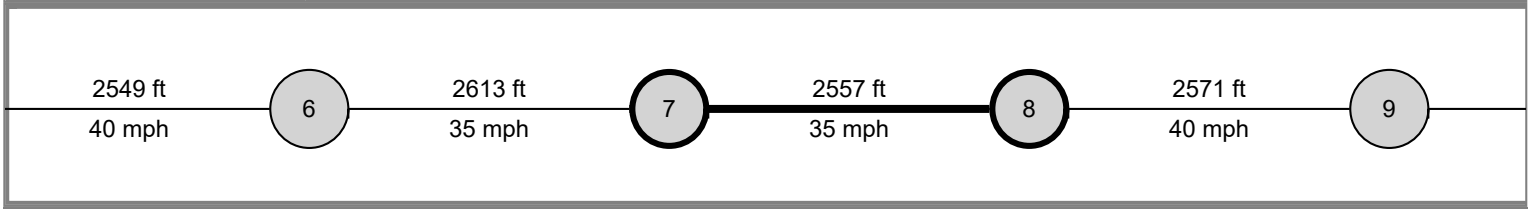
HCS7 Urban Street Segment Report

General Information				Streets Information	
Agency	Stolfus and Associates			Number of Intersections	15
Analyst	Max Rusch	Analysis Date		Number of Segments	14
Jurisdiction		Time Period	PM Peak	Number of Iterations	15
File Name	2045 ACP PM.xus	Analysis Year	2045	System Cycle Length, s	100
Intersections	1st Street & Patterson	7th Street & Patterson		Analysis Period	1> 7:00
Project Description					



Basic Segment Information (26 Rd - 26 1/2)

Segment	Speed Limit		Through Lanes		Segment Length		Intersection Wid		Length of RM		Percent Curb		Other Delay	
	WB	EB	WB	EB	WB	EB	WB	EB	WB	EB	WB	EB	WB	EB
7	35	40	2	2	2557	2557	50	50	0	0	90	90	0.0	0.0

		Westbound			Eastbound		
Segment Output Data		WBL	WBT	WBR	EBL	EBT	EBR
Segment	Movement	5	2	12	1	6	16
7	Bay/Lane Spillback Time, h						
7	Shared Lane Spillback Time, h						
7	Base Free-Flow Speed, mph	40.39			42.74		
7	Running Time, s	46.14			44.48		
7	Running Speed, mph	37.78			39.20		
7	Through Delay, s/veh	13.33			73.91		
7	Travel Time, s	59.47			118.38		
7	Travel Speed, mph	29.31			14.73		
7	Stop Rate, stops/veh	0.36			1.18		
7	Spatial Stop Rate, stops/mi	0.74			2.44		
7	Through vol/cap Ratio	0.54			1.07		
7	Percent of Base FFS	72.57			34.45		
7	Level of Service	B			F		
7	Auto Traveler Perception Score	2.25			2.52		
Multimodal Results (Segment)							
7	Pedestrian Segment LOS Score / LOS	3.10		C	3.61		D
7	Bicycle Segment LOS Score / LOS	2.82		C	2.99		C
7	Transit Segment LOS Score / LOS	1.05		A	2.41		B

Facility Output Data	Westbound	Eastbound
Facility Travel Time, s	964.15	1079.36
Facility Travel Speed, mph	22.28	19.91
Facility Base Free Flow Speed, mph	43.04	42.78
Facility Percent of Base FFS	51.77	46.54
Facility Level of Service	F	F
Facility Auto Traveler Perception Score	2.39	2.38

Multimodal Results (Facility)				
Pedestrian Facility LOS Score / LOS	3.50	C	3.86	D
Bicycle Facility LOS Score / LOS	2.82	C	2.98	C
Transit Facility LOS Score / LOS	1.51	A	1.63	A

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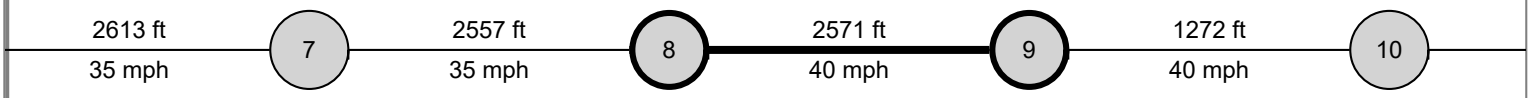
HCS7 Urban Street Segment Report

General Information				Streets Information	
Agency	Stolfus and Associates			Number of Intersections	15
Analyst	Max Rusch	Analysis Date		Number of Segments	14
Jurisdiction		Time Period	PM Peak	Number of Iterations	15
File Name	2045 ACP PM.xus	Analysis Year	2045	System Cycle Length, s	100
Intersections	7th Street & Patterson	12th Street & Patterson		Analysis Period	1> 7:00
Project Description					



Basic Segment Information (26 1/2 Rd to 12th St)

Segment	Speed Limit		Through Lanes		Segment Length		Intersection Wid		Length of RM		Percent Curb		Other Delay	
	WB	EB	WB	EB	WB	EB	WB	EB	WB	EB	WB	EB	WB	EB
8	40	35	2	2	2571	2571	50	50	0	0	90	90	0.0	0.0

		Westbound			Eastbound		
Segment Output Data		WBL	WBT	WBR	EBL	EBT	EBR
Segment	Movement	5	2	12	1	6	16
8	Bay/Lane Spillback Time, h						
8	Shared Lane Spillback Time, h						
8	Base Free-Flow Speed, mph	43.08			40.73		
8	Running Time, s	43.87			46.49		
8	Running Speed, mph	39.96			37.70		
8	Through Delay, s/veh	30.19			9.06		
8	Travel Time, s	74.06			55.55		
8	Travel Speed, mph	23.67			31.55		
8	Stop Rate, stops/veh	0.74			0.21		
8	Spatial Stop Rate, stops/mi	1.51			0.43		
8	Through vol/cap Ratio	0.72			0.72		
8	Percent of Base FFS	54.95			77.47		
8	Level of Service	C			B		
8	Auto Traveler Perception Score	2.37			2.20		
Multimodal Results (Segment)							
8	Pedestrian Segment LOS Score / LOS	3.48		C	3.38		C
8	Bicycle Segment LOS Score / LOS	2.92		C	2.90		C
8	Transit Segment LOS Score / LOS	1.50		A	0.95		A

Facility Output Data	**Westbound**	**Eastbound**
Facility Travel Time, s	964.15	1079.36
Facility Travel Speed, mph	22.28	19.91
Facility Base Free Flow Speed, mph	43.04	42.78
Facility Percent of Base FFS	51.77	46.54
Facility Level of Service	F	F
Facility Auto Traveler Perception Score	2.39	2.38

Multimodal Results (Facility)				
Pedestrian Facility LOS Score / LOS	3.50	C	3.86	D
Bicycle Facility LOS Score / LOS	2.82	C	2.98	C
Transit Facility LOS Score / LOS	1.51	A	1.63	A

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HCS7 Urban Street Segment Report

General Information				Streets Information	
Agency	Stolfus and Associates			Number of Intersections	15
Analyst	Max Rusch	Analysis Date		Number of Segments	14
Jurisdiction		Time Period	PM Peak	Number of Iterations	15
File Name	2045 ACP PM.xus	Analysis Year	2045	System Cycle Length, s	100
Intersections	12th Street & Patterson	Patterson Rd & 15th St		Analysis Period	1> 7:00
Project Description					

Basic Segment Information (12th St - 27 1/4 Rd)

Segment	Speed Limit		Through Lanes		Segment Length		Intersection Wid		Length of RM		Percent Curb		Other Delay	
	WB	EB	WB	EB	WB	EB	WB	EB	WB	EB	WB	EB	WB	EB
9	40	35	2	2	1272	1272	50	50	0	0	90	90	0.0	0.0

		Westbound			Eastbound		
Segment Output Data		WBL	WBT	WBR	EBL	EBT	EBR
Segment	Movement	5	2	12	1	6	16
9	Bay/Lane Spillback Time, h						
9	Shared Lane Spillback Time, h						
9	Base Free-Flow Speed, mph	42.63			40.28		
9	Running Time, s	23.82			26.02		
9	Running Speed, mph	36.41			33.34		
9	Through Delay, s/veh	11.98			117.38		
9	Travel Time, s	35.80			143.39		
9	Travel Speed, mph	24.23			6.05		
9	Stop Rate, stops/veh	0.54			1.55		
9	Spatial Stop Rate, stops/mi	2.24			6.42		
9	Through vol/cap Ratio	0.47			1.18		
9	Percent of Base FFS	56.83			15.02		
9	Level of Service	C			F		
9	Auto Traveler Perception Score	2.49			3.23		
Multimodal Results (Segment)							
9	Pedestrian Segment LOS Score / LOS	3.17		C	4.47		E
9	Bicycle Segment LOS Score / LOS	2.75		B	3.04		C
9	Transit Segment LOS Score / LOS	1.44		A	3.67		D

Facility Output Data	Westbound	Eastbound
Facility Travel Time, s	964.15	1079.36
Facility Travel Speed, mph	22.28	19.91
Facility Base Free Flow Speed, mph	43.04	42.78
Facility Percent of Base FFS	51.77	46.54
Facility Level of Service	F	F
Facility Auto Traveler Perception Score	2.39	2.38

Multimodal Results (Facility)				
Pedestrian Facility LOS Score / LOS	3.50	C	3.86	D
Bicycle Facility LOS Score / LOS	2.82	C	2.98	C
Transit Facility LOS Score / LOS	1.51	A	1.63	A

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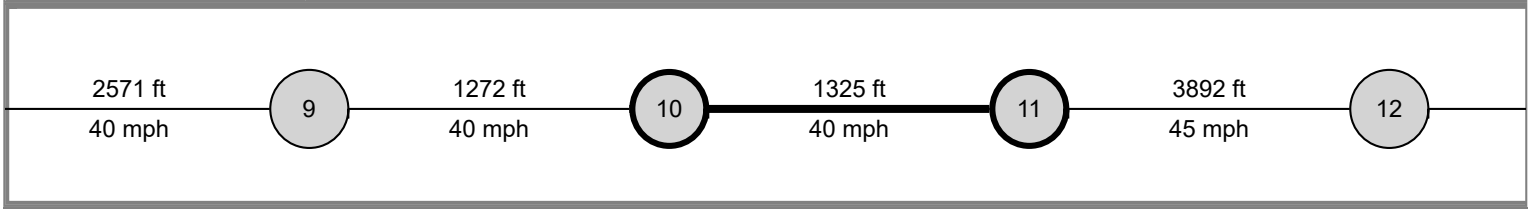
HCS7 Urban Street Segment Report

General Information				Streets Information	
Agency	Stolfus and Associates			Number of Intersections	15
Analyst	Max Rusch	Analysis Date		Number of Segments	14
Jurisdiction		Time Period	PM Peak	Number of Iterations	15
File Name	2045 ACP PM.xus	Analysis Year	2045	System Cycle Length, s	100
Intersections	Patterson Rd & 15th St	27 1/2 Road & Patterson		Analysis Period	1> 7:00
Project Description					



Basic Segment Information

Segment	Speed Limit		Through Lanes		Segment Length		Intersection Wid		Length of RM		Percent Curb		Other Delay	
	WB	EB	WB	EB	WB	EB	WB	EB	WB	EB	WB	EB	WB	EB
10	40	40	2	2	1325	1325	50	50	0	0	70	70	0.0	0.0

		Westbound			Eastbound		
Segment Output Data		WBL	WBT	WBR	EBL	EBT	EBR
Segment	Movement	1	6	16	5	2	12
10	Bay/Lane Spillback Time, h						
10	Shared Lane Spillback Time, h						
10	Base Free-Flow Speed, mph	44.07			44.07		
10	Running Time, s	24.07			24.87		
10	Running Speed, mph	37.53			36.32		
10	Through Delay, s/veh	48.58			6.69		
10	Travel Time, s	72.66			31.56		
10	Travel Speed, mph	12.43			28.62		
10	Stop Rate, stops/veh	0.99			0.18		
10	Spatial Stop Rate, stops/mi	3.96			0.73		
10	Through vol/cap Ratio	0.90			0.75		
10	Percent of Base FFS	28.21			64.95		
10	Level of Service	F			C		
10	Auto Traveler Perception Score	3.02			2.25		
Multimodal Results (Segment)							
10	Pedestrian Segment LOS Score / LOS	3.86		D	4.80		E
10	Bicycle Segment LOS Score / LOS	2.93		C	2.98		C
10	Transit Segment LOS Score / LOS	2.63		B	1.27		A

Facility Output Data	Westbound		Eastbound	
Facility Travel Time, s	964.15		1079.36	
Facility Travel Speed, mph	22.28		19.91	
Facility Base Free Flow Speed, mph	43.04		42.78	
Facility Percent of Base FFS	51.77		46.54	
Facility Level of Service	F		F	
Facility Auto Traveler Perception Score	2.39		2.38	
Multimodal Results (Facility)				
Pedestrian Facility LOS Score / LOS	3.50	C	3.86	D
Bicycle Facility LOS Score / LOS	2.82	C	2.98	C
Transit Facility LOS Score / LOS	1.51	A	1.63	A

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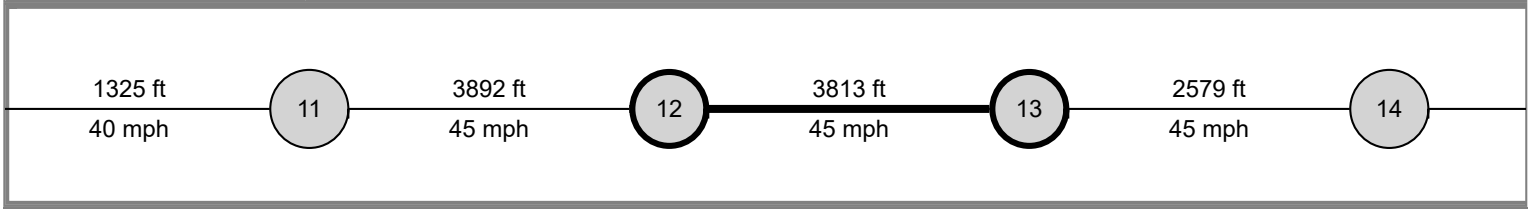
HCS7 Urban Street Segment Report

General Information				Streets Information	
Agency	Stolfus and Associates			Number of Intersections	15
Analyst	Max Rusch	Analysis Date		Number of Segments	14
Jurisdiction		Time Period	PM Peak	Number of Iterations	15
File Name	2045 ACP PM.xus	Analysis Year	2045	System Cycle Length, s	100
Intersections	28 1/4 Road & Patterson	29 Road & Patterson		Analysis Period	1> 7:00
Project Description					



Basic Segment Information (28 1/4 Rd - 29 Rd)

Segment	Speed Limit		Through Lanes		Segment Length		Intersection Wid		Length of RM		Percent Curb		Other Delay	
	WB	EB	WB	EB	WB	EB	WB	EB	WB	EB	WB	EB	WB	EB
12	45	40	2	2	3813	3813	50	50	0	0	90	90	0.0	0.0

		Westbound			Eastbound		
Segment Output Data		WBL	WBT	WBR	EBL	EBT	EBR
Segment	Movement	5	2	12	1	6	16
12	Bay/Lane Spillback Time, h						
12	Shared Lane Spillback Time, h						
12	Base Free-Flow Speed, mph	45.78			43.43		
12	Running Time, s	59.68			64.10		
12	Running Speed, mph	43.56			40.56		
12	Through Delay, s/veh	48.95			18.73		
12	Travel Time, s	108.62			82.83		
12	Travel Speed, mph	23.93			31.39		
12	Stop Rate, stops/veh	0.97			0.49		
12	Spatial Stop Rate, stops/mi	1.34			0.68		
12	Through vol/cap Ratio	0.94			0.83		
12	Percent of Base FFS	52.28			72.27		
12	Level of Service	C			B		
12	Auto Traveler Perception Score	2.34			2.24		
Multimodal Results (Segment)							
12	Pedestrian Segment LOS Score / LOS	3.61		D	3.80		D
12	Bicycle Segment LOS Score / LOS	2.85		C	3.04		C
12	Transit Segment LOS Score / LOS	1.48		A	1.03		A

Facility Output Data	**Westbound**	**Eastbound**
Facility Travel Time, s	964.15	1079.36
Facility Travel Speed, mph	22.28	19.91
Facility Base Free Flow Speed, mph	43.04	42.78
Facility Percent of Base FFS	51.77	46.54
Facility Level of Service	F	F
Facility Auto Traveler Perception Score	2.39	2.38

Multimodal Results (Facility)				
Pedestrian Facility LOS Score / LOS	3.50	C	3.86	D
Bicycle Facility LOS Score / LOS	2.82	C	2.98	C
Transit Facility LOS Score / LOS	1.51	A	1.63	A

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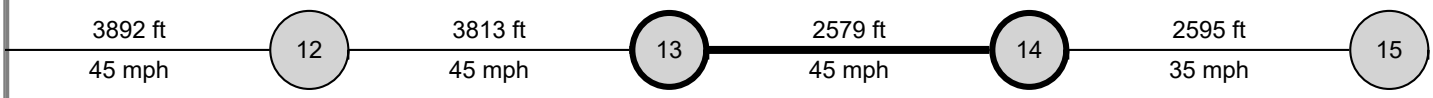
HCS7 Urban Street Segment Report

General Information				Streets Information	
Agency	Stolfus and Associates			Number of Intersections	15
Analyst	Max Rusch	Analysis Date		Number of Segments	14
Jurisdiction		Time Period	PM Peak	Number of Iterations	15
File Name	2045 ACP PM.xus	Analysis Year	2045	System Cycle Length, s	100
Intersections	29 Road & Patterson	29 1/2 Road & Patterson		Analysis Period	1> 7:00
Project Description					



Basic Segment Information (29 Rd - 29 1/2 Rd)

Segment	Speed Limit		Through Lanes		Segment Length		Intersection Wid		Length of RM		Percent Curb		Other Delay	
	WB	EB	WB	EB	WB	EB	WB	EB	WB	EB	WB	EB	WB	EB
13	45	45	2	2	2579	2579	50	50	0	0	90	90	0.0	0.0

		Westbound			Eastbound		
Segment Output Data		WBL	WBT	WBR	EBL	EBT	EBR
Segment	Movement	5	2	12	1	6	16
13	Bay/Lane Spillback Time, h						
13	Shared Lane Spillback Time, h						
13	Base Free-Flow Speed, mph	44.94			44.94		
13	Running Time, s	41.22			41.73		
13	Running Speed, mph	42.65			42.14		
13	Through Delay, s/veh	14.59			33.80		
13	Travel Time, s	55.82			75.53		
13	Travel Speed, mph	31.50			23.28		
13	Stop Rate, stops/veh	0.35			0.76		
13	Spatial Stop Rate, stops/mi	0.72			1.56		
13	Through vol/cap Ratio	0.71			0.92		
13	Percent of Base FFS	70.09			51.80		
13	Level of Service	B			C		
13	Auto Traveler Perception Score	2.25			2.38		
Multimodal Results (Segment)							
13	Pedestrian Segment LOS Score / LOS	3.96		D	3.85		D
13	Bicycle Segment LOS Score / LOS	2.89		C	3.05		C
13	Transit Segment LOS Score / LOS	0.98		A	1.63		A

Facility Output Data	Westbound	Eastbound
Facility Travel Time, s	964.15	1079.36
Facility Travel Speed, mph	22.28	19.91
Facility Base Free Flow Speed, mph	43.04	42.78
Facility Percent of Base FFS	51.77	46.54
Facility Level of Service	F	F
Facility Auto Traveler Perception Score	2.39	2.38

Multimodal Results (Facility)				
Pedestrian Facility LOS Score / LOS	3.50	C	3.86	D
Bicycle Facility LOS Score / LOS	2.82	C	2.98	C
Transit Facility LOS Score / LOS	1.51	A	1.63	A

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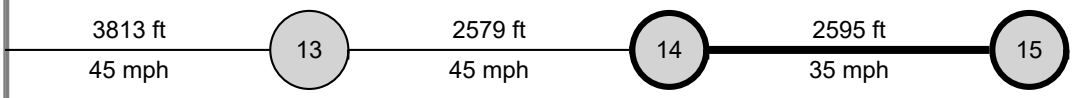
HCS7 Urban Street Segment Report

General Information				Streets Information	
Agency	Stolfus and Associates			Number of Intersections	15
Analyst	Max Rusch	Analysis Date		Number of Segments	14
Jurisdiction		Time Period	PM Peak	Number of Iterations	15
File Name	2045 ACP PM.xus	Analysis Year	2045	System Cycle Length, s	100
Intersections	29 1/2 Road & Patterson	30 Road & Patterson		Analysis Period	1> 7:00
Project Description					



Basic Segment Information (29 1/2 Rd - 30 Rd)

Segment	Speed Limit		Through Lanes		Segment Length		Intersection Wid		Length of RM		Percent Curb		Other Delay	
	WB	EB	WB	EB	WB	EB	WB	EB	WB	EB	WB	EB	WB	EB
14	35	45	2	2	2595	2595	50	50	0	0	90	90	0.0	0.0

		Westbound			Eastbound		
Segment Output Data		WBL	WBT	WBR	EBL	EBT	EBR
Segment	Movement	5	2	12	1	6	16
14	Bay/Lane Spillback Time, h						
14	Shared Lane Spillback Time, h						
14	Base Free-Flow Speed, mph	40.82			45.52		
14	Running Time, s	46.50			41.62		
14	Running Speed, mph	38.05			42.51		
14	Through Delay, s/veh	11.46			21.15		
14	Travel Time, s	57.96			62.77		
14	Travel Speed, mph	30.53			28.19		
14	Stop Rate, stops/veh	0.34			0.42		
14	Spatial Stop Rate, stops/mi	0.69			0.85		
14	Through vol/cap Ratio	0.56			0.91		
14	Percent of Base FFS	74.79			61.92		
14	Level of Service	B			C		
14	Auto Traveler Perception Score	2.24			2.27		
Multimodal Results (Segment)							
14	Pedestrian Segment LOS Score / LOS	3.75		D	4.08		D
14	Bicycle Segment LOS Score / LOS	2.84		C	3.00		C
14	Transit Segment LOS Score / LOS	0.99		A	1.22		A

Facility Output Data	Westbound	Eastbound
Facility Travel Time, s	964.15	1079.36
Facility Travel Speed, mph	22.28	19.91
Facility Base Free Flow Speed, mph	43.04	42.78
Facility Percent of Base FFS	51.77	46.54
Facility Level of Service	F	F
Facility Auto Traveler Perception Score	2.39	2.38

Multimodal Results (Facility)				
Pedestrian Facility LOS Score / LOS	3.50	C	3.86	D
Bicycle Facility LOS Score / LOS	2.82	C	2.98	C
Transit Facility LOS Score / LOS	1.51	A	1.63	A

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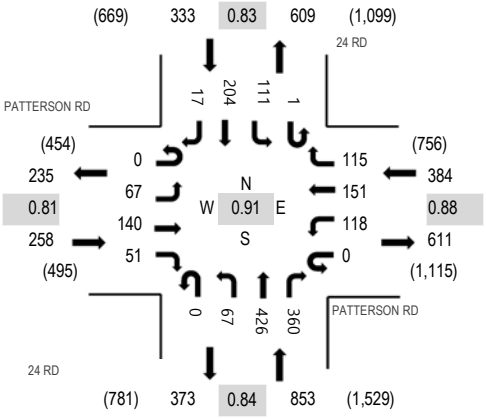
All Traffic Data Services Inc.

(303) 216-2439
www.alltrafficdata.net

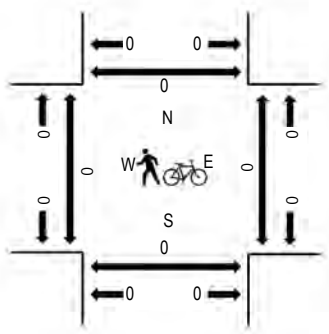
Location: 1 24 RD & PATTERSON RD AM
Date: Tuesday, March 3, 2020
Peak Hour: 07:15 AM - 08:15 AM
Peak 15-Minutes: 07:30 AM - 07:45 AM

Peak Hour - All Vehicles



Note: Total study counts contained in parentheses.

Peak Hour - Pedestrians/Bicycles on Crosswalk



Traffic Counts

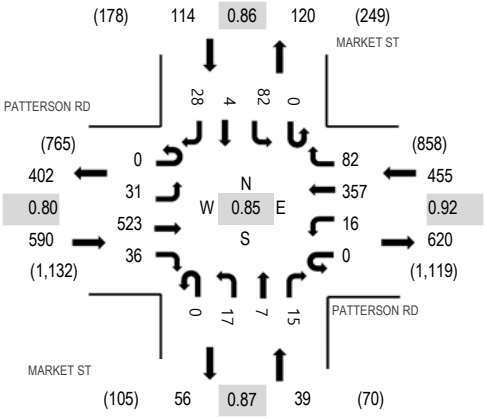
Interval Start Time	PATTERSON RD Eastbound				PATTERSON RD Westbound				24 RD Northbound				24 RD Southbound				Total	Rolling Hour	Pedestrian Crossings			
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right			West	East	South	North
7:00 AM	0	6	25	5	0	23	23	16	0	10	98	47	0	14	33	3	303	1,726	0	0	0	0
7:15 AM	0	16	29	13	0	29	33	28	0	12	105	86	0	20	52	5	428	1,828	0	0	0	0
7:30 AM	0	27	39	15	0	24	41	35	0	17	111	95	1	31	60	4	500	1,782	0	0	0	0
7:45 AM	0	9	43	11	0	36	31	31	0	14	125	115	0	28	47	5	495	1,743	0	0	0	0
8:00 AM	0	15	29	12	0	29	46	21	0	24	85	64	0	32	45	3	405	1,723	0	0	0	0
8:15 AM	0	13	25	23	0	51	30	20	0	11	69	64	0	17	50	9	382		0	0	0	0
8:30 AM	0	18	42	15	0	42	46	29	0	23	79	67	1	37	57	5	461		0	0	0	0
8:45 AM	0	10	39	16	0	35	33	24	0	18	107	83	0	44	58	8	475		0	0	0	0
Count Total	0	114	271	110	0	269	283	204	0	129	779	621	2	223	402	42	3,449		0	0	0	0
Peak Hour	0	67	140	51	0	118	151	115	0	67	426	360	1	111	204	17	1,828		0	0	0	0

All Traffic Data Services Inc.

(303) 216-2439
www.alltrafficdata.net

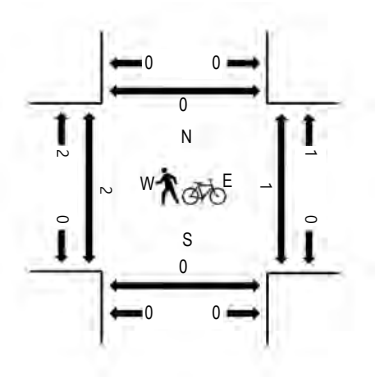
Location: 2 MARKET ST & PATTERSON RD AM
Date: Tuesday, March 3, 2020
Peak Hour: 07:45 AM - 08:45 AM
Peak 15-Minutes: 07:45 AM - 08:00 AM

Peak Hour - All Vehicles



Note: Total study counts contained in parentheses.

Peak Hour - Pedestrians/Bicycles on Crosswalk



Traffic Counts

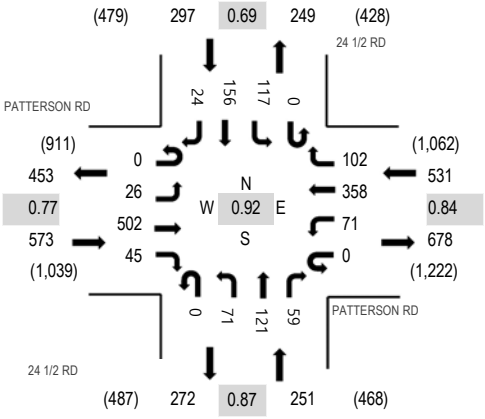
Interval Start Time	PATTERSON RD Eastbound				PATTERSON RD Westbound				MARKET ST Northbound				MARKET ST Southbound				Total	Rolling Hour	Pedestrian Crossings			
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right			West	East	South	North
7:00 AM	0	6	72	8	0	0	55	11	0	2	2	1	0	1	0	8	166	1,058	0	0	0	0
7:15 AM	0	12	107	6	0	0	83	16	0	3	1	1	0	11	1	3	244	1,166	0	0	0	0
7:30 AM	0	16	138	6	0	2	90	20	0	4	1	3	0	6	4	7	297	1,176	0	0	0	0
7:45 AM	0	10	174	9	0	4	90	24	0	3	2	2	0	26	1	6	351	1,198	0	1	0	0
8:00 AM	0	6	122	10	0	6	85	12	0	2	2	4	0	17	1	7	274	1,180	0	0	0	0
8:15 AM	0	6	98	5	0	5	86	17	0	6	1	5	0	17	2	6	254		0	0	0	0
8:30 AM	0	9	129	12	0	1	96	29	0	6	2	4	0	22	0	9	319		0	0	0	0
8:45 AM	0	15	142	14	0	3	96	27	0	6	2	5	0	12	5	6	333		0	0	0	0
Count Total	0	80	982	70	0	21	681	156	0	32	13	25	0	112	14	52	2,238		0	1	0	0
Peak Hour	0	31	523	36	0	16	357	82	0	17	7	15	0	82	4	28	1,198		0	1	0	0

All Traffic Data Services Inc.

(303) 216-2439
www.alltrafficdata.net

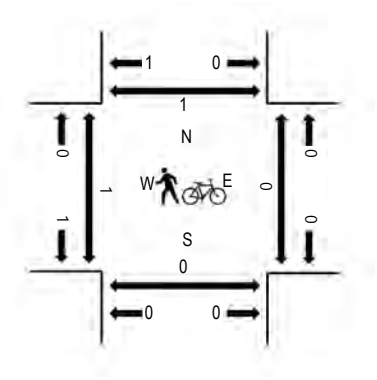
Location: 3 24 1/2 RD & PATTERSON RD AM
Date: Tuesday, March 3, 2020
Peak Hour: 07:15 AM - 08:15 AM
Peak 15-Minutes: 07:30 AM - 07:45 AM

Peak Hour - All Vehicles



Note: Total study counts contained in parentheses.

Peak Hour - Pedestrians/Bicycles on Crosswalk



Traffic Counts

Interval Start Time	PATTERSON RD Eastbound				PATTERSON RD Westbound				24 1/2 RD Northbound				24 1/2 RD Southbound					Rolling Hour	Pedestrian Crossings			
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	Total		West	East	South	North
7:00 AM	0	5	58	6	0	6	67	24	0	12	30	9	0	13	14	2	246	1,553	0	0	0	0
7:15 AM	0	6	100	7	0	20	78	47	0	11	48	14	0	32	44	6	413	1,652	0	0	0	0
7:30 AM	0	8	124	10	0	15	93	24	0	21	34	12	0	43	54	10	448	1,582	1	0	0	1
7:45 AM	0	6	162	19	0	15	93	16	0	21	22	20	0	28	39	5	446	1,518	0	0	0	0
8:00 AM	0	6	116	9	0	21	94	15	0	18	17	13	0	14	19	3	345	1,495	0	0	0	0
8:15 AM	0	3	99	10	0	20	94	15	0	12	13	25	0	22	22	8	343		0	0	0	0
8:30 AM	0	6	120	15	0	24	106	8	0	17	24	14	0	21	21	8	384		0	0	0	0
8:45 AM	0	5	124	15	0	33	112	22	0	18	24	19	0	20	29	2	423		0	0	0	0
Count Total	0	45	903	91	0	154	737	171	0	130	212	126	0	193	242	44	3,048		1	0	0	1
Peak Hour	0	26	502	45	0	71	358	102	0	71	121	59	0	117	156	24	1,652		1	0	0	1

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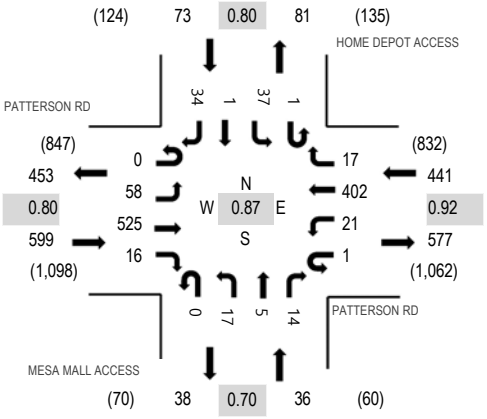
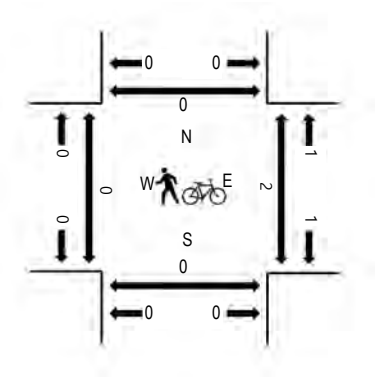
Location: 4 MESA MALL ACCESS & PATTERSON RD AM
Date: Tuesday, March 3, 2020
Peak Hour: 07:45 AM - 08:45 AM
Peak 15-Minutes: 07:45 AM - 08:00 AM

Peak Hour - All Vehicles



Note: Total study counts contained in parentheses.

Peak Hour - Pedestrians/Bicycles on Crosswalk



Traffic Counts

Interval Start Time	PATTERSON RD Eastbound				PATTERSON RD Westbound				MESA MALL ACCESS Northbound				HOME DEPOT ACCESS Southbound				Total	Rolling 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	67	3	0	2	63	2	0	0	0	1	0	2	1	5	149	994	0	0	0	1
7:15 AM	0	7	116	0	0	3	92	0	0	0	0	2	0	2	3	3	228	1,106	0	0	0	0
7:30 AM	0	5	150	2	0	3	107	5	0	1	1	3	0	5	0	5	287	1,122	0	0	0	0
7:45 AM	0	14	170	6	0	2	108	5	0	3	2	2	0	11	0	7	330	1,149	0	0	0	0
8:00 AM	0	7	123	5	1	3	98	3	0	3	2	3	1	7	1	4	261	1,120	0	2	0	0
8:15 AM	0	13	100	2	0	6	90	5	0	3	1	5	0	6	0	13	244		0	0	0	0
8:30 AM	0	24	132	3	0	10	106	4	0	8	0	4	0	13	0	10	314		0	0	0	0
8:45 AM	0	21	116	9	0	6	98	10	0	6	0	10	0	11	0	14	301		0	0	0	0
Count Total	0	94	974	30	1	35	762	34	0	24	6	30	1	57	5	61	2,114		0	2	0	1
Peak Hour	0	58	525	16	1	21	402	17	0	17	5	14	1	37	1	34	1,149		0	2	0	0

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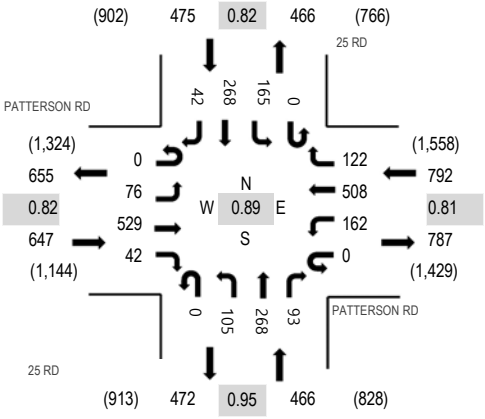
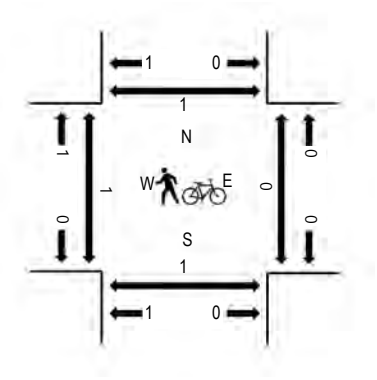
Location: 5 25 RD & PATTERSON RD AM
Date: Tuesday, March 3, 2020
Peak Hour: 07:30 AM - 08:30 AM
Peak 15-Minutes: 07:45 AM - 08:00 AM

Peak Hour - All Vehicles



Note: Total study counts contained in parentheses.

Peak Hour - Pedestrians/Bicycles on Crosswalk



Traffic Counts

Interval Start Time	PATTERSON RD Eastbound				PATTERSON RD Westbound				25 RD Northbound				25 RD Southbound				Total	Rolling 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	4	69	5	0	27	91	19	0	13	34	11	0	32	49	4	358	2,148	0	0	0	0
7:15 AM	0	10	113	9	0	37	141	16	0	15	47	18	0	42	61	8	517	2,330	0	0	0	0
7:30 AM	0	18	146	10	0	47	118	23	0	22	66	27	0	49	63	12	601	2,380	0	0	1	0
7:45 AM	0	26	168	4	0	47	132	29	0	31	63	25	0	50	86	11	672	2,319	0	0	0	0
8:00 AM	0	16	105	14	0	26	133	37	0	24	65	21	0	33	60	6	540	2,284	1	0	0	0
8:15 AM	0	16	110	14	0	42	125	33	0	28	74	20	0	33	59	13	567		0	0	0	0
8:30 AM	0	10	122	9	0	25	132	21	0	24	51	25	0	45	62	14	540		0	0	0	0
8:45 AM	0	8	112	26	0	64	169	24	0	41	56	27	0	26	67	17	637		0	0	0	0
Count Total	0	108	945	91	0	315	1,041	202	0	198	456	174	0	310	507	85	4,432		1	0	1	0
Peak Hour	0	76	529	42	0	162	508	122	0	105	268	93	0	165	268	42	2,380		1	0	1	0

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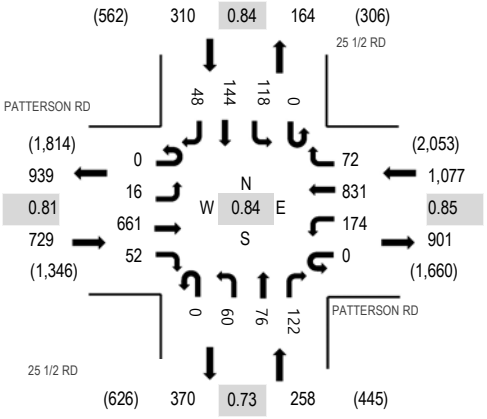
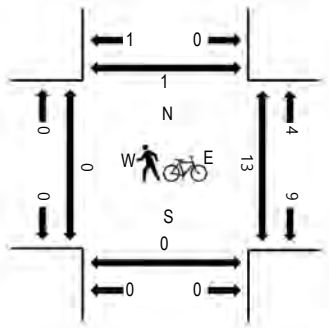
Location: 6 25 1/2 RD & PATTERSON RD AM
Date: Tuesday, March 3, 2020
Peak Hour: 07:45 AM - 08:45 AM
Peak 15-Minutes: 07:45 AM - 08:00 AM

Peak Hour - All Vehicles



Note: Total study counts contained in parentheses.

Peak Hour - Pedestrians/Bicycles on Crosswalk



Traffic Counts

Interval Start Time	PATTERSON RD Eastbound				PATTERSON RD Westbound				25 1/2 RD Northbound				25 1/2 RD Southbound					Rolling Hour	Pedestrian Crossings			
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	Total		West	East	South	North
7:00 AM	0	3	85	12	0	24	154	20	0	6	7	9	0	20	14	7	361	2,115	0	1	0	0
7:15 AM	0	3	149	5	0	24	211	23	0	6	5	20	0	26	19	7	498	2,296	0	0	0	0
7:30 AM	0	3	178	16	0	23	191	19	0	7	14	19	0	39	26	18	553	2,335	1	0	0	0
7:45 AM	0	8	207	12	0	49	243	28	0	21	15	26	0	45	33	16	703	2,374	0	0	0	0
8:00 AM	0	3	144	10	0	42	218	20	0	6	21	18	0	23	30	7	542	2,291	0	0	0	0
8:15 AM	0	1	140	12	0	43	194	16	0	10	15	26	0	28	37	15	537		0	2	0	0
8:30 AM	0	4	170	18	0	40	176	8	0	23	25	52	0	22	44	10	592		0	11	0	0
8:45 AM	0	3	149	11	0	46	232	9	0	20	33	41	0	24	36	16	620		0	4	0	0
Count Total	0	28	1,222	96	0	291	1,619	143	0	99	135	211	0	227	239	96	4,406		1	18	0	0
Peak Hour	0	16	661	52	0	174	831	72	0	60	76	122	0	118	144	48	2,374		0	13	0	0

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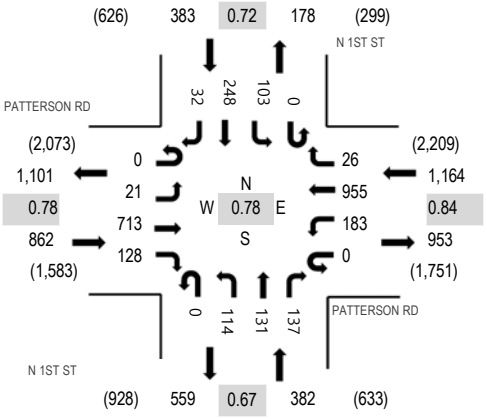
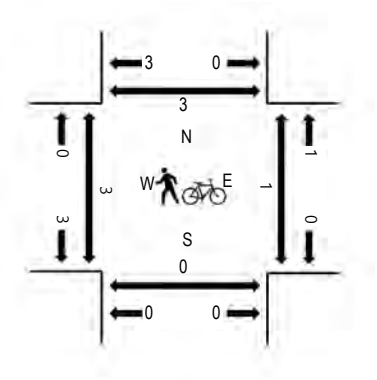
Location: 7 N 1ST ST & PATTERSON RD AM
Date: Tuesday, March 3, 2020
Peak Hour: 07:30 AM - 08:30 AM
Peak 15-Minutes: 07:45 AM - 08:00 AM

Peak Hour - All Vehicles



Note: Total study counts contained in parentheses.

Peak Hour - Pedestrians/Bicycles on Crosswalk



Traffic Counts

Interval Start Time	PATTERSON RD Eastbound				PATTERSON RD Westbound				N 1ST ST Northbound				N 1ST ST Southbound					Rolling Hour	Pedestrian Crossings			
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	Total		West	East	South	North
7:00 AM	0	4	92	11	0	18	181	2	0	10	12	17	0	17	21	8	393	2,545	0	0	0	0
7:15 AM	0	5	153	24	0	31	233	2	0	20	14	30	0	19	40	6	577	2,772	2	0	0	0
7:30 AM	0	3	174	43	0	45	204	6	0	28	27	36	0	28	80	4	678	2,791	3	0	0	2
7:45 AM	0	8	227	42	0	52	285	8	0	32	51	59	0	29	93	11	897	2,719	0	0	0	0
8:00 AM	0	4	150	22	0	46	244	6	0	33	33	18	0	18	37	9	620	2,506	0	1	0	0
8:15 AM	0	6	162	21	0	40	222	6	0	21	20	24	0	28	38	8	596		0	0	0	0
8:30 AM	0	2	192	29	0	39	195	13	0	21	24	23	0	25	32	11	606		0	0	0	0
8:45 AM	0	6	179	24	0	66	251	14	0	30	23	27	0	24	34	6	684		0	0	0	1
Count Total	0	38	1,329	216	0	337	1,815	57	0	195	204	234	0	188	375	63	5,051		5	1	0	3
Peak Hour	0	21	713	128	0	183	955	26	0	114	131	137	0	103	248	32	2,791		3	1	0	2

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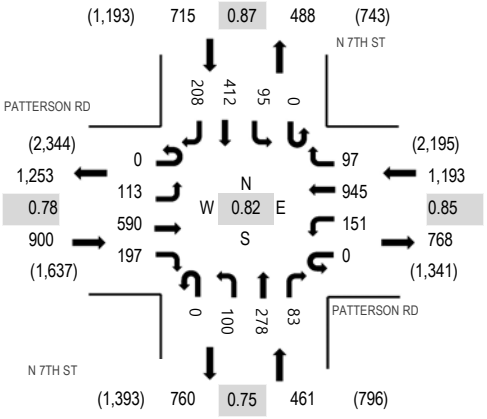
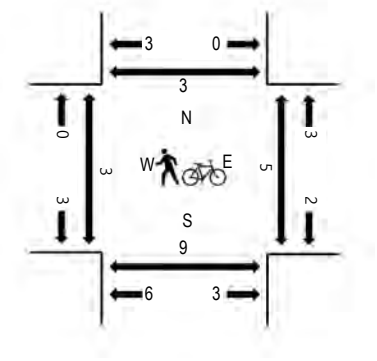
Location: 8 N 7TH ST & PATTERSON RD AM
Date: Tuesday, March 3, 2020
Peak Hour: 07:30 AM - 08:30 AM
Peak 15-Minutes: 07:45 AM - 08:00 AM

Peak Hour - All Vehicles



Note: Total study counts contained in parentheses.

Peak Hour - Pedestrians/Bicycles on Crosswalk



Traffic Counts

Interval Start Time	PATTERSON RD Eastbound				PATTERSON RD Westbound				N 7TH ST Northbound				N 7TH ST Southbound				Total	Rolling 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	11	67	32	0	20	169	1	0	25	26	12	0	7	61	26	457	2,838	1	0	2	0
7:15 AM	0	13	115	49	0	28	215	6	0	20	52	14	0	7	80	35	634	3,181	2	1	3	0
7:30 AM	0	22	151	53	0	46	225	16	0	11	58	22	0	13	93	37	747	3,269	0	0	1	0
7:45 AM	0	39	187	64	0	38	287	27	0	34	98	21	0	21	123	61	1,000	3,213	1	1	2	0
8:00 AM	0	27	120	38	0	35	228	40	0	23	84	21	0	34	95	55	800	2,983	0	0	3	1
8:15 AM	0	25	132	42	0	32	205	14	0	32	38	19	0	27	101	55	722		1	1	2	0
8:30 AM	0	19	143	65	0	44	203	11	0	19	37	16	0	11	80	43	691		0	0	1	1
8:45 AM	0	18	150	55	0	38	259	8	0	37	53	24	0	7	81	40	770		4	0	6	4
Count Total	0	174	1,065	398	0	281	1,791	123	0	201	446	149	0	127	714	352	5,821		9	3	20	6
Peak Hour	0	113	590	197	0	151	945	97	0	100	278	83	0	95	412	208	3,269		2	2	8	1

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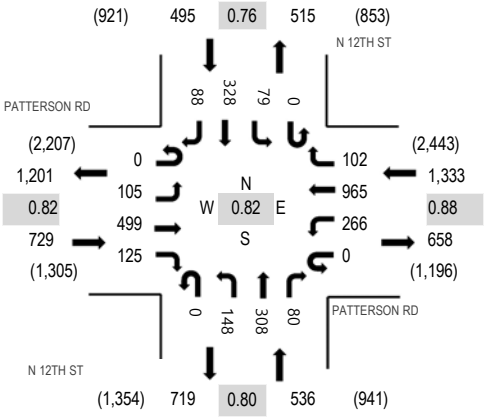
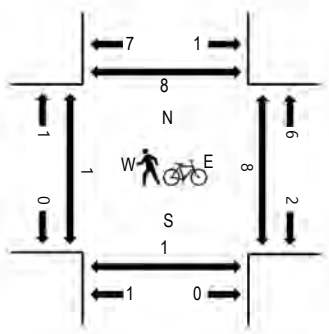
Location: 9 N 12TH ST & PATTERSON RD AM
Date: Tuesday, March 3, 2020
Peak Hour: 07:30 AM - 08:30 AM
Peak 15-Minutes: 07:45 AM - 08:00 AM

Peak Hour - All Vehicles



Note: Total study counts contained in parentheses.

Peak Hour - Pedestrians/Bicycles on Crosswalk



Traffic Counts

Interval Start Time	PATTERSON RD Eastbound				PATTERSON RD Westbound				N 12TH ST Northbound				N 12TH ST Southbound				Total	Rolling 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	9	56	14	0	36	154	13	0	22	35	19	0	6	34	11	409	2,689	2	1	1	0
7:15 AM	0	20	94	22	0	47	204	13	0	27	45	15	0	10	70	10	577	3,042	0	0	0	0
7:30 AM	0	24	109	34	0	87	240	26	0	28	74	18	0	20	76	21	757	3,093	1	1	0	1
7:45 AM	0	41	143	37	0	67	283	34	0	43	103	21	0	22	120	32	946	3,064	0	4	0	7
8:00 AM	0	24	124	23	0	58	266	23	0	39	73	20	0	21	72	19	762	2,921	0	2	0	0
8:15 AM	0	16	123	31	0	54	176	19	0	38	58	21	0	16	60	16	628		0	0	0	0
8:30 AM	0	18	117	32	0	73	222	18	0	33	49	18	0	30	97	21	728		0	2	0	0
8:45 AM	0	21	128	45	0	62	247	21	0	38	76	28	0	17	103	17	803		4	1	3	0
Count Total	0	173	894	238	0	484	1,792	167	0	268	513	160	0	142	632	147	5,610		7	11	4	8
Peak Hour	0	105	499	125	0	266	965	102	0	148	308	80	0	79	328	88	3,093		1	7	0	8

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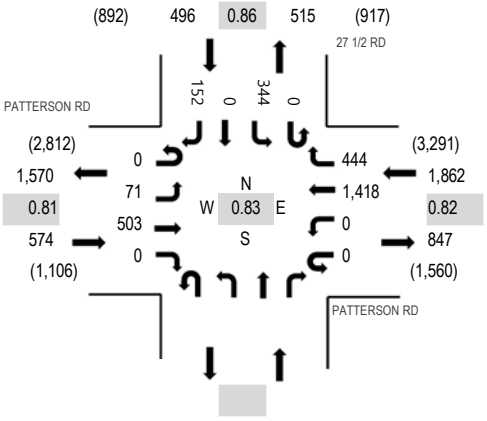
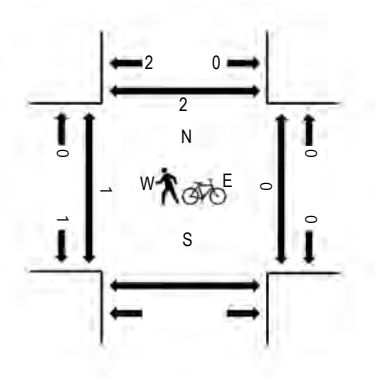
Location: 10 27 1/2 RD & PATTERSON RD AM
Date: Tuesday, March 3, 2020
Peak Hour: 07:15 AM - 08:15 AM
Peak 15-Minutes: 07:45 AM - 08:00 AM

Peak Hour - All Vehicles



Note: Total study counts contained in parentheses.

Peak Hour - Pedestrians/Bicycles on Crosswalk



Traffic Counts

Interval Start Time	PATTERSON RD Eastbound				PATTERSON RD Westbound				Northbound				27 1/2 RD Southbound				Total	Rolling 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	8	70	0	0	0	204	79					0	46	0	16	423	2,728	0	0	0
7:15 AM	0	12	104	0	0	0	317	105					0	86	0	28	652	2,932	0	0	0
7:30 AM	0	13	122	0	0	0	381	110					0	99	0	45	770	2,844	0	0	0
7:45 AM	0	18	151	0	0	0	417	152					0	96	0	49	883	2,724	0	0	0
8:00 AM	0	28	126	0	0	0	303	77					0	63	0	30	627	2,561	1	0	1
8:15 AM	0	16	119	0	0	0	250	80					0	59	0	40	564		0	0	0
8:30 AM	0	16	115	0	0	0	325	87					0	65	0	42	650		0	0	0
8:45 AM	0	27	161	0	0	0	315	89					0	78	0	50	720		0	0	1
Count Total	0	138	968	0	0	0	2,512	779					0	592	0	300	5,289		1	0	2
Peak Hour	0	71	503	0	0	0	1,418	444					0	344	0	152	2,932		1	0	1

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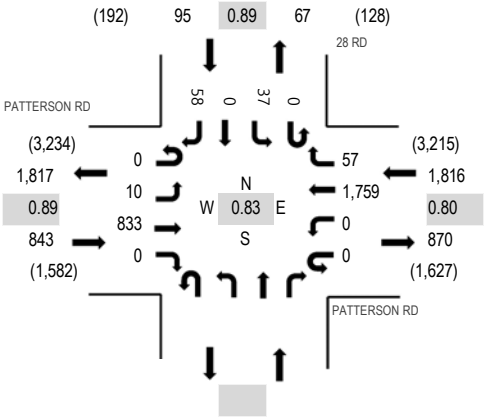
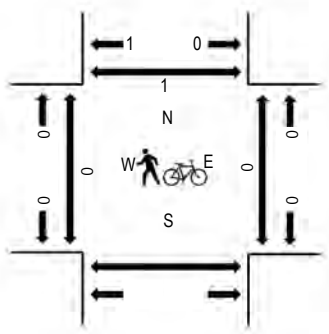
Location: 11 28 RD & PATTERSON RD AM
Date: Tuesday, March 3, 2020
Peak Hour: 07:15 AM - 08:15 AM
Peak 15-Minutes: 07:45 AM - 08:00 AM

Peak Hour - All Vehicles



Note: Total study counts contained in parentheses.

Peak Hour - Pedestrians/Bicycles on Crosswalk



Traffic Counts

Interval Start Time	PATTERSON RD Eastbound				PATTERSON RD Westbound				Northbound				28 RD Southbound				Total	Rolling 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	110	0	0	0	284	11					0	12	0	15	434	2,601	0	0		0
7:15 AM	0	2	184	0	0	0	394	6					0	10	0	14	610	2,754	0	0		0
7:30 AM	0	2	214	0	0	0	471	12					0	11	0	17	727	2,689	0	0		0
7:45 AM	0	4	236	0	0	0	542	27					0	7	0	14	830	2,574	0	0		0
8:00 AM	0	2	199	0	0	0	352	12					0	9	0	13	587	2,388	0	0		0
8:15 AM	0	4	197	0	0	0	318	7					0	6	0	13	545		0	0		0
8:30 AM	0	5	191	0	0	0	387	7					0	9	0	13	612		0	0		0
8:45 AM	0	10	220	0	0	0	370	15					0	12	0	17	644		1	0		1
Count Total	0	31	1,551	0	0	0	3,118	97					0	76	0	116	4,989		1	0		1
Peak Hour	0	10	833	0	0	0	1,759	57					0	37	0	58	2,754		0	0		0

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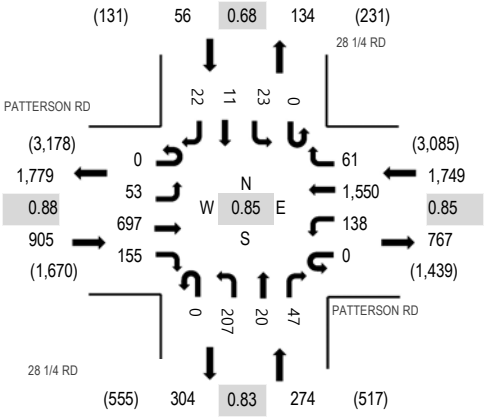
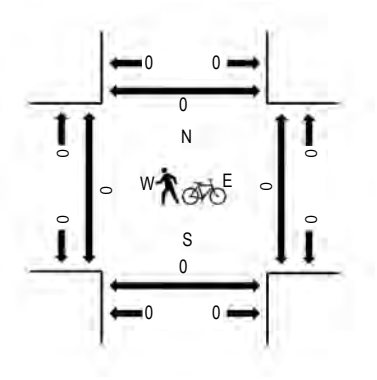
Location: 12 28 1/4 RD & PATTERSON RD AM
Date: Tuesday, March 3, 2020
Peak Hour: 07:15 AM - 08:15 AM
Peak 15-Minutes: 07:45 AM - 08:00 AM

Peak Hour - All Vehicles



Note: Total study counts contained in parentheses.

Peak Hour - Pedestrians/Bicycles on Crosswalk



Traffic Counts

Interval Start Time	PATTERSON RD Eastbound				PATTERSON RD Westbound				28 1/4 RD Northbound				28 1/4 RD Southbound				Total	Rolling 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	8	101	12	0	16	268	8	0	29	2	8	0	1	1	2	456	2,799	0	0	0	0
7:15 AM	0	9	153	32	0	21	352	17	0	41	4	11	0	7	1	7	655	2,984	0	0	0	0
7:30 AM	0	19	188	33	0	40	424	18	0	57	2	12	0	6	3	4	806	2,929	0	0	0	0
7:45 AM	0	14	198	50	0	46	458	13	0	69	9	8	0	3	6	8	882	2,790	0	0	0	0
8:00 AM	0	11	158	40	0	31	316	13	0	40	5	16	0	7	1	3	641	2,604	0	0	0	0
8:15 AM	0	8	152	46	0	28	268	9	0	48	7	13	0	6	4	11	600		0	0	1	0
8:30 AM	0	10	148	43	0	23	344	6	0	38	6	19	0	13	6	11	667		0	0	0	0
8:45 AM	0	16	184	37	0	27	328	11	0	44	6	23	0	4	8	8	696		0	0	0	0
Count Total	0	95	1,282	293	0	232	2,758	95	0	366	41	110	0	47	30	54	5,403		0	0	1	0
Peak Hour	0	53	697	155	0	138	1,550	61	0	207	20	47	0	23	11	22	2,984		0	0	0	0

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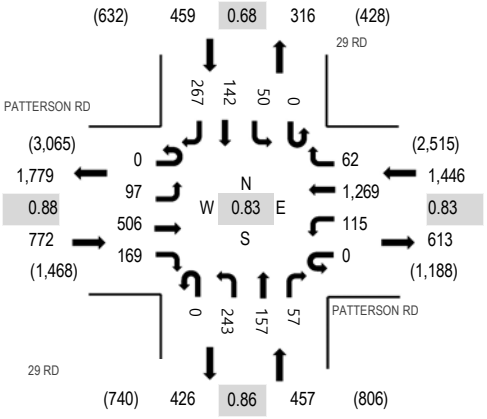
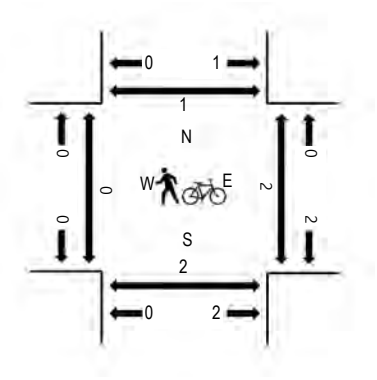
Location: 13 29 RD & PATTERSON RD AM
Date: Tuesday, March 3, 2020
Peak Hour: 07:15 AM - 08:15 AM
Peak 15-Minutes: 07:45 AM - 08:00 AM

Peak Hour - All Vehicles



Note: Total study counts contained in parentheses.

Peak Hour - Pedestrians/Bicycles on Crosswalk



Traffic Counts

Interval Start Time	PATTERSON RD Eastbound				PATTERSON RD Westbound				29 RD Northbound				29 RD Southbound				Total	Rolling 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	10	66	33	0	19	229	6	0	31	9	6	0	1	13	30	453	2,967	0	1	0	0
7:15 AM	0	18	106	46	0	23	297	13	0	68	30	11	0	5	18	41	676	3,134	0	0	0	0
7:30 AM	0	29	138	39	0	29	357	26	0	62	56	15	0	16	43	80	890	2,993	0	1	0	0
7:45 AM	0	33	141	47	0	41	377	19	0	53	50	17	0	23	56	91	948	2,725	0	1	2	1
8:00 AM	0	17	121	37	0	22	238	4	0	60	21	14	0	6	25	55	620	2,454	0	0	0	0
8:15 AM	0	7	125	43	0	25	206	2	0	55	9	22	0	10	12	19	535		1	0	0	0
8:30 AM	0	15	125	39	0	31	268	2	0	62	8	27	0	5	16	24	622		0	0	0	1
8:45 AM	0	18	162	53	0	24	249	8	0	82	18	20	0	6	6	31	677		0	1	1	1
Count Total	0	147	984	337	0	214	2,221	80	0	473	201	132	0	72	189	371	5,421		1	4	3	3
Peak Hour	0	97	506	169	0	115	1,269	62	0	243	157	57	0	50	142	267	3,134		0	2	2	1

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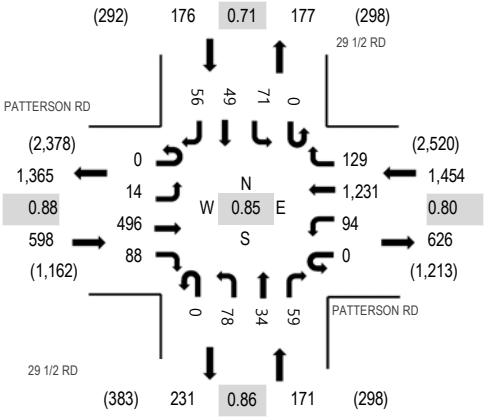
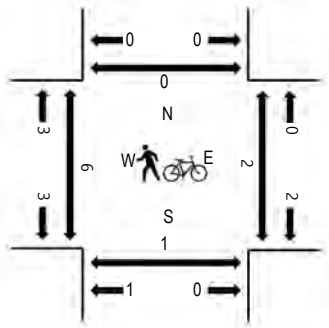
Location: 14 29 1/2 RD & PATTERSON RD AM
Date: Tuesday, March 3, 2020
Peak Hour: 07:15 AM - 08:15 AM
Peak 15-Minutes: 07:45 AM - 08:00 AM

Peak Hour - All Vehicles



Note: Total study counts contained in parentheses.

Peak Hour - Pedestrians/Bicycles on Crosswalk



Traffic Counts

Interval Start Time	PATTERSON RD Eastbound				PATTERSON RD Westbound				29 1/2 RD Northbound				29 1/2 RD Southbound					Rolling Hour	Pedestrian Crossings			
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	Total		West	East	South	North
7:00 AM	0	6	64	7	0	17	208	21	0	7	2	4	0	7	4	12	359	2,291	0	0	1	0
7:15 AM	0	4	98	14	0	18	290	25	0	21	9	14	0	16	6	12	527	2,399	4	2	1	0
7:30 AM	0	2	131	21	0	30	382	43	0	28	8	11	0	8	17	18	699	2,332	2	0	0	0
7:45 AM	0	6	150	26	0	31	338	43	0	17	10	23	0	26	17	19	706	2,175	0	0	0	0
8:00 AM	0	2	117	27	0	15	221	18	0	12	7	11	0	21	9	7	467	1,981	0	0	0	0
8:15 AM	0	13	127	16	0	13	205	15	0	12	2	23	0	20	7	7	460		0	0	0	0
8:30 AM	0	4	126	16	0	18	268	22	0	22	6	21	0	27	6	6	542		0	0	0	0
8:45 AM	0	11	153	21	0	23	241	15	0	16	4	8	0	7	4	9	512		0	0	0	0
Count Total	0	48	966	148	0	165	2,153	202	0	135	48	115	0	132	70	90	4,272		6	2	2	0
Peak Hour	0	14	496	88	0	94	1,231	129	0	78	34	59	0	71	49	56	2,399		6	2	1	0

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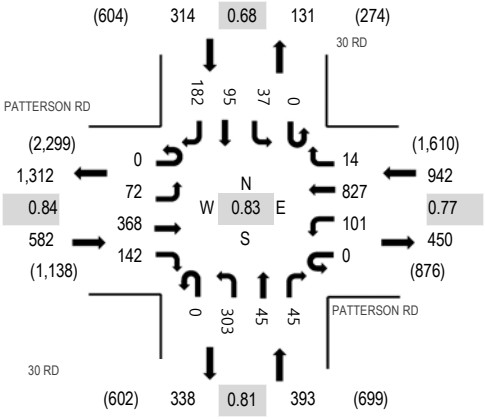
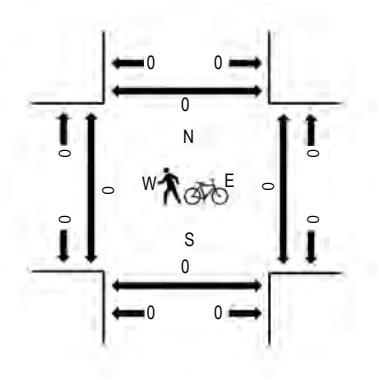
Location: 15 30 RD & PATTERSON RD AM
Date: Tuesday, March 3, 2020
Peak Hour: 07:15 AM - 08:15 AM
Peak 15-Minutes: 07:30 AM - 07:45 AM

Peak Hour - All Vehicles



Note: Total study counts contained in parentheses.

Peak Hour - Pedestrians/Bicycles on Crosswalk



Traffic Counts

Interval Start Time	PATTERSON RD Eastbound				PATTERSON RD Westbound				30 RD Northbound				30 RD Southbound				Total	Rolling 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	53	10	0	9	119	4	0	63	3	4	0	10	15	38	330	2,120	0	0	0	0
7:15 AM	0	4	94	25	0	21	184	3	0	69	7	10	0	9	20	42	488	2,231	0	0	0	0
7:30 AM	0	11	87	35	0	33	271	3	0	89	8	13	0	18	32	68	668	2,188	0	0	0	0
7:45 AM	0	30	114	51	0	30	213	4	0	96	16	9	0	5	27	39	634	2,052	0	0	0	0
8:00 AM	0	27	73	31	0	17	159	4	0	49	14	13	0	5	16	33	441	1,931	0	0	0	0
8:15 AM	0	26	90	46	0	19	132	4	0	53	10	9	0	12	8	36	445		0	1	0	2
8:30 AM	0	32	97	41	0	18	164	5	0	66	9	17	0	8	21	54	532		0	0	0	0
8:45 AM	0	28	99	32	0	17	169	8	0	42	12	18	0	9	28	51	513		0	0	0	0
Count Total	0	160	707	271	0	164	1,411	35	0	527	79	93	0	76	167	361	4,051		0	1	0	2
Peak Hour	0	72	368	142	0	101	827	14	0	303	45	45	0	37	95	182	2,231		0	0	0	0

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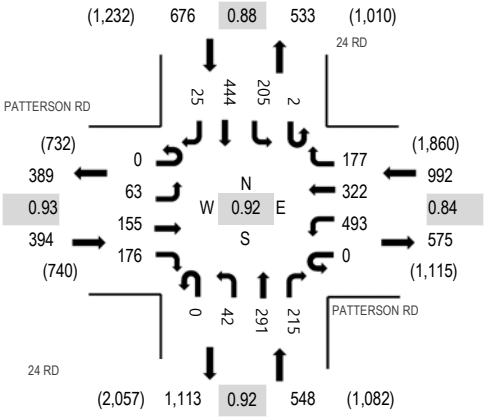
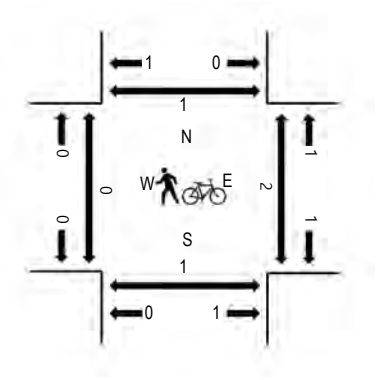
Location: 1 24 RD & PATTERSON RD PM
Date: Tuesday, March 3, 2020
Peak Hour: 04:30 PM - 05:30 PM
Peak 15-Minutes: 04:30 PM - 04:45 PM

Peak Hour - All Vehicles



Note: Total study counts contained in parentheses.

Peak Hour - Pedestrians/Bicycles on Crosswalk



Traffic Counts

Interval Start Time	PATTERSON RD Eastbound				PATTERSON RD Westbound				24 RD Northbound				24 RD Southbound					Rolling Hour	Pedestrian Crossings			
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	Total		West	East	South	North
4:00 PM	0	17	24	32	0	95	81	40	0	11	76	67	0	58	97	4	602	2,470	0	0	0	0
4:15 PM	0	14	39	46	0	94	69	36	0	15	68	73	0	49	96	4	603	2,566	0	0	0	0
4:30 PM	0	13	43	48	0	123	93	50	0	9	72	66	2	63	119	7	708	2,610	0	0	0	0
4:45 PM	0	16	44	37	0	95	60	36	0	13	66	40	0	52	93	5	557	2,468	0	1	1	1
5:00 PM	0	16	43	51	0	147	96	51	0	10	78	50	0	41	107	8	698	2,444	0	0	0	0
5:15 PM	0	18	25	40	0	128	73	40	0	10	75	59	0	49	125	5	647		0	0	0	0
5:30 PM	0	12	33	45	0	111	76	37	1	5	59	42	0	42	99	4	566		0	0	1	0
5:45 PM	0	16	31	37	0	127	62	40	0	10	62	45	0	37	64	2	533		0	0	0	1
Count Total	0	122	282	336	0	920	610	330	1	83	556	442	2	391	800	39	4,914		0	1	2	2
Peak Hour	0	63	155	176	0	493	322	177	0	42	291	215	2	205	444	25	2,610		0	1	1	1

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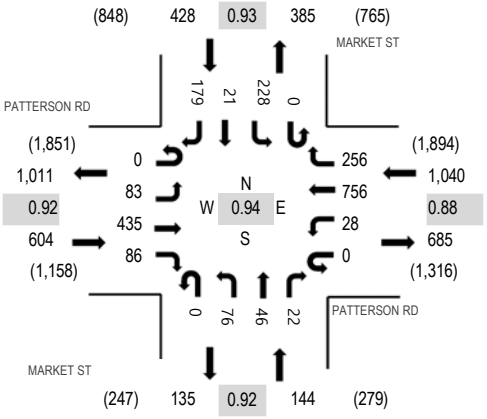
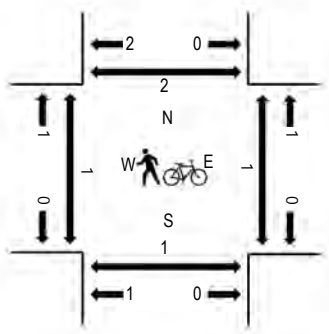
Location: 2 MARKET ST & PATTERSON RD PM
Date: Tuesday, March 3, 2020
Peak Hour: 04:30 PM - 05:30 PM
Peak 15-Minutes: 04:30 PM - 04:45 PM

Peak Hour - All Vehicles



Note: Total study counts contained in parentheses.

Peak Hour - Pedestrians/Bicycles on Crosswalk



Traffic Counts

Interval Start Time	PATTERSON RD Eastbound				PATTERSON RD Westbound				MARKET ST Northbound				MARKET ST Southbound				Total	Rolling 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	19	111	25	1	7	160	59	0	19	9	7	0	63	9	32	521	2,095	0	0	0	0
4:15 PM	0	31	121	24	0	4	121	54	0	15	10	16	0	35	8	48	487	2,157	0	2	1	1
4:30 PM	0	17	131	27	0	3	203	67	0	22	11	1	0	50	7	50	589	2,216	0	0	0	0
4:45 PM	0	26	95	18	0	12	146	51	0	17	13	8	0	66	7	39	498	2,120	1	0	1	0
5:00 PM	0	20	109	19	0	7	224	63	0	17	15	6	0	52	3	48	583	2,084	0	1	0	1
5:15 PM	0	20	100	22	0	6	183	75	0	20	7	7	0	60	4	42	546		0	0	0	1
5:30 PM	1	21	79	12	0	2	146	79	0	15	7	13	0	55	5	58	493		0	0	0	0
5:45 PM	0	23	75	12	0	3	158	60	0	11	8	5	0	50	1	56	462		0	0	0	1
Count Total	1	177	821	159	1	44	1,341	508	0	136	80	63	0	431	44	373	4,179		1	3	2	4
Peak Hour	0	83	435	86	0	28	756	256	0	76	46	22	0	228	21	179	2,216		1	1	1	2

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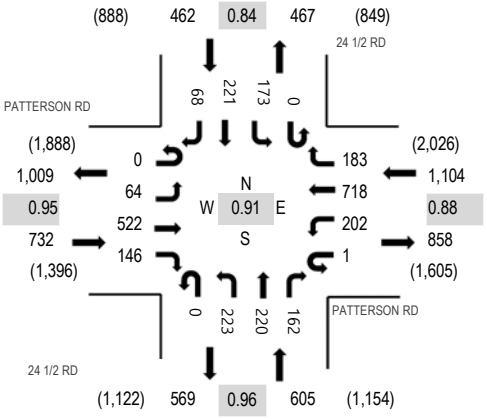
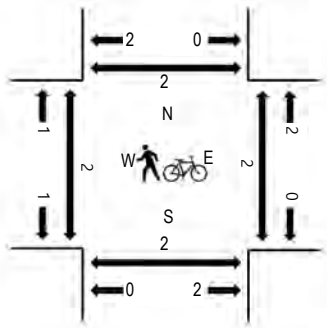
Location: 3 24 1/2 RD & PATTERSON RD PM
Date: Tuesday, March 3, 2020
Peak Hour: 04:15 PM - 05:15 PM
Peak 15-Minutes: 05:00 PM - 05:15 PM

Peak Hour - All Vehicles



Note: Total study counts contained in parentheses.

Peak Hour - Pedestrians/Bicycles on Crosswalk



Traffic Counts

Interval Start Time	PATTERSON RD Eastbound				PATTERSON RD Westbound				24 1/2 RD Northbound				24 1/2 RD Southbound					Rolling Hour	Pedestrian Crossings			
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	Total		West	East	South	North
4:00 PM	0	16	123	35	0	47	157	35	0	55	54	33	0	42	58	11	666	2,775	0	1	0	0
4:15 PM	0	24	127	35	0	56	170	48	0	59	57	35	0	44	54	12	721	2,903	0	0	2	0
4:30 PM	0	10	128	39	1	42	171	40	0	61	58	39	0	41	53	18	701	2,892	0	0	0	0
4:45 PM	0	16	122	38	0	49	168	47	0	43	59	43	0	42	48	12	687	2,781	0	1	0	0
5:00 PM	0	14	145	34	0	55	209	48	0	60	46	45	0	46	66	26	794	2,689	1	0	0	0
5:15 PM	0	13	120	50	0	57	172	39	0	55	59	39	0	41	41	24	710		2	0	0	0
5:30 PM	0	13	110	35	0	45	131	38	0	57	37	35	0	27	42	20	590		2	0	0	0
5:45 PM	0	10	101	38	0	43	142	16	0	37	52	36	0	40	62	18	595		0	1	1	1
Count Total	0	116	976	304	1	394	1,320	311	0	427	422	305	0	323	424	141	5,464		5	3	3	1
Peak Hour	0	64	522	146	1	202	718	183	0	223	220	162	0	173	221	68	2,903		1	1	2	0

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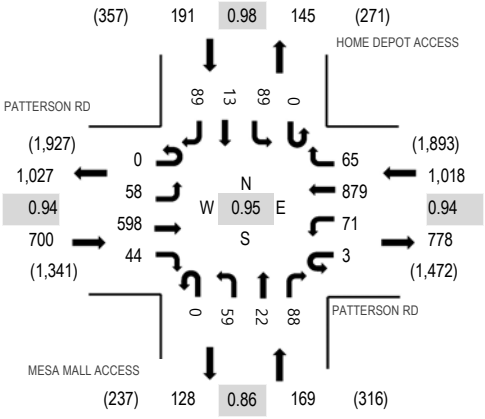
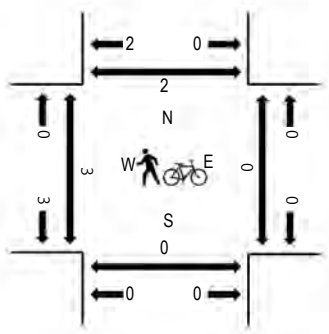
Location: 4 MESA MALL ACCESS & PATTERSON RD PM
Date: Tuesday, March 3, 2020
Peak Hour: 04:30 PM - 05:30 PM
Peak 15-Minutes: 05:00 PM - 05:15 PM

Peak Hour - All Vehicles



Note: Total study counts contained in parentheses.

Peak Hour - Pedestrians/Bicycles on Crosswalk



Traffic Counts

Interval Start Time	PATTERSON RD Eastbound				PATTERSON RD Westbound				MESA MALL ACCESS Northbound				HOME DEPOT ACCESS Southbound				Total	Rolling 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	147	13	0	21	204	10	0	13	4	20	0	20	6	21	501	1,986	0	0	0	0
4:15 PM	0	19	148	9	1	14	183	19	0	9	6	22	0	22	6	19	477	2,029	0	0	1	0
4:30 PM	0	11	162	16	1	19	227	22	0	12	5	16	0	22	3	24	540	2,078	0	0	0	0
4:45 PM	0	18	135	13	0	22	171	16	0	18	5	23	0	24	4	19	468	1,994	0	0	0	0
5:00 PM	0	14	150	8	1	15	241	15	0	16	8	27	0	21	1	27	544	1,921	3	0	0	1
5:15 PM	0	15	151	7	1	15	240	12	0	13	4	22	0	22	5	19	526		0	0	0	1
5:30 PM	0	9	133	8	0	15	203	9	0	17	7	16	0	16	3	20	456		0	0	0	0
5:45 PM	0	8	118	7	0	6	182	8	0	11	5	17	0	14	1	18	395		0	0	0	1
Count Total	0	116	1,144	81	4	127	1,651	111	0	109	44	163	0	161	29	167	3,907		3	0	1	3
Peak Hour	0	58	598	44	3	71	879	65	0	59	22	88	0	89	13	89	2,078		3	0	0	2

All Traffic Data Services Inc.

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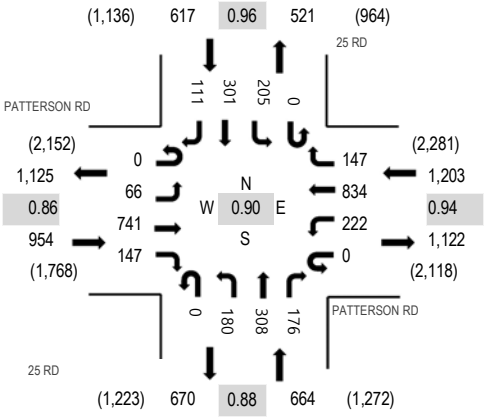
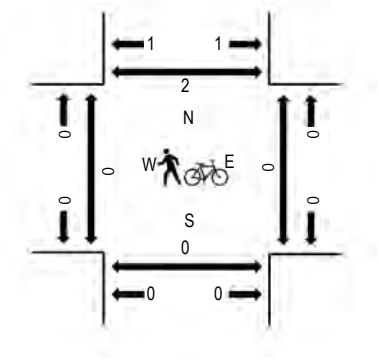
Location: 5 25 RD & PATTERSON RD PM
Date: Tuesday, March 3, 2020
Peak Hour: 04:30 PM - 05:30 PM
Peak 15-Minutes: 05:00 PM - 05:15 PM

Peak Hour - All Vehicles



Note: Total study counts contained in parentheses.

Peak Hour - Pedestrians/Bicycles on Crosswalk



Traffic Counts

Interval Start Time	PATTERSON RD Eastbound				PATTERSON RD Westbound				25 RD Northbound				25 RD Southbound					Rolling Hour	Pedestrian Crossings			
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	Total		West	East	South	North
4:00 PM	0	16	171	35	0	56	184	31	0	41	59	57	0	44	67	30	791	3,260	0	0	0	1
4:15 PM	0	9	153	31	0	55	236	27	0	54	64	53	0	42	72	27	823	3,420	0	0	0	0
4:30 PM	0	15	180	36	0	51	209	36	0	45	69	38	0	55	73	28	835	3,438	0	0	0	1
4:45 PM	0	19	173	34	0	56	197	33	0	39	68	50	0	51	63	28	811	3,333	0	0	0	0
5:00 PM	0	18	212	46	0	56	227	42	0	57	86	49	0	49	81	28	951	3,197	0	0	0	0
5:15 PM	0	14	176	31	0	59	201	36	0	39	85	39	0	50	84	27	841		0	0	0	0
5:30 PM	0	18	161	27	0	37	174	37	0	30	78	39	0	41	67	21	730		0	0	0	0
5:45 PM	0	13	157	23	0	34	180	27	0	30	64	39	0	39	49	20	675		0	2	0	3
Count Total	0	122	1,383	263	0	404	1,608	269	0	335	573	364	0	371	556	209	6,457		0	2	0	5
Peak Hour	0	66	741	147	0	222	834	147	0	180	308	176	0	205	301	111	3,438		0	0	0	1

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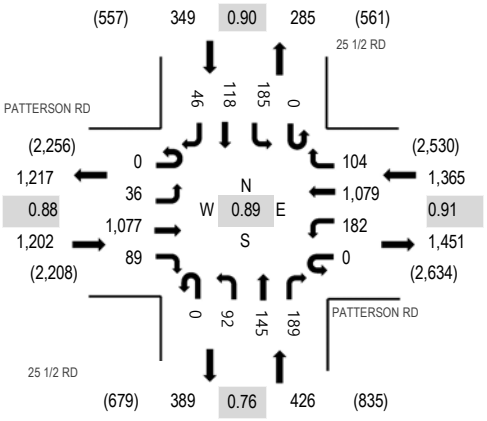
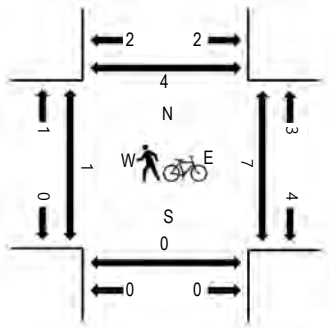
Location: 6 25 1/2 RD & PATTERSON RD PM
Date: Tuesday, March 3, 2020
Peak Hour: 04:30 PM - 05:30 PM
Peak 15-Minutes: 05:00 PM - 05:15 PM

Peak Hour - All Vehicles



Note: Total study counts contained in parentheses.

Peak Hour - Pedestrians/Bicycles on Crosswalk



Traffic Counts

Interval Start Time	PATTERSON RD Eastbound				PATTERSON RD Westbound				25 1/2 RD Northbound				25 1/2 RD Southbound					Rolling Hour	Pedestrian Crossings			
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	Total		West	East	South	North
4:00 PM	0	12	253	30	0	46	244	30	0	31	48	65	0	25	23	9	816	3,081	0	21	0	0
4:15 PM	0	7	210	15	0	35	253	17	0	24	41	45	0	24	21	10	702	3,205	1	0	0	3
4:30 PM	0	12	252	19	0	43	263	25	0	19	32	32	0	53	28	9	787	3,342	1	2	0	3
4:45 PM	0	5	257	20	0	35	255	33	0	26	26	48	0	39	21	11	776	3,217	0	0	0	1
5:00 PM	0	10	314	18	0	40	305	30	0	22	46	58	0	44	36	17	940	3,049	0	3	0	0
5:15 PM	0	9	254	32	0	64	256	16	0	25	41	51	0	49	33	9	839		0	1	0	0
5:30 PM	0	15	215	14	0	38	229	19	0	9	39	34	0	37	11	2	662		0	1	0	0
5:45 PM	0	11	216	8	0	29	210	15	0	8	22	43	0	16	20	10	608		0	2	0	0
Count Total	0	81	1,971	156	0	330	2,015	185	0	164	295	376	0	287	193	77	6,130		2	30	0	7
Peak Hour	0	36	1,077	89	0	182	1,079	104	0	92	145	189	0	185	118	46	3,342		1	6	0	4

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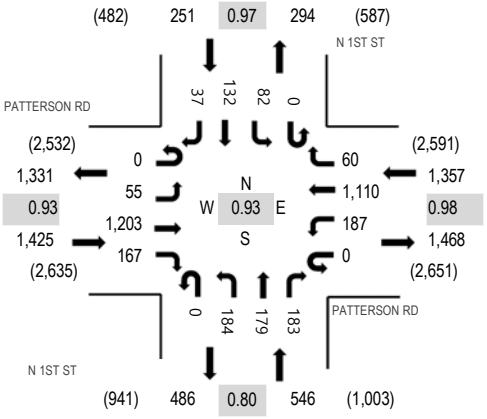
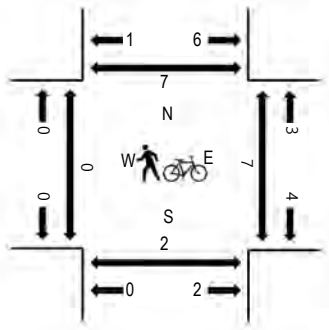
Location: 7 N 1ST ST & PATTERSON RD PM
Date: Tuesday, March 3, 2020
Peak Hour: 04:30 PM - 05:30 PM
Peak 15-Minutes: 05:00 PM - 05:15 PM

Peak Hour - All Vehicles



Note: Total study counts contained in parentheses.

Peak Hour - Pedestrians/Bicycles on Crosswalk



Traffic Counts

Interval Start Time	PATTERSON RD Eastbound				PATTERSON RD Westbound				N 1ST ST Northbound				N 1ST ST Southbound				Total	Rolling 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	18	300	41	0	33	255	17	0	47	47	31	0	14	36	10	849	3,406	0	2	2	0
4:15 PM	0	17	220	35	0	49	291	14	0	44	34	43	0	15	36	8	806	3,524	0	6	0	1
4:30 PM	0	19	278	37	0	44	297	15	0	33	44	49	0	16	32	12	876	3,579	0	2	1	1
4:45 PM	0	11	287	49	0	50	269	13	0	48	38	46	0	24	34	6	875	3,440	0	4	0	3
5:00 PM	0	16	326	41	0	47	281	22	0	60	52	60	0	22	32	8	967	3,305	0	0	0	2
5:15 PM	0	9	312	40	0	46	263	10	0	43	45	28	0	20	34	11	861		0	1	1	0
5:30 PM	0	9	250	42	0	37	241	13	0	30	40	32	0	7	31	5	737		0	0	0	1
5:45 PM	0	18	223	37	0	34	239	11	0	23	55	31	0	17	44	8	740		0	0	0	0
Count Total	0	117	2,196	322	0	340	2,136	115	0	328	355	320	0	135	279	68	6,711		0	15	4	8
Peak Hour	0	55	1,203	167	0	187	1,110	60	0	184	179	183	0	82	132	37	3,579		0	7	2	6

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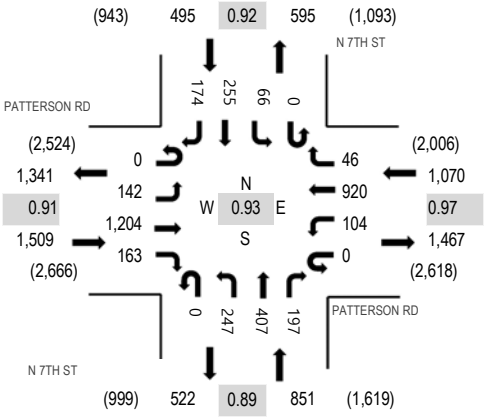
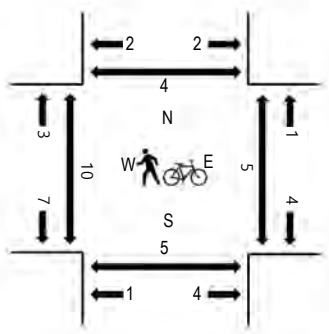
Location: 8 N 7TH ST & PATTERSON RD PM
Date: Tuesday, March 3, 2020
Peak Hour: 04:30 PM - 05:30 PM
Peak 15-Minutes: 05:00 PM - 05:15 PM

Peak Hour - All Vehicles



Note: Total study counts contained in parentheses.

Peak Hour - Pedestrians/Bicycles on Crosswalk



Traffic Counts

Interval Start Time	PATTERSON RD Eastbound				PATTERSON RD Westbound				N 7TH ST Northbound				N 7TH ST Southbound				Total	Rolling 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	29	282	43	0	26	194	13	0	69	94	56	0	13	70	47	936	3,646	0	1	2	0
4:15 PM	0	33	198	39	0	28	232	7	0	65	89	41	0	13	57	46	848	3,768	5	0	0	0
4:30 PM	0	39	263	34	0	27	231	8	0	66	95	48	0	19	56	49	935	3,925	5	2	1	1
4:45 PM	0	35	273	42	0	27	235	17	0	60	82	53	0	16	49	38	927	3,803	2	2	2	2
5:00 PM	0	35	338	42	0	21	238	9	0	62	127	51	0	11	79	45	1,058	3,588	1	0	2	0
5:15 PM	0	33	330	45	0	29	216	12	0	59	103	45	0	20	71	42	1,005		1	0	0	0
5:30 PM	0	19	236	31	0	27	181	8	0	52	101	56	0	22	42	38	813		1	1	0	1
5:45 PM	0	22	196	29	0	25	183	12	0	42	71	32	0	6	60	34	712		0	0	0	1
Count Total	0	245	2,116	305	0	210	1,710	86	0	475	762	382	0	120	484	339	7,234		15	6	7	5
Peak Hour	0	142	1,204	163	0	104	920	46	0	247	407	197	0	66	255	174	3,925		9	4	5	3

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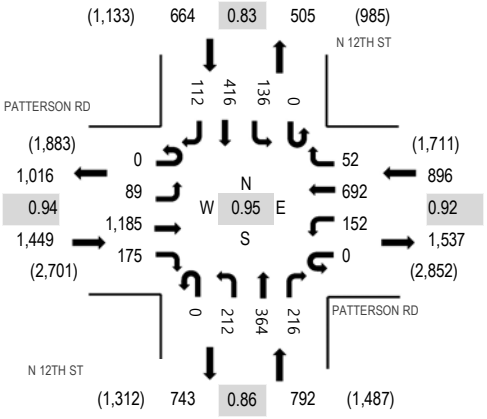
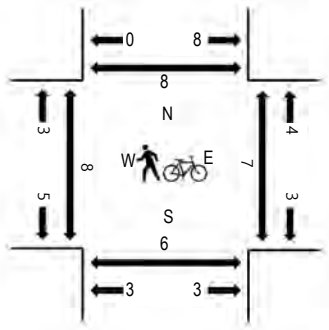
Location: 9 N 12TH ST & PATTERSON RD PM
Date: Tuesday, March 3, 2020
Peak Hour: 04:30 PM - 05:30 PM
Peak 15-Minutes: 05:00 PM - 05:15 PM

Peak Hour - All Vehicles



Note: Total study counts contained in parentheses.

Peak Hour - Pedestrians/Bicycles on Crosswalk



Traffic Counts

Interval Start Time	PATTERSON RD Eastbound				PATTERSON RD Westbound				N 12TH ST Northbound				N 12TH ST Southbound				Total	Rolling 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	26	285	33	0	32	142	15	0	43	104	67	0	25	80	29	881	3,531	5	2	0	1
4:15 PM	0	25	236	37	0	34	207	14	0	45	73	49	0	30	64	16	830	3,646	2	1	0	1
4:30 PM	0	18	276	43	0	35	196	10	0	48	89	50	0	30	90	23	908	3,801	2	2	0	0
4:45 PM	0	26	277	42	0	34	179	11	0	65	83	44	0	27	94	30	912	3,700	0	1	1	0
5:00 PM	0	20	315	43	0	41	159	16	0	51	106	74	0	39	110	22	996	3,501	1	1	0	7
5:15 PM	0	25	317	47	0	42	158	15	0	48	86	48	0	40	122	37	985		2	1	1	1
5:30 PM	0	16	287	49	0	37	128	13	0	43	82	36	0	22	62	32	807		0	0	3	0
5:45 PM	0	24	205	29	0	45	132	16	0	38	72	43	0	30	67	12	713		1	1	2	0
Count Total	0	180	2,198	323	0	300	1,301	110	0	381	695	411	0	243	689	201	7,032		13	9	7	10
Peak Hour	0	89	1,185	175	0	152	692	52	0	212	364	216	0	136	416	112	3,801		5	5	2	8

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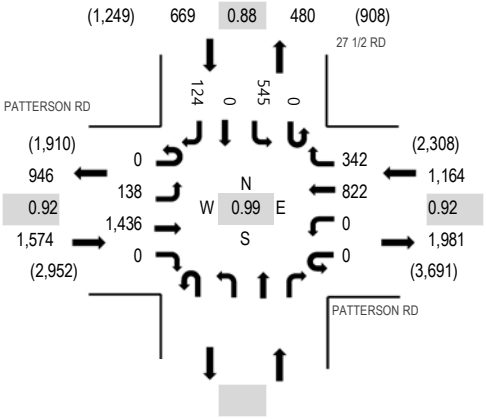
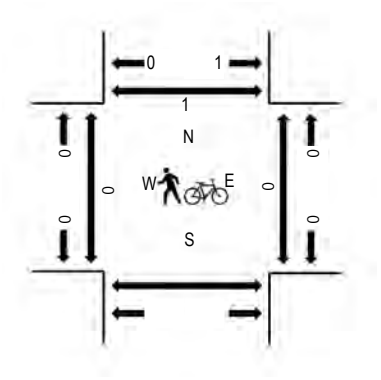
Location: 10 27 1/2 RD & PATTERSON RD PM
Date: Tuesday, March 3, 2020
Peak Hour: 04:30 PM - 05:30 PM
Peak 15-Minutes: 05:15 PM - 05:30 PM

Peak Hour - All Vehicles



Note: Total study counts contained in parentheses.

Peak Hour - Pedestrians/Bicycles on Crosswalk



Traffic Counts

Interval Start Time	PATTERSON RD Eastbound				PATTERSON RD Westbound				Northbound				27 1/2 RD Southbound				Total	Rolling 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	56	346	0	0	0	221	59					0	135	0	30	847	3,347	0	0	0
4:15 PM	0	33	320	0	0	0	225	78					0	140	0	21	817	3,360	0	0	0
4:30 PM	0	31	332	0	0	0	225	106					0	122	0	31	847	3,407	0	0	0
4:45 PM	0	31	350	0	0	0	219	81					0	126	0	29	836	3,258	0	0	0
5:00 PM	0	35	369	0	0	0	190	76					0	159	0	31	860	3,162	0	0	1
5:15 PM	0	41	385	0	0	0	188	79					0	138	0	33	864		0	0	0
5:30 PM	0	34	279	0	0	0	204	60					0	105	0	16	698		0	0	0
5:45 PM	0	33	277	0	0	0	222	75					0	108	0	25	740		0	0	0
Count Total	0	294	2,658	0	0	0	1,694	614					0	1,033	0	216	6,509		0	0	1
Peak Hour	0	138	1,436	0	0	0	822	342					0	545	0	124	3,407		0	0	1

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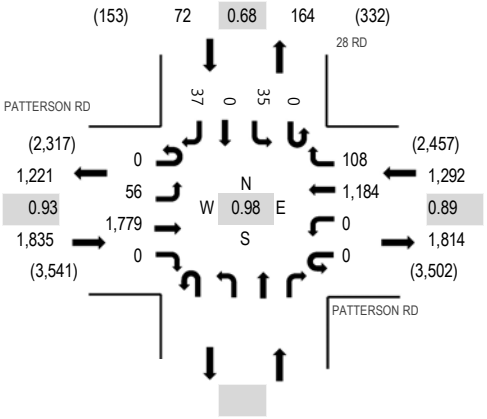
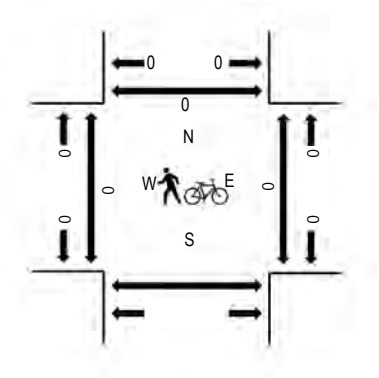
Location: 11 28 RD & PATTERSON RD PM
Date: Tuesday, March 3, 2020
Peak Hour: 04:15 PM - 05:15 PM
Peak 15-Minutes: 05:00 PM - 05:15 PM

Peak Hour - All Vehicles



Note: Total study counts contained in parentheses.

Peak Hour - Pedestrians/Bicycles on Crosswalk



Traffic Counts

Interval Start Time	PATTERSON RD Eastbound				PATTERSON RD Westbound				Northbound				28 RD Southbound				Total	Rolling 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	12	455	0	0	0	265	22					0	9	0	3	766	3,145	0	0		0
4:15 PM	0	12	452	0	0	0	306	28					0	9	0	9	816	3,199	0	0		0
4:30 PM	0	12	423	0	0	0	335	26					0	5	0	6	807	3,184	0	0		0
4:45 PM	0	17	423	0	0	0	276	21					0	10	0	9	756	3,071	0	0		0
5:00 PM	0	15	481	0	0	0	267	33					0	11	0	13	820	3,006	0	0		0
5:15 PM	0	13	493	0	0	0	249	33					0	5	0	8	801		0	0		0
5:30 PM	0	8	367	0	0	0	256	29					0	11	0	23	694		0	0		0
5:45 PM	0	17	341	0	0	0	277	34					0	7	0	15	691		0	0		0
Count Total	0	106	3,435	0	0	0	2,231	226					0	67	0	86	6,151		0	0		0
Peak Hour	0	56	1,779	0	0	0	1,184	108					0	35	0	37	3,199		0	0		0

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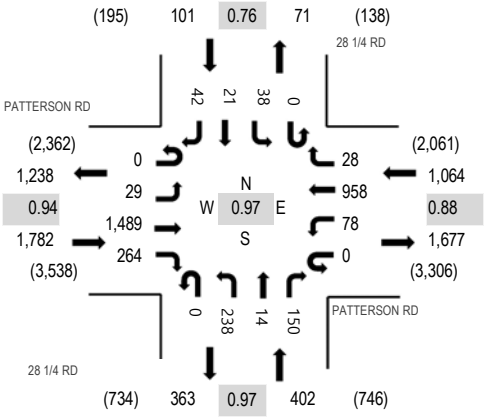
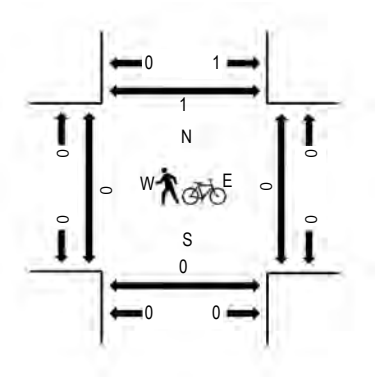
Location: 12 28 1/4 RD & PATTERSON RD PM
Date: Tuesday, March 3, 2020
Peak Hour: 04:15 PM - 05:15 PM
Peak 15-Minutes: 04:15 PM - 04:30 PM

Peak Hour - All Vehicles



Note: Total study counts contained in parentheses.

Peak Hour - Pedestrians/Bicycles on Crosswalk



Traffic Counts

Interval Start Time	PATTERSON RD Eastbound				PATTERSON RD Westbound				28 1/4 RD Northbound				28 1/4 RD Southbound					Rolling Hour	Pedestrian Crossings			
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	Total		West	East	South	North
4:00 PM	0	11	395	66	0	23	205	1	0	66	2	25	0	13	5	12	824	3,339	1	0	0	0
4:15 PM	0	9	378	72	0	21	255	9	0	63	5	28	0	8	3	12	863	3,349	0	0	0	0
4:30 PM	0	9	369	60	0	17	278	6	0	55	2	42	0	10	6	8	862	3,340	0	0	0	0
4:45 PM	0	7	348	76	0	21	207	8	0	63	2	39	0	9	6	4	790	3,250	0	0	0	1
5:00 PM	0	4	394	56	0	19	218	5	0	57	5	41	0	11	6	18	834	3,201	0	0	0	0
5:15 PM	0	9	398	74	0	38	210	7	0	51	5	34	0	9	4	15	854		0	0	0	0
5:30 PM	0	5	365	66	0	19	211	4	0	42	4	35	0	5	4	12	772		0	0	0	1
5:45 PM	0	7	311	49	0	20	254	5	0	40	7	33	0	6	3	6	741		0	2	0	0
Count Total	0	61	2,958	519	0	178	1,838	45	0	437	32	277	0	71	37	87	6,540		1	2	0	2
Peak Hour	0	29	1,489	264	0	78	958	28	0	238	14	150	0	38	21	42	3,349		0	0	0	1

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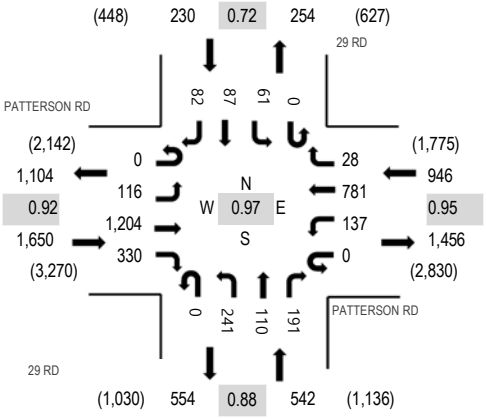
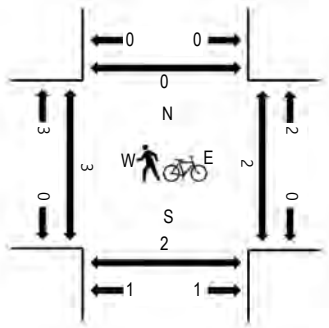
Location: 13 29 RD & PATTERSON RD PM
Date: Tuesday, March 3, 2020
Peak Hour: 04:00 PM - 05:00 PM
Peak 15-Minutes: 04:00 PM - 04:15 PM

Peak Hour - All Vehicles



Note: Total study counts contained in parentheses.

Peak Hour - Pedestrians/Bicycles on Crosswalk



Traffic Counts

Interval Start Time	PATTERSON RD Eastbound				PATTERSON RD Westbound				29 RD Northbound				29 RD Southbound					Rolling Hour	Pedestrian Crossings			
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	Total		West	East	South	North
4:00 PM	0	31	322	99	0	34	175	7	0	56	30	53	0	19	29	17	872	3,368	0	0	0	0
4:15 PM	0	32	292	83	0	32	200	11	0	67	27	49	0	18	10	24	845	3,318	2	0	0	0
4:30 PM	0	29	294	73	0	32	214	4	0	67	26	47	0	16	35	29	866	3,361	0	0	0	0
4:45 PM	0	24	296	75	0	39	192	6	0	51	27	42	0	8	13	12	785	3,327	1	0	2	0
5:00 PM	0	44	302	80	0	32	183	6	0	54	32	42	0	11	19	17	822	3,261	1	1	0	0
5:15 PM	0	58	315	82	0	24	177	12	0	66	51	52	0	17	16	18	888		0	0	0	0
5:30 PM	0	44	283	76	0	23	157	7	0	60	49	41	0	20	24	48	832		0	1	1	0
5:45 PM	0	28	244	64	0	24	177	7	0	70	35	42	0	5	12	11	719		2	0	2	0
Count Total	0	290	2,348	632	0	240	1,475	60	0	491	277	368	0	114	158	176	6,629		6	2	5	0
Peak Hour	0	116	1,204	330	0	137	781	28	0	241	110	191	0	61	87	82	3,368		3	0	2	0

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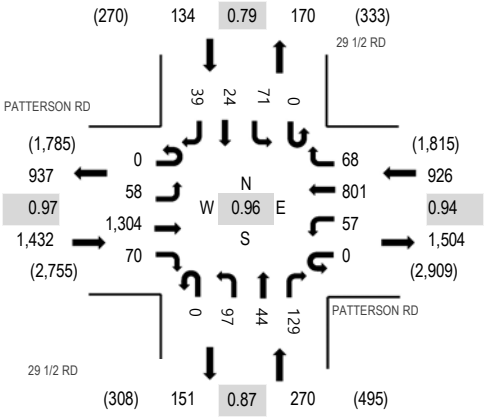
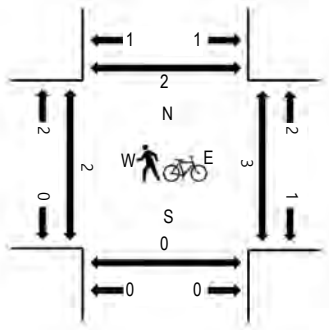
Location: 14 29 1/2 RD & PATTERSON RD PM
Date: Tuesday, March 3, 2020
Peak Hour: 04:00 PM - 05:00 PM
Peak 15-Minutes: 04:15 PM - 04:30 PM

Peak Hour - All Vehicles



Note: Total study counts contained in parentheses.

Peak Hour - Pedestrians/Bicycles on Crosswalk



Traffic Counts

Interval Start Time	PATTERSON RD Eastbound				PATTERSON RD Westbound				29 1/2 RD Northbound				29 1/2 RD Southbound					Rolling Hour	Pedestrian Crossings			
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	Total		West	East	South	North
4:00 PM	0	5	330	19	0	18	191	21	0	26	8	44	0	14	4	8	688	2,762	2	0	0	1
4:15 PM	0	18	327	14	0	20	199	19	0	32	8	37	0	25	8	14	721	2,739	0	1	0	1
4:30 PM	0	20	333	17	0	8	223	14	0	22	12	18	0	15	8	7	697	2,707	0	1	0	0
4:45 PM	0	15	314	20	0	11	188	14	0	17	16	30	0	17	4	10	656	2,647	0	1	0	0
5:00 PM	0	15	290	14	0	15	200	14	0	26	10	40	0	24	3	14	665	2,573	2	0	0	2
5:15 PM	0	19	328	22	0	27	182	17	0	17	8	36	0	28	4	1	689		0	0	0	0
5:30 PM	0	14	308	23	0	14	178	20	0	16	9	21	0	24	6	4	637		0	0	0	0
5:45 PM	0	13	271	6	0	14	189	19	0	11	5	26	0	9	9	10	582		0	1	0	0
Count Total	0	119	2,501	135	0	127	1,550	138	0	167	76	252	0	156	46	68	5,335		4	4	0	4
Peak Hour	0	58	1,304	70	0	57	801	68	0	97	44	129	0	71	24	39	2,762		2	3	0	2

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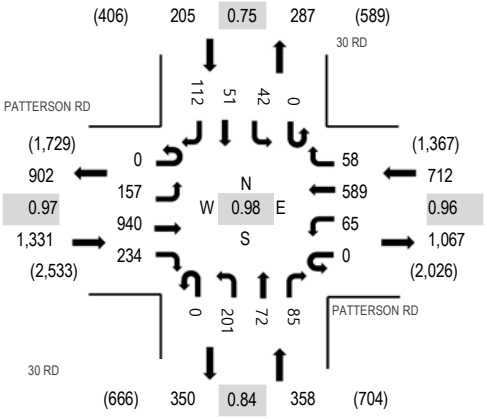
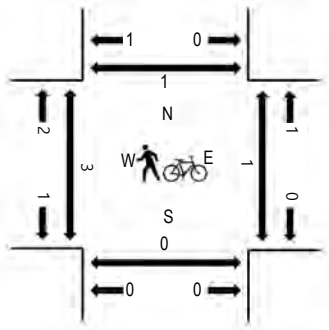
Location: 15 30 RD & PATTERSON RD PM
Date: Tuesday, March 3, 2020
Peak Hour: 04:00 PM - 05:00 PM
Peak 15-Minutes: 04:00 PM - 04:15 PM

Peak Hour - All Vehicles



Note: Total study counts contained in parentheses.

Peak Hour - Pedestrians/Bicycles on Crosswalk



Traffic Counts

Interval Start Time	PATTERSON RD Eastbound				PATTERSON RD Westbound				30 RD Northbound				30 RD Southbound					Rolling Hour	Pedestrian Crossings			
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	Total		West	East	South	North
4:00 PM	0	39	237	66	0	19	146	20	0	55	20	22	0	8	12	24	668	2,606	2	1	0	0
4:15 PM	0	46	221	54	0	14	151	10	0	45	18	23	0	15	12	41	650	2,536	0	0	0	0
4:30 PM	0	33	234	68	0	14	152	15	0	54	12	16	0	12	12	30	652	2,546	1	0	0	1
4:45 PM	0	39	248	46	0	18	140	13	0	47	22	24	0	7	15	17	636	2,486	0	0	0	0
5:00 PM	0	46	212	50	0	9	150	11	0	43	23	15	0	7	8	24	598	2,404	0	0	0	0
5:15 PM	0	37	239	55	0	14	138	13	0	53	30	25	0	10	20	26	660		0	0	0	0
5:30 PM	0	37	212	54	0	17	121	14	0	37	17	26	0	12	15	30	592		0	0	0	0
5:45 PM	0	41	173	46	0	15	144	9	0	40	24	13	0	15	13	21	554		1	1	0	0
Count Total	0	318	1,776	439	0	120	1,142	105	0	374	166	164	0	86	107	213	5,010		4	2	0	1
Peak Hour	0	157	940	234	0	65	589	58	0	201	72	85	0	42	51	112	2,606		3	1	0	1

Appendix E - Access Plan Methodology and Evaluation Process

Memorandum

TO: Patterson Road Access Plan Project Team
FROM: Janet Lundquist
DATE: March 17, 2020
PROJECT: **Patterson Road Access Study**
RE: Access Plan Methodology

This memorandum describes the general approach proposed by Stolfus & Associates, Inc. (Stolfus) to develop the Patterson Road Access Plan. The purpose of this memorandum is to outline, for the benefit of the City of Grand Junction, the primary assumptions that will be used in developing the recommended access plan and to document agency concurrence with the proposed methodology. A separate methodology for the related traffic engineering elements of the project has been prepared documenting the primary assumptions and procedures that will be used to develop future traffic projections and analysis.

STUDY AREA
The study area consists of approximately 7.0 miles of Patterson Road between I-70B (23.75 Road) and Lodgepole Street (30.75 Road). The study area is located within the City of Grand Junction in Mesa County, Colorado.

ACCESS GUIDANCE
The Street Plan Functional Classification Map within the Grand Junction Circulation Plan identifies the corridor as a Minor Arterial from I-70B (23.75 Road) to 25 Road and a Principal Arterial from 25 Road to Lodgepole Street (30.75 Road). Guidance from the Transportation Engineering Design Standards (TEDS) for applicable classifications will be considered in developing the Access Plan. Currently, the study corridor falls under two categories:

<u>Principal Arterial</u>
A principal arterial is a 4-lane roadway with a right-of-way of 110 feet that includes a center median and detached sidewalks. The posted speed limits range from 35 mph-45 mph. Direct access is subordinate to through traffic movements. Full movement intersections are spaced 1/2 mile apart. Exceptions to ½ mile spacing may be permitted if no reasonable alternative exists, the need for the intersection is justified, and spacing meets the functional intersection area. One access is granted per parcel if reasonable access cannot be obtained from a lower classification roadway.

Within the Principal Arterial segment, a majority of accesses will be limited to right-in/right-out movements due to the median separated roadway and to reduce vehicle conflicts. Major intersections will be full movement and will be given priority since they serve many properties and interests. These intersections may currently be signalized or may reasonably be expected to meet signal warrants in the future. Three-quarter (left-in, right-in, right-out only) movements may be permitted if operations at adjacent full movement intersections are improved and design standards are met. Single or individual

properties are typically not granted a three-quarter movement access. Accommodation for passenger vehicle U-turns at major intersections is recommended to provide alternatives for restricted left-turn movements.

Minor Arterial

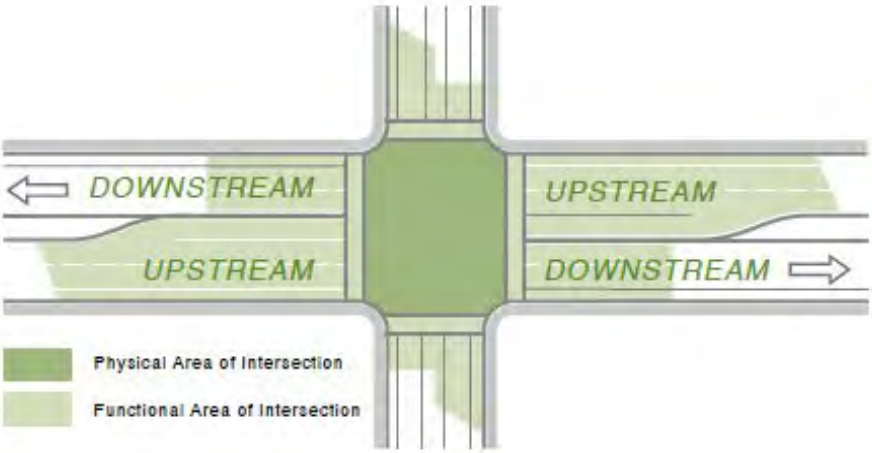
A minor arterial is a 4-lane roadway with a right-of-way of 80 feet, a center median or turn lane, and attached sidewalks. The posted speed limit is 35 mph. Direct access is subordinate to through traffic movements. Full movement intersections are spaced 1/4 mile apart. Exceptions to 1/4 mile spacing may be permitted if no reasonable alternative exists, the need for the intersection is justified, and spacing for the functional intersection area is met. One access is granted per parcel if reasonable access cannot be obtained from a lower classification roadway.

The Minor Arterial typical section allows for a center turn lane or a median. For the purposes of the Access Plan the most restrictive condition will be considered first. Within the Minor Arterial segment, a majority of accesses will be limited to right-in/right-out movements to reduce vehicle conflicts and with the assumption that the segment will be a median separated roadway. Major intersections will be full movement and will be given priority since they serve many properties and interests. These intersections may currently be signalized or may reasonably be expected to meet signal warrants in the future. Three-quarter movements may be permitted if operations at adjacent full movement intersections are improved and design standards are met. Single or individual properties are typically not granted a three-quarter movement access. Accommodation for passenger vehicle U-turns at major intersections is recommended to provide alternatives for restricted left-turn movements.

ACCESS PLAN APPROACH

The following assumptions regarding access points will be used during the development of the Access Plan:

- The existing posted speed limits will be retained through the Plan.
- Maximum 1-mile out of direction travel standard (1/2 mile each way) on Patterson Road.
- While intersection spacing guidance from TEDS will be used as a guideline, minimum full movement intersection spacing will be based on the following measures:
    - Functional Intersection Area – AASHTO and the TRB Access Management Manual indicate separation of access points by a distance not less than the functional area of the intersection. The functional intersection area extends upstream and downstream from the physical intersection. The upstream distance is a combination of the storage length, deceleration and taper length, and the perception-reaction distance required for the speed of the segment. The downstream distance is measured as either acceleration length or decision sight distance. Providing acceleration length allows vehicles to accelerate to normal speed without conflict. Providing decision sight distance allows drivers to pass through an intersection before considering potential conflicts at the next intersection. Based on the suburban character of Patterson Road through this segment, the need for acceleration lanes is low. Therefore, we will use decision sight distance as the controlling downstream functional intersection distance.



The functional intersection area will depend on the speed of the segment and the number of projected turning vehicles. As an example, in a 45-mph suburban section with a maximum of 100 turning vehicles during the peak hour, the upstream and downstream functional intersection areas (FIA) are as follows:

- Upstream FIA = 100' (SHAC storage) + 350'(AASHTO decel + taper) + 100'(Access Management Manual suburban perception-reaction) = 550'
- Downstream FIA = 590'(Access Management Manual suburban DSD)

For additional explanation of the functional intersection area, refer to attached excerpts from AASHTO A Policy on Geometric Design of Highways and Streets, 2018 and TRB Access Management Manual, 2014. The most current guidance available from AASHTO will be used for deceleration and taper lengths.

Ideally, the full functional intersection area will be provided between full movement intersections. At a minimum, the physical length needed to accommodate storage length, deceleration and taper length will be provided between intersections for the current speed limit to ensure that proposed improvements will meet current design standards on opening day upon construction.

- o Other site-specific considerations as appropriate, including: locations of existing intersections, physical and/or right-of-way limitations, community and stakeholder input, type of access/traffic using access, etc.

- Three-quarter movement access points may be allowed if spacing meets functional intersection area for major intersections and traffic volumes and operations support a three-quarter movement.
- Relocate private access outside of the functional intersection area, if feasible.
- Consolidate private access to one access per ownership unless extenuating circumstances are identified related to property size, circulation and/or business operations. Multiple parcels under one ownership will be considered a single property or ownership.
- Share private accesses or locate public accesses to serve multiple properties, wherever possible.

- Eliminate direct private access to Patterson Road if reasonable access to the local street network is available. As described in TEDS Chapter 29.12.050: If a property has frontage on more than one street, access will be permitted only on those street frontages where design and safety standards can be met. The primary access shall be on the lower-order street.
- For the purposes of the access evaluation, it is assumed that Patterson Road will become a four-lane roadway with median separation based on the roadway classifications identified in the Grand Junction Circulation and TEDS. The appropriateness of additional access points between full movement intersections will be considered on a case-by-case basis. If such access is appropriate, it will be limited to right-in, right-out unless extenuating circumstances suggest that ¾ movement is more appropriate.
- The Grand Junction Circulation Plan and TEDS will be considered in identifying future access points. Any information available from the update that may impact the Patterson Road corridor will be considered. Additional or modified connections that provide circulation will be identified, if applicable. These local alternate routes may be adopted separately by the City in their Street Plan Functional Classification Map, if deemed beneficial.

- Potential techniques for access management will be identified within the study document, but specific techniques will not be identified for each access point. Full movement intersections may be signalized when warranted or other traffic control recognized by the MUTCD may be implemented.

ACCESS PLAN EVALUATION

The project team will develop a single overall recommended long-term access scenario. While options for specific areas may be identified and evaluated during the overall development of the plan, multiple corridor scenarios will not be developed and compared beyond those defined in the Traffic Methodology Memo. In order to provide a logical means for determining whether the Access Plan meets the purpose and need of the project, a compatibility index was developed. The index identifies a set of evaluation criteria that correspond with each access related project goal defined by the project team at the beginning of the project. A simple rating system that identifies if the plan is favorable, neutral or unfavorable with respect to each criterion is defined. Each of the three ratings under each criterion is given a definition specific to the criterion to assist in the evaluation. In cases where the access plan evaluation requires a comparison, the criteria will be measured against the 2045 No-ACP scenario. Please refer to the attached compatibility index for evaluation criteria and definitions.

IMPLEMENTATION

The improvements recommended in the Access Plan will represent a long-range plan to implement over time as traffic and safety needs arise and as funding becomes available. Construction of the improvements recommended may be completed using public and/or private funding. The following cases will trigger construction.

1. A property redevelops or changes use, resulting in an increase in traffic to and from the site of 20% or more. In this case, improvements at the specific access point may be required by the City. As part of the development review process, additional transportation improvements may also be necessary to address specific traffic-related impacts created by the development. These improvements will be compatible with the Access Control Plan (ACP). Upon redevelopment, the City may require property owners to provide legally defined cross-access easements for shared access points, as defined by the ACP. If a property does not redevelop, the property owner will not be required to construct access modifications. (Private Funding).

2. The City may obtain funding to complete improvements to a segment of the Patterson Road corridor. (Public Funding)

3. A safety or operational issue develops that can be mitigated through the implementation of access management techniques consistent with the ACP. Depending on the extent and type of safety or operational issue, improvements may address a segment of the Patterson Road corridor or may be limited to an isolated location or access point. (Public Funding)

It is important to remember that implementation of improvements recommended in the Access Plan will only occur if one of the triggers listed above are met. If a trigger is not met, a change to the existing condition will not be made. In short, if nothing changes, nothing changes.

A single access control plan table will be developed for this segment of Patterson Road. An access ID number and a reference point will identify the location of each access point in the table. A control point will be established for Patterson Road at I-70B (23.75 Road) to establish reference points. All other access point locations will be measured from the control point established. The access control plan table will provide a listing of each existing and future access point in the study area. For each access point the following information is provided: location, description of the current access status, the future configuration (Access Plan), and the condition(s) for change. Future exhibits graphically illustrating the Access Plan will be used for reference. In case of discrepancy, the access control plan table takes precedence over graphical illustrations.

PUBLIC INVOLVEMENT

The public involvement plan for the Access Plan will include presentations to City Council and Planning Commission. In advance of the public Open Houses a workshop will be held for the City Council and Planning Commission to explain:

- Project background information
- Access management principles and techniques
- Summary of the project process
- Benefits of Access Control Plans
- Preliminary Draft Plan

A group stakeholder meeting will be held in advance of the public first Open House with other agencies including Mesa County, CDOT, Emergency Services, School District, Grand Valley Irrigation Company and Mesa Regional Transportation Planning Organization.

Two public Open Houses will be held to gather input from property owners, tenants, and the general public. All property owners adjacent to the Patterson Road corridor within the project study area will be invited to the open houses with a post card via first class mail. A legal notice and a display ad will be published in the Grand Junction Sentinel in advance of the public Open Houses. The project team will coordinate with the City Manager's office for publications of the Open House Materials on the City website. Exhibits presenting access management principles, the study process, and the recommended draft ACP will be displayed at the Open Houses. The second Open House will present changes to the Plan based upon input from the public and project stakeholders from the first open house and one-on-one meetings. Representatives from the project team will be available for questions and discussion at all open houses.

The project team will hold one-on-one meetings after the first Open House for access points of concern or requiring complex solutions. Additional meetings with stakeholders may also take place during the one-on-one meetings. The purpose of these meetings will be to resolve outstanding issues that require detailed discussion beyond the level possible during a public meeting.

PLAN ACCEPTANCE

The final Access Plan Report and ACP Table will be presented to the Planning Commission and City Council. The final acceptance of the Plan will be in the form of a Resolution adopting the Plan and/or adopting a local ordinance. The final Access Plan will be incorporated within the Grand Junction Circulation Plan. The local alternate routes identified within the Access Plan may be adopted separately by the City in their Street Plan Functional Classification Map.

Access Plan Compatibility Index

The Access Plan will be evaluated using the following criteria to determine if the Plan meets the established project goals. In cases where the evaluation requires a comparison, the criteria will be measured against the 2045 No-Build scenario.

		Status with Respect to Criteria		
Project Goal	**Evaluation Criteria**	**Favorable (+)**	**Neutral (0)**	**Unfavorable (-)**
Provide effective and efficient through travel for traffic on Patterson Road utilizing the existing right-of-way and identify if additional right-of-way is needed.	Corridor Travel Speeds/Time	Increases/improves from No-Build scenario	Little or no change from No-Build scenario	Decreases/degrades from No-Build scenario
	Functional Intersection Area	Full functional intersection area provided between intersections.	At a minimum, accommodates turn lane storage, decel and taper lengths between intersections without overlap.	Turn lane storage, decel and taper lengths overlap between intersections.
	Number of Conflict Points	Fewer conflict points per mile	Number of conflict points maintained	More conflict points per mile
	Right-of-way	Proposed ACP improvements can be implemented within the existing right-of-way	Proposed ACP improvements will require minimal right-of-way typical to a public project which may include minor ROW or easements on a few properties.	Proposed ACP improvements will require significant right-of-way purchase which may include full takes and/or impacts to numerous properties.
Provide safe, effective, and efficient access to and from Patterson Road for businesses, residents, and guests to support the economic viability of the City of Grand Junction and Mesa County.	Intersection Sight Distance	More intersections have adequate sight distance	Same number of intersections have adequate sight distance	Fewer intersections have adequate sight distance
	Intersection LOS or Critical Movements	More intersections or left turn movements operating at better LOS	Intersections or left turn movements operating at similar LOS	More intersections or left turn movements operating worse LOS
	Conformance with Grand Junction TEDS manual	More locations meet auxiliary lane standards	Some locations meet auxiliary lane standards	Fewer locations meet auxiliary lane standards
	Out of Direction Travel Distance	Less out-of-direction travel distance is required	No change	More out-of-direction travel distance is required
	Intersection Crash Risk	Reduced by implementing needed physical improvements and access control measures	Maintained by implementing needed physical improvements only	Increased due to failure to implement needed physical improvements or access control measures
	Business Market Area	Expands market area for the majority of businesses in the corridor	Market area maintained for a majority of businesses in the corridor	Reduced market area for a majority of businesses in the corridor
Maintain compatibility with existing and proposed street network connections that provide local circulation to support the transportation system.	Local Route Circulation	Improve circulation via local routes	Maintain circulation via local routes	Reduce circulation via local routes
	Serviceability of Local Routes to Developments and Properties within the Study Area	Improve serviceability of local routes	Maintain serviceability of local routes	Reduce serviceability of local routes
Support alternative modal choices, including transit, pedestrian, and bicycle routes.	Pedestrian/Bicycle Parallel Access	Number of access points reduced	Number of access points maintained	Number of access points increased
	Pedestrian/Bicycle Crossing Opportunities	Number of potential warranted signalized full movement intersections with opportunities for crossings increased compared to No-Build	No changes to number of potential warranted signalized full movement intersections with opportunities for crossings compared to No-Build	Number of potential warranted signalized full movement intersections with opportunities for crossings decreased compared to No-Build
	Transit Opportunities	Increases opportunities to expand future transit plans	Maintains compatibility with future transit plans	Reduces compatibility with future transit plans
Provide a plan that can be implemented in phases.	Public Support	Has positive public support	Has balanced public support	Does not have public support
	Phasing Opportunities	Plan recommendations can be segmented into logical, compatible pieces funded by private development	Plan recommendations can be segmented into logical, compatible pieces requiring public & private funding	Plan recommendations not easily segmented and require significant public investment to implement
	Physical Constraints	No physical constraints	Manageable physical constraints	Physical constraints are not manageable
	Funding Opportunities	Commitment for public and/or private funding	Opportunity for public and/or private funding	Opportunity for public and/or private funding unlikely
Maintain compatibility with previous local planning efforts, such as, the GVCP Plan, Ballot 2A measure, and the One Grand Junction Comprehensive Plan.	Compatibility with Local Planning	Expands/improves upon previous local planning recommendations	Consistent with previous local planning recommendations	Not consistent with previous local planning efforts

Access Plan Compatibility Index

Stolfus

The Access Plan will be evaluated using the following criteria to determine if the Plan meets the established project goals. In cases where the evaluation requires a comparison, the criteria will be measured against the 2045 No-Build scenario.

Project Goal	Evaluation Criteria	Rating	Reasoning
Provide effective and efficient through travel for traffic on Patterson Road utilizing the existing right-of-way and identify if additional right-of-way is needed.	Corridor Travel Speeds/Time	Favorable	The segment PFFS is approximately 1% better with the ACP. Generally the travel speed and corridor travel time are better than the No-Build.
	Functional Intersection Area	Neutral	Generally full functional intersection area is provided between intersections. There are a few locations, including between 24 Rd and Market St and a few 3/4 movement locations where only turn lane requirements can be met or a variance is required. In addition, conditional safety access points are identified for public road intersections inside the functional intersection area that have alternative circulation options, These access points may be closed in the future if safety issues develop.
	Number of Conflict Points	Favorable	Access points decrease from 283 to 149-160 total access points and there are over 125 restricted movement access points resulting in a significant reduction in conflict points.
	Right-of-way	Neutral	Typical ROW easements for a public project anticipated to install identified auxiliary lanes and to install a barrier median through the narrow segment between 1st St and Mira Vista.
Provide safe, effective, and efficient access to and from Patterson Road for businesses, residents, and guests to support the economic viability of the City of Grand Junction and Mesa County.	Intersection Sight Distance	Favorable	Restricting movements at locations with sight distance concerns such as between 24 1/2 Road and the Home Depot access and in the narrow section between 1st St and Mira Vista has reduced the risk of conflicts due to sight distance.
	Intersection LOS or Critical Movements	Neutral	5 intersections operate at better LOS, 3 intersections operate at worse LOS. Generally, the intersection results are similar to the No Build scenario or slightly better.
	Conformance with Grand Junction TEDS Manual	Favorable	The Plan allows for full movement intersections and 3/4 movement access points to meet the auxiliary lane standards by protecting functional intersection areas at intersections.
	Out of Direction Travel Distance	Unfavorable	Out of direction travel increases due to the application of limited movement intersections. The 1-mile out-of-direction travel standard established at the beginning of the project is followed using 3/4 movement's where signals are spaced farther apart.
	Intersection Crash Risk	Favorable	The intersection crash risk has been reduced by implementing needed physical improvements and access control measures through anticipated implementation of raised medians throughout the corridor to restrict movements.
	Business Market Area	Favorable	The market area is maintained for a majority of businesses in the corridor as evidenced by improved/unchanged travel times.
Maintain compatibility with existing and proposed street network connections that provide local circulation to support the transportation system.	Local Route Circulation	Favorable	The Plan is consistent with the GJCP Plan and recommends alternative routes that will help improve circulation via existing and proposed local routes to provide circulation for restricted movement access points at adjacent full movement intersections.
	Serviceability of Local Routes to Developments and Properties within the Study Area	Favorable	Access points are compatible with routes identified in the GJCP Plan to serve major traffic generators and consistent with travel patterns. Full movement access points and 3/4 movements serve public road intersections or private access points supporting multiple properties.
Support alternative modal choices, including transit, pedestrian, and bicycle routes.	Pedestrian/Bicycle Parallel Access	Favorable	The number of access points is reduced along the corridor thereby reducing conflicts for parallel ped/bike routes.
	Pedestrian/Bicycle Crossing Opportunities	Neutral	No changes to number of signalized full movement intersections with opportunities for crossings compared to No-Build. Recommend further traffic and safety analysis of future opportunities for mid-block crossings to support pedestrian accessibility and transit access.
	Transit Opportunities	Neutral	The Plan maintains compatibility with future transit plans along the corridor.
Provide a plan that can be implemented in phases.	Public Support	Neutral	Generally the public supports improving Patterson Road. Some individual property owners view the plan unfavorably as it relates to their individual property, but not as it relates to the entire corridor. Property owners that participated in the outreach program helped form the plan and several revisions were incorporated based on public comment. In particular, several conditional right-in,right-out access points were added to clearly denote where redevelopment would trigger the closure of the access rather than a public project.
	Phasing Opportunities	Favorable	The plan recommendations can be segmented into logical, compatible pieces funded by private development. Conditional access points provided for interim development conditions. (Public funding may be used to implement plan, if available).
	Physical Constraints	Neutral	Beyond the narrow segment between 1st St and Mira Vista, few physical constraints have been identified and are anticipated to be manageable. (Several physical constraints identified during the development of the plan through one-on-one meetings and observation resulted in modifications to the plan.)
	Funding Opportunities	Favorable	Plan implementation has potential for public and/or private funding as redevelopment and corridor development occurs. Several public projects that support access and circulation are already funded through the Ballot 2A measure. City of Grand Junction is actively applying access management principles and plan recommendations with developments currently in process.
Maintain compatibility with previous local planning efforts, such as, the GJCP Plan, Ballot 2A measure, and the One Grand Junction Comprehensive Plan.	Compatibility with Local Planning	Favorable	The Plan is compatible with existing planning and will improves upon previous local planning recommendations including the GJCP Plan, Ballot 2A measure, and One Grand Junction Comprehensive Plan. The ACP has expanded upon the GJCP Plan to identify additional circulation routes.

Functional Intersection Area References

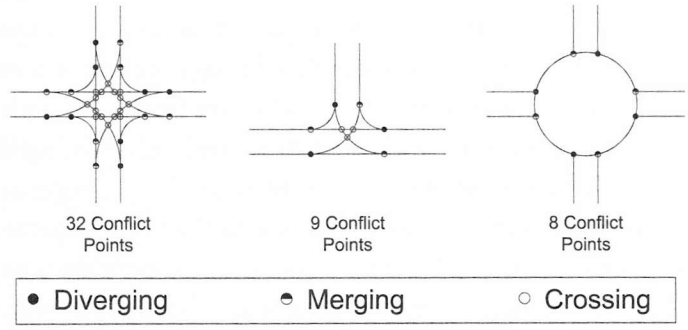


Figure 9-1. Conflict Points at Various Intersection Types

9.2.2 Intersection Functional Area

An intersection is defined by both its functional and physical areas (*18*), as illustrated in Figure 9-2. The functional area of an intersection extends both upstream and downstream from the physical intersection area and includes any auxiliary lanes and their associated channelization.

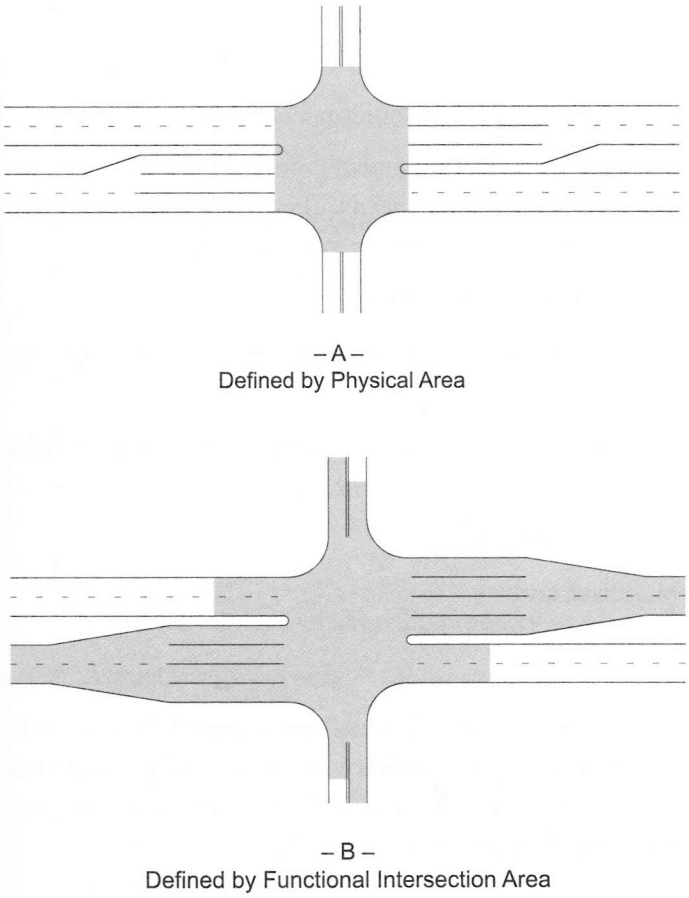


Figure 9-2. Physical and Functional Area of an Intersection

The functional area on the approach to an intersection or driveway consists of three basic elements: (1) perception–reaction decision distance, (2) maneuver distance, and (3) queue-storage distance. These elements are shown in Figure 9-3. The distance traveled during the perception–reaction time will depend upon vehicle speed, driver characteristics, and driver familiarity with the location. Where there is a left- or right-turn lane, the maneuver distance includes the length needed for both braking and lane changing. In the absence of turn lanes, it involves braking to a comfortable stop. The storage length should be sufficient to accommodate the longest queue expected most of the time. Ideally, driveways should not be located within the functional area of an intersection, as shown in Figure 9-2, or within the influence area of an adjacent driveway.

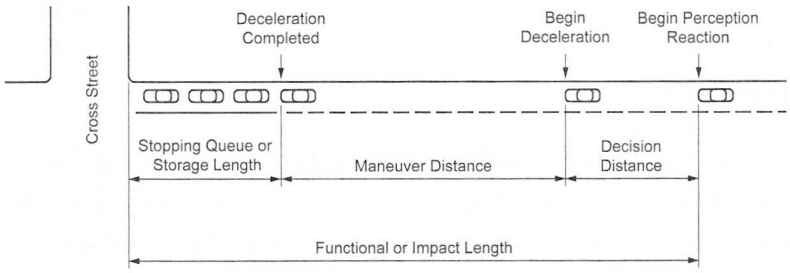


Figure 9-3. Elements of the Functional Area of an Intersection

9.2.3 Design Objectives

The key to any intersection design is achieving a set of fundamental design principles that includes speed reductions, lane alignments, and human factors needs. The goal of any intersection design, regardless of type or location, should be to implement the following principles:

- Reduce vehicle speeds through the intersection, as appropriate;
- Provide the appropriate number of lanes and lane assignment to achieve adequate capacity, lane volume, and lane continuity;
- Provide channelization that operates smoothly, is intuitive to drivers, and results in vehicles naturally using the intended lanes;
- Provide adequate accommodation for the design vehicles;
- Meet the needs of pedestrians and bicyclists; and
- Provide appropriate sight distance and visibility.

Each element described above influences the operational efficiency and potential for crashes at intersections. When developing a design, the appropriate balance of operational performance for various modes, safety, and cost considerations should be sought throughout the design process. Favoring one component of the design may negatively affect another.

Deceleration lanes are advantageous on higher speed roads, because the driver of a vehicle leaving the roadway has no choice but to slow down on the through-traffic lane if a deceleration lane is not provided. The failure to brake by the following drivers, because of a lack of alertness, may result in rear-end collisions. Acceleration lanes are advantageous on roads without stop control, particularly those with higher operating speeds and/or higher volumes. Acceleration lanes are not desirable at all-way stop-controlled or signalized intersections where entering drivers can wait for an opportunity to merge without disrupting through traffic. For additional design guidance related to lengths and other aspects of deceleration and acceleration auxiliary lanes, refer to Section 10.9.6.

9.7.2 Deceleration Lanes

Figure 9-32 illustrates the upstream functional area of an intersection in relation to the components of deceleration lane length, which consist of the perception–reaction distance, the lane change and deceleration distance (also called the maneuver distance), and the storage length (also called the queue storage distance) (*39*).

Desirably, the total physical length of the auxiliary lane should be the sum of the length for these three components (lane change, deceleration, and storage distances). Common practice, however, is to accept a moderate amount of deceleration within the through lanes and to consider the taper length as a part of the deceleration within the through lanes. Each component of the deceleration lane length is discussed below.

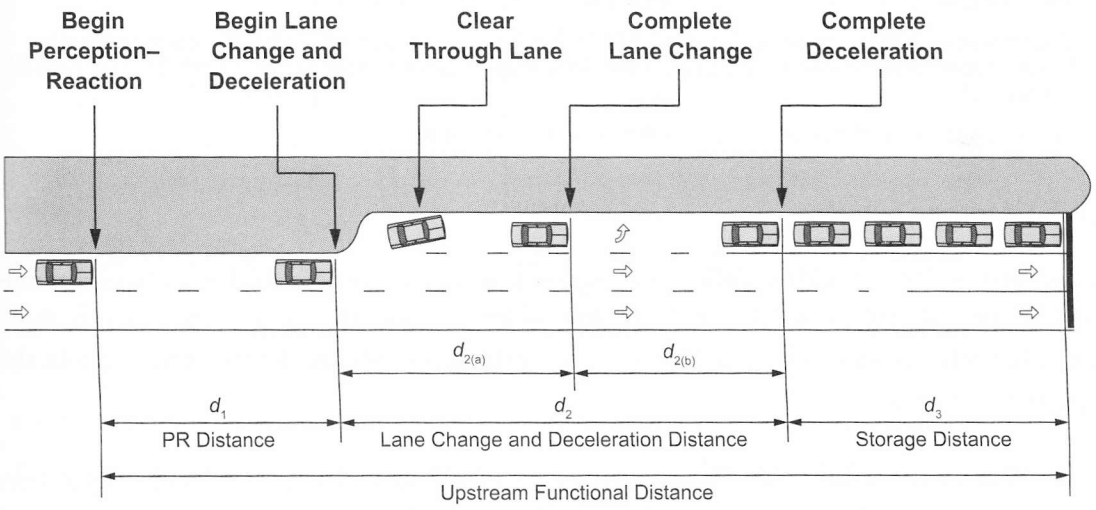
9.7.2.1 Perception–Reaction Distance

The perception–reaction distance (d_1) in Figure 9-32 represents the distance traveled while a driver recognizes the upcoming turn lane and prepares for the left-turn maneuver. The distance increases with perception–reaction time and speed. The perception–reaction time varies with the driver's familiarity with the roadway segment and state of alertness; for example, an alert driver who is familiar with the roadway and traffic conditions has a smaller perception–reaction time than an unfamiliar driver. Traffic conditions on urban and suburban roadways could result in drivers having a higher level of alertness than those on highways in rural areas. Therefore, a value of 1.5 s is often used as the perception–reaction time for suburban, urban, urban core, and rural town contexts, and 2.5 s is often used for rural contexts (*44*).

Provision for deceleration clear of the through-traffic lanes is a desirable objective on arterial roads and streets and should be incorporated into design, whenever practical. Approximately two-thirds of the drivers observed making left turns in a research study concerning turn lanes used deceleration rates greater than 6.5 ft/s^2 [2.0 m/s^2] to come to a stop at the stop line (*16*). A turn lane design based on that rate will accommodate the preferred behavior of 85 percent of turning drivers at high-speed sites. Table 9-20 presents the estimated distances needed by drivers to maneuver from the through lane into a left- or right-turn lane and brake to a stop based on an equivalent deceleration rate of 6.5 ft/s^2 [2.0 m/s^2]. These distances are based on accommodat-

ing observed driver behavior; drivers and vehicles are capable of much greater comfortable, controlled deceleration, when needed. Since provision of deceleration length based deceleration at a rate of 6.5 ft/s^2 [2.0 m/s^2] is not always practical, it should be noted that drivers are capable of much higher deceleration rates. For example, the stopping sight distance calculations in Chapter 3 use 11.2 ft/s^2 [3.4 m/s^2] as a comfortable, controlled deceleration threshold for most drivers and the *Access Management Manual* (*48*) presents distances for "limiting conditions" based on the equivalent of a 9.9-ft/s^2 [3.0-m/s^2] deceleration rate throughout the full deceleration length (i.e., taper and full-width deceleration lane). Thus, deceleration rates greater than 6.5 ft/s^2 [2.0 m/s^2] may be used where needed.

As noted above, it is not practical on many facilities to provide the full length of the auxiliary lane for deceleration due to constraints such as restricted right-of-way, distance available between adjacent intersections, and storage needs. However, research has demonstrated that providing a left- and right-turn lane on any intersection approach has a substantial crash reduction benefit (*22*). Therefore, turn lanes should be installed where warranted (see Section 9.7.3), even where the distances in Table 9-20 cannot be achieved.



Where:

d_1 = distance traveled while driver recognizes upcoming turn lane and prepares for the left-turn maneuver

$d_{2(a)}$ = distance traveled while decelerating and changing lanes from the through-lane into the turn lane

$d_{2(b)}$ = distance traveled during deceleration after lane change

d_3 = distance provided for the storage of the queue of stopped vehicles waiting to turn

Figure 9-32. Functional Area Upstream of an Intersection Illustrating Components of Deceleration Lane Length

Table 9-20. Desirable Lane Change and Deceleration Distances

U.S. Customary		Metric	
Speed (mph)	Lane Change and Deceleration Distance (ft)	Speed (km/h)	Lane Change and Deceleration Distance (m)
20	70	30	25
25	105	40	35
30	150	50	50
35	205	55	65
40	265	65	85
45	340	70	105
50	415	80	130
55	505	90	155
60	600	95	185
65	700	105	215
70	815	110	250

Notes:

1. The lane change and deceleration lengths are shown as d_2 in Figure 9-32.
2. Deceleration lengths are based on a 6.5 ft/s^2 [2.0 m/s^2] deceleration throughout the entire length. Larger deceleration rates may be used when deceleration lengths based on 6.5 ft/s^2 [2.0 m/s^2] are impractical.
3. Access points should not be located in the deceleration areas.

9.7.2.2 Storage Length

A deceleration lane should be sufficiently long to store the number of vehicles likely to accumulate in a queue during a critical period. The storage length should be sufficient to avoid spillback of turning vehicles into the through-travel lanes waiting for a signal change or for a gap in the opposing traffic flow.

At signalized intersections, the storage length needed should be determined by an intersection traffic analysis, and will depend on the signal cycle length, the signal phasing arrangement, and the rate of arrivals and departures of turning vehicles. The storage length is a function of the probability of occurrence of events and should usually be based on 1.5 to 2 times the average number of vehicles that would need to be stored per signal cycle, which should be estimated based on the design volume or directly from traffic counts. Where turning lanes are designed for two-lane operation, the storage length is reduced to approximately half of that needed for single-lane operation. For further information, refer to the *Highway Capacity Manual* (*49*).

The storage length needed for a left-turn lane for any set of turning movement volumes and an assumed probability the storage length will be exceeded can be determined with the following sequence of equations, adapted from (*16*):

14

Functional Intersection Area and Access Location

14.1 INTRODUCTION

The area around an urban intersection is complex and unique. It is affected by the numerous conflicts that can occur within and near the intersection. Consequently, the design and control of access features, geometrics, and operations in the vicinity of intersections must be explicitly considered. Considerations include

- Geometrics within and near the intersection, such as number and width of lanes, presence of raised medians, curb returns, channelization features, and turn lanes;
- Traffic conditions, including the volume, peak times, mix of vehicle types, speeds, traffic control, and queuing;
- Driver performance and human factors, including perception–reaction time, deceleration characteristics, and drivers' understanding of traffic controls;
- Transit, pedestrian, and bicycle presence, considering the number, frequency, and location of transit stops, pedestrian crossings, and bicycle lanes; and
- Land use activities that require access, generate travel demand, and require transportation service for patrons and deliveries.

Management of conflicts within the intersection area requires identification of the functional area of the intersection. The functional area of an intersection extends both upstream and downstream from the physical intersection area and includes the longitudinal limits of auxiliary lanes. The influence area associated with a driveway includes (*a*) the impact length (the distance back from a driveway in which cars begin to be affected), (*b*) the perception–reaction distance, and (*c*) the car length.

Thus, the functional intersection area includes any area upstream or downstream of an intersection where intersection operation and conflicts significantly influence driver behavior, vehicle operations, or traffic conditions. Consequently, the functional intersection area can always be expected to be larger than the physical intersection, as shown in Exhibit 14-1. Although the intersection depicted in Exhibit 14-1 is a typical at-grade intersection,

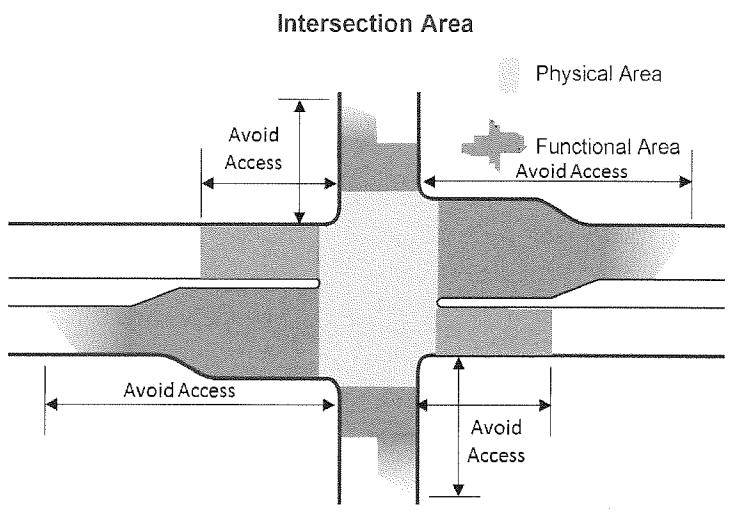


EXHIBIT 14-1 Functional area in which access should be avoided (*1*).

the concept of functional intersection area applies to stop-controlled intersections, signalized intersections, and roundabouts.

Ideally, no access should be provided within these functional distances. If access must be provided within the functional distance, the challenge is to determine the best location and the type of access that may be permitted. This chapter provides methods and guidelines for determining the upstream and downstream functional distances of an intersection, how to manage access connections within the functional area, and how to determine the best location, or window, where access can be provided with the least negative impact on the intersection. Also addressed are considerations relative to connection on opposite sides of a roadway, as well as the location of transit access.

14.2 UPSTREAM FUNCTIONAL DISTANCE

The presence of an auxiliary lane, such as a right-turn lane, can potentially extend the functional intersection area if the transition from the through lane to the turn lane requires additional time and attention by the driver. As illustrated in Exhibit 14-2, the upstream functional distance of an intersection on a roadway consists of three elements:

- Distance traveled during a perception–reaction time (d_1);
- Deceleration distance while the driver maneuvers to a stop (d_2); and
- Queue storage (d_3).

The minimum physical length consists of the perception–reaction distance (d_1), the deceleration–maneuver distance (d_2), plus the queue storage (d_3). Exhibit 14-2*a* demonstrates the upstream functional intersection area for locations without a turn lane; Exhibit 14-2*b* represents the upstream functional intersection area at locations where a right-turn lane is present.

The functional intersection area is defined for through lanes on the basis of the same three elements: perception–reaction distance, deceleration to a stop at the back of the queue, and size of the queue. Thus, the functional intersection area is defined by the largest functional intersection distance of the lanes on an approach.

14.2.1 Distance Traveled During Perception–Reaction Time

Distance d_1 in Exhibit 14-2 increases with perception–reaction time and speed. The perception–reaction time varies with the driver's familiarity with the roadway segment and state of alertness. The perception–reaction time of an alert driver who is familiar with the roadway and traffic conditions is less than that of an unfamiliar driver.

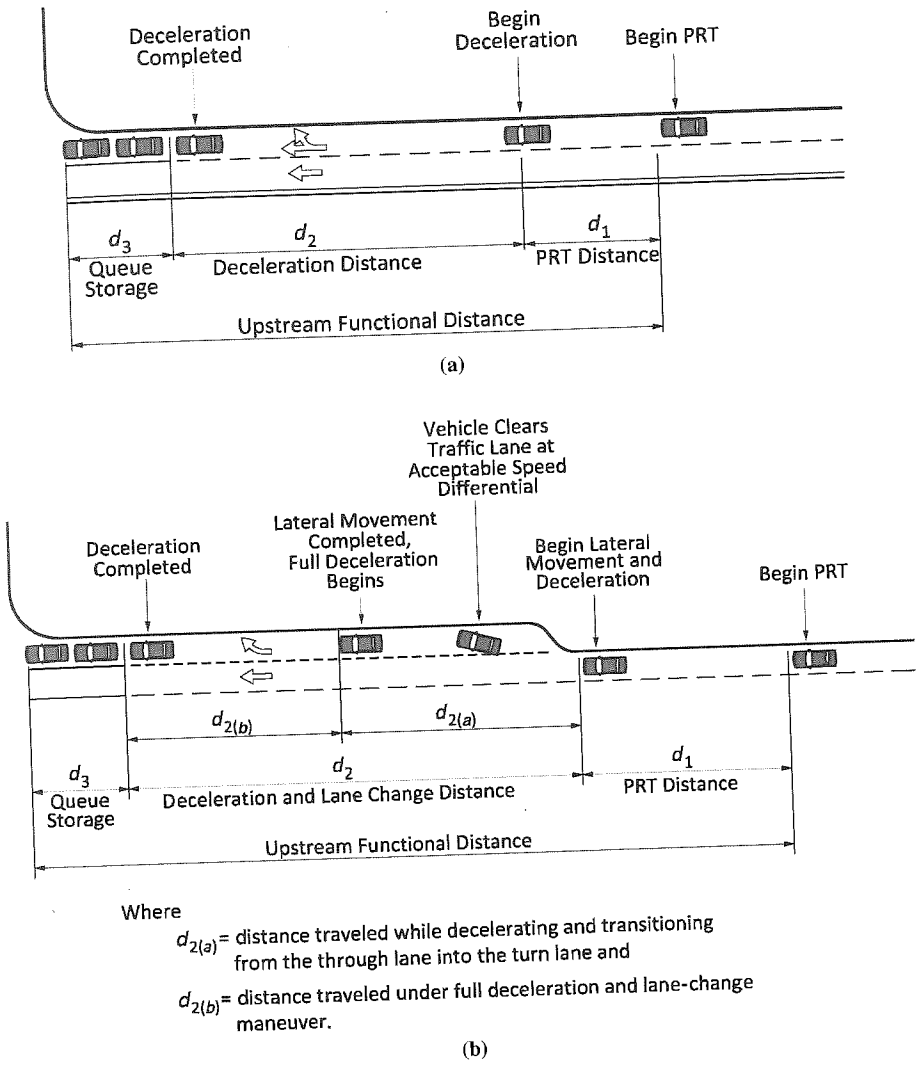


EXHIBIT 14-2 Upstream functional intersection area: (*a*) without a turn bay and (*b*) with a turn bay (*1, 2*). (NOTE: PRT = perception–reaction time.)

Additionally, traffic conditions on urban and suburban roadways result in drivers having a higher level of alertness than drivers on rural highways. Thus, a value of 1.5 s is often used as the perception–reaction time for urban and suburban conditions, and 2.5 s is often used for rural situations (*1*). Exhibit 14-3 demonstrates the perception–reaction distances for a variety of speed and perception–reaction time values.

14.2.2 Distance Traveled During Deceleration–Maneuver

During low-volume conditions and in locations with only a few driveways, deceleration characteristics of the vehicles and their drivers determine the length of the deceleration–maneuver distance (d_2). Studies have determined, however, that with increasing and closely spaced driveway density, the additional influence of driveway maneuvers introduces associated delays and reduced roadway capacity (*3*). Consequently, the deceleration–maneuver distance can also be influenced by ambient traffic activities, including driveway maneuvers. National Cooperative Highway Research Program (NCHRP) Report 420 (*3*) introduced the concept of probability-based impact lengths that take into consideration these additional operational constraints. The distance traveled during the deceleration–maneuver component

EXHIBIT 14-3 Distance Traveled During Driver's Perception–Reaction

Speed (mph)	Perception–Reaction Distance (d_1) (ft), by Perception–Reaction Time						
	1.0 s	1.5 s	2.0 s	2.5 s	3.0 s	3.5 s	4.0 s
20	30	45	60	75	90	105	120
25	35	55	75	90	110	130	145
30	45	65	85	110	130	155	175
35	50	75	105	130	155	180	205
40	60	90	120	145	175	205	235
45	65	100	130	165	200	230	265
50	75	110	145	185	220	255	295
55	80	120	160	200	240	285	325
60	90	130	175	220	265	265	355
65	95	145	190	240	285	335	380
70	105	155	205	255	310	360	410
75	110	165	220	275	330	385	440

NOTE: Distances rounded to 5 ft.

of upstream functional distance may be determined by two parameters:

1. Deceleration distance and
2. Impact distance.

The largest length should then be conservatively applied.

The deceleration method provides values of d_2 for a wide range of speeds on the basis of deceleration rate; the impact method is applicable only for select speeds of 30, 40, 45, and 50 mph. For the impact distance method, the difference in the recommended distance for 30 and 35 mph is very small (on the order of 20% or less); thus, it is suggested that the 30-mph curve also be used for 35 mph.

The deceleration and impact methods are described in detail in the following subsections.

14.2.2.1 Deceleration Distance

Gates et al. (*4*), Chang et al. (*5*), and Williams (*6*) reported similar deceleration rates for drivers braking to a stop at a traffic signal without changing lanes. The research by Gates et al. (*4*) is the most recent and the most detailed and is used as the basis for the deceleration–maneuver distances in Exhibit 14-4. Gates et al. also reported that deceleration rate is related to drivers traveling at a slower speed before braking and thereby using a lower average deceleration rate than those traveling at a higher initial speed (*4*). Thus, the deceleration distances at slower speeds (less than 40 mph) are slightly longer (15 ft or less) than the deceleration–maneuver distances given in Exhibit 14-4. The conservative and recommended deceleration distance for locations with left-turn or right-turn lanes is associated with the column labeled "Most Drivers" in Exhibit 14-4. Because turn-lane operations are more complex than queuing in a through lane, the column labeled "Limiting Conditions" can be applied to through lanes or shared right-turn lanes, as the sighting conditions and braking to the back of the queue are straightforward and less complex than those of the turning lanes.

As demonstrated in Exhibit 14-2, more distance is required for d_2 at turn-lane locations than for d_2 at locations without turn lanes. In general, a vehicle will reduce speed by approximately 10 mph while maneuvering into a turn lane. Because of the attention needed to accomplish the lane change, the vehicle does not initiate full deceleration until it has cleared the through lane. Consequently, the full deceleration portion of d_2 [referred to as $d_{2(b)}$ (see Exhibit 14-2*b*)] begins at a lower speed than the initial intersection

EXHIBIT 14-4 Deceleration–Maneuver Distance Based on Average Deceleration Rate

Speed (mph)	Deceleration–Maneuver Distance (d_2) (ft)	
	Most Drivers[a]	Limiting Conditions[b]
20	60	45
25	95	70
30	135	100
35	185	135
40	240	175
45	305	220
50	375	275
55	455	330
60	540	395
65	635	460
70	735	535
75	840	610

NOTE: Deceleration while steering straight ahead. Distances rounded to 5 ft.
[a]Eighty-five percent of drivers traveling at a speed of 40 mph or less were reported to use a deceleration rate of 7.2 ft/s² or less. Thus, the distance for d_2 given in the table accommodates 85% of drivers; only 15% will require a longer distance (*4*).
[b]Based on 50th percentile of drivers using a deceleration rate of 9.9 ft/s², yielding a shorter deceleration–maneuver distance (*4*). Braking distances to determine AASHTO stopping sight distance are based on 11.2 ft/s² (*7*).

EXHIBIT 14-5 Distance Traveled During Lane Change and Deceleration to a Stop

Speed (mph)	Distance Traveled (ft)		
	Deceleration[a] and Lateral Movement [$d_{2(a)}$]	Full Deceleration Distance[b] [$d_{2(b)}$]	Total Distance (d_2)
20	55	15	70
25	70	35	105
30	90	60	150
35	130	95	225
40	155	135	290
45	175	185	360
50	200	240	440
55	220	305	525
60	380	375	655
65	310	455	755
70	335	540	875
75	360	635	995

NOTE: Distance traveled rounded to 5 ft.
[a]Deceleration while moving laterally from through lane into turn lane:

Speed (mph)	*Time in Lateral Movement (s)*	*Deceleration Rate (ft/s²)*
≤30	2.5	5.9
30–55	3	4.9
≥60	3.5	4.2

[b]7.2 ft/s².

approach speed. Exhibit 14-5 presents distances similar to those shown in Exhibit 14-4 that directly define the two distances that collectively result in the d_2 value. These candidate values are based on assumed values for time in lateral movement and their respective deceleration rates. Exhibit 14-6 shows how one agency has adapted d_2 values on the basis of deceleration for its jurisdiction.

EXHIBIT 14-6 Alternative Values for d_2 from the Lincoln, Nebraska, *Access Management Policy* (8)

Speed (mph)	d_2 (ft)	AASHTO (ft)
15	NA	80
20	NA	115
25	80	155
30	115	200
35	155	250
40	200	305
45	250	360
50	305	425
55	360	496

NOTE: AASHTO values for stopping sight distance after 10-mph speed reduction before entering the turn lane (assumes deceleration rate of 11.2 ft/s²); NA = not available.

14.2.2.2 Impact Distance

Impact distance is the distance upstream of an access connection at which the brake lights of a through vehicle in the curb lane are activated in response to the interference of a right-turning vehicle. This impact distance concept is based on the research in NCHRP 420 (*3*). This empirical method for determining d_2 has two advantages: (*a*) a value for d_2

EXHIBIT 14-7 Suggested Percentage of Through Vehicles That Will Sustain an Impact, by Functional Roadway Category

Functional Roadway Category	Through Vehicles Sustaining Impact[a] (%)
Principal arterial	2–4
Minor arterial	4–10
Major collector	5–20
Minor collector	10–30
Local	na

NOTE: na = not applicable.
[a]May also be stated as "the probability that a through vehicle must decelerate because of a preceding turning vehicle."

can be obtained for different probabilities that a through vehicle will sustain an impact (see Exhibit 14-7) and (*b*) the probability that a through vehicle will sustain an impact can be estimated for a queue distance d_2.

Exhibit 14-8 depicts these impact distances. For example, if it is acceptable to affect 10% of through vehicles on a 40-mph roadway, the d_2 distance is approximately 250 ft. This distance is comparable to the 240 ft for most drivers based on the deceleration–maneuver distance in Exhibit 14-4.

EXHIBIT 14-9 Example of Calculation of d_2 by Impact Method

Estimation of d_2 by the impact method:

Given a principal arterial where 2% probability of impact is considered acceptable,

if

speed = 45 mph

then

d_2 = 460 ft (according to Exhibit 14-8).

Estimation of probability of impact given d_2:

If

impact distance = 220 ft and
speed = 40 mph,

then

probability of impact ≈ 20%
(according to Exhibit 14-8).

A limitation of the impact distance for determining d_2 is that data are available for only four speeds; in contrast, the deceleration method provides a d_2 value for all speeds. The examples in Exhibit 14-9 demonstrate the use of the impact method to estimate d_2.

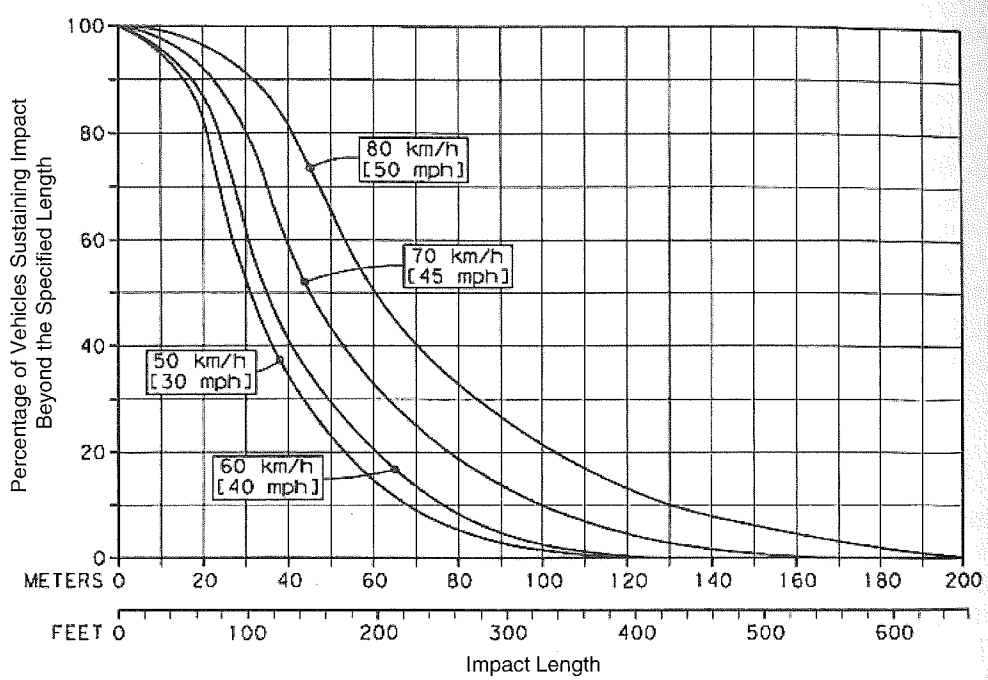


EXHIBIT 14-8 Cumulative frequency distribution of impact lengths.
[SOURCE: Research conducted in association with NCHRP Report 420 (*3*).]

14.2.3 Queue Storage

In rural areas, turn volumes are typically low and speeds are high. Although queue storage (d_3) is short, long upstream functional distances result from the long distances traveled during drivers' perception–reaction times plus the long maneuver distances.

In urban areas, different traffic conditions are encountered in peak and off-peak periods. In peak periods, traffic volumes are high and speeds are slow in comparison with off-peak conditions. Peak periods commonly require more queue storage and less maneuver distance, as well as shorter distances for the perception–reaction (decision-making) process. The upstream functional distance may thus be determined by the peak or the off-peak, whichever results in the greater sum of $d_1 + d_2 + d_3$. Thus, determination of the upstream functional distance requires calculation for both the peak and off-peak, especially for urban roadways.

As illustrated in Exhibit 14-2, the physical length of a turn bay is the functional length minus the distance traveled during the driver's perception–reaction time (i.e., $d_2 + d_3$). The physical length, which is an access design topic, is discussed in Chapter 16. The functional distance for a specific approach can be calculated by adding the appropriate distance for d_1 from Exhibit 14-3 to the maneuver distance (d_2) plus queue storage (d_3) by using procedures presented in Chapter 16. When traffic volumes and speeds are different in peak and off-peak periods, the sum of $d_1 + d_2 + d_3$ is calculated for both the peak and off-peak for the through lanes and the turn lanes; the largest distance is the upstream functional intersection distance.

The examples in Exhibit 14-10 demonstrate the calculation for the overall functional intersection distance. For the purposes of these examples, a queue storage length (d_3) is assumed. In the calculation of the upstream functional distance of a specific access connection, the procedures presented in Chapter 16 would be used.

14.3 DOWNSTREAM FUNCTIONAL DISTANCE

The downstream functional distance can be affected by various factors:

- **Geometric features**—acceleration lanes, bus bays, bus pullouts, parked vehicles, midblock pedestrian crossings, bulb-outs;
- **Operational effects**—speeds, right and left turns into driveways, right and left turns out of driveways, bicycles, multilane cross sections, two-way left-turn lanes (TWLTLs), bus stops and reentry points, major weaving movement from the side access to a downstream left-turn opportunity; and
- **Human factors**—driver perception–reaction times, acceleration and deceleration characteristics, and drivers' sighting ability.

Drivers must have the time and distance provided by the downstream functional distance to deal with traffic conflicts, roadside activities, and roadway features. This requirement may be addressed by providing sight distance to see and avoid conflicts or by assuring there is adequate distance to accelerate to roadway speed.

Research conducted for NCHRP Project 03-99, "Development and Application of Access Management Guidelines," suggests that the nonemergency driving activity associated with driveway detection and reaction, during which a vehicle may reduce speed to accommodate driveway activities, results in driver perception–reaction times that range from 2.8 s for left-turn driveway maneuvers up to 6.5 s for right-turn driveway maneuvers. An average perception–reaction time associated with access management activities is approximately 2.8 s, with an 85th percentile perception–reaction duration of 4.3 s. These lengths are considerably longer than the values based on geometric design associated with the AASHTO geometric design policy for alert drivers (*7*).

The downstream functional distances discussed in the following subsections help to limit access points that are close enough to the intersection to create unacceptable conflicts, cause breakdowns in platoons, and generate shock waves when slower vehicles enter the traffic stream. If conditions are restricted, a variance in determination of the downstream functional distance may be offered. If conditions are not complex, reduced stopping sight distance or perception–reaction times may be accepted, if a study of the conditions shows these changes are acceptable. Principal and strategic arterials would not receive this variance.

EXHIBIT 14-10 Examples of Calculation of Overall Functional Intersection Distance

Example 1. Determination of upstream functional distance for a rural roadway environment

Given a perception–reaction time of 3.5 s and a speed of 65 mph, the upstream functional intersection distance is calculated as follows:

If

d_1 (Exhibit 14-3) = 335 ft,
d_2 (Exhibit 14-4) = 635 ft, and
d_3 (assuming one vehicle) = 25 ft,

then

upstream functional distance = 1,195 ft.

Example 2. Comparison of upstream functional distance for peak and off-peak conditions for a suburban roadway environment

Given

perception–reaction time = 1.5 s,
off-peak speed = 45 mph,
peak speed = 30 mph,
assumed off-peak queue storage = 75 ft, and
assumed peak queue storage = 225 ft,

Find the upstream functional distance on the basis of

Method A, deceleration–maneuver distance or
Method B, impact distance.

Method A: Upstream Functional Distance Based on Deceleration–Maneuver Distance

Component	*Off-Peak (ft)*	*Peak (ft)*
d_1 (Exhibit 14-3)	100	65
d_2 (Exhibit 14-4)	305	135
d_3 (assumed)	75	225
Upstream functional distance	480	425

Solution: The off-peak distance is longer than the peak period distance; thus, the upstream functional distance is 480 ft.

Method B. Upstream Functional Distance Based on Impact Distance

Component	*Off-Peak (ft)*	*Peak (ft)*
d_1 (Exhibit 14-3)	100	65
d_2 (Exhibit 14-4, 15% probability of impact)	280	190
d_3 (assumed)	75	225
Upstream functional distance	455	480

Solution: The peak period distance is longer; thus, the upstream functional distance is 480 ft.

14.3.1 Adequate Downstream Acceleration Distance

Sufficient distance must be provided for vehicles leaving the intersection from a stop to accelerate to normal roadway speed. Access points within this distance would introduce unacceptable conflicts and unexpected operations. These acceleration distances are given in Exhibit 14-11.

The total acceleration lane length, including the taper distance, would be the required downstream functional distance. If an acceleration lane is not provided, the downstream functional distance would be the acceleration distance alone. Acceleration rates are much

EXHIBIT 14-11 Ideal Downstream Functional Distance Based on Acceleration

Speed (mph)	Acceleration Distance[a] (ft)	Typical Taper Distance[b] (ft)	Downstream Functional Distance[c] (ft)
20	100	60	160
25	150	80	230
30	220	100	320
35	320	120	440
40	440	140	580
45	580	160	740
50	770	180	950
55	1,000	200	1,200
60	1,300	220	1,520
65	1,750	240	1,990
70	2,320	260	2,580

[a]Based on AASHTO (*7*, Figure 2-24).
[b]Based on AASHTO (*7*, Figure 9-49 and p. 9-127).
[c]Acceleration lane length.

less than comfortable deceleration rates, which may result in acceleration lane lengths and downstream functional distances that exceed upstream functional distances at some intersections. No driveway access should be allowed in the acceleration-based ideal downstream intersection distance.

14.3.2 Sufficient Downstream Sight Distance

If a vehicle is not required to stop at a traffic signal, the driver requires sufficient time to identify conflicts and associated downstream operational constraints after he or she has successfully navigated the intersection. The available distance must be long enough so that the driver can see, understand, and react to downstream conditions. Depending on the complexity of the downstream configuration, a distance longer than stopping sight distance may be necessary. Stopping sight distance provides perception–reaction time plus braking distance to a single clearly discernible hazard in the middle of the roadway. The downstream functional distance often must provide sight distance to more subtle and complex situations, both within the traffic stream and along the roadside. Consequently, a longer sight distance, such as decision sight distance, should be provided.

Use of decision sight distance for recommended downstream functional distances recognizes the added complexity, increased conflicts, and added difficulty in viewing both roadside and traffic stream conditions through increased perception–reaction times and longer braking or maneuver times. These values are given in Exhibit 14-12.

Decision sight distance to a stop is a logical minimum downstream functional distance for arterials and is based on adequate perception–reaction and maneuver times plus braking to a stop. Multilane arterials may use decision sight distance for changes in speed, path, or direction that accommodate safe, smooth, comfortable operations. Decision sight distance for a change in speed, path, or direction provides sufficient travel time to adjust to traffic conditions and make a lane change in multilane facilities. The larger of the distances—acceleration distance versus decision sight distance—should be used to determine the downstream functional distance.

14.4 IDENTIFYING THE ACCESS WINDOW

AASHTO states, "Ideally, driveways should not be situated within the functional area of an intersection or in the influence area of an

EXHIBIT 14-12 Ideal Downstream Functional Distance Based on Decision Sight Distance to Stop and for Change in Speed, Path, or Direction

Speed (mph)	Decision Sight Distance to Stop (ft)			Decision Sight Distance (ft) for Change in Speed, Path, or Direction		
	Rural[a]	Suburban[b]	Urban[c]	Rural[d]	Suburban[e]	Urban[f]
20	130	215	305	305	340	430
25	180	280	400	375	400	525
30	220	350	490	450	535	620
35	275	425	590	525	625	720
40	330	505	690	600	715	825
45	395	590	800	675	800	930
50	465	680	910	750	890	1,030
55	535	775	1,030	865	980	1,135
60	610	875	1,150	990	1,125	1,280
65	695	980	1,275	1,050	1,220	1,365
70	780	1,090	1,410	1,105	1,275	1,445
75	875	1,200	1,545	1,180	1,365	1,545

[a]Stop on a rural road with perception–reaction time (PRT) = 3.0 s.
[b]Stop on a suburban road with PRT = 6.0 s.
[c]Stop on an urban road with PRT = 9.1 s.
[d]Change in speed, path, or direction on a rural road, PRT = 10.2 to 11.2 s.
[e]Change in speed, path, or direction on a suburban road, PRT = 12.1 to 12.9 s.
[f]Change in speed, path, or direction on an urban road, PRT = 14.0 to 14.5 s.

adjacent driveway" (*7*, p. 9-182). To identify where access can best be located, it is helpful to first identify where access should not be located (Exhibit 14-13). The remaining window is where access can be located with the least interference to the abutting roadway and with the most benefit and flexibility for the site (*1*).

The steps in determining the location and size of the access window are as follows:

1. Locate nearby intersections (streets and driveway connections).
2. Arrange these intersections in descending order of importance; for example, arterial-to-arterial intersections are the most important, arterial–collector intersections are next in importance, and so on.
3. Define the upstream functional area of each intersection (i.e., the distance traveled during perception–reaction time plus maneuver distance plus queue storage). Note the largest queue may be in a through lane.
4. Define the downstream functional area of each intersection.
5. Identify the window in which direct access can best be provided. The larger the window, the greater the flexibility in site layout, including building location, site circulation design, and driveway design. Keep in mind that traffic queue lengths (and, therefore, upstream functional areas) are sensitive to changing traffic volumes and intersection traffic control.
6. Ask the question, how much flexibility is there for the site access and circulation to accommodate changing traffic conditions?
7. If the access window is very small or if there is no access window, additional questions need to be asked:
   - How much interference will be caused by the site development and direct access to the abutting street? What safety and operational problems can be expected?
   - Can the site traffic that is necessary for a successful development adequately enter or exit the site? If not, how much traffic can be accommodated and at what times of the day?

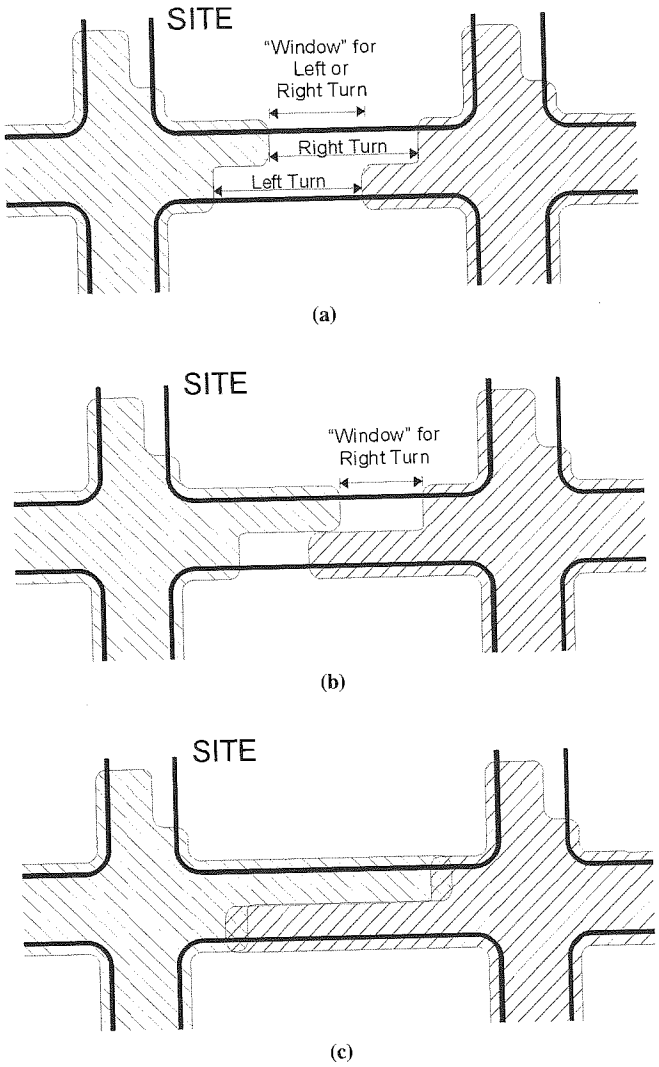


EXHIBIT 14-13 Window of opportunity for direct access drive: (*a*) left or right turn, (*b*) right turn only, and (*c*) no window (*1*).

14.5 ACCESS CONNECTIONS WITHIN THE FUNCTIONAL AREA

Although it is desirable to avoid access within the functional area, this is not always possible in urban areas, where short street spacing and small property frontages are common. If the property frontage is within the functional intersection area and alternative access is not available or cannot be provided at reasonable cost, it may be necessary to permit an access connection. Locating a connection within the functional area may be necessary if (*a*) no other reasonable access to the property is available or (*b*) topographic conditions preclude locating the access beyond the upstream or downstream functional distance. In such cases, including the following conditions in the access permit can minimize the adverse impacts of the connection:

1. Require that the access connection be located as far as possible from the intersection.
2. Limit movements to right in, right out by provision of a nontraversable median or flexible pylons (see Exhibits 14-14 and 14-15 for examples).
3. Specify the maximum volume entering and leaving the driveway in the 1-h peak and in a 24-h period.
4. Require the applicant to agree to close the access connection if and when alternative access becomes available.

If the property frontage is within the functional intersection area, and alternative access is not available or cannot be provided at reasonable cost, it may be necessary to permit an access connection.

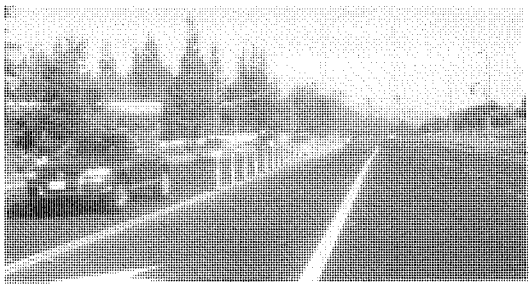


EXHIBIT 14-14 Installation of flexible pylons to restrict movements on opposite sides of this roadway and permit right-in, right-out only.
(Photograph by V. G. Stover.)

EXHIBIT 14-16 Problem resulting from an access connection located within the left-turn queue length.
(Photograph by V. G. Stover.)

Exhibit 14-16 illustrates a problem that can occur when an access connection is located within the upstream functional distance of an intersection. After exiting from a driveway that is within the upstream functional intersection distance, a driver blocks the through traffic lanes while waiting to enter the left-turn lane. Corrective actions might be to make the driveway a one-way entrance only and to use flexible pylons between the left-turn lane and the adjacent through lane.

14.5.1 Driveways and Auxiliary Lanes

The placement of a driveway within the physical boundaries of a turn lane or located in the upstream deceleration lanes or downstream acceleration lanes should be avoided. Placing a driveway within the turn-lane boundaries creates a driver expectancy problem: drivers of trailing vehicles expect the leading vehicle to turn at the intersection and often must stop abruptly to accommodate the vehicle turning into the driveway. Similarly, drivers should be introduced to one decision at a time. Positioning a driveway in acceleration or deceleration lanes or adjacent to lanes where acceleration and deceleration movements are expected to occur creates unexpected vehicle conflicts with turning vehicles.

EXHIBIT 14-15 Nontraversable median installed circa 2009 on Southwest Parkway at Texas Avenue, College Station, Texas, as a retrofit action to restrict left turns at a driveway serving a strip commercial center.
(Photograph by V. G. Stover.)

14.5.2 Corner Clearance

Corner clearance represents the distance that is provided between an intersection and the nearest driveway. Because it is a special case of access spacing, it is addressed in Chapter 15. Section 15.4 discusses how corner clearance is determined and is integrated with the functional intersection area.

14.6 CONNECTIONS ON OPPOSITE SIDES OF A ROADWAY

Access connections on opposite sides of a roadway present specific access location and management issues. Closely spaced connections on opposite sides of an undivided roadway or on a roadway with a TWLTL result in jog maneuvers instead of separate and distinct turning movements, as illustrated in Exhibit 14-17. Such connections can also result in conflicting left turns, as illustrated in Exhibit 14-18.

Separation of the access connections to create two separately functioning T-intersections

Appendix F - Access Control Plan Tables

ACCESS CONTROL PLAN
PATTERSON ROAD
I-70B(MP 0.000) to Lodgepole St (MP 7.349)

* All access points are defined by the approximate reference point (milepost) (in hundredths of a mile) based on GIS.

1. Oriented from direction of reference point (W-E)
2. MUTCD - Manual on Uniform Traffic Control Devices
3. Full movement intersections and 3/4 movements shall accommodate U-turns for passenger vehicles.
4. Unless otherwise specified, conditions listed refer to proposed configuration.
5. Access closures are conditional upon alternative access to the highway or local street system. Refer to alternative access listed in proposed configuration.
6. Implement with land development, redevelopment or use change
7. If the City of Grand Junction improves Patterson Road or if safety or operational issues develop, access modifications may be implemented as long as reasonable access to the local street
8. Conditional proposed configurations may be further restricted under certain circumstances. Refer to conditions for implementation.
9. Cross Access Easements shall be required between properties upon redevelopment if the plan shows cross access but easements do not exist.

Access ID No.	Mile Post **	Side	Description	Existing Configuration	Proposed Configuration [2,3,8]	Conditions for Implementation [2,4,5,6,7,9]
1	0.060	LT	2384 Patterson Rd	Unsignalized Full Movement	Close - Access via Access 3	When property redevelops, safety or operational issues occur, or when a public project is funded.
2	0.133	RT	2381, 2385, 2387 Patterson Rd	Unsignalized Full Movement	Conditional Shared Unsignalized 3/4 Movement	Movements may be restricted when property redevelops, safety or operational issues occur, or when a public project is funded. Cross access agreements required between parcel no. 2945-054-09-001 and parcel no. 2945-054-00-087 and any adjacent properties with same ownership upon redevelopment. If a public project is funded prior to redevelopment, parcel no. 2945-054-09-001 must provide a cross access agreement to parcel no. 2945-054-00-087 or the access shall be restricted to Right-In/Right-Out.
3	0.149	LT	2384 Patterson Rd	Unsignalized Full Movement	Right-In/Right-Out	Movements may be restricted when property redevelops, safety or operational issues occur, or when a public project is funded.
4	0.157	LT	2388 Patterson Rd	Unsignalized Full Movement	Close - Access via Rae Lynn St	When property redevelops, safety or operational issues occur, or when a public project is funded.
5	0.167	RT	2386 Hwy 6 & 50	Unsignalized Full Movement	Conditional Right-In/Right-Out	Movements may be restricted when property redevelops, safety or operational issues occur, or when a public project is funded. Access will close when alternate access is available via Access 2. Cross access agreements required between parcel no. 2945-054-09-001 and parcel no. 2945-054-00-087 and any adjacent properties with same ownership upon redevelopment.
6	0.222	RT	Rae Lynn St (private)	Unsignalized Full Movement	Conditional Safety Right-In/Right-Out	Movements may be restricted when adjacent properties redevelop, safety or operational issues occur, or when a public project is funded. If a safety or operational issue develops, the access may be closed - alternate access to 24 Rd available.
7	0.226	LT	Rae Lynn St (public)	Unsignalized Full Movement	Conditional Safety Right-In/Right-Out	Movements may be restricted when adjacent properties redevelop, safety or operational issues occur, or when a public project is funded. Once Rae Lynn St is extended to Leland Ave (and to 24 Rd), the access may be closed if a safety or operational issue develops.
8	0.292	RT	24 Rd	Signalized Full Movement	Signalized Full Movement	
9	0.292	LT	24 Rd	Signalized Full Movement	Signalized Full Movement	
10	0.421	RT	Commercial access for Mesa Mall	Signalized Full Movement	Signalized Full Movement	
11	0.421	LT	Market St	Signalized Full Movement	Signalized Full Movement	
12	0.498	LT	2412 Patterson Rd	Unsignalized Full Movement	Shared Right-In/Right-Out	Movements may be restricted when adjacent properties redevelop, safety or operational issues occur, or when a public project is funded. Cross access agreements required between parcel no. 2945-043-022-002 and parcel no. 2945-043-01-001 and any adjacent properties with same ownership upon redevelopment.
13	0.505	LT	2422 Patterson Rd	Unsignalized Full Movement	Close - Access via Access 12 or 14	When property redevelops, safety or operational issues occur, or when a public project is funded. Cross access agreements required between parcel no. 2945-043-022-002 and parcel no. 2945-043-01-001 and any adjacent properties with same ownership upon redevelopment.
14	0.534	LT	2422 Patterson Rd	Unsignalized Full Movement	Conditional Right-In/Right-Out	Movements may be restricted when property redevelops, safety or operational issues occur, or when a public project is funded. Access will be closed when alternate access to Access 12 is available. Cross access agreements required between parcel no. 2945-043-022-002 and parcel no. 2945-043-01-001 and any adjacent properties with same ownership upon redevelopment.

ACCESS CONTROL PLAN
PATTERSON ROAD
I-70B(MP 0.000) to Lodgepole St (MP 7.349)

* All access points are defined by the approximate reference point (milepost) (in hundredths of a mile) based on GIS.

1. Oriented from direction of reference point (W-E)
2. MUTCD - Manual on Uniform Traffic Control Devices
3. Full movement intersections and 3/4 movements shall accommodate U-turns for passenger vehicles.
4. Unless otherwise specified, conditions listed refer to proposed configuration.
5. Access closures are conditional upon alternative access to the highway or local street system. Refer to alternative access listed in proposed configuration.
6. Implement with land development, redevelopment or use change
7. If the City of Grand Junction improves Patterson Road or if safety or operational issues develop, access modifications may be implemented as long as reasonable access to the local street
8. Conditional proposed configurations may be further restricted under certain circumstances. Refer to conditions for implementation.
9. Cross Access Easements shall be required between properties upon redevelopment if the plan shows cross access but easements do not exist.

Access ID No.	Mile Post * **	Side	Description	Existing Configuration	Proposed Configuration [2,3,8]	Conditions for Implementation [2,4,5,6,7,9]
15	0.600	LT	2424, 2428, 2430, 2436 Patterson Rd (Home Depot)	Signalized Full Movement	Signalized Full Movement	
16	0.600	RT	Commercial access for Mesa Mall	Signalized Full Movement	Signalized Full Movement	
17	0.675	LT	2430, 2436 Patterson Rd	Unsignalized 3/4 Movement	Conditional Safety Right-In Only	Movements may be restricted when property redevelops, safety or operational issues occur, or when a public project is funded. If a safety or operational issue develops, the access may be closed - alternate access via Access 15 available.
18	0.734	LT	2436, 2438, 2440 Patterson Rd and 625 24 1/2 Rd	Unsignalized Full Movement	Shared Right-In/Right-Out	Movements may be restricted when property redevelops, safety or operational issues occur, or when a public project is funded.
19	0.814	LT	2442, 2444 Patterson Rd	Unsignalized Full Movement	Shared Right-In/Right-Out	Movements may be restricted when property redevelops, safety or operational issues occur, or when a public project is funded.
20	0.855	LT	2446, 2448 Patterson Rd	Right-In/Right-Out	Shared Right-In Only	Movements may be restricted when property redevelops, safety or operational issues occur, or when a public project is funded.
21	0.944	LT	24 1/2 Rd	Signalized Full Movement	Signalized Full Movement	
22	0.944	RT	24 1/2 Rd	Signalized Full Movement	Signalized Full Movement	
23	1.009	LT	2452, 2454 Patterson Rd	Right-In/Right-Out	Conditional Right-In/Right-Out	Access will close upon redevelopment and when alternate access to Flatop Ln is available.
24	1.031	RT	2451, 2463, 2465 Patterson Rd and 590 24 1/2 Rd	Unsignalized Full Movement	Shared Conditional Safety Right-In/Right-Out	Movements may be restricted when adjacent properties redevelop, safety or operational issues occur, or when a public project is funded. If a safety or operational issue develops, the access may be closed - alternate access via 24 1/2 Rd and Commerce Blvd available.
25	1.071	LT	2460, 2464 Patterson Rd	Unsignalized Full Movement	Shared Right-In Only	Movements may be restricted when adjacent properties redevelop, safety or operational issues occur, or when a public project is funded. Cross access agreements required between parcel no 2945-044-10-002 and parcel no 2945-044-18-000 and any adjacent properties with same ownership upon redevelopment.
26	1.113	LT	2470, 2472, 2474 Patterson Rd (north side)	Unsignalized Full Movement	Shared Unsignalized 3/4 Movement	Movements may be restricted when adjacent properties redevelop, safety or operational issues occur, or when a public project is funded. Cross access agreements required between parcel no 2945-044-10-002 and parcel no 2945-044-18-000 and any adjacent properties with same ownership upon redevelopment.If a public project is funded prior to redevelopment, parcel no. 2945-044-18-000 must provide a cross access agreement to parcel no. 2945-044-10-002 or the access shall be restricted to Right-In/Right-Out.
27	1.113	RT	Commerce Blvd (south side)	Unsignalized Full Movement	Unsignalized 3/4 Movement	Movements may be restricted when adjacent properties redevelop, safety or operational issues occur, or when a public project is funded.
28	1.176	LT	2470, 2472, 2474 Patterson Rd	Unsignalized Full Movement	Shared Right-In/Right-Out	Movements may be restricted when adjacent properties redevelop, safety or operational issues occur, or when a public project is funded. Cross access agreements required between parcel no 2945-044-00-065 and parcel no 2945-044-17-000 and any adjacent properties with same ownership upon redevelopment.

ACCESS CONTROL PLAN
PATTERSON ROAD
I-70B(MP 0.000) to Lodgepole St (MP 7.349)

* All access points are defined by the approximate reference point (milepost) (in hundredths of a mile) based on GIS.

1. Oriented from direction of reference point (W-E)
2. MUTCD - Manual on Uniform Traffic Control Devices
3. Full movement intersections and 3/4 movements shall accommodate U-turns for passenger vehicles.
4. Unless otherwise specified, conditions listed refer to proposed configuration.
5. Access closures are conditional upon alternative access to the highway or local street system. Refer to alternative access listed in proposed configuration.
6. Implement with land development, redevelopment or use change
7. If the City of Grand Junction improves Patterson Road or if safety or operational issues develop, access modifications may be implemented as long as reasonable access to the local street
8. Conditional proposed configurations may be further restricted under certain circumstances. Refer to conditions for implementation.
9. Cross Access Easements shall be required between properties upon redevelopment if the plan shows cross access but easements do not exist.

Access ID No.	Mile Post **	Side	Description	Existing Configuration	Proposed Configuration [2,3,8]	Conditions for Implementation [2,4,5,6,7,9]
29	1.235	LT	2478 Patterson Rd	Unsignalized Full Movement	Shared Unsignalized 3/4 Movement	Movements may be restricted when adjacent properties redevelop, safety or operational issues occur, or when a public project is funded. Cross access agreements required between parcel no. 2945-044-00-068, parcel no 2945-044-00-065 and parcel no 2945-044-17-000 and any adjacent properties with same ownership upon redevelopment. If a public project is funded prior to redevelopment, parcel no. 2945-044-17-000 must provide a cross access agreement to parcel no. 2945-044-00-068 and parcel no. 2945-044-00-065 or the access shall be restricted to Right-In/Right-Out.
30	1.308	LT	2482 Patterson Rd	Unsignalized Full Movement	Right-In/Right-Out	Movements may be restricted when property redevelops, safety or operational issues occur, or when a public project is funded. Cross access agreements required between parcel no. 2945-044-00-068, parcel no 2945-04-17-000 and parcel no. 2945-044-05-000 and any adjacent properties with same ownership upon redevelopment.
31	1.325	RT	2488 Commerce Blvd	Unsignalized Full Movement	Close - Access via Commerce Blvd	When property redevelops, safety or operational issues occur, or when a public project is funded.
32	1.358	LT	2486, 2490 2494 Patterson Rd	Unsignalized Full Movement	Shared Conditional Right-In/Right-Out	Movements may be restricted when property redevelops, safety or operational issues occur, or when a public project is funded. Access will close when alternate access is available via Access 30. Cross access agreements required between parcel no. 2945-044-00-068 and parcel no. 2945-044-05-000 and any adjacent properties with same ownership upon redevelopment.
33	1.404	RT	599 25 Rd	Right In-Right Out	Conditional Right-In/Right-Out	Movements may be restricted when safety or operational issues occur, or when a public project is funded. Access will close when property redevelops - access via 25 Rd. Cross access agreements required between property numbers 2945-091-06-001, 2945-091-06-002, and 2945-091-06-003 and any adjacent properties with same ownership upon redevelopment.
34	1.424	LT	2498 Patterson Rd	Unsignalized Full Movement	Conditional Right-In/Right-Out	Movements may be restricted when safety or operational issues occur, or when a public project is funded. Access will close when property redevelops - access via 25 Rd. Cross access agreements required between parcel no. 2945-044-05-002 and parcel no. 2945-044-05-000 and any adjacent properties with same ownership upon redevelopment.
35	1.459	LT	25 Rd	Signalized Full Movement	Signalized Full Movement	
36	1.459	RT	25 Rd	Signalized Full Movement	Signalized Full Movement	
37	1.492	RT	596 25 Rd	Unsignalized Full Movement	Conditional Right-In/Right-Out	Movements may be restricted when safety or operational issues occur, or when a public project is funded. Access will close when property redevelops - access via 25 Rd.
38	1.538	RT	2515 Patterson Rd	Unsignalized 3/4 Movement	Conditional Right-In/Right-Out	Movements may be restricted when safety or operational issues occur, or when a public project is funded. Access will close when property redevelops - access via Access 38a.
38a	1.590	RT	2515 Patterson Rd	None	Right-In/Right-Out	When property redevelops.
39	1.600	LT	Foresight Cir (outbound)	Unsignalized Full Movement	Right-Out Only	Movements may be restricted when adjacent properties redevelop, safety or operational issues occur, or when a public project is funded.
40	1.619	LT	Foresight Cir (inbound)	Unsignalized Full Movement	Right-In Only	Movements may be restricted when adjacent properties redevelop, safety or operational issues occur, or when a public project is funded.

ACCESS CONTROL PLAN
PATTERSON ROAD
I-70B(MP 0.000) to Lodgepole St (MP 7.349)

* All access points are defined by the approximate reference point (milepost) (in hundredths of a mile) based on GIS.

1. Oriented from direction of reference point (W-E)
2. MUTCD - Manual on Uniform Traffic Control Devices
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Access ID No.	Mile Post **	Side	Description	Existing Configuration	Proposed Configuration [2,3,8]	Conditions for Implementation [2,4,5,6,7,9]
41	1.648	RT	Northgate Dr	Unsignalized Full Movement	Right-In/Right-Out	Movements may be restricted when adjacent properties redevelop, safety or operational issues occur, or when a public project is funded.
42	1.715	LT	2526, 2528 Patterson Rd, 606 East Foresight Cir	Shared Right In-Right Out	Shared Right-In/Right-Out	
43	1.768	LT	2532 Patterson Rd	Unsignalized 3/4 Movement	Right-In/Right-Out	Movements may be restricted when property redevelops, safety or operational issues occur, or when a public project is funded.
44	1.861	LT	Burkey St	Unsignalized Full Movement	Unsignalized 3/4 Movement	Movements may be restricted when adjacent properties redevelop, safety or operational issues occur, or when a public project is funded.
47	1.975	LT	25 1/2 Rd	Signalized Full Movement	Signalized Full Movement	
48	1.975	RT	25 1/2 Rd	Signalized Full Movement	Signalized Full Movement	
49	2.040	LT	2554, 2555, 2556, 2558, 2560 Patterson Rd	Unsignalized Full Movement	Shared Right-In/Right-Out	Movements may be restricted when adjacent properties redevelop, safety or operational issues occur, or when a public project is funded.Cross access agreements required between parcel no. 2945-034-17-001 and parcel no. 2945-034-17-002 and any adjacent properties with same ownership upon redevelopment.
50	2.092	LT	2562 Patterson Rd - Consolidated with properties at Accesses 50 through 55	Unsignalized Full Movement	Right-Out Only	Movements may be restricted when property redevelops, safety or operational issues occur, or when a public project is funded.
51	2.104	LT	2566 Patterson Rd - Consolidated with properties at Accesses 50 through 55	Unsignalized Full Movement	Close - access via Accesses 50 and 53	When property redevelops, safety or operational issues occur, or when a public project is funded.
52	2.124	LT	2570 Patterson Rd - Consolidated with properties at Accesses 50 through 55	Unsignalized Full Movement	Close - access via Accesses 50 and 53	When property redevelops, safety or operational issues occur, or when a public project is funded.
53	2.141	LT	2570 Patterson Rd - Consolidated with properties at Accesses 50 through 55	Unsignalized Full Movement	Conditional Unsignalized 3/4 Movement	Either Access 53 or 61 may be unsignalized 3/4 movement. The other access will be RIRO. Movements may be restricted when properties redevelop, safety or operational issues occur or when a public project is funded.Cross access agreements required for properties currently served by Access 53, 56, 57, 58, 59, 61 upon redevelopment.
54	2.138	RT	Cider Mill Rd - Consolidated with properties at Accesses 50 through 55	Unsignalized Full Movement	Right In/Right-Out	Movements may be restricted when adjacent properties redevelop, safety or operational issues occur, or when a public project is funded.
55	2.146	LT	2570 Patterson Rd - Consolidated with properties at Accesses 50 through 55	Unsignalized Full Movement	Close - access via Accesses 50 and 53	When property redevelops, safety or operational issues occur, or when a public project is funded.
56	2.165	LT	2572 Patterson Rd	Unsignalized Full Movement	Close - access via Access 53 or 61	When property redevelops, safety or operational issues occur, or when a public project is funded. Cross access agreements required for properties currently served by Access 53, 56, 57, 58, 59, 61 upon redevelopment.
57	2.181	LT	2574 Patterson Rd	Unsignalized Full Movement	Close - access via Access 53 or 61	When property redevelops, safety or operational issues occur, or when a public project is funded. Cross access agreements required for properties currently served by Access 53, 56, 57, 58, 59, 61 upon redevelopment.
58	2.204	LT	2576 Patterson Rd	Unsignalized Full Movement	Close - access via Access 53 or 61	When property redevelops, safety or operational issues occur, or when a public project is funded. Cross access agreements required for properties currently served by Access 53, 56, 57, 58, 59, 61 upon redevelopment.
59	2.209	LT	2580 Patterson Rd	Unsignalized Full Movement	Close - access via Access 61	When property redevelops, safety or operational issues occur, or when a public project is funded. Cross access agreements required for properties currently served by Access 53, 56, 57, 58, 59, 61 upon redevelopment.

ACCESS CONTROL PLAN
PATTERSON ROAD
I-70B(MP 0.000) to Lodgepole St (MP 7.349)

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6. Implement with land development, redevelopment or use change
7. If the City of Grand Junction improves Patterson Road or if safety or operational issues develop, access modifications may be implemented as long as reasonable access to the local street
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Access ID No.	Mile Post **	Side	Description	Existing Configuration	Proposed Configuration [2,3,8]	Conditions for Implementation [2,4,5,6,7,9]
60	2.253	RT	Unaddressed Patterson Rd	Unsignalized Full Movement	Conditional Right-In/Right-Out	Movements may be restricted when safety or operational issues occur, or when a public project is funded. Access will close when property redevelops or when alternate access to a public road is available.
61	2.229	LT	2580 Patterson Rd	Unsignalized Full Movement	Conditional Unsignalized 3/4 Movement	Either Access 53 or 61 may be unsignalized 3/4 movement. The other access will be RIRO. Movements may be restricted when properties redevelop, safety or operational issues occur or when a public project is funded.Cross access agreements required for properties currently served by Access 53, 56, 57, 58, 59, 61 upon redevelopment.
62	2.266	RT	25 3/4 Rd	Unsignalized Full Movement	Conditional Unsignalized 3/4 Movement	Access 62 and Access 64 shall be evaluated to determine if a 3/4 movement may be implemented at both locations. A design variance or speed reduction must be justified and approved by the City to allow 3/4 movement at both locations. Otherwise, one location must be restricted to RIRO as determined by the City. Movements may be restricted when adjacent properties redevelop, safety or operational issues occur or when a public project is funded.
63	2.255	LT	2582, 2584 Patterson Rd	Shared Unsignalized Full Movement	Shared Right-In/Right-Out	Movements may be restricted when adjacent properties redevelop, safety or operational issues occur, or when a public project is funded.
64	2.353	LT	Meander Dr	Unsignalized Full Movement	Conditional Unsignalized 3/4 Movement	Access 62 and Access 64 shall be evaluated to determine if a 3/4 movement may be implemented at both locations. A design variance or speed reduction must be justified and approved by the City to allow 3/4 movement at both locations. Otherwise, one location must be restricted to RIRO as determined by the City. Movements may be restricted when adjacent properties redevelop, safety or operational issues occur or when a public project is funded.
65	2.353	RT	Meander Ct	Unsignalized 3/4 Movement	Right-In/Right-Out	Movements may be restricted when adjacent properties redevelop, safety or operational issues occur, or when a public project is funded.
66	2.430	LT	2594, 2596 Patterson Rd	Shared Right In-Right Out	Shared Conditional Right-In/Right-Out	Movements may be restricted when safety or operational issues occur, or when a public project is funded. Access will close when adjacent properties redevelop - access via Meander Dr or 26 Rd.
67	2.487	LT	26 Rd (N 1st St)	Signalized Full Movement	Signalized Full Movement	
68	2.487	RT	N 1st St (26 Rd)	Signalized Full Movement	Signalized Full Movement	
69	2.561	RT	Park Dr	Right In-Right Out	Conditional Safety Right-In/Right-out	If a safety or operational issue develops, the access may be closed - alternate access to 1st St via Belaire Dr available.
70	2.651	RT	2615 Patterson Rd	Unsignalized Full Movement	Close - Access via Access 71	When property redevelops, safety or operational issues occur, or when a public project is funded.
71	2.674	RT	2615 Patterson Rd	Unsignalized Full Movement	Conditional Right-In/Right-Out	Movements may be restricted when safety or operational issues occur, or when a public project is funded. Access will close when property redevelops - access via Lost Lane.
72	2.706	RT	2621 Patterson Rd	Unsignalized Full Movement	Conditional Right-In/Right-Out	Movements may be restricted when safety or operational issues occur, or when a public project is funded. Access will close when property redevelops and alternate acccess to Access 73 is available.Cross access agreements required between parcel no. 2945-112-11-018, parcel no 2945-112-11-019, and any adjacent properties with same ownership upon redevelopment.

ACCESS CONTROL PLAN
PATTERSON ROAD
I-70B(MP 0.000) to Lodgepole St (MP 7.349)

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73	2.714	RT	2623 Patterson Rd	Unsignalized Full Movement	Shared Right-In/Right-Out	Movements may be restricted when property redevelops, safety or operational issues occur, or when a public project is funded.Cross access agreements required between parcel no. 2945-112-11-018, parcel no 2945-112-11-019, and any adjacent properties with same ownership upon redevelopment.
74	2.718	LT	2626 Patterson Rd	Unsignalized Full Movement	Unsignalized 3/4 Movement	Movements may be restricted when adjacent properties redevelop, safety or operational issues occur, or when a public project is funded. The connection to Horizon Place will be a public street and all appropriate Rights-Of-Way shall be dedicated upon redevelopment.
75	2.722	RT	2623 Patterson Rd	Unsignalized Full Movement	Conditional Right-In/Right-Out	Movements may be restricted when safety or operational issues occur, or when a public project is funded. Access will close when property redevelops and alternate acccess to Access 73 is available.Cross access agreements required between parcel no. 2945-112-11-018, parcel no 2945-112-11-019, and any adjacent properties with same ownership upon redevelopment.
76	2.732	RT	2625 Patterson Rd	Unsignalized Full Movement	Conditional Right-In/Right-Out	Movements may be restricted when safety or operational issues occur, or when a public project is funded. Access will close when property redevelops.
77	2.740	LT	2626 Patterson Rd	Unsignalized Full Movement	Close - Access via Access 74	When property redevelops, safety or operational issues occur, or when a public project is funded.
78	2.746	RT	2625 Patterson Rd	Unsignalized Full Movement	Right-In/Right-Out	Movements may be restricted when adjacent properties redevelop, safety or operational issues occur, or when a public project is funded.
79	2.749	LT	2628 Patterson Rd	Unsignalized Full Movement	Conditional Right-In/Right-Out	Movements may be restricted when safety or operational issues occur, or when a public project is funded. Access will close when property redevelops and alternate acccess to Access 83 is available.Cross access agreements required between parcel no. 2945-023-00-038, parcel no 2945-023-00-039, and any adjacent properties with same ownership upon redevelopment.
80	2.756	RT	326 Belaire Dr	Unsignalized Full Movement	Close - Access via Belaire Dr	When property redevelops, safety or operational issues occur, or when a public project is funded.
81	2.761	LT	2628 Patterson Rd	Unsignalized Full Movement	Close - Access via Access 79 or 83	When property redevelops, safety or operational issues occur, or when a public project is funded.
82	2.765	RT	336 Belaire Dr	Unsignalized Full Movement	Conditional Right-In/Right-Out	Movements may be restricted when safety or operational issues occur, or when a public project is funded. Access will close when property redevelops - access via Belaire Dr.
83	2.768	LT	2630 Patterson Rd	Unsignalized Full Movement	Shared Right-In/Right-Out	Movements may be restricted when property redevelops, safety or operational issues occur, or when a public project is funded. Cross access agreements required between parcel no. 2945-023-00-040, parcel no 2945-023-00-039, parcel no. 2945-023-00-038, and any adjacent properties with same ownership upon redevelopment.
84	2.779	LT	2630 Patterson Rd	Unsignalized Full Movement	Close - Access via Access 83	When property redevelops, safety or operational issues occur, or when a public project is funded.

ACCESS CONTROL PLAN
PATTERSON ROAD
I-70B(MP 0.000) to Lodgepole St (MP 7.349)

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85	2.785	LT	2632 Patterson Rd	Unsignalized Full Movement	Conditional Right-In/Right-Out	Movements may be restricted when safety or operational issues occur, or when a public project is funded. Access will close when property redevelops and alternate acccess to Access 87 or 83 is available.Cross access agreements required between parcel no. 2945-023-00-040, parcel no. 2945-023-00-042, parcel no 2945-023-00-039, and any adjacent properties with same ownership upon redevelopment.
86	2.794	RT	Mira Vista Rd	Unsignalized Full Movement	Conditional Right-In/Right-Out	Movements may be restricted when safety or operational issues occur, or when a public project is funded. Access will close when access to Access 86a is available.
86a	2.819	RT	2624 Mira Vista Rd	None	Conditional 3/4 Movement	Installation of the a new 3/4 movement access at 86a may be implemented when the property redevelops. Access 93 must be restricted or closed and Access 86 must be closed, when implemented.
87	2.807	LT	2634 Patterson Rd	Unsignalized Full Movement	Shared Right-In/Right-Out	Movements may be restricted when property redevelops, safety or operational issues occur, or when a public project is funded. Cross access agreements required between parcel no. 2945-023-00-041, parcel no 2945-023-00-042, parcel no. 2945-023-14-010, parcel no. 2945-023-00-040 and any adjacent properties with same ownership upon redevelopment.
88	2.818	LT	2634 Patterson Rd	Unsignalized Full Movement	Close - Access via Access 87	When property redevelops, safety or operational issues occur, or when a public project is funded.
89	2.829	LT	2636, 2638 Patterson Rd	Unsignalized Full Movement	Shared Right-in/Right-Out	Movements may be restricted when safety or operational issues occur, or when a public project is funded. Cross access agreements required between parcel no. 2945-023-00-041, parcel no. 2945-023-00-042, parcel no 2945-023-14-009, parcel no. 2945-023-14-010 and any adjacent properties with same ownership upon redevelopment.
90	2.848	LT	2640 Patterson Rd	Unsignalized Full Movement	Close - Access via 89	When property redevelops, safety or operational issues occur, or when a public project is funded. Cross access agreements required between parcel no. 2945-023-14-008, parcel no 2945-023-14-009, parcel no. 2945-023-14-010 and any adjacent properties with same ownership upon redevelopment.
91	2.859	LT	2640 Patterson Rd	Unsignalized Full Movement	Close - Access via 89	When property redevelops, safety or operational issues occur, or when a public project is funded.
92	2.867	LT	2642 Patterson Rd	Unsignalized Full Movement	Conditional Right-In/Right-Out	Movements may be restricted when property redevelops, safety or operational issues occur, or when a public project is funded. Cross access agreements required between parcel no. 2945-023-14-008, parcel no 2945-023-14-009 and any adjacent properties with same ownership upon redevelopment. Access will close when property redevelops and cross access to 89 is available.
93	2.867	RT	2635 N 7th St	Unsignalized Full Movement	Conditional Right-In/Right-Out	Movements may be restricted when safety or operational issues occur, when a public project is funded, or when Access 86a is implemented. Access will be restricted to Right-In Only if Access 86a is implemented, but trucks cannot be accomodated there. Access will close when the property redevelops or when on-site truck movments can be accomodated at Access 86a.
94	2.878	LT	2642 Patterson Rd	Unsignalized Full Movement	Close - Access via Access 92	When property redevelops, safety or operational issues occur, or when a public project is funded.

ACCESS CONTROL PLAN
PATTERSON ROAD
I-70B(MP 0.000) to Lodgepole St (MP 7.349)

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95	2.894	LT	2644 Patterson Rd	Unsignalized Full Movement	Close - Access via Access 96	When property redevelops, safety or operational issues occur, or when a public project is funded. Cross access agreements required between parcel no. 2945-023-14-006, parcel no 2945-023-14-007 and any adjacent properties with same ownership upon redevelopment.
96	2.910	LT	2646 Patterson Rd	Unsignalized Full Movement	Shared Right-In/Right-Out	Movements may be restricted when property redevelops, safety or operational issues occur, or when a public project is funded. Cross access agreements required between parcel no. 2945-023-14-006, parcel no 2945-023-14-007 and any adjacent properties with same ownership upon redevelopment.
97	2.943	LT	2646, 2648 Patterson Rd	Unsignalized Full Movement	Shared Right-In/Right-Out	Movements may be restricted when adjacent properties redevelop, safety or operational issues occur, or when a public project is funded.
98	2.960	LT	2648 Patterson Rd	Unsignalized Full Movement	Close - Access via 26 1/2 Rd or Access 97	When property redevelops, safety or operational issues occur, or when a public project is funded.
99	3.000	LT	26 1/2 Rd (N 7th St)	Signalized Full Movement	Signalized Full Movement	
100	3.000	RT	N 7th St (26 1/2 Rd)	Signalized Full Movement	Signalized Full Movement	
101	3.072	LT	N 8th Ct	Unsignalized Full Movement	Right-In/Right-Out	Movements may be restricted when adjacent properties redevelop, safety or operational issues occur, or when a public project is funded.
102	3.136	RT	2661 Patterson Rd, 750 Wellington Ave	Unsignalized 3/4 Movement	Right-In/Right-Out	Movements may be restricted when adjacent properties redevelop, safety or operational issues occur, or when a public project is funded.
103	3.164	LT	2666 Patterson Rd	Unsignalized Full Movement	Conditional Right-In/Right-Out	Movements may be restricted when safety or operational issues occur, or when a public project is funded. Access will close when property redevelops - access via Viewpoint Dr.
104	3.190	LT	View Point Dr	Unsignalized Full Movement	Right-In/Right-Out	Movements may be restricted when adjacent properties redevelop, safety or operational issues occur, or when a public project is funded.
105	3.216	LT	2674 Patterson Rd	Unsignalized Full Movement	Conditional Right-In/Right-Out	Movements may be restricted when safety or operational issues occur, or when a public project is funded. Access will close when adjacent properties redevelop - access via Viewpoint Dr.
106	3.262	LT	26 3/4 Rd	Unsignalized Full Movement	Unsignalized 3/4 Movement	Movements may be restricted when adjacent properties redevelop, safety or operational issues occur, or when a public project is funded.
107	3.308	LT	2416 26 3/4 Rd, 935, 959 Northern Way	Unsignalized Full Movement	Close - Access via Northern Way	When property redevelops, safety or operational issues occur, or when a public project is funded.
108	3.333	LT	Northern Way	Unsignalized Full Movement	Right-In/Right-Out	Movements may be restricted when adjacent properties redevelop, safety or operational issues occur, or when a public project is funded.
109	3.333	RT	Private road, 2683 Patterson Rd	Unsignalized Full Movement	Right-In/Right-Out	Movements may be restricted when adjacent properties redevelop, safety or operational issues occur, or when a public project is funded.
110	3.353	RT	2683 Patterson Rd	Unsignalized Full Movement	Conditional Right-In/Right-Out	Movements may be restricted when safety or operational issues occur, or when a public project is funded. Access will close when alternate access is available to Access 109, 114, or 116.
111	3.358	LT	960 Northern Way	Unsignalized Full Movement	Close - Access via Northern Way	When property redevelops, safety or operational issues occur, or when a public project is funded.
112	3.368	LT	2686 Patterson Rd	Unsignalized Full Movement	Close - Access via Access 115	When property redevelops, safety or operational issues occur, or when a public project is funded.
113	3.376	RT	2683 Patterson Rd	Unsignalized Full Movement	Conditional Right Out Only	Movements may be restricted when safety or operational issues occur, or when a public project is funded. Access will close when property redevelops.

ACCESS CONTROL PLAN
PATTERSON ROAD
I-70B(MP 0.000) to Lodgepole St (MP 7.349)

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114	3.391	RT	2687 Patterson Rd	Unsignalized Full Movement	Conditional Right-In/Right-Out	Movements may be restricted when safety or operational issues occur, or when a public project is funded. Access will close when property redevelops and alternative access to Access 116 is available. Cross access agreements required between parcel no. 2945-111-27-005 and parcel no. 2945-111-00-009 and any adjacent properties with same ownership upon redevelopment.
115	3.395	LT	2686 Patterson Rd	Unsignalized Full Movement	Right-In/Right-Out	Movements may be restricted when property redevelops, safety or operational issues occur, or when a public project is funded.
116	3.426	RT	2691, 2695, 2699 Patterson Rd, 2531 N 12th St	Shared Unsignalized Full Movement	Shared Right-In/Right-Out	Movements may be restricted when property redevelops, safety or operational issues occur, or when a public project is funded. Cross access agreements required between parcel no. 2945-111-27-005 and parcel no. 2945-111-00-009 and any adjacent properties with same ownership upon redevelopment.
117	3.447	RT	2691, 2695, 2699 Patterson Rd, 2531 N 12th St	Unsignalized Full Movement	Close - Access via Access 116	When property redevelops, safety or operational issues occur, or when a public project is funded.
118	3.456	LT	2686 Patterson Rd	Unsignalized Full Movement	Close - Access via Access 115	When property redevelops, safety or operational issues occur, or when a public project is funded. Access closure will require coordination with Grand Valley Transit since they use this access point to stop on the hospital site.
119	3.515	LT	N 12th St	Signalized Full Movement	Signalized Full Movement	
120	3.515	RT	N 12th St	Signalized Full Movement	Signalized Full Movement	
121	3.560	LT	2702 Patterson Rd	Right In-Right Out	Close - Access via 12th St	When property redevelops, safety or operational issues occur, or when a public project is funded.
122	3.574	LT	2708 Patterson Rd	Right In-Right Out	Close - Access via Access 124	When property redevelops, safety or operational issues occur, or when a public project is funded.
123	3.585	RT	2600 N 12th St	Unsignalized 3/4 Movement	Unsignalized 3/4 Movement	
124	3.592	LT	2708 Patterson Rd	Unsignalized Full Movement	Right-In/Right-Out	Movements may be restricted when property redevelops, safety or operational issues occur, or when a public project is funded.
125	3.619	LT	2710 Patterson Rd	Right In-Right Out	Right-In/Right-Out	
126	3.639	LT	2714 Patterson Rd	Right In-Right Out	Conditional Right-In/Right-Out	Movements may be restricted when property redevelops, safety or operational issues occur, or when a public project is funded. A single shared access will be provided at Access 126/127 when cross access agreements are established and the other access will be closed. Cross access agreements required between parcel no. 2945-013-00-013 and 2945-013-00-014 and any adjacent properties with same ownership upon redevelopment.
127	3.643	LT	2718 Patterson Rd	Right In-Right Out	Conditional Right-In/Right-Out	Movements may be restricted when property redevelops, safety or operational issues occur, or when a public project is funded. A single shared access will be provided at Access 126/127 when cross access agreements are established and the other access will be closed. Cross access agreements required between parcel no. 2945-013-00-013 and 2945-013-00-014 and any adjacent properties with same ownership upon redevelopment.
128	3.659	LT	2718 Patterson Rd	Unsignalized Full Movement	Close- Access via Access 126 or 127	When property redevelops, safety or operational issues occur, or when a public project is funded.
129	3.664	RT	2721 Patterson Rd	Unsignalized Full Movement	Right-In/Right-Out	Movements may be restricted when adjacent properties redevelop, safety or operational issues occur, or when a public project is funded.

ACCESS CONTROL PLAN
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Access ID No.	Mile Post **	Side	Description	Existing Configuration	Proposed Configuration [2,3,8]	Conditions for Implementation [2,4,5,6,7,9]
130	3.744	RT	2721 Patterson Rd	Unsignalized Full Movement	Right-Out Only	Movements may be restricted when adjacent properties redevelop, safety or operational issues occur, or when a public project is funded.
131	3.773	RT	N 15th St	Signalized Full Movement	Signalized Full Movement	
132	3.773	LT	N 15th St	Signalized Full Movement	Signalized Full Movement	
133	3.805	LT	2726 Patterson Rd	Unsignalized Full Movement	Conditional Right-In/Right-Out	Movements may be restricted when safety or operational issues occur, or when a public project is funded. Access will close when property redevelops - access via 27 1/4 Rd.
134	3.811	LT	2728 Patterson Rd	Unsignalized Full Movement	Right-In/Right-Out	Movements may be restricted when property redevelops, safety or operational issues occur, or when a public project is funded.
135	3.837	RT	2680 N 15th St	Unsignalized Full Movement	Conditional Right-In/Right-Out	Movements may be restricted when safety or operational issues occur, or when a public project is funded. Access will close when property redevelops - access via 15th St.
136	3.853	LT	2734 Patterson Rd	Unsignalized Full Movement	Conditional Right-In/Right-Out	Movements may be restricted when safety or operational issues occur, or when a public project is funded. Access will be closed when property redevelops - access via Access 136a. Cross access agreements required between parcel no. 2945-013-00-030, parcel no. 2945-013-00-031, and any adjacent properties with same ownership upon redevelopment.
136a	3.863	LT	2734/2736 Patterson Rd Property Line	None	Shared Right-In/Right-Out	Shared access at the property line when either property redevelops. Movements may be restricted to right-in/right-out when adjacent properties redevelop, safety or operational issues occur, or when a public project is funded. Cross access agreements required between parcel no. 2945-013-00-030, parcel no. 2945-013-00-031, and any adjacent properties with same ownership upon redevelopment.
137	3.872	LT	2736 Patterson Rd	Unsignalized Full Movement	Conditional Right-In/Right-Out	Movements may be restricted when safety or operational issues occur, or when a public project is funded. Access will be closed when property redevelops - access via Access 136a. Cross access agreements required between parcel no. 2945-013-00-030, parcel no. 2945-013-00-031, and any adjacent properties with same ownership upon redevelopment.
138	3.875	RT	2737, 2741, 2745 Patterson Rd	Unsignalized Full Movement	Right In/Right-Out	Movements may be restricted when property redevelops, safety or operational issues occur, or when a public project is funded. Cross access agreements required between parcel no. 2945-122-28-004, parcel no. 2945-122-40-003, and any adjacent properties with same ownership upon redevelopment.
139	3.887	RT	2737 Patterson Rd	Unsignalized Full Movement	Close - Access via Access 138	When property redevelops, safety or operational issues occur, or when a public project is funded.
140	3.902	LT	2738 Patterson Rd	Unsignalized Full Movement	Right-In/Right-Out	Movements may be restricted when property redevelops, safety or operational issues occur, or when a public project is funded.
141	3.934	RT	2737, 2741, 2745 Patterson Rd	Unsignalized Full Movement	Shared Conditional Right-In/Right-Out	Movements may be restricted when safety or operational issues occur, or when a public project is funded. Access will be closed when property redevelops and access to Access 141a or 138 is available. Cross access agreements required between parcel no. 2945-122-28-002, parcel no. 2945-122-40-003, parcel no. 2945-122-40-004 and any adjacent properties with same ownership upon redevelopment.

ACCESS CONTROL PLAN
PATTERSON ROAD
I-70B(MP 0.000) to Lodgepole St (MP 7.349)

* All access points are defined by the approximate reference point (milepost) (in hundredths of a mile) based on GIS.

1. Oriented from direction of reference point (W-E)
2. MUTCD - Manual on Uniform Traffic Control Devices
3. Full movement intersections and 3/4 movements shall accommodate U-turns for passenger vehicles.
4. Unless otherwise specified, conditions listed refer to proposed configuration.
5. Access closures are conditional upon alternative access to the highway or local street system. Refer to alternative access listed in proposed configuration.
6. Implement with land development, redevelopment or use change
7. If the City of Grand Junction improves Patterson Road or if safety or operational issues develop, access modifications may be implemented as long as reasonable access to the local street
8. Conditional proposed configurations may be further restricted under certain circumstances. Refer to conditions for implementation.
9. Cross Access Easements shall be required between properties upon redevelopment if the plan shows cross access but easements do not exist.

Access ID No.	Mile Post **	Side	Description	Existing Configuration	Proposed Configuration [2,3,8]	Conditions for Implementation [2,4,5,6,7,9]
141a	3.948	RT		None	Shared Right-In/Right-Out	Shared access at the property line when either property redevelops. Movements may be restricted to right-in/right-out when adjacent properties redevelop, safety or operational issues occur, or when a public project is funded. Cross access agreements required between parcel no. 2945-122-28-002, parcel no. 2945-122-40-003, and any adjacent properties with same ownership upon redevelopment.
142	3.942	LT	2742 Patterson Rd	Unsignalized Full Movement	Conditional Right-In/Right-Out	Movements may be restricted when safety or operational issues occur, or when a public project is funded. Access will be closed when property redevelops - access via Access 142a.Cross access agreements required between parcel no. 2945-013-00-33, parcel no. 2945-013-22-003, and any adjacent properties with same ownership upon redevelopment.
142a	3.955	LT	2742 Patterson Rd, Empty lot	None	Shared Right-In/Right-Out	Shared access at the property line when either property redevelops. Movements may be restricted to right-in/right-out when adjacent properties redevelop, safety or operational issues occur, or when a public project is funded. Cross access agreements required between parcel no. 2945-013-00-33, parcel no. 2945-013-22-003, and any adjacent properties with same ownership upon redevelopment.
143	3.967	LT	Empty lot	Signalized Full Movement	Close - Access via 27 1/2 Rd	When property redevelops, safety or operational issues occur, or when a public project is funded. Cross access agreements required between parcel no. 2945-013-00-33, parcel no. 2945-013-22-003, and any adjacent properties with same ownership upon redevelopment.
144	4.015	LT	Empty lot	Signalized Full Movement	Close - Access via 27 1/2 Rd	When property redevelops, safety or operational issues occur, or when a public project is funded.
145	4.049	LT	27 1/2 Rd	Signalized Full Movement	Signalized Full Movement	
145a	4.049	RT	South leg 27 1/2 Rd	None	Signalized Full Movement	Installation of the south leg of 27 1/2 Rd may be implemented when the property redevelops, if desired and approved by the City. Access 148 must be restricted to RIRO if implemented.
146	4.061	RT	2751, 2765 Patterson Rd	Unsignalized Full Movement	Conditional Right-In/Right-Out	Movements may be restricted when safety or operational issues occur, or when a public project is funded. Access will close when property redevelops and/or access to Access 145a or 148 becomes available.
147	4.121	LT	Spring Valley Cir	Unsignalized 3/4 Movement	Conditional Safety Right-In/Right-Out	Movements may be restricted when adjacent properties redevelop, safety or operational issues occur, or when a public project is funded.
148	4.121	RT	2751, 2765 Patterson Rd	Unsignalized Full Movement	Shared Conditional Unsignalized 3/4 Movement	Movements may be restricted when adjacent properties redevelop, safety or operational issues occur, or when a public project is funded. If Access 145a is implemented, access must be restricted to RIRO.
149	4.250	RT	2771, 2773, 2775 Patterson Rd	Unsignalized Full Movement	Shared Right-In/Right-Out	Movements may be restricted when property redevelops, safety or operational issues occur, or when a public project is funded. Cross access agreements required between parcel no. 2945-121-00-002 and parcel no. 2945-121-00-019 and any adjacent properties with same ownership upon redevelopment.
150	4.258	LT	Beechwood St	Unsignalized Full Movement	Unsignalized 3/4 Movement	Movements may be restricted when adjacent properties redevelop, safety or operational issues occur, or when a public project is funded.
151	Not used					

ACCESS CONTROL PLAN
PATTERSON ROAD
I-70B(MP 0.000) to Lodgepole St (MP 7.349)

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2. MUTCD - Manual on Uniform Traffic Control Devices
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6. Implement with land development, redevelopment or use change
7. If the City of Grand Junction improves Patterson Road or if safety or operational issues develop, access modifications may be implemented as long as reasonable access to the local street
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Access ID No.	Mile Post **	Side	Description	Existing Configuration	Proposed Configuration [2,3,8]	Conditions for Implementation [2,4,5,6,7,9]
152	4.292	RT	2777 Patterson Rd	Unsignalized Full Movement	Shared Right-In/Right-Out	Movements may be restricted when property redevelops, safety or operational issues occur, or when a public project is funded. Cross access agreements required between parcel no. 2945-121-00-018 and parcel no. 2945-121-00-003 and any adjacent properties with same ownership upon redevelopment.
153	4.323	LT	2778 Patterson Rd	Unsignalized Full Movement	Right-In/Right-Out	Movements may be restricted when property redevelops, safety or operational issues occur, or when a public project is funded.
154	4.356	LT	Pheasant Trail Ct	Unsignalized Full Movement	Right-In/Right-Out	Movements may be restricted when adjacent properties redevelop, safety or operational issues occur, or when a public project is funded.
155	4.356	RT	El Corona Dr	Unsignalized Full Movement	Right-In/Right-Out	Movements may be restricted when adjacent properties redevelop, safety or operational issues occur, or when a public project is funded.
156	4.384	RT	Mount View Dr	Unsignalized Full Movement	Right-In/Right-Out	Movements may be restricted when adjacent properties redevelop, safety or operational issues occur, or when a public project is funded.
157	4.457	RT	Mantey Heights Dr	Unsignalized Full Movement	Right-In/Right-Out	Movements may be restricted when adjacent properties redevelop, safety or operational issues occur, or when a public project is funded.
158	4.504	RT	Santa Fe Dr	Unsignalized Full Movement	Close - Access via E Park Ave	When adjacent properties redevelop, safety or operational issues occur, or when a public project is funded.
159	4.546	LT	28 Rd	Unsignalized Full Movement	Unsignalized 3/4 Movement	Movements may be restricted when adjacent properties redevelop, safety or operational issues occur, or when a public project is funded.
160	4.558	RT	2801 Patterson Rd	Unsignalized Full Movement	Right-In/Right-Out	Movements may be restricted when property redevelops, safety or operational issues occur, or when a public project is funded.
161	4.584	RT	E Park Ave	Unsignalized Full Movement	Unsignalized 3/4 Movement	Movements may be restricted when adjacent properties redevelop, safety or operational issues occur, or when a public project is funded.
162	4.620	RT	2811 Patterson Rd	Unsignalized Full Movement	Conditional Right-In/Right-Out	Movements may be restricted when safety or operational issues occur, or when a public project is funded. Access will be closed when property redevelops - access via Camino Del Rey Dr or Rio Grande Drive.
163	4.677	RT	Rio Grande Dr	Unsignalized Full Movement	Right-In/Right-Out	Movements may be restricted when adjacent properties redevelop, safety or operational issues occur, or when a public project is funded.
164	4.677	LT	2814 Patterson Rd, 615 28 1/4 Rd	Right-In/Right-Out	Right-In/Right-Out	
165	4.739	RT	2813, 2815, 2825 Patterson Rd	Unsignalized Full Movement	Right-In/Right-Out	Movements may be restricted when adjacent properties redevelop, safety or operational issues occur, or when a public project is funded.
166	4.776	RT	2813, 2815, 2825 Patterson Rd	Unsignalized Full Movement	Close - Access via Access 165	When property redevelops, safety or operational issues occur, or when a public project is funded.
167	4.828	RT	28 1/4 Rd	Signalized Full Movement	Signalized Full Movement	
168	4.828	LT	28 1/4 Rd	Signalized Full Movement	Signalized Full Movement	
169	4.866	RT	2827 Patterson Rd	Unsignalized Full Movement	Close - Access via 28 1/4 Rd	When property redevelops, safety or operational issues occur, or when a public project is funded.
170	4.916	RT	2835 Patterson Rd	Unsignalized Full Movement	Right-In/Right-Out	Movements may be restricted when property redevelops, safety or operational issues occur, or when a public project is funded.
171	4.930	LT	2844 Patterson Rd	Unsignalized Full Movement	Close - Access via Access 176	When property redevelops, safety or operational issues occur, or when a public project is funded.

ACCESS CONTROL PLAN
PATTERSON ROAD
I-70B(MP 0.000) to Lodgepole St (MP 7.349)

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1. Oriented from direction of reference point (W-E)
2. MUTCD - Manual on Uniform Traffic Control Devices
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6. Implement with land development, redevelopment or use change
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8. Conditional proposed configurations may be further restricted under certain circumstances. Refer to conditions for implementation.
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Access ID No.	Mile Post **	Side	Description	Existing Configuration	Proposed Configuration [2,3,8]	Conditions for Implementation [2,4,5,6,7,9]
172	4.946	RT	Grand Cascade Way	Unsignalized Full Movement	Right-In/Right-Out	Movements may be restricted when adjacent properties redevelop, safety or operational issues occur, or when a public project is funded.
173	4.972	LT	2844 Patterson Rd	Unsignalized Full Movement	Close - Access via Access 176	When property redevelops, safety or operational issues occur, or when a public project is funded.
174	4.980	LT	2844 Patterson Rd	Unsignalized Full Movement	Close - Access via Access 176	When property redevelops, safety or operational issues occur, or when a public project is funded.
175	5.000	LT	2844 Patterson Rd	Unsignalized Full Movement	Close - Access via Access 176	When property redevelops, safety or operational issues occur, or when a public project is funded.
176	5.037	LT	2844 Patterson Rd	Unsignalized Full Movement	Unsignalized 3/4 Movement	Movements may be restricted when property redevelops, safety or operational issues occur, or when a public project is funded. Cross access agreements required between parcel no. 2943-064-00-082, parcel no. 2943-064-00-083, and parcel no. 2943-062-00-101 and any adjacent properties with same ownership upon redevelopment.
177	5.048	LT	2844 Patterson Rd	Unsignalized Full Movement	Close - Access via Access 176	When property redevelops, safety or operational issues occur, or when a public project is funded.
178	5.082	LT	2854 Patterson Rd	Unsignalized Full Movement	Close - Access via Access 176	When alternate access to Access 176 is available. Cross access agreements required between parcel no. 2943-064-00-082 and parcel no. 2943-062-00-101 and any adjacent properties with same ownership upon redevelopment.
179	5.111	LT	2856 Patterson Rd	Unsignalized Full Movement	Close - Access via Access 176	When alternate access to Access 176 is available. Cross access agreements required between parcel no. 2943-064-00-083 and parcel no. 2943-062-00-101 and any adjacent properties with same ownership upon redevelopment.
180	5.153	LT	2844 Patterson Rd	Unsignalized Full Movement	Conditional Right-In/Right-Out	Movements may be restricted when safety or operational issues occur, or when a public project is funded. Access will be closed when property redevelops - access via Access 176.
181	5.165	RT	Legends Way	Unsignalized Full Movement	Unsignalized 3/4 Movement	Movements may be restricted when adjacent properties redevelop, safety or operational issues occur, or when a public project is funded.
182	5.189	LT	2872 Patterson Rd	Unsignalized Full Movement	Close - Access via 28 3/4 Rd	When property redevelops, safety or operational issues occur, or when a public project is funded.
183	5.229	LT	2872 Patterson Rd	Unsignalized Full Movement	Close - Access via 28 3/4 Rd	When property redevelops, safety or operational issues occur, or when a public project is funded.
184	5.248	LT	28 3/4 Rd	Unsignalized Full Movement	Right-In/Right-Out	Movements may be restricted when adjacent properties redevelop, safety or operational issues occur, or when a public project is funded.
185	5.264	RT	598 Sinatra Way	Unsignalized Full Movement	Close - Access via Naples Dr	Access closing with Bella Dimora subivision redevelopment
186	5.277	LT	604 28 3/4 Rd	Unsignalized Full Movement	Close - Access via 28 3/4 Rd	When property redevelops, safety or operational issues occur, or when a public project is funded.
187	5.280	RT	598 Sinatra Way	Unsignalized Full Movement	Close - Access via Naples Dr	Access closing with Bella Dimora subivision redevelopment
188	5.288	LT	2876 Patterson Rd	Unsignalized Full Movement	Right-In/Right-Out	Movements may be restricted when property redevelops, safety or operational issues occur, or when a public project is funded.
189	5.302	LT	2876 Patterson Rd	Unsignalized Full Movement	Close - Access via Access 188	When property redevelops, safety or operational issues occur, or when a public project is funded.
190	5.303	RT	598 Sinatra Way	Unsignalized Full Movement	Close - Access via Naples Dr	Access closing with Bella Dimora subivision redevelopment
191	5.326	RT	2879 Patterson Rd	Unsignalized Full Movement	Close - Access via W Indian Creek Dr	When property redevelops, safety or operational issues occur, or when a public project is funded.

ACCESS CONTROL PLAN
PATTERSON ROAD
I-70B(MP 0.000) to Lodgepole St (MP 7.349)

* All access points are defined by the approximate reference point (milepost) (in hundredths of a mile) based on GIS.

1. Oriented from direction of reference point (W-E)
2. MUTCD - Manual on Uniform Traffic Control Devices
3. Full movement intersections and 3/4 movements shall accommodate U-turns for passenger vehicles.
4. Unless otherwise specified, conditions listed refer to proposed configuration.
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6. Implement with land development, redevelopment or use change
7. If the City of Grand Junction improves Patterson Road or if safety or operational issues develop, access modifications may be implemented as long as reasonable access to the local street
8. Conditional proposed configurations may be further restricted under certain circumstances. Refer to conditions for implementation.
9. Cross Access Easements shall be required between properties upon redevelopment if the plan shows cross access but easements do not exist.

Access ID No.	Mile Post **	Side	Description	Existing Configuration	Proposed Configuration [2,3,8]	Conditions for Implementation [2,4,5,6,7,9]
192	5.360	RT	W Indian Creek Dr	Unsignalized Full Movement	Unsignalized 3/4 Movement	Movements may be restricted when adjacent properties redevelop, safety or operational issues occur, or when a public project is funded.
193	5.360	LT	W Indian Creek Dr	Unsignalized Full Movement	Unsignalized 3/4 Movement	Movements may be restricted when adjacent properties redevelop, safety or operational issues occur, or when a public project is funded.
194	5.438	RT	Belhaven Way	Unsignalized Full Movement	Right-In/Right-Out	Movements may be restricted when adjacent properties redevelop, safety or operational issues occur, or when a public project is funded.
195	5.447	RT	2893 Patterson Rd	Unsignalized Full Movement	Close - Access via Belhaven Way	When property redevelops, safety or operational issues occur, or when a public project is funded. Belhaven Way to be widened to full width with redevelopment or a public project.
196	5.488	LT	E Indian Creek Dr	Unsignalized Full Movement	Conditional Safety Right-In/Right-Out	Movements may be restricted when adjacent properties redevelop, safety or operational issues occur, or when a public project is funded. If a safety or operational issue develops, the access may be closed - alternate access via W Indian Creek Dr available.
197	5.488	RT	2893 Patterson Rd	Unsignalized Full Movement	Close - Access via Belhaven Way	When property redevelops, safety or operational issues occur, or when a public project is funded.
198	5.527	RT	2893 Patterson Rd	Right-In/Right-Out	Close - Access via Belhaven Way	When property redevelops, safety or operational issues occur, or when a public project is funded.
199	5.572	RT	29 Rd	Signalized Full Movement	Signalized Full Movement	
200	5.572	LT	29 Rd	Signalized Full Movement	Signalized Full Movement	
201	5.610	LT	2902, 2904, 2906 Patterson Rd, 606, 608 29 Rd	Right In-Right Out	Shared Conditional Right-In/Right-Out	Movements may be restricted when safety or operational issues occur, or when a public project is funded. Access will be closed when adjacent properties redevelop - access via 29 Road,
202	5.645	LT	2908 Patterson Rd	Unsignalized Full Movement	Conditional Right-In/Right-Out	Movements may be restricted when property redevelops, safety or operational issues occur, or when a public project is funded. Cross access agreements are required between properties currently served by Access 202, 203, 204, and 206 upon redevelopment. Access points shall be consolidated and shared between these properties as redevelopment occurs. Proposed configuration to be approved by the City.
203	5.662	LT	2910 Patterson Rd	Unsignalized Full Movement	Conditional Right-In/Right-Out	Movements may be restricted when property redevelops, safety or operational issues occur, or when a public project is funded. Cross access agreements are required between properties currently served by Access 202, 203, 204, and 206 upon redevelopment. Access points shall be consolidated and shared between these properties as redevelopment occurs. Proposed configuration to be approved by the City.
204	5.679	LT	2912 Patterson Rd	Unsignalized Full Movement	Conditional Right-In/Right-Out	Movements may be restricted when property redevelops, safety or operational issues occur, or when a public project is funded. Cross access agreements are required between properties currently served by Access 202, 203, 204, and 206 upon redevelopment. Access points shall be consolidated and shared between these properties as redevelopment occurs. Proposed configuration to be approved by the City.
205	5.679	RT	2901, 2903, 2905, 2913, 2915 Patterson Rd	Unsignalized 3/4 Movement	Unsignalized 3/4 Movement	

ACCESS CONTROL PLAN
PATTERSON ROAD
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1. Oriented from direction of reference point (W-E)
2. MUTCD - Manual on Uniform Traffic Control Devices
3. Full movement intersections and 3/4 movements shall accommodate U-turns for passenger vehicles.
4. Unless otherwise specified, conditions listed refer to proposed configuration.
5. Access closures are conditional upon alternative access to the highway or local street system. Refer to alternative access listed in proposed configuration.
6. Implement with land development, redevelopment or use change
7. If the City of Grand Junction improves Patterson Road or if safety or operational issues develop, access modifications may be implemented as long as reasonable access to the local street
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Access ID No.	Mile Post **	Side	Description	Existing Configuration	Proposed Configuration [2,3,8]	Conditions for Implementation [2,4,5,6,7,9]
206	5.696	LT	2914 Patterson Rd	Unsignalized Full Movement	Conditional Right-In/Right-Out	Movements may be restricted when property redevelops, safety or operational issues occur, or when a public project is funded. Cross access agreements are required between properties currently served by Access 202, 203, 204, and 206 upon redevelopment. Access points shall be consolidated and shared between these properties as redevelopment occurs. Proposed configuration to be approved by the City.
207	5.719	RT	2901, 2903, 2905, 2913, 2915 Patterson Rd	Right In-Right Out	Right-In/Right-Out	Cross access agreements required between parcel no. 2943-082-33-003, parcel no. 2943-082-33-002 and parcel no. 2943-082-00-043 and any adjacent properties with same ownership upon redevelopment.
208	5.732	LT	Partee Dr	Unsignalized Full Movement	Right-In/Right-Out	Movements may be restricted when adjacent properties redevelop, safety or operational issues occur, or when a public project is funded.
209	5.750	RT	2917 Patterson Rd	Unsignalized Full Movement	Conditional Right-In/Right-Out	Movements may be restricted when safety or operational issues occur, or when a public project is funded. Access will be closed when property redevelops and alternative access to Access 207 is available.Cross access agreements required between parcel no. 2943-082-33-003, parcel no. 2943-082-33-002 and parcel no. 2943-082-00-043 and any adjacent properties with same ownership upon redevelopment.
210	5.764	LT	2918 Patterson Rd	Unsignalized Full Movement	Conditional Right-In/Right-Out	Movements may be restricted when safety or operational issues occur, or when a public project is funded. Access will be closed when property redevelops - access via Partee Dr.
211	5.792	LT	Cris-Mar St	Unsignalized Full Movement	Right-In/Right-Out	Movements may be restricted when adjacent properties redevelop, safety or operational issues occur, or when a public project is funded.
212	5.795	RT	Redwing Ln	Unsignalized Full Movement	Unsignalized 3/4 Movement	Movements may be restricted when adjacent properties redevelop, safety or operational issues occur, or when a public project is funded.
213	5.829	LT	Parcel Number: 2943-053-40-000	Unsignalized Full Movement	Gated Right-In/Right-Out	Movements may be restricted when adjacent properties redevelop, safety or operational issues occur, or when a public project is funded.
214	5.836	LT	2926 Patterson Rd	Unsignalized Full Movement	Right-In/Right-Out	Movements may be restricted when adjacent properties redevelop, safety or operational issues occur, or when a public project is funded.
215	5.858	LT	2926 Patterson Rd	Unsignalized Full Movement	Close - Access via Access 214	When property redevelops, safety or operational issues occur, or when a public project is funded.
216	5.858	RT	29 1/4 Rd	Unsignalized Full Movement	Right-In/Right-Out	Movements may be restricted when adjacent properties redevelop, safety or operational issues occur, or when a public project is funded.
217	5.880	LT	2934 Patterson Rd	Unsignalized Full Movement	Right-In/Right-Out	Movements may be restricted when property redevelops, safety or operational issues occur, or when a public project is funded.
218	5.891	LT	2934 Patterson Rd	Unsignalized Full Movement	Close - Access via Access 217	When property redevelops, safety or operational issues occur, or when a public project is funded.
219	5.897	LT	2938 Patterson Rd	Unsignalized Full Movement	Right-In/Right-Out	Movements may be restricted when property redevelops, safety or operational issues occur, or when a public project is funded.
220	5.905	LT	2938 Patterson Rd	Unsignalized Full Movement	Close - Access via Access 219	When property redevelops, safety or operational issues occur, or when a public project is funded.

ACCESS CONTROL PLAN
PATTERSON ROAD
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Access ID No.	Mile Post **	Side	Description	Existing Configuration	Proposed Configuration [2,3,8]	Conditions for Implementation [2,4,5,6,7,9]
221	5.931	LT	29 3/8 Rd	Unsignalized Full Movement	Unsignalized 3/4 Movement	Movements may be restricted when adjacent properties redevelop, safety or operational issues occur, or when a public project is funded.
222	5.931	RT	29 3/8 Rd	Unsignalized Full Movement	Right-In/Right-Out	Movements may be restricted when adjacent properties redevelop, safety or operational issues occur, or when a public project is funded.
223	5.951	LT	2940 Patterson Rd	Unsignalized Full Movement	Conditional Right-In/Right-Out	Movements may be restricted when safety or operational issues occur, or when a public project is funded. Access will be closed when property redevelops or when alternative access to 29 3/8 Rd is available.
224	5.969	LT	2942 Patterson Rd	Unsignalized Full Movement	Conditional Right-In/Right-Out	Movements may be restricted when safety or operational issues occur, or when a public project is funded. Access will be closed when property redevelops and alternative access to 29 1/2 Rd via Penny Lane is available.Cross access agreements required between parcel no. 2943-053-00-051 and parcel no. 2943-053-00-052 and any adjacent properties with same ownership upon redevelopment.
225	5.974	RT	2939 Patterson Rd	Unsignalized Full Movement	Close - Access via Colanwood St.	When property redevelops, safety or operational issues occur, or when a public project is funded.
226	6.000	LT	2944 Patterson Rd	Unsignalized Full Movement	Conditional Right-In/Right-Out	Movements may be restricted when safety or operational issues occur, or when a public project is funded. Access will be closed when property redevelops and alternative access to 29 1/2 Rd via Penny Lane is available.Cross access agreements required between parcel no. 2943-053-00-051 and parcel no. 2943-053-00-052 and any adjacent properties with same ownership upon redevelopment.
227	6.020	RT	Colanwood St	Unsignalized Full Movement	Conditional Safety Right-In/Right-Out	Movements may be restricted when adjacent properties redevelop, safety or operational issues occur, or when a public project is funded. If a safety or operational issue develops, the access may be closed - alternate access via Wellington Ave or Parkway Dr available.
228	6.025	LT	2948 Patterson Rd	Unsignalized 3/4 Movement	Conditional Right-In/Right-Out	Movements may be restricted when safety or operational issues occur, or when a public project is funded. Access will be closed when property redevelops - access via 29 1/2 Rd.
229	6.041	RT	2945 Patterson Rd	Unsignalized Full Movement	Shared Right-In/Right-Out	Movements may be restricted when adjacent properties redevelop, safety or operational issues occur, or when a public project is funded.
230	6.057	RT	599 29 1/2 Rd	Unsignalized Full Movement	Conditional Right-In/Right-Out	Movements may be restricted when safety or operational issues occur, or when a public project is funded. Access will be closed when property redevelops - access via 29 1/2 Rd.
231	6.087	RT	29 1/2 Rd	Signalized Full Movement	Signalized Full Movement	
232	6.087	LT	29 1/2 Rd	Signalized Full Movement	Signalized Full Movement	
233	6.160	RT	E Greenfield Cir	Unsignalized Full Movement	Conditional Safety Right-In/Right-Out	Movements may be restricted when adjacent properties redevelop, safety or operational issues occur, or when a public project is funded. If a safety or operational issue develops, the access may be closed - alternate access via Bookcliff Ave available.
234	6.188	LT	Pioneer Rd	Unsignalized Full Movement	Conditional Safety Right-In/Right-Out	Movements may be restricted when adjacent properties redevelop, safety or operational issues occur, or when a public project is funded. If a safety or operational issue develops, the access may be closed - alternate access via Bonito Ln available.
235	6.243	LT	Broken Spoke Rd	Unsignalized Full Movement	Right-In/Right-Out	Movements may be restricted when adjacent properties redevelop, safety or operational issues occur, or when a public project is funded.

ACCESS CONTROL PLAN
PATTERSON ROAD
I-70B(MP 0.000) to Lodgepole St (MP 7.349)

* All access points are defined by the approximate reference point (milepost) (in hundredths of a mile) based on GIS.

1. Oriented from direction of reference point (W-E)
2. MUTCD - Manual on Uniform Traffic Control Devices
3. Full movement intersections and 3/4 movements shall accommodate U-turns for passenger vehicles.
4. Unless otherwise specified, conditions listed refer to proposed configuration.
5. Access closures are conditional upon alternative access to the highway or local street system. Refer to alternative access listed in proposed configuration.
6. Implement with land development, redevelopment or use change
7. If the City of Grand Junction improves Patterson Road or if safety or operational issues develop, access modifications may be implemented as long as reasonable access to the local street
8. Conditional proposed configurations may be further restricted under certain circumstances. Refer to conditions for implementation.
9. Cross Access Easements shall be required between properties upon redevelopment if the plan shows cross access but easements do not exist.

Access ID No.	Mile Post **	Side	Description	Existing Configuration	Proposed Configuration [2,3,8]	Conditions for Implementation [2,4,5,6,7,9]
236	6.282	RT	Darby Dr	Unsignalized Full Movement	Right-In/Right-Out	Movements may be restricted when adjacent properties redevelop, safety or operational issues occur, or when a public project is funded.
237	6.345	LT	Maintenance access	Unsignalized Full Movement	Conditional Right-In/Right-Out	Movements may be restricted when safety or operational issues occur, or when a public project is funded. Access will close when access to Access 241 is available.
238	6.352	RT	2977 Patterson Rd	Unsignalized Full Movement	Right-In/Right-Out	Movements may be restricted when property redevelops, safety or operational issues occur, or when a public project is funded.
239	6.391	LT	2980 Patterson Rd	Unsignalized Full Movement	Close - Access via Access 241	When property redevelops, safety or operational issues occur, or when a public project is funded.
240	6.400	RT	Placer St	Unsignalized Full Movement	Unsignalized 3/4 Movement	Movements may be restricted when adjacent properties redevelop, safety or operational issues occur, or when a public project is funded.
241	6.404	LT	2982 Patterson Rd	Unsignalized Full Movement	Shared Unsignalized 3/4 Movement	Movements may be restricted when adjacent properties redevelop, safety or operational issues occur, or when a public project is funded.
242	6.484	LT	2982 Patterson Rd	Unsignalized Full Movement	Close - Access via Access 241	When property redevelops, safety or operational issues occur, or when a public project is funded.
243	6.474	RT	Maintenance access	Unsignalized Full Movement	Conditional Right-In/Right-Out	Movements may be restricted when safety or operational issues occur, or when a public project is funded. Access will be closed when alternate access to Access 245 or 30 Rd is available. Cross access agreements required between parcel no. 2943-081-00-042 and parcel no. 2943-081-00-051 and any adjacent properties with same ownership upon redevelopment.
244	6.497	LT	Hudson Bay Dr	Unsignalized Full Movement	Conditional Safety Right-In/Right-Out	Movements may be restricted when adjacent properties redevelop, safety or operational issues occur, or when a public project is funded. If a safety or operational issue develops, the access may be closed - alternate access via F 1/4 Rd available.
245	6.497	RT	599 30 Rd	Unsignalized Full Movement	Conditional Right-In/Right-Out	Movements may be restricted when safety or operational issues occur, or when a public project is funded. Access will be closed when property redevelops - access via 30 Rd. Cross access agreements required between parcel no. 2943-081-00-042 and parcel no. 2943-081-00-051 and any adjacent properties with same ownership upon redevelopment.
246	6.528	LT	2992 Patterson Rd	Unsignalized 3/4 Movement	Conditional Right-In/Right-Out	Movements may be restricted when safety or operational issues occur, or when a public project is funded. Access will be closed when property redevelops - access via 30 Rd.
247	6.532	RT	599 30 Rd	Unsignalized Full Movement	Close - Access via Access 245	When property redevelops, safety or operational issues occur, or when a public project is funded.
248	6.600	RT	30 Rd	Signalized Full Movement	Signalized Full Movement	
249	6.600	LT	30 Rd	Signalized Full Movement	Signalized Full Movement	
250	6.667	LT	Ronlin Dr	Unsignalized Full Movement	Conditional Safety Right-In/Right-Out	Movements may be restricted when adjacent properties redevelop, safety or operational issues occur, or when a public project is funded. If a safety or operational issue develops, the access may be closed - alternate access via E Vista Dr available.
251	6.721	LT	Agana Dr	Unsignalized Full Movement	Right-In/Right-Out	Movements may be restricted when adjacent properties redevelop, safety or operational issues occur, or when a public project is funded.
252	6.721	RT	Agana Dr	Unsignalized Full Movement	Close - Access via Seranade Dr	When adjacent properties redevelop, safety or operational issues occur, or when a public project is funded.

ACCESS CONTROL PLAN
PATTERSON ROAD
I-70B(MP 0.000) to Lodgepole St (MP 7.349)

* All access points are defined by the approximate reference point (milepost) (in hundredths of a mile) based on GIS.

1. Oriented from direction of reference point (W-E)
2. MUTCD - Manual on Uniform Traffic Control Devices
3. Full movement intersections and 3/4 movements shall accommodate U-turns for passenger vehicles.
4. Unless otherwise specified, conditions listed refer to proposed configuration.
5. Access closures are conditional upon alternative access to the highway or local street system. Refer to alternative access listed in proposed configuration.
6. Implement with land development, redevelopment or use change
7. If the City of Grand Junction improves Patterson Road or if safety or operational issues develop, access modifications may be implemented as long as reasonable access to the local street
8. Conditional proposed configurations may be further restricted under certain circumstances. Refer to conditions for implementation.
9. Cross Access Easements shall be required between properties upon redevelopment if the plan shows cross access but easements do not exist.

Access ID No.	Mile Post **	Side	Description	Existing Configuration	Proposed Configuration [2,3,8]	Conditions for Implementation [2,4,5,6,7,9]
253	6.776	LT	Starlight Dr	Unsignalized Full Movement	Right-In/Right-Out	Movements may be restricted when adjacent properties redevelop, safety or operational issues occur, or when a public project is funded.
254	6.831	LT	Serenade St	Unsignalized Full Movement	Unsignalized 3/4 Movement	Movements may be restricted when adjacent properties redevelop, safety or operational issues occur, or when a public project is funded.
255	6.831	RT	Serenade St	Unsignalized Full Movement	Right-In/Right-Out	Movements may be restricted when adjacent properties redevelop, safety or operational issues occur, or when a public project is funded.
256	6.863	RT	3027 Patterson Rd	Unsignalized Full Movement	Close - Access via McMullin Dr	When property redevelops, safety or operational issues occur, or when a public project is funded.
257	6.863	LT	3026 Patterson Rd	Unsignalized Full Movement	Conditional Right-In/Right-Out	Movements may be restricted when safety or operational issues occur, or when a public project is funded. Access will be closed when property redevelops - access via Access 258. Cross access agreements required between parcel no. 2943-043-00-143 and parcel no. 2943-043-00-082 and any adjacent properties with same ownership upon redevelopment.
258	6.882	LT	3026 Patterson Rd	Unsignalized Full Movement	Shared Right-In/Right-Out	Movements may be restricted when property redevelops, safety or operational issues occur, or when a public project is funded. Cross access agreements required between parcel no. 2943-043-00-143 and parcel no. 2943-043-00-082 and any adjacent properties with same ownership upon redevelopment.
259	6.897	LT	3028 Patterson Rd	Unsignalized Full Movement	Conditional Right-In/Right-Out	Movements may be restricted when safety or operational issues occur, or when a public project is funded. Access will be closed when property redevelops - access via Access 258. Cross access agreements required between parcel no. 2943-043-00-143, parcel no. 2943-043-00-082 and parcel no 2943-043-00-195 and any adjacent properties with same ownership upon redevelopment.
260	6.911	LT	3030 Patterson Rd	Unsignalized Full Movement	Conditional Right-In/Right-Out	Movements may be restricted when safety or operational issues occur, or when a public project is funded. Access will be closed when property redevelops - access via Access 263. Cross access agreements required between parcel no. 2943-043-00-195 and parcel no. 2943-043-00-082 and any adjacent properties with same ownership upon redevelopment.
261	6.913	RT	McMullin Dr	Unsignalized Full Movement	Right-In/Right-Out	Movements may be restricted when adjacent properties redevelop, safety or operational issues occur, or when a public project is funded.
262	6.962	RT	Gerken Rd	Unsignalized Full Movement	Unsignalized 3/4 Movement	Movements may be restricted when adjacent properties redevelop, safety or operational issues occur, or when a public project is funded.
263	6.962	LT	Round Table Rd	Unsignalized Full Movement	Unsignalized 3/4 Movement	Movements may be restricted when adjacent properties redevelop, safety or operational issues occur, or when a public project is funded.
264	6.991	RT	599 Grand Valley Dr	Unsignalized Full Movement	Close - Access via Grand Valley Dr	When property redevelops, safety or operational issues occur, or when a public project is funded.
265	7.002	RT	599 Grand Valley Dr	Unsignalized Full Movement	Close - Access via Grand Valley Dr	When property redevelops, safety or operational issues occur, or when a public project is funded.
266	7.016	RT	Grand Valley Dr	Unsignalized Full Movement	Right-In/Right-Out	Movements may be restricted when adjacent properties redevelop, safety or operational issues occur, or when a public project is funded.

ACCESS CONTROL PLAN
PATTERSON ROAD
I-70B(MP 0.000) to Lodgepole St (MP 7.349)

* All access points are defined by the approximate reference point (milepost) (in hundredths of a mile) based on GIS.

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4. Unless otherwise specified, conditions listed refer to proposed configuration.
5. Access closures are conditional upon alternative access to the highway or local street system. Refer to alternative access listed in proposed configuration.
6. Implement with land development, redevelopment or use change
7. If the City of Grand Junction improves Patterson Road or if safety or operational issues develop, access modifications may be implemented as long as reasonable access to the local street
8. Conditional proposed configurations may be further restricted under certain circumstances. Refer to conditions for implementation.
9. Cross Access Easements shall be required between properties upon redevelopment if the plan shows cross access but easements do not exist.

Access ID No.	Mile Post **	Side	Description	Existing Configuration	Proposed Configuration [2,3,8]	Conditions for Implementation [2,4,5,6,7,9]
267	7.016	LT	Grand Valley Dr	Unsignalized Full Movement	Right-In/Right-Out	Movements may be restricted when adjacent properties redevelop, safety or operational issues occur, or when a public project is funded.
268	7.039	RT	598 Grand Valley Dr	Unsignalized Full Movement	Close - Access via Grand Valley Dr	When property redevelops, safety or operational issues occur, or when a public project is funded.
269	7.053	RT	3047 Patterson Rd	Unsignalized Full Movement	Conditional Right-In/Right-Out	Movements may be restricted when safety or operational issues occur or when a public project is funded. Access will be closed when property redevelops - access via Wellington Ave or Kirby Lane.
270	7.060	LT	3044 Patterson Rd	Unsignalized Full Movement	Close - access via Stoney Brook Ln	When property redevelops, safety or operational issues occur, or when a public project is funded.
271	7.082	RT	3047 Patterson Rd	Unsignalized Full Movement	Conditional Right-In/Right-Out	Movements may be restricted when safety or operational issues occur, or when a public project is funded. Access will be closed when property redevelops or when alternate access to Wellington Ave or Kirby Lane is available.
272	7.111	RT	3049 Patterson Rd	Unsignalized Full Movement	Conditional Right-In/Right-Out	Movements may be restricted when safety or operational issues occur, or when a public project is funded. Access will be closed when property redevelops - access via Wellington Ave.
273	7.120	LT	Mesa Valley Dr	Unsignalized Full Movement	Right-In/Right-Out	Movements may be restricted when adjacent properties redevelop, safety or operational issues occur, or when a public project is funded.
274	7.147	LT	3054 Patterson Rd	Unsignalized Full Movement	Close - Access via Access 276	When property redevelops, safety or operational issues occur, or when a public project is funded.
275	7.147	RT	Shoshone St	Unsignalized Full Movement	Right-In/Right-Out	Movements may be restricted when adjacent properties redevelop, safety or operational issues occur, or when a public project is funded.
276	7.168	LT	3054 Patterson Rd	Unsignalized Full Movement	Right-In/Right-Out	Movements may be restricted when property redevelops, safety or operational issues occur, or when a public project is funded.
277	7.221	LT	Cottage Meadows Ct	Unsignalized Full Movement	Unsignalized 3/4 Movement	Movements may be restricted when adjacent properties redevelop, safety or operational issues occur, or when a public project is funded.
278	7.243	RT	3065 Patterson Rd	Unsignalized Full Movement	Close - Access via Access 284, 286 and Wellington Ave	When property redevelops, safety or operational issues occur, or when a public project is funded.
279	7.256	LT	3064 Patterson Rd	Unsignalized Full Movement	Right-In/Right-Out	Movements may be restricted when property redevelops, safety or operational issues occur, or when a public project is funded.
280	7.264	LT	3066 Patterson Rd	Unsignalized Full Movement	Conditional Right-In/Right-Out	Movements may be restricted when safety or operational issues occur, or when a public project is funded. Access will be closed when property redevelops and alternate access to Orange Grove Way is available. Cross access agreements required between parcel no. 2943-044-00-217, and parcel no. 2943-044-37-002 and any adjacent properties with same ownership upon redevelopment.
281	7.276	LT	3068 Patterson Rd	Unsignalized Full Movement	Conditional Right-In/Right-Out	Movements may be restricted when safety or operational issues occur, or when a public project is funded. Access will be closed when property redevelops - access via Orange Grove Way.
282	7.279	RT	3067 Patterson Rd	Unsignalized Full Movement	Right-In/Right-Out	Movements may be restricted when property redevelops, safety or operational issues occur, or when a public project is funded.
283	7.290	LT	3068 Patterson Rd	Unsignalized Full Movement	Close - Access via Access 281	When property redevelops, safety or operational issues occur, or when a public project is funded.
284	7.295	RT	3073 Patterson Rd	Gated Unsignalized Full Movement	Gated Unsignalized Full Movement	When property redevelops, close access - access via Access 286.

ACCESS CONTROL PLAN
PATTERSON ROAD
I-70B(MP 0.000) to Lodgepole St (MP 7.349)

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2. MUTCD - Manual on Uniform Traffic Control Devices
3. Full movement intersections and 3/4 movements shall accommodate U-turns for passenger vehicles.
4. Unless otherwise specified, conditions listed refer to proposed configuration.
5. Access closures are conditional upon alternative access to the highway or local street system. Refer to alternative access listed in proposed configuration.
6. Implement with land development, redevelopment or use change
7. If the City of Grand Junction improves Patterson Road or if safety or operational issues develop, access modifications may be implemented as long as reasonable access to the local street
8. Conditional proposed configurations may be further restricted under certain circumstances. Refer to conditions for implementation.
9. Cross Access Easements shall be required between properties upon redevelopment if the plan shows cross access but easements do not exist.

Access ID No.	Mile Post **	Side	Description	Existing Configuration	Proposed Configuration [2,3,8]	Conditions for Implementation [2,4,5,6,7,9]
285	7.319	RT	3073 Patterson Rd	Unsignalized Full Movement	Close - Access via Access 284 and 286	When property redevelops, safety or operational issues occur, or when a public project is funded.
286	7.341	RT	3073 Patterson Rd	Gated Unsignalized Full Movement	Gated Unsignalized Full Movement	When property redevelops, realign Access 286 across from Lodgepole St. Realigned access does not need to be gated.
287	7.349	LT	Lodgepole St	Unsignalized Full Movement	Unsignalized Full Movement	

PATTERSON ROAD ACP EXHIBIT

LEGEND

- BUS STOP
- BUS STOP - PULL OFF
- CROSS ACCESS - EXISTING
- CROSS ACCESS - PROPOSED
- PARCEL
- TRAIL
- PROPOSED CITY STREET OR PRIVATE CONNECTION
- PLANNED CITY STREET

ACCESS POINT INFORMATION

- SIGNALIZED FULL MOVEMENT
- UNSIGNALIZED FULL MOVEMENT
- 3/4 MOVEMENT
- RIGHT IN - RIGHT OUT
- CLOSE
- SIGNALIZED INTERSECTION
- RIGHT IN ONLY
- RIGHT OUT ONLY
- G GATED ACCESS POINT
- C CONDITIONAL ACCESS POINT
  SEE ACCESS TABLE FOR CONDITIONS.
  TYPICALLY CLOSES WITH REDEVELOPMENT.
- S CONDITIONAL SAFETY ACCESS POINT

FIGURE 3A

PATTERSON ROAD ACP EXHIBIT

LEGEND

- BUS STOP
- BUS STOP - PULL OFF
- CROSS ACCESS - EXISTING
- CROSS ACCESS - PROPOSED
- PARCEL
- TRAIL
- PROPOSED CITY STREET OR PRIVATE CONNECTION
- PLANNED CITY STREET

ACCESS POINT INFORMATION

- SIGNALIZED FULL MOVEMENT
- UNSIGNALIZED FULL MOVEMENT
- 3/4 MOVEMENT
- RIGHT IN - RIGHT OUT
- CLOSE
- SIGNALIZED INTERSECTION
- RIGHT IN ONLY
- RIGHT OUT ONLY
- G GATED ACCESS POINT
- C CONDITIONAL ACCESS POINT
  SEE ACCESS TABLE FOR CONDITIONS.
  TYPICALLY CLOSES WITH REDEVELOPMENT.
- S CONDITIONAL SAFETY ACCESS POINT

FIGURE 3B

PATTERSON ROAD ACP EXHIBIT

LEGEND

- BUS STOP
- BUS STOP - PULL OFF
- CROSS ACCESS - EXISTING
- CROSS ACCESS - PROPOSED
- PARCEL
- TRAIL
- PROPOSED CITY STREET OR PRIVATE CONNECTION
- PLANNED CITY STREET

ACCESS POINT INFORMATION

- SIGNALIZED FULL MOVEMENT
- UNSIGNALIZED FULL MOVEMENT
- 3/4 MOVEMENT
- RIGHT IN - RIGHT OUT
- CLOSE
- SIGNALIZED INTERSECTION
- RIGHT IN ONLY
- RIGHT OUT ONLY
- G GATED ACCESS POINT
- C CONDITIONAL ACCESS POINT
  SEE ACCESS TABLE FOR CONDITIONS.
  TYPICALLY CLOSES WITH REDEVELOPMENT.
- S CONDITIONAL SAFETY ACCESS POINT

FIGURE 3C

PATTERSON ROAD ACP EXHIBIT

LEGEND

- BUS STOP
- BUS STOP - PULL OFF
- CROSS ACCESS - EXISTING
- CROSS ACCESS - PROPOSED
- PARCEL
- TRAIL
- PROPOSED CITY STREET OR PRIVATE CONNECTION
- PLANNED CITY STREET

ACCESS POINT INFORMATION

- SIGNALIZED FULL MOVEMENT
- UNSIGNALIZED FULL MOVEMENT
- 3/4 MOVEMENT
- RIGHT IN - RIGHT OUT
- CLOSE
- SIGNALIZED INTERSECTION
- RIGHT IN ONLY
- RIGHT OUT ONLY
- G GATED ACCESS POINT
- C CONDITIONAL ACCESS POINT
  SEE ACCESS TABLE FOR CONDITIONS.
  TYPICALLY CLOSES WITH REDEVELOPMENT.
- S CONDITIONAL SAFETY ACCESS POINT

FIGURE 3D

PATTERSON ROAD ACP EXHIBIT

LEGEND

- BUS STOP
- BUS STOP - PULL OFF
- CROSS ACCESS - EXISTING
- CROSS ACCESS - PROPOSED
- PARCEL
- TRAIL
- PROPOSED CITY STREET OR PRIVATE CONNECTION
- PLANNED CITY STREET

ACCESS POINT INFORMATION

- SIGNALIZED FULL MOVEMENT
- UNSIGNALIZED FULL MOVEMENT
- 3/4 MOVEMENT
- RIGHT IN - RIGHT OUT
- CLOSE
- SIGNALIZED INTERSECTION
- RIGHT IN ONLY
- RIGHT OUT ONLY
- G GATED ACCESS POINT
- C CONDITIONAL ACCESS POINT
  SEE ACCESS TABLE FOR CONDITIONS. TYPICALLY CLOSES WITH REDEVELOPMENT.
- S CONDITIONAL SAFETY ACCESS POINT

FIGURE 3E

PATTERSON ROAD ACP EXHIBIT

LEGEND

- BUS STOP
- BUS STOP - PULL OFF
- CROSS ACCESS - EXISTING
- CROSS ACCESS - PROPOSED
- PARCEL
- TRAIL
- PROPOSED CITY STREET OR PRIVATE CONNECTION
- PLANNED CITY STREET

ACCESS POINT INFORMATION

- SIGNALIZED FULL MOVEMENT
- UNSIGNALIZED FULL MOVEMENT
- 3/4 MOVEMENT
- RIGHT IN - RIGHT OUT
- CLOSE
- SIGNALIZED INTERSECTION
- RIGHT IN ONLY
- RIGHT OUT ONLY
- G GATED ACCESS POINT
- C CONDITIONAL ACCESS POINT
  SEE ACCESS TABLE FOR CONDITIONS.
  TYPICALLY CLOSES WITH REDEVELOPMENT.
- S CONDITIONAL SAFETY ACCESS POINT

FIGURE 3F

PATTERSON ROAD ACP EXHIBIT

LEGEND

- BUS STOP
- BUS STOP - PULL OFF
- CROSS ACCESS - EXISTING
- CROSS ACCESS - PROPOSED
- PARCEL
- TRAIL
- PROPOSED CITY STREET OR PRIVATE CONNECTION
- PLANNED CITY STREET

ACCESS POINT INFORMATION

- SIGNALIZED FULL MOVEMENT
- UNSIGNALIZED FULL MOVEMENT
- 3/4 MOVEMENT
- RIGHT IN - RIGHT OUT
- CLOSE
- SIGNALIZED INTERSECTION
- RIGHT IN ONLY
- RIGHT OUT ONLY
- G GATED ACCESS POINT
- C CONDITIONAL ACCESS POINT
  SEE ACCESS TABLE FOR CONDITIONS.
  TYPICALLY CLOSES WITH REDEVELOPMENT.
- S CONDITIONAL SAFETY ACCESS POINT

FIGURE 3G

PATTERSON ROAD ACP EXHIBIT

LEGEND

- BUS STOP
- BUS STOP - PULL OFF
- CROSS ACCESS - EXISTING
- CROSS ACCESS - PROPOSED
- PARCEL
- TRAIL
- PROPOSED CITY STREET OR PRIVATE CONNECTION
- PLANNED CITY STREET

ACCESS POINT INFORMATION

- SIGNALIZED FULL MOVEMENT
- UNSIGNALIZED FULL MOVEMENT
- 3/4 MOVEMENT
- RIGHT IN - RIGHT OUT
- CLOSE
- SIGNALIZED INTERSECTION
- RIGHT IN ONLY
- RIGHT OUT ONLY
- G GATED ACCESS POINT
- C CONDITIONAL ACCESS POINT
  SEE ACCESS TABLE FOR CONDITIONS.
  TYPICALLY CLOSES WITH REDEVELOPMENT.
- S CONDITIONAL SAFETY ACCESS POINT

FIGURE 3H

PATTERSON ROAD ACP EXHIBIT

LEGEND

- BUS STOP
- BUS STOP - PULL OFF
- CROSS ACCESS - EXISTING
- CROSS ACCESS - PROPOSED
- PARCEL
- TRAIL
- PROPOSED CITY STREET OR PRIVATE CONNECTION
- PLANNED CITY STREET

ACCESS POINT INFORMATION

- SIGNALIZED FULL MOVEMENT
- UNSIGNALIZED FULL MOVEMENT
- 3/4 MOVEMENT
- RIGHT IN - RIGHT OUT
- CLOSE
- SIGNALIZED INTERSECTION
- RIGHT IN ONLY
- RIGHT OUT ONLY
- G GATED ACCESS POINT
- C CONDITIONAL ACCESS POINT
  SEE ACCESS TABLE FOR CONDITIONS.
  TYPICALLY CLOSES WITH REDEVELOPMENT.
- S CONDITIONAL SAFETY ACCESS POINT

FIGURE 3I

PATTERSON ROAD ACP EXHIBIT

LEGEND

- BUS STOP
- BUS STOP - PULL OFF
- CROSS ACCESS - EXISTING
- CROSS ACCESS - PROPOSED
- PARCEL
- TRAIL
- PROPOSED CITY STREET OR PRIVATE CONNECTION
- PLANNED CITY STREET

ACCESS POINT INFORMATION

- SIGNALIZED FULL MOVEMENT
- UNSIGNALIZED FULL MOVEMENT
- 3/4 MOVEMENT
- RIGHT IN - RIGHT OUT
- CLOSE
- SIGNALIZED INTERSECTION
- RIGHT IN ONLY
- RIGHT OUT ONLY
- G GATED ACCESS POINT
- C CONDITIONAL ACCESS POINT
  SEE ACCESS TABLE FOR CONDITIONS.
  TYPICALLY CLOSES WITH REDEVELOPMENT.
- S CONDITIONAL SAFETY ACCESS POINT

FIGURE 3J

PATTERSON ROAD ACP EXHIBIT

LEGEND

- BUS STOP
- BUS STOP - PULL OFF
- CROSS ACCESS - EXISTING
- CROSS ACCESS - PROPOSED
- PARCEL
- TRAIL
- PROPOSED CITY STREET OR PRIVATE CONNECTION
- PLANNED CITY STREET

ACCESS POINT INFORMATION

- SIGNALIZED FULL MOVEMENT
- UNSIGNALIZED FULL MOVEMENT
- 3/4 MOVEMENT
- RIGHT IN - RIGHT OUT
- CLOSE
- SIGNALIZED INTERSECTION
- RIGHT IN ONLY
- RIGHT OUT ONLY
- G GATED ACCESS POINT
- C CONDITIONAL ACCESS POINT
  SEE ACCESS TABLE FOR CONDITIONS.
  TYPICALLY CLOSES WITH REDEVELOPMENT.
- S CONDITIONAL SAFETY ACCESS POINT

FIGURE 3K

PATTERSON ROAD ACP EXHIBIT

LEGEND

- BUS STOP
- BUS STOP - PULL OFF
- CROSS ACCESS - EXISTING
- CROSS ACCESS - PROPOSED
- PARCEL
- TRAIL
- PROPOSED CITY STREET OR PRIVATE CONNECTION
- PLANNED CITY STREET

ACCESS POINT INFORMATION

- SIGNALIZED FULL MOVEMENT
- UNSIGNALIZED FULL MOVEMENT
- 3/4 MOVEMENT
- RIGHT IN - RIGHT OUT
- CLOSE
- SIGNALIZED INTERSECTION
- RIGHT IN ONLY
- RIGHT OUT ONLY
- G GATED ACCESS POINT
- C CONDITIONAL ACCESS POINT
  SEE ACCESS TABLE FOR CONDITIONS.
  TYPICALLY CLOSES WITH REDEVELOPMENT.
- S CONDITIONAL SAFETY ACCESS POINT

FIGURE 3L

PATTERSON ROAD ACP EXHIBIT

LEGEND

- BUS STOP
- BUS STOP - PULL OFF
- CROSS ACCESS - EXISTING
- CROSS ACCESS - PROPOSED
- PARCEL
- TRAIL
- PROPOSED CITY STREET OR PRIVATE CONNECTION
- PLANNED CITY STREET

ACCESS POINT INFORMATION

- SIGNALIZED FULL MOVEMENT
- UNSIGNALIZED FULL MOVEMENT
- 3/4 MOVEMENT
- RIGHT IN - RIGHT OUT
- CLOSE
- SIGNALIZED INTERSECTION
- RIGHT IN ONLY
- RIGHT OUT ONLY
- G GATED ACCESS POINT
- C CONDITIONAL ACCESS POINT
  SEE ACCESS TABLE FOR CONDITIONS.
  TYPICALLY CLOSES WITH REDEVELOPMENT.
- S CONDITIONAL SAFETY ACCESS POINT

FIGURE 3M

PATTERSON ROAD ACP EXHIBIT

LEGEND

- BUS STOP
- BUS STOP - PULL OFF
- CROSS ACCESS - EXISTING
- CROSS ACCESS - PROPOSED
- PARCEL
- TRAIL
- PROPOSED CITY STREET OR PRIVATE CONNECTION
- PLANNED CITY STREET

ACCESS POINT INFORMATION

- SIGNALIZED FULL MOVEMENT
- UNSIGNALIZED FULL MOVEMENT
- 3/4 MOVEMENT
- RIGHT IN - RIGHT OUT
- CLOSE
- SIGNALIZED INTERSECTION
- RIGHT IN ONLY
- RIGHT OUT ONLY
- G GATED ACCESS POINT
- C CONDITIONAL ACCESS POINT
  SEE ACCESS TABLE FOR CONDITIONS.
  TYPICALLY CLOSES WITH REDEVELOPMENT.
- S CONDITIONAL SAFETY ACCESS POINT

FIGURE 3N

PATTERSON ROAD ACP EXHIBIT

LEGEND

- BUS STOP
- BUS STOP - PULL OFF
- CROSS ACCESS - EXISTING
- CROSS ACCESS - PROPOSED
- PARCEL
- TRAIL
- PROPOSED CITY STREET OR PRIVATE CONNECTION
- PLANNED CITY STREET

ACCESS POINT INFORMATION

- SIGNALIZED FULL MOVEMENT
- UNSIGNALIZED FULL MOVEMENT
- 3/4 MOVEMENT
- RIGHT IN - RIGHT OUT
- CLOSE
- SIGNALIZED INTERSECTION
- RIGHT IN ONLY
- RIGHT OUT ONLY
- G GATED ACCESS POINT
- C CONDITIONAL ACCESS POINT
  SEE ACCESS TABLE FOR CONDITIONS.
  TYPICALLY CLOSES WITH REDEVELOPMENT.
- S CONDITIONAL SAFETY ACCESS POINT

FIGURE 30

PATTERSON ROAD ACP EXHIBIT

LEGEND

- BUS STOP
- BUS STOP - PULL OFF
- CROSS ACCESS - EXISTING
- CROSS ACCESS - PROPOSED
- PARCEL
- TRAIL
- PROPOSED CITY STREET OR PRIVATE CONNECTION
- PLANNED CITY STREET

ACCESS POINT INFORMATION

- SIGNALIZED FULL MOVEMENT
- UNSIGNALIZED FULL MOVEMENT
- 3/4 MOVEMENT
- RIGHT IN - RIGHT OUT
- CLOSE
- SIGNALIZED INTERSECTION
- RIGHT IN ONLY
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- G GATED ACCESS POINT
- C CONDITIONAL ACCESS POINT
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  TYPICALLY CLOSES WITH REDEVELOPMENT.
- S CONDITIONAL SAFETY ACCESS POINT

FIGURE 3P

Comments received through GJSpeaks

As of February 17, 2021

Grand Junction Speaks
Published Comments for February 23, 2021 Planning Commission Meeting
Patterson Road Access Control Plan

As someone who already lives on a street that is used as a pass through to other neighborhoods so that people can avoid sitting at a light, I am extremely displeased to find that my street will become an even bigger pass through. Our street is 20mph, but people regularly speed at upwards of 45mph. This will only create problems in residential neighborhoods that are used to redirect traffic to a light. This plan is moronic, it will create neighborhoods that are used by people trying to get home and/or out of their street. The traffic is not that bad, money could be better used to improve North Ave, which is an ugly pot hole filled disaster.

02/12/2021 9:24 am

Heather Pool
609 Starlight Drive
Grand Junction, 81504

I'm against restricting any access with the use of medians regardless of traffic congestion. Roads within the core of the city like Patterson and North Avenue should maintain access at all cost and be expanded to include shared bicycle lanes or separate bicycle lanes to relieve the congestion. Along with reduced speed limits, cut thru traffic should go around the city center not cut thru. Also finish phase 1 of north avenue, before starting new projects like this...come on man, you have gray plastic trash cans at bus stops on north Ave.....Do Better! Lower speed limits on north Ave as well as Bike lanes, landscaping, bus stop benches, remove the river rock in the parkways etc...raise your standard.

02/12/2021 9:22 am

William ferguson
1320 N 21st street
Grand junction, 81501

I understand the need and appreciate the information provided by Trent Prall but I am hoping that park of this plan will extend the length of turn lanes because you will be funneling use. I'm also concerned about the ability to merge across two lanes and move into a third turn lane within a relatively short distance depending on where your access point is in relation to a large intersection. Will the allotted time for left turn signals be increased? Changed to flashing yellow? I understand the need but I'm hoping that steps are taken to mitigate the impact of this change.

02/11/2021 3:02 pm

Peter Firmin
2923 WAGON WAY
Grand Junction, 81504

The thing that came to mind for me is not only access to businesses and neighborhoods but also emergency vehicles trying to navigate through traffic. Right now they have a full middle lane available when traffic is unable to yield the right of way. Traffic will continue to become more congested as our city grows and this will ad to the difficulty of getting care and help in any emergency situation.

02/10/2021 9:58 am

Nova Tucker
642 1/2 Ian Ct.
Grand Junction, 81504

What is going on with our Planning Department? This was done once before – this stopping of left hand turns. All of the medians had to be torn out because it was extremely difficult for business and the public. (Huge waste of money!) By attempting to do this again and without proper notice is fools play. Of the people I have talked to, who were to get notice about this, nearly everyone said they didn't know anything about it. I can understand why. Notice was on an Orange postcard that I am sure most people tossed away thinking it was one of the many cards we all get asking us if we want to sell our homes. I don't feel there was proper notice given. There are other, more effective ways to get notice out. This was not one of the best ways to do so. Your public has not been appropriately informed and you stand to suffer a huge backlash because of it.
No left hand turns off Patterson for 7 miles will cause a larger traffic problem in the neighborhoods where streets are narrow putting many neighborhood children in jeopardy. Not the wisest of choices. Please rethink this. I believe there has to be a better solution to a traffic problem that hasn't really manifested itself yet. Let the public help brainstorm for a better solution.

02/09/2021 4:18 pm

Ruth Kinnett
581 Grand Valley Drive
Grand Junction, 81504

Very dismayed to hear the plan to stop all left turns on Patterson for 7 miles. Does anyone remember: this was done before? By constructing a median down the center of Patterson Road to stop left turns? It was so diffictult for businesses and for the public to access, that there was another huge expense to remove the median. Yes, you asked for input, City. Some residents received notice a day after the meeting. Some of us did not receive any notice that must access Patterson to our homes. How many accidents have YOU seen - left turns? None here. Have seen left turns at signal lights. There was an extensive traffic study done regarding the Lodge at Grand Junction. The study showed there is a minimum time of traffic that would impede left turns. Most of the time, left turns can be done safely. There is maybe 1.5 hrs morning & evening that it isn't possible to turn left. Please don't over-react on this. There are not a lot of streets to "go around the block" to get to our destination making only right turns. There's a lot of businesses, homes, senior centers, medical facilities, post office which will be adversely affected. Much bigger cities than Grand Junction allow left turns.

02/09/2021 3:12 pm

Lois Dunn
PO Box 1889
Grand Junction, 81502

Grand Junction Speaks
Published Comments for February 9, 2021 Planning Commission Meeting
Patterson Road Access Control Plan

Hi. I am still concerned about the access to my driveway. It has changed to "C" instead of closed but from what I understand it is conditional and could still be closed. As I expressed at the in person meeting in October, this is the only entrance you can use to access the garage. The garage doors face Patterson. If this access is closed it extremely devalues our house. If this proceeds as it currently is we will need to speak to the city ROW agent about compensation for the tens of thousands of dollars that we will lose. What good is a garage if you can't park in it. We also currently have a drive-thru drive way, again we will lose value when we resell, if we no longer have that. My house is the corner house on Patterson and Partee. The suggested entrance to be closed is east of Partee. My address is 2918 Patterson Road. I also disagree with the right in/right out. We currently have so much traffic that comes out of Safeway (right only) that crosses two lanes of traffic in a short distance that then turns onto our street (Partee) and then does a U-turn on our property so that they can turn right and head west on Patterson. I point this out because the roads you do not make right in/right out will have the same issues I now face. The traffic is a mess and it is tearing up my property. To recap, I strongly oppose closing my Patterson Road driveway and the right in/right out proposal.

02/08/2021 1:08 pm

Merton m Fisher
2918 Patterson Road
Grand Junction, 81504

I have looked carefully at this plan and beyond the scope of what you see on the pages via the GIS maps.
I am concerned about point 64 being conditional. The homeowners off of Meander need guaranteed access. Planned Access 34 is concerning. There is potential for a significant cost to the property or future property owner to make this happen.
Construct the final leg at 27 1/2 road (North East Christian). Close the existing NECC access. Route properties to west of NECC to Wellington, do not force the proposed access at #138.
Make 149 RI/RO, 150 - No, instead route access to the existing ROW that connects El Corona to Santa Fe Dr. The reroute Santa Fe Dr to Camino Del Ray and reroute Camino Del Ray across 115 Camino Del Ray (Boundary Adj) to connect cleanly to Rio Grande.
Make 196 RI/RO. I have a concern about 195, 197 & 198. Instead continue Cascade Av to the East and South to connect into 29 Rd.
#234 Broken Spoke collects alot of traffic to north and east, and connects to F 1/2. Should be a 3/4 access.
#244 RI/RO - why is it Conditional Safety. Look beyond your detail area to see what is already happening there.
#252 - RI/RO

Re: pts 25-34 - Access to Flat Top Ln should be mandatory and Flat Top Ln widened on the south side to accommodate traffic flow.
Pt 33 Should remain open as there is not space to allow parking lot traffic flow to the two properties to the south.
Personally, I feel that 70-80% of the plan will meet your stated safety goals for the future. However, the plan will create frustrated drivers if 3/4 turn options are not used appropriately.

02/08/2021 11:01 am

Virginia Brown
2526 Patterson Rd, #101
Grand Junction, 81505

Leave Patterson alone until the City does something with the whole of North Ave. In a quote from this evening comes this example of local-attitude when it comes to doing anything before plans are made. "The City "gods," are not going to do anything with North Ave until hell freezes over. The Name change from North to University was going to cost the businesses on North in excessive over 500K over all. when that was proven to the City gods of GJ, they put in a U-Haul command center, that utterly ruined North Ave. (the city gods of GJ) ain't gonna do _____!" This is the sentiment of many locals and it has been for years. Look at "Reverse-Parking," how well did that go over? If we have the money to repair our roads and walkways, let's look at the whole of the city/county, fix what needs it the most, then gradually move up to Patterson Ave. which needs more traffic cops on duty then it does street lights. Issues with Patterson is like trying to fix mistakes of the past. If actual repairs are going to be made on that streatch of road, someone is going to loose their property along the way. Think carefully of what you are planning on doing to Patterson. Ave.

02/05/2021 7:24 pm

John A Edwards
2668 B 1/2 Rd.
Grand Junction, 81503

What is the current status of the I-70/29 Road Interchange? If and when that exit is created, how much traffic is expected to use 29 Road South to Orchard & North Avenues and points south instead of using Patterson Road between St. Mary's and Clifton/BL-70?

That should be taken into consideration for the Patterson Road plans as that will reduce the reliance of Patterson Road for many.

02/05/2021 3:23 pm

Tim Kubat
489 Sheldon Road
Grand Junction, 81504

Hi, I am not in favor of medians. I think sometimes you cannot turn where you need to. Also there are few places which allow you to make a U Turn when not being able to cross the road. I think that medians help with bicycle traffic if there is not a way to go left.
Please get on a bicycle and ride this portion of Patterson and see if you think it is hard to

turn left.
How many times have you gone through the exit at a store or restaurant on Patterson and discovered that you can't cross.
There are other ways (rounabouts for example which will be better.

02/05/2021 1:54 pm

Patricia Johns
2217 MESCALERO AVE
GRAND JUNCTION, 81507

If you are thinking of putting in raised medians, then that is a HORRIBLE idea for Patterson Rd. A lot of people need to be able to access the middle lane in order to cross traffic (ie: when trying to turn left onto Patterson when it's busy from 28 Rd or any of the other streets). Raised medians will be a waste of time and money, especially with a smaller budget and when other streets in this town need more funding to improve potholes, etc. If this is put forth, then more traffic lights will also be needed along Patterson, so it will be more accessible. Research other towns that have put in the raised medians along major roadways against their town's majority wishes and still have more problems with them (ie: Cortez). Also, try accessing Patterson from a road that doesn't have a traffic light, without using the middle lane, on a busy day. It's almost impossible. Leave Patterson alone.

02/05/2021 1:17 pm

KJ Kraich
2809 Cottage Ln
Grand Junction, 81506

On behalf of Northeast Christian Church, I would like to address the proposed Patterson Road Access Control Plan. We understand and agree with the safety concerns and need to better control traffic entering and exiting Patterson Road. However, due to the proposed restriction/loss of "left-hand turns" exiting our property onto Patterson Road, I would like to formally speak against the plan in that regard. It is our understanding entering our property at 2751 Patterson Road will also be restricted to only eastbound traffic. This will make it unreasonably difficult to both enter and exit our property... We are in favor of opening the 27 1/2 RD intersection on the south side of Patterson, which would be a signaled intersection and the safest option. However, due to utility company XCel Energy owning a gas regulator station at that location it is cost prohibitive. We would respectfully ask the city to leverage any influence they have to working a better solution with XCel to open that intersection. We would be favorable to vacating land necessary for the relocation of the gas regulator to the west of the current location if that would help with the situation. So, again, we understand and agree with the safety concern, and want to find a workable solution, however, losing both the ability to enter our property while westbound and not being able to exit our property westbound will greatly restrict access. Thank you for the opportunity to comment.

02/04/2021 2:10 pm

Seth Thomas
2751 Patterson RD
Grand Junction, 81506

I would like to see the Patterson corridor median to be better than the ones on North Avenue and Horizon Drive and the Riverside Parkway. We need to address lighting for the nighttime also zero-maintenance vegetation and any sound reduction for the area.

02/02/2021 6:07 pm

Robert Garrison
2778 Patterson Road
Grand Junction, 15006

Email Response sent out to the Public commenting on GJSpeaks received through February 17, 2021

David Thornton

From: Rick Dorris
Sent: Wednesday, February 17, 2021 4:26 PM
To: Rick Dorris
Subject: Comment Response for the Patterson Access Control Plan
Attachments: Patterson Road Summary.pdf

Thank you for your interest in the Patterson Road Access Control Plan and your comments on GJSpeaks.org. The City has reviewed all comments made through the GJSpeaks website and noted recurring themes where we'd like to provide clarification.

- The project team carefully reviewed the corridor using crash records, traffic counts collected in early 2020, and transportation engineering best practices to determine the level of access provided. At many locations, minor street intersections with Patterson Rd are too close to major intersections, meaning that left turns cannot safely be made to the minor street. Our methodology in development of the plan included limitations of out-of-direction travel to 1 mile.
- While commonly understood to be "unsafe" compared to direct left turns onto a major street, studies have shown that making a right turn from a driveway and then performing a U-turn is less likely to result in a crash. This safety advantage is mainly due to a driver only having to cross one stream of traffic at a time.
- Growth forecasts were provided by the Grand Valley Metropolitan Planning Organization travel demand model for the year 2045. This model doesn't just consider land development over time, but also the shifts of traffic demand resulting from the construction of other transportation improvements in the area.
- Driveways marked "C" will remain open until the property redevelops. For the purposes of this plan, "redevelopment" means a land use change that is expected to increase traffic generated by 20% or more. A question came up regarding Accessory Dwelling Units and whether adding one would trigger the Redevelopment threshold. It was determined that they do not. Also, transferring ownership or making improvements to a single-family residential property do not meet this "redevelopment" threshold.
- Adoption of this Access Control Plan by City Council is just the first step toward implementing raised medians along Patterson Rd. In the near term, City staff will use the plan as a tool when reviewing proposals for development along the corridor. Construction of the raised median will occur over time as engineering and construction funding becomes available. The median will be prioritized along segments that have the highest traffic safety/operational needs and t may be a very long time before medians are constructed in relatively low traffic areas.

Additional detail regarding the Access Control Plan is attached for your reference.

Instructions for participation in the GoToWebinar for the public hearings are below.

The Planning Commission will hear and provide a recommendation to City Council on the Patterson Road Access Control Plan at their February 23rd meeting (begins at 5:30pm). Register for the meeting by clicking here.

The City Council will hear and make a decision on the Patterson Road Access Control Plan at their March 3rd meeting (begins at 5:30pm). You can view options for public participation on the City's website by clicking here and register for the virtual meeting here.

If you registered for the virtual meeting via GoToWebinar, you will be emailed the link prior to the meeting. Please follow the instructions in the email you are sent from GoToWebinar. Once in the meeting, as a participant you will ***not*** *be able to unmute yourself or share your camera. You will only be able to view the panelists (City staff and the Commission or*

Council). The meeting will run as a public hearing, and as such, members of the public can only speak during the public comment period. The meeting chair will provide specific instructions during the meeting on how to speak during the public comment period. To do so, you will need to use the "raise hand" feature and wait for your name to be announced by City staff. Once prompted, your opportunity to provide comment will begin. Please direct questions to the Commission/Council (not the Applicant or Staff). Public comment is limited to 3 minutes per person. Once you have finished speaking, or your 3 minutes has expired, Staff will mute your mic. You will not be able to share your camera or screen during the meeting. If you have any questions on how to participate virtually, please contact Isabella Vaz at isabellav@gjcity.org or by calling 970-256-4087.

Feel free to contact me using the information below or David Thornton at 970-244-1450 or Davidth@gjcity.org if you have additional concerns.

Thanks,

Rick Dorris, PE, CFM
Development Engineer
City of Grand Junction, CO
970-256-4034
rickdo@gjcity.org

Due to the recent rise in COVID-19 cases, City Hall is closed to the public starting Monday, November 16, 2020 but there are no anticipated interruptions to City services. Staff are available by email and phone during regular work hours and appointments can be made on a case by case basis.

PATTERSON ROAD ACCESS CONTROL PLAN

Patterson Rd Conditions

Since its construction in 1984, Patterson Rd has served as a critical east-west arterial corridor for Grand Junction's transportation system. Successful economic development along the corridor has increased travel demand and necessitates the need to improve safety, operations, and reliability. Based on the last five years of available data, approximately 64% of crashes on Patterson Rd are related to intersections and driveways. In addition, traffic volumes are projected to increase by 33% over the next 20 years. Without access management, this increase in traffic will result in the following:

- Increased congestion and the need to increase capacity on Patterson Rd (add lanes)
- Reduced opportunity for vehicles to make left turns safely during peak periods (increased crashes)
- Increased delay for vehicles entering Patterson Rd (longer wait times to make turns)

Access Management Benefits

Access management is the coordinated planning, regulation, and design of access between roadways and land development. Access includes public street intersections and private driveways. Identifying key locations where vehicles enter a roadway; minimizing the number of places where vehicles enter the roadway; minimizing the number of conflict points between vehicles; and providing adequate circulation for vehicles to route to their desired destination all plays a role in access management. Raised median is a common technique on arterials, such as Patterson Rd, to reduce the number of conflict points and focus turning movements at key intersections.

Access management will optimize the performance of Patterson Rd and can provide the following benefits:

- Safety - between 30% to 60% reduction in crashes
    - 74% of crashes at access points are related to left turn movements
- Increase roadway capacity by 20% to 40%, thereby reducing delay
- Provide a more predictable and consistent development environment
- Managing roadways to operate at maximum capacity costs less than investing in new or expanded roadways.
    - Saves tax-payer dollars that would be spent on Patterson Rd. widening projects
    - Reduces impacts to adjacent properties related to right-of-way acquisition for widening

Access Control Plan

The purpose of the Access Control Plan (ACP) is to coordinate growth anticipated in the area with the transportation needs for the traveling public in order to improve safety and maximize the life of the four-lane section along Patterson Rd. The City of Grand Junction identified an ACP as a first step toward planning for both private development access and for public improvement projects, such as a raised median and auxiliary lane projects, along 7.1 miles of Patterson Rd from US 6/US 50 to Lodgepole St. The ACP defines access locations and configurations (which movements are allowed), with consideration for circulation and alternative access opportunities on a corridor-wide basis rather than an individual, first-come, first-serve basis. It considers how adjacent access points impact each other and provides property owners with security in the planned access for their property.

The recommended changes to Patterson Rd will result in the following benefits, once fully implemented:

- a 60% reduction of vehicle conflict points, which correlates to a reduction in crashes
- a 45% reduction in conflict points for pedestrians and cyclists traveling on Patterson Rd
- improved travel time in both directions during morning and evening peak periods
- the addition of auxiliary lanes at major intersections to safely separate turning movements and allow through movements to travel unimpeded
- retention of business market area over time by reducing congestion
- increased fuel efficiency and improved air quality by providing smoother traffic flow
- clear expectations of access for both City staff and property owners/developers.

Implementation

The improvements recommended in the ACP represent a long-range plan to implement over time as traffic and safety needs arise and as funding becomes available. Construction of the improvements recommended may be completed using public and/or private funding. The following scenarios will trigger construction.

1. A property redevelops or changes use, resulting in an increase in traffic to and from the site of 20% or more.
2. Planned publicly funded project by the City.
3. A safety or operational issue develops that can be mitigated through access management techniques

Implementation of improvements recommended in the ACP will only occur with one of the triggers listed above. Without one of these scenarios, the ACP does not compel a property owner to make access changes.

Other Public Comments received through February 17, 2021

David Thornton

From: Rick Dorris
Sent: Wednesday, February 17, 2021 4:53 PM
To: mansretired@aol.com
Subject: Patterson Access Control Plan
Attachments: Patterson Road Summary.pdf

Dear Ray,

Thanks for your email. I'll answer your questions in red below and beneath that is an email sent to the citizens who commented on GJSpeaks.org. You may find it information. Also included are instructions showing how to join the virtual Planning Commission and City Council meetings.

I have a couple of question's.
1. How did you come up with this idea/plan to make change's on Patterson? The City hired a transportation engineering firm from Denver with extensive experience in municipal traffic management and creating access control plans. What was the engineering that went into it. This would take pages to answer completely but suffice it to say, the consultant examined all 280ish access points to determine how to treat them. They also counted traffic at most of the public street intersections along the 7 mile corridor. The attachment and information below will help answer this question. I never seen any traffic counters across Patterson. They counted peak hour movements, using professional traffic counting personnel, which don't use tubes. The City periodically counts through traffic on major public streets. The last count on Patterson was March 3rd and 4th of 2020 before COVID affected traffic. Traffic counts on Patterson vary from approximately 19,000 vehicles per day (VPD) just east of 30 Road to 36,000 just west of 28 ¼ Road, to 7100 just west of 24 Road.
2. How does the 29 road bypass work into your plan to mess with Patterson? The 29 Road bypass will reduce traffic on portions of Patterson and may increase it a little in other areas. If you you ever do put the bypass through you be endangering School Children. When the 29 Road bypass is constructed it will include improving 29 Road south to Patterson. School safety is something the City takes very seriously and proper pedestrian measures will be designed and constructed to provide safe access for school traffic and pedestrians.
3. Why aren't you trying to improve the down town street's, to include North Avenue, 1st Street, 5th Street, 7th Street, and address 12th Street and 28 3/8 Street. CDOT will be making major improvements to the majority of North Avenue (it is a state highway) starting in 2022. The City has an aggressive schedule to routinely maintain our street network and occasionally we do a major reconstruct. 7th Street was reconstructed from North Avenue to Wellington in the last 2 or 3 years. 1st Street was rebuilt from Ouray to North Ave. a few years ago. The west half of 24 Road will be built, from Leland to I70, starting later this year. F ½ Road parkway will be built from 24 Road to 25 Road and down to Patterson starting in a couple of years. We have several other major projects in the works that were identified in ballot measure 2A which passed in November of 2019.

Fee free to call or email me if you have additional questions.

Thank you for your interest in the Patterson Road Access Control Plan and your comments on GJSpeaks.org.

The City has reviewed all comments made through the GJSpeaks website and noted recurring themes where we'd like to provide clarification.

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Thanks,

Rick Dorris, PE, CFM

Development Engineer
City of Grand Junction, CO
970-256-4034
rickdo@gjcity.org

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David Thornton

From: Andrew Amend <andrew@Stolfusandassociates.com>
Sent: Wednesday, February 17, 2021 4:24 PM
To: Mark Shoberg
Cc: kenneth perino; Rick Dorris; David Thornton; Michelle Hansen
Subject: RE: Patterson Road ACP Follow Up

** - EXTERNAL SENDER. Only open links and attachments from known senders. DO NOT provide sensitive information. Check email for threats per risk training. - **

Hi Mark,
The updated plan allows left turns in to Burkey Street, along with right turns in and out. Access to 2532 Patterson Road where there is currently a porkchop island will be restricted to Right-In, Right-Out only.

Best regards,

Andrew Amend, PE, PTOE | Transportation Engineer
Stolfus
www.stolfusandassociates.com
Stolfus & Associates, Inc. | 5690 DTC Boulevard, Suite 330W | Greenwood Village, CO 80111
Main: 303 221 2330 | andrew@stolfusandassociates.com

From: Mark Shoberg <marks@brayandco.com>
Sent: Wednesday, February 17, 2021 10:42 AM
To: Andrew Amend <andrew@Stolfusandassociates.com>
Cc: kenneth perino <drgenoos@gmail.com>
Subject: FW: Patterson Road ACP Follow Up

Hello Andrew,

Kenneth owns a business at Foresight Park and has a question below. Can you replay all? Thanks again for all your help.

At our meeting yesterday I did not get a good answer to my question concerning changes to Burkey Street and Patterson (west of postoffice) and to area of our pork chop at the west end of our property at 2532 Patterson Road, Foresight Professional Plaza. Will these two sites have limited access, ie left turn out and left turn in restrictions?

Have a great day!

Mark S.
Bray HOA Management
637 North Ave. Grand Jct, CO 81501
hoa@brayandco.com
970 242 8450

This communication does not constitute legal advice.
Please consult an attorney for all legal matters...

From: Andrew Amend <andrew@Stolfusandassociates.com>
Sent: Tuesday, January 19, 2021 8:20 PM
To: Bray HOA Managers <hoa@brayandco.com>
Cc: Rick Dorris <rickdo@gjcity.org>; David Thornton <davidth@gjcity.org>; Michelle Hansen <Michelle@Stolfusandassociates.com>; mattclarkcreations@gmail.com
Subject: Patterson Road ACP Follow Up

Dear Mr. Shoberg,
As discussed at our Zoom meeting last Wednesday, our project team has performed an engineering investigation into your request to provide ¾ (Left-In and Right-In) access to Foresight Circle. In development of this plan, our team applied the concept of Functional Intersection Area (FIA), as defined in the TRB's Access Management Manual. While accounting for the 216-foot peak queue length projected in 2045 at 25 Road, we have concluded that Foresight Circle is outside the FIA. Because Foresight Circle is a public street and outside the FIA for 25 Road, the plan has been revised to provide ¾ access at #40, as shown in the attached exhibit. We have also redesignated access to Northgate Drive to ¾ in order to provide greater access to the south side of Patterson Road and to provide a u-turn opportunity for traffic coming from the east.

Thank you for your interest in the project,

Andrew Amend, PE, PTOE | Transportation Engineer
Stolfus
www.stolfusandassociates.com
Stolfus & Associates, Inc. | 5690 DTC Boulevard, Suite 330W | Greenwood Village, CO 80111
Main: 303 221 2330 | **andrew@stolfusandassociates.com**

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CITY OF GRAND JUNCTION, COLORADO

ORDINANCE NO.

AN ORDINANCE ADOPTING THE PATTERSON ROAD ACCESS CONTROL PLAN AS VOLUME III, TITLE 38 OF THE MUNICIPAL CODE

THE ACCESS CONTROL PLAN IS FOR APPROXIMATELY SEVEN MILES OF PATTERSON ROAD BETWEEN I-70 B (23.75 RD) AND LODGE POLE STREET (30.75 RD)

Recitals

The City of Grand Junction staff and Stolfus and Associates as a planning team have diligently worked jointly to prepare an Access Control Plan (ACP) Study for the Patterson Road corridor within the city limits of Grand Junction. This action follows public meetings and virtual and in-person open houses during the planning process where members of the public attended and participated.

After twelve months of public outreach and deliberation by the planning team, public notice and a public hearing, by the City Planning Commission, the Planning Commission forwards its recommendation of adoption of the Access Control Plan for the future of the Patterson Road corridor.

The City Council finds that the proposed Patterson Road Access Control Plan is consistent with the City's overall vision, implements the 2020 One Grand Junction Comprehensive Plan, and overall manages the Patterson Road corridor to not only preserve the transportation functions of the corridor, but also helps to preserve property values and the economic viability of abutting developments. It optimizes the performance of the roadway to improve the level of safety, reduction of traffic congestion and is key in minimizing the need to add additional lanes of traffic that would have a much greater impact to the corridor and adjacent properties.

Further, the City Council finds that the ACP will afford maximum opportunity, consistent with the sound need and plans of the municipality as a whole, for the development or redevelopment of the corridor.

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

The Patterson Road Access Control Plan (ACP), City of Grand Junction, Colorado, in the form of the document attached hereto, and as recommended for adoption by the City Planning Commission is hereby adopted.

The full text of this Ordinance, including the text of the Patterson Road Access Control Plan, in accordance with paragraph 51 of the Charter of the city of Grand Junction, shall be published in pamphlet form with notice published in accordance with the Charter.

INTRODUCED on first reading the 17th day of February, 2021 and ordered published in pamphlet form.

ADOPTED on second reading the _____ day of _____, 2021 and ordered published in pamphlet form.

ATTEST:

_____
C.E. “Duke” Wortmann
President of the Council

_____
Wanda Winkelmann
City Clerk