



City of Helena Pre-Application Information Form

Please fill out this form as best you can and return to the City Planning Office **five (5) days prior** to your pre-application meeting. If you have any problems filling out this form, please call the City Planning Office at 447-8490 and we will be happy to assist you.

PLEASE CHECK ONE: **SUBDIVISION** **NON-SUBDIVISION**

1. Name of Applicant: Trinity Restoration, LLC
Name of Property Owner (if different): Resurrection Cemetery Association, Inc.
Address/City/State/Zip: 1344 Jordan Drive, Helena, MT 59602
Email: none Primary Phone: 406-442-1782
Secondary Phone: _____

2. Contact person: Matthew Selvig, WWC Engineering Primary Phone: 406-443-3962
Email: mselvig@wwcengineering.com Secondary Phone: _____

3. Legal Description and general location: Lot/Tract A-1-A, Section 17, Township 10N, Range 3W, C.O.S. 3295815,
Geocode: 05-1888-17-2-01-10-000

Please provide a general vicinity map, showing existing streets, north arrow and the proposed location of the site.

4. Describe land use proposal (CUP, zone change, etc.): Annexation and prezone

5. What, if any, is the existing zoning? prezoned B-2

6. Do you plan to hire an engineer? Yes No Do you plan to hire a surveyor? Yes No

7. Are you aware of any site conditions that may affect development? No. Land is currently vacant.

8. Describe proposed water and sewer system: Proposed extension of City of Helena water and sewer.

9. Describe proposed streets/access: Access via Sanders Street from the south and Jordan Drive from the west.

10. Do you intend to apply for a variance? We do not anticipate any variances at this time.

11. Describe drainage provisions (if applicable): All storm water management will meet City of Helena standards at the time of lot development. Site gradually slopes to the northeast at slopes of approximately 2%.

For Subdivision Pre-Application Conference, please complete the following additional information:

12. Name of proposed subdivision: Trinity Subdivision

13. Number and size of lots: 5 lots (4.8 acres to 15.5 acres) approximate size of subdivision: 42.6 acres

14. How do you intend to meet the park dedication requirement? cash donation park dedication
 Combination n/a

Please include a sketch of the proposed subdivision showing the layout of the existing streets in relation to the site.

SUBDIVISION PRE-APPLICATION CONFERENCE

- A. Prior to submitting a preliminary plat application, a subdivider for a subdivision must consult with the Planning division of the Community Development Department to become familiar with the City's subdivision application requirements and review process. The subdivider must attend a pre-application meeting prior to submitting a subdivision application or resubmitting a previously submitted subdivision application that has material changes or amendments made by the subdivider after the original application has been determined by the City to contain required elements and sufficient information.
- B. The pre-application meeting will be scheduled within thirty (30) days after the subdivider submits a written request for a pre-application consultation and submits the pre-application materials to the City.
- C. To be considered for review, a subdivision application must be submitted within one hundred eighty (180) days of the pre-application meeting consultation. If an application is not submitted within that time frame, the subdivider must request a new pre-application consultation prior to submitting the subdivision application.
- D. In order to make the pre-application consultation productive, the subdivider should provide as much of the following information as possible:
- 1. Names and addresses of the subdivider and the owner of the property proposed to be subdivided;
 - 2. Name of proposed subdivision;
 - 3. Location of the property to be subdivided;
 - 4. Existing zoning of the property to be subdivided;
 - 5. Number and size of proposed subdivided lots;
 - 6. Size of the proposed subdivision;
 - 7. Name and contact information for any engineer or surveyor that have been retained;
 - 8. Proposed water and wastewater systems;
 - 9. Nearest existing water and wastewater mains to the property and type, size, and location of existing wastewater treatment facilities, including septic systems;
 - 10. Proposed streets;
 - 11. Whether the subdivider intends to apply for a zone change, zoning variance, or subdivision regulation variance;
 - 12. Description of any physical and environmental site conditions on the property;
 - 13. Stormwater drainage system;
 - 14. Proposed special improvement or maintenance districts;
 - 15. Proposed park land dedication;
 - 16. Legible drawing of the proposed subdivision showing layout of existing streets in relationship to proposed improvements and topography of the tract, if possible (drawing does not need to be to scale);
 - 17. A general vicinity map showing existing streets and north arrow;
 - 18. Existing structures on the property;
 - 19. Existing easements and right-of-ways on the property;
 - 20. Existing and proposed covenants or deed restrictions;
 - 21. Water rights, including the name of owner(s), amount of water by flow rate or volume, date of priority of the right, purpose of use, place of use, and place and means of diversion;
 - 22. Types and locations of agricultural water facilities; and
 - 23. Analysis on how the proposed subdivision complies with the City Growth Policy.

Applicable Laws and Regulations

The following are state laws, local regulations, Growth Policy provisions and other documents that may apply to the subdivision review process; this is for informational purposes only per MCA 76-3-504 (1)(q)(ii):

- Montana Code Annotated: including but not limited to Title 76 – Chapter 3
- Administrative Rules of Montana: including but not limited to Title 8, Chapter 94, Sub-chapter 30
- City of Helena City Code: including but not limited to Title 6 Public Utilities
Title 7 Public
Ways Title 11
Zoning, and
Title 12 Subdivision Regulations
- 2011 City of Helena Growth Policy
- Greater Helena Area Transportation Plan – 2004 Update
- 2011 City of Helena Comprehensive Parks, Recreation, and Open Space Plan
- City of Helena Engineering Standards
- South Hills Planning Study – 1985
- Helena West Side Infrastructure Study – 2001

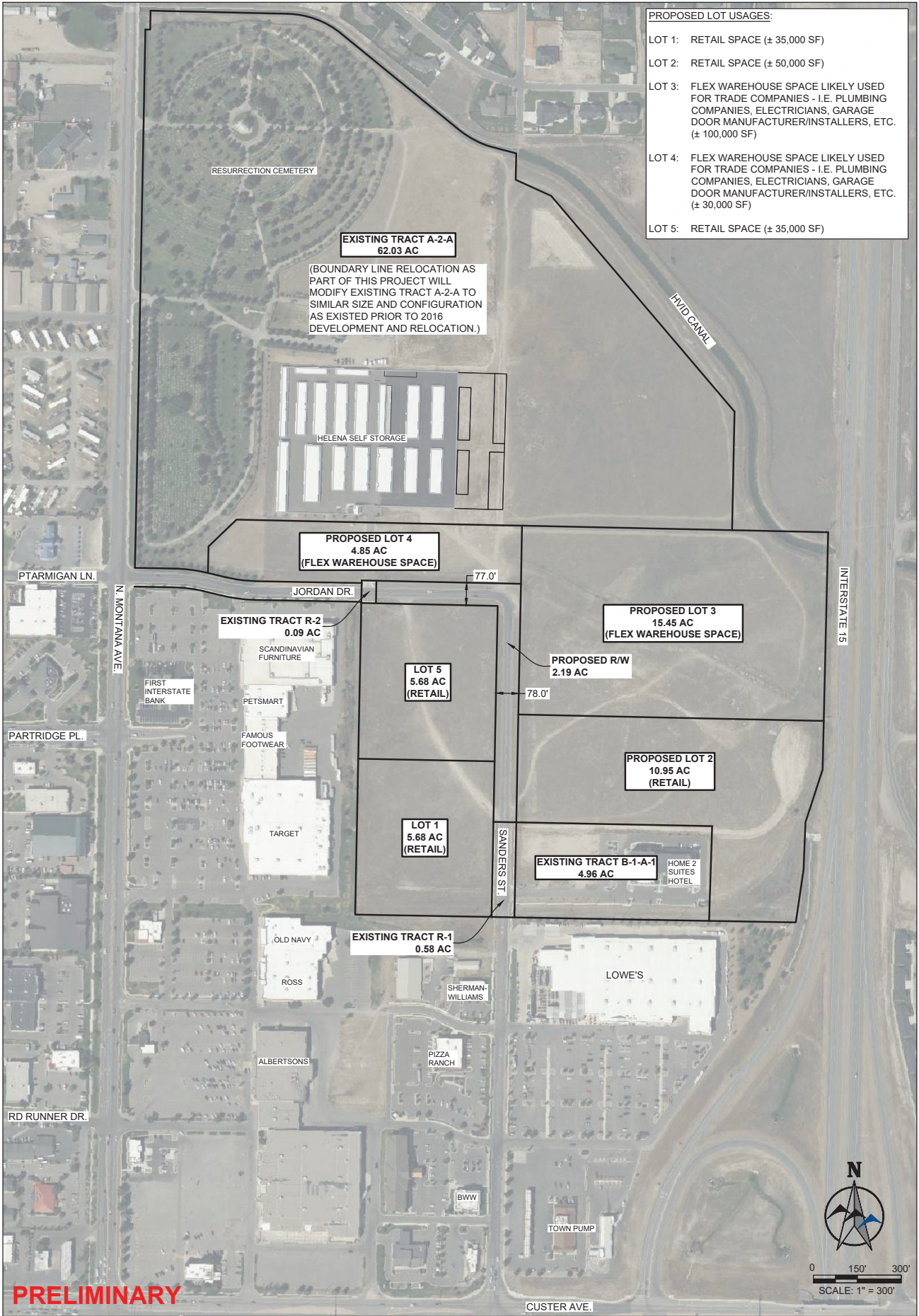
Comment Contact List

The following entities may be contacted for comments on proposed subdivisions per MCA 76-3-504 (1)(q)(iii). The City requests these entities respond within two (2) weeks of receiving the City's "Request for Comment." Although the City requests that these entities respond within two (2) weeks, they may comment at any time during the subdivision review process. Applications for subdivision review will not be delayed if these entities do not respond within the review period.

- ADA Compliance Committee
- City of East Helena
- City of Helena
- East Helena Public Schools
- Fort Harrison
- Helena Citizen's Council (HCC)
- Helena Regional Airport
- Helena School District
- Helena Valley Irrigation District
- Jefferson County
- Lewis and Clark County
- Lewis and Clark County Water Quality Protection District
- Lewis and Clark County Soil Conservation District
- Montana Department of Environmental Quality
- Montana Department of Fish, Wildlife, and Parks
- Montana Department of Natural Resources and Conservation
- Montana Department of Transportation
- Montana Land Reliance
- Montana Natural Heritage Program
- Non-motorized Transportation Advisory Council
- NorthWestern Energy
- St. Peter's Hospital and Ambulance Service
- State Historic Preservation Office
- City-County Heritage Tourism Council
- Three Rivers Communications

- U.S. Army Corps of Engineers
- U.S. Bureau of Land Management
- U.S. Environmental Protection Agency
- U.S. Fish and Wildlife Service
- U.S. Forest Service
- U.S. Geological Survey, Water Resources Division
- U.S. Post Office
- Utility companies including those providing electrical, communication, fiber optic, gas, or other services
- Yellowstone Pipe Line Company

ATTACHMENT 1
EXHIBITS



PROPOSED LOT USAGES:

LOT 1:	RETAIL SPACE (± 35,000 SF)
LOT 2:	RETAIL SPACE (± 50,000 SF)
LOT 3:	FLEX WAREHOUSE SPACE LIKELY USED FOR TRADE COMPANIES - I.E. PLUMBING COMPANIES, ELECTRICIANS, GARAGE DOOR MANUFACTURER/INSTALLERS, ETC. (± 100,000 SF)
LOT 4:	FLEX WAREHOUSE SPACE LIKELY USED FOR TRADE COMPANIES - I.E. PLUMBING COMPANIES, ELECTRICIANS, GARAGE DOOR MANUFACTURER/INSTALLERS, ETC. (± 30,000 SF)
LOT 5:	RETAIL SPACE (± 35,000 SF)

EXISTING TRACT A-2-A
62.03 AC

(BOUNDARY LINE RELOCATION AS PART OF THIS PROJECT WILL MODIFY EXISTING TRACT A-2-A TO SIMILAR SIZE AND CONFIGURATION AS EXISTED PRIOR TO 2016 DEVELOPMENT AND RELOCATION.)

HELENA SELF STORAGE

PROPOSED LOT 4
4.85 AC
(FLEX WAREHOUSE SPACE)

EXISTING TRACT R-2
0.09 AC

LOT 5
5.68 AC
(RETAIL)

PROPOSED LOT 3
15.45 AC
(FLEX WAREHOUSE SPACE)

PROPOSED R/W
2.19 AC

PROPOSED LOT 2
10.95 AC
(RETAIL)

LOT 1
5.68 AC
(RETAIL)

EXISTING TRACT B-1-A-1
4.96 AC

EXISTING TRACT R-1
0.58 AC

LOWE'S

PRELIMINARY



DESIGNED BY: MRS
DRAWN BY: JMS
CHECKED BY: JMS
DATE: 10/23/2023
SHEET 1

TRINITY CENTER
TRINITY DEVELOPMENT
LOT LAYOUT
LEWIS AND CLARK COUNTY, MONTANA

PREPARED BY
WWC ENGINEERING
1275 MAPLE STREET, SUITE F
HELENA, MT 59601
(406) 443-3962
www.wwcengineering.com

NO.	REVISION	BY	DATE

PROJECT NO. 2023-095



PRELIMINARY

DESIGNED BY: MRS
 DRAWN BY: JMS
 CHECKED BY: JMS
 DATE: 2/14/2024
 SHEET
2

TRINITY CENTER
 TRINITY DEVELOPMENT
SANITARY SEWER PLAN
 LEWIS AND CLARK COUNTY, MONTANA

PREPARED BY

WWC ENGINEERING
 1275 MAPLE STREET, SUITE F
 HELENA, MT 59601
 (406) 443-3962
 www.wwcengineering.com

NO.	REVISION	BY	DATE

PROJECT NO. 2023-095

Montana Cadastral Map



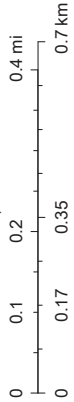
9/8/2022, 9:33:08 AM

CadastralWebMerc - OwnerParcel
 CadastralWebMerc - PLSS First Division

Section

CadastralWebMerc - PLSS Township
 CadastralWebMerc - Counties

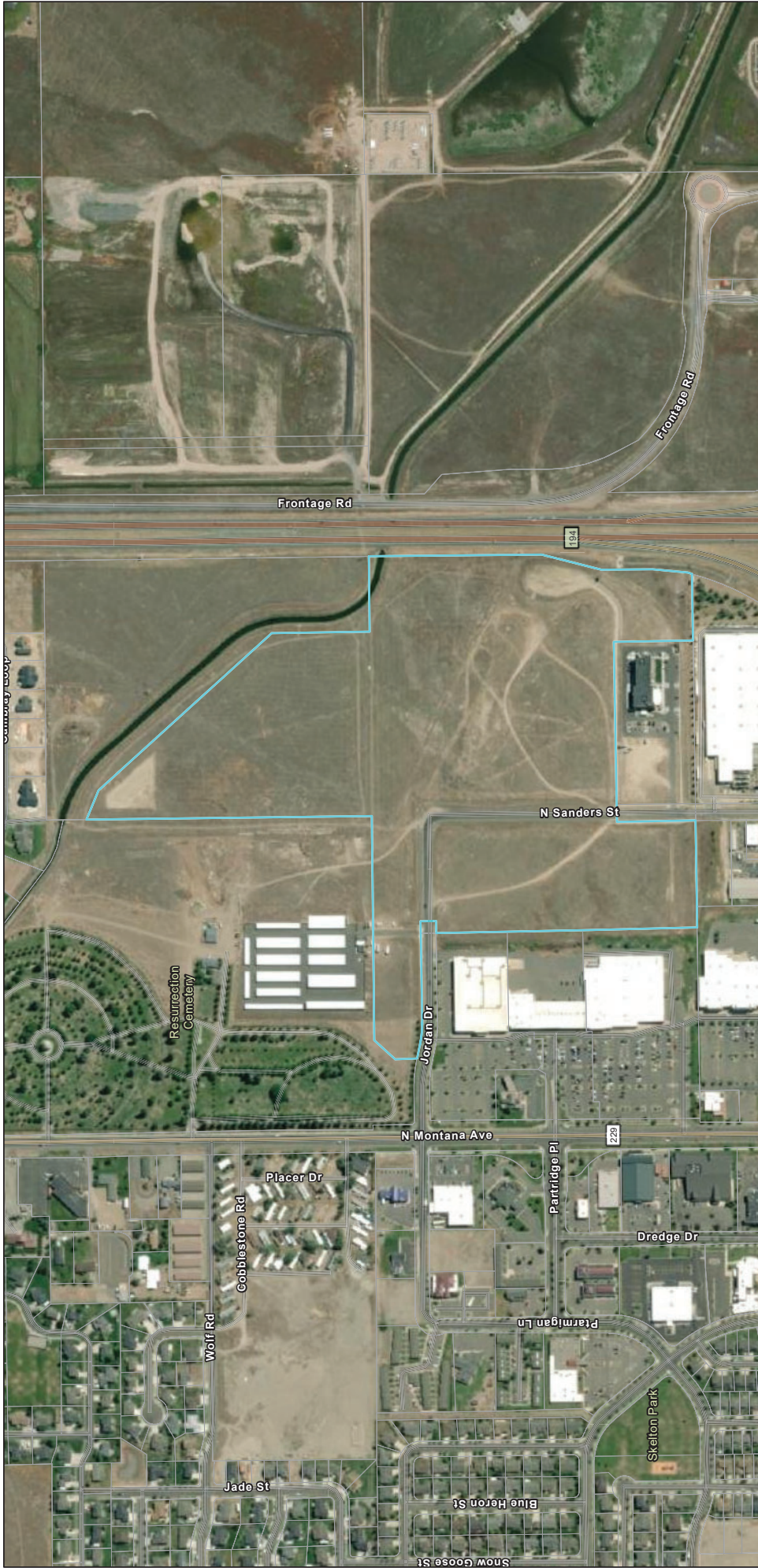
1:14,162



Esri Community Maps Contributors, County of Lewis and Clark,
 Esri, HERE, Garmin, SafeGraph, GeoTechnologies, Inc. METI/
 NASA, USGS, Bureau of Land Management, EPA, NPS, US
 Census Bureau, USDA, Maxar

Source: Esri, Maxar, Earthstar Geographics, and the GIS User Community |
 Montana Cadastral

Montana Cadastral Map



9/8/2022, 9:31:43 AM

▭ CadastralWebMerc - OwnerParcel

▭ CadastralWebMerc - PLSS First Division

Section

▭ CadastralWebMerc - PLSS Township

▭ CadastralWebMerc - Counties

Esri Community Maps Contributors, County of Lewis and Clark, © OpenStreetMap, Microsoft, Esri, HERE, Garmin, SafeGraph, GeoTechnologies, Inc., METI/NASA, USGS, Bureau of Land Management, EPA, NPS, US Census Bureau, USDA, Maxar

Source: Esri, Maxar, Earthstar Geographics, and the GIS User Community | Montana Cadastral

ATTACHMENT 2
PROPERTY REPORT CARD

Property Record Card

Summary

Primary Information

Property Category: [RP](#)

Geocode: [05-1888-17-2-01-10-0000](#)

Primary Owner:

[RESURRECTION CEMETERY ASSOCIATION INC](#)

[PO BOX 5029](#)

[HELENA, MT 59604-5029](#)

NOTE: See the Owner tab for all owner information

Certificate of Survey: [3295815](#)

Subdivision:

Legal Description:

[S17, T10 N, R03 W, C.O.S. 3295815, ACRES 59.35, TRACT A-1-A, IN W2](#)

Last Modified: [3/4/2022 7:15:55 PM](#)

General Property Information

Neighborhood: [205.323](#)

Living Units: [0](#)

Zoning:

Linked Property:

Property Type: [VAC_U - Vacant Land - Urban](#)

Levy District: [05-248703-0103](#)

Ownership %: [100](#)

[No linked properties exist for this property](#)

Exemptions:

[No exemptions exist for this property](#)

Condo Ownership:

General: [0](#)

Limited: [0](#)

Property Factors

Topography:

Utilities:

Access:

Location:

Fronting:

Parking Type:

Parking Quantity:

Parking Proximity:

Land Summary

<u>Land Type</u>	<u>Acres</u>	<u>Value</u>
Grazing	0.000	00.00
Fallow	0.000	00.00
Irrigated	0.000	00.00
Continuous Crop	0.000	00.00
Wild Hay	0.000	00.00
Farmsite	0.000	00.00
ROW	0.000	00.00
NonQual Land	59.350	3,285.00
Total Ag Land	59.350	3,285.00
Total Forest Land	0.000	00.00
Total Market Land	0.000	00.00

Deed Information:

Deed Date	Book	Page	Recorded Date	Document Number	Document Type
9/26/2016	M51	9200	9/26/2016	3295816	Warranty Deed
12/8/2015	M50	7777	12/8/2015	3283038	Warranty Deed

Owners

Party #1

Default Information: RESURRECTION CEMETERY ASSOCIATION INC
PO BOX 5029

Ownership %: 100

Primary Owner: "Yes"

Interest Type: Fee Simple

Last Modified: 10/20/2016 4:21:41 PM

Other Names

Other Addresses

Name

Type

Appraisals

Appraisal History

Tax Year	Land Value	Building Value	Total Value	Method
2022	3285	0	3285	COST
2021	3285	0	3285	COST
2020	3057	0	3057	COST

Market Land

Market Land Info

No market land info exists for this parcel

Dwellings

Existing Dwellings

No dwellings exist for this parcel

Other Buildings/Improvements

Outbuilding/Yard Improvements

No other buildings or yard improvements exist for this parcel

Commercial

Existing Commercial Buildings

No commercial buildings exist for this parcel

Ag/Forest Land

Ag/Forest Land Item #1

Acre Type: NQ - Non Qualified Ag Land

Class Code: 1701

Productivity

Quantity: 0

Units: Non Qual

Valuation

Acres: 59.35

Value: 3285

Irrigation Type:

Timber Zone:

Commodity:

Per Acre Value: 55.35

ATTACHMENT 3
CERTIFICATE OF SURVEY

CERTIFICATE OF DEDICATION AND EXEMPTIONS
 WE, THE UNDERSIGNED, PROPERTY OWNERS, DO HEREBY CERTIFY THAT WE CREATE THE SANDERS STREET AND JORDAN DRIVE RIGHT-OF-WAY AND PUBLIC ACCESS AND UTILITY EASEMENTS AS SHOWN BY THIS SURVEY, THE FOLLOWING DESCRIBED LAND IN LEWIS AND CLARK COUNTY, MONTANA:

TRACT R-1, SANDERS STREET RIGHT-OF-WAY
TRACT R-2, JORDAN DRIVE RIGHT-OF-WAY

THE ABOVE DESCRIBED LOTS ARE HEREBY DEDICATED, GRANTED AND DONATED TO THE CITY OF HELENA, FOR USE AS PUBLIC RIGHT-OF-WAY AS DESIGNATED.

WE, THE UNDERSIGNED, OWNER OF THESE LOTS, DO HEREBY CERTIFY THAT THE PROPOSED RIGHT-OF-WAY OF PUBLIC RIGHT-OF-WAY, AND ALL ADJACENT ADJOINING PROPERTIES OUTSIDE OF A PLATTED SUBDIVISION AND NO ADDITIONAL LOTS ARE BEING CREATED, AND AGGREGATE THE UNDERLYING EXISTING PARCELS AND MERGE THEM INTO THE LOTS SHOWN ON THIS CERTIFICATE OF SURVEY, THEREFORE THE UNDERLYING PARCELS NO LONGER EXIST PURSUANT TO THE PLUNG OF THIS SURVEY, AND IS THEREFORE EXEMPT FROM REVIEW AS A SUBDIVISION PURSUANT TO SECTION 76-3-207(1)(a) & (i).

WE ALSO CERTIFY THAT THIS SURVEY IS TO DEDICATE TRACT R-1 AND TRACT R-2 AS SHOWN FOR SANDERS STREET AND JORDAN DRIVE RIGHT-OF-WAY AND IS THEREFORE EXEMPT FROM REVIEW AS A SUBDIVISION PURSUANT TO SECTION 76-3-207(1)(b).

WE ALSO CERTIFY THAT TRACT A-1-A AND A-2-A AS SHOWN HEREON ARE EXEMPT FROM DEO REVIEW. A PARCEL OF LAND THAT IS 20 ACRES OR GREATER, EXCLUSIVE OF PUBLIC ROADS. [MCA § 76-4-102(6)].

WE ALSO CERTIFY THAT PARCEL B-1-A-1 IS EXEMPT FROM DEO REVIEW. A PARCEL OF LAND THAT HAS NO SOLICITERS FOR WATER SUPPLY, WASTEWATER DISPOSAL, SEWER SYSTEM, OR OTHER UTILITIES WILL BE CONSTRUCTED ON THE PARCEL. A.R.M. 17.36.605(2)(c)

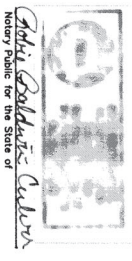
WE ALSO CERTIFY THAT TRACTS R-1 AND R-2 ARE NOT SUBJECT TO REVIEW BY DEO.

"A PARCEL GREATER FOR RIGHT-OF-WAY, [MCA § 76-4-125(2)(a)]"
 UNDER PENALTIES OF PERJURY, WE ON BEHALF OF RESURRECTION CEMETERY ASSOCIATION INC., DECLARE THAT WE HAVE EXAMINED THIS CERTIFICATE OF SURVEY AND THE BEST OF OUR KNOWLEDGE AND BELIEF, IT IS TRUE, LOCAL REGULATIONS.

RESURRECTION CEMETERY ASSOCIATION, INC.

BY: JOHN ANDERSON, MEMBER
 TRINITY DEVELOPMENT PARTNERSHIP II, LLC
 AS MANAGER OF PERPETUAL CARE, LLC, AS
 TRUSTEE AND LAWFUL ATTORNEY IN FACT FOR RCA

STATE OF
 County of
 On this 13th day of September, 2016
 before me, the undersigned authority,
 John L. Amstutz
 known to me to be the person whose name is
 subscribed to the foregoing instrument,
 acknowledged to me that he executed the same.



CERTIFICATE OF COUNTY TREASURER

I HEREBY CERTIFY, PURSUANT TO SECTION 76-3-611(1)(b), MCA, THAT THE PROPERTY TAXES ARE PAID AND CURRENT

GEO-CODE 05-1888-17-2-01-10-0000
 GEO-CODE 05-1888-17-2-01-01-0000
 GEO-CODE 05-1888-17-3-02-20-0000

DATED THIS 13th DAY OF September 2016
Paultha Delikat
 TREASURER, LEWIS AND CLARK COUNTY, MONTANA

CERTIFICATE OF SURVEY
 A SURVEY TO RELOCATE A COMMON BOUNDARY BETWEEN TRACT A-1 & A-2,
 COS 3283037 AND TRACT B-1-A, COS NO. 3207070 AND ALSO TO
 CREATE TRACTS R-1 AND R-2 FOR RIGHT-OF-WAY
 LOCATED IN THE W 1/2 OF SECTION 17, TOWNSHIP 10 NORTH, RANGE 3 WEST, P.M.M.,
 LEWIS AND CLARK COUNTY, MONTANA
 SURVEY PREPARED FOR: RESURRECTION CEMETERY ASSOCIATION, INC.

EXTERIOR BOUNDARY DESCRIPTION - TRACT A-1-A, TRACT A-2-A
 TRACT B-1-A-1, AND ROW TRACTS R-1 R-2

A TRACT OF LAND LOCATED IN THE WEST HALF OF SECTION 17, TOWNSHIP 10 NORTH, RANGE 3 WEST, PRINCIPAL MERIDIAN MONTANA, LEWIS AND CLARK COUNTY, MONTANA, BEING COMPRISED OF TRACTS A-1 AND A-2 AS SHOWN ON CERTIFICATE OF SURVEY RECORDED UNDER DOCUMENT NUMBER 3283037 AND TRACT B-1-A AS SHOWN ON CERTIFICATE OF SURVEY RECORDED UNDER DOCUMENT NUMBER 3207070, AND BEING FURTHER DESCRIBED BY METES AND BOUNDS AS FOLLOWS:

COMMENCING AT THE WEST QUARTER CORNER OF SAID SECTION 17; THENCE N89°25'57"E 49.22 FEET TO THE EASTERLY RIGHT-OF-WAY OF MONTANA AVENUE AND THE TRUE POINT OF BEGINNING; THENCE ALONG SAID RIGHT OF WAY N00°44'21"W 1665.50 FEET; THENCE N89°08'31"E 16.43 FEET; THENCE N00°44'21"W 64.72 FEET TO THE CENTER OF THE HELENA VALLEY IRRIGATION CANAL; THENCE LEAVING SAID RIGHT OF WAY N89°24'10"E 467.51 FEET ALONG SAID CENTRELINE OF THE HELENA VALLEY IRRIGATION CANAL; THENCE 198.77 FEET ALONG A CURVE TO THE RIGHT, HAVING A RADIUS OF 300.00 FEET AND CENTRAL ANGLE OF 37°57'45" AND A CHORD THAT BEARS S71°36'58"E 195.16 FEET; THENCE S52°38'05"E 522.84 FEET; THENCE 128.42 FEET ALONG A CURVE TO THE LEFT, HAVING A RADIUS OF 300.00 FEET AND CENTRAL ANGLE OF 24°31'37" AND A CHORD THAT BEARS S64°53'54"E 127.44 FEET; THENCE S77°09'42"E 81.89 FEET; THENCE LEAVING SAID CENTRELINE S00°36'18"E 89.98 FEET TO THE NORTHWEST CORNER OF TRACT A-1-A COS# 3283037; THENCE S87°17'27"E 133.13 FEET; THENCE S42°12'27"E 966.67 FEET; THENCE S00°39'27"E 404.49 FEET; THENCE N89°22'31"E 328.14 FEET TO THE WESTERLY RIGHT OF WAY LINE OF INTERSTATE 15; THENCE ALONG SAID RIGHT OF WAY S00°30'15"E 810.47 FEET; THENCE S161°4'58"W 189.39 FEET; THENCE S00°30'03"W 162.23 FEET; THENCE 181.70 FEET ALONG A CURVE TO THE RIGHT HAVING A RADIUS OF 1000.77 FEET AND CENTRAL ANGLE OF 10°24'10" AND A CHORD THAT BEARS S06°25'38"W 181.45 FEET; THENCE LEAVING SAID RIGHT OF WAY S89°10'34"W 1504.38 FEET TO THE SOUTHWEST CORNER OF TRACT B-1-A COS# 3207070; THENCE N00°43'09"W 1131.95 FEET TO THE NORTH RIGHT OF WAY OF JORDAN DRIVE; THENCE ALONG SAID RIGHT OF WAY S89°10'40"W 366.04 FEET; THENCE 98.18 FEET ALONG A CURVE TO THE RIGHT, HAVING A RADIUS OF 422.90 FEET AND CENTRAL ANGLE OF 131°0'56" AND A CHORD THAT BEARS N68°14'28"E 97.98 FEET; THENCE N78°54'24"W 53.49 FEET; THENCE 1170.07 FEET ALONG A CURVE TO THE LEFT HAVING A RADIUS OF 552.00 FEET AND CENTRAL ANGLE OF 123°36'29" AND A CHORD THAT BEARS N64°32'41"W 1116.83 FEET; THENCE S89°11'4"W 134.17 FEET TO THE EAST RIGHT-OF-WAY OF MONTANA AVENUE; THENCE ALONG SAID RIGHT OF WAY OF MONTANA AVENUE N00°29'47"W 172.08 FEET TO THE NORTHWEST CORNER OF SAID TRACT B-1-A; THENCE ALONG SAID RIGHT-OF-WAY APPURTENANT EASEMENTS OF RECORD.

THIS SURVEY CREATES TRACT A-1-A, TRACT A-2-A, TRACT B-1-A-1, TRACT R-1 AND TRACT R-2.

CERTIFICATE OF SURVEYOR

I, LARRY D. REDMOND, A REGISTERED PROFESSIONAL LAND SURVEYOR IN THE STATE OF MONTANA, DO HEREBY CERTIFY THAT THIS SURVEY WAS MADE UNDER MY DIRECT SUPERVISION AND IS SHOWN AND DESCRIBED ON THE ACCOMPANYING PLAT.

LARRY D. REDMOND
 MONTANA REG. NO. 13755 LS



CERTIFICATE OF EXAMINING LAND SURVEYOR
 REVIEWED FOR ERRORS AND OMISSIONS IN CALCULATIONS AND DRAFTING THIS 7th DAY OF September 2016
 PURSUANT TO SECTION 76-3-611(2)(a), MCA.
 EXAMINING LAND SURVEYOR
1224965
 LICENSE NO.

0	100	200	400
SCALE IN FEET			
Sec.	T	R	
17	10N	3W	

3295913 COS
 1892535 6826 on Pages: 1 of 2 Feet: 148.50
 Platid Client's Record - Lewis & Clark, MT

STABILITY ENGINEERING & ASSOCIATES
 PROFESSIONAL ENGINEERS & SURVEYORS
 www.stability.com

3530 CENTRAL BLVD. OR
 1000 N. 10TH ST. SPOKANE, WA 99204
 Phone: (509) 444-2884 Fax: (509) 444-2887

881 BRIDGER DR. STE 1
 SPOKANE, WA 99202-2628
 Phone: (509) 322-2628 Fax: (509) 322-2628

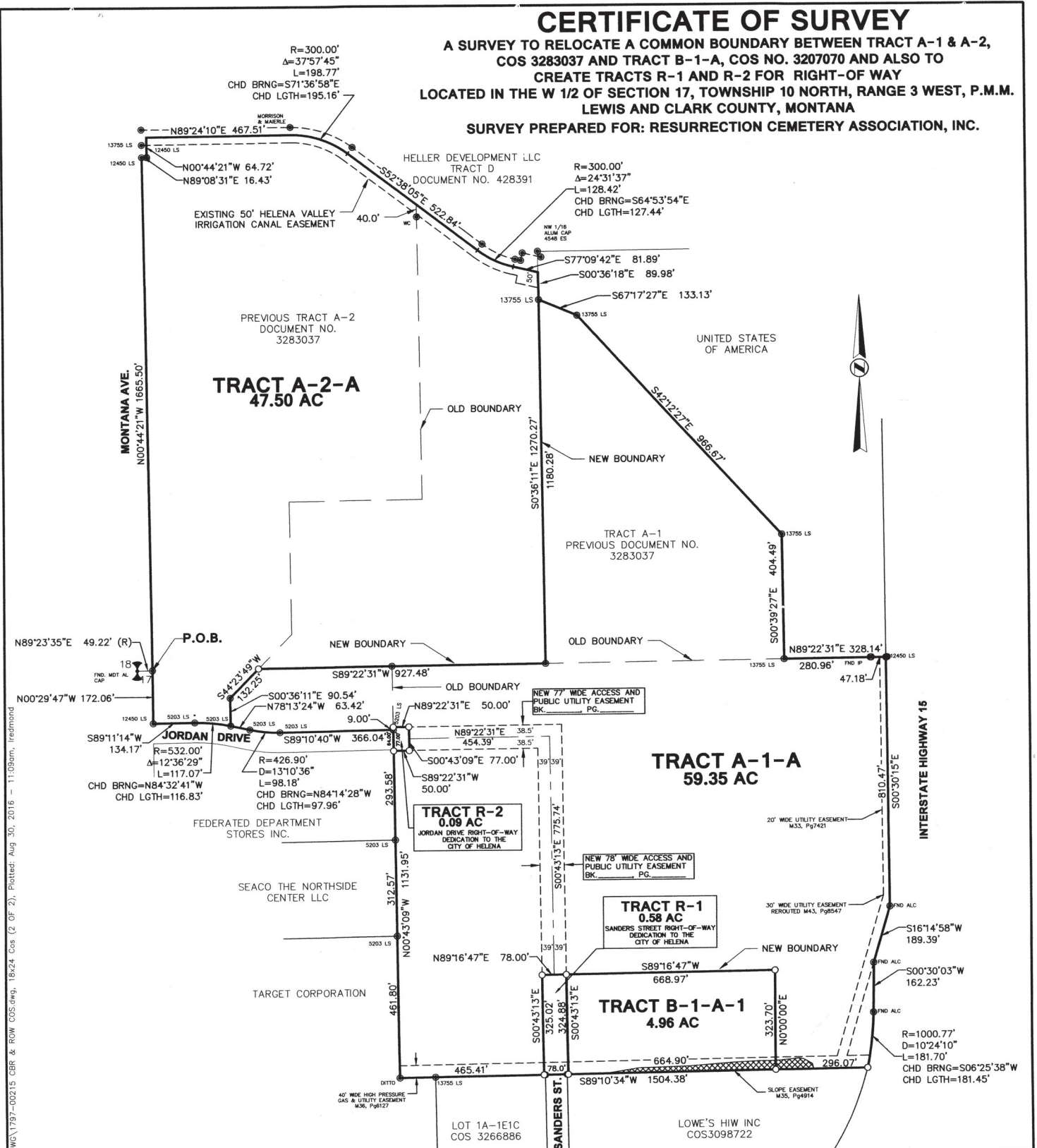
404 W. BRIDGER AVE
 SPOKANE, WA 99201-3944
 Phone: (509) 325-3944 Fax: (509) 325-3944

DATE: 7-05-2017
 REVISED: 8-29-2016

1 OF 2 SHEET NO.

CERTIFICATE OF SURVEY

A SURVEY TO RELOCATE A COMMON BOUNDARY BETWEEN TRACT A-1 & A-2,
COS 3283037 AND TRACT B-1-A, COS NO. 3207070 AND ALSO TO
CREATE TRACTS R-1 AND R-2 FOR RIGHT-OF WAY
LOCATED IN THE W 1/2 OF SECTION 17, TOWNSHIP 10 NORTH, RANGE 3 WEST, P.M.M.
LEWIS AND CLARK COUNTY, MONTANA
SURVEY PREPARED FOR: RESURRECTION CEMETERY ASSOCIATION, INC.



R:\1797-00215 TRINITY RESTORATION\DWG\SURVEY\DWG\1797-00215 CER & ROW COS.dwg, 18x24 Ccs (2 OF 2), Plotted: Aug 30, 2016 - 11:09am, redmond

LEGEND

- FOUND MONUMENT MARKED AS SHOWN
- SET 5/8" x 24" REBAR WITH YELLOW PLASTIC CAP MARKED "REDMOND 13755 LS"
- P.O.B. POINT OF BEGINNING

SURVEY DOCUMENT NUMBER 0 100 200 400 SCALE IN FEET			STAHLY ENGINEERING & ASSOCIATES PROFESSIONAL ENGINEERS & SURVEYORS www.seoeng.com 3530 CENTENNIAL DR. HELENA, MT 59601 Phone: (406)442-8594 Fax: (406)442-8557					
<table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th>Sec.</th> <th>T</th> <th>R</th> </tr> </thead> <tbody> <tr> <td style="text-align: center;">17</td> <td style="text-align: center;">10N</td> <td style="text-align: center;">3W</td> </tr> </tbody> </table>	Sec.	T			R	17	10N	3W
Sec.	T	R						
17	10N	3W						
DATE: 7-05-2016 REVISED: 8-30-2016		SHEET NO. 2 OF 2						
COUNTY: LEWIS AND CLARK P.M.M.								

ATTACHMENT 4
DNRC WATER RIGHTS QUERY



1275 MAPLE STREET SUITE F, HELENA, MT 59601 | 406.443.3962

A search of the DNRC water rights query system did not provide any results for existing water rights for the property under the current owner. There is the Helena Valley Canal on the northeast boundary of the property which has an easement on it. The applicant is proposing to annex the property into the City and utilize City water for future development.

There does not appear to be any existing wells on site.

ATTACHMENT 5
TRAFFIC IMPACT STUDY



The Trinity Center Traffic Impact Study

Helena, Montana



Prepared For:

**WWC Engineering
1275 Maple St STE F
Helena, MT 59601**

November, 2023

The Trinity Center Table of Contents

A.	Executive Summary	1
B.	Project Description	1
C.	Existing Conditions.....	1
	Adjacent Roadways	2
	Traffic Counts.....	3
	Historic Traffic Data.....	3
	Level of Service.....	4
	Area Crash Data	6
D.	Proposed Development.....	7
E.	Trip Generation and Assignment.....	7
	Trip Types	9
F.	Trip Distribution	10
G.	Traffic Impacts Outside of the Development.....	11
H.	Impact Summary & Recommendations	16

List of Figures

Figure 1 – Proposed Development Site.....	2
Figure 2 – Proposed Site Plan	8
Figure 3 – Trip Distribution	10

List of Tables

Table 1 – Historic Average Daily Traffic Data.....	4
Table 2 – Existing 2023 Level of Service Summary	5
Table 3 – Area Crash Statistics	6
Table 4 – Trip Generation Rates	9
Table 5 – Future LOS with Trinity Center Development Phase 1 (Lot 2).....	12
Table 6 – Future LOS with Trinity Center Development Phase 2 (Lot 4).....	12
Table 7 – Future LOS with Trinity Center Development Phase 3 (Lot 3).....	13
Table 8 – Future LOS with Trinity Center Development Phase 4 (Lot 1).....	13
Table 9 – Future LOS with Trinity Center Development Full Buildout (Lot 5)	14
Table 10 – Future LOS with Custer Avenue Widening Improvements	14
Table 11 – Percent Traffic Volume Increase by Phase	15
Table 12 – 2044 Future Level of Service Summary with Development.....	16

The Trinity Center Traffic Impact Study November 2023

A. EXECUTIVE SUMMARY

The Trinity Center is a 56.79-acre commercial and industrial project located at the northern end of Sanders Street in Helena, Montana. At full build-out, the project would produce up to 5,000 new daily vehicle trips in this area. The Custer Avenue roadway corridor is currently operating at or near capacity and has operational deficiencies which will limit the overall capacity of the roadway until the planned major widening project on Custer Avenue is completed west of Montana Avenue in the future. As proposed, the Trinity Center will impact the traffic operations on the surrounding roadways and will likely require a variety of roadway improvements to function at full buildout of the project. While the roadways are near capacity, the recent lane and signal timing improvements at Sanders Street and Custer Avenue have created some additional capacity for increased traffic growth. Although these intersections are functioning at significant peak-hour delay, they are technically functioning at LOS D and will continue to function at LOS D with the proposed project, which is acceptable by the City of Helena Standards. The developers would need to modify the intersection of Ptarmigan Lane and North Montana Avenue as right-out only with initial construction. Additionally, it would be necessary to widen Sanders Street to a four-lane cross-section from Custer Avenue to Market Street to support the increased traffic volumes in this area with the construction of Commercial Lot 1 (Phase 4 of the development).

B. PROJECT DESCRIPTION

This document updates the existing and projected traffic conditions along the Custer Avenue and Montana Avenue corridors as they relate to the ongoing build-out of the Trinity Center development at the north end of Sanders Street in Helena, Montana. The report also identifies the existing capacity deficiencies along the corridor and identifies roadway improvements which will be necessary for the continuation of the Trinity Center development.

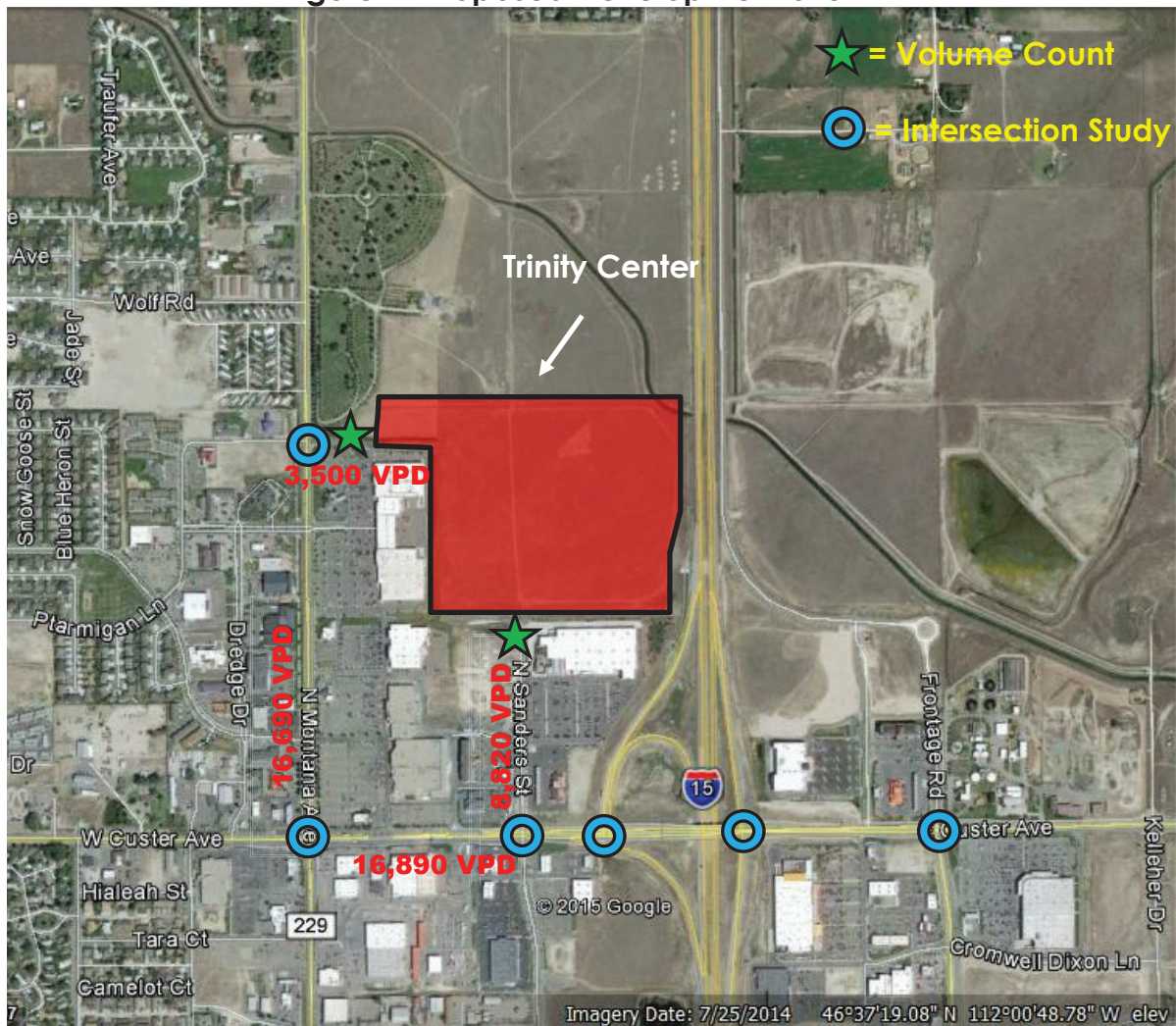
C. EXISTING CONDITIONS

The overall Trinity Center development project consists of 56.79 acres of mixed-use commercial and residential property which would be built out over 15-20 years. The property is located west of I-15 just north of the Lowes Home Improvement store. Phase 1 of the Trinity Center is currently under construction. See **Figure 1** for a location map of the proposed development.

Adjacent Roadways

Interstate-15 passes along the east side of the Trinity Center property. This access-controlled highway is operated under the jurisdiction of the Federal Highway Administration (FHWA). There are full movement interchanges at Custer Avenue, Cedar Street, and Prospect Avenue. According to the traffic counts conducted in 2022, the roadway currently carries 18,640 Vehicles per Day (VPD) south of Custer Avenue.

Figure 1 - Proposed Development Site



Custer Avenue is an east/west minor arterial roadway which provides access to the businesses and commercial areas near I-15 on the northern end of Helena. The road has a five-lane cross-section between Montana Avenue and Washington Street. Custer Avenue has a posted speed limit of 35 MPH and currently carries 16,890 VPD. There are existing coordinated traffic

signals at Montana Avenue, Sanders Street, the I-15 north/south ramps, and Washington Street.

Sanders Street is a north/south local route which is maintained by the City of Helena. The road provides access to the commercial area north and south of Custer Avenue. It is comprised of the 38-foot 3-lane urban cross section with a boulevard providing a buffer between the travel lanes and the adjacent sidewalks. The roadway widens to include dedicated left, thru, and right turn lanes at the signalized intersection with Custer Avenue. The traffic data gathered by ATS in April of 2023 indicates this road carries 8,820 VPD. There is currently no posted speed limit on this route.

Ptarmigan Lane is an east/west local route that connects to the northern end of Sanders Street. The roadway is comprised of a 32-foot urban cross section with a separate sidewalk along the south side of the roadway. This road provides access to the commercial area immediately east of North Montana Avenue and the proposed Trinity Center development. The traffic data gathered by ATS in April of 2023 indicates this road carries 3,500 VPD. There is currently no posted speed limit on the route.

North Montana Avenue is a north/south minor arterial roadway which provides access through much of Helena and serves the greater valley area to the north. The road has a five-lane cross-section north of Custer Avenue and currently carries 16,690 VPD. The intersections of Tara Court, Custer Avenue, and Partridge Place are currently signalized.

Traffic Counts

The traffic data for the Custer Avenue Corridor was made available through a combination of sources. Abelin Traffic Services (ATS) performed peak hour turning movement counts for all of the signalized intersections on Custer Avenue from Washington Street to Montana Avenue and the intersection of Montana Avenue with Ptarmigan Lane. Daily traffic counts were also performed on Ptarmigan Lane and Sanders Street in April of 2023. The raw data collected for this project was adjusted for seasonal variation in accordance with the data collected from MDT's annual count station located on Custer Avenue east of York Road (Station A-79). This count station data indicated that data collected in April of 2023 is approximately 103% of the AADT (Average Annual Daily Traffic) in this area. For a conservative result, no factorization was applied to the raw data for the analysis of this project. The raw traffic data is included in **Appendix A** of this report.

Historic Traffic Data

ATS gathered historic traffic data for the surrounding road system to help develop short-term background growth rates for the area. This information indicates that traffic volumes along Custer Avenue east of Montana Avenue and North Montana Avenue north of Custer Avenue have decreased over the past six years. The historic data shows traffic volumes on Interstate

15 have increased at a rate of 1.0% during this time period. The retail development in this area has occurred continuously over the past ten years but traffic volumes have not increased to match this trend. It is likely that the higher demand for side street access has increased intersection congestion on these roads and has forced some commuter traffic to use alternative routes to avoid congestion. It is likely that traffic volumes in this area will remain relatively unchanged without major roadway improvements to improve capacity.

Table 1 – Historic Average Daily Traffic Data

Location	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022
Custer Ave E of Montana Ave #25-7C-029	23,620	27,890	23,240	27,378	23,384	22,774	22,911	21,307	19,219	16,887
Montana Ave N of Custer Ave #25-7C-054	21,960	23,990	19,960	23,648	20,006	18,726	18,838	17,519	18,921	16,692
Custer Ave E of Interstate 15 #25-7C-030	18,860	23,940	22,670	20,956	18,366	18,384	18,494	17,199	16,185	16,298
Interstate 15 S of Custer Ave #25-7C-003	16,990	16,250	16,400	17,779	17,672	17,466	17,309	15,994	18,662	18,643

Level of Service

Using the data collected for this project, ATS conducted a Level of Service (LOS) analysis at area intersections. This evaluation was conducted in accordance with the procedures outlined in the Transportation Research Board’s *Highway Capacity Manual 7th Edition: A Guide for Multimodal Mobility Analysis* and the Synchro 11 roadway analysis software. Intersections are graded from A to F representing the average delay that a vehicle entering an intersection can expect. The current City of Helena Engineering and Design Standards require that ‘*if the subdivision will reduce the service of any intersection below level of service `C` as defined by the Greater Helena Area transportation plan, the study must identify improvements or proposed mitigation needed to alleviate that decrease in service, or if the existing conditions are currently below level of service `C`, the study must identify improvements or proposed mitigation needed to maintain the existing level of service`* 12-2-3.B.17.f

Table 2 shows the existing 2023 LOS for the AM, Noon, and PM peak hours without the traffic from the proposed Trinity Center development. The analysis shows that some of these intersections are currently operating at or above their ideal capacity (LOS C) and are functioning at LOS D, which must be maintained based on the City of Helena engineering standards. Although these intersections are near capacity, the intersection improvements developed as part of the Trinity Center project at the Sanders Street and Custer Avenue

combined with signal timing improvements developed by MDT have allowed these intersections to operate at acceptable levels.

Table 2 –Existing 2023 Level of Service Summary

Intersection	AM Peak Hour		NOON Peak Hour		PM Peak Hour	
	Delay (Sec.)	LOS (V/C)	Delay (Sec.)	LOS (V/C)	Delay (Sec.)	LOS (V/C)
Custer Ave & Montana Ave	37.1	D	37.1	D	46.0	D
Custer Ave & N Sanders St	21.3	C	29.0	C	36.4	D
Custer Ave & I-15 SB	6.0	A	2.4	A	5.9	A
Custer Ave & I-15 NB	13.4	B	16.2	B	22.3	C
Custer Ave & Washington St	23.4	C	44.9	D	27.0	C
Montana Ave & Tara Ct	5.1	A	10.0	B	17.8	B
Montana Ave & Ptarmigan	16.7/14.3	C/B	48.0/20.8	E/C	20.2/37.8	C/E

The section of Custer Avenue east of Montana Avenue has become one of the busiest roads in Helena and it is likely that it will continue to have capacity issues into the future. The corridor is almost completely built out and it is unlikely that any physical improvement (new lanes/road connections) on the section of Custer Avenue east of Montana Avenue will create any major capacity improvements to this roadway.

The issues that are limiting the capacity along Custer Avenue are largely related to the existing three-lane configuration of Custer Avenue west of Montana Avenue. The existing road layout of West Custer Avenue does not provide sufficient capacity for efficient signal operations at Montana Avenue. This condition results in additional congestion on Custer Avenue extending past the Sanders Street intersection. The specific problems on Custer Avenue include:

- Poor westbound lane utilization.
- Westbound vehicle cueing (Past I-15 northbound signal, left lane only).
- Long coordinated signal cycle length (150 Seconds PM, 130 Seconds Noon, 120 Seconds AM).

The Greater Helena Area Long Range Transportation Plan 2014 Update suggests a variety of road improvements in this area. MSN-8 is the Sanders Street extension with connection to Ptarmigan Lane and Jordan Drive (south of the Helena Valley Irrigation Canal). The

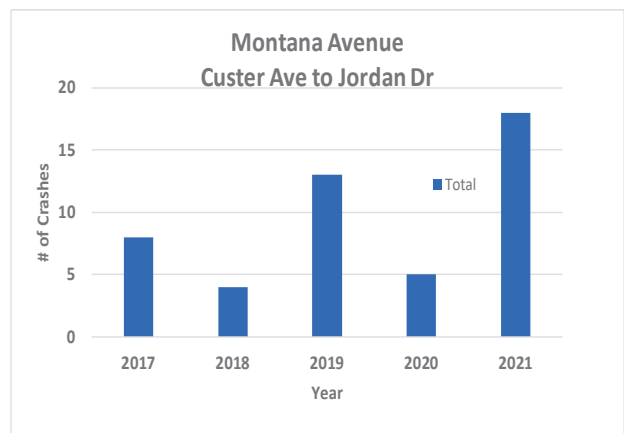
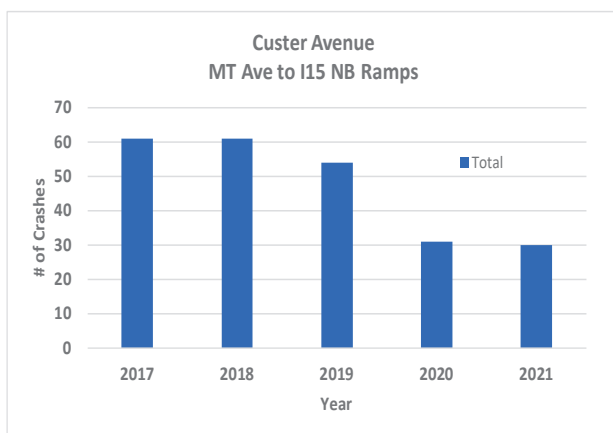
recommendation also includes continuing Sanders Street north across the irrigation canal to provide a connection to the Heller property to the north. TSM-29 suggests lane improvements on North Montana Avenue, and MSN-1 recommends reconstructing Custer Avenue from Montana Avenue to Green Meadow Drive to improve capacity. The discussions with the City and MDT suggest that the improvements to Custer Avenue were in the design stage but are presently on hold. MDT has indicated that these improvements will not likely be implemented for at least 5 years.

Area Crash Data

ATS reviewed the crash data from MDT’s public crash site to report the conflict experience within the study area over the 5-year period from (2017-2021). This database provides insight to identify crash trends which may point to potential geometric, traffic control and roadway characteristic deficiencies. Crashes are expressed as a rate of crashes per million vehicles entering (MVE) an intersection or per million vehicle miles traveled (MVMT) along a given segment. Crash rates at rural and urban intersections in Montana typically range from 0.5 to 1.5 crashes per MVE.

Table 3 – Area Crash Statistics

ROUTE	# of Crashes	Rate	Segment	AADT
Custer Avenue	237	10.77 per MVMT	0.55-mile	21,920
Montana Avenue	48	2.80 per MVMT	0.5-mile	18,800
Sanders Street	15	1.86 per MVMT	0.5-mile	8,820
Jordan Drive	5	3.13 per MVMT	0.25-mile	3,500
INTERSECTION				
Montana & Custer Ave	75	1.09 per MVE		37,645
Custer Ave & Sanders St	102	2.07 per MVE		26,950
Montana Ave & Jordan Dr	11	0.29 per MVE		20,550



The recent 5-year data set revealed that the majority of conflicts occurred on Custer Avenue. Those conflicts are concentrated at and around the intersections with Montana Avenue and Sanders Street. The intersection of Custer Avenue with Sanders Street accounted for 41 percent (98 of 237 crashes) of the overall conflict experienced from the intersection with Montana Avenue east to the Interstate 15 northbound ramp intersections. The 5-year period portrays a downward trend in crash frequency along Custer Avenue. Whereas, on Montana Avenue the number of crashes spiked in 2019 and in 2012. The overall traffic congestion along these routes is the most likely contributing factor to these crash trends.

D. PROPOSED DEVELOPMENT

The proposed phases of the Trinity Center development will include the additional development of 56.79-acres of the overall 85-acre tract. The proposal would include five lots containing three retail parcels with a combined capacity for an additional 120,000 square feet of commercial and retail space and two flex warehouse parcels containing trade-based light-industrial uses totaling 130,000 square feet. Development of the property would continue in several different phases over the next 20 years with one phase (lot) every 4 years. The expected buildout order for the project is Lot 2 (commercial), Lot 4 (industrial), Lot 3 (industrial), Lot 1 (commercial), and Lot 5 (commercial). The Trinity Center development site plan is shown in **Figure 2**.

E. TRIP GENERATION AND ASSIGNMENT

ATS performed a trip generation analysis to determine the anticipated future traffic volumes from the subdivision using the trip generation rates contained in *Trip Generation* (Institute of Transportation Engineers, Eleventh Edition). These rates are the national standard and are based on the most current information available to planners. A vehicle “trip” is defined as any trip that either begins or ends at the development site. ATS determined that the critical traffic impacts on the intersections and roadways would occur during the weekday morning, noon, and evening peak hours. The current phases of the Trinity Center would produce 196 AM peak hour trips, 493 PM peak hour trips, and 4,971 daily trips. For the purposes of this analysis, it was assumed that the noon peak trip generation rates would be the same as the PM generation rates. The trip generation rates by lot and totals are shown in **Table 4**.

Figure 2 – Proposed Site Plan



Table 4 - Trip Generation Rates

Land Use	Units	AM Peak Hour Trip Ends per Unit	Total AM Peak Hour Trip Ends	PM Peak Hour Trip Ends per Unit	Total PM Peak Hour Trip Ends	Weekday Trip Ends per Unit	Total Weekday Trip Ends
Shopping Center LOT 2 ITE#820	50 KSF	0.84	42 (26in/16out)	3.4	170 (82in/88out)	37.01	1,851
Light Ind. LOT 4 ITE #110	30 KSF	0.74	22 (19in/3out)	0.65	20 (3in/17out)	4.08	122
Light Ind. LOT 3 ITE #110	100 KSF	0.74	74 (65in/9out)	0.65	65 (9in/56out)	4.08	408
Shopping Center LOT 1 ITE #820	35 KSF	0.84	29 (18in/11out)	3.4	119 (57in/62out)	37.01	1,295
Shopping Center LOT 5 ITE#820	35 KSF	0.84	29 (18in/11out)	3.4	119 (57in/62out)	37.01	1,295
TOTAL			196 (146in/50out)		493 (208in/285out)		4,971

Trip Types

As proposed, the development will produce some new traffic. However, not all of this traffic will be additive to the current road volumes in this area. There are three basic trip types that describe the traffic generated by new developments. These trip types include the following:

New Trips- This is the basic trip type created by all traffic generators. These trips are defined as those that occur only to utilize one traffic generator at a proposed development site.

Internal (Shared) Trips- These trips are created by associated facilities within or directly adjacent to the development. The trips are combined into one joint trip to the development and do not represent additional trips on the surrounding road network. ATS calculated that up to 20% of trips would be shared within the development sites (see **Appendix B**).

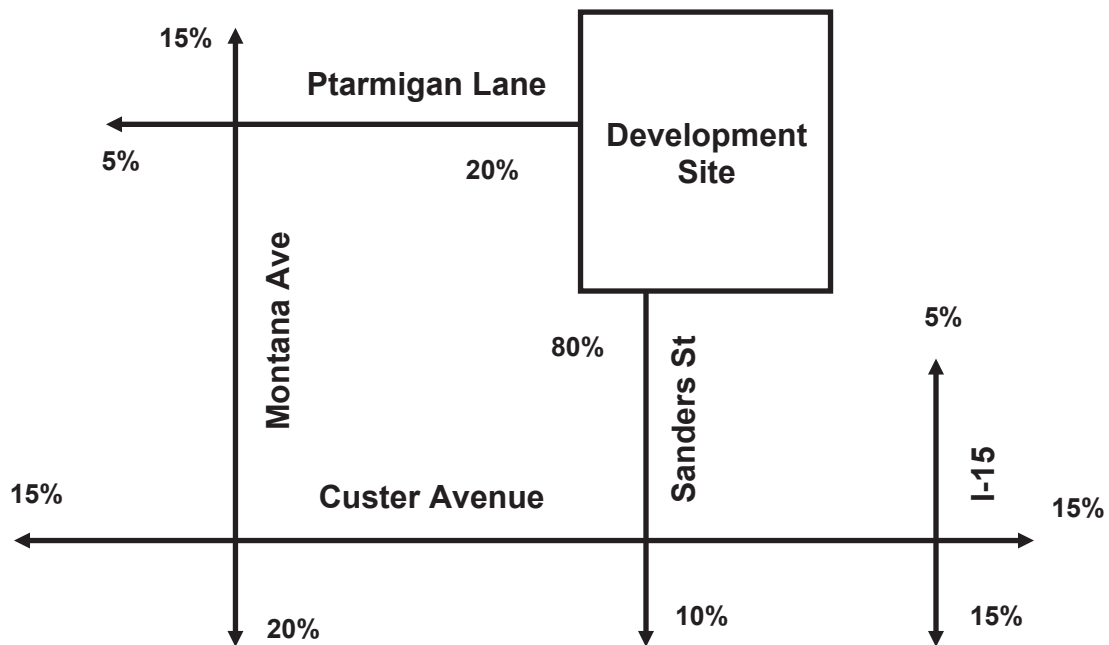
Pass-By Trips are those characterized by a vehicle which enters the development

on their way to another destination. Upon leaving, the driver continues along the roadway to their final destination. Pass-By trips are not generally considered new trips on the surrounding road network because they would exist whether or not the development has been constructed. A common example of this type of trip is a driver which stops at a grocery store on their way home from work. Pass-by trips can be discounted from the through traffic on the adjacent roadways but must be included making the appropriate turning maneuvers at intersections. It is difficult to produce precise pass-by estimates for this project since no precise land uses have been established at this time. For the purposes of this study and to provide a more conservative result for the traffic analysis, no pass-by trips were applied to the traffic modeling.

F. TRIP DISTRIBUTION

The traffic distribution and assignment for the proposed subdivision were based upon the existing ADT volumes along the adjacent roadways and the peak-hour turning volumes. It is expected that 80% of the traffic would use Sanders Street to the south and that the traffic would distribute onto the surrounding road system in proportions equal to the existing traffic patterns. With the addition of the Ptarmigan Lane connection with future phases of the project, the traffic will distribute as shown in **Figure 2**.

Figure 3 – Trip Distribution



G. TRAFFIC IMPACTS OUTSIDE OF THE DEVELOPMENT

Using the trip generation and trip distribution numbers, ATS determined the future Level of Service for the area intersections. The anticipated intersection LOS with the development of each lot of the Trinity Center property is shown in **Tables 5 to 9**. The analysis indicates that the intersections along Custer Avenue would develop increased delay due to the proposed project but would not fall lower than LOS D at full buildout of the project, which is acceptable by the City of Helena engineering standards for maintaining existing operational conditions. The intersection of North Montana and Ptarmigan Lane would develop LOS issues with initial construction of the project, but may not carry sufficient traffic to warrant a higher form of traffic control such as a traffic signal. MDT has indicated that they would likely approve a traffic signal at this location when it is warranted in the future, but it is unlikely that traffic signal warrants would be met at this location due to the presence of the existing traffic signal at Partridge Place just 500 feet to the south. The vast majority of the traffic at the Ptarmigan Lane intersection currently turns right onto Montana Avenue (over 90%). The most effective way to correct this issue may be to restrict the westbound Ptarmigan Lane approach to a right-turn only at the intersection. This right-turn restriction may be necessary with the construction of Commercial Lot 2.

While the intersections in this area will technically function adequately with the proposed project, the general congestion and vehicle queueing will continue until the major reconstruction of Custer Avenue occurs to the west of Montana Avenue. This reconstruction and widening project is anticipated in the future, but the timing of these improvements is not currently known. When this project is completed, the LOS at the study intersections will be as shown in **Table 10**.

While the planned Custer Avenue improvement will ultimately improve the intersection operations all along the corridor, the general roadway congestion will still exist along much of the Custer Avenue corridor and the side street approaches. Although the LOS will be improved in the area from the future widening project on Custer Avenue, the large number of commercial approaches along Sanders Street north of Custer Avenue will continue to create congestion in this area due to the long vehicle queues. This issue is being caused by the limited intersection capacity and queueing availability associated with the existing three-lane roadway configuration on Sanders Street. The total future traffic volume along North Sanders Street will likely reach 13,000 VPD or more when all of the properties in this area are developed, which is near the functional limit of capacity for a three-lane roadway. In order to improve the overall roadway capacity, queueing availability, and intersection performance in this area, it would be desirable to widen Sanders Street to a four-lane cross-section from Custer Avenue to Market Avenue with two southbound thru lanes, a center turn lane, and one northbound thru to accommodate vehicle queueing at the intersection with Custer Avenue. This widening would not become necessary until the construction of Commercial Lot 1.

Table 5 – Future LOS with Trinity Center Development Phase 1 (Lot 2)

Intersection	AM Peak Hour		NOON Peak Hour		PM Peak Hour	
	Delay (Sec.)	LOS (V/C)	Delay (Sec.)	LOS (V/C)	Delay (Sec.)	LOS (V/C)
Custer Ave & Montana Ave	37.1	D	37.3	D	46.7	D
Custer Ave & N Sanders St	22.5	C	28.8	C	37.5	D
Custer Ave & I-15 SB	6.1	B	2.4	A	5.9	A
Custer Ave & I-15 NB	13.6	B	16.6	B	22.8	C
Custer Ave & Washington St	23.2	C	45.1	D	27.0	C
Montana Ave & Tara Ct	5.1	A	10.0	B	17.7	B
Montana Ave & Ptarmigan	16.9/14.2	C/B	62.4/23.6	F/C	24.9/48.8	C/E

Table 6 – Future LOS with Trinity Center Development Phase 2 (Lot 4)

Intersection	AM Peak Hour		NOON Peak Hour		PM Peak Hour	
	Delay (Sec.)	LOS (V/C)	Delay (Sec.)	LOS (V/C)	Delay (Sec.)	LOS (V/C)
Custer Ave & Montana Ave	37.1	D	37.4	D	46.7	D
Custer Ave & N Sanders St	22.6	C	28.9	C	37.5	D
Custer Ave & I-15 SB	6.1	B	2.4	A	5.9	A
Custer Ave & I-15 NB	13.6	B	16.6	B	22.8	C
Custer Ave & Washington St	23.2	C	45.1	D	27.0	C
Montana Ave & Tara Ct	5.1	A	10.0	B	17.7	B
Montana Ave & Ptarmigan	16.9/14.3	C/B	62.4/23.9	F/C	24.9/49.6	C/E

Table 7 – Future LOS with Trinity Center Development Phase 3 (Lot 3)

Intersection	AM Peak Hour		NOON Peak Hour		PM Peak Hour	
	Delay (Sec.)	LOS (V/C)	Delay (Sec.)	LOS (V/C)	Delay (Sec.)	LOS (V/C)
Custer Ave & Montana Ave	37.0	D	37.5	D	47.0	D
Custer Ave & N Sanders St	23.0	C	29.4	C	37.9	D
Custer Ave & I-15 SB	6.2	B	2.4	A	5.9	A
Custer Ave & I-15 NB	13.9	B	16.6	B	22.9	C
Custer Ave & Washington St	23.1	C	45.1	D	27.1	C
Montana Ave & Tara Ct	5.1	A	10.0	B	17.7	B
Montana Ave & Ptarmigan	19.1/15.5	C/B	67.7/25.9	F/D	26.1/58.9	D/F

Table 8 – Future LOS with Trinity Center Development Phase 4 (Lot 1)

Intersection	AM Peak Hour		NOON Peak Hour		PM Peak Hour	
	Delay (Sec.)	LOS (V/C)	Delay (Sec.)	LOS (V/C)	Delay (Sec.)	LOS (V/C)
Custer Ave & Montana Ave	37.1	D	37.8	D	47.4	D
Custer Ave & N Sanders St	23.2	C	30.0	C	38.8	D
Custer Ave & I-15 SB	6.3	B	2.4	A	5.9	A
Custer Ave & I-15 NB	13.9	B	16.9	B	23.2	C
Custer Ave & Washington St	23.1	C	45.3	D	27.2	C
Montana Ave & Tara Ct	5.1	A	9.9	B	17.7	B
Montana Ave & Ptarmigan	21.0/15.4	C/C	81.1/28.8	F/D	29.7/73.9	D/F

Table 9 – Future LOS with Trinity Center Development (Full-Buildout, Lot 5)

Intersection	AM Peak Hour		NOON Peak Hour		PM Peak Hour	
	Delay (Sec.)	LOS (V/C)	Delay (Sec.)	LOS (V/C)	Delay (Sec.)	LOS (V/C)
Custer Ave & Montana Ave	37.1	D	38.1	D	48.0	D
Custer Ave & N Sanders St	23.3	C	30.7	C	40.0	D
Custer Ave & I-15 SB	6.3	B	2.4	A	5.9	A
Custer Ave & I-15 NB	14.0	B	17.1	B	23.6	C
Custer Ave & Washington St	23.1	C	45.5	D	27.2	C
Montana Ave & Tara Ct	5.1	A	9.9	A	17.6	B
Montana Ave & Ptarmigan	21.1/15.4	C/C	100/34.5	F/D	35.0/103	E/F

Table 10 – Future LOS with Custer Avenue Widening Improvements

Intersection	AM Peak Hour		NOON Peak Hour		PM Peak Hour	
	Delay (Sec.)	LOS (V/C)	Delay (Sec.)	LOS (V/C)	Delay (Sec.)	LOS (V/C)
Custer Ave & Montana Ave	35.3	D	37.2	D	42.5	D
Custer Ave & N Sanders St	21.7	C	29.3	C	34.1	D
Custer Ave & I-15 SB	6.3	B	2.4	A	5.8	A
Custer Ave & I-15 NB	14.0	B	17.1	B	23.7	C
Custer Ave & Washington St	23.1	C	45.5	D	27.3	C
Montana Ave & Tara Ct	5.1	A	9.9	A	17.6	B
Montana Ave & Ptarmigan*	20.91/9.9	C/A	88/21.1	F/C	33.6/41.5	D/E

*With right-turn restrictions on Ptarmigan Lane.

Overall, the Trinity Center development will increase traffic at the study intersections progressively during the development of each lot. The percent traffic increase at each of study intersections is as shown in **Table 11**. The development of the first lot on the property will only increase traffic volumes at the study intersections by 1-2% while traffic volume increases of 3-7% would be anticipated at full build-out.

Table 11 – Percent Traffic Volume Increase by Phase

Intersection	Phase 1	Phase 2	Phase 3	Phase 4	Phase 5
Custer Ave & Montana Ave	0.7%	0.8%	1.2%	1.7%	2.2%
Custer Ave & N Sanders St	2.2%	2.5%	3.8%	5.3%	6.8%
Custer Ave & I-15 SB	1.4%	1.7%	2.4%	3.4%	4.4%
Custer Ave & I-15 NB	1.3%	1.5%	2.3%	3.2%	4.1%
Custer Ave & Washington St	0.7%	0.8%	1.2%	1.7%	2.2%
Montana Ave & Tara Ct	0.6%	0.7%	1.1%	1.6%	2.0%
Montana Ave & Ptarmigan*	1.5%	1.8%	2.6%	3.7%	4.7%

The City of Helena requests an analysis of future roadway conditions and intersection operations based on the 20-year design horizon for projects within the City. To perform this analysis ATS obtained future traffic projections from the *Greater Helena Area Long Range Transportation Plan* (GHALRTP) to help determine the future traffic conditions in this area. The 2014 GHALRTP indicates that by 2035, the traffic volumes on the area roadways may increase significantly.

The plan suggests that traffic volumes on Custer Avenue may reach 31,268 VPD. This volume is approximately twice as much traffic as the road currently carries. However, overall traffic volumes on Custer Avenue have not increased significantly in the nine years since the 2014 plan was produced. This is likely due to drivers avoiding the general congestion and low travel speeds which are currently experienced on Custer Avenue during the peak traffic periods. It is highly unlikely that the traffic volumes on Custer Avenue will increase significantly without the application of major road improvements which are planned for Custer Avenue west of Montana Avenue. Without the planned widening of Custer Avenue, the road will never operate at significantly higher traffic volumes than are currently experienced (approximately 18,000 VPD).

Based on the projected traffic volumes from the GHALRTP, ATS projected traffic volumes on Custer Avenue for the next 20-years assuming the roadway is fully reconstructed to improve

capacity as planned and traffic volumes double along the route. The LOS analysis for 2044 is shown in **Table 12** below. The results of this analysis indicate that most of the intersections along this section of Custer Avenue will develop LOS issues by 2044 under the current traffic control and lane configuration. Much of this congestion will occur on the section of roadway between Montana Avenue and Interstate 15. If the projections GHALRTP are correct and traffic volumes along this section of roadway double in the next 20 years, the section of Custer Avenue between Montana Avenue and the I-15 interchange will need to be widened to a six-lane cross-section to support the anticipated traffic demands. These recommendations should not be implemented at this time due to the uncertainty of these projections and the other projects which would need to be in place before these traffic projections could be possible in the future.

Table 12 – 2044 Future Level of Service Summary with Development

Intersection	AM Peak Hour		NOON Peak Hour		PM Peak Hour	
	Delay (Sec.)	LOS (V/C)	Delay (Sec.)	LOS (V/C)	Delay (Sec.)	LOS (V/C)
Custer Ave & Montana Ave	81.6	E	67.8	E	114	F
Custer Ave & N Sanders St	154	F	120	F	191	F
Custer Ave & I-15 SB	30.7	E	10.9	B	55.6	E
Custer Ave & I-15 NB	25.8	D	25.4	C	38.2	D
Custer Ave & Washington St	30.2	C	67.1	E	46.7	D

*With right-turn restrictions on Ptarmigan Lane.

H. IMPACT SUMMARY & RECOMMENDATIONS

As proposed, the Trinity Center will impact the traffic operations on the surrounding roadways and will likely require a variety of roadway improvements to function at full buildout of the project. While the roadways are near capacity, the recent lane and signal timing improvements at Sanders Street and Custer Avenue have created some additional capacity for increased traffic growth. Although these intersections are functioning at significant peak-hour delay, they are technically functioning at LOS D and will continue to function at LOS D with the proposed project, which is acceptable by the City of Helena Standards. The developers would need to modify the intersection of Ptarmigan Lane and North Montana Avenue as right-out only with initial construction. Additionally, it would be necessary to widen Sanders Street to a four-lane cross-section from Custer Avenue to Market Street to support the increased traffic volumes in this area with the construction of Commercial Lot 1 (Phase 4 of the development).

APPENDIX A

Traffic Data

Turning Movement Count

All Vehicles

Location Helena - Montana and Custer

Date 4-17; 4-18 and 4-19 2023

	Northbound				Southbound				Eastbound				Westbound				TOTAL
	Left	Thr	Right	Peds	Left	Thr	Right	Peds	Left	Thr	Right	Peds	Left	Thr	Right	Peds	
7:00 - 7:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:15 - 7:30	10	37	6	0	53	81	23	0	15	97	27	0	32	107	34	0	522
7:30 - 7:45	13	36	14	0	54	110	33	0	12	111	27	0	38	123	32	0	603
7:45 - 8:00	26	39	21	0	81	170	20	0	23	136	37	0	56	126	44	0	779
8:00 - 8:15	12	60	28	0	54	105	39	0	23	119	38	0	38	148	46	0	710
8:15 - 8:30	27	50	20	0	42	107	20	0	31	120	30	0	49	109	56	0	661
8:30 - 8:45	19	38	20	0	66	84	18	0	37	101	20	0	54	121	46	0	624
8:45 - 9:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9:00 - 9:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9:15 - 9:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9:30 - 9:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9:45 - 10:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10:00 - 10:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10:15 - 10:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10:30 - 10:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10:45 - 11:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:00 - 11:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:15 - 11:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:30 - 11:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:45 - 12:00	36	110	49	0	61	100	19	0	30	104	29	0	71	93	58	0	760
12:00 - 12:15	49	131	36	0	61	86	12	0	36	132	31	0	47	96	63	0	780
12:15 - 12:30	39	151	46	0	57	102	18	0	44	125	24	0	70	109	89	0	874
12:30 - 12:45	31	155	63	0	68	113	28	0	37	114	29	0	75	99	70	0	882
12:45 - 1:00	39	110	47	0	56	98	18	0	46	121	25	0	78	103	67	0	808
1:00 - 1:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1:15 - 1:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1:30 - 1:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1:45 - 2:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2:00 - 2:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2:15 - 2:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2:30 - 2:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2:45 - 3:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3:00 - 3:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3:15 - 3:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3:30 - 3:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3:45 - 4:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:00 - 4:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:15 - 4:30	51	109	47	0	63	126	19	0	32	116	26	0	52	112	57	0	810
4:30 - 4:45	47	130	50	0	73	97	23	0	39	156	32	0	57	122	74	0	900
4:45 - 5:00	59	159	57	0	63	96	25	0	56	169	23	0	63	130	63	0	963
5:00 - 5:15	58	161	70	0	69	93	21	0	57	167	20	0	50	124	87	0	977
5:15 - 5:30	38	155	53	0	61	78	17	0	43	137	38	0	55	119	78	0	872
5:30 - 5:45	50	119	55	0	63	74	29	0	34	143	22	0	65	113	76	0	843
5:45 - 6:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6:00 - 6:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6:15 - 6:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6:30 - 6:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6:45 - 7:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	604	1750	682	0	1045	1720	382	0	595	2168	478	0	950	1954	1040	0	13368

Turning Movement Count

All Vehicles

Location Sanders and Custer

Date April 17 and 19, 2023

	Northbound				Southbound				Eastbound				Westbound				TOTAL	
	Left	Thr	Right	Peds	Left	Thr	Right	Peds	Left	Thr	Right	Peds	Left	Thr	Right	Peds		
7:00 - 7:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:15 - 7:30	4	6	15	0	36	13	10	0	8	136	14	0	43	171	0	0	0	456
7:30 - 7:45	9	11	19	0	39	15	8	0	10	175	17	0	40	206	0	0	0	549
7:45 - 8:00	7	17	21	0	45	19	9	0	15	232	18	0	46	242	0	0	0	671
8:00 - 8:15	11	21	25	0	40	18	9	0	14	211	21	0	45	232	0	0	0	647
8:15 - 8:30	10	18	23	0	44	14	11	0	12	198	16	0	41	222	0	0	0	609
8:30 - 8:45	12	22	20	0	46	15	11	0	18	188	18	0	38	201	0	0	0	589
8:45 - 9:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9:00 - 9:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9:15 - 9:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9:30 - 9:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9:45 - 10:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10:00 - 10:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10:15 - 10:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10:30 - 10:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10:45 - 11:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:00 - 11:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:15 - 11:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:30 - 11:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:45 - 12:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:00 - 12:15	40	36	82	0	50	37	30	0	31	193	0	0	44	170	72	0	0	785
12:15 - 12:30	41	43	90	0	47	39	25	0	33	199	0	0	46	175	70	0	0	808
12:30 - 12:45	48	40	87	0	56	42	28	0	28	190	0	0	50	182	68	0	0	819
12:45 - 1:00	50	38	78	0	47	38	22	0	33	188	0	0	40	168	63	0	0	765
1:00 - 1:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1:15 - 1:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1:30 - 1:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1:45 - 2:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2:00 - 2:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2:15 - 2:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2:30 - 2:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2:45 - 3:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3:00 - 3:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3:15 - 3:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3:30 - 3:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3:45 - 4:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:00 - 4:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:15 - 4:30	27	35	65	0	62	20	16	0	29	193	32	0	57	226	55	0	0	817
4:30 - 4:45	24	35	66	0	58	29	17	0	24	214	27	0	62	220	67	0	0	843
4:45 - 5:00	35	38	80	0	65	38	11	0	29	227	31	0	54	242	43	0	0	893
5:00 - 5:15	46	33	89	0	67	43	14	0	30	248	32	0	54	236	62	0	0	954
5:15 - 5:30	44	31	88	0	65	37	12	0	27	232	29	0	57	225	59	0	0	906
5:30 - 5:45	42	25	76	0	62	35	10	0	26	220	27	0	51	219	47	0	0	840
5:45 - 6:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6:00 - 6:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6:15 - 6:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6:30 - 6:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6:45 - 7:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	450	449	924	0	829	452	243	0	367	3244	282	0	768	3337	606	0	0	11951

Turning Movement Count
 All Vehicles
 Location Custer & I-15 South
 Date 4/17&19/2023

	Northbound				Southbound				Eastbound				Westbound				TOTAL
	Left	Thr	Right	Peds	Left	Thr	Right	Peds	Left	Thr	Right	Peds	Left	Thr	Right	Peds	
7:00 - 7:15	0	0	0	0	13	0	16	0	0	57	75	0	0	156	42	0	359
7:15 - 7:30	0	0	0	0	19	0	17	0	0	66	118	0	0	194	50	0	464
7:30 - 7:45	0	0	0	0	14	0	35	0	0	110	132	0	0	237	56	0	584
7:45 - 8:00	0	0	0	0	29	0	35	0	0	123	142	0	0	266	90	0	685
8:00 - 8:15	0	0	0	0	14	0	25	0	0	100	105	0	0	258	69	0	571
8:15 - 8:30	0	0	0	0	16	0	15	0	0	107	120	1	0	233	37	0	529
8:30 - 8:45	0	0	0	0	10	0	22	0	0	122	100	0	0	220	32	0	506
8:45 - 9:00	0	0	0	0	6	0	20	0	0	90	67	0	0	146	27	0	356
9:00 - 9:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9:15 - 9:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9:30 - 9:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9:45 - 10:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10:00 - 10:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10:15 - 10:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10:30 - 10:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10:45 - 11:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:00 - 11:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:15 - 11:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:30 - 11:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:45 - 12:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:00 - 12:15	0	0	0	0	7	0	10	0	0	220	107	0	0	314	23	0	681
12:15 - 12:30	0	0	0	0	8	0	19	0	0	218	102	1	0	281	23	0	652
12:30 - 12:45	0	0	0	0	11	0	16	0	0	226	96	0	0	252	30	0	631
12:45 - 1:00	0	0	0	0	10	0	19	0	0	196	96	0	0	234	28	0	583
1:00 - 1:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1:15 - 1:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1:30 - 1:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1:45 - 2:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2:00 - 2:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2:15 - 2:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2:30 - 2:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2:45 - 3:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3:00 - 3:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3:15 - 3:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3:30 - 3:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3:45 - 4:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:00 - 4:15	0	0	0	0	10	0	17	0	0	258	96	0	0	304	29	0	714
4:15 - 4:30	0	0	0	0	17	0	13	0	0	279	111	0	0	251	27	0	698
4:30 - 4:45	0	0	0	0	14	0	24	0	0	292	102	0	0	332	28	0	792
4:45 - 5:00	0	0	0	0	21	0	14	0	0	311	117	0	0	320	28	0	811
5:00 - 5:15	0	0	0	0	23	0	22	0	0	276	121	0	0	314	38	0	794
5:15 - 5:30	0	0	0	0	7	0	20	0	0	225	106	0	0	279	36	0	673
5:30 - 5:45	0	0	0	0	6	0	5	0	0	150	64	0	0	174	14	0	413
5:45 - 6:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6:00 - 6:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6:15 - 6:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6:30 - 6:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6:45 - 7:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	0	0	0	0	255	0	364	0	0	3426	1977	2	0	4765	707	0	11496

Turning Movement Count
 All Vehicles
 Location I15NB&Custer
 Date 4/20/2023

	Northbound				Southbound				Eastbound				Westbound				TOTAL	
	Left	Thr	Right	Peds	Left	Thr	Right	Peds	Left	Thr	Right	Peds	Left	Thr	Right	Peds		
7:00 - 7:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
7:15 - 7:30	41	1	9	0	0	0	0	0	0	14	89	0	0	0	163	9	0	326
7:30 - 7:45	48	0	17	0	0	0	0	0	0	7	98	0	0	0	218	11	0	399
7:45 - 8:00	68	0	12	0	0	0	0	0	0	2	133	0	0	0	238	14	0	467
8:00 - 8:15	84	0	16	0	0	0	0	0	0	9	92	0	0	0	235	11	0	447
8:15 - 8:30	74	0	11	0	0	0	0	0	0	19	108	0	0	0	235	18	0	465
8:30 - 8:45	63	0	11	0	0	0	0	0	0	13	105	0	0	0	164	16	0	372
8:45 - 9:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9:00 - 9:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9:15 - 9:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9:30 - 9:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9:45 - 10:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10:00 - 10:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10:15 - 10:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10:30 - 10:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10:45 - 11:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:00 - 11:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:15 - 11:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:30 - 11:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:45 - 12:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:00 - 12:15	81	0	21	0	0	0	0	0	0	18	237	0	0	0	192	15	0	564
12:15 - 12:30	63	0	17	0	0	0	0	0	0	25	213	0	0	0	212	12	0	542
12:30 - 12:45	80	0	15	0	0	0	0	0	0	14	208	1	0	0	218	21	0	557
12:45 - 1:00	70	0	17	0	0	0	0	0	0	16	173	0	0	0	191	8	0	475
1:00 - 1:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1:15 - 1:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1:30 - 1:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1:45 - 2:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2:00 - 2:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2:15 - 2:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2:30 - 2:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2:45 - 3:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3:00 - 3:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3:15 - 3:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3:30 - 3:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3:45 - 4:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:00 - 4:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:15 - 4:30	105	0	27	0	0	0	0	0	0	30	267	1	0	0	223	25	0	678
4:30 - 4:45	122	0	21	0	0	0	0	0	0	33	243	0	0	0	212	27	0	658
4:45 - 5:00	84	0	34	0	0	0	0	0	0	22	273	1	0	0	185	36	0	635
5:00 - 5:15	109	0	42	0	0	0	0	0	0	37	291	2	0	0	218	34	0	733
5:15 - 5:30	125	0	49	0	0	0	0	0	0	41	259	0	1	0	226	35	0	736
5:30 - 5:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:45 - 6:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6:00 - 6:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6:15 - 6:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6:30 - 6:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6:45 - 7:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	1217	1	319	0	0	0	0	0	0	300	2789	5	1	0	3130	292	0	8054

Turning Movement Count

All Vehicles

Location Helena - Custer/Washington

Date 4/19/23

	Northbound				Southbound				Eastbound				Westbound				TOTAL
	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds	
7:00 - 7:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:15 - 7:30	7	2	10	0	13	23	7	0	21	53	9	0	52	109	21	0	327
7:30 - 7:45	10	4	15	0	20	21	10	0	26	60	10	0	86	140	17	0	419
7:45 - 8:00	14	14	7	0	23	55	11	0	24	60	21	0	111	172	16	0	528
8:00 - 8:15	17	20	20	0	22	30	7	0	20	85	13	0	84	183	27	0	528
8:15 - 8:30	26	14	37	0	16	33	16	0	14	46	14	0	73	143	23	0	455
8:30 - 8:45	16	10	20	0	19	15	5	0	21	65	9	0	52	112	17	0	361
8:45 - 9:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9:00 - 9:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9:15 - 9:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9:30 - 9:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9:45 - 10:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10:00 - 10:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10:15 - 10:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10:30 - 10:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10:45 - 11:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:00 - 11:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:15 - 11:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:30 - 11:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:45 - 12:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:00 - 12:15	85	37	48	0	23	24	5	0	55	136	37	0	24	123	22	0	619
12:15 - 12:30	160	21	38	0	25	25	7	0	34	121	37	0	34	122	16	0	640
12:30 - 12:45	180	36	46	0	35	17	11	0	49	128	45	0	46	108	22	0	723
12:45 - 1:00	140	32	59	0	19	22	8	1	39	149	31	0	34	93	21	0	648
1:00 - 1:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1:15 - 1:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1:30 - 1:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1:45 - 2:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2:00 - 2:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2:15 - 2:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2:30 - 2:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2:45 - 3:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3:00 - 3:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3:15 - 3:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3:30 - 3:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3:45 - 4:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:00 - 4:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:15 - 4:30	93	43	71	0	37	20	8	0	54	168	28	0	36	107	17	0	682
4:30 - 4:45	91	43	82	0	25	12	9	0	54	136	30	0	33	115	9	0	639
4:45 - 5:00	80	43	77	0	26	19	8	0	61	197	32	0	52	121	24	0	740
5:00 - 5:15	99	52	75	0	27	16	5	0	65	166	22	0	32	103	23	0	685
5:15 - 5:30	94	45	74	0	22	15	6	0	62	167	21	0	34	96	15	0	651
5:30 - 5:45	91	44	70	0	23	12	8	0	58	157	23	0	31	98	17	0	632
5:45 - 6:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6:00 - 6:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6:15 - 6:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6:30 - 6:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6:45 - 7:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	1203	460	749	0	375	359	131	1	657	1894	382	0	814	1945	307	0	9277

Turning Movement Count

All Vehicles

Location Helena: Montana and Ptarmigan (Jordan)

Date April 17 and 19

	Northbound				Southbound				Eastbound				Westbound				TOTAL
	Left	Thr	Right	Peds	Left	Thr	Right	Peds	Left	Thr	Right	Peds	Left	Thr	Right	Peds	
7:00 - 7:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:15 - 7:30	1	31	0	0	22	103	3	0	0	2	1	0	0	0	8	0	171
7:30 - 7:45	4	60	1	0	46	206	5	0	0	0	3	0	1	1	11	0	338
7:45 - 8:00	5	63	1	0	45	221	5	0	2	1	1	0	1	0	15	0	360
8:00 - 8:15	3	81	1	0	23	172	1	0	1	0	0	0	0	0	11	0	293
8:15 - 8:30	4	87	1	0	31	143	3	0	0	0	3	0	0	1	19	0	292
8:30 - 8:45	5	79	1	0	25	136	6	0	0	0	1	0	2	0	23	0	278
8:45 - 9:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9:00 - 9:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9:15 - 9:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9:30 - 9:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9:45 - 10:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10:00 - 10:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10:15 - 10:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10:30 - 10:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10:45 - 11:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:00 - 11:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:15 - 11:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:30 - 11:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:45 - 12:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:00 - 12:15	20	119	4	0	15	100	3	0	4	0	11	0	0	1	35	0	312
12:15 - 12:30	13	158	2	0	19	100	1	0	5	1	17	0	2	3	30	0	351
12:30 - 12:45	15	169	2	0	26	114	5	0	4	1	16	0	0	1	46	0	399
12:45 - 1:00	16	184	1	0	29	102	5	0	2	1	16	0	0	1	29	0	386
1:00 - 1:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1:15 - 1:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1:30 - 1:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1:45 - 2:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2:00 - 2:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2:15 - 2:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2:30 - 2:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2:45 - 3:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3:00 - 3:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3:15 - 3:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3:30 - 3:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3:45 - 4:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:00 - 4:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:15 - 4:30	10	189	1	0	34	119	1	0	1	1	13	0	1	2	60	0	432
4:30 - 4:45	6	180	1	0	25	127	4	0	1	1	14	0	1	1	58	0	419
4:45 - 5:00	7	226	5	0	25	111	6	0	1	0	12	0	0	2	44	0	439
5:00 - 5:15	4	247	5	0	26	142	2	0	0	1	12	0	1	0	40	0	480
5:15 - 5:30	5	259	2	0	24	107	4	0	3	2	9	0	1	3	47	0	466
5:30 - 5:45	6	215	4	0	23	130	2	0	4	0	3	0	1	2	46	0	436
5:45 - 6:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6:00 - 6:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6:15 - 6:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6:30 - 6:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6:45 - 7:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	124	2347	32	0	438	2133	56	0	28	11	132	0	11	18	522	0	5852

Basic Volume Report: JORDAN W SNDRS

Station ID : JORDAN W SNDRS

Info Line 1 : ATS
 Info Line 2 : UNICORN 1

GPS Lat/Lon :
 DB File : JORDAN W SNDRS.DB

Last Connected Device Type : Unic-L
 Version Number : 1.41
 Serial Number :

Number of Lanes : 1
 Posted Speed Limit : 0.0 mph

Lane #1 Configuration

#	Dir.	Information	Volume Mode	Volume Sensors	Divide By 2	Comment
1.	ALL		Normal	Axle	Yes	

Lane #1 Basic Volume Data From: 12:00 - 04/17/2023 To: 12:59 - 04/19/2023

Date	DW	0000	0100	0200	0300	0400	0500	0600	0700	0800	0900	1000	1100	1200	1300	1400	1500	1600	1700	1800	1900	2000	2100	2200	2300	Total
041723	M													284	258	265	333	337	340	223	158	100	71	34	13	2416
041823	T	15	11	11	5	10	23	67	160	187	195	231	233	268	215	266	279	320	289	199	159	101	53	29	18	3344
041923	W	9	8	3	3	10	18	63	188	208	173	199	242	257												1381
Month Total :		24	19	14	8	20	41	130	348	395	368	430	475	809	473	531	612	657	629	422	317	201	124	63	31	7141
Percent :		0%	0%	0%	0%	0%	1%	2%	5%	6%	5%	6%	7%	11%	7%	7%	9%	9%	9%	6%	4%	3%	2%	1%	0%	
ADT :		12	10	7	4	10	21	65	174	198	184	215	238	270	237	266	306	329	315	211	159	101	62	32	16	3442

	Sun	Mon	Tue	Wed	Thu	Fri	Sat	Total	Percent
DW Totals :	0	2416	3344	1381	0	0	0	7141	100%
# Days :	0.0	0.5	1.0	0.5	0.0	0.0	0.0		
ADT :	0	4832	3344	2550	0	0	0	3498	
Percent :	0%	34%	47%	19%	0%	0%	0%	0	0%
								Weekend (Sat-Sun) :	
								ADT :	0

Basic Volume Report: SANDERS N MT AV

Station ID : SANDERS N MT AV

Info Line 1 : ATS
Info Line 2 : CNTR 2

GPS Lat/Lon :
DB File : SANDERS N MT AV.DB

Last Connected Device Type : Unic-L
Version Number : 1.41
Serial Number : 91434

Number of Lanes : 1
Posted Speed Limit : 0.0 mph

Lane #1 Configuration

#	Dir.	Information	Volume Mode	Volume Sensors	Divide By 2	Comment
1.	ALL		Normal	Axle	Yes	

Lane #1 Basic Volume Data From: 12:00 - 04/17/2023 To: 12:59 - 04/19/2023

Date	DW	0000	0100	0200	0300	0400	0500	0600	0700	0800	0900	1000	1100	1200	1300	1400	1500	1600	1700	1800	1900	2000	2100	2200	2300	Total
041723	M													861	798	730	766	788	738	513	379	204	152	60	33	6022
041823	T	24	12	11	16	20	49	144	310	426	482	613	750	713	671	747	717	804	686	513	385	287	136	53	27	8596
041923	W	20	9	6	20	28	44	122	302	423	444	589	695	687												3389
Month Total :		44	21	17	36	48	93	266	612	849	926	1202	1445	2261	1469	1477	1483	1592	1424	1026	764	491	288	113	60	18007
Percent :		0%	0%	0%	0%	0%	1%	1%	3%	5%	5%	7%	8%	13%	8%	8%	8%	9%	8%	6%	4%	3%	2%	1%	0%	
ADT :		22	11	9	18	24	47	133	306	425	463	601	723	754	735	739	742	796	712	513	382	246	144	57	30	8632

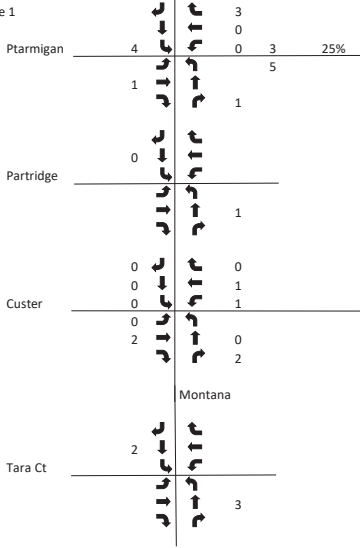
	Sun	Mon	Tue	Wed	Thu	Fri	Sat	Total	Percent	
DW Totals :	0	6022	8596	3389	0	0	0	Weekday (Mon-Fri) :	18007	100%
# Days :	0.0	0.5	1.0	0.5	0.0	0.0	0.0	ADT :	8820	
ADT :	0	12044	8596	6257	0	0	0	Weekend (Sat-Sun) :	0	0%
Percent :	0%	33%	48%	19%	0%	0%	0%	ADT :	0	

APPENDIX B

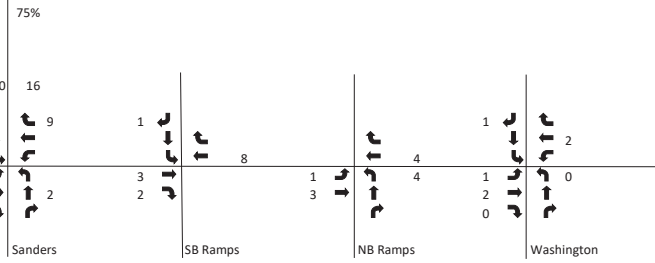
Traffic Model

Trinity Center Traffic Model

Site Generatead Traffic
Phase 1
AM

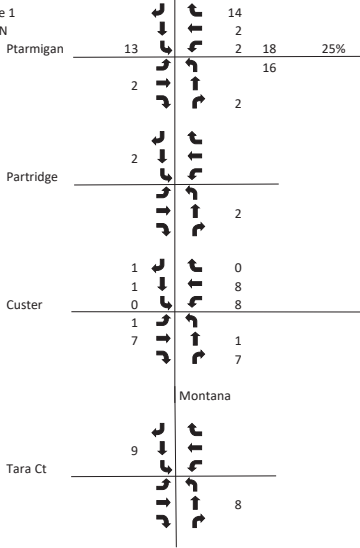


Phase 1	
IN	26
OUT	16
20% Intermodal Capture	
IN	21
OUT	13

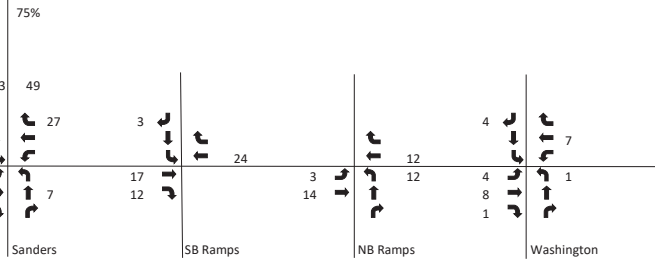


Trinity Center Traffic Model

Site Generatead Traffic
Phase 1
NOON

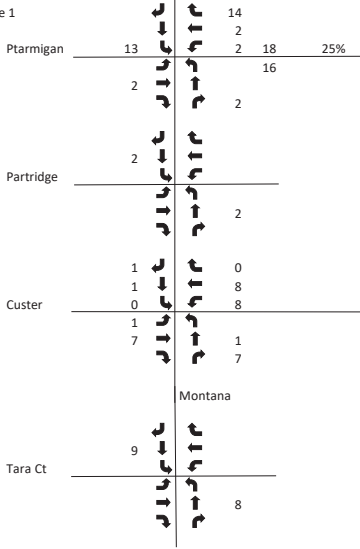


Phase 1	
IN	82
OUT	88
20% Intermodal Capture	
IN	66
OUT	70

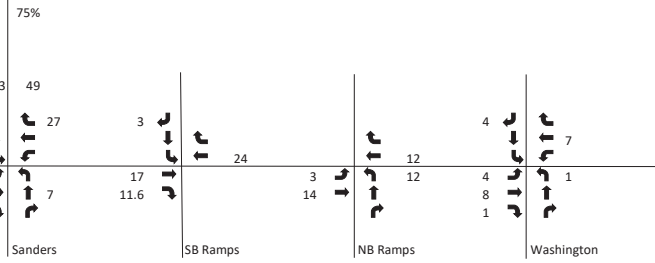


Trinity Center Traffic Model

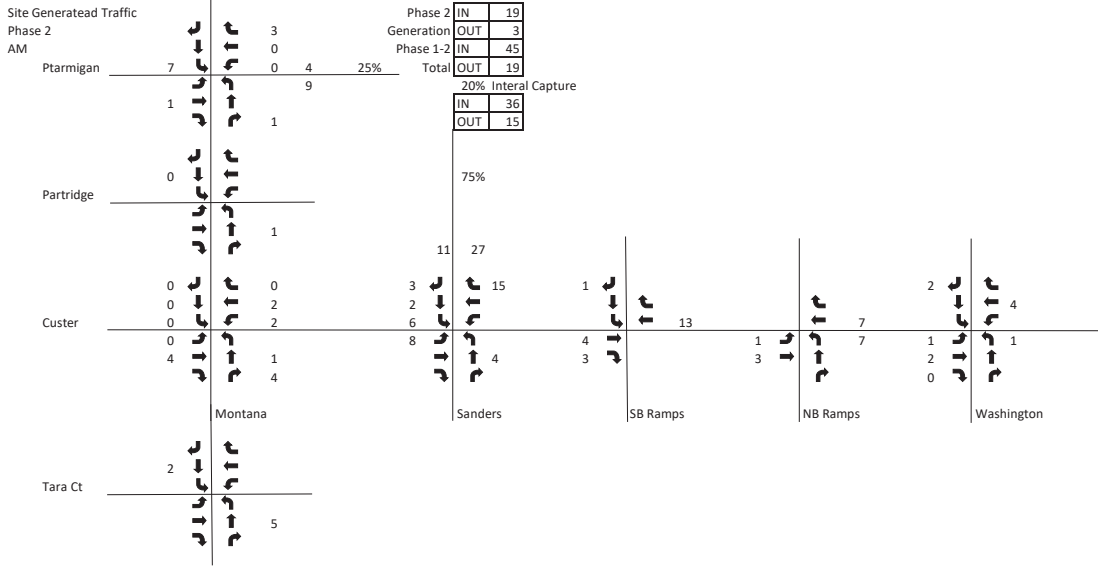
Site Generatead Traffic
Phase 1
PM



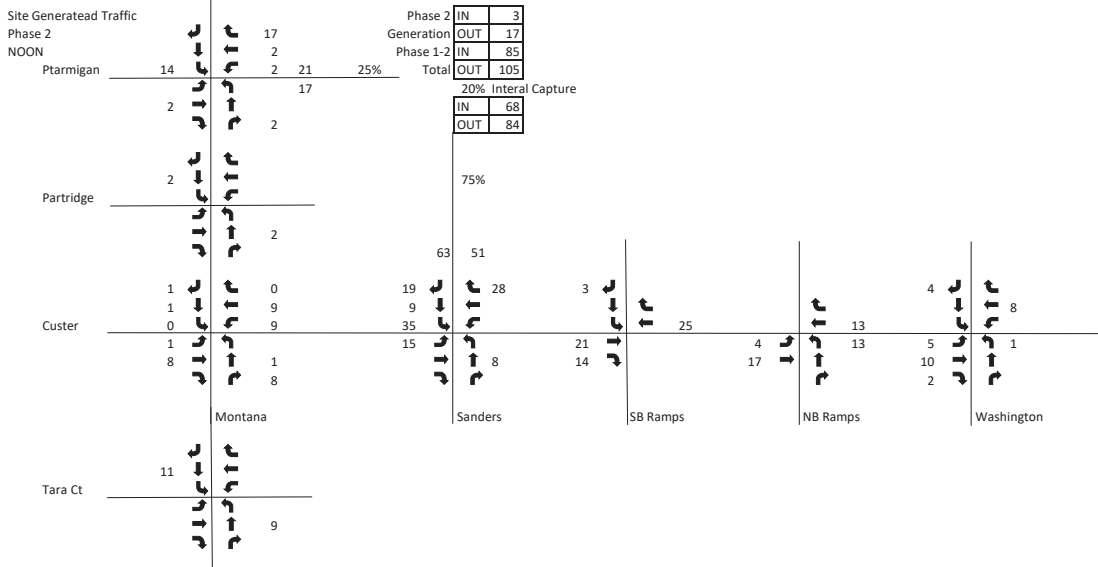
Phase 1	
IN	82
OUT	88
20% Intermodal Capture	
IN	66
OUT	70



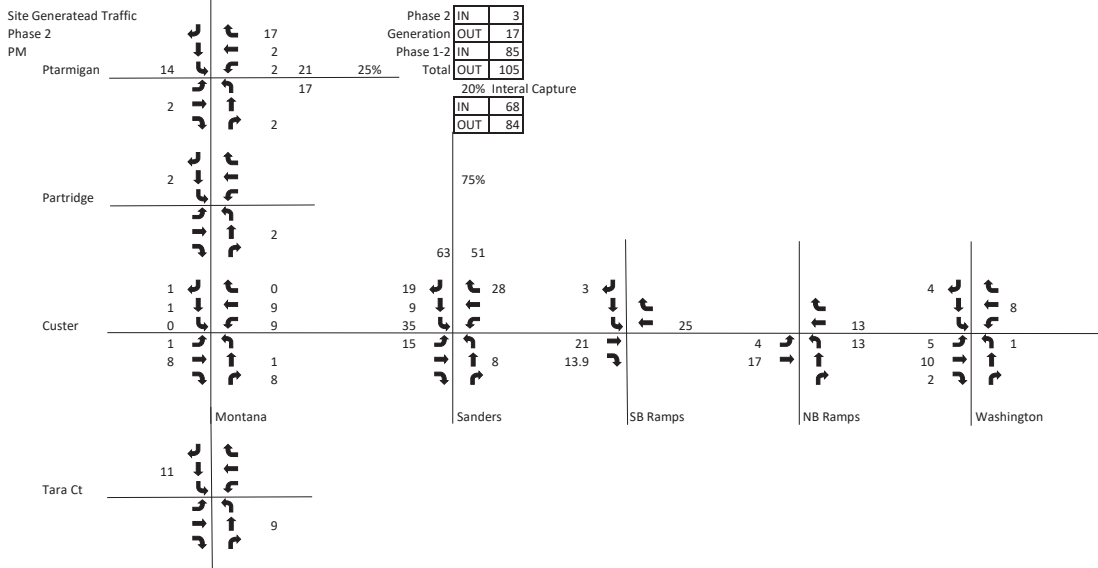
Trinity Center Traffic Model



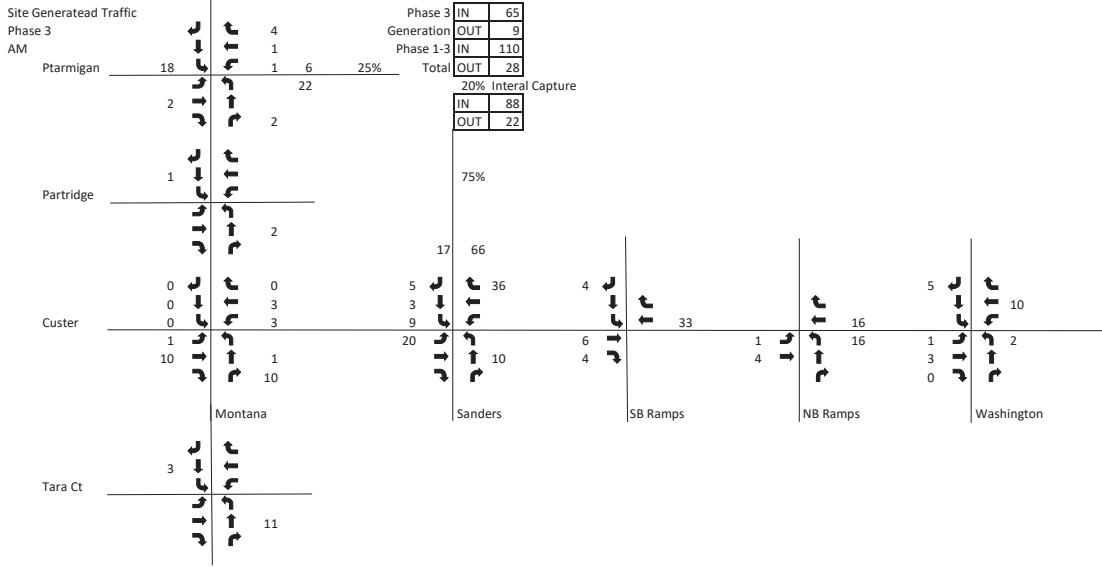
Trinity Center Traffic Model



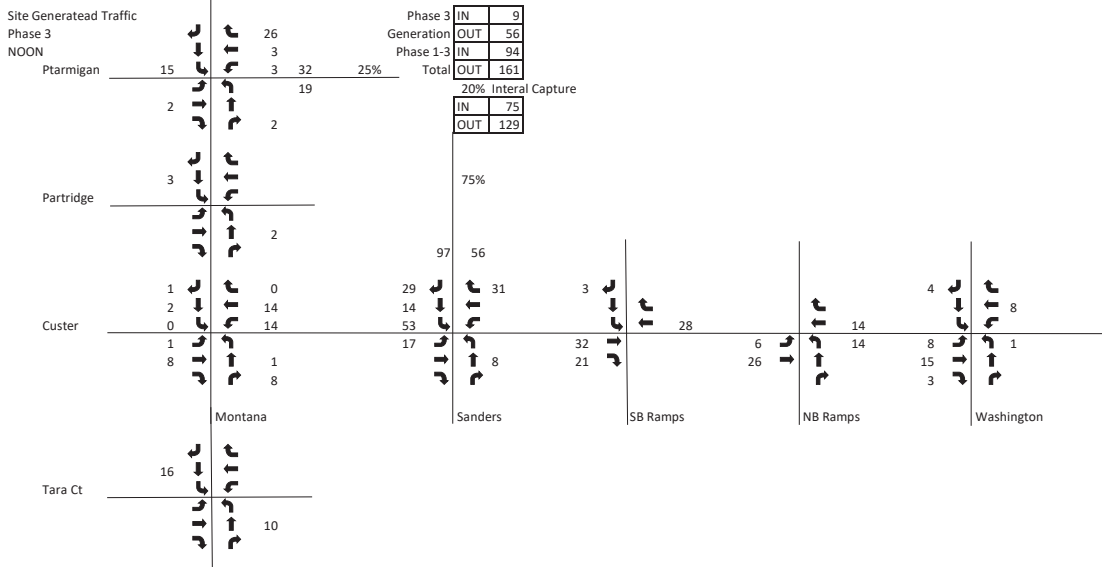
Trinity Center Traffic Model



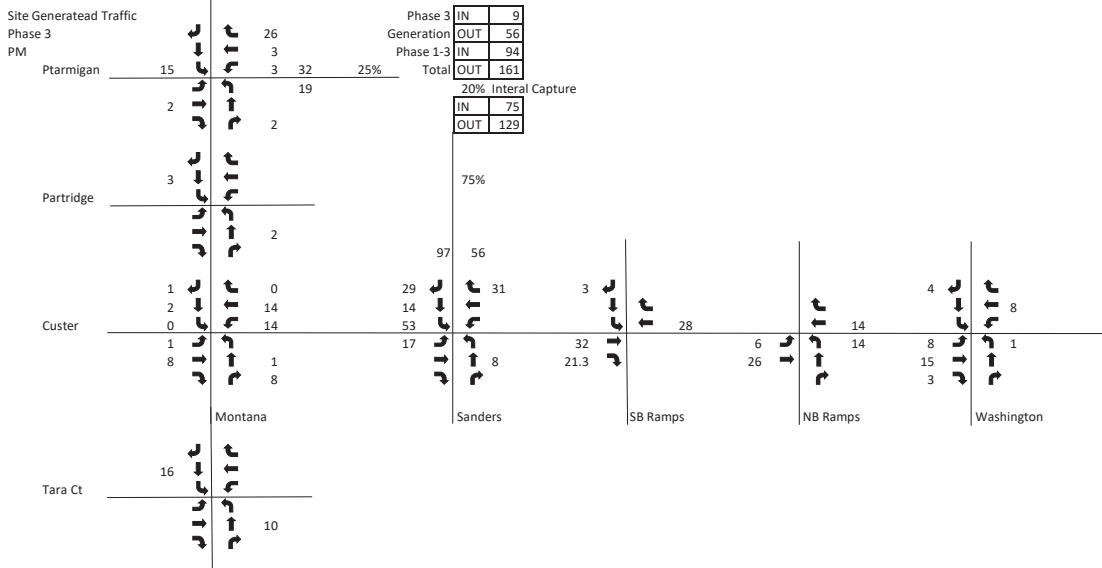
Trinity Center Traffic Model



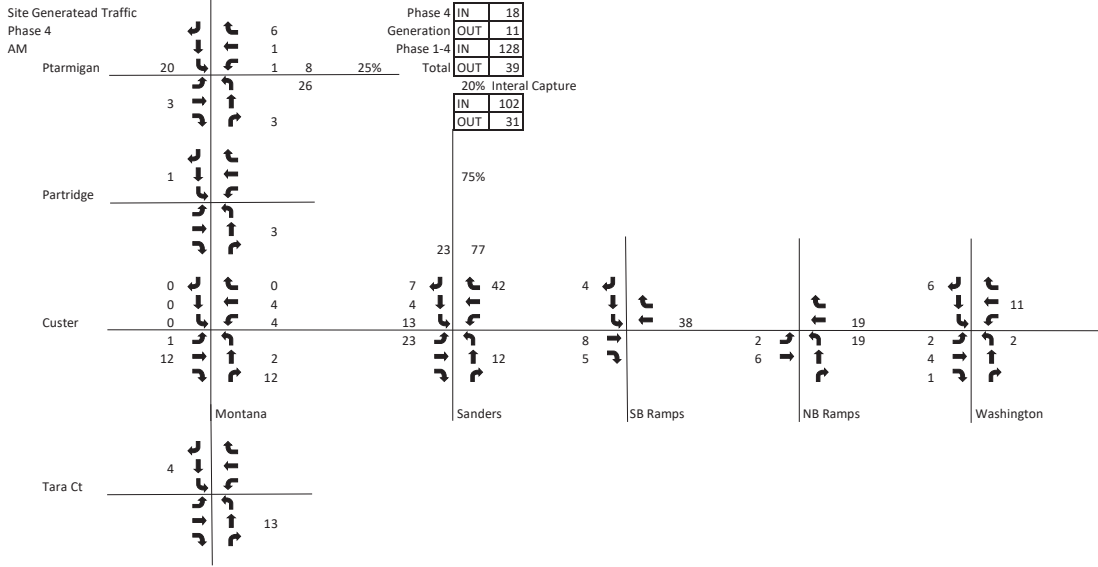
Trinity Center Traffic Model



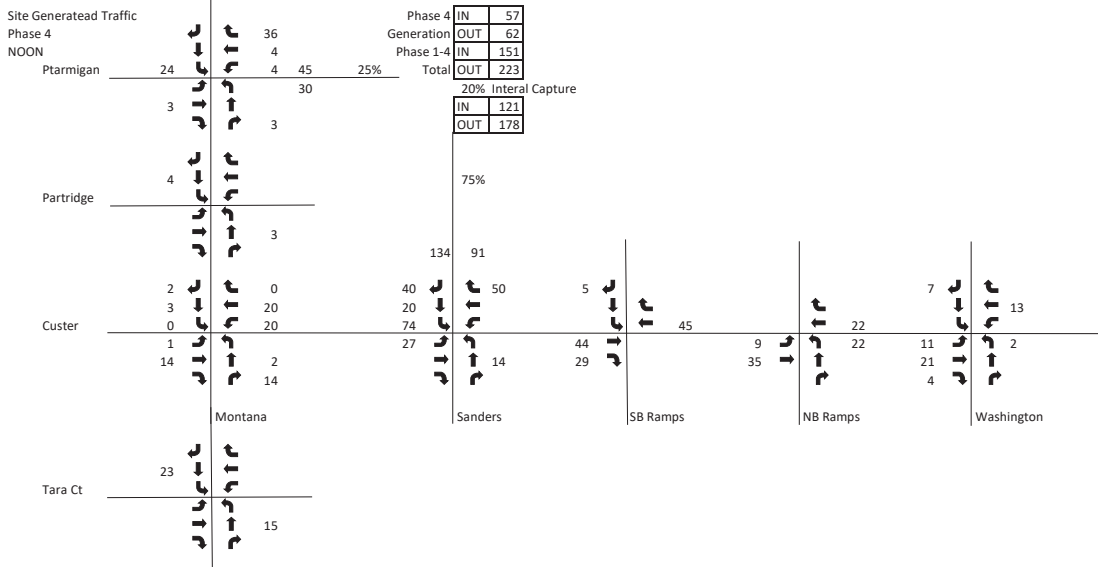
Trinity Center Traffic Model



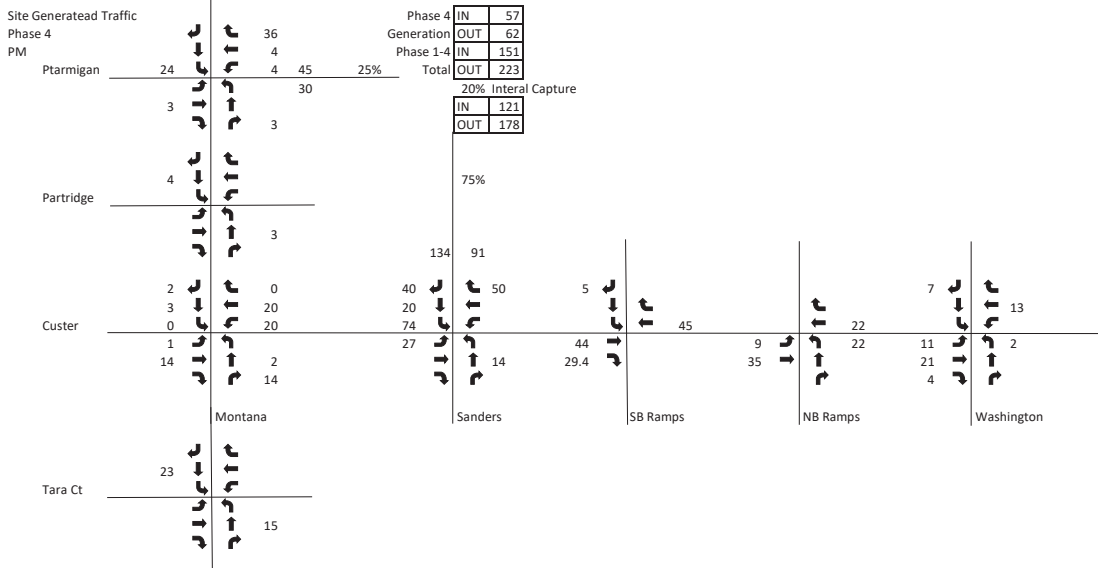
Trinity Center Traffic Model



Trinity Center Traffic Model

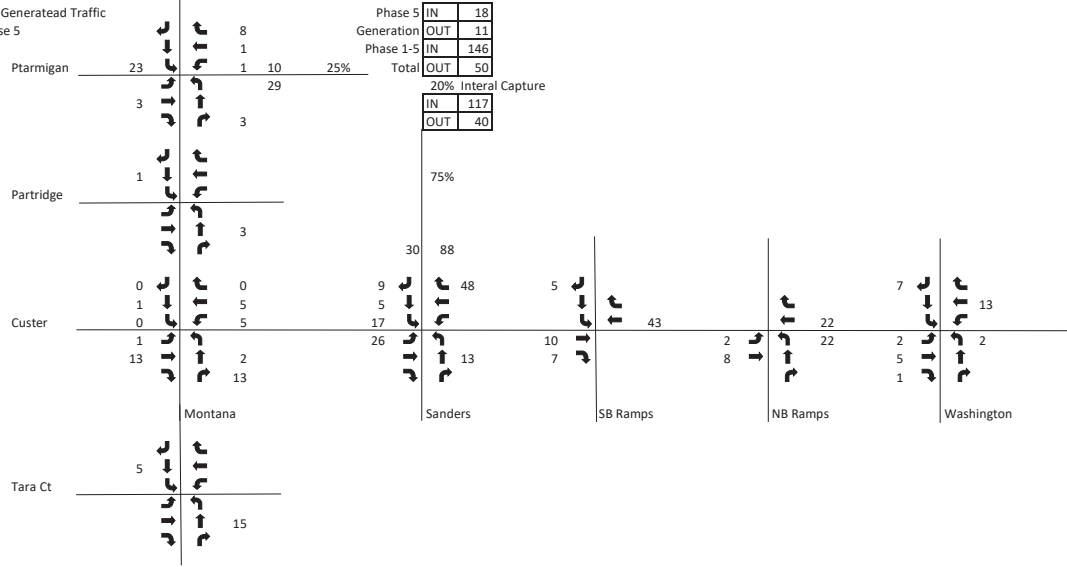


Trinity Center Traffic Model



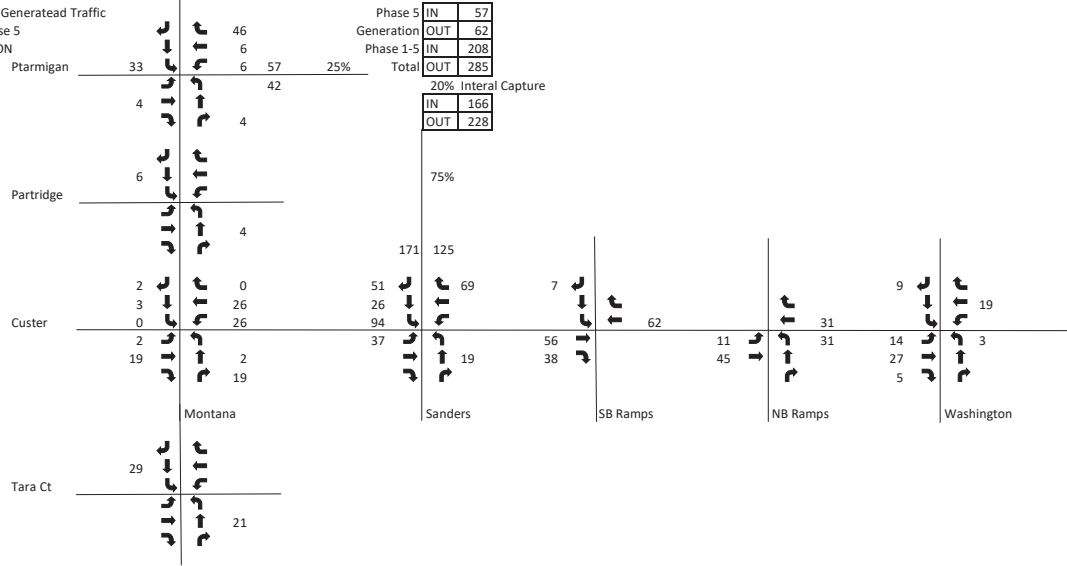
Trinity Center Traffic Model

Site Generatead Traffic
Phase 5
AM



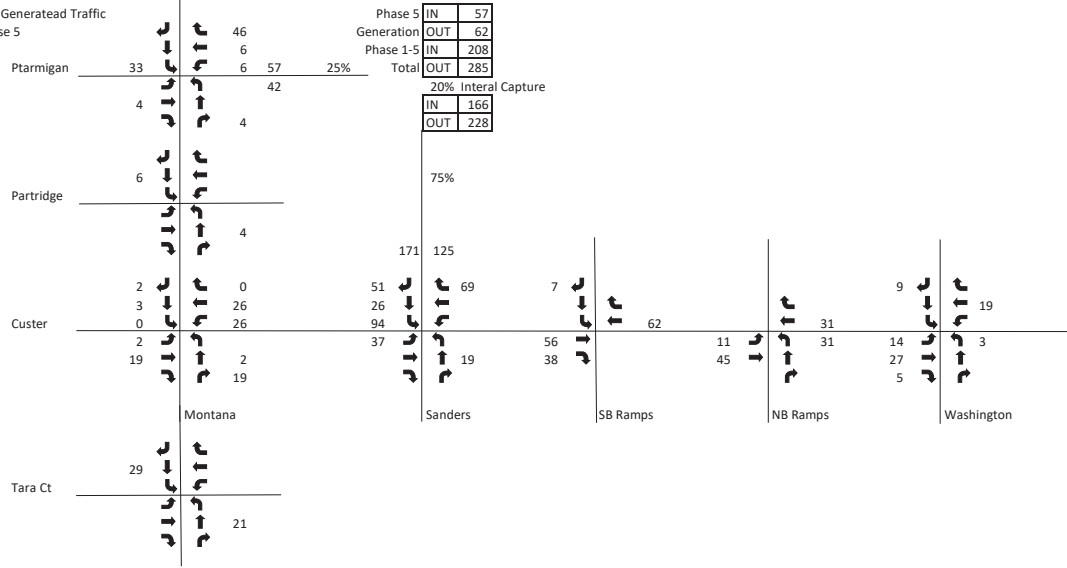
Trinity Center Traffic Model

Site Generatead Traffic
Phase 5
NOON



Trinity Center Traffic Model

Site Generatead Traffic
Phase 5
PM































APPENDIX C

LOS Calculations

Lanes, Volumes, Timings
7: Montana Ave & Custer Ave

09/26/2023

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		 		 				 			 	
Traffic Volume (vph)	92	544	148	224	504	176	104	156	84	324	680	80
Future Volume (vph)	92	544	148	224	504	176	104	156	84	324	680	80
Ideal Flow (vphpl)	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750
Storage Length (ft)	225		225	400		0	300		225	230		0
Storage Lanes	1		2	2		1	1		1	1		0
Taper Length (ft)	100			100			100			100		
Lane Util. Factor	1.00	*0.78	1.00	*0.63	1.00	1.00	1.00	*0.70	1.00	1.00	0.95	0.95
Frt			0.850			0.850			0.850		0.984	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1646	2650	1458	2054	1683	1458	1614	2402	1417	1630	3226	0
Flt Permitted	0.290			0.950			0.256			0.537		
Satd. Flow (perm)	502	2650	1458	2054	1683	1458	435	2402	1417	921	3226	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			105			176			105		10	
Link Speed (mph)		35			35			40			40	
Link Distance (ft)		1455			1327			627			1926	
Travel Time (s)		28.3			25.9			10.7			32.8	
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Heavy Vehicles (%)	1%	3%	2%	2%	4%	2%	3%	2%	5%	2%	1%	5%
Adj. Flow (vph)	92	544	148	224	504	176	104	156	84	324	680	80
Shared Lane Traffic (%)												
Lane Group Flow (vph)	92	544	148	224	504	176	104	156	84	324	760	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		24			24			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane		Yes										
Headway Factor	1.11	1.11	1.11	1.11	1.11	1.11	1.11	1.11	1.11	1.11	1.11	1.11
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	1	1	1	1	1	1	1	1	1	1	1
Detector Template	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	
Leading Detector (ft)	50	50	50	50	50	50	50	50	50	50	50	
Trailing Detector (ft)	0	0	0	0	0	0	0	0	0	0	0	
Detector 1 Position(ft)	0	0	0	0	0	0	0	0	0	0	0	
Detector 1 Size(ft)	50	50	50	50	50	50	50	50	50	50	50	
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Turn Type	pm+pt	NA	pm+ov	Prot	NA	pm+ov	pm+pt	NA	pm+ov	pm+pt	NA	
Protected Phases	1	6	7	5	2	3	7	4	5	3	8	
Permitted Phases	6		6			2	4		4	8		
Detector Phase	1	6	7	5	2	3	7	4	5	3	8	
Switch Phase												
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	15.0	40.8	15.0	15.0	38.5	15.0	15.0	38.5	15.0	15.0	38.5	

Lanes, Volumes, Timings
7: Montana Ave & Custer Ave

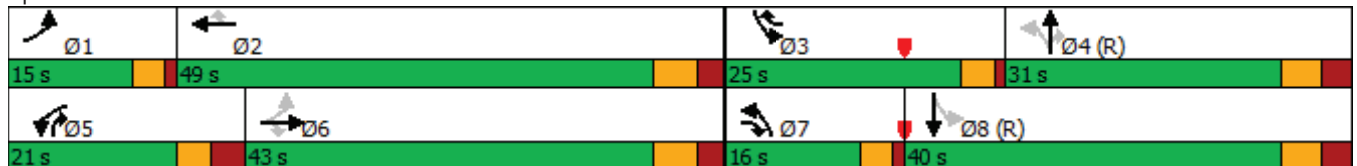
09/26/2023

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Total Split (s)	15.0	43.0	16.0	21.0	49.0	25.0	16.0	31.0	21.0	25.0	40.0	
Total Split (%)	12.5%	35.8%	13.3%	17.5%	40.8%	20.8%	13.3%	25.8%	17.5%	20.8%	33.3%	
Maximum Green (s)	11.0	36.5	12.0	15.0	42.5	21.0	12.0	24.5	15.0	21.0	33.5	
Yellow Time (s)	3.0	3.9	3.0	3.0	3.9	3.0	3.0	3.6	3.0	3.0	3.6	
All-Red Time (s)	1.0	2.6	1.0	3.0	2.6	1.0	1.0	2.9	3.0	1.0	2.9	
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Lost Time (s)	4.0	6.5	4.0	6.0	6.5	4.0	4.0	6.5	6.0	4.0	6.5	
Lead/Lag	Lead	Lag	Lead	Lead	Lag	Lead	Lead	Lag	Lead	Lead	Lag	
Lead-Lag Optimize?						Yes		Yes		Yes		
Vehicle Extension (s)	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	
Recall Mode	None	Max	None	None	Max	None	None	C-Max	None	None	C-Max	
Walk Time (s)		7.0			7.0			7.0			7.0	
Flash Dont Walk (s)		27.0			24.0			25.0			25.0	
Pedestrian Calls (#/hr)		0			0			0			0	
Act Effct Green (s)	47.8	36.8	52.8	14.7	45.0	70.7	38.3	26.3	47.5	52.0	36.0	
Actuated g/C Ratio	0.40	0.31	0.44	0.12	0.38	0.59	0.32	0.22	0.40	0.43	0.30	
v/c Ratio	0.33	0.67	0.21	0.89	0.80	0.19	0.45	0.30	0.13	0.63	0.78	
Control Delay	19.9	41.2	7.4	69.2	39.6	9.2	26.2	39.3	3.8	30.5	44.8	
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Delay	19.9	41.2	7.4	69.2	39.6	9.2	26.2	39.3	3.8	30.5	44.8	
LOS	B	D	A	E	D	A	C	D	A	C	D	
Approach Delay		32.3			41.0			26.7			40.5	
Approach LOS		C			D			C			D	

Intersection Summary

Area Type: Other
 Cycle Length: 120
 Actuated Cycle Length: 120
 Offset: 0 (0%), Referenced to phase 4:NBTL and 8:SBTL, Start of 1st Green
 Natural Cycle: 110
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.89
 Intersection Signal Delay: 37.1 Intersection LOS: D
 Intersection Capacity Utilization 81.3% ICU Level of Service D
 Analysis Period (min) 15
 * User Entered Value

Splits and Phases: 7: Montana Ave & Custer Ave



Lanes, Volumes, Timings
8: Sanders St & Custer Ave

09/26/2023



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	60	928	72	164	968	152	28	68	84	180	76	36
Future Volume (vph)	60	928	72	164	968	152	28	68	84	180	76	36
Ideal Flow (vphpl)	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750
Storage Length (ft)	175		135	230		350	150		300	150		150
Storage Lanes	1		1	1		1	1		1	1		1
Taper Length (ft)	100			100			100			100		
Lane Util. Factor	1.00	*0.72	1.00	1.00	*0.70	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor							1.00					0.99
Fr _t			0.850			0.850			0.850			0.850
Fl _t Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1554	2423	1488	1646	2402	1473	1630	1651	1403	1583	1636	1417
Fl _t Permitted	0.145			0.125			0.708			0.480		
Satd. Flow (perm)	237	2423	1488	217	2402	1473	1214	1651	1403	800	1636	1398
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			145			152			114			73
Link Speed (mph)		35			35			25				25
Link Distance (ft)		1327			513			1716				1316
Travel Time (s)		25.9			10.0			46.8				35.9
Confl. Peds. (#/hr)							1					1
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Heavy Vehicles (%)	7%	4%	0%	1%	2%	1%	2%	6%	6%	5%	7%	5%
Adj. Flow (vph)	60	928	72	164	968	152	28	68	84	180	76	36
Shared Lane Traffic (%)												
Lane Group Flow (vph)	60	928	72	164	968	152	28	68	84	180	76	36
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		24			24			12				12
Link Offset(ft)		0			0			0				0
Crosswalk Width(ft)		16			16			16				16
Two way Left Turn Lane												
Headway Factor	1.11	1.11	1.11	1.11	1.11	1.11	1.11	1.11	1.11	1.11	1.11	1.11
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	1	1	1	1	1	1	1	1	1	1	1
Detector Template	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Leading Detector (ft)	50	50	50	50	50	20	50	50	50	50	50	50
Trailing Detector (ft)	0	0	0	0	0	0	0	0	0	0	0	0
Detector 1 Position(ft)	0	0	0	0	0	0	0	0	0	0	0	0
Detector 1 Size(ft)	50	50	50	50	50	20	50	50	50	50	50	50
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Turn Type	pm+pt	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	pm+ov	pm+pt	NA	pm+ov
Protected Phases	5	2		1	6		3	8	1	7	4	5
Permitted Phases	2		2	6		6	8		8	4		4
Detector Phase	5	2	2	1	6	6	3	8	1	7	4	5
Switch Phase										4		

Lanes, Volumes, Timings
8: Sanders St & Custer Ave

09/26/2023

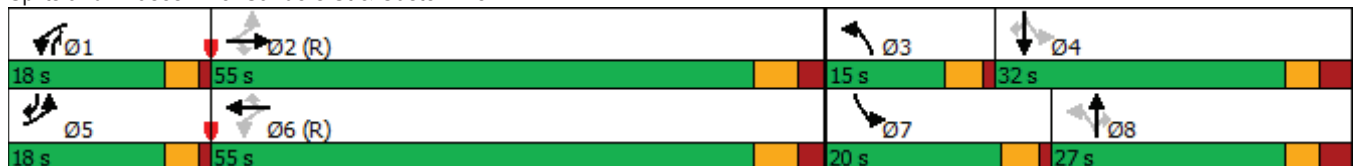


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Minimum Initial (s)	5.0	25.0	25.0	5.0	25.0	25.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	15.0	38.5	38.5	15.0	38.5	38.5	15.0	36.0	15.0	15.0	41.0	15.0
Total Split (s)	18.0	55.0	55.0	18.0	55.0	55.0	15.0	27.0	18.0	20.0	32.0	18.0
Total Split (%)	15.0%	45.8%	45.8%	15.0%	45.8%	45.8%	12.5%	22.5%	15.0%	16.7%	26.7%	15.0%
Maximum Green (s)	14.0	48.5	48.5	14.0	48.5	48.5	10.5	21.0	14.0	15.5	26.0	14.0
Yellow Time (s)	3.0	4.1	4.1	3.0	4.1	4.1	3.5	3.0	3.0	3.5	3.0	3.0
All-Red Time (s)	1.0	2.4	2.4	1.0	2.4	2.4	1.0	3.0	1.0	1.0	3.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.0	6.5	6.5	4.0	6.5	6.5	4.5	6.0	4.0	4.5	6.0	4.0
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lead	Lead	Lag	Lead
Lead-Lag Optimize?							Yes	Yes		Yes	Yes	
Vehicle Extension (s)	2.5	2.5	2.5	2.5	2.5	2.5	3.0	2.5	2.5	3.0	2.5	2.5
Recall Mode	None	C-Max	C-Max	None	C-Max	C-Max	None	None	None	None	None	None
Walk Time (s)		7.0	7.0		7.0	7.0		7.0			7.0	
Flash Dont Walk (s)		25.0	25.0		25.0	25.0		23.0			28.0	
Pedestrian Calls (#/hr)		0	0		0	0		0			0	
Act Effct Green (s)	72.8	63.6	63.6	82.4	71.0	71.0	17.0	9.8	25.8	29.1	20.1	28.9
Actuated g/C Ratio	0.61	0.53	0.53	0.69	0.59	0.59	0.14	0.08	0.22	0.24	0.17	0.24
v/c Ratio	0.28	0.72	0.08	0.56	0.68	0.16	0.14	0.50	0.21	0.61	0.28	0.09
Control Delay	7.7	25.3	3.3	21.8	14.8	1.1	34.3	64.8	3.6	46.8	46.5	1.3
Queue Delay	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	7.7	25.3	3.3	21.8	15.0	1.1	34.3	64.8	3.6	46.8	46.5	1.3
LOS	A	C	A	C	B	A	C	E	A	D	D	A
Approach Delay		22.8			14.2			31.5			41.1	
Approach LOS		C			B			C			D	

Intersection Summary

Area Type: Other
 Cycle Length: 120
 Actuated Cycle Length: 120
 Offset: 5 (4%), Referenced to phase 2:EBTL and 6:WBTL, Start of 1st Green
 Natural Cycle: 130
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.72
 Intersection Signal Delay: 21.3
 Intersection LOS: C
 Intersection Capacity Utilization 69.3%
 ICU Level of Service C
 Analysis Period (min) 15
 * User Entered Value

Splits and Phases: 8: Sanders St & Custer Ave



Lanes, Volumes, Timings
 9: I-15 SB On & Custer Ave & I-15 SB Off

09/26/2023



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	SBL2	SBL	SBR	NWL	NWR
Lane Configurations		↑↑	↑		↑↑	↑	↑		↑		
Traffic Volume (vph)	0	492	568	0	1064	360	116	0	318	0	0
Future Volume (vph)	0	492	568	0	1064	360	116	0	318	0	0
Ideal Flow (vphpl)	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750
Storage Length (ft)	0		150	0		300		0	0	0	0
Storage Lanes	0		1	0		1		1	1	0	0
Taper Length (ft)	25			25				25		25	
Lane Util. Factor	1.00	0.95	1.00	1.00	*0.77	1.00	1.00	1.00	1.00	1.00	1.00
Frt			0.850			0.850			0.850		
Flt Protected							0.950				
Satd. Flow (prot)	0	3260	1458	0	2642	1458	1630	0	1458	0	0
Flt Permitted							0.950				
Satd. Flow (perm)	0	3260	1458	0	2642	1458	1630	0	1458	0	0
Right Turn on Red			Yes			Yes			Yes		
Satd. Flow (RTOR)			461			360			145		
Link Speed (mph)		35			35			25		55	
Link Distance (ft)		513			855			727		910	
Travel Time (s)		10.0			16.7			19.8		11.3	
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	0	492	568	0	1064	360	116	0	318	0	0
Shared Lane Traffic (%)											
Lane Group Flow (vph)	0	492	568	0	1064	360	116	0	318	0	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Right
Median Width(ft)		12			12			12		0	
Link Offset(ft)		0			0			0		0	
Crosswalk Width(ft)		16			16			16		16	
Two way Left Turn Lane											
Headway Factor	1.11	1.11	1.11	1.11	1.11	1.11	1.11	1.11	1.11	1.11	1.11
Turning Speed (mph)	15		9	15		9	15	15	9	15	9
Number of Detectors		0	0		0	0	1		1		
Detector Template		Thru	Right		Thru	Right	Left		Right		
Leading Detector (ft)		0	0		0	0	75		75		
Trailing Detector (ft)		0	0		0	0	0		0		
Detector 1 Position(ft)		0	0		0	0	0		0		
Detector 1 Size(ft)		6	20		6	20	75		75		
Detector 1 Type		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex		
Detector 1 Channel											
Detector 1 Extend (s)		0.0	0.0		0.0	0.0	0.0		0.0		
Detector 1 Queue (s)		0.0	0.0		0.0	0.0	0.0		0.0		
Detector 1 Delay (s)		0.0	0.0		0.0	0.0	0.0		0.0		
Turn Type		NA	Free		NA	Perm	Prot		Prot		
Protected Phases		2			6		7		7		
Permitted Phases			Free			6					
Detector Phase		2			6	6	7		7		
Switch Phase											
Minimum Initial (s)		4.0			4.0	4.0	5.0		5.0		
Minimum Split (s)		22.0			49.6	49.6	21.2		21.2		
Total Split (s)		90.0			90.0	90.0	30.0		30.0		

Lanes, Volumes, Timings
 9: I-15 SB On & Custer Ave & I-15 SB Off

09/26/2023



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	SBL2	SBL	SBR	NWL	NWR
Total Split (%)	75.0%				75.0%	75.0%	25.0%		25.0%		
Maximum Green (s)	83.4				83.4	83.4	24.8		24.8		
Yellow Time (s)	4.1				4.1	4.1	3.2		3.2		
All-Red Time (s)	2.5				2.5	2.5	2.0		2.0		
Lost Time Adjust (s)	0.0				0.0	0.0	0.0		0.0		
Total Lost Time (s)	6.6				6.6	6.6	5.2		5.2		
Lead/Lag											
Lead-Lag Optimize?											
Vehicle Extension (s)	3.0				3.0	3.0	3.0		3.0		
Recall Mode	C-Max				C-Max	C-Max	None		None		
Walk Time (s)					7.0	7.0					
Flash Dont Walk (s)					36.0	36.0					
Pedestrian Calls (#/hr)					0	0					
Act Effct Green (s)	88.5	120.0			88.5	88.5	19.7		19.7		
Actuated g/C Ratio	0.74	1.00			0.74	0.74	0.16		0.16		
v/c Ratio	0.20	0.39			0.55	0.31	0.43		0.88		
Control Delay	4.1	0.6			6.4	2.1	48.8		51.2		
Queue Delay	0.0	0.0			0.0	0.0	0.0		0.0		
Total Delay	4.1	0.6			6.4	2.1	48.8		51.2		
LOS	A	A			A	A	D		D		
Approach Delay	2.2				5.3			50.6			
Approach LOS	A				A			D			

Intersection Summary





























Area Type: Other
 Cycle Length: 120
 Actuated Cycle Length: 120
 Offset: 108 (90%), Referenced to phase 2:EBT and 6:WBT, Start of 1st Green
 Natural Cycle: 75
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.88
 Intersection Signal Delay: 10.9 Intersection LOS: B
 Intersection Capacity Utilization 63.1% ICU Level of Service B
 Analysis Period (min) 15
 * User Entered Value

Splits and Phases: 9: I-15 SB On & Custer Ave & I-15 SB Off



Lanes, Volumes, Timings
7: Montana Ave & Custer Ave

11/09/2023

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		 		 				 			 	
Traffic Volume (vph)	92	546	148	225	505	176	104	156	84	324	680	80
Future Volume (vph)	92	546	148	225	505	176	104	156	84	324	680	80
Ideal Flow (vphpl)	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750
Storage Length (ft)	225		225	400		0	300		225	230		0
Storage Lanes	1		2	2		1	1		1	1		0
Taper Length (ft)	100			100			100			100		
Lane Util. Factor	1.00	*0.78	1.00	*0.63	1.00	1.00	1.00	*0.70	1.00	1.00	0.95	0.95
Frt			0.850			0.850			0.850		0.984	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1646	2650	1458	2054	1683	1458	1614	2402	1417	1630	3226	0
Flt Permitted	0.289			0.950			0.256			0.537		
Satd. Flow (perm)	501	2650	1458	2054	1683	1458	435	2402	1417	921	3226	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			105			176			105		10	
Link Speed (mph)		35			35			40			40	
Link Distance (ft)		1455			1327			627			1926	
Travel Time (s)		28.3			25.9			10.7			32.8	
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Heavy Vehicles (%)	1%	3%	2%	2%	4%	2%	3%	2%	5%	2%	1%	5%
Adj. Flow (vph)	92	546	148	225	505	176	104	156	84	324	680	80
Shared Lane Traffic (%)												
Lane Group Flow (vph)	92	546	148	225	505	176	104	156	84	324	760	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		24			24			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane		Yes										
Headway Factor	1.11	1.11	1.11	1.11	1.11	1.11	1.11	1.11	1.11	1.11	1.11	1.11
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	1	1	1	1	1	1	1	1	1	1	1
Detector Template	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	
Leading Detector (ft)	50	50	50	50	50	50	50	50	50	50	50	
Trailing Detector (ft)	0	0	0	0	0	0	0	0	0	0	0	
Detector 1 Position(ft)	0	0	0	0	0	0	0	0	0	0	0	
Detector 1 Size(ft)	50	50	50	50	50	50	50	50	50	50	50	
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Turn Type	pm+pt	NA	pm+ov	Prot	NA	pm+ov	pm+pt	NA	pm+ov	pm+pt	NA	
Protected Phases	1	6	7	5	2	3	7	4	5	3	8	
Permitted Phases	6		6			2	4		4	8		
Detector Phase	1	6	7	5	2	3	7	4	5	3	8	
Switch Phase												
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	15.0	40.8	15.0	15.0	38.5	15.0	15.0	38.5	15.0	15.0	38.5	

Lanes, Volumes, Timings
7: Montana Ave & Custer Ave

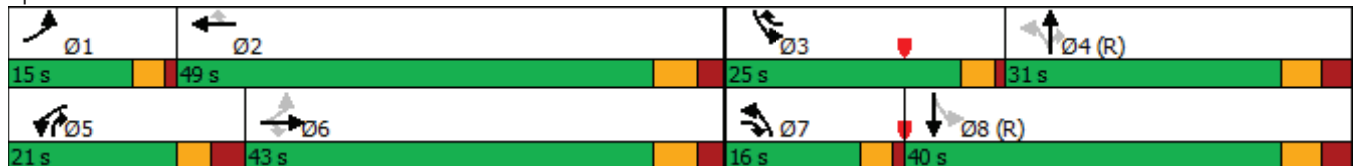
11/09/2023

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Total Split (s)	15.0	43.0	16.0	21.0	49.0	25.0	16.0	31.0	21.0	25.0	40.0	
Total Split (%)	12.5%	35.8%	13.3%	17.5%	40.8%	20.8%	13.3%	25.8%	17.5%	20.8%	33.3%	
Maximum Green (s)	11.0	36.5	12.0	15.0	42.5	21.0	12.0	24.5	15.0	21.0	33.5	
Yellow Time (s)	3.0	3.9	3.0	3.0	3.9	3.0	3.0	3.6	3.0	3.0	3.6	
All-Red Time (s)	1.0	2.6	1.0	3.0	2.6	1.0	1.0	2.9	3.0	1.0	2.9	
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Lost Time (s)	4.0	6.5	4.0	6.0	6.5	4.0	4.0	6.5	6.0	4.0	6.5	
Lead/Lag	Lead	Lag	Lead	Lead	Lag	Lead	Lead	Lag	Lead	Lead	Lag	
Lead-Lag Optimize?						Yes		Yes		Yes		
Vehicle Extension (s)	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	
Recall Mode	None	Max	None	None	Max	None	None	C-Max	None	None	C-Max	
Walk Time (s)		7.0			7.0			7.0			7.0	
Flash Dont Walk (s)		27.0			24.0			25.0			25.0	
Pedestrian Calls (#/hr)		0			0			0			0	
Act Effct Green (s)	47.8	36.8	52.8	14.7	45.0	70.7	38.3	26.3	47.5	52.0	36.0	
Actuated g/C Ratio	0.40	0.31	0.44	0.12	0.38	0.59	0.32	0.22	0.40	0.43	0.30	
v/c Ratio	0.33	0.67	0.21	0.90	0.80	0.19	0.45	0.30	0.13	0.63	0.78	
Control Delay	20.0	41.3	7.4	70.9	38.8	8.6	26.1	39.2	3.8	30.5	44.8	
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Delay	20.0	41.3	7.4	70.9	38.8	8.6	26.1	39.2	3.8	30.5	44.8	
LOS	B	D	A	E	D	A	C	D	A	C	D	
Approach Delay		32.4			40.9			26.6			40.5	
Approach LOS		C			D			C			D	

Intersection Summary

Area Type: Other
 Cycle Length: 120
 Actuated Cycle Length: 120
 Offset: 0 (0%), Referenced to phase 4:NBTL and 8:SBTL, Start of 1st Green
 Natural Cycle: 110
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.90
 Intersection Signal Delay: 37.1 Intersection LOS: D
 Intersection Capacity Utilization 81.3% ICU Level of Service D
 Analysis Period (min) 15
 * User Entered Value

Splits and Phases: 7: Montana Ave & Custer Ave



Lanes, Volumes, Timings
8: Sanders St & Custer Ave

11/09/2023



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	65	928	72	184	968	161	28	70	84	185	77	39
Future Volume (vph)	65	928	72	184	968	161	28	70	84	185	77	39
Ideal Flow (vphpl)	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750
Storage Length (ft)	175		135	230		350	150		300	150		150
Storage Lanes	1		1	1		1	1		1	1		1
Taper Length (ft)	100			100			100			100		
Lane Util. Factor	1.00	*0.72	1.00	1.00	*0.70	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor							1.00					0.99
Frt			0.850			0.850			0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1554	2423	1488	1646	2402	1473	1630	1651	1403	1583	1636	1417
Flt Permitted	0.146			0.117			0.707			0.483		
Satd. Flow (perm)	239	2423	1488	203	2402	1473	1212	1651	1403	805	1636	1398
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			145			161			114			73
Link Speed (mph)		35			35			25				25
Link Distance (ft)		1327			513			1716				1316
Travel Time (s)		25.9			10.0			46.8				35.9
Confl. Peds. (#/hr)							1					1
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Heavy Vehicles (%)	7%	4%	0%	1%	2%	1%	2%	6%	6%	5%	7%	5%
Adj. Flow (vph)	65	928	72	184	968	161	28	70	84	185	77	39
Shared Lane Traffic (%)												
Lane Group Flow (vph)	65	928	72	184	968	161	28	70	84	185	77	39
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		24			24			12				12
Link Offset(ft)		0			0			0				0
Crosswalk Width(ft)		16			16			16				16
Two way Left Turn Lane												
Headway Factor	1.11	1.11	1.11	1.11	1.11	1.11	1.11	1.11	1.11	1.11	1.11	1.11
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	1	1	1	1	1	1	1	1	1	1	1
Detector Template	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Leading Detector (ft)	50	50	50	50	50	20	50	50	50	50	50	50
Trailing Detector (ft)	0	0	0	0	0	0	0	0	0	0	0	0
Detector 1 Position(ft)	0	0	0	0	0	0	0	0	0	0	0	0
Detector 1 Size(ft)	50	50	50	50	50	20	50	50	50	50	50	50
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Turn Type	pm+pt	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	pm+ov	pm+pt	NA	pm+ov
Protected Phases	5	2		1	6		3	8	1	7	4	5
Permitted Phases	2		2	6		6	8		8	4		4
Detector Phase	5	2	2	1	6	6	3	8	1	7	4	5
Switch Phase										4		

Lanes, Volumes, Timings
8: Sanders St & Custer Ave

11/09/2023

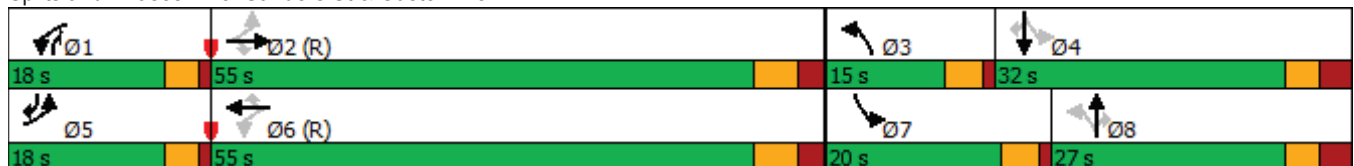


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Minimum Initial (s)	5.0	25.0	25.0	5.0	25.0	25.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	15.0	38.5	38.5	15.0	38.5	38.5	15.0	36.0	15.0	15.0	41.0	15.0
Total Split (s)	18.0	55.0	55.0	18.0	55.0	55.0	15.0	27.0	18.0	20.0	32.0	18.0
Total Split (%)	15.0%	45.8%	45.8%	15.0%	45.8%	45.8%	12.5%	22.5%	15.0%	16.7%	26.7%	15.0%
Maximum Green (s)	14.0	48.5	48.5	14.0	48.5	48.5	10.5	21.0	14.0	15.5	26.0	14.0
Yellow Time (s)	3.0	4.1	4.1	3.0	4.1	4.1	3.5	3.0	3.0	3.5	3.0	3.0
All-Red Time (s)	1.0	2.4	2.4	1.0	2.4	2.4	1.0	3.0	1.0	1.0	3.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.0	6.5	6.5	4.0	6.5	6.5	4.5	6.0	4.0	4.5	6.0	4.0
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lead	Lead	Lag	Lead
Lead-Lag Optimize?							Yes	Yes		Yes	Yes	
Vehicle Extension (s)	2.5	2.5	2.5	2.5	2.5	2.5	3.0	2.5	2.5	3.0	2.5	2.5
Recall Mode	None	C-Max	C-Max	None	C-Max	C-Max	None	None	None	None	None	None
Walk Time (s)		7.0	7.0		7.0	7.0		7.0			7.0	
Flash Dont Walk (s)		25.0	25.0		25.0	25.0		23.0			28.0	
Pedestrian Calls (#/hr)		0	0		0	0		0			0	
Act Effct Green (s)	71.1	61.6	61.6	82.1	70.4	70.4	17.1	10.0	27.7	29.4	20.4	29.4
Actuated g/C Ratio	0.59	0.51	0.51	0.68	0.59	0.59	0.14	0.08	0.23	0.24	0.17	0.24
v/c Ratio	0.30	0.75	0.09	0.60	0.69	0.17	0.14	0.51	0.20	0.62	0.28	0.10
Control Delay	8.4	27.6	3.6	26.3	15.3	1.2	34.1	65.0	3.3	47.0	46.3	1.9
Queue Delay	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	8.4	27.6	3.6	26.3	15.3	1.2	34.1	65.0	3.3	47.0	46.3	1.9
LOS	A	C	A	C	B	A	C	E	A	D	D	A
Approach Delay		24.8			15.2			31.8			41.0	
Approach LOS		C			B			C			D	

Intersection Summary

Area Type:	Other
Cycle Length:	120
Actuated Cycle Length:	120
Offset:	5 (4%), Referenced to phase 2:EBTL and 6:WBTL, Start of 1st Green
Natural Cycle:	130
Control Type:	Actuated-Coordinated
Maximum v/c Ratio:	0.75
Intersection Signal Delay:	22.5
Intersection LOS:	C
Intersection Capacity Utilization:	70.8%
ICU Level of Service:	C
Analysis Period (min):	15
* User Entered Value	

Splits and Phases: 8: Sanders St & Custer Ave



Lanes, Volumes, Timings
 9: I-15 SB On & Custer Ave & I-15 SB Off

11/09/2023



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	SBL2	SBL	SBR	NWL	NWR
Lane Configurations		↑↑	↗		↑↑	↗	↘		↗		
Traffic Volume (vph)	0	495	570	0	1072	360	116	0	141	0	0
Future Volume (vph)	0	495	570	0	1072	360	116	0	141	0	0
Ideal Flow (vphpl)	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750
Storage Length (ft)	0		150	0		300		0	0	0	0
Storage Lanes	0		1	0		1		1	1	0	0
Taper Length (ft)	25			25				25		25	
Lane Util. Factor	1.00	0.95	1.00	1.00	*0.77	1.00	1.00	1.00	1.00	1.00	1.00
Frt			0.850			0.850			0.850		
Flt Protected							0.950				
Satd. Flow (prot)	0	3260	1458	0	2642	1458	1630	0	1458	0	0
Flt Permitted							0.950				
Satd. Flow (perm)	0	3260	1458	0	2642	1458	1630	0	1458	0	0
Right Turn on Red			Yes			Yes			Yes		
Satd. Flow (RTOR)			459			360			143		
Link Speed (mph)		35			35			25		55	
Link Distance (ft)		513			855			727		910	
Travel Time (s)		10.0			16.7			19.8		11.3	
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	0	495	570	0	1072	360	116	0	141	0	0
Shared Lane Traffic (%)											
Lane Group Flow (vph)	0	495	570	0	1072	360	116	0	141	0	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Right
Median Width(ft)		12			12			12		0	
Link Offset(ft)		0			0			0		0	
Crosswalk Width(ft)		16			16			16		16	
Two way Left Turn Lane											
Headway Factor	1.11	1.11	1.11	1.11	1.11	1.11	1.11	1.11	1.11	1.11	1.11
Turning Speed (mph)	15		9	15		9	15	15	9	15	9
Number of Detectors		0	0		0	0	1		1		
Detector Template		Thru	Right		Thru	Right	Left		Right		
Leading Detector (ft)		0	0		0	0	75		75		
Trailing Detector (ft)		0	0		0	0	0		0		
Detector 1 Position(ft)		0	0		0	0	0		0		
Detector 1 Size(ft)		6	20		6	20	75		75		
Detector 1 Type		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex		
Detector 1 Channel											
Detector 1 Extend (s)		0.0	0.0		0.0	0.0	0.0		0.0		
Detector 1 Queue (s)		0.0	0.0		0.0	0.0	0.0		0.0		
Detector 1 Delay (s)		0.0	0.0		0.0	0.0	0.0		0.0		
Turn Type		NA	Free		NA	Perm	Prot		Prot		
Protected Phases		2			6		7		7		
Permitted Phases			Free			6					
Detector Phase		2			6	6	7		7		
Switch Phase											
Minimum Initial (s)		4.0			4.0	4.0	5.0		5.0		
Minimum Split (s)		22.0			49.6	49.6	21.2		21.2		
Total Split (s)		90.0			90.0	90.0	30.0		30.0		

Lanes, Volumes, Timings
 9: I-15 SB On & Custer Ave & I-15 SB Off

11/09/2023



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	SBL2	SBL	SBR	NWL	NWR
Total Split (%)	75.0%			75.0%		75.0%	25.0%	25.0%			
Maximum Green (s)	83.4			83.4		83.4	24.8	24.8			
Yellow Time (s)	4.1			4.1		4.1	3.2	3.2			
All-Red Time (s)	2.5			2.5		2.5	2.0	2.0			
Lost Time Adjust (s)	0.0			0.0		0.0	0.0	0.0			
Total Lost Time (s)	6.6			6.6		6.6	5.2	5.2			
Lead/Lag											
Lead-Lag Optimize?											
Vehicle Extension (s)	3.0			3.0		3.0	3.0	3.0			
Recall Mode	C-Max			C-Max		C-Max	None	None			
Walk Time (s)				7.0		7.0					
Flash Dont Walk (s)				36.0		36.0					
Pedestrian Calls (#/hr)				0		0					
Act Effct Green (s)	94.4	120.0		94.4	94.4	13.8			13.8		
Actuated g/C Ratio	0.79	1.00		0.79	0.79	0.12			0.12		
v/c Ratio	0.19	0.39		0.52	0.29	0.62			0.48		
Control Delay	3.1	0.6		4.7	1.7	64.2			12.8		
Queue Delay	0.0	0.0		0.0	0.0	0.0			0.0		
Total Delay	3.1	0.6		4.7	1.7	64.2			12.8		
LOS	A	A		A	A	E			B		
Approach Delay	1.8			3.9				36.0			
Approach LOS	A			A				D			

Intersection Summary




















Area Type: Other
 Cycle Length: 120
 Actuated Cycle Length: 120
 Offset: 108 (90%), Referenced to phase 2:EBT and 6:WBT, Start of 1st Green
 Natural Cycle: 75
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.62
 Intersection Signal Delay: 6.1
 Intersection Capacity Utilization 51.5%
 Analysis Period (min) 15
 * User Entered Value

Splits and Phases: 9: I-15 SB On & Custer Ave & I-15 SB Off



Lanes, Volumes, Timings
 10: I-15 NB Off/I-15 NB On & Custer Ave

11/09/2023

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	9	515	0	0	948	52	272	1	48	0	0	0
Future Volume (vph)	9	515	0	0	948	52	272	1	48	0	0	0
Ideal Flow (vphpl)	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750
Storage Length (ft)	500		0	0		150	400		400	0		0
Storage Lanes	1		0	0		1	1		1	0		0
Taper Length (ft)	100			25			100			25		
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	1.00	0.95	0.95	1.00	1.00	1.00	1.00
Frt						0.850			0.850			
Flt Protected	0.950						0.950	0.953				
Satd. Flow (prot)	1309	3197	0	0	3228	1328	1548	1554	1430	0	0	0
Flt Permitted	0.265						0.950	0.953				
Satd. Flow (perm)	365	3197	0	0	3228	1328	1548	1554	1430	0	0	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)						59			65			
Link Speed (mph)		35			35			25				55
Link Distance (ft)		855			1235			1396				831
Travel Time (s)		16.7			24.1			38.1				10.3
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Heavy Vehicles (%)	27%	4%	0%	0%	3%	12%	2%	0%	4%	0%	0%	0%
Adj. Flow (vph)	9	515	0	0	948	52	272	1	48	0	0	0
Shared Lane Traffic (%)							50%					
Lane Group Flow (vph)	9	515	0	0	948	52	136	137	48	0	0	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			12				12
Link Offset(ft)		0			0			0				0
Crosswalk Width(ft)		16			16			16				16
Two way Left Turn Lane												
Headway Factor	1.11	1.11	1.11	1.11	1.11	1.11	1.11	1.11	1.11	1.11	1.11	1.11
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	0	0			0	0	1	1	1			
Detector Template	Left	Thru			Thru	Right	Left	Thru	Right			
Leading Detector (ft)	0	0			0	0	75	75	75			
Trailing Detector (ft)	0	0			0	0	0	0	0			
Detector 1 Position(ft)	0	0			0	0	0	0	0			
Detector 1 Size(ft)	50	6			6	20	75	75	75			
Detector 1 Type	Cl+Ex	Cl+Ex			Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex			
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0			0.0	0.0	0.0	0.0	0.0			
Detector 1 Queue (s)	0.0	0.0			0.0	0.0	0.0	0.0	0.0			
Detector 1 Delay (s)	0.0	0.0			0.0	0.0	0.0	0.0	0.0			
Turn Type	pm+pt	NA			NA	Perm	Perm	NA	Perm			
Protected Phases	1	12			2			4				
Permitted Phases	12					2	4		4			
Detector Phase	1	12			2	2	4	4	4			
Switch Phase												
Minimum Initial (s)	5.0				25.0	25.0	5.0	5.0	5.0			
Minimum Split (s)	15.0				35.2	35.2	10.5	10.5	10.5			

Lanes, Volumes, Timings
 10: I-15 NB Off/I-15 NB On & Custer Ave

11/09/2023



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Total Split (s)	15.0				65.0	65.0	40.0	40.0	40.0			
Total Split (%)	12.5%				54.2%	54.2%	33.3%	33.3%	33.3%			
Maximum Green (s)	11.0				58.8	58.8	34.5	34.5	34.5			
Yellow Time (s)	3.0				3.9	3.9	3.2	3.2	3.2			
All-Red Time (s)	1.0				2.3	2.3	2.3	2.3	2.3			
Lost Time Adjust (s)	0.0				0.0	0.0	0.0	0.0	0.0			
Total Lost Time (s)	4.0				6.2	6.2	5.5	5.5	5.5			
Lead/Lag	Lead				Lag	Lag						
Lead-Lag Optimize?					Yes	Yes						
Vehicle Extension (s)	2.5				2.5	2.5	2.5	2.5	2.5			
Recall Mode	None				C-Max	C-Max	None	None	None			
Walk Time (s)					7.0	7.0						
Flash Dont Walk (s)					22.0	22.0						
Pedestrian Calls (#/hr)					0	0						
Act Effct Green (s)	91.0	95.0			78.8	78.8	15.5	15.5	15.5			
Actuated g/C Ratio	0.76	0.79			0.66	0.66	0.13	0.13	0.13			
v/c Ratio	0.03	0.20			0.45	0.06	0.68	0.69	0.20			
Control Delay	4.4	3.1			5.1	0.2	66.2	66.3	7.8			
Queue Delay	0.0	0.0			0.0	0.0	0.0	0.0	0.0			
Total Delay	4.4	3.1			5.1	0.2	66.2	66.3	7.8			
LOS	A	A			A	A	E	E	A			
Approach Delay		3.2			4.9			57.5				
Approach LOS		A			A			E				

Intersection Summary

Area Type: Other
 Cycle Length: 120
 Actuated Cycle Length: 120
 Offset: 2 (2%), Referenced to phase 2:EBWB, Start of 1st Green
 Natural Cycle: 65
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.69
 Intersection Signal Delay: 13.6
 Intersection LOS: B
 Intersection Capacity Utilization 46.4%
 ICU Level of Service A
 Analysis Period (min) 15

Splits and Phases: 10: I-15 NB Off/I-15 NB On & Custer Ave






















Lanes, Volumes, Timings
11: Washington St & Custer Ave

11/09/2023

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	97	242	84	444	690	64	56	56	28	92	220	45
Future Volume (vph)	97	242	84	444	690	64	56	56	28	92	220	45
Ideal Flow (vphpl)	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750
Storage Length (ft)	350		350	400		300	350		350	150		150
Storage Lanes	1		1	1		1	1		1	1		1
Taper Length (ft)	100			100			100			100		
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt			0.850			0.850			0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1583	3197	1417	1662	3260	1430	1539	1636	1403	1599	1733	1444
Flt Permitted	0.389			0.556			0.512			0.579		
Satd. Flow (perm)	648	3197	1417	973	3260	1430	830	1636	1403	974	1733	1444
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			100			64			73			109
Link Speed (mph)		35			40			40			40	
Link Distance (ft)		1235			1260			1767			1130	
Travel Time (s)		24.1			21.5			30.1			19.3	
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Heavy Vehicles (%)	5%	4%	5%	0%	2%	4%	8%	7%	6%	4%	1%	3%
Adj. Flow (vph)	97	242	84	444	690	64	56	56	28	92	220	45
Shared Lane Traffic (%)												
Lane Group Flow (vph)	97	242	84	444	690	64	56	56	28	92	220	45
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.11	1.11	1.11	1.11	1.11	1.11	1.11	1.11	1.11	1.11	1.11	1.11
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	1	1	1	1	1	1	1	1	1	1	1
Detector Template	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Leading Detector (ft)	50	50	50	50	50	50	50	50	50	50	50	50
Trailing Detector (ft)	0	0	0	0	0	0	0	0	0	0	0	0
Detector 1 Position(ft)	0	0	0	0	0	0	0	0	0	0	0	0
Detector 1 Size(ft)	50	50	50	50	50	50	50	50	50	50	50	50
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Turn Type	pm+pt	NA	pm+ov	pm+pt	NA	pm+ov	pm+pt	NA	pm+ov	pm+pt	NA	pm+ov
Protected Phases	5	2	3	1	6	7	3	8	1	7	4	5
Permitted Phases	2		2	6		6	8		8	4		4
Detector Phase	5	2	3	1	6	7	3	8	1	7	4	5
Switch Phase												
Minimum Initial (s)	1.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	1.0
Minimum Split (s)	15.0	38.0	15.0	15.0	43.0	15.0	15.0	33.0	15.0	15.0	33.0	15.0

Lanes, Volumes, Timings
14: Montana Ave & Tara Ct/Tara

11/09/2023

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	52	8	20	8	1	12	32	303	8	8	966	44
Future Volume (vph)	52	8	20	8	1	12	32	303	8	8	966	44
Ideal Flow (vphpl)	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750
Storage Length (ft)	0		0	0		100	185		0	85		0
Storage Lanes	0		0	0		1	1		0	1		0
Taper Length (ft)	25			25			50			50		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	*0.82	0.95	1.00	0.95	0.95
Frt		0.966				0.850		0.996			0.993	
Flt Protected		0.969			0.957		0.950			0.950		
Satd. Flow (prot)	0	1587	0	0	1551	1316	1599	2748	0	1662	3270	0
Flt Permitted		0.798			0.775		0.274			0.537		
Satd. Flow (perm)	0	1307	0	0	1256	1316	461	2748	0	940	3270	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		14				25		3			7	
Link Speed (mph)		30			30			40			30	
Link Distance (ft)		363			460			1185			627	
Travel Time (s)		8.3			10.5			20.2			14.3	
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Heavy Vehicles (%)	5%	0%	0%	9%	0%	13%	4%	4%	5%	0%	1%	0%
Adj. Flow (vph)	52	8	20	8	1	12	32	303	8	8	966	44
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	80	0	0	9	12	32	311	0	8	1010	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.11	1.11	1.11	1.11	1.11	1.11	1.11	1.11	1.11	1.11	1.11	1.11
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2		1	2	1	1	2		1	2	
Detector Template	Left	Thru		Left	Thru	Right	Left	Thru		Left	Thru	
Leading Detector (ft)	20	100		20	100	20	20	100		20	100	
Trailing Detector (ft)	0	0		0	0	0	0	0		0	0	
Detector 1 Position(ft)	0	0		0	0	0	0	0		0	0	
Detector 1 Size(ft)	20	6		20	6	20	20	6		20	6	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Perm	NA		Perm	NA	Perm	Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	

Lanes, Volumes, Timings
 14: Montana Ave & Tara Ct/Tara

11/09/2023

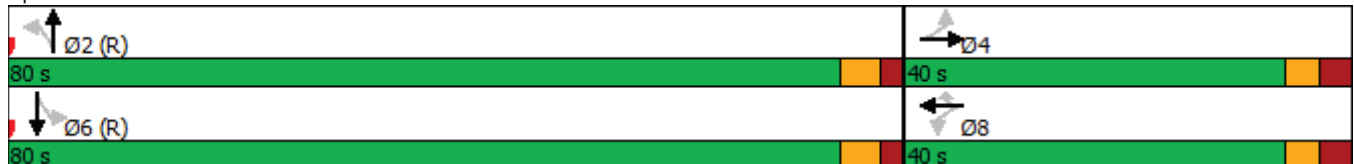


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Permitted Phases	4			8		8	2			6		
Detector Phase	4	4		8	8	8	2	2		6	6	
Switch Phase												
Minimum Initial (s)	5.0	5.0		5.0	5.0	5.0	25.0	25.0		14.0	14.0	
Minimum Split (s)	31.0	31.0		32.0	32.0	32.0	31.0	31.0		20.0	20.0	
Total Split (s)	40.0	40.0		40.0	40.0	40.0	80.0	80.0		80.0	80.0	
Total Split (%)	33.3%	33.3%		33.3%	33.3%	33.3%	66.7%	66.7%		66.7%	66.7%	
Maximum Green (s)	34.0	34.0		34.0	34.0	34.0	74.3	74.3		74.3	74.3	
Yellow Time (s)	3.0	3.0		3.0	3.0	3.0	3.6	3.6		3.6	3.6	
All-Red Time (s)	3.0	3.0		3.0	3.0	3.0	2.1	2.1		2.1	2.1	
Lost Time Adjust (s)		0.0			0.0	0.0	0.0	0.0		0.0	0.0	
Total Lost Time (s)		6.0			6.0	6.0	5.7	5.7		5.7	5.7	
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0		3.0	3.0	
Recall Mode	None	None		None	None	None	C-Max	C-Max		C-Max	C-Max	
Walk Time (s)	7.0	7.0		7.0	7.0	7.0	7.0	7.0		7.0	7.0	
Flash Dont Walk (s)	18.0	18.0		19.0	19.0	19.0	16.0	16.0		7.0	7.0	
Pedestrian Calls (#/hr)	0	0		0	0	0	0	0		0	0	
Act Effct Green (s)		11.3			11.3	11.3	100.5	100.5		100.5	100.5	
Actuated g/C Ratio		0.09			0.09	0.09	0.84	0.84		0.84	0.84	
v/c Ratio		0.59			0.08	0.08	0.08	0.14		0.01	0.37	
Control Delay		59.3			48.0	7.9	3.7	2.8		1.4	1.1	
Queue Delay		0.0			0.0	0.0	0.0	0.0		0.0	0.1	
Total Delay		59.3			48.0	7.9	3.7	2.8		1.4	1.2	
LOS		E			D	A	A	A		A	A	
Approach Delay		59.3			25.1			2.9			1.3	
Approach LOS		E			C			A			A	

Intersection Summary

Area Type: Other
 Cycle Length: 120
 Actuated Cycle Length: 120
 Offset: 0 (0%), Referenced to phase 2:NBTL and 6:SBTL, Start of 1st Green
 Natural Cycle: 65
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.59
 Intersection Signal Delay: 5.1
 Intersection LOS: A
 Intersection Capacity Utilization 51.8%
 ICU Level of Service A
 Analysis Period (min) 15
 * User Entered Value

Splits and Phases: 14: Montana Ave & Tara Ct/Tara



Lanes, Volumes, Timings
 38: Montana Ave & Ptamigan/Ptarmigan

11/09/2023



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕		↕	↕		↕	↕↕	
Traffic Volume (vph)	1	1	12	4	4	47	16	240	5	188	824	20
Future Volume (vph)	1	1	12	4	4	47	16	240	5	188	824	20
Ideal Flow (vphpl)	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750
Storage Length (ft)	50		160	80		0	305		0	155		0
Storage Lanes	0		0	0		0	1		0	1		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95
Frt		0.884			0.885			0.997			0.996	
Flt Protected		0.996			0.996		0.950			0.950		
Satd. Flow (prot)	0	1511	0	0	1512	0	1630	1711	0	1630	3247	0
Flt Permitted		0.996			0.996		0.950			0.950		
Satd. Flow (perm)	0	1511	0	0	1512	0	1630	1711	0	1630	3247	0
Link Speed (mph)		30			30			30			40	
Link Distance (ft)		589			745			1926			996	
Travel Time (s)		13.4			16.9			43.8			17.0	
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	1	1	12	4	4	47	16	240	5	188	824	20
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	14	0	0	55	0	16	245	0	188	844	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.11	1.11	1.11	1.11	1.11	1.11	1.11	1.11	1.11	1.11	1.11	1.11
Turning Speed (mph)	15		9	15		9	15		9	15		9
Sign Control		Stop			Stop			Free			Free	

Intersection Summary

Area Type:	Other
Control Type:	Unsignalized
Intersection Capacity Utilization	43.5%
ICU Level of Service	A
Analysis Period (min)	15

Intersection												
Int Delay, s/veh	2											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕		↕	↕		↕	↕	
Traffic Vol, veh/h	1	1	12	4	4	47	16	240	5	188	824	20
Future Vol, veh/h	1	1	12	4	4	47	16	240	5	188	824	20
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	305	-	-	155	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	100	100	100	100	100	100	100	100	100	100	100	100
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	1	1	12	4	4	47	16	240	5	188	824	20

























Major/Minor	Minor2		Minor1		Major1		Major2					
Conflicting Flow All	1510	1487	422	1064	1495	243	844	0	0	245	0	0
Stage 1	1210	1210	-	275	275	-	-	-	-	-	-	-
Stage 2	300	277	-	789	1220	-	-	-	-	-	-	-
Critical Hdwy	7.33	6.53	6.93	7.33	6.53	6.23	4.13	-	-	4.13	-	-
Critical Hdwy Stg 1	6.53	5.53	-	6.13	5.53	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.13	5.53	-	6.53	5.53	-	-	-	-	-	-	-
Follow-up Hdwy	3.519	4.019	3.319	3.519	4.019	3.319	2.219	-	-	2.219	-	-
Pot Cap-1 Maneuver	90	124	581	189	122	795	790	-	-	1320	-	-
Stage 1	194	255	-	730	682	-	-	-	-	-	-	-
Stage 2	708	680	-	351	252	-	-	-	-	-	-	-
Platoon blocked, %								-	-	-	-	-
Mov Cap-1 Maneuver	72	104	581	161	103	795	790	-	-	1320	-	-
Mov Cap-2 Maneuver	72	104	-	161	103	-	-	-	-	-	-	-
Stage 1	190	219	-	715	668	-	-	-	-	-	-	-
Stage 2	649	666	-	293	216	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	16.9	14.2	0.6	1.5
HCM LOS	C	B		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1WBLn1	SBL	SBT	SBR
Capacity (veh/h)	790	-	-	317	448	1320	-
HCM Lane V/C Ratio	0.02	-	-	0.044	0.123	0.142	-
HCM Control Delay (s)	9.7	-	-	16.9	14.2	8.2	-
HCM Lane LOS	A	-	-	C	B	A	-
HCM 95th %tile Q(veh)	0.1	-	-	0.1	0.4	0.5	-

Lanes, Volumes, Timings
7: Montana Ave & Custer Ave

11/09/2023

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	149	463	116	308	404	280	124	621	259	272	453	113
Future Volume (vph)	149	463	116	308	404	280	124	621	259	272	453	113
Ideal Flow (vphpl)	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750
Storage Length (ft)	225		225	400		0	300		225	230		0
Storage Lanes	1		2	2		1	1		1	1		0
Taper Length (ft)	100			100			100			100		
Lane Util. Factor	1.00	*0.80	1.00	*0.77	1.00	1.00	1.00	*0.86	1.00	1.00	0.95	0.95
Frt			0.850			0.850			0.850		0.970	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1646	2718	1444	2535	1699	1473	1614	2980	1458	1630	3187	0
Flt Permitted	0.385			0.950			0.391			0.170		
Satd. Flow (perm)	667	2718	1444	2535	1699	1473	664	2980	1458	292	3187	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			87			188			141			23
Link Speed (mph)		30			35			40			40	
Link Distance (ft)		1455			1327			627			1924	
Travel Time (s)		33.1			25.9			10.7			32.8	
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Heavy Vehicles (%)	1%	3%	3%	1%	3%	1%	3%	1%	2%	2%	1%	2%
Adj. Flow (vph)	149	463	116	308	404	280	124	621	259	272	453	113
Shared Lane Traffic (%)												
Lane Group Flow (vph)	149	463	116	308	404	280	124	621	259	272	566	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		24			24			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane		Yes										
Headway Factor	1.11	1.11	1.11	1.11	1.11	1.11	1.11	1.11	1.11	1.11	1.11	1.11
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	1	1	1	1	1	1	1	1	1	1	1
Detector Template	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	
Leading Detector (ft)	50	50	50	50	50	50	50	50	50	50	50	
Trailing Detector (ft)	0	0	0	0	0	0	0	0	0	0	0	
Detector 1 Position(ft)	0	0	0	0	0	0	0	0	0	0	0	
Detector 1 Size(ft)	50	50	50	50	50	50	50	50	50	50	50	
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Turn Type	pm+pt	NA	pm+ov	Prot	NA	pm+ov	pm+pt	NA	pm+ov	pm+pt	NA	
Protected Phases	1	6	7	5	2	3	7	4	5	3	8	
Permitted Phases	6		6			2	4		4	8		
Detector Phase	1	6	7	5	2	3	7	4	5	3	8	
Switch Phase												
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	15.0	40.8	15.0	15.0	38.5	15.0	15.0	38.5	15.0	15.0	38.5	

Lanes, Volumes, Timings
8: Sanders St & Custer Ave

11/09/2023



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	127	760	208	200	728	299	192	167	348	253	176	128
Future Volume (vph)	127	760	208	200	728	299	192	167	348	253	176	128
Ideal Flow (vphpl)	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750
Storage Length (ft)	175		135	230		350	150		300	150		150
Storage Lanes	1		1	1		1	1		1	1		1
Taper Length (ft)	100			100			100			100		
Lane Util. Factor	1.00	*0.77	1.00	1.00	*0.70	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt			0.850			0.850			0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1599	2591	1458	1646	2379	1444	1662	1733	1473	1599	1733	1458
Flt Permitted	0.191			0.173			0.633			0.430		
Satd. Flow (perm)	321	2591	1458	300	2379	1444	1108	1733	1473	724	1733	1458
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			126			299			114			128
Link Speed (mph)		35			35			25				25
Link Distance (ft)		1327			513			1716				1316
Travel Time (s)		25.9			10.0			46.8				35.9
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Heavy Vehicles (%)	4%	4%	2%	1%	3%	3%	0%	1%	1%	4%	1%	2%
Adj. Flow (vph)	127	760	208	200	728	299	192	167	348	253	176	128
Shared Lane Traffic (%)												
Lane Group Flow (vph)	127	760	208	200	728	299	192	167	348	253	176	128
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		24			24			12				12
Link Offset(ft)		0			0			0				0
Crosswalk Width(ft)		16			16			16				16
Two way Left Turn Lane												
Headway Factor	1.11	1.11	1.11	1.11	1.11	1.11	1.11	1.11	1.11	1.11	1.11	1.11
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	1	1	1	1	1	1	1	1	1	1	1
Detector Template	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Leading Detector (ft)	50	50	50	50	50	20	50	50	50	50	50	50
Trailing Detector (ft)	0	0	0	0	0	0	0	0	0	0	0	0
Detector 1 Position(ft)	0	0	0	0	0	0	0	0	0	0	0	0
Detector 1 Size(ft)	50	50	50	50	50	20	50	50	50	50	50	50
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Turn Type	pm+pt	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	pm+ov	pm+pt	NA	pm+ov
Protected Phases	5	2		1	6		3	8	1	7	4	5
Permitted Phases	2		2	6		6	8		8	4		4
Detector Phase	5	2	2	1	6	6	3	8	8	7	4	4
Switch Phase										4		
Minimum Initial (s)	5.0	25.0	25.0	5.0	25.0	25.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	15.0	38.5	38.5	15.0	38.5	38.5	15.0	36.0	15.0	15.0	41.0	15.0

Lanes, Volumes, Timings
8: Sanders St & Custer Ave

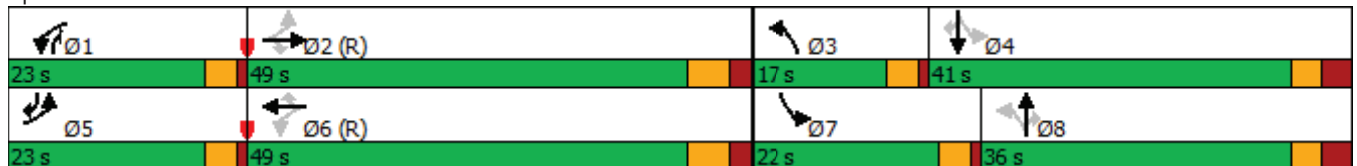
11/09/2023

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Total Split (s)	23.0	49.0	49.0	23.0	49.0	49.0	17.0	36.0	23.0	22.0	41.0	23.0
Total Split (%)	17.7%	37.7%	37.7%	17.7%	37.7%	37.7%	13.1%	27.7%	17.7%	16.9%	31.5%	17.7%
Maximum Green (s)	19.0	42.5	42.5	19.0	42.5	42.5	13.0	30.0	19.0	18.0	35.0	19.0
Yellow Time (s)	3.0	4.1	4.1	3.0	4.1	4.1	3.0	3.0	3.0	3.0	3.0	3.0
All-Red Time (s)	1.0	2.4	2.4	1.0	2.4	2.4	1.0	3.0	1.0	1.0	3.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.0	6.5	6.5	4.0	6.5	6.5	4.0	6.0	4.0	4.0	6.0	4.0
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lead	Lead	Lag	Lead
Lead-Lag Optimize?							Yes	Yes		Yes	Yes	
Vehicle Extension (s)	2.5	2.5	2.5	2.5	2.5	2.5	3.0	2.5	2.5	3.0	2.5	2.5
Recall Mode	None	C-Max	C-Max	None	C-Max	C-Max	None	None	None	None	None	None
Walk Time (s)		7.0	7.0		7.0	7.0		7.0			7.0	
Flash Dont Walk (s)		25.0	25.0		25.0	25.0		23.0			28.0	
Pedestrian Calls (#/hr)		0	0		0	0		0			0	
Act Effct Green (s)	68.3	55.1	55.1	75.1	58.8	58.8	37.2	22.5	42.9	46.0	27.2	44.0
Actuated g/C Ratio	0.53	0.42	0.42	0.58	0.45	0.45	0.29	0.17	0.33	0.35	0.21	0.34
v/c Ratio	0.46	0.69	0.30	0.62	0.68	0.37	0.52	0.56	0.62	0.68	0.48	0.22
Control Delay	15.4	33.9	12.7	27.8	28.4	5.5	35.5	55.4	27.5	41.0	48.6	4.6
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	15.4	33.9	12.7	27.8	28.4	5.5	35.5	55.4	27.5	41.0	48.6	4.6
LOS	B	C	B	C	C	A	D	E	C	D	D	A
Approach Delay		27.7			22.7			36.3			35.1	
Approach LOS		C			C			D			D	

Intersection Summary

Area Type: Other
 Cycle Length: 130
 Actuated Cycle Length: 130
 Offset: 10 (8%), Referenced to phase 2:EBTL and 6:WBTL, Start of 1st Green
 Natural Cycle: 110
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.69
 Intersection Signal Delay: 28.8 Intersection LOS: C
 Intersection Capacity Utilization 76.7% ICU Level of Service D
 Analysis Period (min) 15
 * User Entered Value

Splits and Phases: 8: Sanders St & Custer Ave



Lanes, Volumes, Timings
 9: I-15 SB On & Custer Ave & I-15 SB Off

11/09/2023



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	SBL2	SBL	SBR	NWL	NWR
Lane Configurations		↑↑	↗		↑↑	↗	↗		↗		
Traffic Volume (vph)	0	897	440	0	1280	92	28	0	43	0	0
Future Volume (vph)	0	897	440	0	1280	92	28	0	43	0	0
Ideal Flow (vphpl)	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750
Storage Length (ft)	0		150	0		300		0	0	0	0
Storage Lanes	0		1	0		1		1	1	0	0
Taper Length (ft)	25			25				25		25	
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor			0.98			0.98					
Frt			0.850			0.850			0.850		
Flt Protected							0.950				
Satd. Flow (prot)	0	3228	1458	0	3260	1403	1511	0	1430	0	0
Flt Permitted							0.950				
Satd. Flow (perm)	0	3228	1428	0	3260	1373	1511	0	1430	0	0
Right Turn on Red			Yes			Yes			Yes		
Satd. Flow (RTOR)			181			92			103		
Link Speed (mph)		35			35			25		55	
Link Distance (ft)		513			855			727		910	
Travel Time (s)		10.0			16.7			19.8		11.3	
Confl. Peds. (#/hr)			1			1					
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Heavy Vehicles (%)	2%	3%	2%	2%	2%	6%	10%	2%	4%	2%	2%
Adj. Flow (vph)	0	897	440	0	1280	92	28	0	43	0	0
Shared Lane Traffic (%)											
Lane Group Flow (vph)	0	897	440	0	1280	92	28	0	43	0	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Right
Median Width(ft)		12			12			12		0	
Link Offset(ft)		0			0			0		0	
Crosswalk Width(ft)		16			16			16		16	
Two way Left Turn Lane											
Headway Factor	1.11	1.11	1.11	1.11	1.11	1.11	1.11	1.11	1.11	1.11	1.11
Turning Speed (mph)	15		9	15		9	15	15	9	15	9
Number of Detectors		0	0		0	0	1		1		
Detector Template		Thru	Right		Thru	Right	Left		Right		
Leading Detector (ft)		0	0		0	0	75		75		
Trailing Detector (ft)		0	0		0	0	0		0		
Detector 1 Position(ft)		0	0		0	0	0		0		
Detector 1 Size(ft)		6	20		6	20	75		75		
Detector 1 Type		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex		
Detector 1 Channel											
Detector 1 Extend (s)		0.0	0.0		0.0	0.0	0.0		0.0		
Detector 1 Queue (s)		0.0	0.0		0.0	0.0	0.0		0.0		
Detector 1 Delay (s)		0.0	0.0		0.0	0.0	0.0		0.0		
Turn Type		NA	Free		NA	Perm	Prot		Prot		
Protected Phases		2			6		7		7		
Permitted Phases			Free			6					
Detector Phase		2			6	6	7		7		
Switch Phase											

Lanes, Volumes, Timings
 9: I-15 SB On & Custer Ave & I-15 SB Off

11/09/2023



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	SBL2	SBL	SBR	NWL	NWR
Minimum Initial (s)		4.0			4.0	4.0	5.0		5.0		
Minimum Split (s)		22.0			49.6	49.6	21.2		21.2		
Total Split (s)		100.0			100.0	100.0	30.0		30.0		
Total Split (%)		76.9%			76.9%	76.9%	23.1%		23.1%		
Maximum Green (s)		93.4			93.4	93.4	24.8		24.8		
Yellow Time (s)		4.1			4.1	4.1	3.2		3.2		
All-Red Time (s)		2.5			2.5	2.5	2.0		2.0		
Lost Time Adjust (s)		0.0			0.0	0.0	0.0		0.0		
Total Lost Time (s)		6.6			6.6	6.6	5.2		5.2		
Lead/Lag											
Lead-Lag Optimize?											
Vehicle Extension (s)		3.0			3.0	3.0	3.0		3.0		
Recall Mode		C-Max			C-Max	C-Max	None		None		
Walk Time (s)					7.0	7.0					
Flash Dont Walk (s)					36.0	36.0					
Pedestrian Calls (#/hr)					0	0					
Act Effct Green (s)		113.7	130.0		113.7	113.7	8.0		8.0		
Actuated g/C Ratio		0.87	1.00		0.87	0.87	0.06		0.06		
v/c Ratio		0.32	0.31		0.45	0.08	0.30		0.23		
Control Delay		2.0	0.4		1.9	0.2	66.1		3.0		
Queue Delay		0.2	0.0		0.0	0.0	0.0		0.0		
Total Delay		2.2	0.4		1.9	0.2	66.1		3.0		
LOS		A	A		A	A	E		A		
Approach Delay		1.6			1.8			27.9			
Approach LOS		A			A			C			

Intersection Summary




















Area Type:	Other
Cycle Length:	130
Actuated Cycle Length:	130
Offset:	104 (80%), Referenced to phase 2:EBT and 6:WBT, Start of 1st Green
Natural Cycle:	75
Control Type:	Actuated-Coordinated
Maximum v/c Ratio:	0.45
Intersection Signal Delay:	2.4
Intersection LOS:	A
Intersection Capacity Utilization:	52.4%
ICU Level of Service:	A
Analysis Period (min):	15

Splits and Phases: 9: I-15 SB On & Custer Ave & I-15 SB Off



Lanes, Volumes, Timings
 10: I-15 NB Off/I-15 NB On & Custer Ave

11/09/2023

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	75	938	0	0	752	52	324	0	84	0	0	0
Future Volume (vph)	75	938	0	0	752	52	324	0	84	0	0	0
Ideal Flow (vphpl)	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750
Storage Length (ft)	500		0	0		150	400		400	0		0
Storage Lanes	1		0	0		1	1		1	0		0
Taper Length (ft)	100			25			100			25		
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	1.00	0.95	0.95	1.00	1.00	1.00	1.00
Frt						0.850			0.850			
Flt Protected	0.950						0.950	0.950				
Satd. Flow (prot)	1614	3228	0	0	3260	1365	1548	1548	1444	0	0	0
Flt Permitted	0.329						0.950	0.950				
Satd. Flow (perm)	559	3228	0	0	3260	1365	1548	1548	1444	0	0	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)						55			84			
Link Speed (mph)		35			35			25				55
Link Distance (ft)		855			1235			1396				831
Travel Time (s)		16.7			24.1			38.1				10.3
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Heavy Vehicles (%)	3%	3%	0%	0%	2%	9%	2%	0%	3%	0%	0%	0%
Adj. Flow (vph)	75	938	0	0	752	52	324	0	84	0	0	0
Shared Lane Traffic (%)							50%					
Lane Group Flow (vph)	75	938	0	0	752	52	162	162	84	0	0	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			12				12
Link Offset(ft)		0			0			0				0
Crosswalk Width(ft)		16			16			16				16
Two way Left Turn Lane												
Headway Factor	1.11	1.11	1.11	1.11	1.11	1.11	1.11	1.11	1.11	1.11	1.11	1.11
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	0	0			0	0	1	1	1			
Detector Template	Left	Thru			Thru	Right	Left	Thru	Right			
Leading Detector (ft)	0	0			0	0	75	75	75			
Trailing Detector (ft)	0	0			0	0	0	0	0			
Detector 1 Position(ft)	0	0			0	0	0	0	0			
Detector 1 Size(ft)	50	6			6	20	75	75	75			
Detector 1 Type	Cl+Ex	Cl+Ex			Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex			
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0			0.0	0.0	0.0	0.0	0.0			
Detector 1 Queue (s)	0.0	0.0			0.0	0.0	0.0	0.0	0.0			
Detector 1 Delay (s)	0.0	0.0			0.0	0.0	0.0	0.0	0.0			
Turn Type	pm+pt	NA			NA	Perm	Perm	NA	Perm			
Protected Phases	1	12			2			4				
Permitted Phases	12					2	4		4			
Detector Phase	1	12			2	2	4	4	4			
Switch Phase												
Minimum Initial (s)	5.0				25.0	25.0	5.0	5.0	5.0			
Minimum Split (s)	15.0				35.2	35.2	15.0	15.0	15.0			

Lanes, Volumes, Timings
 10: I-15 NB Off/I-15 NB On & Custer Ave

11/09/2023



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Total Split (s)	15.0				75.0	75.0	40.0	40.0	40.0			
Total Split (%)	11.5%				57.7%	57.7%	30.8%	30.8%	30.8%			
Maximum Green (s)	11.0				68.8	68.8	34.5	34.5	34.5			
Yellow Time (s)	3.0				3.9	3.9	3.2	3.2	3.2			
All-Red Time (s)	1.0				2.3	2.3	2.3	2.3	2.3			
Lost Time Adjust (s)	0.0				0.0	0.0	0.0	0.0	0.0			
Total Lost Time (s)	4.0				6.2	6.2	5.5	5.5	5.5			
Lead/Lag	Lead				Lag	Lag						
Lead-Lag Optimize?					Yes	Yes						
Vehicle Extension (s)	2.5				2.5	2.5	2.5	2.5	2.5			
Recall Mode	None				C-Max	C-Max	None	None	None			
Walk Time (s)					7.0	7.0						
Flash Dont Walk (s)					22.0	22.0						
Pedestrian Calls (#/hr)					0	0						
Act Effct Green (s)	97.8	101.8			79.3	79.3	18.7	18.7	18.7			
Actuated g/C Ratio	0.75	0.78			0.61	0.61	0.14	0.14	0.14			
v/c Ratio	0.14	0.37			0.38	0.06	0.73	0.73	0.30			
Control Delay	2.3	2.7			13.1	5.9	71.2	71.2	11.9			
Queue Delay	0.0	0.0			0.0	0.0	0.0	0.0	0.0			
Total Delay	2.3	2.7			13.1	5.9	71.2	71.2	11.9			
LOS	A	A			B	A	E	E	B			
Approach Delay		2.7			12.6			59.0				
Approach LOS		A			B			E				

Intersection Summary

























Area Type: Other
 Cycle Length: 130
 Actuated Cycle Length: 130
 Offset: 5 (4%), Referenced to phase 2:EBWB, Start of 1st Green
 Natural Cycle: 70
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.73
 Intersection Signal Delay: 16.6
 Intersection LOS: B
 Intersection Capacity Utilization 49.9%
 ICU Level of Service A
 Analysis Period (min) 15

Splits and Phases: 10: I-15 NB Off/I-15 NB On & Custer Ave



Lanes, Volumes, Timings
11: Washington St & Custer Ave

11/09/2023

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	200	520	181	184	439	88	721	144	184	140	68	48
Future Volume (vph)	200	520	181	184	439	88	721	144	184	140	68	48
Ideal Flow (vphpl)	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750
Storage Length (ft)	350		350	400		300	350		350	150		150
Storage Lanes	1		1	1		1	1		1	1		1
Taper Length (ft)	100			100			100			100		
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt			0.850			0.850			0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1630	3228	1444	1599	3260	1403	1646	1683	1444	1525	1716	1403
Flt Permitted	0.408			0.354			0.601			0.665		
Satd. Flow (perm)	700	3228	1444	596	3260	1403	1041	1683	1444	1068	1716	1403
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			181			92			184			101
Link Speed (mph)		35			35			40			40	
Link Distance (ft)		1235			1260			1767			1130	
Travel Time (s)		24.1			24.5			30.1			19.3	
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Heavy Vehicles (%)	2%	3%	3%	4%	2%	6%	1%	4%	3%	9%	2%	6%
Adj. Flow (vph)	200	520	181	184	439	88	721	144	184	140	68	48
Shared Lane Traffic (%)												
Lane Group Flow (vph)	200	520	181	184	439	88	721	144	184	140	68	48
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.11	1.11	1.11	1.11	1.11	1.11	1.11	1.11	1.11	1.11	1.11	1.11
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	1	1	1	1	1	1	1	1	1	1	1
Detector Template	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Leading Detector (ft)	50	50	50	50	50	50	50	50	50	50	50	50
Trailing Detector (ft)	0	0	0	0	0	0	0	0	0	0	0	0
Detector 1 Position(ft)	0	0	0	0	0	0	0	0	0	0	0	0
Detector 1 Size(ft)	50	50	50	50	50	50	50	50	50	50	50	50
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Turn Type	pm+pt	NA	pm+ov	pm+pt	NA	pm+ov	pm+pt	NA	pm+ov	pm+pt	NA	pm+ov
Protected Phases	5	2	3	1	6	7	3	8	1	7	4	5
Permitted Phases	2		2	6		6	8		8	4		4
Detector Phase	5	2	3	1	6	7	3	8	1	7	4	5
Switch Phase							8					
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	15.0	38.0	15.0	15.0	43.0	15.0	15.0	33.0	15.0	15.0	33.0	15.0

Lanes, Volumes, Timings
11: Washington St & Custer Ave

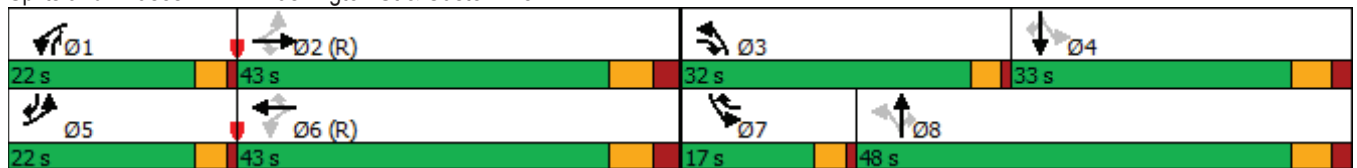
11/09/2023

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Total Split (s)	22.0	43.0	32.0	22.0	43.0	17.0	32.0	48.0	22.0	17.0	33.0	22.0
Total Split (%)	16.9%	33.1%	24.6%	16.9%	33.1%	13.1%	24.6%	36.9%	16.9%	13.1%	25.4%	16.9%
Maximum Green (s)	18.0	36.0	28.0	18.0	36.0	13.0	28.0	42.0	18.0	13.0	27.0	18.0
Yellow Time (s)	3.0	4.3	3.0	3.0	4.3	3.0	3.0	3.9	3.0	3.0	3.9	3.0
All-Red Time (s)	1.0	2.7	1.0	1.0	2.7	1.0	1.0	2.1	1.0	1.0	2.1	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.0	7.0	4.0	4.0	7.0	4.0	4.0	6.0	4.0	4.0	6.0	4.0
Lead/Lag	Lead	Lag	Lead	Lead	Lag	Lead	Lead	Lag	Lead	Lead	Lag	Lead
Lead-Lag Optimize?												
Vehicle Extension (s)	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5
Recall Mode	None	C-Max	None	None	C-Max	None	None	None	None	None	None	None
Walk Time (s)		7.0			7.0			7.0			7.0	
Flash Dont Walk (s)		24.0			29.0			20.0			20.0	
Pedestrian Calls (#/hr)		0			0			0			0	
Act Effct Green (s)	57.5	40.2	81.8	56.5	39.7	58.8	61.0	42.9	62.7	35.3	22.8	40.7
Actuated g/C Ratio	0.44	0.31	0.63	0.43	0.31	0.45	0.47	0.33	0.48	0.27	0.18	0.31
v/c Ratio	0.49	0.52	0.19	0.50	0.44	0.13	1.11	0.26	0.23	0.42	0.23	0.09
Control Delay	21.9	35.2	4.7	26.0	38.6	4.4	101.6	33.9	3.1	29.2	45.5	0.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	21.9	35.2	4.7	26.0	38.6	4.4	101.6	33.9	3.1	29.2	45.5	0.4
LOS	C	D	A	C	D	A	F	C	A	C	D	A
Approach Delay		26.1			31.1			75.0			28.1	
Approach LOS		C			C			E			C	

Intersection Summary

Area Type: Other
 Cycle Length: 130
 Actuated Cycle Length: 130
 Offset: 68 (52%), Referenced to phase 2:EBTL and 6:WBTL, Start of 1st Green
 Natural Cycle: 120
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 1.11
 Intersection Signal Delay: 45.1
 Intersection LOS: D
 Intersection Capacity Utilization 91.7%
 ICU Level of Service F
 Analysis Period (min) 15

Splits and Phases: 11: Washington St & Custer Ave



Lanes, Volumes, Timings
14: Montana Ave & Tara Ct/Tara Ct4

11/09/2023



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕	↕	↕	↕↔		↕	↕↔	
Traffic Volume (vph)	56	24	12	80	16	80	56	824	88	108	677	28
Future Volume (vph)	56	24	12	80	16	80	56	824	88	108	677	28
Ideal Flow (vphpl)	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750
Storage Length (ft)	0		0	0		100	185		0	85		0
Storage Lanes	0		0	0		1	1		0	1		0
Taper Length (ft)	25			25			50			50		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	*0.82	0.95	1.00	0.95	0.95
Ped Bike Factor		1.00			1.00							
Frt		0.982				0.850		0.986			0.994	
Flt Protected		0.970			0.960		0.950			0.950		
Satd. Flow (prot)	0	1595	0	0	1639	1417	1662	2804	0	1646	3238	0
Flt Permitted		0.736			0.705		0.379			0.254		
Satd. Flow (perm)	0	1210	0	0	1202	1417	663	2804	0	440	3238	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		6				80		13			6	
Link Speed (mph)		30			30			40			30	
Link Distance (ft)		288			317			1181			627	
Travel Time (s)		6.5			7.2			20.1			14.3	
Confl. Peds. (#/hr)			1	1								
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Heavy Vehicles (%)	0%	14%	5%	3%	0%	5%	0%	1%	0%	1%	2%	4%
Adj. Flow (vph)	56	24	12	80	16	80	56	824	88	108	677	28
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	92	0	0	96	80	56	912	0	108	705	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.11	1.11	1.11	1.11	1.11	1.11	1.11	1.11	1.11	1.11	1.11	1.11
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2		1	2	1	1	2		1	2	
Detector Template	Left	Thru		Left	Thru	Right	Left	Thru		Left	Thru	
Leading Detector (ft)	20	100		20	100	20	20	100		20	100	
Trailing Detector (ft)	0	0		0	0	0	0	0		0	0	
Detector 1 Position(ft)	0	0		0	0	0	0	0		0	0	
Detector 1 Size(ft)	20	6		20	6	20	20	6		20	6	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	

Lanes, Volumes, Timings
 14: Montana Ave & Tara Ct/Tara Ct4

11/09/2023



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Turn Type	Perm	NA		Perm	NA	Perm	Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8		8	2			6		
Detector Phase	4	4		8	8	8	2	2		6	6	
Switch Phase												
Minimum Initial (s)	5.0	5.0		5.0	5.0	5.0	25.0	25.0		25.0	25.0	
Minimum Split (s)	31.0	31.0		32.0	32.0	32.0	31.0	31.0		31.0	31.0	
Total Split (s)	45.0	45.0		45.0	45.0	45.0	85.0	85.0		85.0	85.0	
Total Split (%)	34.6%	34.6%		34.6%	34.6%	34.6%	65.4%	65.4%		65.4%	65.4%	
Maximum Green (s)	39.0	39.0		39.0	39.0	39.0	79.3	79.3		79.3	79.3	
Yellow Time (s)	3.0	3.0		3.0	3.0	3.0	3.6	3.6		3.6	3.6	
All-Red Time (s)	3.0	3.0		3.0	3.0	3.0	2.1	2.1		2.1	2.1	
Lost Time Adjust (s)		0.0			0.0	0.0	0.0	0.0		0.0	0.0	
Total Lost Time (s)		6.0			6.0	6.0	5.7	5.7		5.7	5.7	
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0		3.0	3.0	
Recall Mode	None	None		None	None	None	C-Max	C-Max		C-Max	C-Max	
Walk Time (s)	7.0	7.0		7.0	7.0	7.0	7.0	7.0		7.0	7.0	
Flash Dont Walk (s)	18.0	18.0		19.0	19.0	19.0	16.0	16.0		7.0	7.0	
Pedestrian Calls (#/hr)	0	0		0	0	0	0	0		0	0	
Act Effct Green (s)		15.4		15.4	15.4	102.9	102.9			102.9	102.9	
Actuated g/C Ratio		0.12		0.12	0.12	0.79	0.79			0.79	0.79	
v/c Ratio		0.62		0.68	0.34	0.11	0.41			0.31	0.28	
Control Delay		67.6		76.4	13.8	4.4	5.2			2.6	0.8	
Queue Delay		0.0		0.0	0.0	0.0	0.0			0.0	0.0	
Total Delay		67.6		76.4	13.8	4.4	5.2			2.6	0.8	
LOS		E		E	B	A	A			A	A	
Approach Delay		67.6		48.0			5.2				1.0	
Approach LOS		E		D			A				A	

Intersection Summary

Area Type: Other
 Cycle Length: 130
 Actuated Cycle Length: 130
 Offset: 3 (2%), Referenced to phase 2:NBTL and 6:SBTL, Start of 1st Green
 Natural Cycle: 70
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.68
 Intersection Signal Delay: 10.0
 Intersection LOS: A
 Intersection Capacity Utilization 75.6%
 ICU Level of Service D
 Analysis Period (min) 15
 * User Entered Value

Splits and Phases: 14: Montana Ave & Tara Ct/Tara Ct4



Lanes, Volumes, Timings
38: Montana Ave & Partridge

11/09/2023



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕		↕	↕		↕	↕↔	
Traffic Volume (vph)	16	6	64	2	6	198	60	676	10	117	456	20
Future Volume (vph)	16	6	64	2	6	198	60	676	10	117	456	20
Ideal Flow (vphpl)	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750
Storage Length (ft)	50		160	80		0	305		0	155		0
Storage Lanes	0		0	0		0	1		0	1		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95
Frt		0.900			0.870			0.998			0.994	
Flt Protected		0.991					0.950			0.950		
Satd. Flow (prot)	0	1530	0	0	1493	0	1630	1712	0	1630	3240	0
Flt Permitted		0.991					0.950			0.950		
Satd. Flow (perm)	0	1530	0	0	1493	0	1630	1712	0	1630	3240	0
Link Speed (mph)		30			30			30			40	
Link Distance (ft)		565			659			1924			759	
Travel Time (s)		12.8			15.0			43.7			12.9	
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	16	6	64	2	6	198	60	676	10	117	456	20
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	86	0	0	206	0	60	686	0	117	476	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.11	1.11	1.11	1.11	1.11	1.11	1.11	1.11	1.11	1.11	1.11	1.11
Turning Speed (mph)	15		9	15		9	15		9	15		9
Sign Control		Stop			Stop			Free			Free	

Intersection Summary

Area Type:	Other
Control Type:	Unsignalized
Intersection Capacity Utilization	74.3%
ICU Level of Service	D
Analysis Period (min)	15

Intersection												
Int Delay, s/veh	7.3											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕		↕	↕		↕	↕	
Traffic Vol, veh/h	16	6	64	2	6	198	60	676	10	117	456	20
Future Vol, veh/h	16	6	64	2	6	198	60	676	10	117	456	20
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	305	-	-	155	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	100	100	100	100	100	100	100	100	100	100	100	100
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	16	6	64	2	6	198	60	676	10	117	456	20

























Major/Minor	Minor2		Minor1		Major1		Major2					
Conflicting Flow All	1603	1506	238	1266	1511	681	476	0	0	686	0	0
Stage 1	700	700	-	801	801	-	-	-	-	-	-	-
Stage 2	903	806	-	465	710	-	-	-	-	-	-	-
Critical Hdwy	7.33	6.53	6.93	7.33	6.53	6.23	4.13	-	-	4.13	-	-
Critical Hdwy Stg 1	6.53	5.53	-	6.13	5.53	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.13	5.53	-	6.53	5.53	-	-	-	-	-	-	-
Follow-up Hdwy	3.519	4.019	3.319	3.519	4.019	3.319	2.219	-	-	2.219	-	-
Pot Cap-1 Maneuver	77	120	764	135	120	449	1084	-	-	906	-	-
Stage 1	397	440	-	377	396	-	-	-	-	-	-	-
Stage 2	331	394	-	548	436	-	-	-	-	-	-	-
Platoon blocked, %								-	-	-	-	-
Mov Cap-1 Maneuver	35	99	764	102	99	449	1084	-	-	906	-	-
Mov Cap-2 Maneuver	35	99	-	102	99	-	-	-	-	-	-	-
Stage 1	375	383	-	356	374	-	-	-	-	-	-	-
Stage 2	172	372	-	430	380	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	62.4	23.6	0.7	1.9
HCM LOS	F	C		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1084	-	-	143	395	906	-
HCM Lane V/C Ratio	0.055	-	-	0.601	0.522	0.129	-
HCM Control Delay (s)	8.5	-	-	62.4	23.6	9.6	-
HCM Lane LOS	A	-	-	F	C	A	-
HCM 95th %tile Q(veh)	0.2	-	-	3.1	2.9	0.4	-

Lanes, Volumes, Timings
7: Montana Ave & Custer Ave

11/09/2023

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	229	675	80	208	504	348	232	645	287	276	373	85
Future Volume (vph)	229	675	80	208	504	348	232	645	287	276	373	85
Ideal Flow (vphpl)	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750
Storage Length (ft)	225		225	400		0	300		225	230		0
Storage Lanes	1		1	2		1	1		1	1		0
Taper Length (ft)	100			100			100			100		
Lane Util. Factor	1.00	*0.88	1.00	*0.80	1.00	1.00	1.00	*0.82	1.00	1.00	0.95	0.95
Frt			0.850			0.850			0.850		0.972	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1662	3050	1488	2660	1733	1488	1662	2842	1488	1662	3232	0
Flt Permitted	0.150			0.950			0.444			0.151		
Satd. Flow (perm)	262	3050	1488	2660	1733	1488	777	2842	1488	264	3232	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			91			71			98			17
Link Speed (mph)		35			40			40			40	
Link Distance (ft)		1455			1327			638			1891	
Travel Time (s)		28.3			22.6			10.9			32.2	
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Heavy Vehicles (%)	0%	1%	0%	0%	1%	0%	0%	1%	0%	0%	0%	0%
Adj. Flow (vph)	229	675	80	208	504	348	232	645	287	276	373	85
Shared Lane Traffic (%)												
Lane Group Flow (vph)	229	675	80	208	504	348	232	645	287	276	458	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		24			24			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.11	1.11	1.11	1.11	1.11	1.11	1.11	1.11	1.11	1.11	1.11	1.11
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2	1	1	2	1	1	2	1	1	2	
Detector Template	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	
Leading Detector (ft)	20	100	20	20	100	20	20	100	20	20	100	
Trailing Detector (ft)	0	0	0	0	0	0	0	0	0	0	0	
Detector 1 Position(ft)	0	0	0	0	0	0	0	0	0	0	0	
Detector 1 Size(ft)	20	6	20	20	6	20	20	6	20	20	6	
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	pm+pt	NA	pm+ov	Prot	NA	pm+ov	pm+pt	NA	pm+ov	pm+pt	NA	
Protected Phases	1	6	7	5	2	3	7	4	5	3	8	

Lanes, Volumes, Timings
7: Montana Ave & Custer Ave

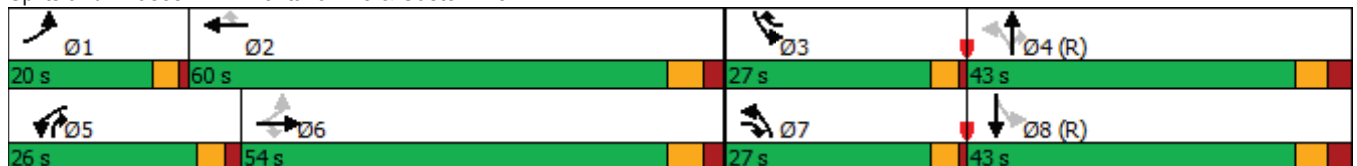
11/09/2023

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Permitted Phases	6		6			2	4		4	8		
Detector Phase	1	6	7	5	2	3	7	4	5	3	8	
Switch Phase										8		
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	15.0	40.8	15.0	15.0	38.5	15.0	15.0	40.5	15.0	15.0	38.5	
Total Split (s)	20.0	54.0	27.0	26.0	60.0	27.0	27.0	43.0	26.0	27.0	43.0	
Total Split (%)	13.3%	36.0%	18.0%	17.3%	40.0%	18.0%	18.0%	28.7%	17.3%	18.0%	28.7%	
Maximum Green (s)	16.0	47.5	23.0	21.0	53.5	23.0	23.0	36.5	21.0	23.0	36.5	
Yellow Time (s)	3.0	3.9	3.0	3.0	3.9	3.0	3.0	3.6	3.0	3.0	3.6	
All-Red Time (s)	1.0	2.6	1.0	2.0	2.6	1.0	1.0	2.9	2.0	1.0	2.9	
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Lost Time (s)	4.0	6.5	4.0	5.0	6.5	4.0	4.0	6.5	5.0	4.0	6.5	
Lead/Lag	Lead	Lag	Lead	Lead	Lag	Lead	Lead	Lag	Lead	Lead	Lag	
Lead-Lag Optimize?												
Vehicle Extension (s)	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	
Recall Mode	None	None	None	None	Min	None	None	C-Max	None	None	C-Max	
Walk Time (s)		7.0			7.0			7.0			7.0	
Flash Dont Walk (s)		27.0			24.0			25.0			25.0	
Pedestrian Calls (#/hr)		0			0			0			0	
Act Effct Green (s)	64.0	45.9	70.0	16.4	47.7	77.2	62.7	42.7	65.6	70.9	48.1	
Actuated g/C Ratio	0.43	0.31	0.47	0.11	0.32	0.51	0.42	0.28	0.44	0.47	0.32	
v/c Ratio	0.89	0.72	0.11	0.71	0.91	0.43	0.54	0.80	0.41	0.81	0.44	
Control Delay	64.0	51.2	2.9	80.6	71.8	11.3	27.2	52.4	14.9	50.3	42.6	
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Delay	64.0	51.2	2.9	80.6	71.8	11.3	27.2	52.4	14.9	50.3	42.6	
LOS	E	D	A	F	E	B	C	D	B	D	D	
Approach Delay		50.2			53.6			38.1			45.5	
Approach LOS		D			D			D			D	

Intersection Summary

Area Type: Other
 Cycle Length: 150
 Actuated Cycle Length: 150
 Offset: 0 (0%), Referenced to phase 4:NBTL and 8:SBTL, Start of 1st Green, Master Intersection
 Natural Cycle: 115
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.91
 Intersection Signal Delay: 46.7 Intersection LOS: D
 Intersection Capacity Utilization 96.0% ICU Level of Service F
 Analysis Period (min) 15
 * User Entered Value

Splits and Phases: 7: Montana Ave & Custer Ave



Lanes, Volumes, Timings
8: Sanders St & Custer Ave

11/09/2023



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	135	992	128	216	944	275	184	139	356	297	180	72
Future Volume (vph)	135	992	128	216	944	275	184	139	356	297	180	72
Ideal Flow (vphpl)	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750
Storage Length (ft)	175		135	230		350	150		300	150		150
Storage Lanes	1		1	1		1	1		1	1		1
Taper Length (ft)	100			100			100			100		
Lane Util. Factor	1.00	*0.85	1.00	1.00	*0.70	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor							1.00		0.99	1.00		0.99
Fr _t			0.850			0.850			0.850			0.850
Fl _t Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1662	2946	1488	1662	2426	1473	1662	1733	1473	1646	1750	1488
Fl _t Permitted	0.091			0.111			0.644			0.480		
Satd. Flow (perm)	159	2946	1488	194	2426	1473	1126	1733	1453	831	1750	1468
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			116			238			91			72
Link Speed (mph)		40			40			25				25
Link Distance (ft)		1327			513			1716				1316
Travel Time (s)		22.6			8.7			46.8				35.9
Confl. Peds. (#/hr)							1		1	1		1
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Heavy Vehicles (%)	0%	1%	0%	0%	1%	1%	0%	1%	1%	1%	0%	0%
Adj. Flow (vph)	135	992	128	216	944	275	184	139	356	297	180	72
Shared Lane Traffic (%)												
Lane Group Flow (vph)	135	992	128	216	944	275	184	139	356	297	180	72
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		24			24			12				12
Link Offset(ft)		0			0			0				0
Crosswalk Width(ft)		16			16			16				16
Two way Left Turn Lane												
Headway Factor	1.11	1.11	1.11	1.11	1.11	1.11	1.11	1.11	1.11	1.11	1.11	1.11
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2	1	1	2	1	1	2	1	1	2	1
Detector Template	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Leading Detector (ft)	20	100	20	20	100	20	20	100	20	20	100	20
Trailing Detector (ft)	0	0	0	0	0	0	0	0	0	0	0	0
Detector 1 Position(ft)	0	0	0	0	0	0	0	0	0	0	0	0
Detector 1 Size(ft)	20	6	20	20	6	20	20	6	20	20	6	20
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 2 Position(ft)		94			94			94				94
Detector 2 Size(ft)		6			6			6				6
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex				Cl+Ex
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0				0.0

Lanes, Volumes, Timings
8: Sanders St & Custer Ave

11/09/2023

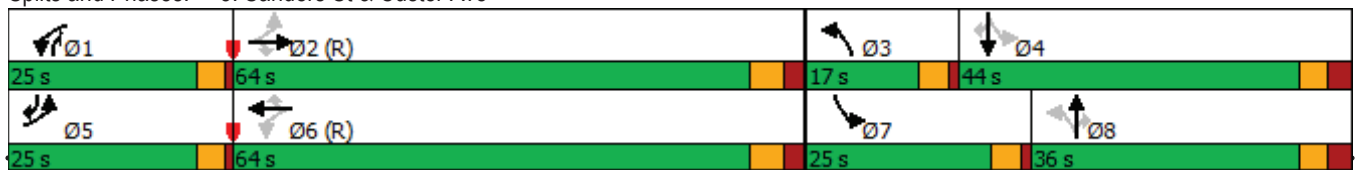


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Turn Type	pm+pt	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	pm+ov	pm+pt	NA	pm+ov
Protected Phases	5	2		1	6		3	8	1	7	4	5
Permitted Phases	2		2	6		6	8		8	4		4
Detector Phase	5	2	2	1	6	6	3	8	8	7	4	5
Switch Phase										4		
Minimum Initial (s)	5.0	25.0	25.0	5.0	25.0	25.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	15.0	38.5	38.5	15.0	38.5	38.5	15.0	36.0	15.0	15.0	41.0	15.0
Total Split (s)	25.0	64.0	64.0	25.0	64.0	64.0	17.0	36.0	25.0	25.0	44.0	25.0
Total Split (%)	16.7%	42.7%	42.7%	16.7%	42.7%	42.7%	11.3%	24.0%	16.7%	16.7%	29.3%	16.7%
Maximum Green (s)	21.0	57.5	57.5	21.0	57.5	57.5	12.5	30.0	21.0	20.5	38.0	21.0
Yellow Time (s)	3.0	4.1	4.1	3.0	4.1	4.1	3.5	3.0	3.0	3.5	3.0	3.0
All-Red Time (s)	1.0	2.4	2.4	1.0	2.4	2.4	1.0	3.0	1.0	1.0	3.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.0	6.5	6.5	4.0	6.5	6.5	4.5	6.0	4.0	4.5	6.0	4.0
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lead	Lead	Lag	Lead
Lead-Lag Optimize?							Yes	Yes		Yes	Yes	
Vehicle Extension (s)	2.5	2.5	2.5	2.5	2.5	2.5	3.0	2.5	2.5	3.0	2.5	2.5
Recall Mode	None	C-Max	C-Max	None	C-Max	C-Max	None	None	None	None	None	None
Walk Time (s)		7.0	7.0		7.0	7.0		7.0			7.0	
Flash Dont Walk (s)		25.0	25.0		25.0	25.0		23.0			28.0	
Pedestrian Calls (#/hr)		0	0		0	0		0			0	
Act Effct Green (s)	79.4	64.3	64.3	87.7	69.1	69.1	40.8	26.8	46.2	53.3	34.8	49.4
Actuated g/C Ratio	0.53	0.43	0.43	0.58	0.46	0.46	0.27	0.18	0.31	0.36	0.23	0.33
v/c Ratio	0.64	0.79	0.18	0.76	0.85	0.34	0.53	0.45	0.69	0.73	0.44	0.14
Control Delay	46.5	31.8	4.7	43.8	44.4	9.7	42.2	59.1	37.7	49.5	52.4	6.1
Queue Delay	0.0	0.0	0.0	0.0	0.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	46.5	31.8	4.7	43.8	44.8	9.7	42.2	59.1	37.7	49.5	52.4	6.1
LOS	D	C	A	D	D	A	D	E	D	D	D	A
Approach Delay		30.6			37.9			43.3			44.8	
Approach LOS		C			D			D			D	

Intersection Summary

Area Type: Other
 Cycle Length: 150
 Actuated Cycle Length: 150
 Offset: 76 (51%), Referenced to phase 2:EBTL and 6:WBTL, Start of 1st Green
 Natural Cycle: 120
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.85
 Intersection Signal Delay: 37.5
 Intersection LOS: D
 Intersection Capacity Utilization 86.6%
 ICU Level of Service E
 Analysis Period (min) 15
 * User Entered Value

Splits and Phases: 8: Sanders St & Custer Ave



Scenario 1 Corridor 0 11:59 pm 09/30/2018 With Development Phase 1 PM
 RLA

Lanes, Volumes, Timings
 9: I-15 SB On & Custer Ave & I-15 SB Off

11/09/2023



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	SBL2	SBL	SBR	NWL	NWR
Lane Configurations		↑↑	↗		↑↑	↗	↗		↗		
Traffic Volume (vph)	0	1261	480	0	1304	112	84	0	59	0	0
Future Volume (vph)	0	1261	480	0	1304	112	84	0	59	0	0
Ideal Flow (vphpl)	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750
Storage Length (ft)	0		150	0		300		0	0	0	0
Storage Lanes	0		1	0		1		1	1	0	0
Taper Length (ft)	25			25				25		25	
Lane Util. Factor	1.00	*0.85	1.00	1.00	0.95	1.00	1.00	1.00	1.00	1.00	1.00
Frt			0.850			0.850			0.850		
Flt Protected							0.950				
Satd. Flow (prot)	0	2975	1473	0	3325	1473	1484	0	1403	0	0
Flt Permitted							0.950				
Satd. Flow (perm)	0	2975	1473	0	3325	1473	1484	0	1403	0	0
Right Turn on Red			Yes			Yes			Yes		
Satd. Flow (RTOR)			109			112			111		
Link Speed (mph)		40			40			25		55	
Link Distance (ft)		513			855			727		910	
Travel Time (s)		8.7			14.6			19.8		11.3	
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Heavy Vehicles (%)	0%	0%	1%	0%	0%	1%	12%	0%	6%	0%	0%
Adj. Flow (vph)	0	1261	480	0	1304	112	84	0	59	0	0
Shared Lane Traffic (%)											
Lane Group Flow (vph)	0	1261	480	0	1304	112	84	0	59	0	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Right
Median Width(ft)		12			12			12		0	
Link Offset(ft)		0			0			0		0	
Crosswalk Width(ft)		16			16			16		16	
Two way Left Turn Lane											
Headway Factor	1.11	1.11	1.11	1.11	1.11	1.11	1.11	1.11	1.11	1.11	1.11
Turning Speed (mph)	15		9	15		9	15	15	9	15	9
Number of Detectors		0	0		0	0	1		1		
Detector Template		Thru	Right		Thru	Right	Left		Right		
Leading Detector (ft)		0	0		0	0	50		50		
Trailing Detector (ft)		0	0		0	0	0		0		
Detector 1 Position(ft)		0	0		0	0	0		0		
Detector 1 Size(ft)		6	20		6	20	50		50		
Detector 1 Type		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex		
Detector 1 Channel											
Detector 1 Extend (s)		0.0	0.0		0.0	0.0	0.0		0.0		
Detector 1 Queue (s)		0.0	0.0		0.0	0.0	0.0		0.0		
Detector 1 Delay (s)		0.0	0.0		0.0	0.0	0.0		0.0		
Turn Type		NA	Free		NA	Perm	Prot		Prot		
Protected Phases		2			6		7		7		
Permitted Phases			Free			6					
Detector Phase		2			6	6	7		7		
Switch Phase											
Minimum Initial (s)		25.0			25.0	25.0	5.0		5.0		
Minimum Split (s)		49.6			49.6	49.6	21.2		21.2		

Lanes, Volumes, Timings
 9: I-15 SB On & Custer Ave & I-15 SB Off

11/09/2023



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	SBL2	SBL	SBR	NWL	NWR
Total Split (s)		120.0			120.0	120.0	30.0		30.0		
Total Split (%)		80.0%			80.0%	80.0%	20.0%		20.0%		
Maximum Green (s)		113.4			113.4	113.4	24.8		24.8		
Yellow Time (s)		4.1			4.1	4.1	3.2		3.2		
All-Red Time (s)		2.5			2.5	2.5	2.0		2.0		
Lost Time Adjust (s)		0.0			0.0	0.0	0.0		0.0		
Total Lost Time (s)		6.6			6.6	6.6	5.2		5.2		
Lead/Lag											
Lead-Lag Optimize?											
Vehicle Extension (s)		3.0			3.0	3.0	3.0		3.0		
Recall Mode		C-Max			C-Max	C-Max	None		None		
Walk Time (s)					7.0	7.0					
Flash Dont Walk (s)					36.0	36.0					
Pedestrian Calls (#/hr)					0	0					
Act Effct Green (s)		124.4	150.0		124.4	124.4	13.8		13.8		
Actuated g/C Ratio		0.83	1.00		0.83	0.83	0.09		0.09		
v/c Ratio		0.51	0.33		0.47	0.09	0.62		0.26		
Control Delay		2.9	0.4		5.6	1.2	83.8		2.7		
Queue Delay		0.4	0.0		0.2	0.0	0.0		0.1		
Total Delay		3.3	0.4		5.9	1.2	83.8		2.7		
LOS		A	A		A	A	F		A		
Approach Delay		2.5			5.5			50.4			
Approach LOS		A			A			D			

Intersection Summary






















Area Type: Other
 Cycle Length: 150
 Actuated Cycle Length: 150
 Offset: 26 (17%), Referenced to phase 2:EBT and 6:WBT, Start of 1st Green
 Natural Cycle: 75
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.62
 Intersection Signal Delay: 5.9
 Intersection LOS: A
 Intersection Capacity Utilization 53.1%
 ICU Level of Service A
 Analysis Period (min) 15
 * User Entered Value

Splits and Phases: 9: I-15 SB On & Custer Ave & I-15 SB Off



Lanes, Volumes, Timings
 10: I-15 NB Off/I-15 NB On & Custer Ave

11/09/2023

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		 			 							
Traffic Volume (vph)	167	1046	0	0	916	140	512	0	196	0	0	0
Future Volume (vph)	167	1046	0	0	916	140	512	0	196	0	0	0
Ideal Flow (vphpl)	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750
Storage Length (ft)	500		0	0		150	400		400	0		0
Storage Lanes	1		0	0		1	1		1	0		0
Taper Length (ft)	100			25			100			25		
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	1.00	0.95	0.95	1.00	1.00	1.00	1.00
Frt						0.850			0.850			
Flt Protected	0.950						0.950	0.950				
Satd. Flow (prot)	1630	3292	0	0	3292	1377	1564	1564	1488	0	0	0
Flt Permitted	0.254						0.950	0.950				
Satd. Flow (perm)	436	3292	0	0	3292	1377	1564	1564	1488	0	0	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)						91			120			
Link Speed (mph)		40			40			25			55	
Link Distance (ft)		855			1235			1396			831	
Travel Time (s)		14.6			21.1			38.1			10.3	
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Heavy Vehicles (%)	2%	1%	0%	0%	1%	8%	1%	0%	0%	0%	0%	0%
Adj. Flow (vph)	167	1046	0	0	916	140	512	0	196	0	0	0
Shared Lane Traffic (%)							50%					
Lane Group Flow (vph)	167	1046	0	0	916	140	256	256	196	0	0	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.11	1.11	1.11	1.11	1.11	1.11	1.11	1.11	1.11	1.11	1.11	1.11
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	0			0	0	1	1	1			
Detector Template	Left	Thru			Thru	Right	Left	Thru	Right			
Leading Detector (ft)	50	0			0	0	50	50	50			
Trailing Detector (ft)	0	0			0	0	0	0	0			
Detector 1 Position(ft)	0	0			0	0	0	0	0			
Detector 1 Size(ft)	50	6			6	20	50	50	50			
Detector 1 Type	Cl+Ex	Cl+Ex			Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex			
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0			0.0	0.0	0.0	0.0	0.0			
Detector 1 Queue (s)	0.0	0.0			0.0	0.0	0.0	0.0	0.0			
Detector 1 Delay (s)	0.0	0.0			0.0	0.0	0.0	0.0	0.0			
Turn Type	pm+pt	NA			NA	Perm	Perm	NA	Perm			
Protected Phases	5	2			6			8				
Permitted Phases	2					6	8		8			
Detector Phase	5	2			6	6	8	8	8			
Switch Phase												
Minimum Initial (s)	5.0	25.0			25.0	25.0	5.0	5.0	5.0			
Minimum Split (s)	9.0	35.2			35.2	35.2	10.5	10.5	10.5			

Lanes, Volumes, Timings
 10: I-15 NB Off/I-15 NB On & Custer Ave

11/09/2023



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Total Split (s)	24.0	100.0			76.0	76.0	50.0	50.0	50.0			
Total Split (%)	16.0%	66.7%			50.7%	50.7%	33.3%	33.3%	33.3%			
Maximum Green (s)	20.0	93.8			69.8	69.8	44.5	44.5	44.5			
Yellow Time (s)	3.0	3.9			3.9	3.9	3.2	3.2	3.2			
All-Red Time (s)	1.0	2.3			2.3	2.3	2.3	2.3	2.3			
Lost Time Adjust (s)	0.0	0.0			0.0	0.0	0.0	0.0	0.0			
Total Lost Time (s)	4.0	6.2			6.2	6.2	5.5	5.5	5.5			
Lead/Lag	Lead				Lag		Lag					
Lead-Lag Optimize?												
Vehicle Extension (s)	2.5	2.5			2.5	2.5	2.5	2.5	2.5			
Recall Mode	None	Max			C-Max	C-Max	None	None	None			
Walk Time (s)		7.0			7.0	7.0						
Flash Dont Walk (s)		22.0			22.0	22.0						
Pedestrian Calls (#/hr)		0			0	0						
Act Effct Green (s)	110.3	108.1			94.2	94.2	30.2	30.2	30.2			
Actuated g/C Ratio	0.74	0.72			0.63	0.63	0.20	0.20	0.20			
v/c Ratio	0.42	0.44			0.44	0.16	0.81	0.81	0.50			
Control Delay	7.8	8.0			14.9	5.3	76.3	76.3	23.6			
Queue Delay	0.0	0.0			0.0	0.0	0.0	0.0	0.0			
Total Delay	7.8	8.0			14.9	5.3	76.3	76.3	23.6			
LOS	A	A			B	A	E	E	C			
Approach Delay		8.0			13.6			61.7				
Approach LOS		A			B			E				

Intersection Summary

























Area Type:	Other
Cycle Length:	150
Actuated Cycle Length:	150
Offset:	71 (47%), Referenced to phase 6:WBT, Start of 1st Green
Natural Cycle:	60
Control Type:	Actuated-Coordinated
Maximum v/c Ratio:	0.81
Intersection Signal Delay:	22.8
Intersection LOS:	C
Intersection Capacity Utilization:	66.0%
ICU Level of Service:	C
Analysis Period (min):	15

Splits and Phases: 10: I-15 NB Off/I-15 NB On & Custer Ave



Lanes, Volumes, Timings
11: Washington St & Custer Ave

11/09/2023

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	248	796	129	208	491	96	321	172	308	104	64	36
Future Volume (vph)	248	796	129	208	491	96	321	172	308	104	64	36
Ideal Flow (vphpl)	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750
Storage Length (ft)	350		350	400		300	350		350	150		150
Storage Lanes	1		1	1		1	1		1	1		1
Taper Length (ft)	100			100			100			100		
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt			0.850			0.850			0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1662	3292	1473	1614	3260	1430	1662	1750	1458	1662	1750	1488
Flt Permitted	0.429			0.281			0.506			0.649		
Satd. Flow (perm)	751	3292	1473	477	3260	1430	886	1750	1458	1136	1750	1488
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			129			109			212			87
Link Speed (mph)		40			40			40			40	
Link Distance (ft)		1235			1260			1767			1130	
Travel Time (s)		21.1			21.5			30.1			19.3	
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Heavy Vehicles (%)	0%	1%	1%	3%	2%	4%	0%	0%	2%	0%	0%	0%
Adj. Flow (vph)	248	796	129	208	491	96	321	172	308	104	64	36
Shared Lane Traffic (%)												
Lane Group Flow (vph)	248	796	129	208	491	96	321	172	308	104	64	36
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.11	1.11	1.11	1.11	1.11	1.11	1.11	1.11	1.11	1.11	1.11	1.11
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	1	1	1	1	1	1	1	1	1	1	1
Detector Template	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Leading Detector (ft)	50	50	50	50	50	50	50	50	50	50	50	50
Trailing Detector (ft)	0	0	0	0	0	0	0	0	0	0	0	0
Detector 1 Position(ft)	0	0	0	0	0	0	0	0	0	0	0	0
Detector 1 Size(ft)	50	50	50	50	50	50	50	50	50	50	50	50
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Turn Type	pm+pt	NA	pm+ov	pm+pt	NA	pm+ov	pm+pt	NA	pm+ov	pm+pt	NA	pm+ov
Protected Phases	5	2	3	1	6	7	3	8	1	7	4	5
Permitted Phases	2		2	6		6	8		8	4		4
Detector Phase	5	2	3	1	6	7	3	8	1	7	4	5
Switch Phase							8					
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	15.0	38.0	15.0	15.0	43.0	15.0	15.0	33.0	15.0	15.0	33.0	15.0

Lanes, Volumes, Timings
11: Washington St & Custer Ave

11/09/2023

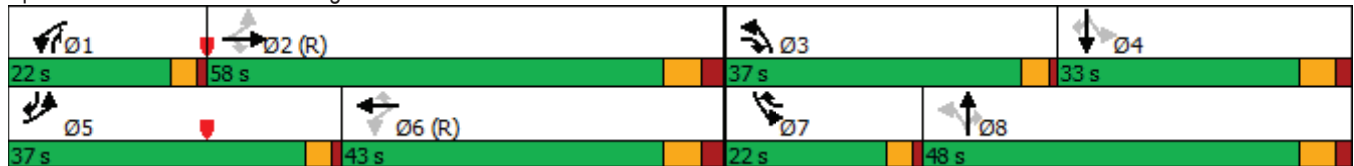


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Total Split (s)	37.0	58.0	37.0	22.0	43.0	22.0	37.0	48.0	22.0	22.0	33.0	37.0
Total Split (%)	24.7%	38.7%	24.7%	14.7%	28.7%	14.7%	24.7%	32.0%	14.7%	14.7%	22.0%	24.7%
Maximum Green (s)	33.0	51.0	33.0	18.0	36.0	18.0	33.0	42.0	18.0	18.0	27.0	33.0
Yellow Time (s)	3.0	4.3	3.0	3.0	4.3	3.0	3.0	3.9	3.0	3.0	3.9	3.0
All-Red Time (s)	1.0	2.7	1.0	1.0	2.7	1.0	1.0	2.1	1.0	1.0	2.1	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.0	7.0	4.0	4.0	7.0	4.0	4.0	6.0	4.0	4.0	6.0	4.0
Lead/Lag	Lead	Lag	Lead	Lead	Lag	Lead	Lead	Lag	Lead	Lead	Lag	Lead
Lead-Lag Optimize?												
Vehicle Extension (s)	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5
Recall Mode	None	C-Max	None	None	C-Max	None	None	None	None	None	None	None
Walk Time (s)		7.0			7.0			7.0			7.0	
Flash Dont Walk (s)		24.0			29.0			20.0			20.0	
Pedestrian Calls (#/hr)		0			0			0			0	
Act Effct Green (s)	94.0	76.0	113.7	91.7	74.9	93.8	45.2	27.2	47.0	23.2	10.9	29.4
Actuated g/C Ratio	0.63	0.51	0.76	0.61	0.50	0.63	0.30	0.18	0.31	0.15	0.07	0.20
v/c Ratio	0.44	0.48	0.11	0.53	0.30	0.10	0.76	0.54	0.51	0.48	0.50	0.10
Control Delay	11.4	22.0	6.9	17.6	25.3	2.3	55.9	61.0	14.1	47.3	79.5	0.6
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	11.4	22.0	6.9	17.6	25.3	2.3	55.9	61.0	14.1	47.3	79.5	0.6
LOS	B	C	A	B	C	A	E	E	B	D	E	A
Approach Delay		18.1			20.5			40.9			49.2	
Approach LOS		B			C			D			D	

Intersection Summary

Area Type:	Other
Cycle Length:	150
Actuated Cycle Length:	150
Offset:	113 (75%), Referenced to phase 2:EBTL and 6:WBTL, Start of 1st Green
Natural Cycle:	110
Control Type:	Actuated-Coordinated
Maximum v/c Ratio:	0.76
Intersection Signal Delay:	27.0
Intersection LOS:	C
Intersection Capacity Utilization:	77.4%
ICU Level of Service:	D
Analysis Period (min):	15

Splits and Phases: 11: Washington St & Custer Ave



Lanes, Volumes, Timings
14: Montana Ave & Tara Ct

11/09/2023



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕	↗	↖	↕		↖	↕	
Traffic Volume (vph)	92	20	44	120	20	120	56	1060	96	64	641	20
Future Volume (vph)	92	20	44	120	20	120	56	1060	96	64	641	20
Ideal Flow (vphpl)	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750
Storage Length (ft)	0		0	0		100	185		0	85		0
Storage Lanes	0		0	0		1	1		0	1		0
Taper Length (ft)	25			25			50			50		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	*0.82	0.95	1.00	0.95	0.95
Ped Bike Factor								1.00				
Frt		0.962				0.850		0.988				0.995
Flt Protected		0.971			0.959		0.950			0.950		
Satd. Flow (prot)	0	1621	0	0	1655	1488	1662	2804	0	1662	3274	0
Flt Permitted		0.600			0.642		0.390			0.173		
Satd. Flow (perm)	0	1002	0	0	1108	1488	682	2804	0	303	3274	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		13				116		10				4
Link Speed (mph)		25			25			35				35
Link Distance (ft)		308			442			1138				638
Travel Time (s)		8.4			12.1			22.2				12.4
Confl. Peds. (#/hr)									2	2		
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Heavy Vehicles (%)	0%	0%	3%	0%	10%	0%	0%	1%	0%	0%	1%	3%
Adj. Flow (vph)	92	20	44	120	20	120	56	1060	96	64	641	20
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	156	0	0	140	120	56	1156	0	64	661	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			12				12
Link Offset(ft)		0			0			0				0
Crosswalk Width(ft)		16			16			16				16
Two way Left Turn Lane												
Headway Factor	1.11	1.11	1.11	1.11	1.11	1.11	1.11	1.11	1.11	1.11	1.11	1.11
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2		1	2	1	1	2		1	2	
Detector Template	Left	Thru		Left	Thru	Right	Left	Thru		Left	Thru	
Leading Detector (ft)	20	100		20	100	20	20	100		20	100	
Trailing Detector (ft)	0	0		0	0	0	0	0		0	0	
Detector 1 Position(ft)	0	0		0	0	0	0	0		0	0	
Detector 1 Size(ft)	20	6		20	6	20	20	6		20	6	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 2 Position(ft)		94			94			94				94
Detector 2 Size(ft)		6			6			6				6
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex				Cl+Ex
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0				0.0

Lanes, Volumes, Timings
14: Montana Ave & Tara Ct

11/09/2023



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Turn Type	Perm	NA		Perm	NA	Perm	Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8		8	2			6		
Detector Phase	4	4		8	8	8	2	2		6	6	
Switch Phase												
Minimum Initial (s)	5.0	5.0		5.0	5.0	5.0	25.0	25.0		25.0	25.0	
Minimum Split (s)	32.0	32.0		32.0	32.0	32.0	31.0	31.0		31.0	31.0	
Total Split (s)	50.0	50.0		50.0	50.0	50.0	100.0	100.0		100.0	100.0	
Total Split (%)	33.3%	33.3%		33.3%	33.3%	33.3%	66.7%	66.7%		66.7%	66.7%	
Maximum Green (s)	44.0	44.0		44.0	44.0	44.0	94.3	94.3		94.3	94.3	
Yellow Time (s)	3.0	3.0		3.0	3.0	3.0	3.6	3.6		3.6	3.6	
All-Red Time (s)	3.0	3.0		3.0	3.0	3.0	2.1	2.1		2.1	2.1	
Lost Time Adjust (s)		0.0			0.0	0.0	0.0	0.0		0.0	0.0	
Total Lost Time (s)		6.0			6.0	6.0	5.7	5.7		5.7	5.7	
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0		3.0	3.0	
Recall Mode	None	None		None	None	None	C-Max	C-Max		C-Max	C-Max	
Walk Time (s)	7.0	7.0		7.0	7.0	7.0	7.0	7.0		7.0	7.0	
Flash Dont Walk (s)	18.0	18.0		19.0	19.0	19.0	16.0	16.0		7.0	7.0	
Pedestrian Calls (#/hr)	0	0		0	0	0	0	0		0	0	
Act Effct Green (s)		24.3		24.3	24.3	114.0	114.0			114.0	114.0	
Actuated g/C Ratio		0.16		0.16	0.16	0.76	0.76			0.76	0.76	
v/c Ratio		0.90		0.78	0.36	0.11	0.54			0.28	0.27	
Control Delay		101.9		86.9	11.7	6.6	9.3			4.4	1.3	
Queue Delay		0.0		0.0	0.0	0.0	0.0			0.0	0.0	
Total Delay		101.9		86.9	11.7	6.6	9.3			4.4	1.3	
LOS		F		F	B	A	A			A	A	
Approach Delay		101.9		52.2			9.2				1.6	
Approach LOS		F		D			A				A	

Intersection Summary

Area Type: Other
 Cycle Length: 150
 Actuated Cycle Length: 150
 Offset: 148 (99%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green
 Natural Cycle: 65
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.90
 Intersection Signal Delay: 17.7
 Intersection LOS: B
 Intersection Capacity Utilization 83.8%
 ICU Level of Service E
 Analysis Period (min) 15
 * User Entered Value




















Splits and Phases: 14: Montana Ave & Tara Ct



Lanes, Volumes, Timings

38: Montana Ave

11/09/2023

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	1	6	48	6	2	174	16	988	22	117	568	8
Future Volume (vph)	1	6	48	6	2	174	16	988	22	117	568	8
Ideal Flow (vphpl)	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750
Storage Length (ft)	50		160	80		0	305		0	155		0
Storage Lanes	0		0	0		0	1		0	1		0
Taper Length (ft)	32			105			185			155		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95
Frt		0.882			0.871			0.997			0.998	
Flt Protected		0.999			0.998		0.950			0.950		
Satd. Flow (prot)	0	1512	0	0	1491	0	1630	1711	0	1630	3253	0
Flt Permitted		0.999			0.998		0.950			0.950		
Satd. Flow (perm)	0	1512	0	0	1491	0	1630	1711	0	1630	3253	0
Link Speed (mph)		30			30			30			40	
Link Distance (ft)		483			388			1891			1260	
Travel Time (s)		11.0			8.8			43.0			21.5	
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	1	6	48	6	2	174	16	988	22	117	568	8
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	55	0	0	182	0	16	1010	0	117	576	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.11	1.11	1.11	1.11	1.11	1.11	1.11	1.11	1.11	1.11	1.11	1.11
Turning Speed (mph)	15		9	15		9	15		9	15		9
Sign Control		Stop			Stop			Free			Free	

Intersection Summary

Area Type:	Other
Control Type:	Unsignalized
Intersection Capacity Utilization	90.7%
ICU Level of Service	E
Analysis Period (min)	15

Intersection												
Int Delay, s/veh	6											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕		↕	↕		↕	↕	
Traffic Vol, veh/h	1	6	48	6	2	174	16	988	22	117	568	8
Future Vol, veh/h	1	6	48	6	2	174	16	988	22	117	568	8
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	305	-	-	155	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	100	100	100	100	100	100	100	100	100	100	100	100
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	1	6	48	6	2	174	16	988	22	117	568	8

























Major/Minor	Minor2		Minor1		Major1		Major2					
Conflicting Flow All	1925	1848	288	1552	1841	999	576	0	0	1010	0	0
Stage 1	806	806	-	1031	1031	-	-	-	-	-	-	-
Stage 2	1119	1042	-	521	810	-	-	-	-	-	-	-
Critical Hdwy	7.33	6.53	6.93	7.33	6.53	6.23	4.13	-	-	4.13	-	-
Critical Hdwy Stg 1	6.53	5.53	-	6.13	5.53	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.13	5.53	-	6.53	5.53	-	-	-	-	-	-	-
Follow-up Hdwy	3.519	4.019	3.319	3.519	4.019	3.319	2.219	-	-	2.219	-	-
Pot Cap-1 Maneuver	45	74	709	84	75	295	995	-	-	684	-	-
Stage 1	343	394	-	281	309	-	-	-	-	-	-	-
Stage 2	250	306	-	507	392	-	-	-	-	-	-	-
Platoon blocked, %								-	-	-	-	-
Mov Cap-1 Maneuver	15	60	709	62	61	295	995	-	-	684	-	-
Mov Cap-2 Maneuver	15	60	-	62	61	-	-	-	-	-	-	-
Stage 1	338	327	-	277	304	-	-	-	-	-	-	-
Stage 2	100	301	-	385	325	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	24.9	48.8	0.1	1.9
HCM LOS	C	E		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1WBLn1	SBL	SBT	SBR
Capacity (veh/h)	995	-	-	235	253	684	-
HCM Lane V/C Ratio	0.016	-	-	0.234	0.719	0.171	-
HCM Control Delay (s)	8.7	-	-	24.9	48.8	11.3	-
HCM Lane LOS	A	-	-	C	E	B	-
HCM 95th %tile Q(veh)	0	-	-	0.9	4.9	0.6	-

Lanes, Volumes, Timings
7: Montana Ave & Custer Ave

11/09/2023

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	93	557	148	229	509	176	104	158	97	324	681	80
Future Volume (vph)	93	557	148	229	509	176	104	158	97	324	681	80
Ideal Flow (vphpl)	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750
Storage Length (ft)	225		225	400		0	300		225	230		0
Storage Lanes	1		2	2		1	1		1	1		0
Taper Length (ft)	100			100			100			100		
Lane Util. Factor	1.00	*0.78	1.00	*0.63	1.00	1.00	1.00	*0.70	1.00	1.00	0.95	0.95
Frt			0.850			0.850			0.850		0.984	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1646	2650	1458	2054	1683	1458	1614	2402	1417	1630	3226	0
Flt Permitted	0.285			0.950			0.255			0.536		
Satd. Flow (perm)	494	2650	1458	2054	1683	1458	433	2402	1417	920	3226	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			105			176			105		10	
Link Speed (mph)		35			35			40			40	
Link Distance (ft)		1455			1327			627			1926	
Travel Time (s)		28.3			25.9			10.7			32.8	
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Heavy Vehicles (%)	1%	3%	2%	2%	4%	2%	3%	2%	5%	2%	1%	5%
Adj. Flow (vph)	93	557	148	229	509	176	104	158	97	324	681	80
Shared Lane Traffic (%)												
Lane Group Flow (vph)	93	557	148	229	509	176	104	158	97	324	761	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		24			24			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane		Yes										
Headway Factor	1.11	1.11	1.11	1.11	1.11	1.11	1.11	1.11	1.11	1.11	1.11	1.11
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	1	1	1	1	1	1	1	1	1	1	1
Detector Template	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	
Leading Detector (ft)	50	50	50	50	50	50	50	50	50	50	50	
Trailing Detector (ft)	0	0	0	0	0	0	0	0	0	0	0	
Detector 1 Position(ft)	0	0	0	0	0	0	0	0	0	0	0	
Detector 1 Size(ft)	50	50	50	50	50	50	50	50	50	50	50	
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Turn Type	pm+pt	NA	pm+ov	Prot	NA	pm+ov	pm+pt	NA	pm+ov	pm+pt	NA	
Protected Phases	1	6	7	5	2	3	7	4	5	3	8	
Permitted Phases	6		6			2	4		4	8		
Detector Phase	1	6	7	5	2	3	7	4	5	3	8	
Switch Phase												
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	15.0	40.8	15.0	15.0	38.5	15.0	15.0	38.5	15.0	15.0	38.5	

Lanes, Volumes, Timings
8: Sanders St & Custer Ave

11/09/2023



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	86	928	72	184	968	200	28	81	84	197	81	45
Future Volume (vph)	86	928	72	184	968	200	28	81	84	197	81	45
Ideal Flow (vphpl)	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750
Storage Length (ft)	175		135	230		350	150		300	150		150
Storage Lanes	1		1	1		1	1		1	1		1
Taper Length (ft)	100			100			100			100		
Lane Util. Factor	1.00	*0.72	1.00	1.00	*0.70	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor							1.00					0.99
Fr _t			0.850			0.850			0.850			0.850
Fl _t Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1554	2423	1488	1646	2402	1473	1630	1651	1403	1583	1636	1417
Fl _t Permitted	0.138			0.114			0.704			0.487		
Satd. Flow (perm)	226	2423	1488	198	2402	1473	1207	1651	1403	812	1636	1398
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			145			200			114			73
Link Speed (mph)		35			35			25				25
Link Distance (ft)		1327			513			1716				1316
Travel Time (s)		25.9			10.0			46.8				35.9
Confl. Peds. (#/hr)							1					1
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Heavy Vehicles (%)	7%	4%	0%	1%	2%	1%	2%	6%	6%	5%	7%	5%
Adj. Flow (vph)	86	928	72	184	968	200	28	81	84	197	81	45
Shared Lane Traffic (%)												
Lane Group Flow (vph)	86	928	72	184	968	200	28	81	84	197	81	45
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		24			24			12				12
Link Offset(ft)		0			0			0				0
Crosswalk Width(ft)		16			16			16				16
Two way Left Turn Lane												
Headway Factor	1.11	1.11	1.11	1.11	1.11	1.11	1.11	1.11	1.11	1.11	1.11	1.11
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	1	1	1	1	1	1	1	1	1	1	1
Detector Template	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Leading Detector (ft)	50	50	50	50	50	20	50	50	50	50	50	50
Trailing Detector (ft)	0	0	0	0	0	0	0	0	0	0	0	0
Detector 1 Position(ft)	0	0	0	0	0	0	0	0	0	0	0	0
Detector 1 Size(ft)	50	50	50	50	50	20	50	50	50	50	50	50
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Turn Type	pm+pt	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	pm+ov	pm+pt	NA	pm+ov
Protected Phases	5	2		1	6		3	8	1	7	4	5
Permitted Phases	2		2	6		6	8		8	4		4
Detector Phase	5	2	2	1	6	6	3	8	1	7	4	5
Switch Phase										4		

Lanes, Volumes, Timings
8: Sanders St & Custer Ave

11/09/2023

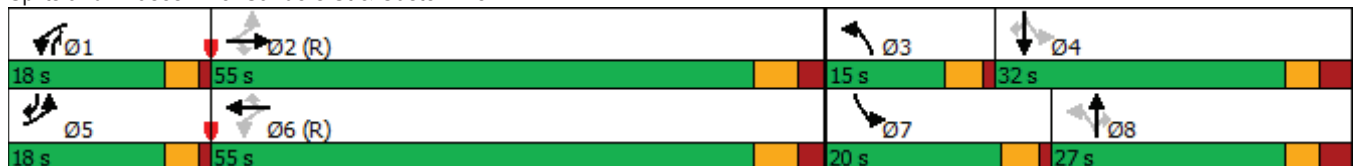


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Minimum Initial (s)	5.0	25.0	25.0	5.0	25.0	25.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	15.0	38.5	38.5	15.0	38.5	38.5	15.0	36.0	15.0	15.0	41.0	15.0
Total Split (s)	18.0	55.0	55.0	18.0	55.0	55.0	15.0	27.0	18.0	20.0	32.0	18.0
Total Split (%)	15.0%	45.8%	45.8%	15.0%	45.8%	45.8%	12.5%	22.5%	15.0%	16.7%	26.7%	15.0%
Maximum Green (s)	14.0	48.5	48.5	14.0	48.5	48.5	10.5	21.0	14.0	15.5	26.0	14.0
Yellow Time (s)	3.0	4.1	4.1	3.0	4.1	4.1	3.5	3.0	3.0	3.5	3.0	3.0
All-Red Time (s)	1.0	2.4	2.4	1.0	2.4	2.4	1.0	3.0	1.0	1.0	3.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.0	6.5	6.5	4.0	6.5	6.5	4.5	6.0	4.0	4.5	6.0	4.0
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lead	Lead	Lag	Lead
Lead-Lag Optimize?							Yes	Yes		Yes	Yes	
Vehicle Extension (s)	2.5	2.5	2.5	2.5	2.5	2.5	3.0	2.5	2.5	3.0	2.5	2.5
Recall Mode	None	C-Max	C-Max	None	C-Max	C-Max	None	None	None	None	None	None
Walk Time (s)		7.0	7.0		7.0	7.0		7.0			7.0	
Flash Dont Walk (s)		25.0	25.0		25.0	25.0		23.0			28.0	
Pedestrian Calls (#/hr)		0	0		0	0		0			0	
Act Effct Green (s)	71.2	60.8	60.8	81.2	68.6	68.6	17.8	10.7	28.2	30.3	21.4	31.3
Actuated g/C Ratio	0.59	0.51	0.51	0.68	0.57	0.57	0.15	0.09	0.24	0.25	0.18	0.26
v/c Ratio	0.39	0.76	0.09	0.61	0.71	0.22	0.14	0.55	0.20	0.64	0.28	0.11
Control Delay	9.6	28.3	3.5	27.3	17.1	1.3	33.3	65.4	3.2	47.2	45.5	2.8
Queue Delay	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	9.6	28.3	3.5	27.3	17.2	1.3	33.3	65.4	3.2	47.2	45.5	2.8
LOS	A	C	A	C	B	A	C	E	A	D	D	A
Approach Delay		25.2			16.2			33.7			40.5	
Approach LOS		C			B			C			D	

Intersection Summary

Area Type:	Other
Cycle Length:	120
Actuated Cycle Length:	120
Offset:	5 (4%), Referenced to phase 2:EBTL and 6:WBTL, Start of 1st Green
Natural Cycle:	130
Control Type:	Actuated-Coordinated
Maximum v/c Ratio:	0.76
Intersection Signal Delay:	23.3
Intersection LOS:	C
Intersection Capacity Utilization:	71.5%
ICU Level of Service:	C
Analysis Period (min):	15
* User Entered Value	

Splits and Phases: 8: Sanders St & Custer Ave



Lanes, Volumes, Timings
 9: I-15 SB On & Custer Ave & I-15 SB Off

11/09/2023



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	SBL2	SBL	SBR	NWL	NWR
Lane Configurations		↑↑	↑		↑↑	↑	↑		↑		
Traffic Volume (vph)	0	502	575	0	1107	360	116	0	145	0	0
Future Volume (vph)	0	502	575	0	1107	360	116	0	145	0	0
Ideal Flow (vphpl)	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750
Storage Length (ft)	0		150	0		300		0	0	0	0
Storage Lanes	0		1	0		1		1	1	0	0
Taper Length (ft)	25			25				25		25	
Lane Util. Factor	1.00	0.95	1.00	1.00	*0.77	1.00	1.00	1.00	1.00	1.00	1.00
Frt			0.850			0.850			0.850		
Flt Protected							0.950				
Satd. Flow (prot)	0	3260	1458	0	2642	1458	1630	0	1458	0	0
Flt Permitted							0.950				
Satd. Flow (perm)	0	3260	1458	0	2642	1458	1630	0	1458	0	0
Right Turn on Red			Yes			Yes			Yes		
Satd. Flow (RTOR)			457			360			133		
Link Speed (mph)		35			35			25		55	
Link Distance (ft)		513			855			727		910	
Travel Time (s)		10.0			16.7			19.8		11.3	
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	0	502	575	0	1107	360	116	0	145	0	0
Shared Lane Traffic (%)											
Lane Group Flow (vph)	0	502	575	0	1107	360	116	0	145	0	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Right
Median Width(ft)		12			12			12		0	
Link Offset(ft)		0			0			0		0	
Crosswalk Width(ft)		16			16			16		16	
Two way Left Turn Lane											
Headway Factor	1.11	1.11	1.11	1.11	1.11	1.11	1.11	1.11	1.11	1.11	1.11
Turning Speed (mph)	15		9	15		9	15	15	9	15	9
Number of Detectors		0	0		0	0	1		1		
Detector Template		Thru	Right		Thru	Right	Left		Right		
Leading Detector (ft)		0	0		0	0	75		75		
Trailing Detector (ft)		0	0		0	0	0		0		
Detector 1 Position(ft)		0	0		0	0	0		0		
Detector 1 Size(ft)		6	20		6	20	75		75		
Detector 1 Type		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex		
Detector 1 Channel											
Detector 1 Extend (s)		0.0	0.0		0.0	0.0	0.0		0.0		
Detector 1 Queue (s)		0.0	0.0		0.0	0.0	0.0		0.0		
Detector 1 Delay (s)		0.0	0.0		0.0	0.0	0.0		0.0		
Turn Type		NA	Free		NA	Perm	Prot		Prot		
Protected Phases		2			6		7		7		
Permitted Phases			Free			6					
Detector Phase		2			6	6	7		7		
Switch Phase											
Minimum Initial (s)		4.0			4.0	4.0	5.0		5.0		
Minimum Split (s)		22.0			49.6	49.6	21.2		21.2		
Total Split (s)		90.0			90.0	90.0	30.0		30.0		

Lanes, Volumes, Timings
 9: I-15 SB On & Custer Ave & I-15 SB Off

11/09/2023



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	SBL2	SBL	SBR	NWL	NWR
Total Split (%)	75.0%				75.0%	75.0%	25.0%		25.0%		
Maximum Green (s)	83.4				83.4	83.4	24.8		24.8		
Yellow Time (s)	4.1				4.1	4.1	3.2		3.2		
All-Red Time (s)	2.5				2.5	2.5	2.0		2.0		
Lost Time Adjust (s)	0.0				0.0	0.0	0.0		0.0		
Total Lost Time (s)	6.6				6.6	6.6	5.2		5.2		
Lead/Lag											
Lead-Lag Optimize?											
Vehicle Extension (s)	3.0				3.0	3.0	3.0		3.0		
Recall Mode	C-Max				C-Max	C-Max	None		None		
Walk Time (s)					7.0	7.0					
Flash Dont Walk (s)					36.0	36.0					
Pedestrian Calls (#/hr)					0	0					
Act Effct Green (s)	94.4		120.0		94.4	94.4	13.8		13.8		
Actuated g/C Ratio	0.79		1.00		0.79	0.79	0.12		0.12		
v/c Ratio	0.20		0.39		0.53	0.29	0.62		0.51		
Control Delay	3.2		0.6		4.9	1.7	64.2		16.2		
Queue Delay	0.0		0.0		0.0	0.0	0.0		0.0		
Total Delay	3.2		0.6		4.9	1.7	64.2		16.3		
LOS	A		A		A	A	E		B		
Approach Delay	1.8				4.1			37.6			
Approach LOS	A				A			D			

Intersection Summary






















Area Type: Other
 Cycle Length: 120
 Actuated Cycle Length: 120
 Offset: 108 (90%), Referenced to phase 2:EBT and 6:WBT, Start of 1st Green
 Natural Cycle: 75
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.62
 Intersection Signal Delay: 6.3
 Intersection Capacity Utilization 52.8%
 Analysis Period (min) 15
 * User Entered Value

Splits and Phases: 9: I-15 SB On & Custer Ave & I-15 SB Off



Lanes, Volumes, Timings
 10: I-15 NB Off/I-15 NB On & Custer Ave

11/09/2023

													
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	
Lane Configurations													
Traffic Volume (vph)	10	520	0	0	966	52	290	1	48	0	0	0	
Future Volume (vph)	10	520	0	0	966	52	290	1	48	0	0	0	
Ideal Flow (vphpl)	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	
Storage Length (ft)	500		0	0		150	400		400	0		0	
Storage Lanes	1		0	0		1	1		1	0		0	
Taper Length (ft)	100			25			100			25			
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	1.00	0.95	0.95	1.00	1.00	1.00	1.00	
Frt						0.850			0.850				
Flt Protected	0.950						0.950	0.953					
Satd. Flow (prot)	1309	3197	0	0	3228	1328	1548	1554	1430	0	0	0	
Flt Permitted	0.256						0.950	0.953					
Satd. Flow (perm)	353	3197	0	0	3228	1328	1548	1554	1430	0	0	0	
Right Turn on Red			Yes			Yes			Yes			Yes	
Satd. Flow (RTOR)						59			65				
Link Speed (mph)		35			35			25				55	
Link Distance (ft)		855			1235			1396				831	
Travel Time (s)		16.7			24.1			38.1				10.3	
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
Heavy Vehicles (%)	27%	4%	0%	0%	3%	12%	2%	0%	4%	0%	0%	0%	
Adj. Flow (vph)	10	520	0	0	966	52	290	1	48	0	0	0	
Shared Lane Traffic (%)							50%						
Lane Group Flow (vph)	10	520	0	0	966	52	145	146	48	0	0	0	
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No	
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right	
Median Width(ft)		12			12			12				12	
Link Offset(ft)		0			0			0				0	
Crosswalk Width(ft)		16			16			16				16	
Two way Left Turn Lane													
Headway Factor	1.11	1.11	1.11	1.11	1.11	1.11	1.11	1.11	1.11	1.11	1.11	1.11	
Turning Speed (mph)	15		9	15		9	15		9	15		9	
Number of Detectors	0	0			0	0	1	1	1				
Detector Template	Left	Thru			Thru	Right	Left	Thru	Right				
Leading Detector (ft)	0	0			0	0	75	75	75				
Trailing Detector (ft)	0	0			0	0	0	0	0				
Detector 1 Position(ft)	0	0			0	0	0	0	0				
Detector 1 Size(ft)	50	6			6	20	75	75	75				
Detector 1 Type	Cl+Ex	Cl+Ex			Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex				
Detector 1 Channel													
Detector 1 Extend (s)	0.0	0.0			0.0	0.0	0.0	0.0	0.0				
Detector 1 Queue (s)	0.0	0.0			0.0	0.0	0.0	0.0	0.0				
Detector 1 Delay (s)	0.0	0.0			0.0	0.0	0.0	0.0	0.0				
Turn Type	pm+pt	NA			NA	Perm	Perm	NA	Perm				
Protected Phases	1	1 2			2			4					
Permitted Phases	1 2					2	4		4				
Detector Phase	1	1 2			2	2	4	4	4				
Switch Phase													
Minimum Initial (s)	5.0				25.0	25.0	5.0	5.0	5.0				
Minimum Split (s)	15.0				35.2	35.2	10.5	10.5	10.5				

Lanes, Volumes, Timings
 10: I-15 NB Off/I-15 NB On & Custer Ave

11/09/2023



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Total Split (s)	15.0				65.0	65.0	40.0	40.0	40.0			
Total Split (%)	12.5%				54.2%	54.2%	33.3%	33.3%	33.3%			
Maximum Green (s)	11.0				58.8	58.8	34.5	34.5	34.5			
Yellow Time (s)	3.0				3.9	3.9	3.2	3.2	3.2			
All-Red Time (s)	1.0				2.3	2.3	2.3	2.3	2.3			
Lost Time Adjust (s)	0.0				0.0	0.0	0.0	0.0	0.0			
Total Lost Time (s)	4.0				6.2	6.2	5.5	5.5	5.5			
Lead/Lag	Lead				Lag	Lag						
Lead-Lag Optimize?					Yes	Yes						
Vehicle Extension (s)	2.5				2.5	2.5	2.5	2.5	2.5			
Recall Mode	None				C-Max	C-Max	None	None	None			
Walk Time (s)					7.0	7.0						
Flash Dont Walk (s)					22.0	22.0						
Pedestrian Calls (#/hr)					0	0						
Act Effct Green (s)	90.1	94.1			77.7	77.7	16.4	16.4	16.4			
Actuated g/C Ratio	0.75	0.78			0.65	0.65	0.14	0.14	0.14			
v/c Ratio	0.03	0.21			0.46	0.06	0.69	0.69	0.19			
Control Delay	4.8	3.5			5.4	0.2	65.3	65.4	7.5			
Queue Delay	0.0	0.0			0.0	0.0	0.0	0.0	0.0			
Total Delay	4.8	3.5			5.4	0.2	65.3	65.4	7.5			
LOS	A	A			A	A	E	E	A			
Approach Delay		3.5			5.1			57.2				
Approach LOS		A			A			E				

Intersection Summary

























Area Type: Other
 Cycle Length: 120
 Actuated Cycle Length: 120
 Offset: 2 (2%), Referenced to phase 2:EBWB, Start of 1st Green
 Natural Cycle: 65
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.69
 Intersection Signal Delay: 14.0
 Intersection LOS: B
 Intersection Capacity Utilization 47.5%
 ICU Level of Service A
 Analysis Period (min) 15

Splits and Phases: 10: I-15 NB Off/I-15 NB On & Custer Ave



Lanes, Volumes, Timings
11: Washington St & Custer Ave

11/09/2023

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	98	245	85	444	701	64	58	56	28	92	220	51
Future Volume (vph)	98	245	85	444	701	64	58	56	28	92	220	51
Ideal Flow (vphpl)	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750
Storage Length (ft)	350		350	400		300	350		350	150		150
Storage Lanes	1		1	1		1	1		1	1		1
Taper Length (ft)	100			100			100			100		
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt			0.850			0.850			0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1583	3197	1417	1662	3260	1430	1539	1636	1403	1599	1733	1444
Flt Permitted	0.385			0.554			0.509			0.579		
Satd. Flow (perm)	642	3197	1417	970	3260	1430	825	1636	1403	974	1733	1444
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			100			64			73			109
Link Speed (mph)		35			40			40			40	
Link Distance (ft)		1235			1260			1767			1130	
Travel Time (s)		24.1			21.5			30.1			19.3	
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Heavy Vehicles (%)	5%	4%	5%	0%	2%	4%	8%	7%	6%	4%	1%	3%
Adj. Flow (vph)	98	245	85	444	701	64	58	56	28	92	220	51
Shared Lane Traffic (%)												
Lane Group Flow (vph)	98	245	85	444	701	64	58	56	28	92	220	51
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.11	1.11	1.11	1.11	1.11	1.11	1.11	1.11	1.11	1.11	1.11	1.11
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	1	1	1	1	1	1	1	1	1	1	1
Detector Template	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Leading Detector (ft)	50	50	50	50	50	50	50	50	50	50	50	50
Trailing Detector (ft)	0	0	0	0	0	0	0	0	0	0	0	0
Detector 1 Position(ft)	0	0	0	0	0	0	0	0	0	0	0	0
Detector 1 Size(ft)	50	50	50	50	50	50	50	50	50	50	50	50
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Turn Type	pm+pt	NA	pm+ov	pm+pt	NA	pm+ov	pm+pt	NA	pm+ov	pm+pt	NA	pm+ov
Protected Phases	5	2	3	1	6	7	3	8	1	7	4	5
Permitted Phases	2		2	6		6	8		8	4		4
Detector Phase	5	2	3	1	6	7	3	8	1	7	4	5
Switch Phase												
Minimum Initial (s)	1.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	1.0
Minimum Split (s)	15.0	38.0	15.0	15.0	43.0	15.0	15.0	33.0	15.0	15.0	33.0	15.0

Lanes, Volumes, Timings
 11: Washington St & Custer Ave

11/09/2023

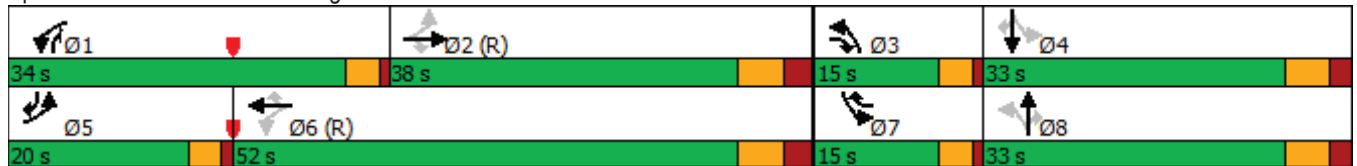


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Total Split (s)	20.0	38.0	15.0	34.0	52.0	15.0	15.0	33.0	34.0	15.0	33.0	20.0
Total Split (%)	16.7%	31.7%	12.5%	28.3%	43.3%	12.5%	12.5%	27.5%	28.3%	12.5%	27.5%	16.7%
Maximum Green (s)	16.0	31.0	11.0	30.0	45.0	11.0	11.0	27.0	30.0	11.0	27.0	16.0
Yellow Time (s)	3.0	4.3	3.0	3.0	4.3	3.0	3.0	3.9	3.0	3.0	3.9	3.0
All-Red Time (s)	1.0	2.7	1.0	1.0	2.7	1.0	1.0	2.1	1.0	1.0	2.1	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.0	7.0	4.0	4.0	7.0	4.0	4.0	6.0	4.0	4.0	6.0	4.0
Lead/Lag	Lead	Lag	Lead	Lead	Lag	Lead	Lead	Lag	Lead	Lead	Lag	Lead
Lead-Lag Optimize?												
Vehicle Extension (s)	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5
Recall Mode	None	C-Max	None	None	C-Max	None	None	None	None	None	None	None
Walk Time (s)		7.0			7.0			7.0			7.0	
Flash Dont Walk (s)		24.0			29.0			20.0			20.0	
Pedestrian Calls (#/hr)		0			0			0			0	
Act Effct Green (s)	61.0	50.0	65.2	77.8	62.8	82.8	26.2	17.4	42.0	32.0	20.0	34.0
Actuated g/C Ratio	0.51	0.42	0.54	0.65	0.52	0.69	0.22	0.14	0.35	0.27	0.17	0.28
v/c Ratio	0.25	0.18	0.10	0.59	0.41	0.06	0.25	0.24	0.05	0.28	0.76	0.10
Control Delay	10.0	22.6	5.9	15.1	19.9	2.8	32.4	44.4	0.2	32.8	64.5	0.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	10.0	22.6	5.9	15.1	19.9	2.8	32.4	44.4	0.2	32.8	64.5	0.4
LOS	A	C	A	B	B	A	C	D	A	C	E	A
Approach Delay		16.4			17.2			30.8			47.4	
Approach LOS		B			B			C			D	

Intersection Summary






















Area Type:	Other
Cycle Length:	120
Actuated Cycle Length:	120
Offset:	107 (89%), Referenced to phase 2:EBTL and 6:WBTL, Start of 1st Green
Natural Cycle:	110
Control Type:	Actuated-Coordinated
Maximum v/c Ratio:	0.76
Intersection Signal Delay:	23.1
Intersection LOS:	C
Intersection Capacity Utilization	68.3%
ICU Level of Service	C
Analysis Period (min)	15

Splits and Phases: 11: Washington St & Custer Ave



Lanes, Volumes, Timings
 14: Montana Ave & Tara Ct/Tara

11/09/2023

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	52	8	20	8	1	12	32	315	8	8	969	44
Future Volume (vph)	52	8	20	8	1	12	32	315	8	8	969	44
Ideal Flow (vphpl)	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750
Storage Length (ft)	0		0	0		100	185		0	85		0
Storage Lanes	0		0	0		1	1		0	1		0
Taper Length (ft)	25			25			50			50		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	*0.82	0.95	1.00	0.95	0.95
Frt		0.966				0.850		0.996			0.993	
Flt Protected		0.969			0.957		0.950			0.950		
Satd. Flow (prot)	0	1587	0	0	1551	1316	1599	2748	0	1662	3270	0
Flt Permitted		0.798			0.775		0.273			0.529		
Satd. Flow (perm)	0	1307	0	0	1256	1316	459	2748	0	926	3270	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		14				25		3			7	
Link Speed (mph)		30			30			40			30	
Link Distance (ft)		363			460			1185			627	
Travel Time (s)		8.3			10.5			20.2			14.3	
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Heavy Vehicles (%)	5%	0%	0%	9%	0%	13%	4%	4%	5%	0%	1%	0%
Adj. Flow (vph)	52	8	20	8	1	12	32	315	8	8	969	44
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	80	0	0	9	12	32	323	0	8	1013	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.11	1.11	1.11	1.11	1.11	1.11	1.11	1.11	1.11	1.11	1.11	1.11
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2		1	2	1	1	2		1	2	
Detector Template	Left	Thru		Left	Thru	Right	Left	Thru		Left	Thru	
Leading Detector (ft)	20	100		20	100	20	20	100		20	100	
Trailing Detector (ft)	0	0		0	0	0	0	0		0	0	
Detector 1 Position(ft)	0	0		0	0	0	0	0		0	0	
Detector 1 Size(ft)	20	6		20	6	20	20	6		20	6	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Perm	NA		Perm	NA	Perm	Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	

Lanes, Volumes, Timings
 14: Montana Ave & Tara Ct/Tara

11/09/2023



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Permitted Phases	4			8		8	2			6		
Detector Phase	4	4		8	8	8	2	2		6	6	
Switch Phase												
Minimum Initial (s)	5.0	5.0		5.0	5.0	5.0	25.0	25.0		14.0	14.0	
Minimum Split (s)	31.0	31.0		32.0	32.0	32.0	31.0	31.0		20.0	20.0	
Total Split (s)	40.0	40.0		40.0	40.0	40.0	80.0	80.0		80.0	80.0	
Total Split (%)	33.3%	33.3%		33.3%	33.3%	33.3%	66.7%	66.7%		66.7%	66.7%	
Maximum Green (s)	34.0	34.0		34.0	34.0	34.0	74.3	74.3		74.3	74.3	
Yellow Time (s)	3.0	3.0		3.0	3.0	3.0	3.6	3.6		3.6	3.6	
All-Red Time (s)	3.0	3.0		3.0	3.0	3.0	2.1	2.1		2.1	2.1	
Lost Time Adjust (s)		0.0			0.0	0.0	0.0	0.0		0.0	0.0	
Total Lost Time (s)		6.0			6.0	6.0	5.7	5.7		5.7	5.7	
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0		3.0	3.0	
Recall Mode	None	None		None	None	None	C-Max	C-Max		C-Max	C-Max	
Walk Time (s)	7.0	7.0		7.0	7.0	7.0	7.0	7.0		7.0	7.0	
Flash Dont Walk (s)	18.0	18.0		19.0	19.0	19.0	16.0	16.0		7.0	7.0	
Pedestrian Calls (#/hr)	0	0		0	0	0	0	0		0	0	
Act Effct Green (s)		11.3			11.3	11.3	100.5	100.5		100.5	100.5	
Actuated g/C Ratio		0.09			0.09	0.09	0.84	0.84		0.84	0.84	
v/c Ratio		0.59			0.08	0.08	0.08	0.14		0.01	0.37	
Control Delay		59.3			48.0	7.9	3.7	2.8		1.2	1.1	
Queue Delay		0.0			0.0	0.0	0.0	0.0		0.0	0.1	
Total Delay		59.3			48.0	7.9	3.7	2.8		1.2	1.2	
LOS		E			D	A	A	A		A	A	
Approach Delay		59.3			25.1			2.9			1.2	
Approach LOS		E			C			A			A	

Intersection Summary




















Area Type: Other
 Cycle Length: 120
 Actuated Cycle Length: 120
 Offset: 0 (0%), Referenced to phase 2:NBTL and 6:SBTL, Start of 1st Green
 Natural Cycle: 65
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.59
 Intersection Signal Delay: 5.1
 Intersection LOS: A
 Intersection Capacity Utilization 51.9%
 ICU Level of Service A
 Analysis Period (min) 15
 * User Entered Value

Splits and Phases: 14: Montana Ave & Tara Ct/Tara



Lanes, Volumes, Timings
 38: Montana Ave & Ptarmigan/Ptarmigan

11/09/2023

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	1	3	12	5	5	52	16	240	7	207	824	20
Future Volume (vph)	1	3	12	5	5	52	16	240	7	207	824	20
Ideal Flow (vphpl)	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750
Storage Length (ft)	50		160	80		0	305		0	155		0
Storage Lanes	0		0	0		0	1		0	1		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95
Frt		0.899			0.887			0.996			0.996	
Flt Protected		0.997			0.996		0.950			0.950		
Satd. Flow (prot)	0	1538	0	0	1516	0	1630	1709	0	1630	3247	0
Flt Permitted		0.997			0.996		0.950			0.950		
Satd. Flow (perm)	0	1538	0	0	1516	0	1630	1709	0	1630	3247	0
Link Speed (mph)		30			30			30			40	
Link Distance (ft)		589			745			1926			996	
Travel Time (s)		13.4			16.9			43.8			17.0	
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	1	3	12	5	5	52	16	240	7	207	824	20
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	16	0	0	62	0	16	247	0	207	844	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.11	1.11	1.11	1.11	1.11	1.11	1.11	1.11	1.11	1.11	1.11	1.11
Turning Speed (mph)	15		9	15		9	15		9	15		9
Sign Control		Stop			Stop			Free			Free	
Intersection Summary												
Area Type:	Other											
Control Type:	Unsignalized											
Intersection Capacity Utilization	44.4%						ICU Level of Service A					
Analysis Period (min)	15											

Intersection												
Int Delay, s/veh	2.2											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕		↕	↕		↕	↕	
Traffic Vol, veh/h	1	3	12	5	5	52	16	240	7	207	824	20
Future Vol, veh/h	1	3	12	5	5	52	16	240	7	207	824	20
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	305	-	-	155	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	100	100	100	100	100	100	100	100	100	100	100	100
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	1	3	12	5	5	52	16	240	7	207	824	20

























Major/Minor	Minor2		Minor1		Major1		Major2					
Conflicting Flow All	1552	1527	422	1104	1534	244	844	0	0	247	0	0
Stage 1	1248	1248	-	276	276	-	-	-	-	-	-	-
Stage 2	304	279	-	828	1258	-	-	-	-	-	-	-
Critical Hdwy	7.33	6.53	6.93	7.33	6.53	6.23	4.13	-	-	4.13	-	-
Critical Hdwy Stg 1	6.53	5.53	-	6.13	5.53	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.13	5.53	-	6.53	5.53	-	-	-	-	-	-	-
Follow-up Hdwy	3.519	4.019	3.319	3.519	4.019	3.319	2.219	-	-	2.219	-	-
Pot Cap-1 Maneuver	84	117	581	177	116	794	790	-	-	1317	-	-
Stage 1	184	244	-	730	681	-	-	-	-	-	-	-
Stage 2	705	679	-	332	241	-	-	-	-	-	-	-
Platoon blocked, %								-	-	-	-	-
Mov Cap-1 Maneuver	65	97	581	147	96	794	790	-	-	1317	-	-
Mov Cap-2 Maneuver	65	97	-	147	96	-	-	-	-	-	-	-
Stage 1	180	206	-	715	667	-	-	-	-	-	-	-
Stage 2	641	665	-	270	203	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	21.1	15.4	0.6	1.6
HCM LOS	C	C		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1WBLn1	SBL	SBT	SBR
Capacity (veh/h)	790	-	-	239	409	1317	-
HCM Lane V/C Ratio	0.02	-	-	0.067	0.152	0.157	-
HCM Control Delay (s)	9.7	-	-	21.1	15.4	8.2	-
HCM Lane LOS	A	-	-	C	C	A	-
HCM 95th %tile Q(veh)	0.1	-	-	0.2	0.5	0.6	-

Lanes, Volumes, Timings
7: Montana Ave & Custer Ave

11/09/2023

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	150	475	116	326	422	280	124	622	271	272	455	114
Future Volume (vph)	150	475	116	326	422	280	124	622	271	272	455	114
Ideal Flow (vphpl)	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750
Storage Length (ft)	225		225	400		0	300		225	230		0
Storage Lanes	1		2	2		1	1		1	1		0
Taper Length (ft)	100			100			100			100		
Lane Util. Factor	1.00	*0.80	1.00	*0.77	1.00	1.00	1.00	*0.86	1.00	1.00	0.95	0.95
Frt			0.850			0.850			0.850		0.970	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1646	2718	1444	2535	1699	1473	1614	2980	1458	1630	3187	0
Flt Permitted	0.359			0.950			0.389			0.170		
Satd. Flow (perm)	622	2718	1444	2535	1699	1473	661	2980	1458	292	3187	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			83			183			137			23
Link Speed (mph)		30			35			40			40	
Link Distance (ft)		1455			1327			627			1924	
Travel Time (s)		33.1			25.9			10.7			32.8	
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Heavy Vehicles (%)	1%	3%	3%	1%	3%	1%	3%	1%	2%	2%	1%	2%
Adj. Flow (vph)	150	475	116	326	422	280	124	622	271	272	455	114
Shared Lane Traffic (%)												
Lane Group Flow (vph)	150	475	116	326	422	280	124	622	271	272	569	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		24			24			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane		Yes										
Headway Factor	1.11	1.11	1.11	1.11	1.11	1.11	1.11	1.11	1.11	1.11	1.11	1.11
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	1	1	1	1	1	1	1	1	1	1	1
Detector Template	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	
Leading Detector (ft)	50	50	50	50	50	50	50	50	50	50	50	
Trailing Detector (ft)	0	0	0	0	0	0	0	0	0	0	0	
Detector 1 Position(ft)	0	0	0	0	0	0	0	0	0	0	0	
Detector 1 Size(ft)	50	50	50	50	50	50	50	50	50	50	50	
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Turn Type	pm+pt	NA	pm+ov	Prot	NA	pm+ov	pm+pt	NA	pm+ov	pm+pt	NA	
Protected Phases	1	6	7	5	2	3	7	4	5	3	8	
Permitted Phases	6		6			2	4		4	8		
Detector Phase	1	6	7	5	2	3	7	4	5	3	8	
Switch Phase												
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	15.0	40.8	15.0	15.0	38.5	15.0	15.0	38.5	15.0	15.0	38.5	

Lanes, Volumes, Timings
7: Montana Ave & Custer Ave

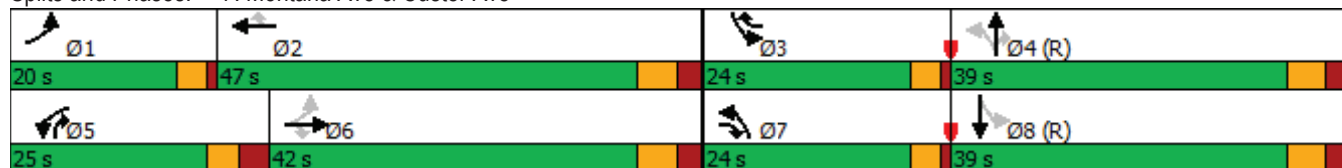
11/09/2023

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Total Split (s)	20.0	42.0	24.0	25.0	47.0	24.0	24.0	39.0	25.0	24.0	39.0	
Total Split (%)	15.4%	32.3%	18.5%	19.2%	36.2%	18.5%	18.5%	30.0%	19.2%	18.5%	30.0%	
Maximum Green (s)	16.0	35.5	20.0	19.0	40.5	20.0	20.0	32.5	19.0	20.0	32.5	
Yellow Time (s)	3.0	3.9	3.0	3.0	3.9	3.0	3.0	3.6	3.0	3.0	3.6	
All-Red Time (s)	1.0	2.6	1.0	3.0	2.6	1.0	1.0	2.9	3.0	1.0	2.9	
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Lost Time (s)	4.0	6.5	4.0	6.0	6.5	4.0	4.0	6.5	6.0	4.0	6.5	
Lead/Lag	Lead	Lag	Lead	Lead	Lag	Lead	Lead	Lag	Lead	Lead	Lag	
Lead-Lag Optimize?	Yes											
Vehicle Extension (s)	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	
Recall Mode	None	None	None	None	Max	None	None	C-Max	None	None	C-Max	
Walk Time (s)		7.0			7.0			7.0			7.0	
Flash Dont Walk (s)		27.0			24.0			25.0			25.0	
Pedestrian Calls (#/hr)		0			0			0			0	
Act Effct Green (s)	50.2	36.0	53.4	18.5	44.7	69.5	47.7	34.2	59.2	59.0	41.5	
Actuated g/C Ratio	0.39	0.28	0.41	0.14	0.34	0.53	0.37	0.26	0.46	0.45	0.32	
v/c Ratio	0.45	0.63	0.18	0.90	0.72	0.32	0.39	0.79	0.37	0.85	0.55	
Control Delay	24.4	45.8	8.6	73.6	33.6	8.5	23.6	49.0	9.4	49.8	37.9	
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Delay	24.4	45.8	8.6	73.6	33.6	8.5	23.6	49.0	9.4	49.8	37.9	
LOS	C	D	A	E	C	A	C	D	A	D	D	
Approach Delay		35.7			39.5			35.4			41.8	
Approach LOS		D			D			D			D	

Intersection Summary

























Area Type: Other
 Cycle Length: 130
 Actuated Cycle Length: 130
 Offset: 0 (0%), Referenced to phase 4:NBTL and 8:SBTL, Start of 1st Green, Master Intersection
 Natural Cycle: 110
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.90
 Intersection Signal Delay: 38.1 Intersection LOS: D
 Intersection Capacity Utilization 85.7% ICU Level of Service E
 Analysis Period (min) 15
 * User Entered Value

Splits and Phases: 7: Montana Ave & Custer Ave



Lanes, Volumes, Timings
8: Sanders St & Custer Ave

11/09/2023

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	149	760	208	200	728	341	192	179	348	318	194	163
Future Volume (vph)	149	760	208	200	728	341	192	179	348	318	194	163
Ideal Flow (vphpl)	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750
Storage Length (ft)	175		135	230		350	150		300	150		150
Storage Lanes	1		1	1		1	1		1	1		1
Taper Length (ft)	100			100			100			100		
Lane Util. Factor	1.00	*0.77	1.00	1.00	*0.70	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt			0.850			0.850			0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1599	2591	1458	1646	2379	1444	1662	1733	1473	1599	1733	1458
Flt Permitted	0.173			0.169			0.611			0.418		
Satd. Flow (perm)	291	2591	1458	293	2379	1444	1069	1733	1473	703	1733	1458
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			126			341			97			140
Link Speed (mph)		35			35			25				25
Link Distance (ft)		1327			513			1716				1316
Travel Time (s)		25.9			10.0			46.8				35.9
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Heavy Vehicles (%)	4%	4%	2%	1%	3%	3%	0%	1%	1%	4%	1%	2%
Adj. Flow (vph)	149	760	208	200	728	341	192	179	348	318	194	163
Shared Lane Traffic (%)												
Lane Group Flow (vph)	149	760	208	200	728	341	192	179	348	318	194	163
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		24			24			12				12
Link Offset(ft)		0			0			0				0
Crosswalk Width(ft)		16			16			16				16
Two way Left Turn Lane												
Headway Factor	1.11	1.11	1.11	1.11	1.11	1.11	1.11	1.11	1.11	1.11	1.11	1.11
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	1	1	1	1	1	1	1	1	1	1	1
Detector Template	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Leading Detector (ft)	50	50	50	50	50	20	50	50	50	50	50	50
Trailing Detector (ft)	0	0	0	0	0	0	0	0	0	0	0	0
Detector 1 Position(ft)	0	0	0	0	0	0	0	0	0	0	0	0
Detector 1 Size(ft)	50	50	50	50	50	20	50	50	50	50	50	50
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Turn Type	pm+pt	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	pm+ov	pm+pt	NA	pm+ov
Protected Phases	5	2		1	6		3	8	1	7	4	5
Permitted Phases	2		2	6		6	8		8	4		4
Detector Phase	5	2	2	1	6	6	3	8	8	7	4	4
Switch Phase										4		
Minimum Initial (s)	5.0	25.0	25.0	5.0	25.0	25.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	15.0	38.5	38.5	15.0	38.5	38.5	15.0	36.0	15.0	15.0	41.0	15.0

Lanes, Volumes, Timings
8: Sanders St & Custer Ave

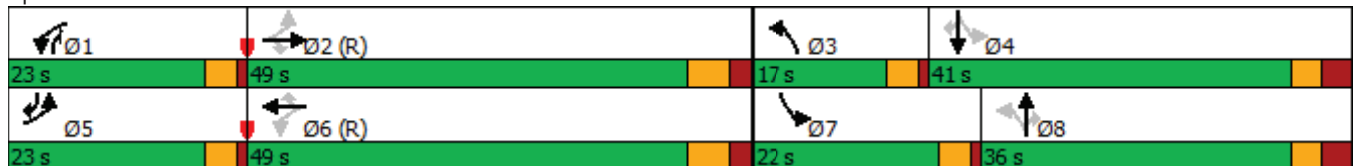
11/09/2023

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Total Split (s)	23.0	49.0	49.0	23.0	49.0	49.0	17.0	36.0	23.0	22.0	41.0	23.0
Total Split (%)	17.7%	37.7%	37.7%	17.7%	37.7%	37.7%	13.1%	27.7%	17.7%	16.9%	31.5%	17.7%
Maximum Green (s)	19.0	42.5	42.5	19.0	42.5	42.5	13.0	30.0	19.0	18.0	35.0	19.0
Yellow Time (s)	3.0	4.1	4.1	3.0	4.1	4.1	3.0	3.0	3.0	3.0	3.0	3.0
All-Red Time (s)	1.0	2.4	2.4	1.0	2.4	2.4	1.0	3.0	1.0	1.0	3.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.0	6.5	6.5	4.0	6.5	6.5	4.0	6.0	4.0	4.0	6.0	4.0
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lead	Lead	Lag	Lead
Lead-Lag Optimize?							Yes	Yes		Yes	Yes	
Vehicle Extension (s)	2.5	2.5	2.5	2.5	2.5	2.5	3.0	2.5	2.5	3.0	2.5	2.5
Recall Mode	None	C-Max	C-Max	None	C-Max	C-Max	None	None	None	None	None	None
Walk Time (s)		7.0	7.0		7.0	7.0		7.0			7.0	
Flash Dont Walk (s)		25.0	25.0		25.0	25.0		23.0			28.0	
Pedestrian Calls (#/hr)		0	0		0	0		0			0	
Act Effct Green (s)	68.0	53.3	53.3	72.6	55.6	55.6	38.4	23.7	44.2	47.7	29.0	47.2
Actuated g/C Ratio	0.52	0.41	0.41	0.56	0.43	0.43	0.30	0.18	0.34	0.37	0.22	0.36
v/c Ratio	0.54	0.72	0.31	0.64	0.72	0.42	0.51	0.57	0.62	0.83	0.50	0.26
Control Delay	17.7	35.2	13.0	29.6	31.2	6.1	34.5	54.8	28.9	52.1	48.1	6.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.2	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	17.7	35.2	13.0	29.6	31.2	6.3	34.5	54.8	28.9	52.1	48.1	6.2
LOS	B	D	B	C	C	A	C	D	C	D	D	A
Approach Delay		28.7			24.2			36.8			39.9	
Approach LOS		C			C			D			D	

Intersection Summary

Area Type:	Other
Cycle Length:	130
Actuated Cycle Length:	130
Offset:	10 (8%), Referenced to phase 2:EBTL and 6:WBTL, Start of 1st Green
Natural Cycle:	110
Control Type:	Actuated-Coordinated
Maximum v/c Ratio:	0.83
Intersection Signal Delay:	30.7
Intersection LOS:	C
Intersection Capacity Utilization:	81.3%
ICU Level of Service:	D
Analysis Period (min):	15
* User Entered Value	

Splits and Phases: 8: Sanders St & Custer Ave



Lanes, Volumes, Timings
 9: I-15 SB On & Custer Ave & I-15 SB Off

11/09/2023



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	SBL2	SBL	SBR	NWL	NWR
Lane Configurations		↑↑	↗		↑↑	↗	↗		↗		
Traffic Volume (vph)	0	936	466	0	1318	92	28	0	47	0	0
Future Volume (vph)	0	936	466	0	1318	92	28	0	47	0	0
Ideal Flow (vphpl)	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750
Storage Length (ft)	0		150	0		300		0	0	0	0
Storage Lanes	0		1	0		1		1	1	0	0
Taper Length (ft)	25			25				25		25	
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor			0.98			0.98					
Frt			0.850			0.850			0.850		
Flt Protected							0.950				
Satd. Flow (prot)	0	3228	1458	0	3260	1403	1511	0	1430	0	0
Flt Permitted							0.950				
Satd. Flow (perm)	0	3228	1428	0	3260	1373	1511	0	1430	0	0
Right Turn on Red			Yes			Yes			Yes		
Satd. Flow (RTOR)			183			92			95		
Link Speed (mph)		35			35			25		55	
Link Distance (ft)		513			855			727		910	
Travel Time (s)		10.0			16.7			19.8		11.3	
Confl. Peds. (#/hr)			1			1					
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Heavy Vehicles (%)	2%	3%	2%	2%	2%	6%	10%	2%	4%	2%	2%
Adj. Flow (vph)	0	936	466	0	1318	92	28	0	47	0	0
Shared Lane Traffic (%)											
Lane Group Flow (vph)	0	936	466	0	1318	92	28	0	47	0	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Right
Median Width(ft)		12			12			12		0	
Link Offset(ft)		0			0			0		0	
Crosswalk Width(ft)		16			16			16		16	
Two way Left Turn Lane											
Headway Factor	1.11	1.11	1.11	1.11	1.11	1.11	1.11	1.11	1.11	1.11	1.11
Turning Speed (mph)	15		9	15		9	15	15	9	15	9
Number of Detectors		0	0		0	0	1		1		
Detector Template		Thru	Right		Thru	Right	Left		Right		
Leading Detector (ft)		0	0		0	0	75		75		
Trailing Detector (ft)		0	0		0	0	0		0		
Detector 1 Position(ft)		0	0		0	0	0		0		
Detector 1 Size(ft)		6	20		6	20	75		75		
Detector 1 Type		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex		
Detector 1 Channel											
Detector 1 Extend (s)		0.0	0.0		0.0	0.0	0.0		0.0		
Detector 1 Queue (s)		0.0	0.0		0.0	0.0	0.0		0.0		
Detector 1 Delay (s)		0.0	0.0		0.0	0.0	0.0		0.0		
Turn Type		NA	Free		NA	Perm	Prot		Prot		
Protected Phases		2			6		7		7		
Permitted Phases			Free			6					
Detector Phase		2			6	6	7		7		
Switch Phase											

Lanes, Volumes, Timings
 9: I-15 SB On & Custer Ave & I-15 SB Off

11/09/2023

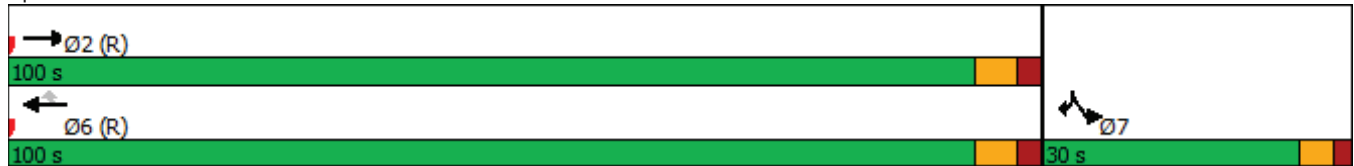


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	SBL2	SBL	SBR	NWL	NWR
Minimum Initial (s)		4.0			4.0	4.0	5.0		5.0		
Minimum Split (s)		22.0			49.6	49.6	21.2		21.2		
Total Split (s)		100.0			100.0	100.0	30.0		30.0		
Total Split (%)		76.9%			76.9%	76.9%	23.1%		23.1%		
Maximum Green (s)		93.4			93.4	93.4	24.8		24.8		
Yellow Time (s)		4.1			4.1	4.1	3.2		3.2		
All-Red Time (s)		2.5			2.5	2.5	2.0		2.0		
Lost Time Adjust (s)		0.0			0.0	0.0	0.0		0.0		
Total Lost Time (s)		6.6			6.6	6.6	5.2		5.2		
Lead/Lag											
Lead-Lag Optimize?											
Vehicle Extension (s)		3.0			3.0	3.0	3.0		3.0		
Recall Mode		C-Max			C-Max	C-Max	None		None		
Walk Time (s)					7.0	7.0					
Flash Dont Walk (s)					36.0	36.0					
Pedestrian Calls (#/hr)					0	0					
Act Effct Green (s)		113.7	130.0		113.7	113.7	8.0		8.0		
Actuated g/C Ratio		0.87	1.00		0.87	0.87	0.06		0.06		
v/c Ratio		0.33	0.33		0.46	0.08	0.30		0.27		
Control Delay		2.1	0.4		1.9	0.2	66.1		3.7		
Queue Delay		0.2	0.0		0.0	0.0	0.0		0.0		
Total Delay		2.3	0.4		1.9	0.2	66.1		3.7		
LOS		A	A		A	A	E		A		
Approach Delay		1.7			1.8			27.0			
Approach LOS		A			A			C			

Intersection Summary




















Area Type: Other
 Cycle Length: 130
 Actuated Cycle Length: 130
 Offset: 104 (80%), Referenced to phase 2:EBT and 6:WBT, Start of 1st Green
 Natural Cycle: 75
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.46
 Intersection Signal Delay: 2.4
 Intersection Capacity Utilization 53.6%
 Analysis Period (min) 15
 Intersection LOS: A
 ICU Level of Service A

Splits and Phases: 9: I-15 SB On & Custer Ave & I-15 SB Off



Lanes, Volumes, Timings
 10: I-15 NB Off/I-15 NB On & Custer Ave

11/09/2023

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	83	969	0	0	771	52	343	0	84	0	0	0
Future Volume (vph)	83	969	0	0	771	52	343	0	84	0	0	0
Ideal Flow (vphpl)	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750
Storage Length (ft)	500		0	0		150	400		400	0		0
Storage Lanes	1		0	0		1	1		1	0		0
Taper Length (ft)	100			25			100			25		
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	1.00	0.95	0.95	1.00	1.00	1.00	1.00
Frt						0.850			0.850			
Flt Protected	0.950						0.950	0.950				
Satd. Flow (prot)	1614	3228	0	0	3260	1365	1548	1548	1444	0	0	0
Flt Permitted	0.318						0.950	0.950				
Satd. Flow (perm)	540	3228	0	0	3260	1365	1548	1548	1444	0	0	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)						55			84			
Link Speed (mph)		35			35			25				55
Link Distance (ft)		855			1235			1396				831
Travel Time (s)		16.7			24.1			38.1				10.3
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Heavy Vehicles (%)	3%	3%	0%	0%	2%	9%	2%	0%	3%	0%	0%	0%
Adj. Flow (vph)	83	969	0	0	771	52	343	0	84	0	0	0
Shared Lane Traffic (%)							50%					
Lane Group Flow (vph)	83	969	0	0	771	52	171	172	84	0	0	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			12				12
Link Offset(ft)		0			0			0				0
Crosswalk Width(ft)		16			16			16				16
Two way Left Turn Lane												
Headway Factor	1.11	1.11	1.11	1.11	1.11	1.11	1.11	1.11	1.11	1.11	1.11	1.11
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	0	0			0	0	1	1	1			
Detector Template	Left	Thru			Thru	Right	Left	Thru	Right			
Leading Detector (ft)	0	0			0	0	75	75	75			
Trailing Detector (ft)	0	0			0	0	0	0	0			
Detector 1 Position(ft)	0	0			0	0	0	0	0			
Detector 1 Size(ft)	50	6			6	20	75	75	75			
Detector 1 Type	Cl+Ex	Cl+Ex			Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex			
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0			0.0	0.0	0.0	0.0	0.0			
Detector 1 Queue (s)	0.0	0.0			0.0	0.0	0.0	0.0	0.0			
Detector 1 Delay (s)	0.0	0.0			0.0	0.0	0.0	0.0	0.0			
Turn Type	pm+pt	NA			NA	Perm	Perm	NA	Perm			
Protected Phases	1	12			2			4				
Permitted Phases	12					2	4		4			
Detector Phase	1	12			2	2	4	4	4			
Switch Phase												
Minimum Initial (s)	5.0				25.0	25.0	5.0	5.0	5.0			
Minimum Split (s)	15.0				35.2	35.2	15.0	15.0	15.0			

Lanes, Volumes, Timings
 10: I-15 NB Off/I-15 NB On & Custer Ave

11/09/2023

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Total Split (s)	15.0				75.0	75.0	40.0	40.0	40.0			
Total Split (%)	11.5%				57.7%	57.7%	30.8%	30.8%	30.8%			
Maximum Green (s)	11.0				68.8	68.8	34.5	34.5	34.5			
Yellow Time (s)	3.0				3.9	3.9	3.2	3.2	3.2			
All-Red Time (s)	1.0				2.3	2.3	2.3	2.3	2.3			
Lost Time Adjust (s)	0.0				0.0	0.0	0.0	0.0	0.0			
Total Lost Time (s)	4.0				6.2	6.2	5.5	5.5	5.5			
Lead/Lag	Lead				Lag	Lag						
Lead-Lag Optimize?					Yes	Yes						
Vehicle Extension (s)	2.5				2.5	2.5	2.5	2.5	2.5			
Recall Mode	None				C-Max	C-Max	None	None	None			
Walk Time (s)					7.0	7.0						
Flash Dont Walk (s)					22.0	22.0						
Pedestrian Calls (#/hr)					0	0						
Act Effct Green (s)	97.0	101.0			78.0	78.0	19.5	19.5	19.5			
Actuated g/C Ratio	0.75	0.78			0.60	0.60	0.15	0.15	0.15			
v/c Ratio	0.15	0.39			0.39	0.06	0.74	0.74	0.29			
Control Delay	2.4	3.0			13.9	6.0	70.6	71.0	11.5			
Queue Delay	0.0	0.0			0.0	0.0	0.0	0.0	0.0			
Total Delay	2.4	3.0			13.9	6.0	70.6	71.0	11.5			
LOS	A	A			B	A	E	E	B			
Approach Delay		3.0			13.4			59.2				
Approach LOS		A			B			E				

Intersection Summary

























Area Type: Other
 Cycle Length: 130
 Actuated Cycle Length: 130
 Offset: 5 (4%), Referenced to phase 2:EBWB, Start of 1st Green
 Natural Cycle: 70
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.74
 Intersection Signal Delay: 17.1
 Intersection LOS: B
 Intersection Capacity Utilization 51.5%
 ICU Level of Service A
 Analysis Period (min) 15

Splits and Phases: 10: I-15 NB Off/I-15 NB On & Custer Ave



Lanes, Volumes, Timings
11: Washington St & Custer Ave

11/09/2023

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	210	539	185	184	451	88	723	144	184	140	68	53
Future Volume (vph)	210	539	185	184	451	88	723	144	184	140	68	53
Ideal Flow (vphpl)	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750
Storage Length (ft)	350		350	400		300	350		350	150		150
Storage Lanes	1		1	1		1	1		1	1		1
Taper Length (ft)	100			100			100			100		
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt			0.850			0.850			0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1630	3228	1444	1599	3260	1403	1646	1683	1444	1525	1716	1403
Flt Permitted	0.392			0.343			0.601			0.665		
Satd. Flow (perm)	673	3228	1444	577	3260	1403	1041	1683	1444	1068	1716	1403
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			185			92			184			101
Link Speed (mph)		35			35			40			40	
Link Distance (ft)		1235			1260			1767			1130	
Travel Time (s)		24.1			24.5			30.1			19.3	
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Heavy Vehicles (%)	2%	3%	3%	4%	2%	6%	1%	4%	3%	9%	2%	6%
Adj. Flow (vph)	210	539	185	184	451	88	723	144	184	140	68	53
Shared Lane Traffic (%)												
Lane Group Flow (vph)	210	539	185	184	451	88	723	144	184	140	68	53
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.11	1.11	1.11	1.11	1.11	1.11	1.11	1.11	1.11	1.11	1.11	1.11
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	1	1	1	1	1	1	1	1	1	1	1
Detector Template	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Leading Detector (ft)	50	50	50	50	50	50	50	50	50	50	50	50
Trailing Detector (ft)	0	0	0	0	0	0	0	0	0	0	0	0
Detector 1 Position(ft)	0	0	0	0	0	0	0	0	0	0	0	0
Detector 1 Size(ft)	50	50	50	50	50	50	50	50	50	50	50	50
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Turn Type	pm+pt	NA	pm+ov	pm+pt	NA	pm+ov	pm+pt	NA	pm+ov	pm+pt	NA	pm+ov
Protected Phases	5	2	3	1	6	7	3	8	1	7	4	5
Permitted Phases	2		2	6		6	8		8	4		4
Detector Phase	5	2	3	1	6	7	3	8	1	7	4	5
Switch Phase							8					
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	15.0	38.0	15.0	15.0	43.0	15.0	15.0	33.0	15.0	15.0	33.0	15.0

Lanes, Volumes, Timings
11: Washington St & Custer Ave

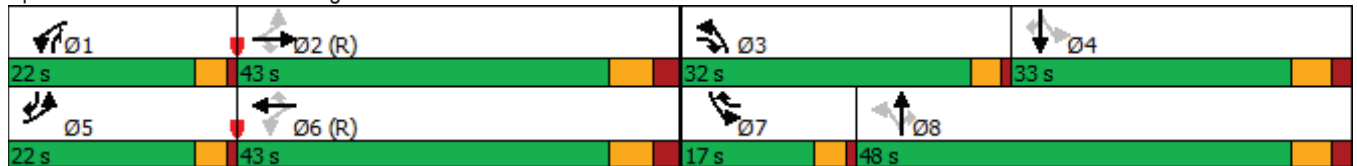
11/09/2023

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Total Split (s)	22.0	43.0	32.0	22.0	43.0	17.0	32.0	48.0	22.0	17.0	33.0	22.0
Total Split (%)	16.9%	33.1%	24.6%	16.9%	33.1%	13.1%	24.6%	36.9%	16.9%	13.1%	25.4%	16.9%
Maximum Green (s)	18.0	36.0	28.0	18.0	36.0	13.0	28.0	42.0	18.0	13.0	27.0	18.0
Yellow Time (s)	3.0	4.3	3.0	3.0	4.3	3.0	3.0	3.9	3.0	3.0	3.9	3.0
All-Red Time (s)	1.0	2.7	1.0	1.0	2.7	1.0	1.0	2.1	1.0	1.0	2.1	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.0	7.0	4.0	4.0	7.0	4.0	4.0	6.0	4.0	4.0	6.0	4.0
Lead/Lag	Lead	Lag	Lead	Lead	Lag	Lead	Lead	Lag	Lead	Lead	Lag	Lead
Lead-Lag Optimize?												
Vehicle Extension (s)	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5
Recall Mode	None	C-Max	None	None	C-Max	None	None	None	None	None	None	None
Walk Time (s)		7.0			7.0			7.0			7.0	
Flash Dont Walk (s)		24.0			29.0			20.0			20.0	
Pedestrian Calls (#/hr)		0			0			0			0	
Act Effct Green (s)	57.9	40.2	81.8	56.1	39.3	58.4	61.0	42.9	62.7	35.3	22.8	41.1
Actuated g/C Ratio	0.45	0.31	0.63	0.43	0.30	0.45	0.47	0.33	0.48	0.27	0.18	0.32
v/c Ratio	0.51	0.54	0.19	0.52	0.46	0.13	1.11	0.26	0.23	0.42	0.23	0.10
Control Delay	22.9	36.0	5.8	26.4	39.2	4.4	102.7	33.9	3.1	29.2	45.5	0.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	22.9	36.0	5.8	26.4	39.2	4.4	102.7	33.9	3.1	29.2	45.5	0.5
LOS	C	D	A	C	D	A	F	C	A	C	D	A
Approach Delay		27.1			31.7			75.8			27.6	
Approach LOS		C			C			E			C	

Intersection Summary

Area Type: Other
 Cycle Length: 130
 Actuated Cycle Length: 130
 Offset: 68 (52%), Referenced to phase 2:EBTL and 6:WBTL, Start of 1st Green
 Natural Cycle: 120
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 1.11
 Intersection Signal Delay: 45.5
 Intersection LOS: D
 Intersection Capacity Utilization 92.4%
 ICU Level of Service F
 Analysis Period (min) 15

Splits and Phases: 11: Washington St & Custer Ave



Lanes, Volumes, Timings
 14: Montana Ave & Tara Ct/Tara Ct4

11/09/2023



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕	↕	↕	↕↔		↕	↕↔	
Traffic Volume (vph)	56	24	12	80	16	80	56	837	88	108	697	28
Future Volume (vph)	56	24	12	80	16	80	56	837	88	108	697	28
Ideal Flow (vphpl)	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750
Storage Length (ft)	0		0	0		100	185		0	85		0
Storage Lanes	0		0	0		1	1		0	1		0
Taper Length (ft)	25			25			50			50		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	*0.82	0.95	1.00	0.95	0.95
Ped Bike Factor		1.00			1.00							
Frt		0.982				0.850		0.986			0.994	
Flt Protected		0.970			0.960		0.950			0.950		
Satd. Flow (prot)	0	1595	0	0	1639	1417	1662	2804	0	1646	3238	0
Flt Permitted		0.736			0.705		0.370			0.250		
Satd. Flow (perm)	0	1210	0	0	1202	1417	648	2804	0	433	3238	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		6				80		13			6	
Link Speed (mph)		30			30			40			30	
Link Distance (ft)		288			317			1181			627	
Travel Time (s)		6.5			7.2			20.1			14.3	
Confl. Peds. (#/hr)			1	1								
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Heavy Vehicles (%)	0%	14%	5%	3%	0%	5%	0%	1%	0%	1%	2%	4%
Adj. Flow (vph)	56	24	12	80	16	80	56	837	88	108	697	28
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	92	0	0	96	80	56	925	0	108	725	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.11	1.11	1.11	1.11	1.11	1.11	1.11	1.11	1.11	1.11	1.11	1.11
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2		1	2	1	1	2		1	2	
Detector Template	Left	Thru		Left	Thru	Right	Left	Thru		Left	Thru	
Leading Detector (ft)	20	100		20	100	20	20	100		20	100	
Trailing Detector (ft)	0	0		0	0	0	0	0		0	0	
Detector 1 Position(ft)	0	0		0	0	0	0	0		0	0	
Detector 1 Size(ft)	20	6		20	6	20	20	6		20	6	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	

Lanes, Volumes, Timings
 14: Montana Ave & Tara Ct/Tara Ct4

11/09/2023



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Turn Type	Perm	NA		Perm	NA	Perm	Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8		8	2			6		
Detector Phase	4	4		8	8	8	2	2		6	6	
Switch Phase												
Minimum Initial (s)	5.0	5.0		5.0	5.0	5.0	25.0	25.0		25.0	25.0	
Minimum Split (s)	31.0	31.0		32.0	32.0	32.0	31.0	31.0		31.0	31.0	
Total Split (s)	45.0	45.0		45.0	45.0	45.0	85.0	85.0		85.0	85.0	
Total Split (%)	34.6%	34.6%		34.6%	34.6%	34.6%	65.4%	65.4%		65.4%	65.4%	
Maximum Green (s)	39.0	39.0		39.0	39.0	39.0	79.3	79.3		79.3	79.3	
Yellow Time (s)	3.0	3.0		3.0	3.0	3.0	3.6	3.6		3.6	3.6	
All-Red Time (s)	3.0	3.0		3.0	3.0	3.0	2.1	2.1		2.1	2.1	
Lost Time Adjust (s)		0.0			0.0	0.0	0.0	0.0		0.0	0.0	
Total Lost Time (s)		6.0			6.0	6.0	5.7	5.7		5.7	5.7	
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0		3.0	3.0	
Recall Mode	None	None		None	None	None	C-Max	C-Max		C-Max	C-Max	
Walk Time (s)	7.0	7.0		7.0	7.0	7.0	7.0	7.0		7.0	7.0	
Flash Dont Walk (s)	18.0	18.0		19.0	19.0	19.0	16.0	16.0		7.0	7.0	
Pedestrian Calls (#/hr)	0	0		0	0	0	0	0		0	0	
Act Effct Green (s)		15.4			15.4	15.4	102.9	102.9		102.9	102.9	
Actuated g/C Ratio		0.12			0.12	0.12	0.79	0.79		0.79	0.79	
v/c Ratio		0.62			0.68	0.34	0.11	0.42		0.32	0.28	
Control Delay		67.6			76.4	13.8	4.5	5.3		2.6	0.8	
Queue Delay		0.0			0.0	0.0	0.0	0.0		0.0	0.0	
Total Delay		67.6			76.4	13.8	4.5	5.3		2.6	0.8	
LOS		E			E	B	A	A		A	A	
Approach Delay		67.6			48.0			5.2			1.0	
Approach LOS		E			D			A			A	

Intersection Summary




















Area Type: Other
 Cycle Length: 130
 Actuated Cycle Length: 130
 Offset: 3 (2%), Referenced to phase 2:NBTL and 6:SBTL, Start of 1st Green
 Natural Cycle: 70
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.68
 Intersection Signal Delay: 9.9
 Intersection Capacity Utilization 76.0%
 Analysis Period (min) 15
 * User Entered Value

Splits and Phases: 14: Montana Ave & Tara Ct/Tara Ct4



Lanes, Volumes, Timings
38: Montana Ave & Partridge

11/09/2023

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	16	8	64	6	10	230	60	676	12	137	456	20
Future Volume (vph)	16	8	64	6	10	230	60	676	12	137	456	20
Ideal Flow (vphpl)	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750
Storage Length (ft)	50		160	80		0	305		0	155		0
Storage Lanes	0		0	0		0	1		0	1		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95
Frt		0.902			0.874			0.997			0.994	
Flt Protected		0.991			0.999		0.950			0.950		
Satd. Flow (prot)	0	1534	0	0	1498	0	1630	1711	0	1630	3240	0
Flt Permitted		0.991			0.999		0.950			0.950		
Satd. Flow (perm)	0	1534	0	0	1498	0	1630	1711	0	1630	3240	0
Link Speed (mph)		30			30			30			40	
Link Distance (ft)		565			659			1924			759	
Travel Time (s)		12.8			15.0			43.7			12.9	
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	16	8	64	6	10	230	60	676	12	137	456	20
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	88	0	0	246	0	60	688	0	137	476	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.11	1.11	1.11	1.11	1.11	1.11	1.11	1.11	1.11	1.11	1.11	1.11
Turning Speed (mph)	15		9	15		9	15		9	15		9
Sign Control		Stop			Stop			Free			Free	
Intersection Summary												
Area Type:	Other											
Control Type:	Unsignalized											
Intersection Capacity Utilization	74.6%						ICU Level of Service D					
Analysis Period (min)	15											

Intersection												
Int Delay, s/veh	11.3											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕		↕	↕		↕	↕	
Traffic Vol, veh/h	16	8	64	6	10	230	60	676	12	137	456	20
Future Vol, veh/h	16	8	64	6	10	230	60	676	12	137	456	20
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	305	-	-	155	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	100	100	100	100	100	100	100	100	100	100	100	100
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	16	8	64	6	10	230	60	676	12	137	456	20

























Major/Minor	Minor2		Minor1		Major1		Major2					
Conflicting Flow All	1662	1548	238	1308	1552	682	476	0	0	688	0	0
Stage 1	740	740	-	802	802	-	-	-	-	-	-	-
Stage 2	922	808	-	506	750	-	-	-	-	-	-	-
Critical Hdwy	7.33	6.53	6.93	7.33	6.53	6.23	4.13	-	-	4.13	-	-
Critical Hdwy Stg 1	6.53	5.53	-	6.13	5.53	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.13	5.53	-	6.53	5.53	-	-	-	-	-	-	-
Follow-up Hdwy	3.519	4.019	3.319	3.519	4.019	3.319	2.219	-	-	2.219	-	-
Pot Cap-1 Maneuver	70	114	764	126	113	449	1084	-	-	904	-	-
Stage 1	375	422	-	377	396	-	-	-	-	-	-	-
Stage 2	323	393	-	518	418	-	-	-	-	-	-	-
Platoon blocked, %								-	-	-	-	-
Mov Cap-1 Maneuver	27	91	764	91	91	449	1084	-	-	904	-	-
Mov Cap-2 Maneuver	27	91	-	91	91	-	-	-	-	-	-	-
Stage 1	354	358	-	356	374	-	-	-	-	-	-	-
Stage 2	145	371	-	394	354	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	100	34.5	0.7	2.2
HCM LOS	F	D		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1084	-	-	115	358	904	-
HCM Lane V/C Ratio	0.055	-	-	0.765	0.687	0.152	-
HCM Control Delay (s)	8.5	-	-	100	34.5	9.7	-
HCM Lane LOS	A	-	-	F	D	A	-
HCM 95th %tile Q(veh)	0.2	-	-	4.3	4.9	0.5	-

Lanes, Volumes, Timings
7: Montana Ave & Custer Ave

11/09/2023

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	230	687	80	226	522	348	232	646	299	276	375	86
Future Volume (vph)	230	687	80	226	522	348	232	646	299	276	375	86
Ideal Flow (vphpl)	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750
Storage Length (ft)	225		225	400		0	300		225	230		0
Storage Lanes	1		1	2		1	1		1	1		0
Taper Length (ft)	100			100			100			100		
Lane Util. Factor	1.00	*0.88	1.00	*0.80	1.00	1.00	1.00	*0.82	1.00	1.00	0.95	0.95
Frt			0.850			0.850			0.850		0.972	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1662	3050	1488	2660	1733	1488	1662	2842	1488	1662	3232	0
Flt Permitted	0.142			0.950			0.433			0.144		
Satd. Flow (perm)	248	3050	1488	2660	1733	1488	758	2842	1488	252	3232	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			91			69			94		17	
Link Speed (mph)		35			40			40			40	
Link Distance (ft)		1455			1327			638			1891	
Travel Time (s)		28.3			22.6			10.9			32.2	
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Heavy Vehicles (%)	0%	1%	0%	0%	1%	0%	0%	1%	0%	0%	0%	0%
Adj. Flow (vph)	230	687	80	226	522	348	232	646	299	276	375	86
Shared Lane Traffic (%)												
Lane Group Flow (vph)	230	687	80	226	522	348	232	646	299	276	461	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		24			24			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.11	1.11	1.11	1.11	1.11	1.11	1.11	1.11	1.11	1.11	1.11	1.11
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2	1	1	2	1	1	2	1	1	2	
Detector Template	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	
Leading Detector (ft)	20	100	20	20	100	20	20	100	20	20	100	
Trailing Detector (ft)	0	0	0	0	0	0	0	0	0	0	0	
Detector 1 Position(ft)	0	0	0	0	0	0	0	0	0	0	0	
Detector 1 Size(ft)	20	6	20	20	6	20	20	6	20	20	6	
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	pm+pt	NA	pm+ov	Prot	NA	pm+ov	pm+pt	NA	pm+ov	pm+pt	NA	
Protected Phases	1	6	7	5	2	3	7	4	5	3	8	

Lanes, Volumes, Timings
7: Montana Ave & Custer Ave

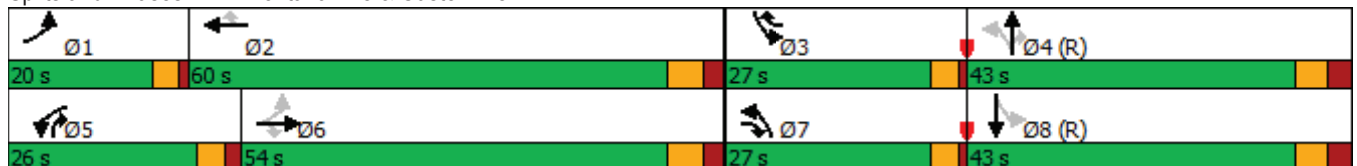
11/09/2023

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Permitted Phases	6		6			2	4		4	8		
Detector Phase	1	6	7	5	2	3	7	4	5	3	8	
Switch Phase										8		
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	15.0	40.8	15.0	15.0	38.5	15.0	15.0	40.5	15.0	15.0	38.5	
Total Split (s)	20.0	54.0	27.0	26.0	60.0	27.0	27.0	43.0	26.0	27.0	43.0	
Total Split (%)	13.3%	36.0%	18.0%	17.3%	40.0%	18.0%	18.0%	28.7%	17.3%	18.0%	28.7%	
Maximum Green (s)	16.0	47.5	23.0	21.0	53.5	23.0	23.0	36.5	21.0	23.0	36.5	
Yellow Time (s)	3.0	3.9	3.0	3.0	3.9	3.0	3.0	3.6	3.0	3.0	3.6	
All-Red Time (s)	1.0	2.6	1.0	2.0	2.6	1.0	1.0	2.9	2.0	1.0	2.9	
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Lost Time (s)	4.0	6.5	4.0	5.0	6.5	4.0	4.0	6.5	5.0	4.0	6.5	
Lead/Lag	Lead	Lag	Lead	Lead	Lag	Lead	Lead	Lag	Lead	Lead	Lag	
Lead-Lag Optimize?												
Vehicle Extension (s)	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	
Recall Mode	None	None	None	None	Min	None	None	C-Max	None	None	C-Max	
Walk Time (s)		7.0			7.0			7.0			7.0	
Flash Dont Walk (s)		27.0			24.0			25.0			25.0	
Pedestrian Calls (#/hr)		0			0			0			0	
Act Effct Green (s)	64.4	46.3	70.5	17.2	48.8	78.0	62.1	41.9	65.6	69.8	46.8	
Actuated g/C Ratio	0.43	0.31	0.47	0.11	0.33	0.52	0.41	0.28	0.44	0.47	0.31	
v/c Ratio	0.91	0.73	0.11	0.74	0.93	0.43	0.55	0.81	0.43	0.84	0.45	
Control Delay	68.1	51.3	2.9	80.1	72.8	12.1	28.0	53.7	15.7	54.3	43.5	
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Delay	68.1	51.3	2.9	80.1	72.8	12.1	28.0	53.7	15.7	54.3	43.5	
LOS	E	D	A	F	E	B	C	D	B	D	D	
Approach Delay		51.3			55.0			39.0			47.5	
Approach LOS		D			E			D			D	

Intersection Summary

























Area Type: Other
 Cycle Length: 150
 Actuated Cycle Length: 150
 Offset: 0 (0%), Referenced to phase 4:NBTL and 8:SBTL, Start of 1st Green, Master Intersection
 Natural Cycle: 115
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.93
 Intersection Signal Delay: 48.0 Intersection LOS: D
 Intersection Capacity Utilization 97.2% ICU Level of Service F
 Analysis Period (min) 15
 * User Entered Value

Splits and Phases: 7: Montana Ave & Custer Ave



Lanes, Volumes, Timings
8: Sanders St & Custer Ave

11/09/2023

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	157	992	128	216	944	317	184	151	356	362	198	107
Future Volume (vph)	157	992	128	216	944	317	184	151	356	362	198	107
Ideal Flow (vphpl)	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750
Storage Length (ft)	175		135	230		350	150		300	150		150
Storage Lanes	1		1	1		1	1		1	1		1
Taper Length (ft)	100			100			100			100		
Lane Util. Factor	1.00	*0.85	1.00	1.00	*0.70	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor							1.00		0.99	1.00		0.99
Fr _t			0.850			0.850			0.850			0.850
Fl _t Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1662	2946	1488	1662	2426	1473	1662	1733	1473	1646	1750	1488
Fl _t Permitted	0.082			0.112			0.628			0.455		
Satd. Flow (perm)	144	2946	1488	196	2426	1473	1098	1733	1453	788	1750	1468
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			116			275			91			99
Link Speed (mph)		40			40			25				25
Link Distance (ft)		1327			513			1716				1316
Travel Time (s)		22.6			8.7			46.8				35.9
Confl. Peds. (#/hr)							1		1	1		1
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Heavy Vehicles (%)	0%	1%	0%	0%	1%	1%	0%	1%	1%	1%	0%	0%
Adj. Flow (vph)	157	992	128	216	944	317	184	151	356	362	198	107
Shared Lane Traffic (%)												
Lane Group Flow (vph)	157	992	128	216	944	317	184	151	356	362	198	107
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		24			24			12				12
Link Offset(ft)		0			0			0				0
Crosswalk Width(ft)		16			16			16				16
Two way Left Turn Lane												
Headway Factor	1.11	1.11	1.11	1.11	1.11	1.11	1.11	1.11	1.11	1.11	1.11	1.11
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2	1	1	2	1	1	2	1	1	2	1
Detector Template	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Leading Detector (ft)	20	100	20	20	100	20	20	100	20	20	100	20
Trailing Detector (ft)	0	0	0	0	0	0	0	0	0	0	0	0
Detector 1 Position(ft)	0	0	0	0	0	0	0	0	0	0	0	0
Detector 1 Size(ft)	20	6	20	20	6	20	20	6	20	20	6	20
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 2 Position(ft)		94			94			94				94
Detector 2 Size(ft)		6			6			6				6
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex				Cl+Ex
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0				0.0

Lanes, Volumes, Timings
8: Sanders St & Custer Ave

11/09/2023

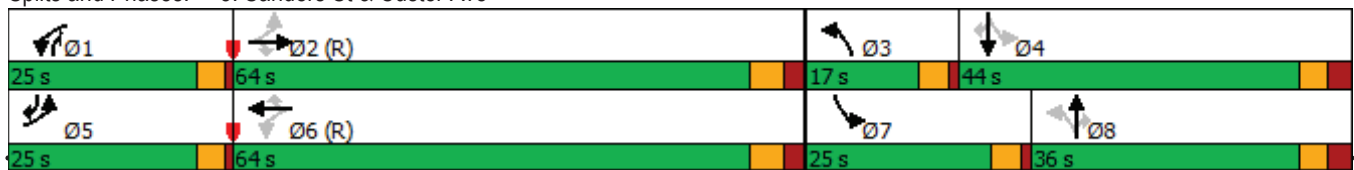


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Turn Type	pm+pt	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	pm+ov	pm+pt	NA	pm+ov
Protected Phases	5	2		1	6		3	8	1	7	4	5
Permitted Phases	2		2	6		6	8		8	4		4
Detector Phase	5	2	2	1	6	6	3	8	8	7	4	5
Switch Phase										4		
Minimum Initial (s)	5.0	25.0	25.0	5.0	25.0	25.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	15.0	38.5	38.5	15.0	38.5	38.5	15.0	36.0	15.0	15.0	41.0	15.0
Total Split (s)	25.0	64.0	64.0	25.0	64.0	64.0	17.0	36.0	25.0	25.0	44.0	25.0
Total Split (%)	16.7%	42.7%	42.7%	16.7%	42.7%	42.7%	11.3%	24.0%	16.7%	16.7%	29.3%	16.7%
Maximum Green (s)	21.0	57.5	57.5	21.0	57.5	57.5	12.5	30.0	21.0	20.5	38.0	21.0
Yellow Time (s)	3.0	4.1	4.1	3.0	4.1	4.1	3.5	3.0	3.0	3.5	3.0	3.0
All-Red Time (s)	1.0	2.4	2.4	1.0	2.4	2.4	1.0	3.0	1.0	1.0	3.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.0	6.5	6.5	4.0	6.5	6.5	4.5	6.0	4.0	4.5	6.0	4.0
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lead	Lead	Lag	Lead
Lead-Lag Optimize?							Yes	Yes		Yes	Yes	
Vehicle Extension (s)	2.5	2.5	2.5	2.5	2.5	2.5	3.0	2.5	2.5	3.0	2.5	2.5
Recall Mode	None	C-Max	C-Max	None	C-Max	C-Max	None	None	None	None	None	None
Walk Time (s)		7.0	7.0		7.0	7.0		7.0			7.0	
Flash Dont Walk (s)		25.0	25.0		25.0	25.0		23.0			28.0	
Pedestrian Calls (#/hr)		0	0		0	0		0			0	
Act Effct Green (s)	81.0	64.2	64.2	87.1	67.4	67.4	40.8	26.8	46.3	53.3	34.9	51.1
Actuated g/C Ratio	0.54	0.43	0.43	0.58	0.45	0.45	0.27	0.18	0.31	0.36	0.23	0.34
v/c Ratio	0.71	0.79	0.18	0.76	0.87	0.39	0.53	0.49	0.69	0.91	0.49	0.19
Control Delay	55.5	32.0	4.6	43.3	46.5	10.2	42.4	60.3	37.6	69.1	53.6	6.4
Queue Delay	0.0	0.0	0.0	0.0	0.4	0.3	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	55.5	32.0	4.6	43.3	46.9	10.5	42.4	60.3	37.6	69.1	53.6	6.4
LOS	E	C	A	D	D	B	D	E	D	E	D	A
Approach Delay		32.1			38.6			43.8			54.4	
Approach LOS		C			D			D			D	

Intersection Summary

Area Type: Other
 Cycle Length: 150
 Actuated Cycle Length: 150
 Offset: 76 (51%), Referenced to phase 2:EBTL and 6:WBTL, Start of 1st Green
 Natural Cycle: 120
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.91
 Intersection Signal Delay: 40.0 Intersection LOS: D
 Intersection Capacity Utilization 91.2% ICU Level of Service F
 Analysis Period (min) 15
 * User Entered Value

Splits and Phases: 8: Sanders St & Custer Ave



Scenario 1 Corridor 0 11:59 pm 09/30/2018 2030 With Development Full Build
 RLA

Lanes, Volumes, Timings
 9: I-15 SB On & Custer Ave & I-15 SB Off

11/09/2023



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	SBL2	SBL	SBR	NWL	NWR
Lane Configurations		↑↑	↑		↑↑	↑	↑		↑		
Traffic Volume (vph)	0	1300	506	0	1342	112	84	0	63	0	0
Future Volume (vph)	0	1300	506	0	1342	112	84	0	63	0	0
Ideal Flow (vphpl)	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750
Storage Length (ft)	0		150	0		300		0	0	0	0
Storage Lanes	0		1	0		1		1	1	0	0
Taper Length (ft)	25			25				25		25	
Lane Util. Factor	1.00	*0.85	1.00	1.00	0.95	1.00	1.00	1.00	1.00	1.00	1.00
Frt			0.850			0.850			0.850		
Flt Protected							0.950				
Satd. Flow (prot)	0	2975	1473	0	3325	1473	1484	0	1403	0	0
Flt Permitted							0.950				
Satd. Flow (perm)	0	2975	1473	0	3325	1473	1484	0	1403	0	0
Right Turn on Red			Yes			Yes			Yes		
Satd. Flow (RTOR)			111			112			104		
Link Speed (mph)		40			40			25		55	
Link Distance (ft)		513			855			727		910	
Travel Time (s)		8.7			14.6			19.8		11.3	
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Heavy Vehicles (%)	0%	0%	1%	0%	0%	1%	12%	0%	6%	0%	0%
Adj. Flow (vph)	0	1300	506	0	1342	112	84	0	63	0	0
Shared Lane Traffic (%)											
Lane Group Flow (vph)	0	1300	506	0	1342	112	84	0	63	0	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Right
Median Width(ft)		12			12			12		0	
Link Offset(ft)		0			0			0		0	
Crosswalk Width(ft)		16			16			16		16	
Two way Left Turn Lane											
Headway Factor	1.11	1.11	1.11	1.11	1.11	1.11	1.11	1.11	1.11	1.11	1.11
Turning Speed (mph)	15		9	15		9	15	15	9	15	9
Number of Detectors		0	0		0	0	1		1		
Detector Template		Thru	Right		Thru	Right	Left		Right		
Leading Detector (ft)		0	0		0	0	50		50		
Trailing Detector (ft)		0	0		0	0	0		0		
Detector 1 Position(ft)		0	0		0	0	0		0		
Detector 1 Size(ft)		6	20		6	20	50		50		
Detector 1 Type		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex		
Detector 1 Channel											
Detector 1 Extend (s)		0.0	0.0		0.0	0.0	0.0		0.0		
Detector 1 Queue (s)		0.0	0.0		0.0	0.0	0.0		0.0		
Detector 1 Delay (s)		0.0	0.0		0.0	0.0	0.0		0.0		
Turn Type		NA	Free		NA	Perm	Prot		Prot		
Protected Phases		2			6		7		7		
Permitted Phases			Free			6					
Detector Phase		2			6	6	7		7		
Switch Phase											
Minimum Initial (s)		25.0			25.0	25.0	5.0		5.0		
Minimum Split (s)		49.6			49.6	49.6	21.2		21.2		

Lanes, Volumes, Timings
 9: I-15 SB On & Custer Ave & I-15 SB Off

11/09/2023



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	SBL2	SBL	SBR	NWL	NWR
Total Split (s)		120.0			120.0	120.0	30.0		30.0		
Total Split (%)		80.0%			80.0%	80.0%	20.0%		20.0%		
Maximum Green (s)		113.4			113.4	113.4	24.8		24.8		
Yellow Time (s)		4.1			4.1	4.1	3.2		3.2		
All-Red Time (s)		2.5			2.5	2.5	2.0		2.0		
Lost Time Adjust (s)		0.0			0.0	0.0	0.0		0.0		
Total Lost Time (s)		6.6			6.6	6.6	5.2		5.2		
Lead/Lag											
Lead-Lag Optimize?											
Vehicle Extension (s)		3.0			3.0	3.0	3.0		3.0		
Recall Mode		C-Max			C-Max	C-Max	None		None		
Walk Time (s)					7.0	7.0					
Flash Dont Walk (s)					36.0	36.0					
Pedestrian Calls (#/hr)					0	0					
Act Effect Green (s)		124.4	150.0		124.4	124.4	13.8		13.8		
Actuated g/C Ratio		0.83	1.00		0.83	0.83	0.09		0.09		
v/c Ratio		0.53	0.34		0.49	0.09	0.62		0.28		
Control Delay		3.0	0.4		5.7	1.1	83.8		4.8		
Queue Delay		0.5	0.0		0.2	0.0	0.0		0.1		
Total Delay		3.5	0.4		6.0	1.1	83.8		4.8		
LOS		A	A		A	A	F		A		
Approach Delay		2.6			5.6			50.0			
Approach LOS		A			A			D			

Intersection Summary























Area Type: Other
 Cycle Length: 150
 Actuated Cycle Length: 150
 Offset: 26 (17%), Referenced to phase 2:EBT and 6:WBT, Start of 1st Green
 Natural Cycle: 75
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.62
 Intersection Signal Delay: 5.9
 Intersection LOS: A
 Intersection Capacity Utilization 54.3%
 ICU Level of Service A
 Analysis Period (min) 15
 * User Entered Value

Splits and Phases: 9: I-15 SB On & Custer Ave & I-15 SB Off



Lanes, Volumes, Timings
 10: I-15 NB Off/I-15 NB On & Custer Ave

11/09/2023

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		 			 							
Traffic Volume (vph)	175	1077	0	0	935	140	531	0	196	0	0	0
Future Volume (vph)	175	1077	0	0	935	140	531	0	196	0	0	0
Ideal Flow (vphpl)	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750
Storage Length (ft)	500		0	0		150	400		400	0		0
Storage Lanes	1		0	0		1	1		1	0		0
Taper Length (ft)	100			25			100			25		
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	1.00	0.95	0.95	1.00	1.00	1.00	1.00
Frt						0.850			0.850			
Flt Protected	0.950						0.950	0.950				
Satd. Flow (prot)	1630	3292	0	0	3292	1377	1564	1564	1488	0	0	0
Flt Permitted	0.245						0.950	0.950				
Satd. Flow (perm)	420	3292	0	0	3292	1377	1564	1564	1488	0	0	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)						89			112			
Link Speed (mph)		40			40			25				55
Link Distance (ft)		855			1235			1396				831
Travel Time (s)		14.6			21.1			38.1				10.3
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Heavy Vehicles (%)	2%	1%	0%	0%	1%	8%	1%	0%	0%	0%	0%	0%
Adj. Flow (vph)	175	1077	0	0	935	140	531	0	196	0	0	0
Shared Lane Traffic (%)							50%					
Lane Group Flow (vph)	175	1077	0	0	935	140	265	266	196	0	0	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			12				12
Link Offset(ft)		0			0			0				0
Crosswalk Width(ft)		16			16			16				16
Two way Left Turn Lane												
Headway Factor	1.11	1.11	1.11	1.11	1.11	1.11	1.11	1.11	1.11	1.11	1.11	1.11
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	0			0	0	1	1	1			
Detector Template	Left	Thru			Thru	Right	Left	Thru	Right			
Leading Detector (ft)	50	0			0	0	50	50	50			
Trailing Detector (ft)	0	0			0	0	0	0	0			
Detector 1 Position(ft)	0	0			0	0	0	0	0			
Detector 1 Size(ft)	50	6			6	20	50	50	50			
Detector 1 Type	Cl+Ex	Cl+Ex			Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex			
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0			0.0	0.0	0.0	0.0	0.0			
Detector 1 Queue (s)	0.0	0.0			0.0	0.0	0.0	0.0	0.0			
Detector 1 Delay (s)	0.0	0.0			0.0	0.0	0.0	0.0	0.0			
Turn Type	pm+pt	NA			NA	Perm	Perm	NA	Perm			
Protected Phases	5	2			6			8				
Permitted Phases	2					6	8		8			
Detector Phase	5	2			6	6	8	8	8			
Switch Phase												
Minimum Initial (s)	5.0	25.0			25.0	25.0	5.0	5.0	5.0			
Minimum Split (s)	9.0	35.2			35.2	35.2	10.5	10.5	10.5			

Lanes, Volumes, Timings
 10: I-15 NB Off/I-15 NB On & Custer Ave

11/09/2023



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Total Split (s)	24.0	100.0			76.0	76.0	50.0	50.0	50.0			
Total Split (%)	16.0%	66.7%			50.7%	50.7%	33.3%	33.3%	33.3%			
Maximum Green (s)	20.0	93.8			69.8	69.8	44.5	44.5	44.5			
Yellow Time (s)	3.0	3.9			3.9	3.9	3.2	3.2	3.2			
All-Red Time (s)	1.0	2.3			2.3	2.3	2.3	2.3	2.3			
Lost Time Adjust (s)	0.0	0.0			0.0	0.0	0.0	0.0	0.0			
Total Lost Time (s)	4.0	6.2			6.2	6.2	5.5	5.5	5.5			
Lead/Lag	Lead				Lag		Lag					
Lead-Lag Optimize?												
Vehicle Extension (s)	2.5	2.5			2.5	2.5	2.5	2.5	2.5			
Recall Mode	None	Max			C-Max	C-Max	None	None	None			
Walk Time (s)		7.0			7.0	7.0						
Flash Dont Walk (s)		22.0			22.0	22.0						
Pedestrian Calls (#/hr)		0			0	0						
Act Effct Green (s)	109.4	107.2			92.9	92.9	31.1	31.1	31.1			
Actuated g/C Ratio	0.73	0.71			0.62	0.62	0.21	0.21	0.21			
v/c Ratio	0.45	0.46			0.46	0.16	0.82	0.82	0.49			
Control Delay	8.3	8.5			16.4	6.3	75.7	76.0	24.9			
Queue Delay	0.0	0.0			0.0	0.0	0.0	0.0	0.0			
Total Delay	8.3	8.5			16.4	6.3	75.7	76.0	24.9			
LOS	A	A			B	A	E	E	C			
Approach Delay		8.4			15.1			62.1				
Approach LOS		A			B			E				

Intersection Summary

























Area Type: Other
 Cycle Length: 150
 Actuated Cycle Length: 150
 Offset: 71 (47%), Referenced to phase 6:WBT, Start of 1st Green
 Natural Cycle: 60
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.82
 Intersection Signal Delay: 23.6
 Intersection LOS: C
 Intersection Capacity Utilization 67.6%
 ICU Level of Service C
 Analysis Period (min) 15

Splits and Phases: 10: I-15 NB Off/I-15 NB On & Custer Ave



Lanes, Volumes, Timings
11: Washington St & Custer Ave

11/09/2023

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	258	815	133	208	503	96	323	172	308	104	64	41
Future Volume (vph)	258	815	133	208	503	96	323	172	308	104	64	41
Ideal Flow (vphpl)	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750
Storage Length (ft)	350		350	400		300	350		350	150		150
Storage Lanes	1		1	1		1	1		1	1		1
Taper Length (ft)	100			100			100			100		
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt			0.850			0.850			0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1662	3292	1473	1614	3260	1430	1662	1750	1458	1662	1750	1488
Flt Permitted	0.420			0.272			0.508			0.649		
Satd. Flow (perm)	735	3292	1473	462	3260	1430	889	1750	1458	1136	1750	1488
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			133			109			210			87
Link Speed (mph)		40			40			40			40	
Link Distance (ft)		1235			1260			1767			1130	
Travel Time (s)		21.1			21.5			30.1			19.3	
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Heavy Vehicles (%)	0%	1%	1%	3%	2%	4%	0%	0%	2%	0%	0%	0%
Adj. Flow (vph)	258	815	133	208	503	96	323	172	308	104	64	41
Shared Lane Traffic (%)												
Lane Group Flow (vph)	258	815	133	208	503	96	323	172	308	104	64	41
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.11	1.11	1.11	1.11	1.11	1.11	1.11	1.11	1.11	1.11	1.11	1.11
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	1	1	1	1	1	1	1	1	1	1	1
Detector Template	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Leading Detector (ft)	50	50	50	50	50	50	50	50	50	50	50	50
Trailing Detector (ft)	0	0	0	0	0	0	0	0	0	0	0	0
Detector 1 Position(ft)	0	0	0	0	0	0	0	0	0	0	0	0
Detector 1 Size(ft)	50	50	50	50	50	50	50	50	50	50	50	50
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Turn Type	pm+pt	NA	pm+ov	pm+pt	NA	pm+ov	pm+pt	NA	pm+ov	pm+pt	NA	pm+ov
Protected Phases	5	2	3	1	6	7	3	8	1	7	4	5
Permitted Phases	2		2	6		6	8		8	4		4
Detector Phase	5	2	3	1	6	7	3	8	1	7	4	5
Switch Phase							8					
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	15.0	38.0	15.0	15.0	43.0	15.0	15.0	33.0	15.0	15.0	33.0	15.0

Lanes, Volumes, Timings
14: Montana Ave & Tara Ct

11/09/2023



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕	↗	↖	↕		↖	↕	
Traffic Volume (vph)	92	20	44	120	20	100	56	1073	96	64	661	20
Future Volume (vph)	92	20	44	120	20	100	56	1073	96	64	661	20
Ideal Flow (vphpl)	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750
Storage Length (ft)	0		0	0		100	185		0	85		0
Storage Lanes	0		0	0		1	1		0	1		0
Taper Length (ft)	25			25			50			50		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	*0.82	0.95	1.00	0.95	0.95
Ped Bike Factor								1.00				
Frt		0.962				0.850		0.988				0.996
Flt Protected		0.971			0.959		0.950			0.950		
Satd. Flow (prot)	0	1621	0	0	1655	1488	1662	2804	0	1662	3277	0
Flt Permitted		0.600			0.642		0.382			0.169		
Satd. Flow (perm)	0	1002	0	0	1108	1488	668	2804	0	296	3277	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		13				100		10				4
Link Speed (mph)		25			25			35				35
Link Distance (ft)		308			442			1138				638
Travel Time (s)		8.4			12.1			22.2				12.4
Confl. Peds. (#/hr)									2	2		
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Heavy Vehicles (%)	0%	0%	3%	0%	10%	0%	0%	1%	0%	0%	1%	3%
Adj. Flow (vph)	92	20	44	120	20	100	56	1073	96	64	661	20
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	156	0	0	140	100	56	1169	0	64	681	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			12				12
Link Offset(ft)		0			0			0				0
Crosswalk Width(ft)		16			16			16				16
Two way Left Turn Lane												
Headway Factor	1.11	1.11	1.11	1.11	1.11	1.11	1.11	1.11	1.11	1.11	1.11	1.11
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2		1	2	1	1	2		1	2	
Detector Template	Left	Thru		Left	Thru	Right	Left	Thru		Left	Thru	
Leading Detector (ft)	20	100		20	100	20	20	100		20	100	
Trailing Detector (ft)	0	0		0	0	0	0	0		0	0	
Detector 1 Position(ft)	0	0		0	0	0	0	0		0	0	
Detector 1 Size(ft)	20	6		20	6	20	20	6		20	6	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	

Lanes, Volumes, Timings
14: Montana Ave & Tara Ct

11/09/2023



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Turn Type	Perm	NA		Perm	NA	Perm	Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8		8	2			6		
Detector Phase	4	4		8	8	8	2	2		6	6	
Switch Phase												
Minimum Initial (s)	5.0	5.0		5.0	5.0	5.0	25.0	25.0		25.0	25.0	
Minimum Split (s)	32.0	32.0		32.0	32.0	32.0	31.0	31.0		31.0	31.0	
Total Split (s)	50.0	50.0		50.0	50.0	50.0	100.0	100.0		100.0	100.0	
Total Split (%)	33.3%	33.3%		33.3%	33.3%	33.3%	66.7%	66.7%		66.7%	66.7%	
Maximum Green (s)	44.0	44.0		44.0	44.0	44.0	94.3	94.3		94.3	94.3	
Yellow Time (s)	3.0	3.0		3.0	3.0	3.0	3.6	3.6		3.6	3.6	
All-Red Time (s)	3.0	3.0		3.0	3.0	3.0	2.1	2.1		2.1	2.1	
Lost Time Adjust (s)		0.0			0.0	0.0	0.0	0.0		0.0	0.0	
Total Lost Time (s)		6.0			6.0	6.0	5.7	5.7		5.7	5.7	
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0		3.0	3.0	
Recall Mode	None	None		None	None	None	C-Max	C-Max		C-Max	C-Max	
Walk Time (s)	7.0	7.0		7.0	7.0	7.0	7.0	7.0		7.0	7.0	
Flash Dont Walk (s)	18.0	18.0		19.0	19.0	19.0	16.0	16.0		7.0	7.0	
Pedestrian Calls (#/hr)	0	0		0	0	0	0	0		0	0	
Act Effct Green (s)		24.3			24.3	24.3	114.0	114.0		114.0	114.0	
Actuated g/C Ratio		0.16			0.16	0.16	0.76	0.76		0.76	0.76	
v/c Ratio		0.90			0.78	0.31	0.11	0.55		0.29	0.27	
Control Delay		101.9			86.9	10.9	6.6	9.4		4.4	1.3	
Queue Delay		0.0			0.0	0.0	0.0	0.0		0.0	0.0	
Total Delay		101.9			86.9	10.9	6.6	9.4		4.4	1.3	
LOS		F			F	B	A	A		A	A	
Approach Delay		101.9			55.2			9.3			1.5	
Approach LOS		F			E			A			A	

Intersection Summary




















Area Type: Other
 Cycle Length: 150
 Actuated Cycle Length: 150
 Offset: 148 (99%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green
 Natural Cycle: 65
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.90
 Intersection Signal Delay: 17.6 Intersection LOS: B
 Intersection Capacity Utilization 83.8% ICU Level of Service E
 Analysis Period (min) 15
 * User Entered Value

Splits and Phases: 14: Montana Ave & Tara Ct



Lanes, Volumes, Timings
38: Montana Ave

11/09/2023

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	1	8	48	10	6	206	16	988	24	137	568	8
Future Volume (vph)	1	8	48	10	6	206	16	988	24	137	568	8
Ideal Flow (vphpl)	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750
Storage Length (ft)	50		160	80		0	305		0	155		0
Storage Lanes	0		0	0		0	1		0	1		0
Taper Length (ft)	32			105			185			155		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95
Frt		0.886			0.875			0.996			0.998	
Flt Protected		0.999			0.998		0.950			0.950		
Satd. Flow (prot)	0	1519	0	0	1498	0	1630	1709	0	1630	3253	0
Flt Permitted		0.999			0.998		0.950			0.950		
Satd. Flow (perm)	0	1519	0	0	1498	0	1630	1709	0	1630	3253	0
Link Speed (mph)		30			30			30			40	
Link Distance (ft)		483			388			1891			1260	
Travel Time (s)		11.0			8.8			43.0			21.5	
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	1	8	48	10	6	206	16	988	24	137	568	8
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	57	0	0	222	0	16	1012	0	137	576	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.11	1.11	1.11	1.11	1.11	1.11	1.11	1.11	1.11	1.11	1.11	1.11
Turning Speed (mph)	15		9	15		9	15		9	15		9
Sign Control		Stop			Stop			Free			Free	
Intersection Summary												
Area Type:	Other											
Control Type:	Unsignalized											
Intersection Capacity Utilization	97.2%						ICU Level of Service F					
Analysis Period (min)	15											

Intersection												
Int Delay, s/veh	13.2											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕		↕	↕		↕	↕	
Traffic Vol, veh/h	1	8	48	10	6	206	16	988	24	137	568	8
Future Vol, veh/h	1	8	48	10	6	206	16	988	24	137	568	8
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	305	-	-	155	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	100	100	100	100	100	100	100	100	100	100	100	100
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	1	8	48	10	6	206	16	988	24	137	568	8




















Major/Minor	Minor2		Minor1		Major1		Major2					
Conflicting Flow All	1984	1890	288	1594	1882	1000	576	0	0	1012	0	0
Stage 1	846	846	-	1032	1032	-	-	-	-	-	-	-
Stage 2	1138	1044	-	562	850	-	-	-	-	-	-	-
Critical Hdwy	7.33	6.53	6.93	7.33	6.53	6.23	4.13	-	-	4.13	-	-
Critical Hdwy Stg 1	6.53	5.53	-	6.13	5.53	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.13	5.53	-	6.53	5.53	-	-	-	-	-	-	-
Follow-up Hdwy	3.519	4.019	3.319	3.519	4.019	3.319	2.219	-	-	2.219	-	-
Pot Cap-1 Maneuver	41	70	709	79	71	294	995	-	-	683	-	-
Stage 1	324	377	-	280	309	-	-	-	-	-	-	-
Stage 2	244	305	-	480	376	-	-	-	-	-	-	-
Platoon blocked, %								-	-	-	-	-
Mov Cap-1 Maneuver	9	55	709	55	56	294	995	-	-	683	-	-
Mov Cap-2 Maneuver	9	55	-	55	56	-	-	-	-	-	-	-
Stage 1	319	301	-	276	304	-	-	-	-	-	-	-
Stage 2	70	300	-	348	300	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	35	103.7	0.1	2.2
HCM LOS	E	F		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	995	-	-	176	224	683	-	-
HCM Lane V/C Ratio	0.016	-	-	0.324	0.991	0.201	-	-
HCM Control Delay (s)	8.7	-	-	35	103.7	11.6	-	-
HCM Lane LOS	A	-	-	E	F	B	-	-
HCM 95th %tile Q(veh)	0	-	-	1.3	9	0.7	-	-

Lanes, Volumes, Timings
 10: I-15 NB Off/I-15 NB On & Custer Ave

09/26/2023

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	8	512	0	0	944	52	268	1	48	0	0	0
Future Volume (vph)	8	512	0	0	944	52	268	1	48	0	0	0
Ideal Flow (vphpl)	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750
Storage Length (ft)	500		0	0		150	400		400	0		0
Storage Lanes	1		0	0		1	1		1	0		0
Taper Length (ft)	100			25			100			25		
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	1.00	0.95	0.95	1.00	1.00	1.00	1.00
Frt						0.850			0.850			
Flt Protected	0.950						0.950	0.953				
Satd. Flow (prot)	1309	3197	0	0	3228	1328	1548	1554	1430	0	0	0
Flt Permitted	0.267						0.950	0.953				
Satd. Flow (perm)	368	3197	0	0	3228	1328	1548	1554	1430	0	0	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)						59			65			
Link Speed (mph)		35			35			25				55
Link Distance (ft)		855			1235			1396				831
Travel Time (s)		16.7			24.1			38.1				10.3
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Heavy Vehicles (%)	27%	4%	0%	0%	3%	12%	2%	0%	4%	0%	0%	0%
Adj. Flow (vph)	8	512	0	0	944	52	268	1	48	0	0	0
Shared Lane Traffic (%)							50%					
Lane Group Flow (vph)	8	512	0	0	944	52	134	135	48	0	0	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			12				12
Link Offset(ft)		0			0			0				0
Crosswalk Width(ft)		16			16			16				16
Two way Left Turn Lane												
Headway Factor	1.11	1.11	1.11	1.11	1.11	1.11	1.11	1.11	1.11	1.11	1.11	1.11
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	0	0			0	0	1	1	1			
Detector Template	Left	Thru			Thru	Right	Left	Thru	Right			
Leading Detector (ft)	0	0			0	0	75	75	75			
Trailing Detector (ft)	0	0			0	0	0	0	0			
Detector 1 Position(ft)	0	0			0	0	0	0	0			
Detector 1 Size(ft)	50	6			6	20	75	75	75			
Detector 1 Type	Cl+Ex	Cl+Ex			Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex			
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0			0.0	0.0	0.0	0.0	0.0			
Detector 1 Queue (s)	0.0	0.0			0.0	0.0	0.0	0.0	0.0			
Detector 1 Delay (s)	0.0	0.0			0.0	0.0	0.0	0.0	0.0			
Turn Type	pm+pt	NA			NA	Perm	Perm	NA	Perm			
Protected Phases	1	12			2			4				
Permitted Phases	12					2	4		4			
Detector Phase	1	12			2	2	4	4	4			
Switch Phase												
Minimum Initial (s)	5.0				25.0	25.0	5.0	5.0	5.0			
Minimum Split (s)	15.0				35.2	35.2	10.5	10.5	10.5			

Lanes, Volumes, Timings
 10: I-15 NB Off/I-15 NB On & Custer Ave

09/26/2023

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Total Split (s)	15.0				65.0	65.0	40.0	40.0	40.0			
Total Split (%)	12.5%				54.2%	54.2%	33.3%	33.3%	33.3%			
Maximum Green (s)	11.0				58.8	58.8	34.5	34.5	34.5			
Yellow Time (s)	3.0				3.9	3.9	3.2	3.2	3.2			
All-Red Time (s)	1.0				2.3	2.3	2.3	2.3	2.3			
Lost Time Adjust (s)	0.0				0.0	0.0	0.0	0.0	0.0			
Total Lost Time (s)	4.0				6.2	6.2	5.5	5.5	5.5			
Lead/Lag	Lead				Lag	Lag						
Lead-Lag Optimize?					Yes	Yes						
Vehicle Extension (s)	2.5				2.5	2.5	2.5	2.5	2.5			
Recall Mode	None				C-Max	C-Max	None	None	None			
Walk Time (s)					7.0	7.0						
Flash Dont Walk (s)					22.0	22.0						
Pedestrian Calls (#/hr)					0	0						
Act Effct Green (s)	91.2	95.2			79.0	79.0	15.3	15.3	15.3			
Actuated g/C Ratio	0.76	0.79			0.66	0.66	0.13	0.13	0.13			
v/c Ratio	0.02	0.20			0.44	0.06	0.68	0.68	0.20			
Control Delay	4.0	2.9			5.1	0.2	66.3	66.4	7.9			
Queue Delay	0.0	0.0			0.0	0.0	0.0	0.0	0.0			
Total Delay	4.0	2.9			5.1	0.2	66.3	66.4	7.9			
LOS	A	A			A	A	E	E	A			
Approach Delay		2.9			4.8			57.5				
Approach LOS		A			A			E				

Intersection Summary

























Area Type: Other
 Cycle Length: 120
 Actuated Cycle Length: 120
 Offset: 2 (2%), Referenced to phase 2:EBWB, Start of 1st Green
 Natural Cycle: 65
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.68
 Intersection Signal Delay: 13.4 Intersection LOS: B
 Intersection Capacity Utilization 46.2% ICU Level of Service A
 Analysis Period (min) 15

Splits and Phases: 10: I-15 NB Off/I-15 NB On & Custer Ave















Lanes, Volumes, Timings
11: Washington St & Custer Ave

09/26/2023

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	96	240	84	444	688	64	56	56	28	92	220	44
Future Volume (vph)	96	240	84	444	688	64	56	56	28	92	220	44
Ideal Flow (vphpl)	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750
Storage Length (ft)	350		350	400		300	350		350	150		150
Storage Lanes	1		1	1		1	1		1	1		1
Taper Length (ft)	100			100			100			100		
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt			0.850			0.850			0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1583	3197	1417	1662	3260	1430	1539	1636	1403	1599	1733	1444
Flt Permitted	0.390			0.557			0.512			0.579		
Satd. Flow (perm)	650	3197	1417	975	3260	1430	830	1636	1403	974	1733	1444
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			100			64			73			109
Link Speed (mph)		35			40			40			40	
Link Distance (ft)		1235			1260			1767			1130	
Travel Time (s)		24.1			21.5			30.1			19.3	
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Heavy Vehicles (%)	5%	4%	5%	0%	2%	4%	8%	7%	6%	4%	1%	3%
Adj. Flow (vph)	96	240	84	444	688	64	56	56	28	92	220	44
Shared Lane Traffic (%)												
Lane Group Flow (vph)	96	240	84	444	688	64	56	56	28	92	220	44
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.11	1.11	1.11	1.11	1.11	1.11	1.11	1.11	1.11	1.11	1.11	1.11
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	1	1	1	1	1	1	1	1	1	1	1
Detector Template	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Leading Detector (ft)	50	50	50	50	50	50	50	50	50	50	50	50
Trailing Detector (ft)	0	0	0	0	0	0	0	0	0	0	0	0
Detector 1 Position(ft)	0	0	0	0	0	0	0	0	0	0	0	0
Detector 1 Size(ft)	50	50	50	50	50	50	50	50	50	50	50	50
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Turn Type	pm+pt	NA	pm+ov	pm+pt	NA	pm+ov	pm+pt	NA	pm+ov	pm+pt	NA	pm+ov
Protected Phases	5	2	3	1	6	7	3	8	1	7	4	5
Permitted Phases	2		2	6		6	8		8	4		4
Detector Phase	5	2	3	1	6	7	3	8	1	7	4	5
Switch Phase												
Minimum Initial (s)	1.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	1.0
Minimum Split (s)	15.0	38.0	15.0	15.0	43.0	15.0	15.0	33.0	15.0	15.0	33.0	15.0

Lanes, Volumes, Timings
11: Washington St & Custer Ave

09/26/2023

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Total Split (s)	20.0	38.0	15.0	34.0	52.0	15.0	15.0	33.0	34.0	15.0	33.0	20.0
Total Split (%)	16.7%	31.7%	12.5%	28.3%	43.3%	12.5%	12.5%	27.5%	28.3%	12.5%	27.5%	16.7%
Maximum Green (s)	16.0	31.0	11.0	30.0	45.0	11.0	11.0	27.0	30.0	11.0	27.0	16.0
Yellow Time (s)	3.0	4.3	3.0	3.0	4.3	3.0	3.0	3.9	3.0	3.0	3.9	3.0
All-Red Time (s)	1.0	2.7	1.0	1.0	2.7	1.0	1.0	2.1	1.0	1.0	2.1	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.0	7.0	4.0	4.0	7.0	4.0	4.0	6.0	4.0	4.0	6.0	4.0
Lead/Lag	Lead	Lag	Lead	Lead	Lag	Lead	Lead	Lag	Lead	Lead	Lag	Lead
Lead-Lag Optimize?												
Vehicle Extension (s)	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5
Recall Mode	None	C-Max	None	None	C-Max	None	None	None	None	None	None	None
Walk Time (s)		7.0			7.0			7.0			7.0	
Flash Dont Walk (s)		24.0			29.0			20.0			20.0	
Pedestrian Calls (#/hr)		0			0			0			0	
Act Effct Green (s)	61.0	50.1	65.2	77.9	62.9	82.9	26.0	17.3	41.9	32.0	20.0	33.9
Actuated g/C Ratio	0.51	0.42	0.54	0.65	0.52	0.69	0.22	0.14	0.35	0.27	0.17	0.28
v/c Ratio	0.24	0.18	0.10	0.59	0.40	0.06	0.25	0.24	0.05	0.28	0.76	0.09
Control Delay	11.1	25.1	6.1	15.0	19.7	2.8	32.1	44.6	0.2	32.8	64.5	0.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	11.1	25.1	6.1	15.0	19.7	2.8	32.1	44.6	0.2	32.8	64.5	0.4
LOS	B	C	A	B	B	A	C	D	A	C	E	A
Approach Delay		18.1			17.0			30.7			48.4	
Approach LOS		B			B			C			D	

Intersection Summary

Area Type: Other

Cycle Length: 120

Actuated Cycle Length: 120

Offset: 107 (89%), Referenced to phase 2:EBTL and 6:WBTL, Start of 1st Green

Natural Cycle: 110

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.76

Intersection Signal Delay: 23.4

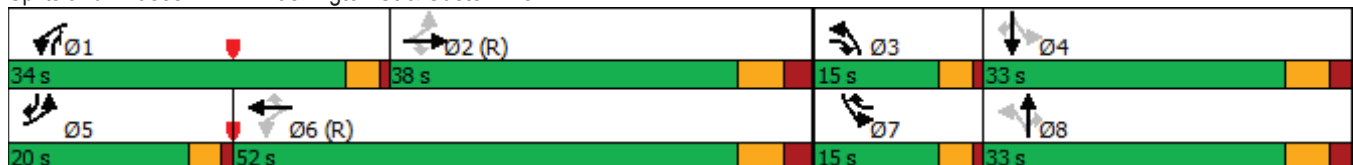
Intersection LOS: C

Intersection Capacity Utilization 68.1%

ICU Level of Service C

Analysis Period (min) 15

Splits and Phases: 11: Washington St & Custer Ave



Lanes, Volumes, Timings
14: Montana Ave & Tara Ct/Tara

09/26/2023

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	52	8	20	8	0	12	32	300	8	8	964	44
Future Volume (vph)	52	8	20	8	0	12	32	300	8	8	964	44
Ideal Flow (vphpl)	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750
Storage Length (ft)	0		0	0		100	185		0	85		0
Storage Lanes	0		0	0		1	1		0	1		0
Taper Length (ft)	25			25			50			50		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	*0.82	0.95	1.00	0.95	0.95
Frt		0.966				0.850		0.996			0.993	
Flt Protected		0.969			0.950		0.950			0.950		
Satd. Flow (prot)	0	1587	0	0	1525	1316	1599	2748	0	1662	3270	0
Flt Permitted		0.799			0.728		0.274			0.538		
Satd. Flow (perm)	0	1308	0	0	1169	1316	461	2748	0	942	3270	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		14				25		4			7	
Link Speed (mph)		30			30			40			30	
Link Distance (ft)		363			460			1185			627	
Travel Time (s)		8.3			10.5			20.2			14.3	
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Heavy Vehicles (%)	5%	0%	0%	9%	0%	13%	4%	4%	5%	0%	1%	0%
Adj. Flow (vph)	52	8	20	8	0	12	32	300	8	8	964	44
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	80	0	0	8	12	32	308	0	8	1008	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.11	1.11	1.11	1.11	1.11	1.11	1.11	1.11	1.11	1.11	1.11	1.11
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2		1	2	1	1	2		1	2	
Detector Template	Left	Thru		Left	Thru	Right	Left	Thru		Left	Thru	
Leading Detector (ft)	20	100		20	100	20	20	100		20	100	
Trailing Detector (ft)	0	0		0	0	0	0	0		0	0	
Detector 1 Position(ft)	0	0		0	0	0	0	0		0	0	
Detector 1 Size(ft)	20	6		20	6	20	20	6		20	6	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Perm	NA		Perm	NA	Perm	Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	

Lanes, Volumes, Timings
 14: Montana Ave & Tara Ct/Tara

09/26/2023

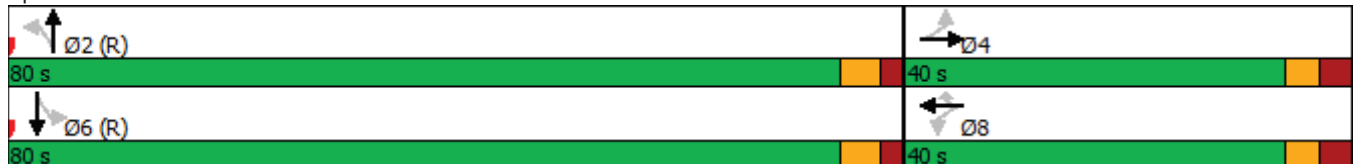


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Permitted Phases	4			8		8	2			6		
Detector Phase	4	4		8	8	8	2	2		6	6	
Switch Phase												
Minimum Initial (s)	5.0	5.0		5.0	5.0	5.0	25.0	25.0		14.0	14.0	
Minimum Split (s)	31.0	31.0		32.0	32.0	32.0	31.0	31.0		20.0	20.0	
Total Split (s)	40.0	40.0		40.0	40.0	40.0	80.0	80.0		80.0	80.0	
Total Split (%)	33.3%	33.3%		33.3%	33.3%	33.3%	66.7%	66.7%		66.7%	66.7%	
Maximum Green (s)	34.0	34.0		34.0	34.0	34.0	74.3	74.3		74.3	74.3	
Yellow Time (s)	3.0	3.0		3.0	3.0	3.0	3.6	3.6		3.6	3.6	
All-Red Time (s)	3.0	3.0		3.0	3.0	3.0	2.1	2.1		2.1	2.1	
Lost Time Adjust (s)		0.0			0.0	0.0	0.0	0.0		0.0	0.0	
Total Lost Time (s)		6.0			6.0	6.0	5.7	5.7		5.7	5.7	
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0		3.0	3.0	
Recall Mode	None	None		None	None	None	C-Max	C-Max		C-Max	C-Max	
Walk Time (s)	7.0	7.0		7.0	7.0	7.0	7.0	7.0		7.0	7.0	
Flash Dont Walk (s)	18.0	18.0		19.0	19.0	19.0	16.0	16.0		7.0	7.0	
Pedestrian Calls (#/hr)	0	0		0	0	0	0	0		0	0	
Act Effct Green (s)		11.3			11.3	11.3	100.5	100.5		100.5	100.5	
Actuated g/C Ratio		0.09			0.09	0.09	0.84	0.84		0.84	0.84	
v/c Ratio		0.59			0.07	0.08	0.08	0.13		0.01	0.37	
Control Delay		59.2			48.0	7.9	3.7	2.8		1.4	1.1	
Queue Delay		0.0			0.0	0.0	0.0	0.0		0.0	0.1	
Total Delay		59.2			48.0	7.9	3.7	2.8		1.4	1.2	
LOS		E			D	A	A	A		A	A	
Approach Delay		59.2			23.9			2.8			1.3	
Approach LOS		E			C			A			A	

Intersection Summary



















Area Type: Other
 Cycle Length: 120
 Actuated Cycle Length: 120
 Offset: 0 (0%), Referenced to phase 2:NBTL and 6:SBTL, Start of 1st Green
 Natural Cycle: 65
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.59
 Intersection Signal Delay: 5.1
 Intersection LOS: A
 Intersection Capacity Utilization 51.8%
 ICU Level of Service A
 Analysis Period (min) 15
 * User Entered Value

Splits and Phases: 14: Montana Ave & Tara Ct/Tara



Lanes, Volumes, Timings
38: Montana Ave & Partridge Pl

09/26/2023

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	1	1	12	4	4	44	16	240	4	184	824	20
Future Volume (vph)	1	1	12	4	4	44	16	240	4	184	824	20
Ideal Flow (vphpl)	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750
Storage Length (ft)	50		160	80		0	305		0	155		0
Storage Lanes	0		0	0		0	1		0	1		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95
Frt		0.884			0.886			0.998			0.996	
Flt Protected		0.996			0.996		0.950			0.950		
Satd. Flow (prot)	0	1511	0	0	1514	0	1630	1712	0	1630	3247	0
Flt Permitted		0.996			0.996		0.950			0.950		
Satd. Flow (perm)	0	1511	0	0	1514	0	1630	1712	0	1630	3247	0
Link Speed (mph)		30			30			30			40	
Link Distance (ft)		589			745			1926			996	
Travel Time (s)		13.4			16.9			43.8			17.0	
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	1	1	12	4	4	44	16	240	4	184	824	20
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	14	0	0	52	0	16	244	0	184	844	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.11	1.11	1.11	1.11	1.11	1.11	1.11	1.11	1.11	1.11	1.11	1.11
Turning Speed (mph)	15		9	15		9	15		9	15		9
Sign Control		Stop			Stop			Free			Free	
Intersection Summary												
Area Type:	Other											
Control Type:	Unsignalized											
Intersection Capacity Utilization	43.3%						ICU Level of Service A					
Analysis Period (min)	15											

Intersection												
Int Delay, s/veh	2											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕		↕	↕		↕	↕	
Traffic Vol, veh/h	1	1	12	4	4	44	16	240	4	184	824	20
Future Vol, veh/h	1	1	12	4	4	44	16	240	4	184	824	20
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	305	-	-	155	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	100	100	100	100	100	100	100	100	100	100	100	100
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	1	1	12	4	4	44	16	240	4	184	824	20

























Major/Minor	Minor2		Minor1		Major1		Major2					
Conflicting Flow All	1500	1478	422	1055	1486	242	844	0	0	244	0	0
Stage 1	1202	1202	-	274	274	-	-	-	-	-	-	-
Stage 2	298	276	-	781	1212	-	-	-	-	-	-	-
Critical Hdwy	7.33	6.53	6.93	7.33	6.53	6.23	4.13	-	-	4.13	-	-
Critical Hdwy Stg 1	6.53	5.53	-	6.13	5.53	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.13	5.53	-	6.53	5.53	-	-	-	-	-	-	-
Follow-up Hdwy	3.519	4.019	3.319	3.519	4.019	3.319	2.219	-	-	2.219	-	-
Pot Cap-1 Maneuver	92	125	581	191	124	796	790	-	-	1321	-	-
Stage 1	197	257	-	731	683	-	-	-	-	-	-	-
Stage 2	710	681	-	355	254	-	-	-	-	-	-	-
Platoon blocked, %								-	-	-	-	-
Mov Cap-1 Maneuver	74	106	581	163	105	796	790	-	-	1321	-	-
Mov Cap-2 Maneuver	74	106	-	163	105	-	-	-	-	-	-	-
Stage 1	193	221	-	716	669	-	-	-	-	-	-	-
Stage 2	653	667	-	298	219	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	16.7	14.3	0.6	1.5
HCM LOS	C	B		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1WBLn1	SBL	SBT	SBR
Capacity (veh/h)	790	-	-	321	441	1321	-
HCM Lane V/C Ratio	0.02	-	-	0.044	0.118	0.139	-
HCM Control Delay (s)	9.7	-	-	16.7	14.3	8.2	-
HCM Lane LOS	A	-	-	C	B	A	-
HCM 95th %tile Q(veh)	0.1	-	-	0.1	0.4	0.5	-

























Lanes, Volumes, Timings
7: Montana Ave & Custer Ave

09/26/2023

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	148	456	116	300	396	280	124	620	252	272	452	112
Future Volume (vph)	148	456	116	300	396	280	124	620	252	272	452	112
Ideal Flow (vphpl)	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750
Storage Length (ft)	225		225	400		0	300		225	230		0
Storage Lanes	1		2	2		1	1		1	1		0
Taper Length (ft)	100			100			100			100		
Lane Util. Factor	1.00	*0.80	1.00	*0.77	1.00	1.00	1.00	*0.86	1.00	1.00	0.95	0.95
Frt			0.850			0.850			0.850		0.970	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1646	2718	1444	2535	1699	1473	1614	2980	1458	1630	3187	0
Flt Permitted	0.395			0.950			0.393			0.171		
Satd. Flow (perm)	684	2718	1444	2535	1699	1473	668	2980	1458	293	3187	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			90			191			144			22
Link Speed (mph)		30			35			40			40	
Link Distance (ft)		1455			1327			627			1924	
Travel Time (s)		33.1			25.9			10.7			32.8	
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Heavy Vehicles (%)	1%	3%	3%	1%	3%	1%	3%	1%	2%	2%	1%	2%
Adj. Flow (vph)	148	456	116	300	396	280	124	620	252	272	452	112
Shared Lane Traffic (%)												
Lane Group Flow (vph)	148	456	116	300	396	280	124	620	252	272	564	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		24			24			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane		Yes										
Headway Factor	1.11	1.11	1.11	1.11	1.11	1.11	1.11	1.11	1.11	1.11	1.11	1.11
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	1	1	1	1	1	1	1	1	1	1	1
Detector Template	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	
Leading Detector (ft)	50	50	50	50	50	50	50	50	50	50	50	
Trailing Detector (ft)	0	0	0	0	0	0	0	0	0	0	0	
Detector 1 Position(ft)	0	0	0	0	0	0	0	0	0	0	0	
Detector 1 Size(ft)	50	50	50	50	50	50	50	50	50	50	50	
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Turn Type	pm+pt	NA	pm+ov	Prot	NA	pm+ov	pm+pt	NA	pm+ov	pm+pt	NA	
Protected Phases	1	6	7	5	2	3	7	4	5	3	8	
Permitted Phases	6		6			2	4		4	8		
Detector Phase	1	6	7	5	2	3	7	4	5	3	8	
Switch Phase												
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	15.0	40.8	15.0	15.0	38.5	15.0	15.0	38.5	15.0	15.0	38.5	

Lanes, Volumes, Timings
8: Sanders St & Custer Ave

09/26/2023

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	112	760	1	200	728	272	192	160	348	224	168	112
Future Volume (vph)	112	760	1	200	728	272	192	160	348	224	168	112
Ideal Flow (vphpl)	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750
Storage Length (ft)	175		135	230		350	150		300	150		150
Storage Lanes	1		1	1		1	1		1	1		1
Taper Length (ft)	100			100			100			100		
Lane Util. Factor	1.00	*0.77	1.00	1.00	*0.70	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt			0.850			0.850			0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1599	2591	1458	1646	2379	1444	1662	1733	1473	1599	1733	1458
Flt Permitted	0.202			0.176			0.642			0.438		
Satd. Flow (perm)	340	2591	1458	305	2379	1444	1124	1733	1473	737	1733	1458
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			126			272			127			112
Link Speed (mph)		35			35			25				25
Link Distance (ft)		1327			513			1716				1316
Travel Time (s)		25.9			10.0			46.8				35.9
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Heavy Vehicles (%)	4%	4%	2%	1%	3%	3%	0%	1%	1%	4%	1%	2%
Adj. Flow (vph)	112	760	1	200	728	272	192	160	348	224	168	112
Shared Lane Traffic (%)												
Lane Group Flow (vph)	112	760	1	200	728	272	192	160	348	224	168	112
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		24			24			12				12
Link Offset(ft)		0			0			0				0
Crosswalk Width(ft)		16			16			16				16
Two way Left Turn Lane												
Headway Factor	1.11	1.11	1.11	1.11	1.11	1.11	1.11	1.11	1.11	1.11	1.11	1.11
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	1	1	1	1	1	1	1	1	1	1	1
Detector Template	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Leading Detector (ft)	50	50	50	50	50	20	50	50	50	50	50	50
Trailing Detector (ft)	0	0	0	0	0	0	0	0	0	0	0	0
Detector 1 Position(ft)	0	0	0	0	0	0	0	0	0	0	0	0
Detector 1 Size(ft)	50	50	50	50	50	20	50	50	50	50	50	50
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Turn Type	pm+pt	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	pm+ov	pm+pt	NA	pm+ov
Protected Phases	5	2		1	6		3	8	1	7	4	5
Permitted Phases	2		2	6		6	8		8	4		4
Detector Phase	5	2	2	1	6	6	3	8	8	7	4	4
Switch Phase										4		
Minimum Initial (s)	5.0	25.0	25.0	5.0	25.0	25.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	15.0	38.5	38.5	15.0	38.5	38.5	15.0	36.0	15.0	15.0	41.0	15.0

Lanes, Volumes, Timings
8: Sanders St & Custer Ave

09/26/2023

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Total Split (s)	23.0	49.0	49.0	23.0	49.0	49.0	17.0	36.0	23.0	22.0	41.0	23.0
Total Split (%)	17.7%	37.7%	37.7%	17.7%	37.7%	37.7%	13.1%	27.7%	17.7%	16.9%	31.5%	17.7%
Maximum Green (s)	19.0	42.5	42.5	19.0	42.5	42.5	13.0	30.0	19.0	18.0	35.0	19.0
Yellow Time (s)	3.0	4.1	4.1	3.0	4.1	4.1	3.0	3.0	3.0	3.0	3.0	3.0
All-Red Time (s)	1.0	2.4	2.4	1.0	2.4	2.4	1.0	3.0	1.0	1.0	3.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.0	6.5	6.5	4.0	6.5	6.5	4.0	6.0	4.0	4.0	6.0	4.0
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lead	Lead	Lag	Lead
Lead-Lag Optimize?							Yes	Yes		Yes	Yes	
Vehicle Extension (s)	2.5	2.5	2.5	2.5	2.5	2.5	3.0	2.5	2.5	3.0	2.5	2.5
Recall Mode	None	C-Max	C-Max	None	C-Max	C-Max	None	None	None	None	None	None
Walk Time (s)		7.0	7.0		7.0	7.0		7.0			7.0	
Flash Dont Walk (s)		25.0	25.0		25.0	25.0		23.0			28.0	
Pedestrian Calls (#/hr)		0	0		0	0		0			0	
Act Effct Green (s)	68.5	56.1	56.1	76.5	60.7	60.7	36.6	21.8	42.2	44.6	26.2	42.0
Actuated g/C Ratio	0.53	0.43	0.43	0.59	0.47	0.47	0.28	0.17	0.32	0.34	0.20	0.32
v/c Ratio	0.41	0.68	0.00	0.61	0.66	0.33	0.52	0.55	0.62	0.61	0.48	0.21
Control Delay	13.5	32.7	0.0	26.7	26.8	5.1	36.1	55.7	26.2	38.7	49.1	5.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	13.5	32.7	0.0	26.7	26.8	5.1	36.1	55.7	26.2	38.7	49.1	5.0
LOS	B	C	A	C	C	A	D	E	C	D	D	A
Approach Delay		30.2			21.8			35.7			34.7	
Approach LOS		C			C			D			C	

Intersection Summary

Area Type: Other

Cycle Length: 130

Actuated Cycle Length: 130

Offset: 10 (8%), Referenced to phase 2:EBTL and 6:WBTL, Start of 1st Green

Natural Cycle: 110

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.68

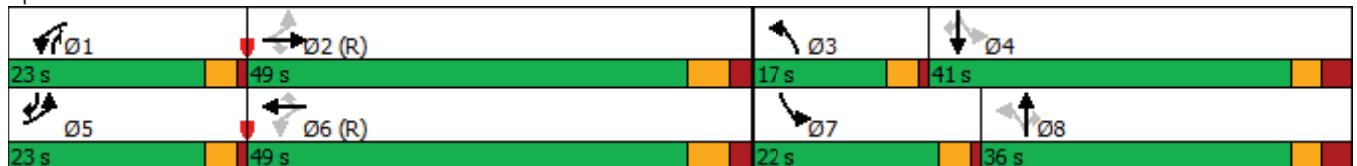
Intersection Signal Delay: 29.0 Intersection LOS: C

Intersection Capacity Utilization 74.5% ICU Level of Service D

Analysis Period (min) 15

* User Entered Value

Splits and Phases: 8: Sanders St & Custer Ave



Lanes, Volumes, Timings
 9: I-15 SB On & Custer Ave & I-15 SB Off

09/26/2023



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	SBL2	SBL	SBR	NWL	NWR
Lane Configurations		↑↑	↗		↑↑	↗	↗		↗		
Traffic Volume (vph)	0	880	428	0	1256	92	28	0	40	0	0
Future Volume (vph)	0	880	428	0	1256	92	28	0	40	0	0
Ideal Flow (vphpl)	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750
Storage Length (ft)	0		150	0		300		0	0	0	0
Storage Lanes	0		1	0		1		1	1	0	0
Taper Length (ft)	25			25				25		25	
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor			0.98			0.98					
Frt			0.850			0.850			0.850		
Flt Protected							0.950				
Satd. Flow (prot)	0	3228	1458	0	3260	1403	1511	0	1430	0	0
Flt Permitted							0.950				
Satd. Flow (perm)	0	3228	1428	0	3260	1373	1511	0	1430	0	0
Right Turn on Red			Yes			Yes			Yes		
Satd. Flow (RTOR)			179			92			108		
Link Speed (mph)		35			35			25		55	
Link Distance (ft)		513			855			727		910	
Travel Time (s)		10.0			16.7			19.8		11.3	
Confl. Peds. (#/hr)			1			1					
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	0.98	1.00	1.00	1.00	1.00
Heavy Vehicles (%)	2%	3%	2%	2%	2%	6%	10%	2%	4%	2%	2%
Adj. Flow (vph)	0	880	428	0	1256	92	29	0	40	0	0
Shared Lane Traffic (%)											
Lane Group Flow (vph)	0	880	428	0	1256	92	29	0	40	0	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Right
Median Width(ft)		12			12			12		0	
Link Offset(ft)		0			0			0		0	
Crosswalk Width(ft)		16			16			16		16	
Two way Left Turn Lane											
Headway Factor	1.11	1.11	1.11	1.11	1.11	1.11	1.11	1.11	1.11	1.11	1.11
Turning Speed (mph)	15		9	15		9	15	15	9	15	9
Number of Detectors		0	0		0	0	1		1		
Detector Template		Thru	Right		Thru	Right	Left		Right		
Leading Detector (ft)		0	0		0	0	75		75		
Trailing Detector (ft)		0	0		0	0	0		0		
Detector 1 Position(ft)		0	0		0	0	0		0		
Detector 1 Size(ft)		6	20		6	20	75		75		
Detector 1 Type		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex		
Detector 1 Channel											
Detector 1 Extend (s)		0.0	0.0		0.0	0.0	0.0		0.0		
Detector 1 Queue (s)		0.0	0.0		0.0	0.0	0.0		0.0		
Detector 1 Delay (s)		0.0	0.0		0.0	0.0	0.0		0.0		
Turn Type		NA	Free		NA	Perm	Prot		Prot		
Protected Phases		2			6		7		7		
Permitted Phases			Free			6					
Detector Phase		2			6	6	7		7		
Switch Phase											

Lanes, Volumes, Timings
 9: I-15 SB On & Custer Ave & I-15 SB Off

09/26/2023

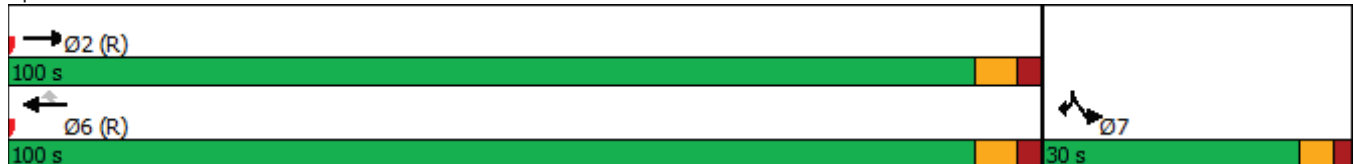


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	SBL2	SBL	SBR	NWL	NWR
Minimum Initial (s)		4.0			4.0	4.0	5.0		5.0		
Minimum Split (s)		22.0			49.6	49.6	21.2		21.2		
Total Split (s)		100.0			100.0	100.0	30.0		30.0		
Total Split (%)		76.9%			76.9%	76.9%	23.1%		23.1%		
Maximum Green (s)		93.4			93.4	93.4	24.8		24.8		
Yellow Time (s)		4.1			4.1	4.1	3.2		3.2		
All-Red Time (s)		2.5			2.5	2.5	2.0		2.0		
Lost Time Adjust (s)		0.0			0.0	0.0	0.0		0.0		
Total Lost Time (s)		6.6			6.6	6.6	5.2		5.2		
Lead/Lag											
Lead-Lag Optimize?											
Vehicle Extension (s)		3.0			3.0	3.0	3.0		3.0		
Recall Mode		C-Max			C-Max	C-Max	None		None		
Walk Time (s)					7.0	7.0					
Flash Dont Walk (s)					36.0	36.0					
Pedestrian Calls (#/hr)					0	0					
Act Effct Green (s)		113.6	130.0		113.6	113.6	8.0		8.0		
Actuated g/C Ratio		0.87	1.00		0.87	0.87	0.06		0.06		
v/c Ratio		0.31	0.30		0.44	0.08	0.32		0.21		
Control Delay		1.9	0.4		1.9	0.2	66.4		2.5		
Queue Delay		0.2	0.0		0.0	0.0	0.0		0.0		
Total Delay		2.1	0.4		1.9	0.2	66.4		2.5		
LOS		A	A		A	A	E		A		
Approach Delay		1.6			1.8			29.4			
Approach LOS		A			A			C			

Intersection Summary




















Area Type: Other
 Cycle Length: 130
 Actuated Cycle Length: 130
 Offset: 104 (80%), Referenced to phase 2:EBT and 6:WBT, Start of 1st Green
 Natural Cycle: 75
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.44
 Intersection Signal Delay: 2.4
 Intersection Capacity Utilization 51.7%
 Analysis Period (min) 15
 Intersection LOS: A
 ICU Level of Service A

Splits and Phases: 9: I-15 SB On & Custer Ave & I-15 SB Off



Lanes, Volumes, Timings
 10: I-15 NB Off/I-15 NB On & Custer Ave

09/26/2023

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	72	924	0	0	740	52	312	0	84	0	0	0
Future Volume (vph)	72	924	0	0	740	52	312	0	84	0	0	0
Ideal Flow (vphpl)	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750
Storage Length (ft)	500		0	0		150	400		400	0		0
Storage Lanes	1		0	0		1	1		1	0		0
Taper Length (ft)	100			25			100			25		
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	1.00	0.95	0.95	1.00	1.00	1.00	1.00
Frt						0.850			0.850			
Flt Protected	0.950						0.950	0.950				
Satd. Flow (prot)	1614	3228	0	0	3260	1365	1548	1548	1444	0	0	0
Flt Permitted	0.335						0.950	0.950				
Satd. Flow (perm)	569	3228	0	0	3260	1365	1548	1548	1444	0	0	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)						55			84			
Link Speed (mph)		35			35			25				55
Link Distance (ft)		855			1235			1396				831
Travel Time (s)		16.7			24.1			38.1				10.3
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Heavy Vehicles (%)	3%	3%	0%	0%	2%	9%	2%	0%	3%	0%	0%	0%
Adj. Flow (vph)	72	924	0	0	740	52	312	0	84	0	0	0
Shared Lane Traffic (%)							50%					
Lane Group Flow (vph)	72	924	0	0	740	52	156	156	84	0	0	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			12				12
Link Offset(ft)		0			0			0				0
Crosswalk Width(ft)		16			16			16				16
Two way Left Turn Lane												
Headway Factor	1.11	1.11	1.11	1.11	1.11	1.11	1.11	1.11	1.11	1.11	1.11	1.11
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	0	0			0	0	1	1	1			
Detector Template	Left	Thru			Thru	Right	Left	Thru	Right			
Leading Detector (ft)	0	0			0	0	75	75	75			
Trailing Detector (ft)	0	0			0	0	0	0	0			
Detector 1 Position(ft)	0	0			0	0	0	0	0			
Detector 1 Size(ft)	50	6			6	20	75	75	75			
Detector 1 Type	Cl+Ex	Cl+Ex			Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex			
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0			0.0	0.0	0.0	0.0	0.0			
Detector 1 Queue (s)	0.0	0.0			0.0	0.0	0.0	0.0	0.0			
Detector 1 Delay (s)	0.0	0.0			0.0	0.0	0.0	0.0	0.0			
Turn Type	pm+pt	NA			NA	Perm	Perm	NA	Perm			
Protected Phases	1	1 2			2			4				
Permitted Phases	1 2					2	4		4			
Detector Phase	1	1 2			2	2	4	4	4			
Switch Phase												
Minimum Initial (s)	5.0				25.0	25.0	5.0	5.0	5.0			
Minimum Split (s)	15.0				35.2	35.2	15.0	15.0	15.0			

Lanes, Volumes, Timings
 10: I-15 NB Off/I-15 NB On & Custer Ave

09/26/2023



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Total Split (s)	15.0				75.0	75.0	40.0	40.0	40.0			
Total Split (%)	11.5%				57.7%	57.7%	30.8%	30.8%	30.8%			
Maximum Green (s)	11.0				68.8	68.8	34.5	34.5	34.5			
Yellow Time (s)	3.0				3.9	3.9	3.2	3.2	3.2			
All-Red Time (s)	1.0				2.3	2.3	2.3	2.3	2.3			
Lost Time Adjust (s)	0.0				0.0	0.0	0.0	0.0	0.0			
Total Lost Time (s)	4.0				6.2	6.2	5.5	5.5	5.5			
Lead/Lag	Lead				Lag	Lag						
Lead-Lag Optimize?					Yes	Yes						
Vehicle Extension (s)	2.5				2.5	2.5	2.5	2.5	2.5			
Recall Mode	None				C-Max	C-Max	None	None	None			
Walk Time (s)					7.0	7.0						
Flash Dont Walk (s)					22.0	22.0						
Pedestrian Calls (#/hr)					0	0						
Act Effct Green (s)	98.3	102.3			80.0	80.0	18.2	18.2	18.2			
Actuated g/C Ratio	0.76	0.79			0.62	0.62	0.14	0.14	0.14			
v/c Ratio	0.13	0.36			0.37	0.06	0.72	0.72	0.31			
Control Delay	2.2	2.5			12.7	5.8	71.3	71.3	12.1			
Queue Delay	0.0	0.0			0.0	0.0	0.0	0.0	0.0			
Total Delay	2.2	2.5			12.7	5.8	71.3	71.3	12.1			
LOS	A	A			B	A	E	E	B			
Approach Delay		2.5			12.2			58.8				
Approach LOS		A			B			E				

Intersection Summary

























Area Type:	Other
Cycle Length:	130
Actuated Cycle Length:	130
Offset:	5 (4%), Referenced to phase 2:EBWB, Start of 1st Green
Natural Cycle:	70
Control Type:	Actuated-Coordinated
Maximum v/c Ratio:	0.72
Intersection Signal Delay:	16.2
Intersection LOS:	B
Intersection Capacity Utilization:	49.0%
ICU Level of Service:	A
Analysis Period (min):	15

Splits and Phases: 10: I-15 NB Off/I-15 NB On & Custer Ave



Lanes, Volumes, Timings
11: Washington St & Custer Ave

09/26/2023

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	196	512	180	184	432	88	720	144	184	140	68	44
Future Volume (vph)	196	512	180	184	432	88	720	144	184	140	68	44
Ideal Flow (vphpl)	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750
Storage Length (ft)	350		350	400		300	350		350	150		150
Storage Lanes	1		1	1		1	1		1	1		1
Taper Length (ft)	100			100			100			100		
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt			0.850			0.850			0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1630	3228	1444	1599	3260	1403	1646	1683	1444	1525	1716	1403
Flt Permitted	0.416			0.360			0.601			0.665		
Satd. Flow (perm)	714	3228	1444	606	3260	1403	1041	1683	1444	1068	1716	1403
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			180			92			184			101
Link Speed (mph)		35			35			40			40	
Link Distance (ft)		1235			1260			1767			1130	
Travel Time (s)		24.1			24.5			30.1			19.3	
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Heavy Vehicles (%)	2%	3%	3%	4%	2%	6%	1%	4%	3%	9%	2%	6%
Adj. Flow (vph)	196	512	180	184	432	88	720	144	184	140	68	44
Shared Lane Traffic (%)												
Lane Group Flow (vph)	196	512	180	184	432	88	720	144	184	140	68	44
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.11	1.11	1.11	1.11	1.11	1.11	1.11	1.11	1.11	1.11	1.11	1.11
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	1	1	1	1	1	1	1	1	1	1	1
Detector Template	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Leading Detector (ft)	50	50	50	50	50	50	50	50	50	50	50	50
Trailing Detector (ft)	0	0	0	0	0	0	0	0	0	0	0	0
Detector 1 Position(ft)	0	0	0	0	0	0	0	0	0	0	0	0
Detector 1 Size(ft)	50	50	50	50	50	50	50	50	50	50	50	50
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Turn Type	pm+pt	NA	pm+ov	pm+pt	NA	pm+ov	pm+pt	NA	pm+ov	pm+pt	NA	pm+ov
Protected Phases	5	2	3	1	6	7	3	8	1	7	4	5
Permitted Phases	2		2	6		6	8		8	4		4
Detector Phase	5	2	3	1	6	7	3	8	1	7	4	5
Switch Phase							8					
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	15.0	38.0	15.0	15.0	43.0	15.0	15.0	33.0	15.0	15.0	33.0	15.0

Lanes, Volumes, Timings
11: Washington St & Custer Ave

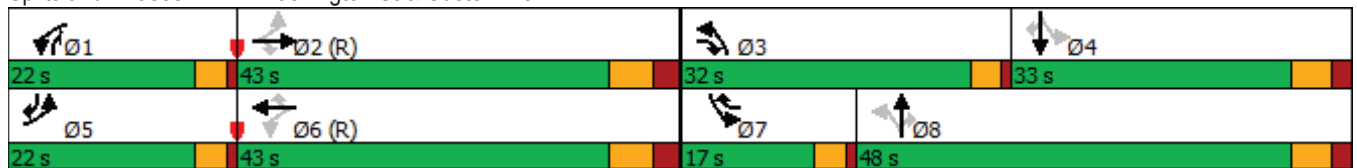
09/26/2023

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Total Split (s)	22.0	43.0	32.0	22.0	43.0	17.0	32.0	48.0	22.0	17.0	33.0	22.0
Total Split (%)	16.9%	33.1%	24.6%	16.9%	33.1%	13.1%	24.6%	36.9%	16.9%	13.1%	25.4%	16.9%
Maximum Green (s)	18.0	36.0	28.0	18.0	36.0	13.0	28.0	42.0	18.0	13.0	27.0	18.0
Yellow Time (s)	3.0	4.3	3.0	3.0	4.3	3.0	3.0	3.9	3.0	3.0	3.9	3.0
All-Red Time (s)	1.0	2.7	1.0	1.0	2.7	1.0	1.0	2.1	1.0	1.0	2.1	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.0	7.0	4.0	4.0	7.0	4.0	4.0	6.0	4.0	4.0	6.0	4.0
Lead/Lag	Lead	Lag	Lead	Lead	Lag	Lead	Lead	Lag	Lead	Lead	Lag	Lead
Lead-Lag Optimize?												
Vehicle Extension (s)	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5
Recall Mode	None	C-Max	None	None	C-Max	None	None	None	None	None	None	None
Walk Time (s)		7.0			7.0			7.0			7.0	
Flash Dont Walk (s)		24.0			29.0			20.0			20.0	
Pedestrian Calls (#/hr)		0			0			0			0	
Act Effct Green (s)	57.4	40.2	81.8	56.6	39.8	59.0	61.0	42.9	62.7	35.3	22.8	40.6
Actuated g/C Ratio	0.44	0.31	0.63	0.44	0.31	0.45	0.47	0.33	0.48	0.27	0.18	0.31
v/c Ratio	0.47	0.51	0.18	0.50	0.43	0.13	1.11	0.26	0.23	0.42	0.23	0.09
Control Delay	21.5	34.8	4.2	25.9	38.4	4.4	101.0	33.9	3.1	29.2	45.5	0.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	21.5	34.8	4.2	25.9	38.4	4.4	101.0	33.9	3.1	29.2	45.5	0.3
LOS	C	C	A	C	D	A	F	C	A	C	D	A
Approach Delay		25.6			30.9			74.6			28.6	
Approach LOS		C			C			E			C	

Intersection Summary

Area Type: Other
 Cycle Length: 130
 Actuated Cycle Length: 130
 Offset: 68 (52%), Referenced to phase 2:EBTL and 6:WBTL, Start of 1st Green
 Natural Cycle: 120
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 1.11
 Intersection Signal Delay: 44.9
 Intersection LOS: D
 Intersection Capacity Utilization 91.4%
 ICU Level of Service F
 Analysis Period (min) 15

Splits and Phases: 11: Washington St & Custer Ave



Lanes, Volumes, Timings
 14: Montana Ave & Tara Ct/Tara Ct4

09/26/2023



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕	↕	↕	↕↔		↕	↕↔	
Traffic Volume (vph)	56	24	12	80	16	80	56	816	88	108	668	28
Future Volume (vph)	56	24	12	80	16	80	56	816	88	108	668	28
Ideal Flow (vphpl)	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750
Storage Length (ft)	0		0	0		100	185		0	85		0
Storage Lanes	0		0	0		1	1		0	1		0
Taper Length (ft)	25			25			50			50		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	*0.82	0.95	1.00	0.95	0.95
Ped Bike Factor		1.00			1.00							
Frt		0.982				0.850		0.985			0.994	
Flt Protected		0.970			0.960		0.950			0.950		
Satd. Flow (prot)	0	1595	0	0	1639	1417	1662	2802	0	1646	3238	0
Flt Permitted		0.736			0.705		0.382			0.257		
Satd. Flow (perm)	0	1210	0	0	1202	1417	668	2802	0	445	3238	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		6				80		13			6	
Link Speed (mph)		30			30			40			30	
Link Distance (ft)		288			317			1181			627	
Travel Time (s)		6.5			7.2			20.1			14.3	
Confl. Peds. (#/hr)			1	1								
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Heavy Vehicles (%)	0%	14%	5%	3%	0%	5%	0%	1%	0%	1%	2%	4%
Adj. Flow (vph)	56	24	12	80	16	80	56	816	88	108	668	28
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	92	0	0	96	80	56	904	0	108	696	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.11	1.11	1.11	1.11	1.11	1.11	1.11	1.11	1.11	1.11	1.11	1.11
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2		1	2	1	1	2		1	2	
Detector Template	Left	Thru		Left	Thru	Right	Left	Thru		Left	Thru	
Leading Detector (ft)	20	100		20	100	20	20	100		20	100	
Trailing Detector (ft)	0	0		0	0	0	0	0		0	0	
Detector 1 Position(ft)	0	0		0	0	0	0	0		0	0	
Detector 1 Size(ft)	20	6		20	6	20	20	6		20	6	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	

Lanes, Volumes, Timings
 14: Montana Ave & Tara Ct/Tara Ct4

09/26/2023



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Turn Type	Perm	NA		Perm	NA	Perm	Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8		8	2			6		
Detector Phase	4	4		8	8	8	2	2		6	6	
Switch Phase												
Minimum Initial (s)	5.0	5.0		5.0	5.0	5.0	25.0	25.0		25.0	25.0	
Minimum Split (s)	31.0	31.0		32.0	32.0	32.0	31.0	31.0		31.0	31.0	
Total Split (s)	45.0	45.0		45.0	45.0	45.0	85.0	85.0		85.0	85.0	
Total Split (%)	34.6%	34.6%		34.6%	34.6%	34.6%	65.4%	65.4%		65.4%	65.4%	
Maximum Green (s)	39.0	39.0		39.0	39.0	39.0	79.3	79.3		79.3	79.3	
Yellow Time (s)	3.0	3.0		3.0	3.0	3.0	3.6	3.6		3.6	3.6	
All-Red Time (s)	3.0	3.0		3.0	3.0	3.0	2.1	2.1		2.1	2.1	
Lost Time Adjust (s)		0.0			0.0	0.0	0.0	0.0		0.0	0.0	
Total Lost Time (s)		6.0			6.0	6.0	5.7	5.7		5.7	5.7	
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0		3.0	3.0	
Recall Mode	None	None		None	None	None	C-Max	C-Max		C-Max	C-Max	
Walk Time (s)	7.0	7.0		7.0	7.0	7.0	7.0	7.0		7.0	7.0	
Flash Dont Walk (s)	18.0	18.0		19.0	19.0	19.0	16.0	16.0		7.0	7.0	
Pedestrian Calls (#/hr)	0	0		0	0	0	0	0		0	0	
Act Effct Green (s)		15.4		15.4	15.4	102.9	102.9			102.9	102.9	
Actuated g/C Ratio		0.12		0.12	0.12	0.79	0.79			0.79	0.79	
v/c Ratio		0.62		0.68	0.34	0.11	0.41			0.31	0.27	
Control Delay		67.6		76.4	13.8	4.4	5.2			2.5	0.8	
Queue Delay		0.0		0.0	0.0	0.0	0.0			0.0	0.0	
Total Delay		67.6		76.4	13.8	4.4	5.2			2.5	0.8	
LOS		E		E	B	A	A			A	A	
Approach Delay		67.6		48.0			5.1				1.0	
Approach LOS		E		D			A				A	

Intersection Summary

Area Type: Other
 Cycle Length: 130
 Actuated Cycle Length: 130
 Offset: 3 (2%), Referenced to phase 2:NBTL and 6:SBTL, Start of 1st Green
 Natural Cycle: 70
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.68
 Intersection Signal Delay: 10.0 Intersection LOS: B
 Intersection Capacity Utilization 75.4% ICU Level of Service D
 Analysis Period (min) 15
 * User Entered Value

Splits and Phases: 14: Montana Ave & Tara Ct/Tara Ct4



Lanes, Volumes, Timings
38: Montana Ave & Partridge

09/26/2023



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕		↕			↕	↕↔	
Traffic Volume (vph)	16	4	64	1	4	184	60	676	8	104	456	20
Future Volume (vph)	16	4	64	1	4	184	60	676	8	104	456	20
Ideal Flow (vphpl)	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750
Storage Length (ft)	50		160	80		0	305		0	155		0
Storage Lanes	0		0	0		0	0		0	1		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95
Frt		0.897			0.869			0.998			0.994	
Flt Protected		0.991					0.950			0.950		
Satd. Flow (prot)	0	1525	0	0	1491	0	1630	0	0	1630	3240	0
Flt Permitted		0.991					0.950			0.950		
Satd. Flow (perm)	0	1525	0	0	1491	0	1630	0	0	1630	3240	0
Link Speed (mph)		30			30			30			40	
Link Distance (ft)		565			659			1924			759	
Travel Time (s)		12.8			15.0			43.7			12.9	
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	16	4	64	1	4	184	60	676	8	104	456	20
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	84	0	0	189	0	60	684	0	104	476	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			24			24	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.11	1.11	1.11	1.11	1.11	1.11	1.11	1.11	1.11	1.11	1.11	1.11
Turning Speed (mph)	15		9	15		9	15		9	15		9
Sign Control		Stop			Stop			Free			Free	

Intersection Summary

Area Type:	Other
Control Type:	Unsignalized
Intersection Capacity Utilization Err%	ICU Level of Service H
Analysis Period (min)	15

Intersection												
Int Delay, s/veh	5.9											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕		↕	↕		↕	↕	
Traffic Vol, veh/h	16	4	64	1	4	184	60	676	8	104	456	20
Future Vol, veh/h	16	4	64	1	4	184	60	676	8	104	456	20
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	155	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	100	100	100	100	100	100	100	100	100	100	100	100
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	16	4	64	1	4	184	60	676	8	104	456	20

Major/Minor	Minor2		Minor1		Major1		Major2					
Conflicting Flow All	1568	1478	238	1238	1484	680	476	0	0	684	0	0
Stage 1	674	674	-	800	800	-	-	-	-	-	-	-
Stage 2	894	804	-	438	684	-	-	-	-	-	-	-
Critical Hdwy	7.33	6.53	6.93	7.33	6.53	6.23	4.13	-	-	4.13	-	-
Critical Hdwy Stg 1	6.53	5.53	-	6.13	5.53	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.13	5.53	-	6.53	5.53	-	-	-	-	-	-	-
Follow-up Hdwy	3.519	4.019	3.319	3.519	4.019	3.319	2.219	-	-	2.219	-	-
Pot Cap-1 Maneuver	82	125	764	142	124	450	1084	-	-	907	-	-
Stage 1	411	453	-	378	396	-	-	-	-	-	-	-
Stage 2	335	395	-	568	448	-	-	-	-	-	-	-
Platoon blocked, %								-	-	-	-	-
Mov Cap-1 Maneuver	41	105	764	110	104	450	1084	-	-	907	-	-
Mov Cap-2 Maneuver	41	105	-	110	104	-	-	-	-	-	-	-
Stage 1	388	401	-	357	374	-	-	-	-	-	-	-
Stage 2	185	373	-	456	396	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	48	20.8	0.7	1.7
HCM LOS	E	C		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1084	-	-	164	414	907	-
HCM Lane V/C Ratio	0.055	-	-	0.512	0.457	0.115	-
HCM Control Delay (s)	8.5	-	-	48	20.8	9.5	-
HCM Lane LOS	A	-	-	E	C	A	-
HCM 95th %tile Q(veh)	0.2	-	-	2.5	2.3	0.4	-

Lanes, Volumes, Timings
7: Montana Ave & Custer Ave

09/26/2023

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	228	668	80	200	496	348	232	644	280	276	372	84
Future Volume (vph)	228	668	80	200	496	348	232	644	280	276	372	84
Ideal Flow (vphpl)	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750
Storage Length (ft)	225		225	400		0	300		225	230		0
Storage Lanes	1		1	2		1	1		1	1		0
Taper Length (ft)	100			100			100			100		
Lane Util. Factor	1.00	*0.88	1.00	*0.80	1.00	1.00	1.00	*0.82	1.00	1.00	0.95	0.95
Frt			0.850			0.850			0.850		0.972	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1662	3050	1488	2660	1733	1488	1662	2842	1488	1662	3232	0
Flt Permitted	0.153			0.950			0.450			0.155		
Satd. Flow (perm)	268	3050	1488	2660	1733	1488	788	2842	1488	271	3232	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			91			72			100			17
Link Speed (mph)		35			40			40			40	
Link Distance (ft)		1455			1327			638			1891	
Travel Time (s)		28.3			22.6			10.9			32.2	
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Heavy Vehicles (%)	0%	1%	0%	0%	1%	0%	0%	1%	0%	0%	0%	0%
Adj. Flow (vph)	228	668	80	200	496	348	232	644	280	276	372	84
Shared Lane Traffic (%)												
Lane Group Flow (vph)	228	668	80	200	496	348	232	644	280	276	456	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		24			24			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.11	1.11	1.11	1.11	1.11	1.11	1.11	1.11	1.11	1.11	1.11	1.11
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2	1	1	2	1	1	2	1	1	2	
Detector Template	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	
Leading Detector (ft)	20	100	20	20	100	20	20	100	20	20	100	
Trailing Detector (ft)	0	0	0	0	0	0	0	0	0	0	0	
Detector 1 Position(ft)	0	0	0	0	0	0	0	0	0	0	0	
Detector 1 Size(ft)	20	6	20	20	6	20	20	6	20	20	6	
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	pm+pt	NA	pm+ov	Prot	NA	pm+ov	pm+pt	NA	pm+ov	pm+pt	NA	
Protected Phases	1	6	7	5	2	3	7	4	5	3	8	

Lanes, Volumes, Timings
7: Montana Ave & Custer Ave

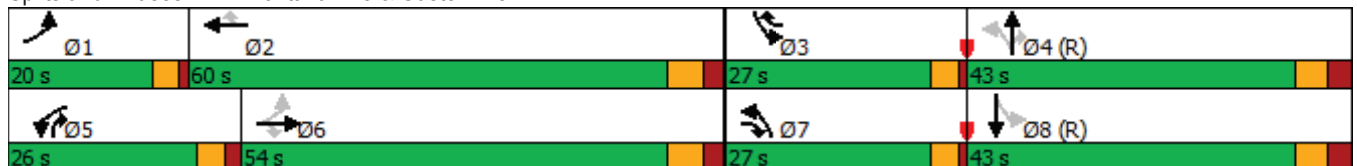
09/26/2023

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Permitted Phases	6		6			2	4		4	8		
Detector Phase	1	6	7	5	2	3	7	4	5	3	8	
Switch Phase										8		
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	15.0	40.8	15.0	15.0	38.5	15.0	15.0	40.5	15.0	15.0	38.5	
Total Split (s)	20.0	54.0	27.0	26.0	60.0	27.0	27.0	43.0	26.0	27.0	43.0	
Total Split (%)	13.3%	36.0%	18.0%	17.3%	40.0%	18.0%	18.0%	28.7%	17.3%	18.0%	28.7%	
Maximum Green (s)	16.0	47.5	23.0	21.0	53.5	23.0	23.0	36.5	21.0	23.0	36.5	
Yellow Time (s)	3.0	3.9	3.0	3.0	3.9	3.0	3.0	3.6	3.0	3.0	3.6	
All-Red Time (s)	1.0	2.6	1.0	2.0	2.6	1.0	1.0	2.9	2.0	1.0	2.9	
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Lost Time (s)	4.0	6.5	4.0	5.0	6.5	4.0	4.0	6.5	5.0	4.0	6.5	
Lead/Lag	Lead	Lag	Lead	Lead	Lag	Lead	Lead	Lag	Lead	Lead	Lag	
Lead-Lag Optimize?												
Vehicle Extension (s)	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	
Recall Mode	None	None	None	None	Min	None	None	C-Max	None	None	C-Max	
Walk Time (s)		7.0			7.0			7.0			7.0	
Flash Dont Walk (s)		27.0			24.0			25.0			25.0	
Pedestrian Calls (#/hr)		0			0			0			0	
Act Effct Green (s)	63.7	45.6	69.6	16.1	47.1	76.7	63.2	43.2	65.8	71.7	48.8	
Actuated g/C Ratio	0.42	0.30	0.46	0.11	0.31	0.51	0.42	0.29	0.44	0.48	0.33	
v/c Ratio	0.88	0.72	0.11	0.70	0.91	0.44	0.54	0.79	0.40	0.80	0.43	
Control Delay	62.6	51.3	2.9	81.0	71.0	10.8	26.7	51.4	14.2	48.1	42.0	
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Delay	62.6	51.3	2.9	81.0	71.0	10.8	26.7	51.4	14.2	48.1	42.0	
LOS	E	D	A	F	E	B	C	D	B	D	D	
Approach Delay		50.0			52.9			37.4			44.3	
Approach LOS		D			D			D			D	

Intersection Summary

Area Type: Other
 Cycle Length: 150
 Actuated Cycle Length: 150
 Offset: 0 (0%), Referenced to phase 4:NBTL and 8:SBTL, Start of 1st Green, Master Intersection
 Natural Cycle: 115
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.91
 Intersection Signal Delay: 46.0 Intersection LOS: D
 Intersection Capacity Utilization 95.5% ICU Level of Service F
 Analysis Period (min) 15
 * User Entered Value

Splits and Phases: 7: Montana Ave & Custer Ave



Lanes, Volumes, Timings
8: Sanders St & Custer Ave

09/26/2023



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	120	992	128	216	944	248	184	132	356	268	172	56
Future Volume (vph)	120	992	128	216	944	248	184	132	356	268	172	56
Ideal Flow (vphpl)	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750
Storage Length (ft)	175		135	230		350	150		300	150		150
Storage Lanes	1		1	1		1	1		1	1		1
Taper Length (ft)	100			100			100			100		
Lane Util. Factor	1.00	*0.85	1.00	1.00	*0.70	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor							1.00		0.99	1.00		0.99
Fr _t			0.850			0.850			0.850			0.850
Fl _t Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1662	2946	1488	1662	2426	1473	1662	1733	1473	1646	1750	1488
Fl _t Permitted	0.099			0.113			0.649			0.495		
Satd. Flow (perm)	173	2946	1488	198	2426	1473	1135	1733	1453	857	1750	1468
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			116			215			91			58
Link Speed (mph)		40			40			25				25
Link Distance (ft)		1327			513			1716				1316
Travel Time (s)		22.6			8.7			46.8				35.9
Confl. Peds. (#/hr)							1		1	1		1
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Heavy Vehicles (%)	0%	1%	0%	0%	1%	1%	0%	1%	1%	1%	0%	0%
Adj. Flow (vph)	120	992	128	216	944	248	184	132	356	268	172	56
Shared Lane Traffic (%)												
Lane Group Flow (vph)	120	992	128	216	944	248	184	132	356	268	172	56
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		24			24			12				12
Link Offset(ft)		0			0			0				0
Crosswalk Width(ft)		16			16			16				16
Two way Left Turn Lane												
Headway Factor	1.11	1.11	1.11	1.11	1.11	1.11	1.11	1.11	1.11	1.11	1.11	1.11
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2	1	1	2	1	1	2	1	1	2	1
Detector Template	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Leading Detector (ft)	20	100	20	20	100	20	20	100	20	20	100	20
Trailing Detector (ft)	0	0	0	0	0	0	0	0	0	0	0	0
Detector 1 Position(ft)	0	0	0	0	0	0	0	0	0	0	0	0
Detector 1 Size(ft)	20	6	20	20	6	20	20	6	20	20	6	20
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 2 Position(ft)		94			94			94				94
Detector 2 Size(ft)		6			6			6				6
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex				Cl+Ex
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0				0.0

Lanes, Volumes, Timings
8: Sanders St & Custer Ave

09/26/2023

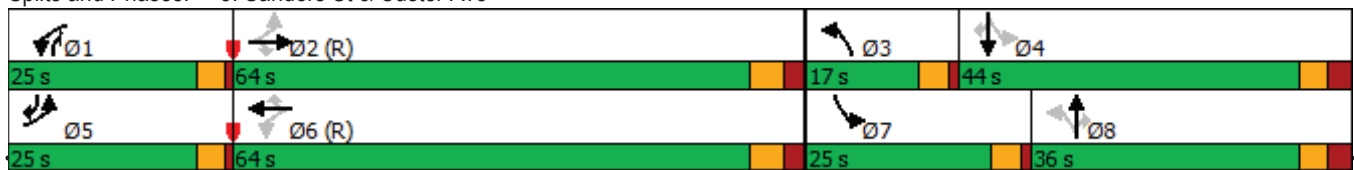


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Turn Type	pm+pt	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	pm+ov	pm+pt	NA	pm+ov
Protected Phases	5	2		1	6		3	8	1	7	4	5
Permitted Phases	2		2	6		6	8		8	4		4
Detector Phase	5	2	2	1	6	6	3	8	8	7	4	5
Switch Phase										4		
Minimum Initial (s)	5.0	25.0	25.0	5.0	25.0	25.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	15.0	38.5	38.5	15.0	38.5	38.5	15.0	36.0	15.0	15.0	41.0	15.0
Total Split (s)	25.0	64.0	64.0	25.0	64.0	64.0	17.0	36.0	25.0	25.0	44.0	25.0
Total Split (%)	16.7%	42.7%	42.7%	16.7%	42.7%	42.7%	11.3%	24.0%	16.7%	16.7%	29.3%	16.7%
Maximum Green (s)	21.0	57.5	57.5	21.0	57.5	57.5	12.5	30.0	21.0	20.5	38.0	21.0
Yellow Time (s)	3.0	4.1	4.1	3.0	4.1	4.1	3.5	3.0	3.0	3.5	3.0	3.0
All-Red Time (s)	1.0	2.4	2.4	1.0	2.4	2.4	1.0	3.0	1.0	1.0	3.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.0	6.5	6.5	4.0	6.5	6.5	4.5	6.0	4.0	4.5	6.0	4.0
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lead	Lead	Lag	Lead
Lead-Lag Optimize?							Yes	Yes		Yes	Yes	
Vehicle Extension (s)	2.5	2.5	2.5	2.5	2.5	2.5	3.0	2.5	2.5	3.0	2.5	2.5
Recall Mode	None	C-Max	C-Max	None	C-Max	C-Max	None	None	None	None	None	None
Walk Time (s)		7.0	7.0		7.0	7.0		7.0			7.0	
Flash Dont Walk (s)		25.0	25.0		25.0	25.0		23.0			28.0	
Pedestrian Calls (#/hr)		0	0		0	0		0			0	
Act Effct Green (s)	78.5	64.6	64.6	88.5	70.6	70.6	40.8	26.8	46.3	53.0	34.5	47.9
Actuated g/C Ratio	0.52	0.43	0.43	0.59	0.47	0.47	0.27	0.18	0.31	0.35	0.23	0.32
v/c Ratio	0.59	0.78	0.18	0.75	0.83	0.31	0.52	0.43	0.69	0.66	0.43	0.11
Control Delay	39.1	31.6	4.7	42.5	42.6	9.3	42.2	58.4	37.7	45.4	52.1	6.5
Queue Delay	0.0	0.0	0.0	0.0	0.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	39.1	31.6	4.7	42.5	43.0	9.3	42.2	58.4	37.7	45.4	52.1	6.5
LOS	D	C	A	D	D	A	D	E	D	D	D	A
Approach Delay		29.5			37.0			43.0			43.3	
Approach LOS		C			D			D			D	

Intersection Summary

Area Type: Other
 Cycle Length: 150
 Actuated Cycle Length: 150
 Offset: 76 (51%), Referenced to phase 2:EBTL and 6:WBTL, Start of 1st Green
 Natural Cycle: 120
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.83
 Intersection Signal Delay: 36.4
 Intersection LOS: D
 Intersection Capacity Utilization 84.5%
 ICU Level of Service E
 Analysis Period (min) 15
 * User Entered Value

Splits and Phases: 8: Sanders St & Custer Ave



Lanes, Volumes, Timings
9: I-15 SB On & Custer Ave & I-15 SB Off

09/26/2023



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	SBL2	SBL	SBR	NWL	NWR
Lane Configurations		↑↑	↑		↑↑	↑	↑		↑		
Traffic Volume (vph)	0	1244	468	0	1280	112	84	0	56	0	0
Future Volume (vph)	0	1244	468	0	1280	112	84	0	56	0	0
Ideal Flow (vphpl)	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750
Storage Length (ft)	0		150	0		300		0	0	0	0
Storage Lanes	0		1	0		1		1	1	0	0
Taper Length (ft)	25			25				25		25	
Lane Util. Factor	1.00	*0.85	1.00	1.00	0.95	1.00	1.00	1.00	1.00	1.00	1.00
Frt			0.850			0.850			0.850		
Flt Protected							0.950				
Satd. Flow (prot)	0	2975	1473	0	3325	1473	1484	0	1403	0	0
Flt Permitted							0.950				
Satd. Flow (perm)	0	2975	1473	0	3325	1473	1484	0	1403	0	0
Right Turn on Red			Yes			Yes			Yes		
Satd. Flow (RTOR)			107			112			116		
Link Speed (mph)		40			40			25		55	
Link Distance (ft)		513			855			727		910	
Travel Time (s)		8.7			14.6			19.8		11.3	
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Heavy Vehicles (%)	0%	0%	1%	0%	0%	1%	12%	0%	6%	0%	0%
Adj. Flow (vph)	0	1244	468	0	1280	112	84	0	56	0	0
Shared Lane Traffic (%)											
Lane Group Flow (vph)	0	1244	468	0	1280	112	84	0	56	0	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Right
Median Width(ft)		12			12			12		0	
Link Offset(ft)		0			0			0		0	
Crosswalk Width(ft)		16			16			16		16	
Two way Left Turn Lane											
Headway Factor	1.11	1.11	1.11	1.11	1.11	1.11	1.11	1.11	1.11	1.11	1.11
Turning Speed (mph)	15		9	15		9	15	15	9	15	9
Number of Detectors		0	0		0	0	1		1		
Detector Template		Thru	Right		Thru	Right	Left		Right		
Leading Detector (ft)		0	0		0	0	50		50		
Trailing Detector (ft)		0	0		0	0	0		0		
Detector 1 Position(ft)		0	0		0	0	0		0		
Detector 1 Size(ft)		6	20		6	20	50		50		
Detector 1 Type		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex		
Detector 1 Channel											
Detector 1 Extend (s)		0.0	0.0		0.0	0.0	0.0		0.0		
Detector 1 Queue (s)		0.0	0.0		0.0	0.0	0.0		0.0		
Detector 1 Delay (s)		0.0	0.0		0.0	0.0	0.0		0.0		
Turn Type		NA	Free		NA	Perm	Prot		Prot		
Protected Phases		2			6		7		7		
Permitted Phases			Free			6					
Detector Phase		2			6	6	7		7		
Switch Phase											
Minimum Initial (s)		25.0			25.0	25.0	5.0		5.0		
Minimum Split (s)		49.6			49.6	49.6	21.2		21.2		

Lanes, Volumes, Timings
 9: I-15 SB On & Custer Ave & I-15 SB Off

09/26/2023

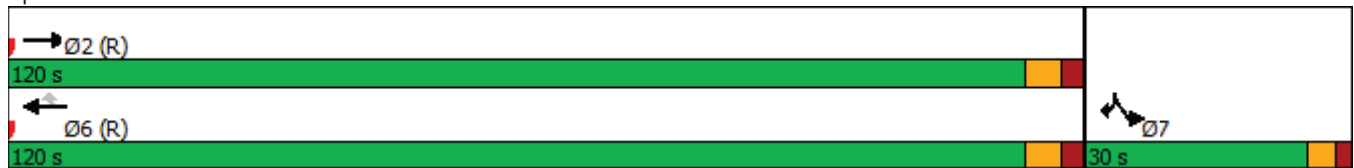


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	SBL2	SBL	SBR	NWL	NWR
Total Split (s)		120.0			120.0	120.0	30.0		30.0		
Total Split (%)		80.0%			80.0%	80.0%	20.0%		20.0%		
Maximum Green (s)		113.4			113.4	113.4	24.8		24.8		
Yellow Time (s)		4.1			4.1	4.1	3.2		3.2		
All-Red Time (s)		2.5			2.5	2.5	2.0		2.0		
Lost Time Adjust (s)		0.0			0.0	0.0	0.0		0.0		
Total Lost Time (s)		6.6			6.6	6.6	5.2		5.2		
Lead/Lag											
Lead-Lag Optimize?											
Vehicle Extension (s)		3.0			3.0	3.0	3.0		3.0		
Recall Mode		C-Max			C-Max	C-Max	None		None		
Walk Time (s)					7.0	7.0					
Flash Dont Walk (s)					36.0	36.0					
Pedestrian Calls (#/hr)					0	0					
Act Effct Green (s)		124.4	150.0		124.4	124.4	13.8		13.8		
Actuated g/C Ratio		0.83	1.00		0.83	0.83	0.09		0.09		
v/c Ratio		0.50	0.32		0.46	0.09	0.62		0.24		
Control Delay		2.9	0.4		5.6	1.2	83.8		2.4		
Queue Delay		0.4	0.0		0.2	0.0	0.0		0.1		
Total Delay		3.3	0.4		5.8	1.2	83.8		2.5		
LOS		A	A		A	A	F		A		
Approach Delay		2.5			5.5			51.3			
Approach LOS		A			A			D			

Intersection Summary




















Area Type: Other
 Cycle Length: 150
 Actuated Cycle Length: 150
 Offset: 26 (17%), Referenced to phase 2:EBT and 6:WBT, Start of 1st Green
 Natural Cycle: 75
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.62
 Intersection Signal Delay: 5.9
 Intersection LOS: A
 Intersection Capacity Utilization 52.4%
 ICU Level of Service A
 Analysis Period (min) 15
 * User Entered Value

Splits and Phases: 9: I-15 SB On & Custer Ave & I-15 SB Off



Lanes, Volumes, Timings
 10: I-15 NB Off/I-15 NB On & Custer Ave

09/26/2023

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	164	1032	0	0	904	140	500	0	196	0	0	0
Future Volume (vph)	164	1032	0	0	904	140	500	0	196	0	0	0
Ideal Flow (vphpl)	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750
Storage Length (ft)	500		0	0		150	400		400	0		0
Storage Lanes	1		0	0		1	1		1	0		0
Taper Length (ft)	100			25			100			25		
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	1.00	0.95	0.95	1.00	1.00	1.00	1.00
Frt						0.850			0.850			
Flt Protected	0.950						0.950	0.950				
Satd. Flow (prot)	1630	3292	0	0	3292	1377	1564	1564	1488	0	0	0
Flt Permitted	0.259						0.950	0.950				
Satd. Flow (perm)	444	3292	0	0	3292	1377	1564	1564	1488	0	0	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)						92			123			
Link Speed (mph)		40			40			25				55
Link Distance (ft)		855			1235			1396				831
Travel Time (s)		14.6			21.1			38.1				10.3
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Heavy Vehicles (%)	2%	1%	0%	0%	1%	8%	1%	0%	0%	0%	0%	0%
Adj. Flow (vph)	164	1032	0	0	904	140	500	0	196	0	0	0
Shared Lane Traffic (%)							50%					
Lane Group Flow (vph)	164	1032	0	0	904	140	250	250	196	0	0	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			12				12
Link Offset(ft)		0			0			0				0
Crosswalk Width(ft)		16			16			16				16
Two way Left Turn Lane												
Headway Factor	1.11	1.11	1.11	1.11	1.11	1.11	1.11	1.11	1.11	1.11	1.11	1.11
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	0			0	0	1	1	1			
Detector Template	Left	Thru			Thru	Right	Left	Thru	Right			
Leading Detector (ft)	50	0			0	0	50	50	50			
Trailing Detector (ft)	0	0			0	0	0	0	0			
Detector 1 Position(ft)	0	0			0	0	0	0	0			
Detector 1 Size(ft)	50	6			6	20	50	50	50			
Detector 1 Type	Cl+Ex	Cl+Ex			Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex			
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0			0.0	0.0	0.0	0.0	0.0			
Detector 1 Queue (s)	0.0	0.0			0.0	0.0	0.0	0.0	0.0			
Detector 1 Delay (s)	0.0	0.0			0.0	0.0	0.0	0.0	0.0			
Turn Type	pm+pt	NA			NA	Perm	Perm	NA	Perm			
Protected Phases	5	2			6			8				
Permitted Phases	2					6	8		8			
Detector Phase	5	2			6	6	8	8	8			
Switch Phase												
Minimum Initial (s)	5.0	25.0			25.0	25.0	5.0	5.0	5.0			
Minimum Split (s)	9.0	35.2			35.2	35.2	10.5	10.5	10.5			

Lanes, Volumes, Timings
 10: I-15 NB Off/I-15 NB On & Custer Ave

09/26/2023



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Total Split (s)	24.0	100.0			76.0	76.0	50.0	50.0	50.0			
Total Split (%)	16.0%	66.7%			50.7%	50.7%	33.3%	33.3%	33.3%			
Maximum Green (s)	20.0	93.8			69.8	69.8	44.5	44.5	44.5			
Yellow Time (s)	3.0	3.9			3.9	3.9	3.2	3.2	3.2			
All-Red Time (s)	1.0	2.3			2.3	2.3	2.3	2.3	2.3			
Lost Time Adjust (s)	0.0	0.0			0.0	0.0	0.0	0.0	0.0			
Total Lost Time (s)	4.0	6.2			6.2	6.2	5.5	5.5	5.5			
Lead/Lag	Lead				Lag		Lag					
Lead-Lag Optimize?												
Vehicle Extension (s)	2.5	2.5			2.5	2.5	2.5	2.5	2.5			
Recall Mode	None	Max			C-Max	C-Max	None	None	None			
Walk Time (s)		7.0			7.0	7.0						
Flash Dont Walk (s)		22.0			22.0	22.0						
Pedestrian Calls (#/hr)		0			0	0						
Act Effct Green (s)	110.9	108.7			95.0	95.0	29.6	29.6	29.6			
Actuated g/C Ratio	0.74	0.72			0.63	0.63	0.20	0.20	0.20			
v/c Ratio	0.41	0.43			0.43	0.15	0.81	0.81	0.50			
Control Delay	7.5	7.8			14.0	4.8	76.7	76.7	23.3			
Queue Delay	0.0	0.0			0.0	0.0	0.0	0.0	0.0			
Total Delay	7.5	7.8			14.0	4.8	76.7	76.7	23.3			
LOS	A	A			B	A	E	E	C			
Approach Delay		7.8			12.8			61.7				
Approach LOS		A			B			E				

Intersection Summary

























Area Type: Other
 Cycle Length: 150
 Actuated Cycle Length: 150
 Offset: 71 (47%), Referenced to phase 6:WBT, Start of 1st Green
 Natural Cycle: 60
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.81
 Intersection Signal Delay: 22.3
 Intersection LOS: C
 Intersection Capacity Utilization 65.1%
 ICU Level of Service C
 Analysis Period (min) 15

Splits and Phases: 10: I-15 NB Off/I-15 NB On & Custer Ave



Lanes, Volumes, Timings
11: Washington St & Custer Ave

09/26/2023

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	244	788	128	208	484	96	320	172	308	104	64	32
Future Volume (vph)	244	788	128	208	484	96	320	172	308	104	64	32
Ideal Flow (vphpl)	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750
Storage Length (ft)	350		350	400		300	350		350	150		150
Storage Lanes	1		1	1		1	1		1	1		1
Taper Length (ft)	100			100			100			100		
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt			0.850			0.850			0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1662	3292	1473	1614	3260	1430	1662	1750	1458	1662	1750	1488
Flt Permitted	0.435			0.284			0.505			0.649		
Satd. Flow (perm)	761	3292	1473	483	3260	1430	884	1750	1458	1136	1750	1488
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			128			109			213			87
Link Speed (mph)		40			40			40			40	
Link Distance (ft)		1235			1260			1767			1130	
Travel Time (s)		21.1			21.5			30.1			19.3	
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Heavy Vehicles (%)	0%	1%	1%	3%	2%	4%	0%	0%	2%	0%	0%	0%
Adj. Flow (vph)	244	788	128	208	484	96	320	172	308	104	64	32
Shared Lane Traffic (%)												
Lane Group Flow (vph)	244	788	128	208	484	96	320	172	308	104	64	32
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.11	1.11	1.11	1.11	1.11	1.11	1.11	1.11	1.11	1.11	1.11	1.11
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	1	1	1	1	1	1	1	1	1	1	1
Detector Template	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Leading Detector (ft)	50	50	50	50	50	50	50	50	50	50	50	50
Trailing Detector (ft)	0	0	0	0	0	0	0	0	0	0	0	0
Detector 1 Position(ft)	0	0	0	0	0	0	0	0	0	0	0	0
Detector 1 Size(ft)	50	50	50	50	50	50	50	50	50	50	50	50
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Turn Type	pm+pt	NA	pm+ov	pm+pt	NA	pm+ov	pm+pt	NA	pm+ov	pm+pt	NA	pm+ov
Protected Phases	5	2	3	1	6	7	3	8	1	7	4	5
Permitted Phases	2		2	6		6	8		8	4		4
Detector Phase	5	2	3	1	6	7	3	8	1	7	4	5
Switch Phase							8					
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	15.0	38.0	15.0	15.0	43.0	15.0	15.0	33.0	15.0	15.0	33.0	15.0

Lanes, Volumes, Timings
 11: Washington St & Custer Ave

09/26/2023

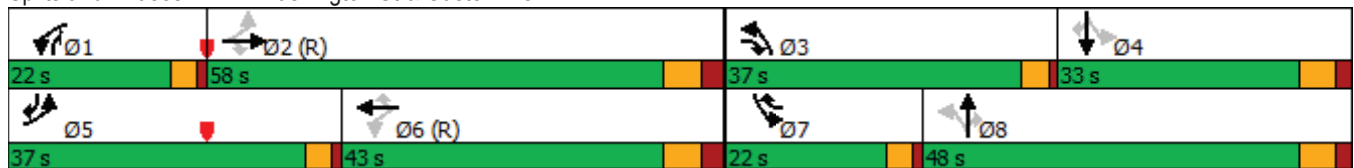


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Total Split (s)	37.0	58.0	37.0	22.0	43.0	22.0	37.0	48.0	22.0	22.0	33.0	37.0
Total Split (%)	24.7%	38.7%	24.7%	14.7%	28.7%	14.7%	24.7%	32.0%	14.7%	14.7%	22.0%	24.7%
Maximum Green (s)	33.0	51.0	33.0	18.0	36.0	18.0	33.0	42.0	18.0	18.0	27.0	33.0
Yellow Time (s)	3.0	4.3	3.0	3.0	4.3	3.0	3.0	3.9	3.0	3.0	3.9	3.0
All-Red Time (s)	1.0	2.7	1.0	1.0	2.7	1.0	1.0	2.1	1.0	1.0	2.1	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.0	7.0	4.0	4.0	7.0	4.0	4.0	6.0	4.0	4.0	6.0	4.0
Lead/Lag	Lead	Lag	Lead	Lead	Lag	Lead	Lead	Lag	Lead	Lead	Lag	Lead
Lead-Lag Optimize?												
Vehicle Extension (s)	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5
Recall Mode	None	C-Max	None	None	C-Max	None	None	None	None	None	None	None
Walk Time (s)		7.0			7.0			7.0			7.0	
Flash Dont Walk (s)		24.0			29.0			20.0			20.0	
Pedestrian Calls (#/hr)		0			0			0			0	
Act Effct Green (s)	94.0	76.3	113.9	91.9	75.2	94.2	45.0	27.1	46.8	23.1	10.8	29.1
Actuated g/C Ratio	0.63	0.51	0.76	0.61	0.50	0.63	0.30	0.18	0.31	0.15	0.07	0.19
v/c Ratio	0.43	0.47	0.11	0.52	0.30	0.10	0.75	0.54	0.51	0.48	0.51	0.09
Control Delay	11.4	21.7	6.8	17.4	25.0	2.2	56.1	61.2	14.1	47.5	79.9	0.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	11.4	21.7	6.8	17.4	25.0	2.2	56.1	61.2	14.1	47.5	79.9	0.5
LOS	B	C	A	B	C	A	E	E	B	D	E	A
Approach Delay		17.9			20.2			41.0			50.4	
Approach LOS		B			C			D			D	

Intersection Summary

Area Type: Other
 Cycle Length: 150
 Actuated Cycle Length: 150
 Offset: 113 (75%), Referenced to phase 2:EBTL and 6:WBTL, Start of 1st Green
 Natural Cycle: 110
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.75
 Intersection Signal Delay: 27.0
 Intersection LOS: C
 Intersection Capacity Utilization 77.1%
 ICU Level of Service D
 Analysis Period (min) 15

Splits and Phases: 11: Washington St & Custer Ave



Lanes, Volumes, Timings
14: Montana Ave & Tara Ct

09/26/2023



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕	↕	↕	↕↔		↕	↕↔	
Traffic Volume (vph)	92	20	44	120	20	100	56	1052	96	64	632	20
Future Volume (vph)	92	20	44	120	20	100	56	1052	96	64	632	20
Ideal Flow (vphpl)	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750
Storage Length (ft)	0		0	0		100	185		0	85		0
Storage Lanes	0		0	0		1	1		0	1		0
Taper Length (ft)	25			25			50			50		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	*0.82	0.95	1.00	0.95	0.95
Ped Bike Factor								1.00				
Frt		0.962				0.850		0.987				0.995
Flt Protected		0.971			0.959		0.950			0.950		
Satd. Flow (prot)	0	1621	0	0	1655	1488	1662	2801	0	1662	3274	0
Flt Permitted		0.600			0.642		0.394			0.175		
Satd. Flow (perm)	0	1002	0	0	1108	1488	690	2801	0	306	3274	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		13				100		10				4
Link Speed (mph)		25			25			35				35
Link Distance (ft)		308			442			1138				638
Travel Time (s)		8.4			12.1			22.2				12.4
Confl. Peds. (#/hr)									2	2		
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Heavy Vehicles (%)	0%	0%	3%	0%	10%	0%	0%	1%	0%	0%	1%	3%
Adj. Flow (vph)	92	20	44	120	20	100	56	1052	96	64	632	20
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	156	0	0	140	100	56	1148	0	64	652	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			12				12
Link Offset(ft)		0			0			0				0
Crosswalk Width(ft)		16			16			16				16
Two way Left Turn Lane												
Headway Factor	1.11	1.11	1.11	1.11	1.11	1.11	1.11	1.11	1.11	1.11	1.11	1.11
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2		1	2	1	1	2		1	2	
Detector Template	Left	Thru		Left	Thru	Right	Left	Thru		Left	Thru	
Leading Detector (ft)	20	100		20	100	20	20	100		20	100	
Trailing Detector (ft)	0	0		0	0	0	0	0		0	0	
Detector 1 Position(ft)	0	0		0	0	0	0	0		0	0	
Detector 1 Size(ft)	20	6		20	6	20	20	6		20	6	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 2 Position(ft)		94			94			94				94
Detector 2 Size(ft)		6			6			6				6
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex				Cl+Ex
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0				0.0

Lanes, Volumes, Timings
14: Montana Ave & Tara Ct

09/26/2023



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Turn Type	Perm	NA		Perm	NA	Perm	Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8		8	2			6		
Detector Phase	4	4		8	8	8	2	2		6	6	
Switch Phase												
Minimum Initial (s)	5.0	5.0		5.0	5.0	5.0	25.0	25.0		25.0	25.0	
Minimum Split (s)	32.0	32.0		32.0	32.0	32.0	31.0	31.0		31.0	31.0	
Total Split (s)	50.0	50.0		50.0	50.0	50.0	100.0	100.0		100.0	100.0	
Total Split (%)	33.3%	33.3%		33.3%	33.3%	33.3%	66.7%	66.7%		66.7%	66.7%	
Maximum Green (s)	44.0	44.0		44.0	44.0	44.0	94.3	94.3		94.3	94.3	
Yellow Time (s)	3.0	3.0		3.0	3.0	3.0	3.6	3.6		3.6	3.6	
All-Red Time (s)	3.0	3.0		3.0	3.0	3.0	2.1	2.1		2.1	2.1	
Lost Time Adjust (s)		0.0			0.0	0.0	0.0	0.0		0.0	0.0	
Total Lost Time (s)		6.0			6.0	6.0	5.7	5.7		5.7	5.7	
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0		3.0	3.0	
Recall Mode	None	None		None	None	None	C-Max	C-Max		C-Max	C-Max	
Walk Time (s)	7.0	7.0		7.0	7.0	7.0	7.0	7.0		7.0	7.0	
Flash Dont Walk (s)	18.0	18.0		19.0	19.0	19.0	16.0	16.0		7.0	7.0	
Pedestrian Calls (#/hr)	0	0		0	0	0	0	0		0	0	
Act Effct Green (s)		24.3			24.3	24.3	114.0	114.0		114.0	114.0	
Actuated g/C Ratio		0.16			0.16	0.16	0.76	0.76		0.76	0.76	
v/c Ratio		0.90			0.78	0.31	0.11	0.54		0.28	0.26	
Control Delay		101.9			86.9	10.9	6.6	9.3		4.3	1.3	
Queue Delay		0.0			0.0	0.0	0.0	0.0		0.0	0.0	
Total Delay		101.9			86.9	10.9	6.6	9.3		4.3	1.3	
LOS		F			F	B	A	A		A	A	
Approach Delay		101.9			55.2			9.1			1.6	
Approach LOS		F			E			A			A	

Intersection Summary




















Area Type: Other
 Cycle Length: 150
 Actuated Cycle Length: 150
 Offset: 148 (99%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green
 Natural Cycle: 65
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.90
 Intersection Signal Delay: 17.8 Intersection LOS: B
 Intersection Capacity Utilization 83.8% ICU Level of Service E
 Analysis Period (min) 15
 * User Entered Value

Splits and Phases: 14: Montana Ave & Tara Ct



Lanes, Volumes, Timings
38: Montana Ave

09/26/2023

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	1	4	48	4	1	160	16	988	20	104	568	8
Future Volume (vph)	1	4	48	4	1	160	16	988	20	104	568	8
Ideal Flow (vphpl)	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750
Storage Length (ft)	50		160	80		0	305		0	155		0
Storage Lanes	0		0	0		0	1		0	1		0
Taper Length (ft)	32			105			185			155		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95
Frt		0.878			0.869			0.997			0.998	
Flt Protected		0.999			0.999		0.950			0.950		
Satd. Flow (prot)	0	1505	0	0	1489	0	1630	1711	0	1630	3253	0
Flt Permitted		0.999			0.999		0.950			0.950		
Satd. Flow (perm)	0	1505	0	0	1489	0	1630	1711	0	1630	3253	0
Link Speed (mph)		30			30			30			40	
Link Distance (ft)		483			388			1891			1260	
Travel Time (s)		11.0			8.8			43.0			21.5	
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	1	4	48	4	1	160	16	988	20	104	568	8
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	53	0	0	165	0	16	1008	0	104	576	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.11	1.11	1.11	1.11	1.11	1.11	1.11	1.11	1.11	1.11	1.11	1.11
Turning Speed (mph)	15		9	15		9	15		9	15		9
Sign Control		Stop			Stop			Free			Free	
Intersection Summary												
Area Type:	Other											
Control Type:	Unsignalized											
Intersection Capacity Utilization	87.4%						ICU Level of Service E					
Analysis Period (min)	15											

Intersection												
Int Delay, s/veh	4.5											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕		↕	↕		↕	↕	
Traffic Vol, veh/h	1	4	48	4	1	160	16	988	20	104	568	8
Future Vol, veh/h	1	4	48	4	1	160	16	988	20	104	568	8
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	305	-	-	155	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	100	100	100	100	100	100	100	100	100	100	100	100
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	1	4	48	4	1	160	16	988	20	104	568	8

Major/Minor	Minor2		Minor1		Major1		Major2					
Conflicting Flow All	1891	1820	288	1524	1814	998	576	0	0	1008	0	0
Stage 1	780	780	-	1030	1030	-	-	-	-	-	-	-
Stage 2	1111	1040	-	494	784	-	-	-	-	-	-	-
Critical Hdwy	7.33	6.53	6.93	7.33	6.53	6.23	4.13	-	-	4.13	-	-
Critical Hdwy Stg 1	6.53	5.53	-	6.13	5.53	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.13	5.53	-	6.53	5.53	-	-	-	-	-	-	-
Follow-up Hdwy	3.519	4.019	3.319	3.519	4.019	3.319	2.219	-	-	2.219	-	-
Pot Cap-1 Maneuver	48	77	709	88	78	295	995	-	-	685	-	-
Stage 1	355	405	-	281	310	-	-	-	-	-	-	-
Stage 2	253	306	-	526	403	-	-	-	-	-	-	-
Platoon blocked, %								-	-	-	-	-
Mov Cap-1 Maneuver	19	64	709	68	65	295	995	-	-	685	-	-
Mov Cap-2 Maneuver	19	64	-	68	65	-	-	-	-	-	-	-
Stage 1	349	343	-	277	305	-	-	-	-	-	-	-
Stage 2	114	301	-	411	342	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	20.2	37.8	0.1	1.7
HCM LOS	C	E		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	995	-	-	290	268	685	-	-
HCM Lane V/C Ratio	0.016	-	-	0.183	0.616	0.152	-	-
HCM Control Delay (s)	8.7	-	-	20.2	37.8	11.2	-	-
HCM Lane LOS	A	-	-	C	E	B	-	-
HCM 95th %tile Q(veh)	0	-	-	0.7	3.7	0.5	-	-