

APRIL 2022

NORTH
GREAT FALLS
SUB-AREA
TRANSPORTATION
STUDY



Table of Contents

PROJECT BASIS	1
Purpose & Objectives	1
Study Area.....	2
Existing Studies & Plans	2
Long Range Transportation Plan	2
Great Falls Arterial Feasibility Study.....	5
Public Participation Process	5
EXISTING CONDITIONS	7
Sub-Area Transportation Network	7
Streets	7
Intersections	7
Bicycle and Pedestrian Facilities	9
Transit Routes	9
Plow Routes.....	10
Right-of-Way	10
Traffic Volumes	13
Crash History Analysis	15
Intersection Crash History	15
Corridor Crash History	17
Traffic Operations	18
Public Comments and Concerns	19
Summary of Public Comments Regarding Connectivity	19
Summary of Public Comments Regarding Operations	20
FUTURE CONDITIONS	21
Land Development.....	21
Street Network	23
Baseline Scenario.....	23
Street Network Modification Scenarios 1–9	23

Travel Demand Modeling.....	25
Baseline Scenario Modeling Results.....	25
Scenarios 1–9 Modeling Results.....	35
Impactful Connections/Disconnections.....	35
Traffic Operations Analysis.....	36
Recommended Network.....	37
Summary.....	37
IMPROVEMENT PROJECTS	40
Projects to Improve Safety.....	40
Intersection Traffic Control.....	40
Division Road Intersection Improvements.....	41
32nd Avenue NE/9th Street NE/Skyline Drive NE Intersection Improvements.....	42
36th Avenue NE Corridor Improvements.....	43
Skyline Drive NW/NE Corridor Improvements.....	43
5th Street NE Corridor On-Street Parking.....	44
Projects to Improve Connectivity.....	44
43rd Avenue NW/NE Connectivity.....	44
6th Street NW Reconstruction.....	45
2nd Street NE Functional Classification.....	45
US 87/Bootlegger Trail Intersection Improvements.....	46
Bicycle and Pedestrian Project Recommendations.....	46
Sidewalk and Shared-Use Paths.....	47
Shared Use Markings.....	48
Summary.....	48
FUNDING ALTERNATIVES	52
Local Jurisdiction Types of Funding.....	52
City of Billings.....	52
City of Bozeman.....	53
City of Kalispell.....	55
City of Missoula.....	55

Local Agency Federal Funding Uses.....	56
City of Billings.....	56
City of Kalispell.....	56
Funding Alternatives	57
FHWA Transportation Alternatives (TA) Funds.....	57
Surface Transportation Program-Urban (STPU).....	58
Congestion Mitigation Air Quality (CMAQ) Improvement Program	59
Bridge and Road Safety Accountability Act.....	60
Special Improvement Districts	60
Special Districts.....	62
General Obligation Bonds.....	63
Transportation Impact Fees	63
Great Falls Funding Recommendations.....	64

TABLES

Table 1 – Recommended and Illustrative Projects, Great Falls LRTP.....	4
Table 2 – Traffic Control at Sub-Area Intersections.....	9
Table 3 – Existing Network Traffic Volumes	13
Table 4 – Intersection Crash Rates	16
Table 5 – Intersection Crash Severity Rates And Crash Type.....	16
Table 6 – Corridor Crash Data.....	18
Table 7 – Future Subdivision Developments.....	21
Table 8 – Summary of Recommended Projects.....	51

FIGURES

- Figure 1 – Sub-Area Project Boundary..... 3
- Figure 2 – Functional Classification Map..... 8
- Figure 3 – Plow & Transit Routes..... 11
- Figure 4 – North Great Falls Study Area Right-of-Way..... 12
- Figure 5 – Existing Conditions (2020) Traffic Volumes..... 14
- Figure 6 – Proposed Household Growth for the Sub-Area..... 22
- Figure 7 – Baseline Scenario..... 24
- Figure 8 – Scenario 1..... 26
- Figure 9 – Scenario 2..... 27
- Figure 10 – Scenario 3..... 28
- Figure 11 – Scenario 4..... 29
- Figure 12 – Scenario 5..... 30
- Figure 13 – Scenario 6..... 31
- Figure 14 – Scenario 7..... 32
- Figure 15 – Scenario 8..... 33
- Figure 16 – Scenario 9..... 34
- Figure 17 – Recommended Future Network..... 39
- Figure 18 – Example of Possible Intersection Improvement..... 42
- Figure 19 – City of Great Falls LRTP Sidewalk & Bicycle Improvements..... 49
- Figure 20 – Recommended Projects..... 50

APPENDICES

- Appendix A: Public Participation Plan
- Appendix B: Street Characteristics Inventory
- Appendix C: Traffic Count Data Worksheets
- Appendix D: Crash Data Tables
- Appendix E: Existing Conditions Capacity Calcs
- Appendix F: Public Comments Summary

Appendix G: Future Traffic Volume Forecasts

Appendix H: Future Project Descriptions

Appendix I: Future Scenario Capacity Calcs

Acronym Guide

AADT	Annual Average Daily Traffic
AASHTO	American Association of State Highway and Transportation Officials
ADA	Americans with Disabilities Act
BaRSAA	Bridge and Road Safety and Accountability Act
BUILD Grant	Better Utilizing Investments to Leverage Development Grant
CIP	Capital Improvement Plan
CMAQ	Congestion Mitigation and Air Quality Improvement
FHWA	Federal Highway Administration
GFTD	Great Falls Transit District
GO Bond	General Obligation Bond
HCM	Highway Capacity Manual
HSM	Highway Safety Manual
LOS	Level of Service
L RTP	Long Range Transportation Plan
MACo	Montana Association of Counties
MAP	Moving Ahead for Progress
MCA	Montana Code Annotated
MDT	Montana Department of Transportation
MLCT	Montana League of Cities and Towns
MPO	Metropolitan Planning Organization
MUTCD	Manual on Uniform Traffic Control Devices
MVE	Million Vehicles Entering
NACTO	National Association of City Transportation Officials
PCI	Pavement Condition Index
RSID	Rural Special Improvement District
SD	Special District
SID	Special Improvement District
SLMID	Street Light Maintenance Improvement District
STBGP	Surface Transportation Block Grant Program

STPU	Surface Transportation Program-Urban
TA	Transportation Alternatives
TAP	Transportation Alternatives Program
TIF	Tax Increment Finance
TIGER Grant	Transportation Investment Generating Economic Recovery Grant
TIS	Traffic Impact Study
TMP	Transportation Master Plan
TSS	Traffic Signs and Signals

1

PROJECT BASIS

In 2015, several annexation requests were received by the City of Great Falls for subdivisions in the northwest portion of the city, which generated discussions about traffic impacts in the area. The Great Falls Metropolitan Planning Organization (MPO) subsequently identified a need to conduct a detailed study and analysis of a specific sub-area of the City, which for the purposes of this project will be referred to as the “North Great Falls Sub-Area” (see next section of report for information about size and location of the study area). This region of Great Falls has experienced intermittent growth over the past decade plus, primarily in the form of residential development, and growth is expected to continue in the future for this part of the urban area.



Purpose & Objectives

The purpose of the North Great Falls Sub-Area Transportation Study is to develop a vision for expansion of and improvements to the multi-modal transportation network in the sub-area to maximize safety, accessibility, and efficiency for all users. The objectives of the study, as defined by the MPO, are to facilitate and implement community transportation goals and improve transportation facilities and services by:

- **Relating the transportation system to existing and future land use and community comprehensive plans and programs.**

- **Improving the multi-modal transportation circulation of people and goods, using both motorized and non-motorized transportation modes and facilities.**
- **Providing a safe, efficient, accessible, cost-effective, and context-sensitive transportation system.**
- **Ensuring compliance with Federal transportation planning regulations.**

Study Area

The North Great Falls Sub-Area (sub-area) is located on the northern edge of the City of Great Falls, on a high bench that sits north of the Missouri River and west of US Highway 87. Figure 1 on page 3 illustrates the location/boundary of the sub-area. This area of the City consists primarily of residential development intermixed with parks, schools, churches, and a few businesses. More intense commercial and industrial development lies just outside the study area, primarily to the south and east.

Existing Studies & Plans

Long Range Transportation Plan

In 2018, the City of Great Falls adopted an update to its transportation plan, titled the Great Falls Area Long Range Transportation Plan - 2018 Update (LRTP). It is a comprehensive transportation planning document that serves as a “guide for development of and investment in the community’s transportation system.” The most recent major update to the LRTP was published in 2014, with an updated 2018 version and minor updates in 2019. The plan provides system-wide analysis, modeling of future conditions, and recommendations for improvements for the Great Falls Urban Area, which consists of the city limits and various areas of unincorporated lands that surround the urban boundary. The recommendations about the community’s multi-modal transportation system include a prioritization of infrastructure

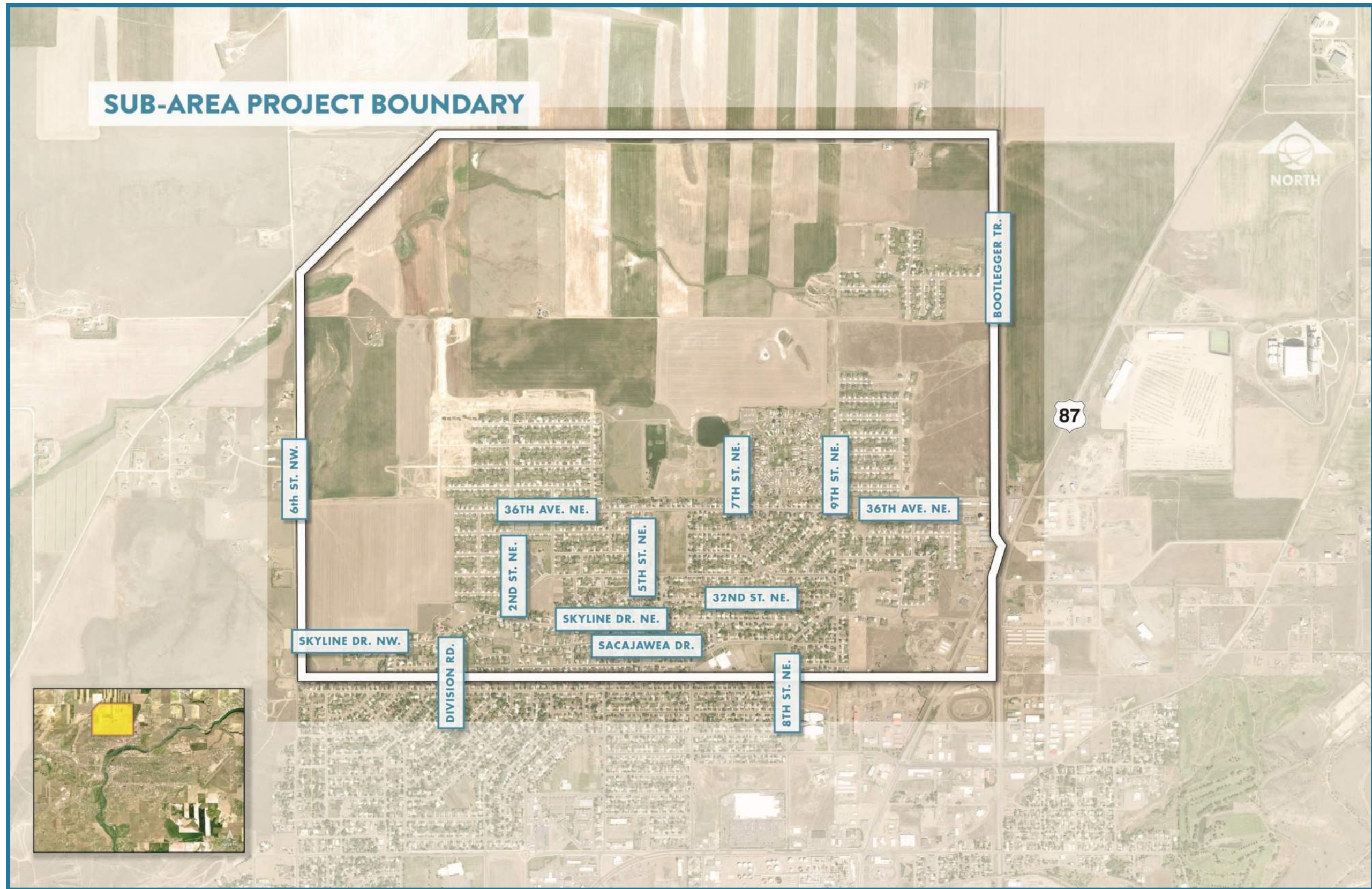


Figure 1 – Sub-Area Project Boundary

improvement projects, a discussion of strategy for funding of improvements, and an evaluation of policy as it relates to transportation system development.

The sub-area is included in the overall study area for the LRTP. Many of the more generalized recommendations associated with design standards and policy are directly applicable to the sub-area. Additionally, the LRTP discusses Committed Projects (defined as a project that has been approved by the Policy Coordinating Committee and for which funding has been allocated), Recommended Projects (not identified within the current 5-year Transportation Improvement Plan but recommended for consideration within a 20-year timeframe in the LRTP), and Illustrative Projects (speculative future projects for which funding may not be available within a 20-year timeframe). As of the time the LRTP was updated in 2019, there were no Committed Projects within the sub-area boundary. However, it is important to note that “committed projects” in the LRTP and the Transportation Improvement Plan are almost exclusively only those projects that are on Federal-Aid roads, and there are no such roads in the study area.

Table 1 below provides a list of Illustrative Projects from the LRTP that wholly or partially fall within the sub-area boundary. These projects were considered part of the baseline analysis scenario and/or were applied in the various scenarios modeled in this project for the long-term future network.

Table 1 - Illustrative Projects, Great Falls LRTP

Project	Name	Description	Estimated Cost
I6	36th Ave NE Traffic Calming	Traffic calming on route	\$113,000.00
I10	Speed Studies	Periodic speed studies	\$39,000.00
I14	6th Street NW - Smelter Ave to 36th Ave NE	Reconstruct to collector standard	\$9,679,000.00
I24	36th Ave NE - 1st St NE to 6th St NW	Extend roadway (collector standard)	\$4,502,000.00
I26	43rd Ave NE - 6th St NW to Bootlegger Trail	Construct new roadway to minor arterial standard	\$19,134,000.00
I27	43rd Ave NE - Bootlegger Trail to US 87	Construct new roadway to minor arterial standard	\$2,983,000.00
I28	North/South Connectors	Extend north-south routes to complete gridded network	\$9,904,000.00

The LRTP also provides recommendations for non-motorized system improvements in the form of sidewalks, shared lane bicycle markings, bicycle lanes, shared-use paths, bicycle facility sign-replacements, and “spot improvements,” which are projects at specific point locations rather than along street corridors. None of the recommended spot improvement projects in the LRTP fall within the sub-area. However,

installation of shared lane bicycle markings and sidewalk is recommended at various locations within the sub-area.

Great Falls Arterial Feasibility Study

The *Great Falls Arterial Feasibility Study* was published in February 2004. The purpose of that study was to evaluate the anticipated costs and benefits for either a southern or northern arterial that would serve to connect Interstate 15 with US 87/89. The study determined that the Northern Corridor option, which would begin at Interstate 15 just west of the existing Emerson Junction interchange and proceed in an arc around the Riverview/Valley View residential area, the Watson Coulee Road area, the Black Eagle community area and towards Malmstrom Air Force Base, did not satisfy the criterion for economic feasibility. The Southern Corridor, from the I-15 Airport Junction eastward towards the intersection of 10th Avenue South/57th Street South, was determined to be feasible from an economic, engineering, traffic and environmental perspective. A subsequent alignment study for the Southern Corridor determined that it was not a viable project.

Public Participation Process

A public participation process was conducted for the North Great Falls Sub-Area Transportation Study in conformance with a Public Participation Plan that was developed at the outset of the project in cooperation with the MPO. A copy of that plan is included in Appendix A. A website was created for the project to provide updates on progress, a forum for public comment, and access to study documents and exhibits. The web address for the project website is:

<http://sandersonstewart.com/projects/northgreatfallsstudy>.

A Facebook page was also created to help with updating the public on study progress and to provide a secondary means by which interested parties could ask questions and provide feedback on the project. The Facebook page is located at: <https://www.facebook.com/northgreatfallsstudy>.

The notice to proceed for the study occurred in late January of 2020. As a result, the study, and in particular, the public participation process, was impacted by social distancing restrictions associated with the COVID-19 pandemic. The decision was made to forgo the first scheduled neighborhood meeting (originally scheduled for late spring). Instead, the project team prepared an informational video about the project and

posted links to the video (hosted on Youtube.com) on the project website and Facebook page. Residents within the study area (and all property owners and addresses, provided by the MPO) were sent postcards to notify them about the project, direct them to the project website and Facebook page, and to encourage interested parties to provide input and feedback.

The second neighborhood meeting will be held in the fall of 2021 after the draft report is released. Public comments from the neighborhood meeting will be compiled in a spreadsheet to be included in the appendices of this report.

Lastly, after the draft study report is updated based on MPO review and with public comments addressed, it will be presented to the Great Falls City Commission. Depending upon social distancing protocols at that time, the public may be able to attend that meeting to provide additional comment or watch the meeting online and comment remotely.



2

EXISTING CONDITIONS

This section of the report describes the baseline characteristics and existing conditions analyses that were utilized to help identify any existing deficiencies in the transportation system, as well as to serve as the starting point for projecting future conditions.

Sub-Area Transportation Network

Streets

The network of streets within the sub-area is made up primarily of suburban local streets and a few collector streets, as per the functional classification system depicted in the LRTP. Functional classification is a system for defining the intended function of streets. Functional classification systems typically consist of arterial streets, which are roadways intended to prioritize mobility through higher speeds and/or limited access, collector streets, which balance mobility with access and serve the primary function of funneling traffic between local streets and arterial streets, and local streets, which are intended to provide lower-speed, direct access to public and private property.

There are no arterial streets within the sub-area (as classified in the LRTP). 36th Avenue NE, Riverview Drive East, 6th Street NW, 9th Street NE/8th Street NE, and Bootlegger Trail are classified as collector streets. All other sub-area roadways are local streets. Figure 2 (page 8) shows the functional classifications for roadways within and directly adjacent to the sub-area as well as a delineation of the school zone near Sacajawea Elementary School. A comprehensive list of street characteristics within the sub-area including road surface type, pavement width, lane widths, shoulder widths, presence of sidewalk and/or street lighting, speed limits, and traffic volumes are included in Appendix B.

Intersections

There are no roundabouts or traffic signals within the study area. Study area intersections are primarily two-way stop-controlled, when the minor roadway(s) have a stop sign; yield-controlled, where a yield sign is present on the minor approach(es); or uncontrolled, where no control (stop or yield signs) is provided. The traffic control at sub-area intersections is illustrated in Table 2 on page 9.

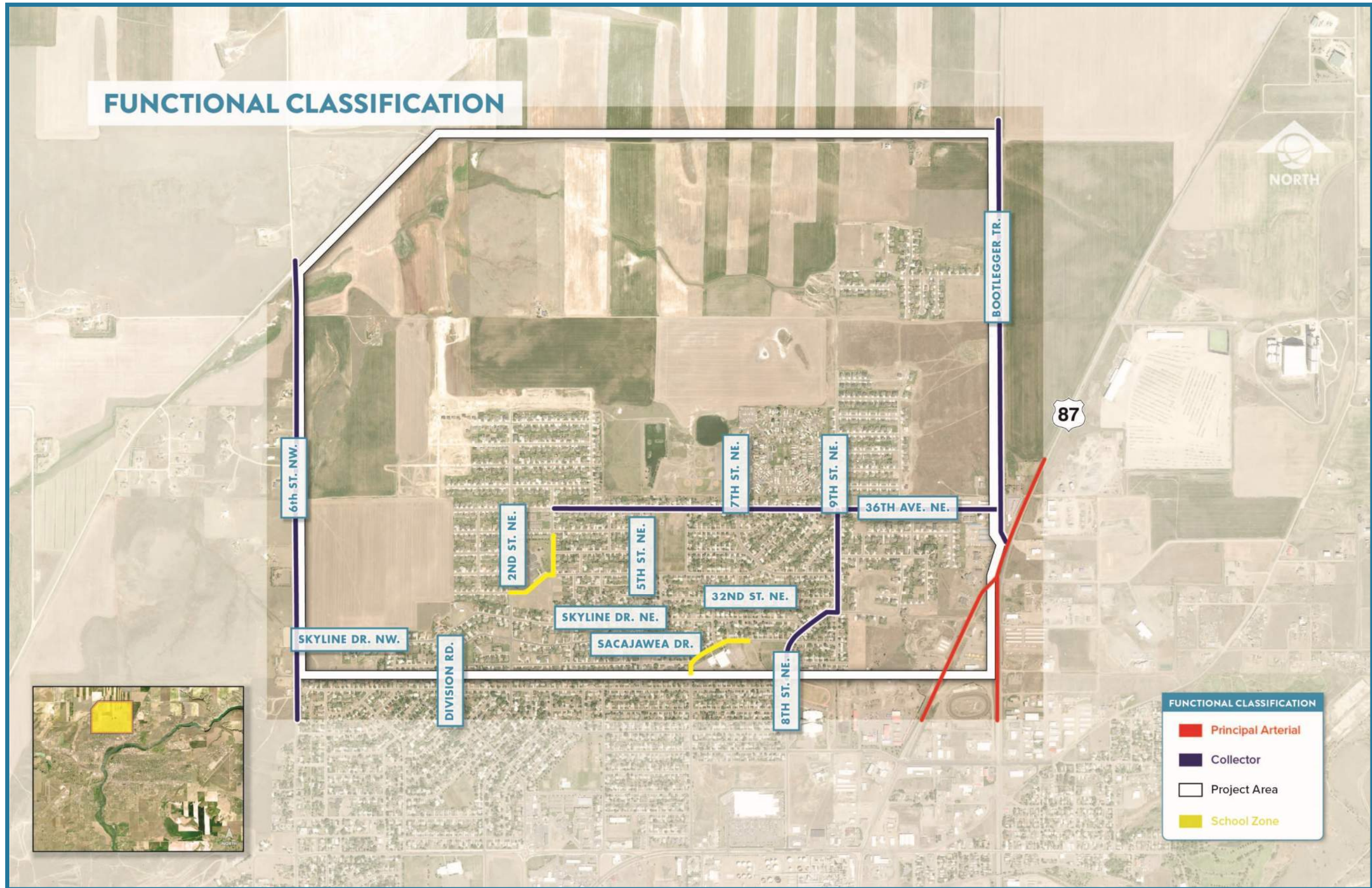


Figure 2 - Functional Classification

Table 2: Traffic Control at Sub-Area Intersections

Intersection	Intersection Control
6th Street NW & Vinyard Road	Stop-Controlled (EB)
Bootlegger Trail & 46th Avenue NE	Stop-Controlled (EB)
36th Avenue NE & 2nd Street NE	Stop-Controlled (EB/WB)
36th Avenue NE & 5th Street NE	Yield-Controlled (NB)
36th Avenue NE & 9th Street NE	Stop-Controlled (NB/SB)
Bootlegger Trail & 36th Avenue NE	Stop-Controlled (EB)
6th Street NW & Skyline Drive NW	Stop-Controlled (WB)
Skyline Drive NW & Division Road	Uncontrolled
Skyline Drive NW & 2nd Street NE	Stop-Controlled (EB/WB)
Skyline Drive NW & 5th Street NE	Stop-Controlled (EB/WB)
8th Street NW & Sacajawea Drive	Stop-Controlled (EB/WB)
9th Street NE & 32nd Avenue NE	Yield-Controlled (EB)
9th Street NE & Skyline Drive NE	Yield-Controlled (EB)

Bicycle and Pedestrian Facilities

The sub-area has intermittent sidewalks throughout but no shared-use paths to accommodate bicycles and no designated bicycle lanes on any roadways. There are sidewalk gaps in front of vacant residential properties in addition to the following locations:

- 9th Street NE (north of 32nd Avenue NE)
- 36th Avenue NE (east of 9th Street NE on the north side of the road), however there is new sidewalk on the southern side of 36th Avenue NE as of the writing of this report.
- 2nd Street from 36th Avenue NE to Division Road (adjacent to Early Learning Family Center)
- The perimeter of Skyline Park (33rd Avenue NE, 36th Avenue NE and 6th Street NE)
- Sacajawea Elementary School area - 8th Street NE between Riverview Drive East and Sacajawea Drive (approximately 500 feet along city park property) and Sacajawea Drive west of 8th Street NE (approximately 400 feet).

Transit Routes

Great Falls is home to the Great Falls Transit District (GFTD), a bus system that currently operates seven routes around the City. GFTD Route 6 provides transit service in the study area using a variety of streets as

shown in Figure 3 on page 11. The route passes by several schools and parks, while also traversing through residential neighborhoods, and then ultimately returning to the downtown Transfer Center.

Plow Routes

The City of Great Falls has a prioritization system for plowed roadways which helps dictate routes that will be cleared during snow events. To an extent, these roadways are anticipated to act as collectors when weather conditions make travel difficult. Figure 3 on the following page shows the plow routes by prioritization (“Plow 1” being the highest priority, then “Plow 2,” etc.) for the sub-area. All of the collector roadways within the sub-area are priority plow routes, in addition to several local roads, including 2nd Street NE, Skyline Drive NW/NE, Division Road, 5th Street NE, 6th Street NE and Sacajawea Drive. Note that the transit and plow routes overlap on sections of 2nd Street NE, 36th Avenue NE, 9th Street NE/8th Street NE.

Right-of-Way

A review of the existing right-of-way was performed to determine feasibility for future (widening) improvements to the roadway network. The Great Falls sub-area right-of-way is illustrated in Figure 4 on page 12 and the roadway inventory in Appendix B shows the specific right-of-way for all study area streets. Typically, roadways with higher functional classifications generally have wider rights-of-way, however this is not consistent in the project area. In the project area, all roadways have a right-of-way width of 60 feet except 36th Avenue NE (70 feet west of 5th Street NE and 80 feet east of 5th Street NE), 6th Street NW (90-ft right-of-way north of Skyline Drive to the city limits), and Bootlegger Trail (115+ foot right-of-way). 8th Street NE/9th Street NE, which is classified as a collector, has a 60-ft right-of-way. Finally, Skyline Drive west of 3rd Street NW has a right-of-way width of 80 feet.

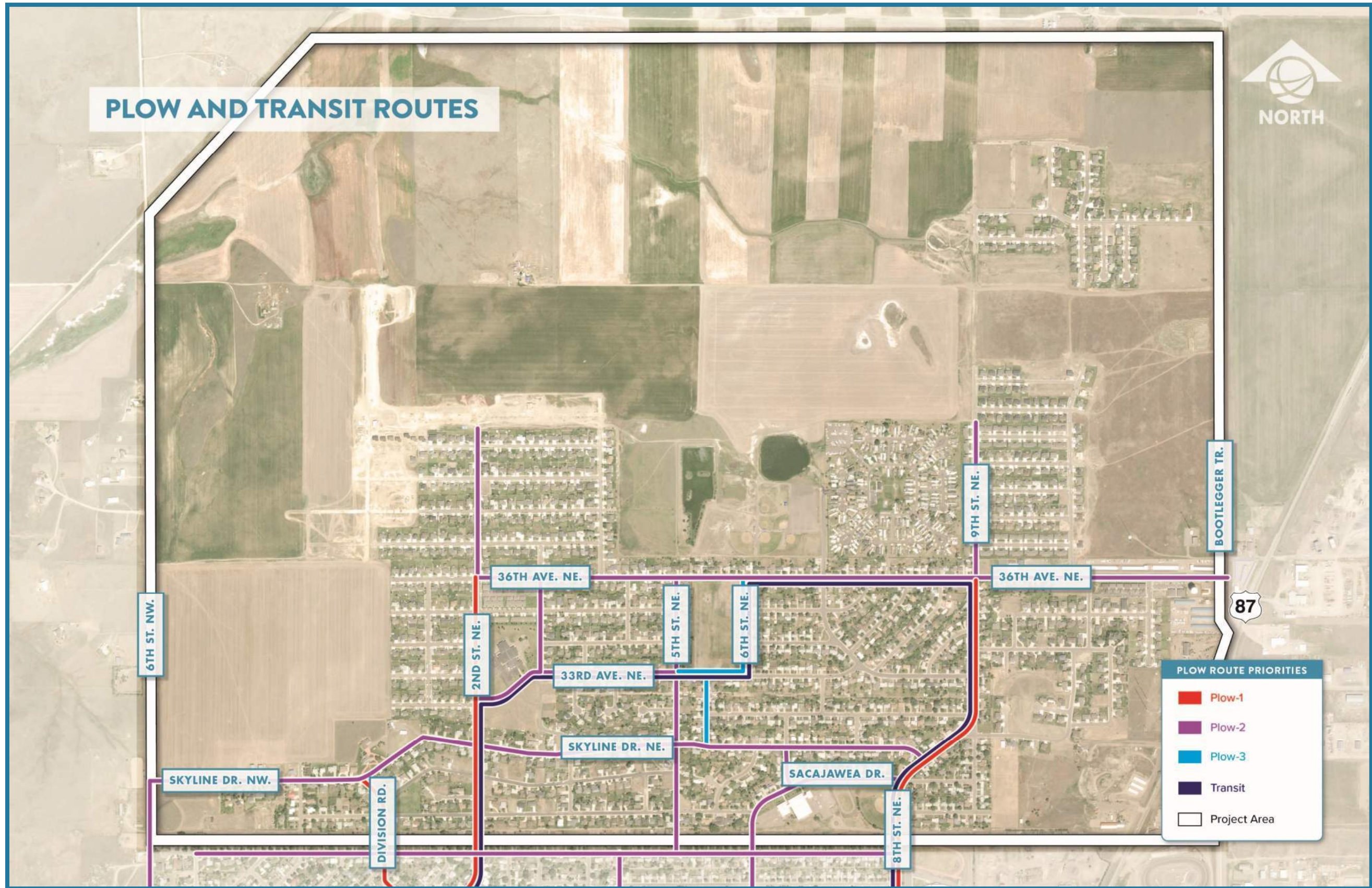


Figure 3 - Plow & Transit Routes

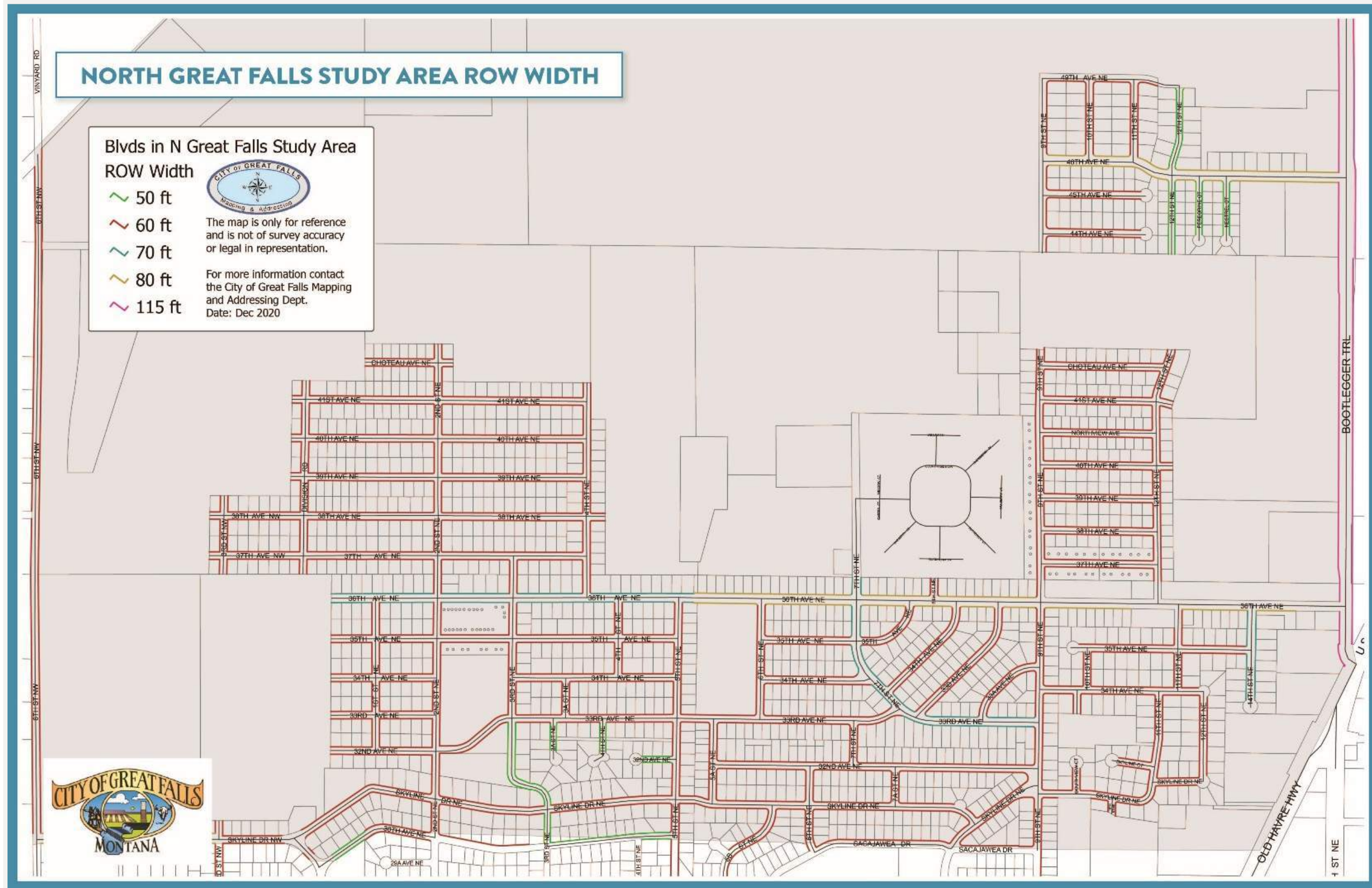


Figure 4: North Great Falls Study Area Right-of-Way

Traffic Volumes

Traffic volume data for key study area streets and intersections was obtained from MDT’s Traffic Data map, the City of Great Falls, and through weekday AM and PM peak hour turning movements counts that were collected on Wednesday, January 22, 2020 at key sub-area intersections. The typical weekday AM and PM peak hour periods were found to occur from 7:30 to 8:30 AM and 4:45 to 5:45 PM based on the turning movement counts. Raw count data was adjusted for seasonal variations using the most current available MDT seasonal adjustment factors. Figure 5 on the following page summarizes the calculated Existing Conditions (2020) peak hour turning movement volumes for the AM and PM peak hours at each intersection. Detailed traffic count data worksheets are included in Appendix C.

Traffic in the sub-area follows a strong commuter pattern, with the majority of traffic exiting the sub-area in the AM and returning in the PM. This pattern aligns with the mainly residential land uses within the sub-area. Traffic is generally concentrated on collector roadways (36th Avenue NE and 9th Street NE) and a few higher-volume local roadways (Skyline Drive NW and 2nd Street NE). There are a few exceptions with local roads carrying similar or higher volumes than the nearby collector roadways. Table 3 below illustrates the existing traffic volumes.

Table 3: Existing Network Traffic Volumes

Corridor	Location		Existing (2020) Daily Volume (vehicles)	Functional Classification
	From	To		
Bootlegger Trail	US 87	36th Ave NE	6050	Collector
	36th Ave NE	46th Ave NE	2180	
36th Ave NE	Bootlegger Trail	9th St NE	3440	Collector
	9th St NE	7th St NE	3300	
	4th St NE	2nd St NE	1490	
9th St NE	32nd Ave NE	33rd Ave NE	2200	Collector
2nd St NE	36th Ave NE	Skyline Dr NE	2560	Local
	30th Ave NE	Skyline Dr NE	2410	
Skyline Dr NE	6th St NW	2nd St NE	1300	Local
6th St NW	Vineyard Rd	Skyline Dr NE	270	Collector

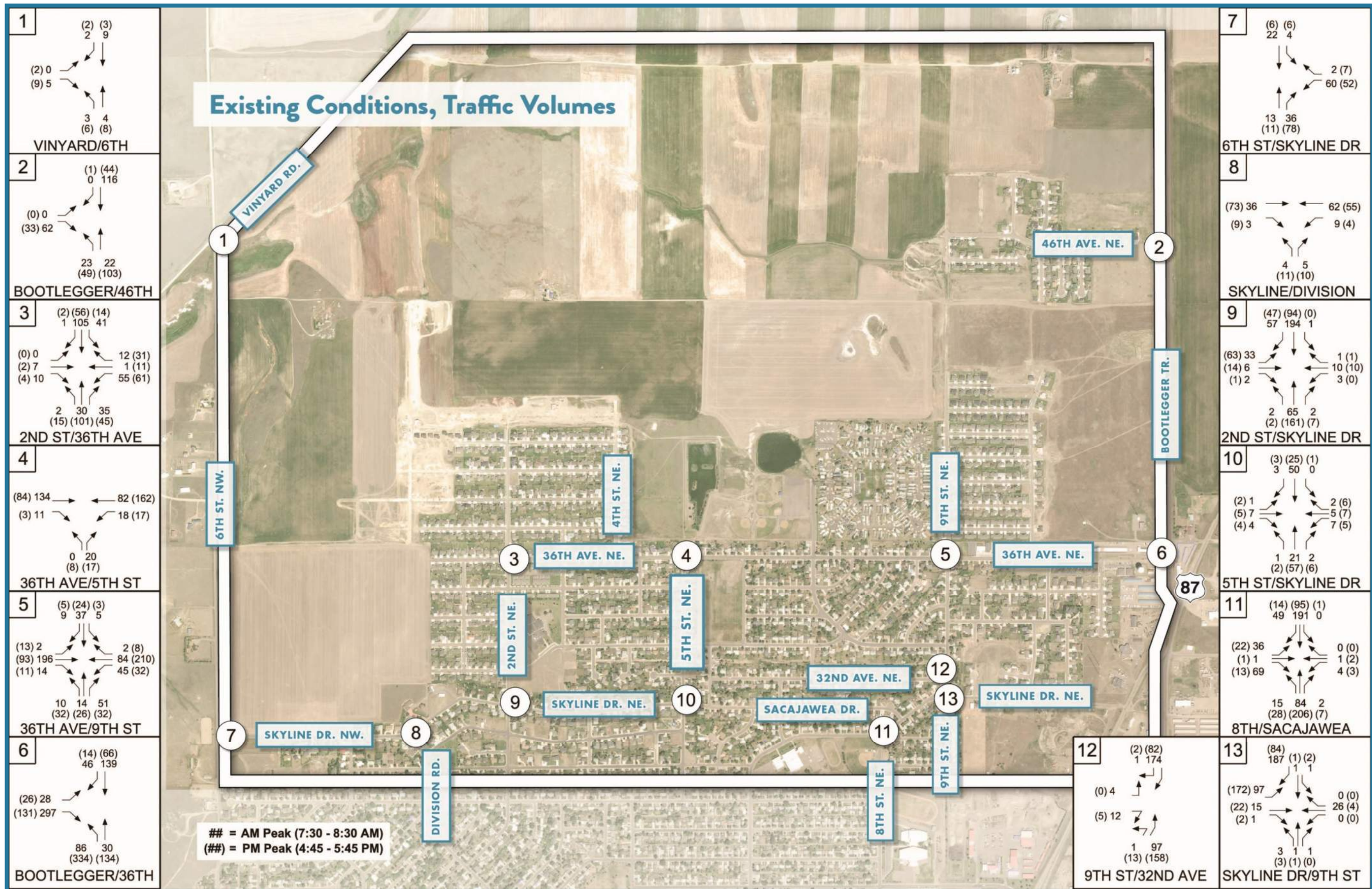


Figure 5 – Existing Conditions (2020) Traffic Volumes

Crash History Analysis

Historical crash data was obtained (if available) for key sub-area intersections and corridor segments for the purposes of evaluating safety. The following sections of the report discuss the crash history analyses.

Intersection Crash History

Historical intersection crash data was obtained from MDT for the 5-year period from January 1, 2014 through December 31, 2018 for a selection of key study area intersections (all for which data was available). Crash data was analyzed for the purposes of calculating intersection crash and severity rates and evaluating collision type trends. The intersection crash history, presented in the Appendix D, illustrates the results of that analysis organized by intersection.

Intersection crash rates were calculated on the standard basis of crashes per million vehicles entering (MVE) for each intersection. The MVE metric was estimated based on 2020 peak hour traffic counts and published historical ADT volumes from the MDT website. Crash rates for the study area intersections ranged from 0.00 crashes/MVE to 0.77 crashes/MVE, with the highest historical crash rates at the Skyline Drive NE/Division Road and Skyline Drive NW/5th Street NE intersections.

As a means of evaluating the historical crash frequency rates, expected crash rates were calculated using the predictive crash rate formulas in the American Association of State Highway Transportation Officials (AASHTO) Highway Safety Manual (HSM). The process involves calculating the number of crashes predicted in a year based on traffic demand (AADTs) and various physical and traffic environment-based conditions such as lane configurations, traffic control, and approach speeds. The calculation results in a crashes-per-year prediction. The predictive rates were back-calculated on the basis of million vehicles entering for the sake of comparison with the actual historical crash rates. The results of the calculations showed that the historical crash rates for most of the study area intersections were at or below the predictive rates. However, the historical rates were calculated to be 7 times higher than predicted rate at the Skyline Drive NW & Division Road intersection and approximately 2.5 times higher than the predicted rate for the Skyline Drive NE & 5th Street NE and 32nd Avenue NE & 9th Street NE/Skyline Drive NE intersections. The number of crashes, historical crash rates and HSM rate predictions for intersections with a historical to predictive crash ratio of greater than 1 are summarized in Table 4 on the following page.

Table 4 - Intersection Crash Rates

Intersection	No. of Crashes	Historical Crash Frequency (crashes/MVE)	Predicted Crash Frequency (crashes/MVE)	Historical/Predicted Ratio
Skyline Dr NE/Division Road	5	0.77	0.11	7.0
Skyline Dr NE/5th Street NE	4	0.77	0.31	2.5
Skyline Dr NW/6th Street NW	3	0.56	0.39	1.4
32nd Avenue NE/9th Street NE/Skyline Drive NE	2	0.14	0.06	2.3

Severity indexes and rates were also calculated for each of the study area intersections. The severity index is defined as the weighted average by crash severity, including fatal, injury, and property damage only crashes. Severity rate is defined as the crash rate multiplied by the severity index. Generally speaking, the severity index and rate provide an indication of whether or not crashes at a particular location are resulting in a high number of injuries and/or fatalities. There were no fatal crashes reported during the 5-year analysis period for any of the study area intersections, but there were a substantial number of injury crashes reported (approximately 24% of all crashes) as presented in Table 5. The LRTP refers to a severity rate over 1.0 as being significant, although it should be noted that one fatal crash at a low-volume intersection could result in a high metric and may not necessarily be representative of a pattern or mitigable problem. The intersection severity rates and most common types of crashes are illustrated in Table 5.

Table 5 - Intersection Crash Severity Rates and Crash Type

Intersection	No. of Crashes	Severity Rate	Percentage of Injury Crashes	Most Common Collision Type
Skyline Dr NE/5th Street NE	4	1.93	75%	Right-Angle (100%)
Skyline Dr NE/Division Road	5	1.08	20%	Fixed Object (40%)
Skyline Dr NW/6th Street NW	3	0.93	33%	No Apparent Trend
36th Avenue NE/9th Street NE	7	0.58	29%	Right-Angle (57%)
Skyline Drive NE/2nd Street NE	6	0.55	33%	Right-Angle (67%)

Right-angle crashes most often occur at unsignalized, stop-controlled intersections after a driver has stopped but has limited sight distance or misjudges speed for approaching vehicles and proceeds when it is unsafe to do so, or at signalized intersections where red lighting-running is a problem. The intersections of Skyline Drive NE/2nd Street NE and Skyline Drive NE/5th Street NE are two-way stop-controlled with vertical curvature which limits sight distance. The intersection of Skyline Drive NE/2nd Street NE is also skewed

which could further inhibit sight distance. Similarly, at the intersections of 36th Avenue NE with 2nd Street NE and 9th Street NE, there is two-way stop control on the minor approaches, implying that right-angle crashes may be caused by an inability to judge speeds of vehicles on 36th Ave NE. These conclusions are somewhat speculative and more detailed information on individual crashes would be needed to determine exact causes for each collision.

In terms of intersection collision type, right-angle collisions were universally the most common, which is not surprising given the majority of the study area intersections are two-way stop-controlled, right-angle intersections. Fixed-object collisions were the next most prevalent, with the objects most often being utility poles or fences.

Corridor Crash History

Historical corridor crash data (non-intersection related) was obtained from MDT for the 10-year period from January 1, 2010 through December 31, 2019 for various streets in the sub-area. As expected, data review showed that the collector roadways analyzed (36th Avenue NE, 6th Street NW, 8th Street NE/9th Street NE and Bootlegger Trail) have higher numbers of crashes than most of the local roads, primarily due to higher traffic volumes. Crash types on these roadways varied, but there was a substantial occurrence of non-intersection related rear-end, sideswipe-same direction, and fixed object crashes. Upon further research, many of the rear-end crashes involved a vehicle hitting the back of a parked vehicle on the roadway. These types of corridor crashes are often observed when volumes and speeds are higher, roadways are narrower, with the presence of on-street parking, where driveway spacing is dense, and when sight distance is impaired. Table 6 summarizes the corridors with the largest number of crashes during the ten-year period; more detailed data for all corridors and crash types is included in Appendix D.

36th Avenue NE is designed to be a collector, with higher speeds and more through trips, though it also has numerous closely spaced driveways which can result in more areas of potential conflicts. That corridor had 27 crashes occur during the ten-year analysis period, 41% of which were rear end crashes. A significant portion (9 of 27 crashes) occurred when a parked vehicle was hit and a majority of the rear-end crashes occurred outside of daylight conditions with several listing glare as a contributing circumstance. Over half of the crashes that occurred in the corridor occurred in Dark-Lighted or Dark-Not Lighted conditions, as street lighting is absent east of 9th Street NE and west of 5th Street NE along the corridor.

Table 6 - Corridor Crash Data

Corridor	No. of Crashes	Most Common Collision Type
6th Street NW	29	Rear End (31%)
36th Avenue NE	27	Rear End (41%)*
Skyline Drive NW/NE	20	Fixed Object (50%)
Bootlegger Trail	16	Fixed Object (38%)
8th Street NE/9th Street NE	14	Fixed Object & Sideswipe (64%)

* 82% of rear end crashes were with parked cars

Skyline Drive NW/NE had a substantial percentage of crashes with fixed objects and sideswipe collisions. Six (6) of the crashes occurred in bad weather conditions (rain, snow, sleet) and seven occurred in the dark. Skyline Drive NE lacks continuous street or intersection lighting west of 5th Street NE and east of 9th Street NE, has limited sight distance in places due to geometrics, and has on-street parking which may negatively impact sight distance. In addition, higher speeds are possible for much of the corridor due to a lack of stop or yield control or other roadway environment factors to calm traffic. More in-depth crash data information would need to be made available to further determine any deficiencies in the roadway environment.

5th Street NE also has a high number of crashes, particularly considering the length of the roadway (0.50 miles). The 7 non-intersection related crashes for this corridor were reported as a mixture of sideswipe (same direction), rear-end, and right-angle crashes. Two (2) of the 7 crashes occurred with snowy conditions. It is possible that the steep grade and narrow roadway with on-street parking on both sides may contribute to the occurrence of crashes. More specific crash data would be necessary to further review crashes to help evaluate preventative safety strategies.

Traffic Operations

Existing conditions (2020) capacity calculations were performed for the study area using methodologies based on the Highway Capacity Manual (HCM). The HCM rates capacity in terms of level of service (LOS), a measure of the performance with values ranging from LOS A, indicating good operation and low vehicle delays, to LOS F, which indicates congestion and longer vehicle delays. LOS C is generally considered as the minimum acceptable performance level for planning and design purposes.

The results of the Existing Conditions (2020) intersection capacity calculations showed that all sub-area intersections operate at LOS A during typical AM and PM peak hours. All individual approaches to the intersections operate at LOS A or B, which indicates that there is very little congestion. Appendix E has a summary table and the resulting capacity analyses for existing conditions.

Corridor level of service was not evaluated as part of the analysis for this study. However, given the low traffic volumes on even the collector streets, it is safe to say there are no existing concerns with corridor capacity either. It should be noted that just outside of the study area, the intersection of Bootlegger Trail and US 87 does experience congestion, particularly for the southbound Bootlegger Trail approach during the morning peak hour.

Public Comments and Concerns

Public input is an important component for helping to gauge existing traffic operations and safety, as well as helping to identify perceived gaps in infrastructure. As was referenced earlier in the report, interested parties were encouraged to provide questions or comments about the project and study area conditions via the project Facebook page and the website contact form. Additional public input will be solicited at the upcoming public meeting. All public comments will be reviewed and integrated into the study as appropriate. The public input received to this point in the project has been reviewed and summarized and the original comments can be found in Appendix F.

Summary of Public Comments Regarding Connectivity

The public comments involving the network suggested that expansion of the street network is needed in the north part of the study area to improve access to Eagles Crossing Subdivision (via 9th or 12th Street NE) and to develop an additional east-west collector (43rd Avenue NE) to help alleviate traffic demand on 36th Avenue NE. Comments also suggested that there may be a need for connectivity between 6th Street NW and Bootlegger Trail, in addition to reconstruction of 6th Street NW.

Sidewalk gaps were mentioned as well as the need for accessible ramps throughout the sub-area. Specific sidewalk gaps were referenced along Sacajawea Drive (along the Sacajawea Park from 8th Street NE to Sacajawea Elementary School), Skyline Drive NE (between 2nd Street and 8th Street NE), 2nd Street (from

36th Avenue NE to Division Road), and bordering Skyline Park (33rd Avenue NE, 36th Avenue NE and 6th Street NE).

The public also commented on traffic congestion and the need for more access to/from Bootlegger Trail, which may be feasible as the network grows to the north and 43rd Avenue NE is built. Comments also included the congestion at the intersection of US 87 and Bootlegger Trail.

Summary of Public Comments Regarding Operations

There are several roadways for which the public expressed concern about operational conditions. Comments suggested that Skyline Drive NE has sight distance issues, high speeds and intersection safety concerns. Intersections with safety concerns along Skyline Drive NE include, Division Road, 2nd Street NE, 3rd Street NE, and 8th Street NE/9th Street NE. The latter intersection has no clear traffic control markings and is on a steep grade, which may lead to higher speeds and driver confusion regarding who has the right-of-way.

Another corridor causing concern is 36th Avenue NE. There were various comments about the amount of traffic on 36th Avenue NE, particularly during peak hours, and difficulty for residents to back out of their driveways. High speeds, illegal passing and impatient drivers were noted as impacting safety. Specific intersections on 36th Avenue NE that were mentioned included 7th Street NE and 9th Street NE.

There is general concern that narrow roadways and on-street parking (particularly of RVs and trailers during the summer) make the study area roadways difficult to navigate.

3

FUTURE CONDITIONS

For the purposes of this study, it was determined that a 20-year outlook would be appropriate for evaluating future land development, growth, and traffic-related impacts. The horizon year for the future analysis was assumed to be 2040. This chapter of the study discusses the future conditions analysis that served as the primary basis for the development of study conclusions and recommendations.

Land Development

To determine future conditions for this study, existing land use, Cascade County population (anticipated household growth projections based upon subdivisions that have been platted and/or partially developed) were used to determine a base network for future conditions. The majority of household growth is located on the west side of the sub-area.

Table 7 below summarizes the planned future subdivision developments within the sub-area that were used to model and forecast traffic growth for this study. Figure 6 on the following page geographically illustrates anticipated residential development growth based on information provided by the City. In total, approximately 883 additional residential lots are estimated to be developed by 2040.

Table 7 - Future Subdivision Developments

Subdivision	Estimated No. of Homes
Eagle's Crossing	147
Stone Meadows	141
Tyndall/Thaniel	128
West Ridge	147
Southwest Development	320
TOTAL	883

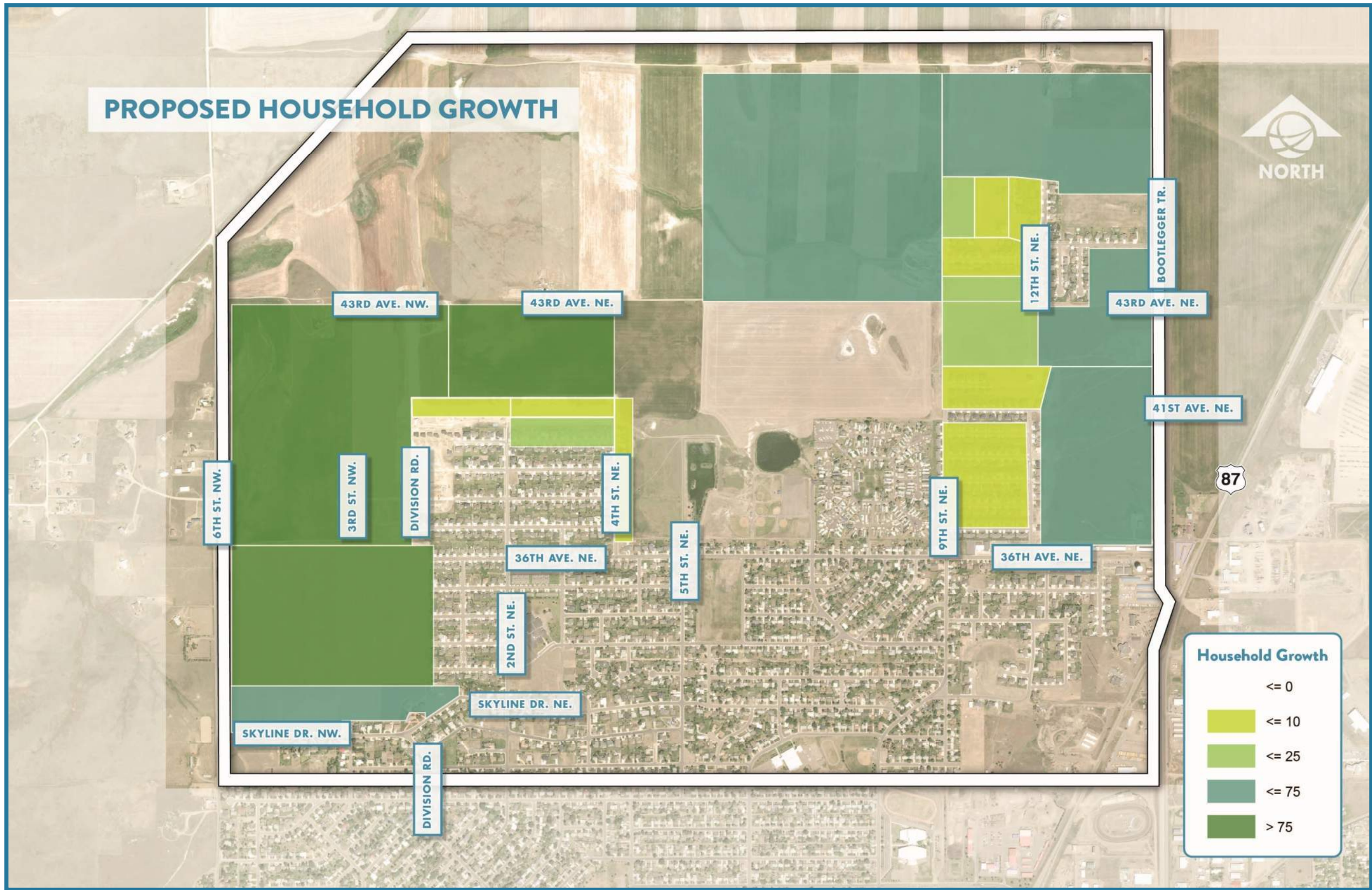


Figure 6 - Anticipated Household Growth for the Sub-Area

Street Network

One of the primary purposes of this study was to evaluate the anticipated impacts of various planned and potential modifications to the existing street network in the sub-area. The following sections of the report discuss how the network modification alternatives were developed in cooperation with MPO staff.

Baseline Scenario

As land development progresses in the north and west regions of the sub-area, certain street segments will be constructed/extended organically by connecting new subdivisions to the existing system. The project team consulted with the City to determine which specific streets would likely be constructed as part of future subdivisions in this timeframe for the purpose of developing a “Baseline” street network for future conditions analysis. For the purposes of this study, the resulting street network model is referred to as the Baseline Scenario, illustrated in Figure 7 on the following page. The Baseline Scenario included the following new street segments that are expected to be constructed in conjunction with future land development:

- 1) 36th Avenue NW from 1st Street NE to 6th Street NW
- 2) 43rd Avenue NW/NE from 3rd Street NW to 4th Street NE
- 3) 43rd Avenue NE from 9th Street NE to Bootlegger Trail
- 4) 41st Avenue NE from 12th Street NE to Bootlegger Trail
- 5) 3rd Street NW from Skyline Drive NW to 43rd Avenue NW
- 6) Division Road is projected to be built between Choteau Avenue NE and 43rd Avenue NW
- 7) 2nd Street NE is projected to be built from 40th Avenue NE to 43rd Avenue NE
- 8) 4th Street NE is anticipated to extend north from 40th Avenue NE to 43rd Avenue NE
- 9) 9th Street NE from Choteau Avenue to 45th Avenue NE
- 10) 12th Street NE is projected to be built from 41st Avenue NE to 44th Avenue NE

Street Network Modification Scenarios 1-9

To evaluate and prioritize potential additional transportation system improvements that focus on connectivity, traffic operations efficiency, and safety, nine street network modification scenarios (Scenarios 1-9) were created with various alterations to the Baseline Scenario described above. The alterations were based upon “project bundles” that mostly consisted of new streets or filling-in of gaps in the existing grid

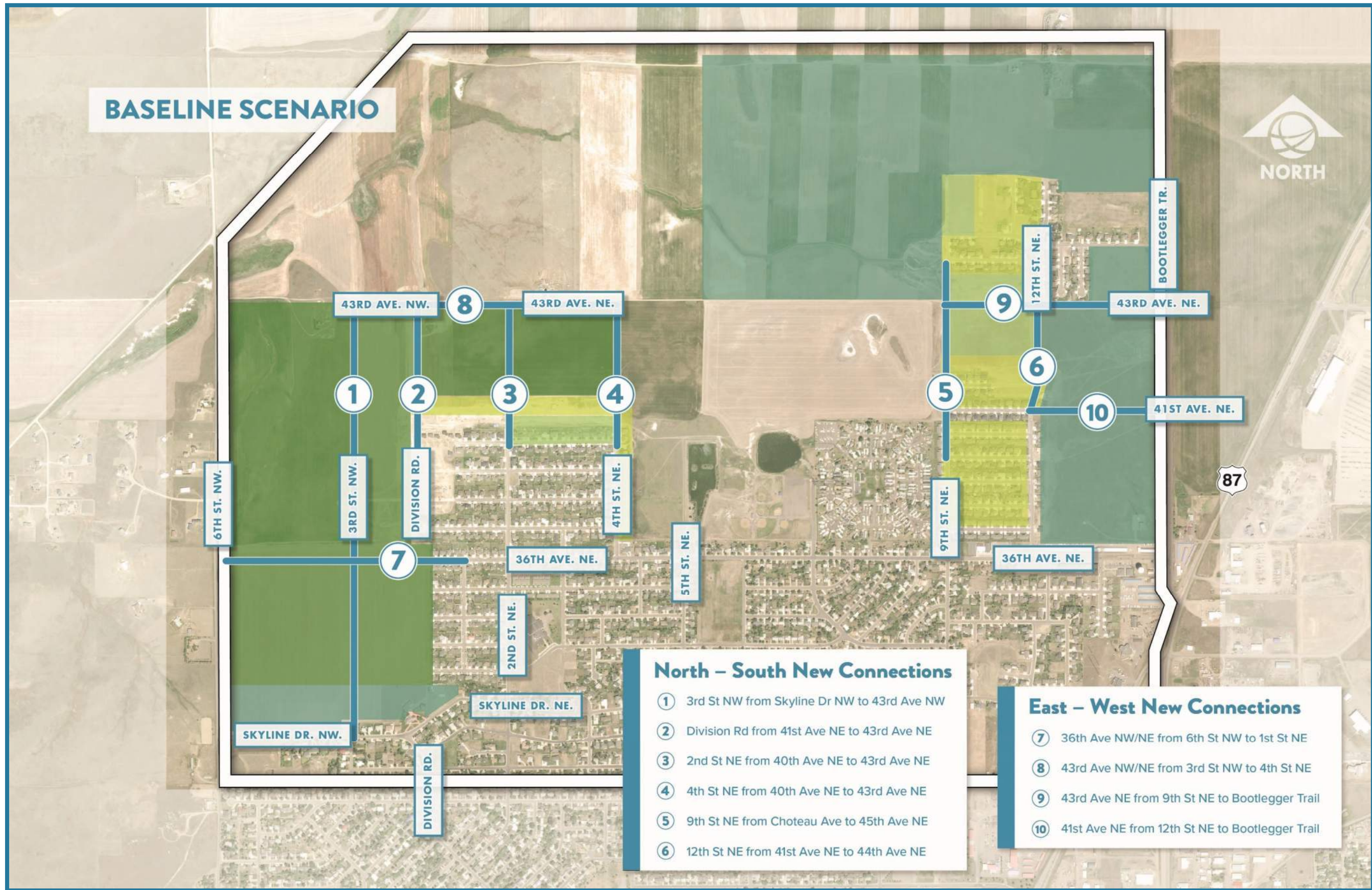


Figure 7 - Baseline Scenario

network, but the disconnection of routes was also considered. The project team met with MPO staff to discuss potential scenarios and determine which should be carried forward for analysis. Scenarios 1 through 9 are illustrated in Figures 8 through 16 on pages 26-34. Each of the scenarios was then modeled to project traffic volume impacts, and traffic operations analyses were performed for key study area intersections for each scenario.

Travel Demand Modeling

A sub-area travel demand model was developed to forecast traffic distribution patterns and growth for the future conditions (2040) scenarios using PTV Vissim software. The model was created based on a current inventory of traffic control, existing land use data and household numbers, existing traffic counts, and future land use scenarios provided by the City of Great Falls. The model was calibrated at all available AM and PM traffic count locations within the sub-area to a turning movement level detail and then future demand was reassigned according to each of the street network modification scenarios. The methodologies created models of traffic volumes, speeds, intersection turning movements, measures of effectiveness and origin-destination information. Trip generation, distribution, and mode choice were used to calculate trip assignments in the various scenarios. Traffic modeling for 2040 was completed for the Baseline Scenario and Scenarios 1-9 (previously discussed with different combinations of future projects). The individual scenario future traffic volume forecasts are included in Appendix G along with a table that compares the existing conditions and future forecasted traffic volumes for all scenarios.

Baseline Scenario Modeling Results

Based on the results of the travel demand modeling, the Baseline Scenario model (2040) includes the following significant reductions and growth of volumes:

- 6th Street NW - Skyline Drive NE to Vineyard Road - the traffic on this segment, which currently only serves rural lands to the north, is forecasted to increase greatly upon the completion of the 36th Avenue NE connection to 6th St NW. This is not surprising given the anticipated growth in that area.
- Traffic demand for Skyline Drive is anticipated to hold steady or possibly even decrease as a result of 36th Avenue NW connecting through to 6th Street NW.

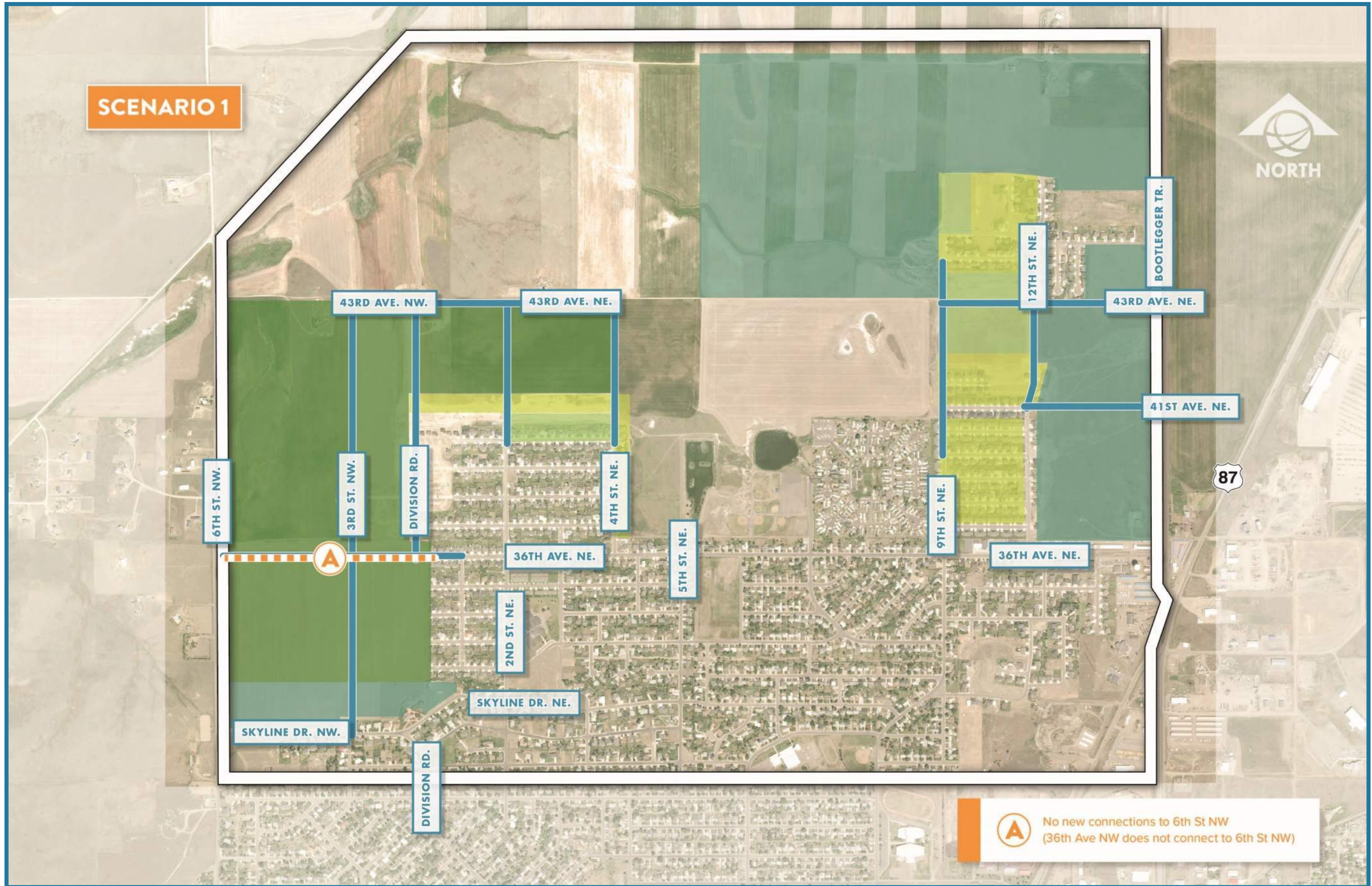


Figure 8 – Scenario 1

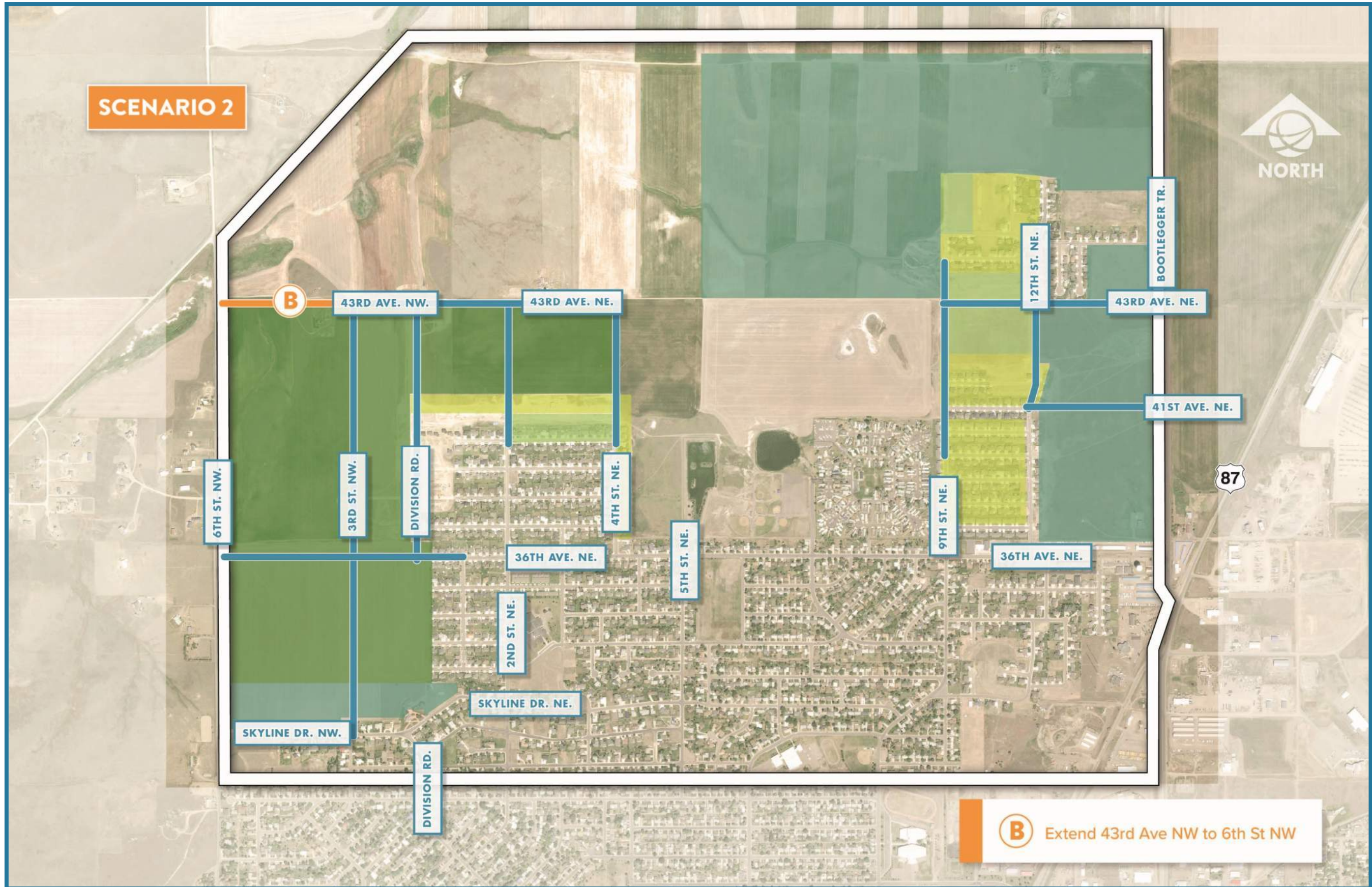


Figure 9 – Scenario 2

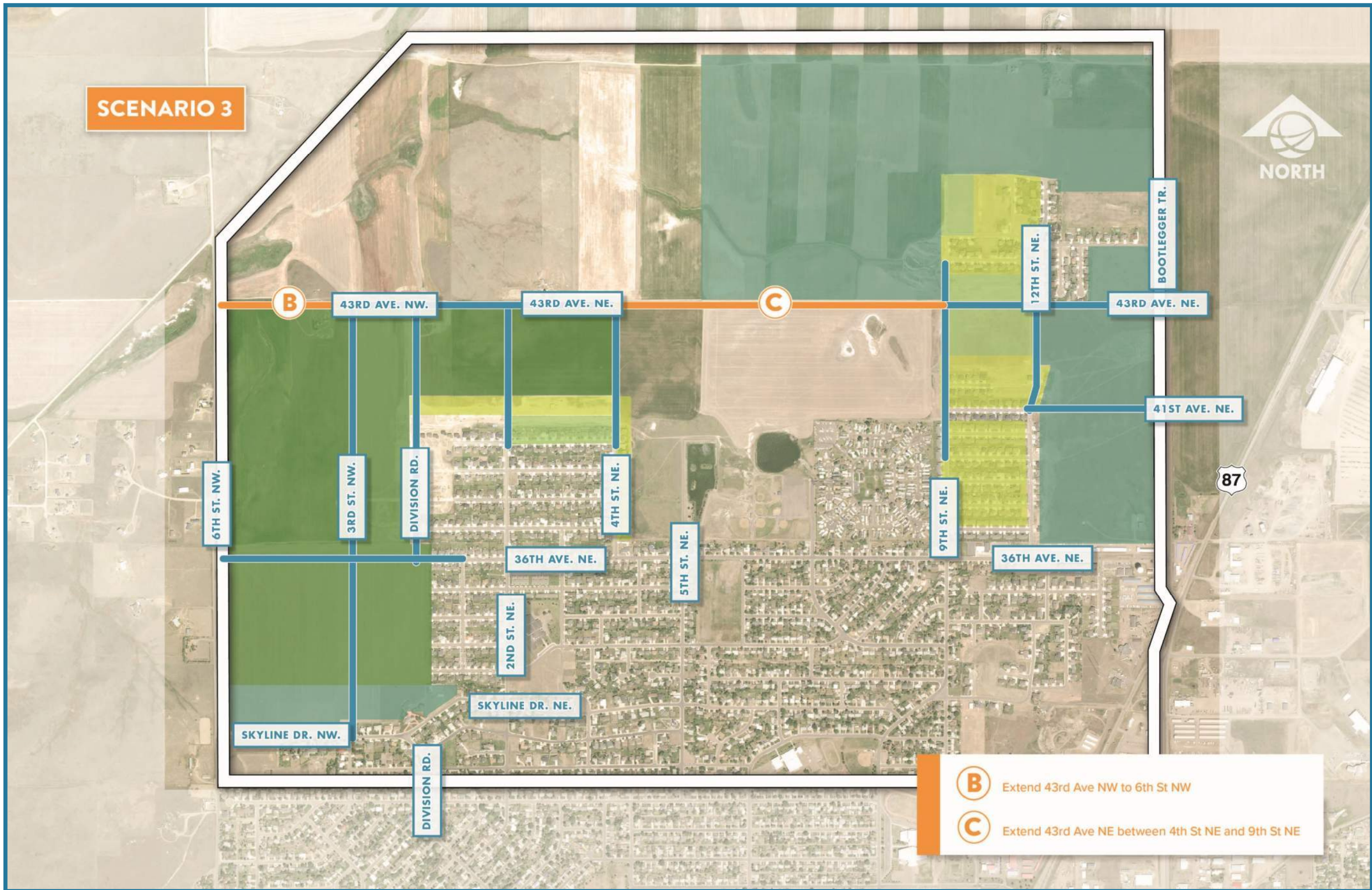


Figure 10 – Scenario 3

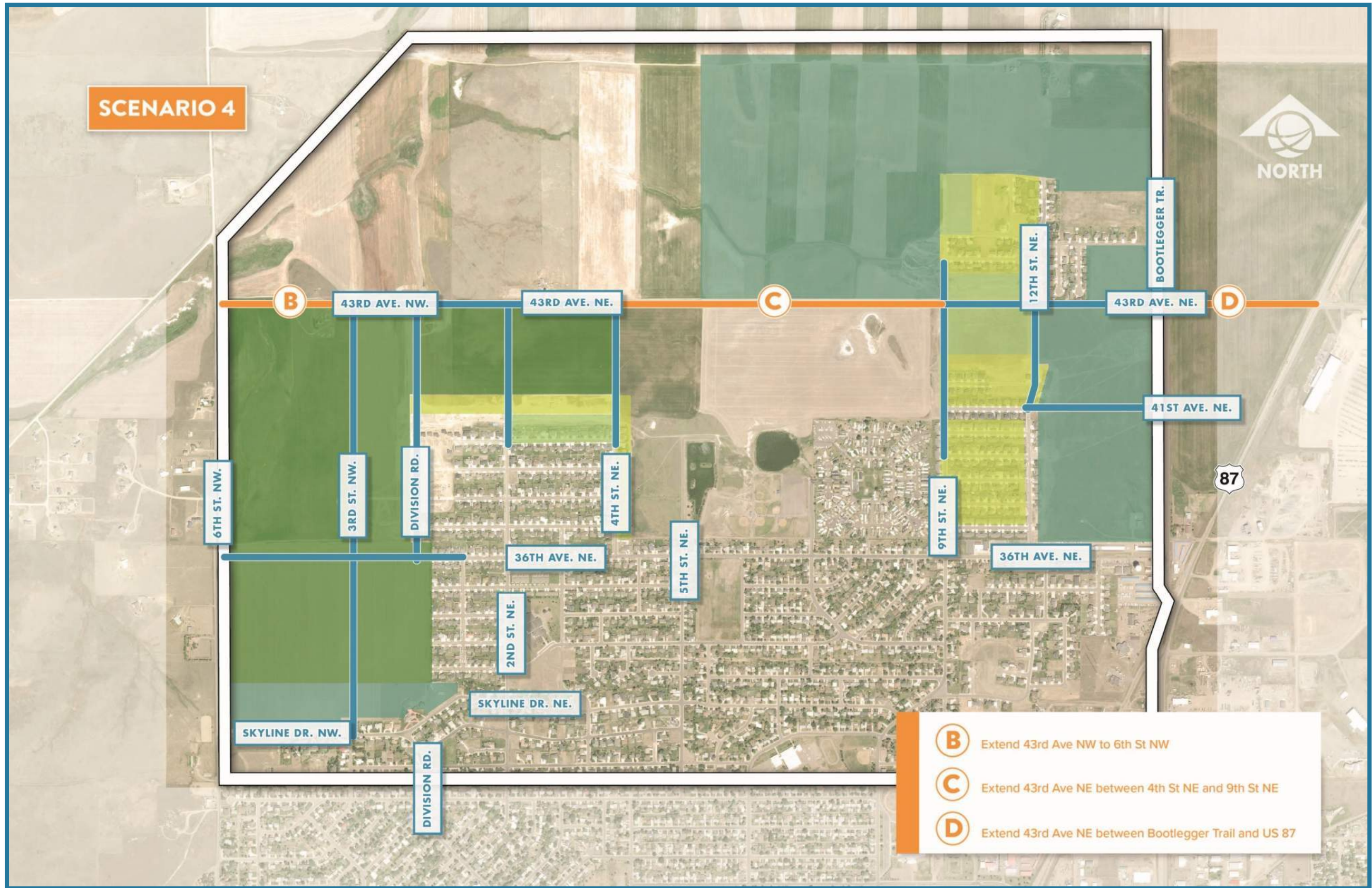


Figure 11 – Scenario 4

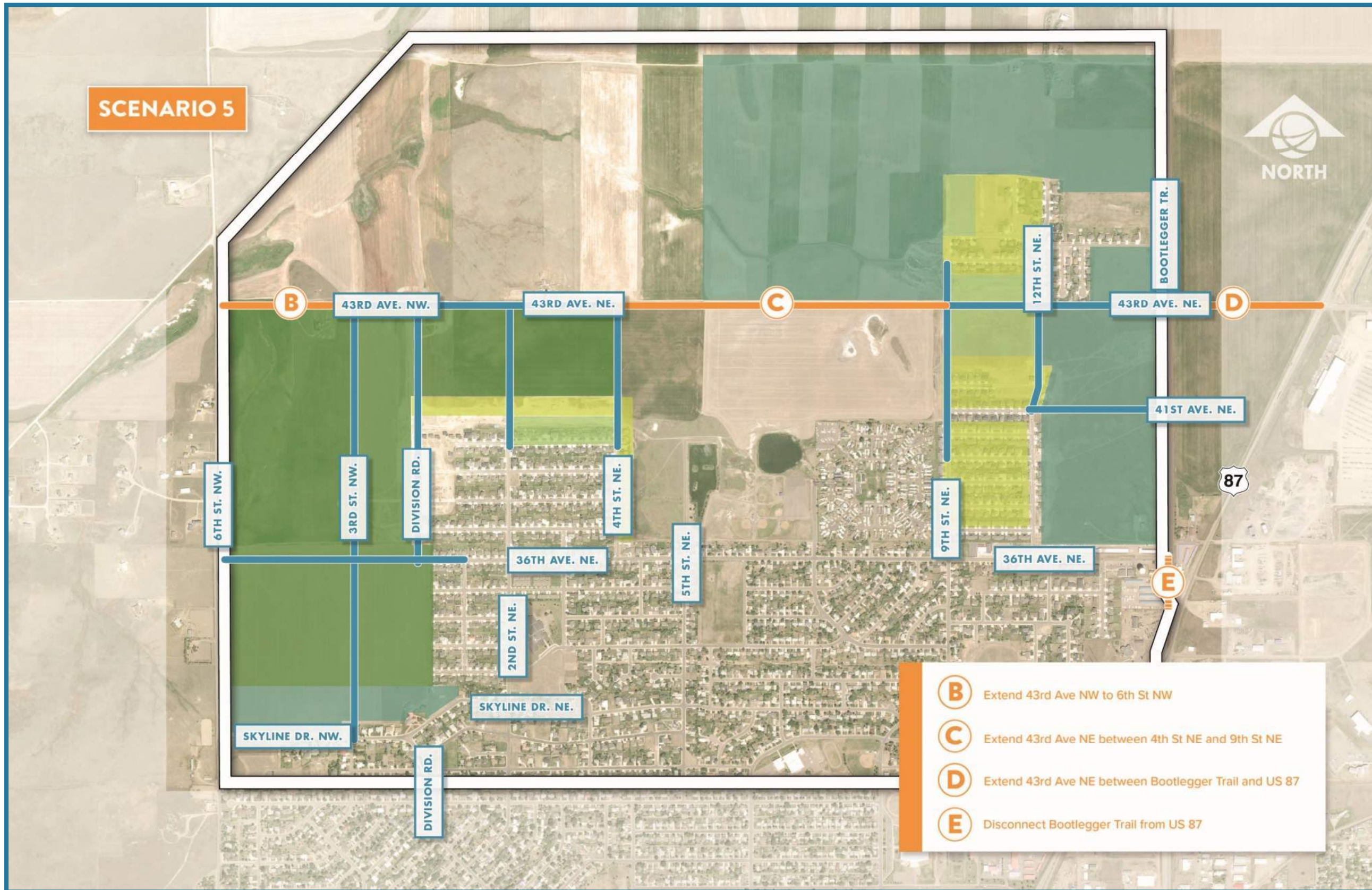


Figure 12 – Scenario 5

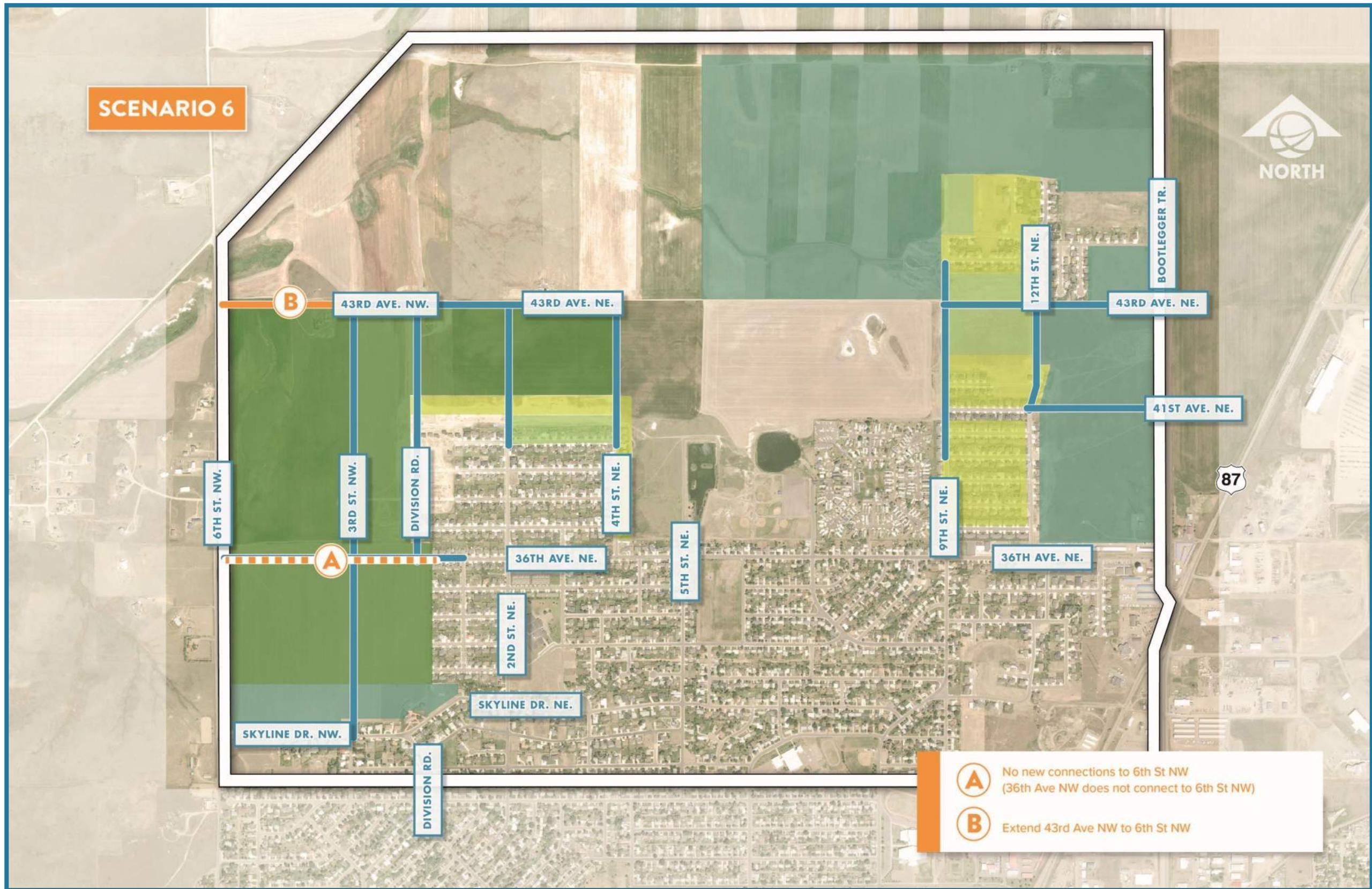


Figure 13 – Scenario 6

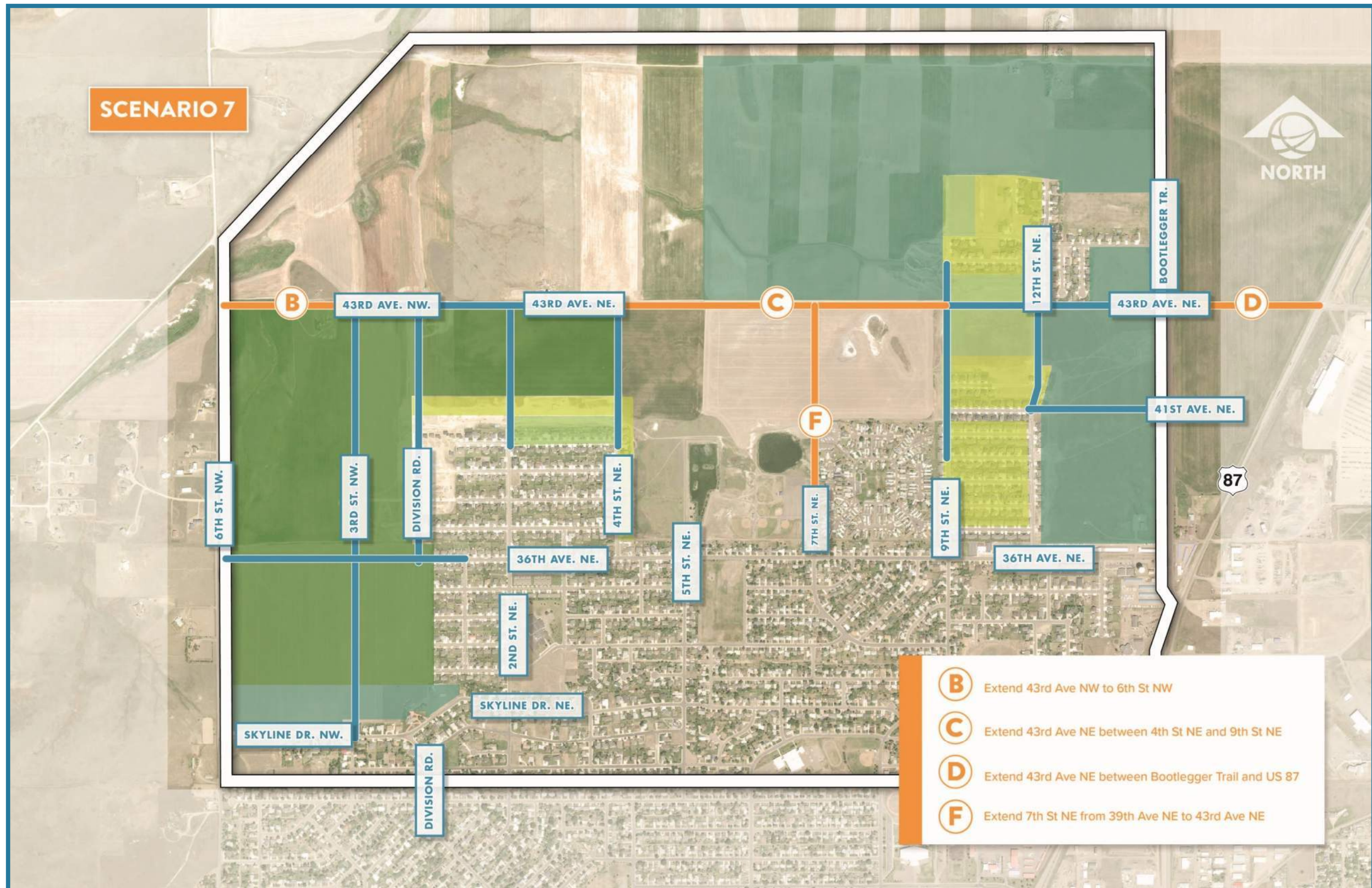


Figure 14 – Scenario 7

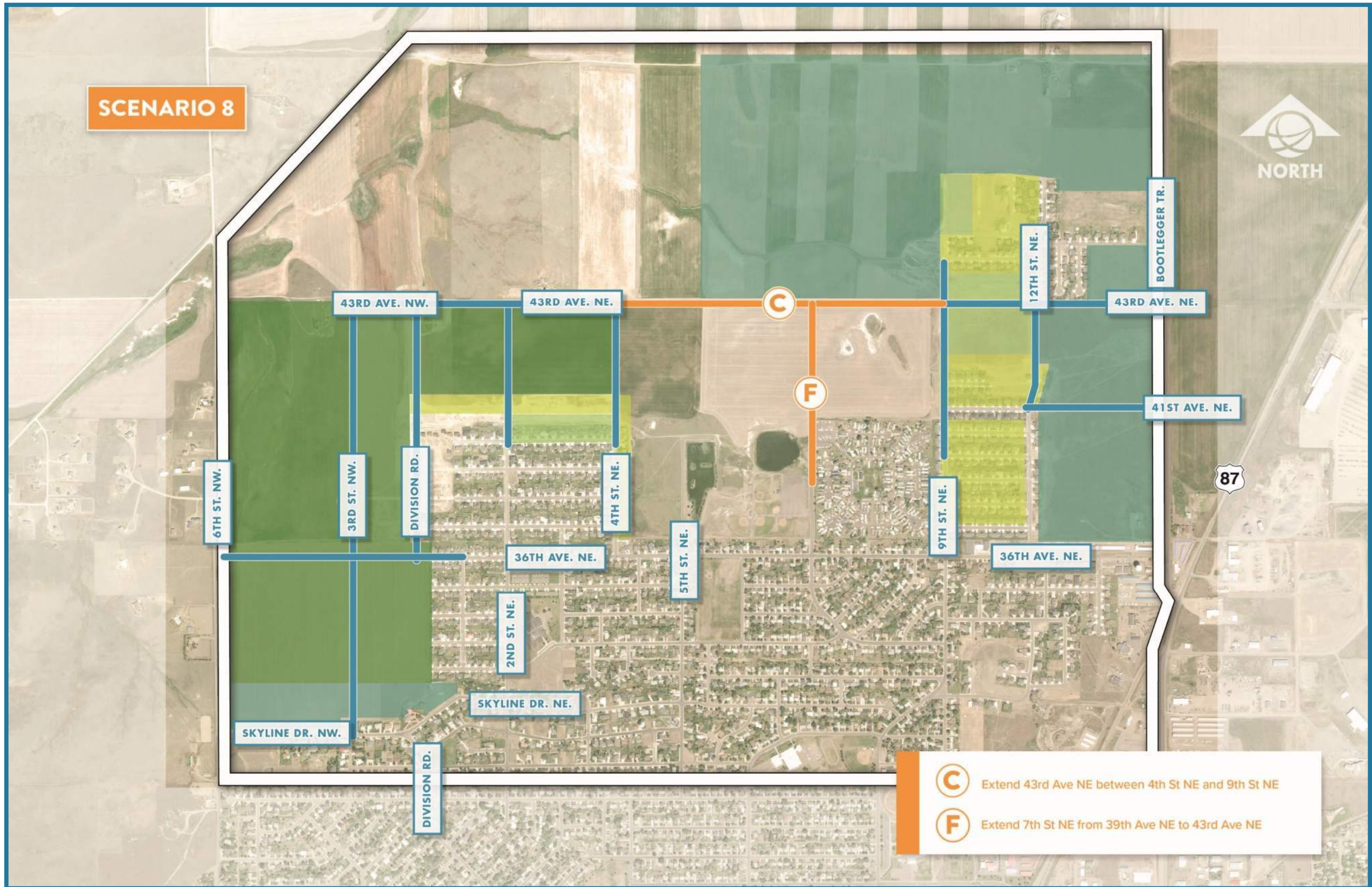


Figure 15 – Scenario 8

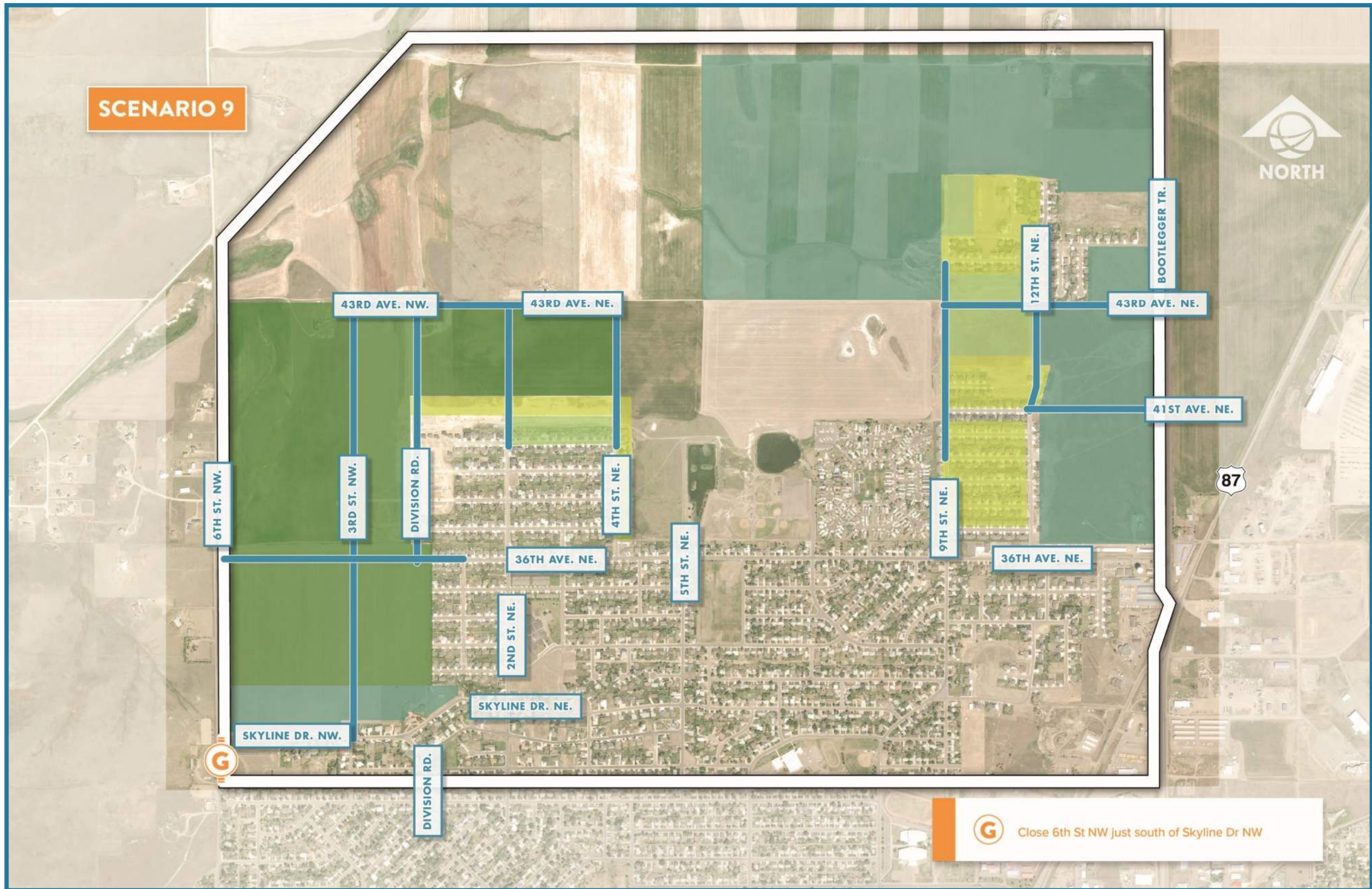


Figure 16 – Scenario 9

- Forecasted traffic growth for the remaining corridors ranges between 10 and 45 percent, with the growth caused almost entirely by the more than 800 additional residential units anticipated by the year 2040.

Scenarios 1-9 Modeling Results

For Scenarios 1-9, different projects were created to add connectivity or disconnect roadways to help model possible changes to the network. They are detailed in the following text:

The modeled Scenarios 1, 3, 4, 5 and 6 (2040 traffic) showed the most significant changes in traffic volumes:

- Scenario 1 (no connection between 36th Avenue NE and 6th Street NW) will result in increases in traffic on 2nd Street NE, Skyline Drive NE and 6th Street NW.
- Scenarios 3 and 4 (connectivity of 43rd Ave NW/NE between 6th Street NW and 9th Street NE) will result in a 12.9% increase in traffic on Bootlegger Trail (between 36th Ave NE to 46th Avenue NE) and a 11.8% decrease in traffic on 36th Avenue NE (between Bootlegger Trail and 9th Street NE).
- Scenario 5 (connectivity of 43rd Ave NW/NE between 6th Street NW and US 87 and disconnection of Bootlegger Trail from US 87) will result in decreases in traffic on 36th Street NE and Bootlegger Trail.
- Scenario 6 (43rd Avenue NW to connect to 6th Street NW and no new connection between 6th Street NW and 36th Avenue NW) will result in increases in traffic on Skyline Drive NE and 2nd Street NE and a decrease in traffic on 6th Street NW.

Impactful Connections/Disconnections

Based on the results of the modeling, the individual projects (modifications to the Baseline Scenario) that are anticipated to provide the most impact on the future network include:

- **Extension of 43rd Ave NW between 3rd St NW and 6th St NW** – Extending 43rd Avenue NW does not draw traffic away from the east-west connections to the south (NW 36th Avenue and Skyline Drive NW), primarily because most traffic using those existing east-west routes have origins/destinations to the south. This connection would, however, be valuable in limiting the

growth in traffic demand for the east-west routes to the south as development progresses in the north part of the sub-area. The 43rd Avenue NW extension would likely experience particularly high usage further out into the future when development extends north of 43rd Avenue NE. When compared to future baseline conditions, this extension does not have discernable impacts east of 2nd Street NE.

- **Extension of 43rd Avenue NE between 4th Street NE and 9th Street NE** – This project provides an alternate east-west route vs. 36th Avenue NE for new growth areas in the future and could reduce future traffic on 36th Avenue NE by 10-15% (in comparison to the Baseline Scenario).
- **Extension of 43rd Avenue NE between Bootlegger Trail and US Highway 87** – As a stand-alone project, the extension of 43rd Avenue NE from Bootlegger Trail to US Highway 87 is not projected to draw much traffic away from 36th Avenue NE, for the reasons mentioned in the first bullet above. However, when combined with a disconnection of Bootlegger Trail from US 87, and a potential speed reduction on Bootlegger Trail, this project is projected to significantly (45-55%) reduce traffic on both Bootlegger Trail and 36th Avenue NE, east of 6th Street NE. Overall, the combinations for projects for the extension of 43rd Avenue NE and the disconnect of Bootlegger Trail/US Highway 87 would generate collector level volumes on some portions of 43rd Avenue NE.

Traffic Operations Analysis

Intersection capacity analyses were performed using PTV Vistro 2020 to evaluate peak hour LOS for the 12 study area intersections that were analyzed for existing conditions. Separate sets of calculations were performed for the Baseline Scenario and each of the 9 street network modification scenarios. The results of the analyses are further described below, and Appendix I contains a table with detailed future scenario capacity calculation results, as well as the individual intersection capacity calculation worksheets.

Capacity calculations for the Baseline Scenario showed that all intersections are anticipated to operate at LOS A during both the AM and PM peak periods. Slight changes to the LOS (and delays) are anticipated at individual approaches for four sub-area network intersections, but all approaches are projected to remain at LOS C or better.

The capacity calculations for network modification scenarios 1-9 yielded very few significant findings, either positive or negative, with respect to intersection capacity. Ultimately, as is the case now, traffic demand is

not expected to be high enough to cause any significant traffic operations problems for intersections in the sub-area. It's worth noting, however, that two specific street network changes were projected to have a significant impact on traffic operations for the intersection of US 87 and Bootlegger Trail. The extension of 43rd Avenue NE to connect with US 87 (Scenarios 4, 5 & 7) would greatly reduce future traffic demand pressure at the intersection (and thereby improve peak hour LOS) by providing an alternate route for accessing the north part of the sub-area from the highway. More impactful yet for the US 87/Bootlegger Trail intersection would be the disconnection of Bootlegger Trail between 36th Avenue NE and US 87. If that project was implemented, the US 87/Bootlegger Trail intersection would become a private access intersection with very small minor approach traffic demand on the west approach.

Recommended Network

Ultimately, Scenario 5 (fully extending 43rd Ave NW/NE between 6th Street NW and US 87, and disconnecting Bootlegger Trail from US 87) had the most impact on the network. Although overall LOS at the sub-area intersections remained the same for the different scenarios, three intersections in Scenario 5 saw improved LOS on at least one approach. It is assumed that once the network is completely built in the northern section of the sub-area, including connectivity to US 87 at 43rd Avenue NE, as much as 85% of new traffic would use 43rd Avenue NE to access US 87 and 15% would be re-routed through neighborhood streets to the south. In this scenario, the northbound approach at the intersection of 36th Avenue NE/5th Street NE improved from LOS B to A. At the 36th Avenue NE/9th Street NE intersection, the AM and PM peak hour LOS for the southbound approach and the PM peak hour LOS for the northbound approach both improved from LOS C to B. Finally, at the Bootlegger Trail/36th Avenue NE intersection, the eastbound AM and PM peak hour approaches LOS improved from B to A, though primarily because the entering demand on that approach would be greatly reduced. The recommended future network is illustrated in Figure 17 on page 39 and highlights connections that would be built with the future development of subdivisions.

Summary

Overall, the project testing in the travel demand model indicated minimal congestion throughout the study area, but significant potential for 43rd Avenue NE act as a collector and to limit increased congestion on existing east-west routes to the south, particularly if it is extended fully between US 87 and 6th Street NE.

Modeling also shows that the sub-area network would benefit from the redesign of 6th Street NW to bring it to a higher functional classification. The recommended roadway connections would help to maintain good LOS on the sub-area network roadways as development progresses to the north. It should be noted that the future prediction scenarios all provide acceptable LOS that is very similar to existing conditions. Since LOS is not able to clearly define a preferred model, safety considerations and providing drivers an efficient, comfortable route becomes the determinants in which long term projects should be prioritized.

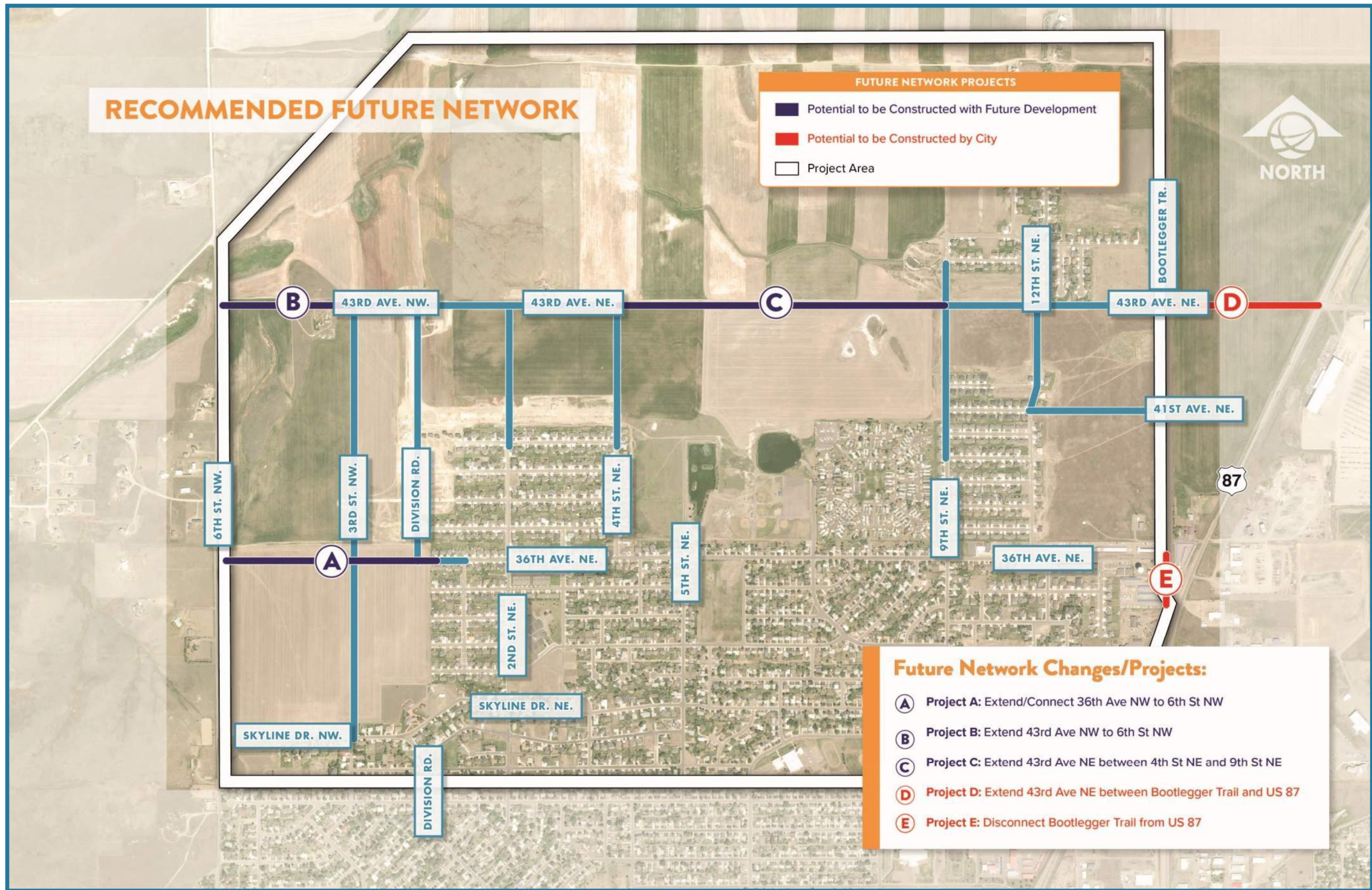


Figure 17: Recommended Future Network

4

IMPROVEMENT PROJECTS

Recommendations for a variety of projects (including both physical construction and operational analysis efforts) intended to improve traffic safety and operations in the sub-area are provided in the following text based on different sources of information and types of analyses performed. It is noted that the capacity analysis did not yield any conclusive recommendations. However, the future modeling and traffic operations analyses provided potential projects and connections that improved network traffic from a functional standpoint. The following recommendations are given based on crash data analysis, safety analysis of roadway segments, future connectivity, LRTP future improvements, anticipated future growth and development, and public outreach comments regarding the sub-area intersections.

Projects to Improve Safety

Intersection Traffic Control

Consideration should be given to improving a small selection of two-way stop-controlled intersections. These intersections have 57-100% of their total crashes due to right-angle crashes that are likely caused at least in part by poor judgement of oncoming vehicles and limited sight distance due to vertical curvature and/or skewed alignments. The intersections are on high-priority plow routes and some are on transit routes as well, so they are anticipated to be used more heavily in inclement weather, when crashes caused by poor sight-distance are more likely to occur due to a reduced ability to stop a vehicle quickly.

All-way stop control may help reduce crashes, although volumes are low on the minor approaches (i.e., not well-balanced on all approaches) and warrants may not be met. Additionally, attention to clear intersections sight distance triangles (such as trimming or removal of trees and removal or relocation of other sight impediments) may also help reduce crashes. Consideration should be given to modifications or improvements at the following intersections:



- a. 36th Avenue NE and 2nd Street NE
- b. 36th Avenue NE and 9th Street NE
- c. Skyline Drive NE and 5th Street NE
- d. Skyline Drive NE and 2nd Street NE

Division Road Intersection Improvements

Consideration should be given to modifying traffic control and/or geometrics at the intersections of Skyline Drive and 30th Avenue NE with Division Road. The approach alignments at both intersections are skewed, which contributes to poor sight distance. There is a steep vertical grade on Division Road that also impacts sight distance for that intersection and the downstream intersection of Division Road with 29th Avenue NE. The steep downhill grade (from north to south) also likely contributes to high travel speeds for southbound traffic through this area.

Currently there is no intersection control at the Skyline Drive intersection, which most likely leads to the higher-than-predicted historical crash rate and the percentage of injury-producing crashes at this location. The 30th Avenue NE intersection has a yield sign on the east approach, but yield control is less effective in reducing vehicles conflicts (and thereby crashes), particularly in locations where sight distance is compromised. The addition of stop control on the south approach for the Skyline Drive intersection would likely reduce crash frequency and severity and should be considered as an immediate measure. Likewise, the replacement of the yield sign with a stop sign on the east approach at the 30th Avenue NE intersection should be strongly considered for the short term. Longer-term, these intersections would benefit from the installation of mini-roundabouts or other traffic control/geometric improvements to increase safety and greatly reduce the impacts of limited sight distance by controlling approach speeds. FHWA's Mini-Roundabout Publication FHWA-SA-10-007 says, "because of their design characteristics, mini-roundabouts are most effective in lower speed environments in which all approaching roadways have posted speed of 30 mph or less and an 85th-percentile speed of less than 35 mph (55 km/h) near the proposed yield and/or entrance line. For any location with an 85th-percentile speed above 35 mph (55 km/h), the mini-roundabout can be included as part of a broader system of traffic calming measures to achieve an appropriate speed environment." Speed control through the Division Road/30th Avenue NE intersection would also likely benefit the downstream intersection at 29th Avenue NE.

32nd Avenue NE/9th Street NE/Skyline Drive NE Intersection Improvements

Strong consideration should be given to providing drivers more guidance (traffic control, turning movement restrictions, etc.) at the intersection(s) of 32nd Avenue NE/8th Street NE/9th Street NE/Skyline Drive NE. Currently there is very little traffic control or navigational guidance at this location, and operations/safety are further complicated by the intersection of multiple roadways with mid-aligned approaches. The intersection also is on a steep grade (downhill north to south), has a very large, paved footprint without pavement markings or other physical guidance to channelize vehicle movements, and has two approaches at 90-degree angles (to each other) that meet the main travel path at a skewed angle and in very close proximity to each other. The types of historical crashes suggest that speed, limited sight distance, and general confusion about how to navigate the intersection(s) could all be contributing factors for poor safety. Residents have expressed concern about the lack of traffic control and high speeds. In the short-term, consideration should be given to installing/modifying traffic control (signs and pavement markings) to better define where drivers have the right-of-way. Longer-term, intersection improvements should be considered to better channelize vehicle movements, control speeds, and account for impacted sight distance. A roundabout, as illustrated in Figure 18 below, is one example of a possible intersection modification that could be constructed to serve the above-mentioned purposes. In addition, it may be advisable to close the

Figure 18 – Example of Possible Intersection Improvement



9th Street NE approach to Skyline Drive NE and/or to restrict the 32nd Avenue NE approach to 9th Street NE to right-in/right-out operation. It is suggested that the City look at long-term improvement solutions for this intersection.

36th Avenue NE Corridor Improvements

36th Avenue NE has been the most consistently referenced street in the public input received on this project to date. Local residents are concerned about safety along the corridor, particularly with respect to vehicle speeds and interactions with drivers backing out of driveways. The analysis for this study showed that there is a relatively high crash rate throughout the corridor, in particular involving rear-end (parked vehicles) crashes, sideswipes (same direction), and fixed-object collisions.



Approximately 55% (16 of 29) of corridor crashes on 36th Avenue NE occurred in non-daylight conditions. Lastly, there is a prevalence of right-angle crashes at two-way stop-controlled intersections along 36th Avenue NE. This could be due to drivers inappropriately judging the speed of approaching vehicles given that sight distance along the corridor is very good.

Improvements on 36th Avenue NE should consider traffic calming measures to reduce the tendency for speeding along 36th Avenue NE. Creating an environment that promotes more consistent speeds would likely help reduce the frequency of right-angle crashes at intersections and driveways and would also promote general safety along the corridor for pedestrians, bicyclists, and even for children playing out in front of houses. Street lighting should be improved west of 5th Street NE and east of 9th Street NE given the prominence of fixed-object collision crashes and crashes during darkness conditions.

Skyline Drive NW/NE Corridor Improvements

Intersection crash rates, particularly those involving injuries, are high along Skyline Drive due to a higher number of right-angle crashes. Skyline Drive NE/NW follows the spine of a ridge, which results in steep approach grades on the side street approaches. Several intersections have limited sight distance as a result. Much like 36th Avenue NE, Skyline Drive NW/NE is also a long, continuous east-west corridor where higher travel speeds may be problematic given the density and spacing of residential driveways. There are a

high number of fixed-object (non-intersection related) crashes along Skyline Drive, as well as crashes with backing vehicles, head-on crashes, and sideswipes. There is no street lighting along the corridor.

Improvements to Skyline Drive NW/NE should consider implementation of traffic calming measures and the previously referenced traffic control project at the Skyline/Division intersection. Currently Skyline Drive NE appears to be functioning as a collector even though it is classified as a local street, so traffic calming measures and intersection improvements could improve safety and reduce traffic demand to discourage it being used as a collector. Intersection improvements should also be investigated to determine appropriate traffic control and sight distance where vertical curvature and natural terrain impede safe operations. Street lighting should be considered and would likely reduce crash rates along the corridor.

5th Street NE Corridor On-Street Parking

Corridor crash data for 5th Street NE included seven corridor related crashes with most involving a sideswipe or rear-end of a parked car. It is a narrow roadway with on-street parking on both sides. Consideration should be given to restricting on-street parking on one or both sides of 5th Street NE to help increase safety and reduce crash occurrence.



Projects to Improve Connectivity

The following recommended projects are intended to improve connectivity to and through the sub-area, which will in turn reduce congestion and positively impact traffic operations for key intersections. Note that the list of recommended projects does not account for new roadways that are expected to be constructed through development projects.

43rd Avenue NW/NE Connectivity

Two segments of 43rd Avenue NW/NE are expected to be constructed in association with future land development projects - 3rd Street NW to 4th Street NE and 9th Street NE to Bootlegger Trail. As a means of improving east-west connectivity for the northern part of the sub-area, while also relieving traffic demand pressure on 36th Avenue NE/NW, design and construction of the remaining segments of 43rd Avenue

NW/NE between 6th Street NW and US 87 should be programmed as a key future improvement project(s). The 43rd Avenue NW/NE corridor should be classified as, and constructed to, city standards for a major collector, or arterial, depending upon projected needs. Driveway access to the street should be severely limited or even prohibited in order to avoid a replication of the safety/accessibility problems associated with 36th Avenue NE. Driveway access impacts should be considered during subdivision/plat reviews for the development projects that will construct the segments of 43rd that are considered part of the Baseline Scenario street network. The extension of this corridor to intersect with US 87 will require substantial coordination with and approval from MDT and may be subject to access management restrictions associated with US 87. However, that connection would benefit the sub-area by minimizing additional traffic demand pressure in the vicinity of the Bootlegger Trail/36th Avenue NE and Bootlegger Trail/US 87 intersections as development growth continues in the northern part of the sub-area.

6th Street NW Reconstruction

Consideration should be given to programming the design and reconstruction of 6th Street NW from Smelter Avenue to Vineyard Road as traffic volume growth occurs in the sub-area. This roadway is currently classified as a collector but will at some point in the future likely function more like a minor arterial, serving as the primary north-south route for traffic in and out of the west side of the sub-area. As with 43rd Avenue NW/NE, it will be important for the City to limit new driveway access to this roadway to preserve its mobility function while promoting safety as traffic demand grows in the future. Residents have expressed concern about safety on the roadway, primarily referencing how narrow the road is. Toward the south end of this corridor, where 6th Street NW is currently paved and the adjacent properties are mostly developed, there are numerous and closely spaced residential driveways that likely contribute to existing safety concerns. As with many of the north-south roadways in the sub-area, there is also a steep downhill grade from north to south. The grade contributes to poor sight distance for several of the driveways in the vicinity of the crest of the hill. It may be possible to improve this condition as part of a reconstruction project. If not, and/or as an interim/short-term measure, warning signage should be installed to alert drivers to the somewhat hidden driveways.

2nd Street NE Functional Classification

2nd Street NE is functionally classified as a local street in the LRTP. However, it provides continuous north-south connectivity from the developed area north of 36th Avenue NE down to Riverview Drive E

and beyond. It is presumed that it will be further extended north to connect with 43rd Avenue NE/NW in the future through ongoing/planned development. The existing segment of 2nd Street NE has very few private driveway connections. It is also a transit route and a high priority plow route, implying it is intended to serve as a collector during inclement weather. As such, consideration should be given to reclassifying 2nd Street NE as a collector/future collector from 36th Avenue NE to 43rd Avenue NE/NW. To that end, the future extension of 2nd Street NE that is considered part of the Baseline Scenario street network should be designed and constructed to a collector standard with access management principles in mind that are consistent with that classification. If reclassified, consideration should be given to restricting parking along one or both sides of 2nd Street NE due to its narrow width. A side benefit of prioritizing 2nd Street NE as a collector route would be a likely reduction in traffic demand (and thereby crash frequency) for 5th Street NE.

US 87/Bootlegger Trail Intersection Improvements

Although it is technically not part of the study area for this project, the intersection of US Highway 87 and Bootlegger Trail is a key node that impacts efficiency of travel in and out of the sub-area. In the long-term future scenarios, the disconnection of US 87/Bootlegger Trail shows improved traffic conditions. Consideration should be given for this disconnection in the long-term future.

Based on public input and discussions with the MPO, that intersection likely experiences significant minor approach congestion during peak traffic periods and may also have elevated crash history metrics. Queues on the west approach back up at times to a point where they impact the Bootlegger Trail/36th Avenue NE intersection. As growth occurs in the sub-area, traffic demand at this intersection will also increase until an additional connection is made via 43rd Avenue NE or another route. It is recommended that the City of Great Falls coordinate with MDT to perform a more-detailed study of this intersection and develop a plan for improvements at this intersection (such as installation of a traffic signal or roundabout) to remediate any existing or future expected safety and operational problems. The close proximity to the downstream 33rd Avenue NE/US 87 intersection will be an important consideration in this evaluation since it too is likely to require traffic control improvements in the future.

Bicycle and Pedestrian Project Recommendations

Bicycle and pedestrian recommendations were generated from the LRTP, the existing conditions inventory and public comments. The LRTP specifically mentions three sidewalk gaps in the sub-area and includes the following information, as noted in Figure 19 on page 49:

- Sacajawea Elementary School area - 8th Street NE between Riverview Drive East and Sacajawea Drive (approximately 500 feet along city park property) and Sacajawea Drive west of 8th Street NE (approximately 400 feet).
- 9th Street NE (north of 32nd Avenue NE)
- 36th Avenue NE (east of 9th Street NE on the north side of the road), however there is new sidewalk on the southern side of 36th Avenue NE as of the writing of this report.
- Sidewalk gaps exist in various locations where residential lots have not yet been developed, nor their corresponding sidewalks.

The LRTP does identify the need for an on-street network of bicycle facilities to be developed, particularly connections to the River's Edge Trail. The Visionary Transportation Network in the LRTP envisions a non-motorized transportation network with shared bicycle lane markings on 6th Street NW, Division Road, 6th Street NE, 9th Street NE and 36th Avenue NE.

Sidewalks and Shared-Use Paths

Based on public comment and the analysis from this study, there are multiple locations where there are large gaps in sidewalk that require attention. Some of those gaps are a result of individual residential lots not being developed, but others are directly adjacent to public parks or larger, developed tracts where future development projects can't be relied upon to build the sidewalks. The LRTP references sidewalk gaps near Sacajawea School (Sacajawea Drive along the park from 8th Street NE to the school) and on the 36th Avenue NE (east of 9th Avenue NE on the north side). Residents commented specifically on lack of sidewalk ramps compliant with the Americans with Disabilities Act (ADA) and sidewalk gaps in the following locations:

- Skyline Drive NE between 2nd Street and 8th Street NE (vacant residential lots)
- 2nd Street from 36th Avenue NE to Division Road (vacant residential lots and adjacent to Early Learning Family Center)

- The perimeter of Skyline Park (33rd Avenue NE, 36th Avenue NE and 6th Street NE)

Project funding should be allocated in future CIP, CMAQ program or grant funding budgets to construct sidewalks that are missing along public park and non-residential lot frontages. All future roadway reconstructions or extension projects should be designed to include sidewalks and/or shared-use paths.

Shared-Use Markings

As suggested in the Great Falls LRTP, consideration should be given to the addition of sharrows - pavement markings on the roadway serving as a visual reminder that the roadway is shared by bicycles and cars - on 6th Street NW, Division Road, 6th Street NE, 9th Street NE and 36th Avenue NE. Sharrows are often applied on roadways with speed limits 35 mph or lower,



roadways that are not wide enough to accommodate a separate bicycle lane, and/or roadways that have on-street parking and a narrow travel lane. The Manual on Uniform Traffic Control Devices (MUTCD) provides standards and guidance for use of the markings, as does the National Association of City Transportation Officials (NACTO) Urban Bicycleway Design Guide.

Summary

A summary of recommended projects, based upon the future modeling and capacity analysis, safety analysis and public input, are illustrated in Figure 20 and Table 8 on pages 50 and 51, respectively.

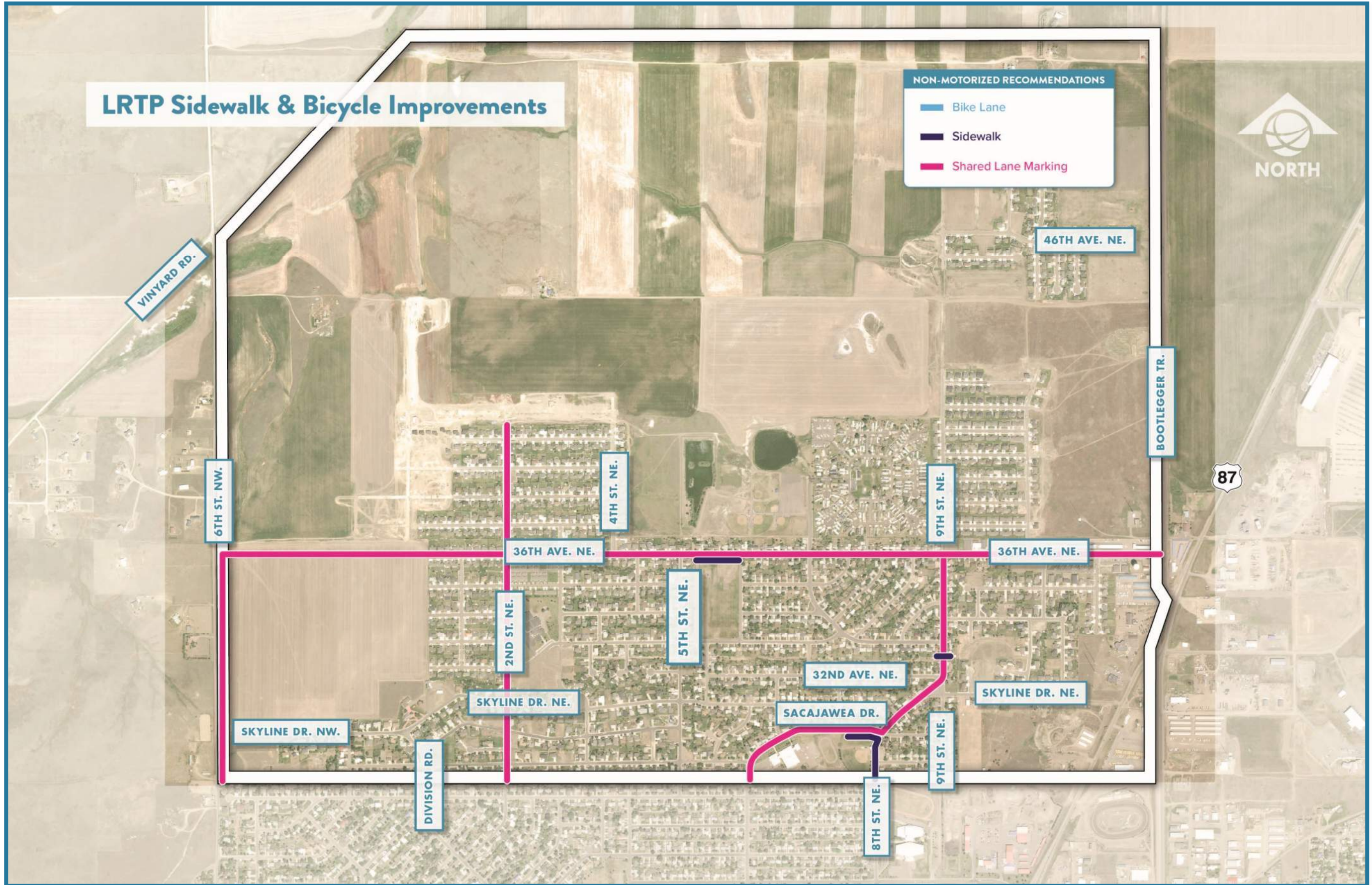


Figure 19 - City of Great Falls L RTP Sidewalk & Bicycle Improvements

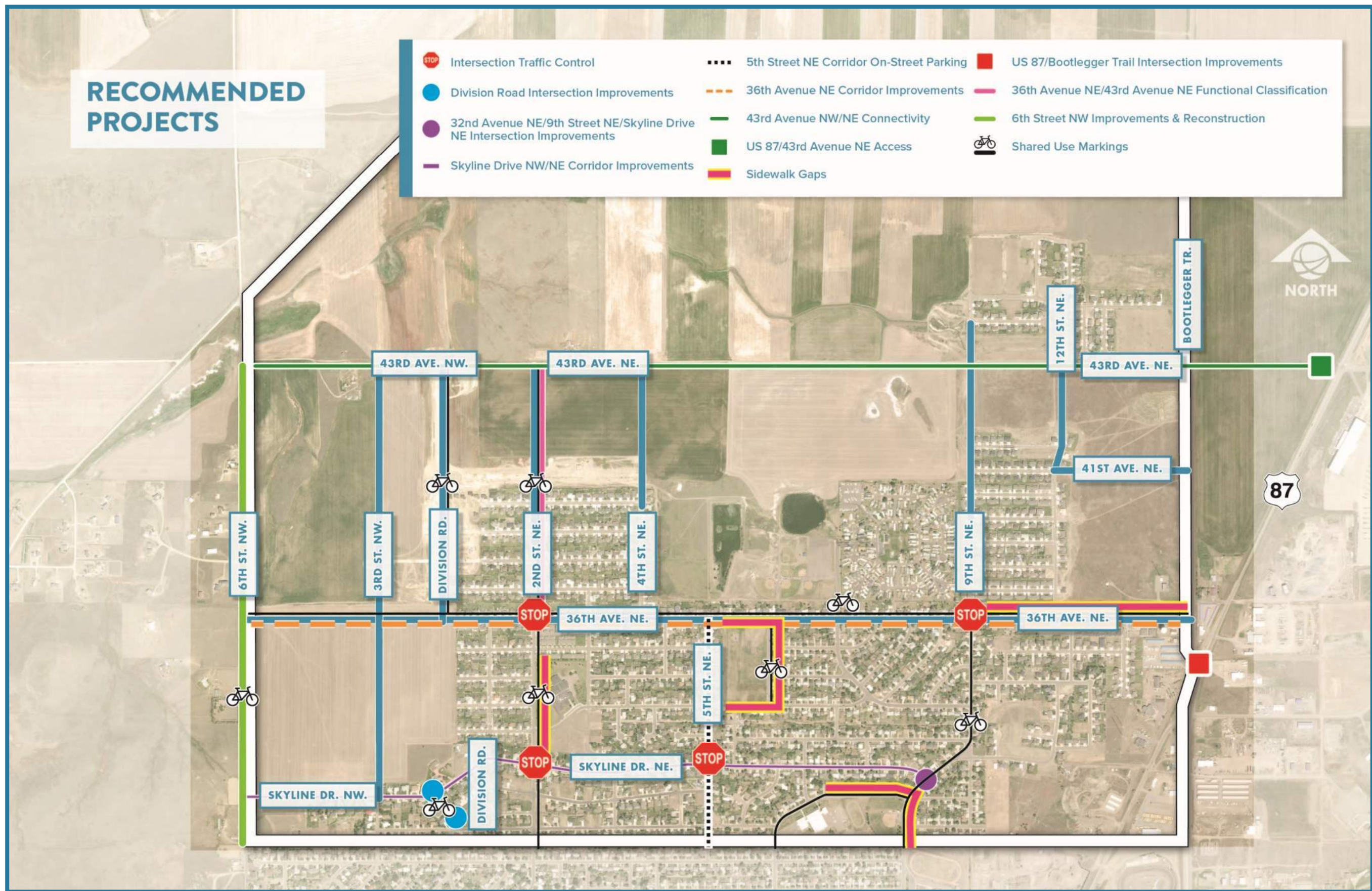


Figure 20 - Recommended Projects (Short & Long Term)

Table 8 – Summary of Recommended Projects

PROJECT	LOCATIONS/NOTES
Short-Term Projects	
Intersection Traffic Control, ST-1	36th Avenue NE/2nd Street NE, 36th Avenue NE/9th Street NE, Skyline Drive NE/5th Street NE, Skyline Drive NE/2nd Street NE
Division Road Intersection Improvements, ST-2	Traffic control or roundabouts at Skyline Drive NE/Division Road, Division Road/30th Avenue NE
32nd Avenue NE/9th Street NE/Skyline Drive NE Intersection Improvements, ST-3	Traffic control signs and pavement markings
6th Street NW Safety Improvements, ST-4	Warning sign(s) for hidden driveways
Skyline Drive NW/NE Corridor Improvements, ST-5	Traffic calming/street lighting
36th Avenue NE Corridor Improvements, ST-6	Traffic calming/street lighting
5th Street NE Corridor On-Street Parking, ST-7	Restrict of parking (sign installations)
Sidewalk/Shared-Use Paths, ST-8	Sidewalk near Sacajawea School, Skyline Park, 36th Avenue NE, Skyline Center/school
2nd Street NE Functional Classification, ST-9	Reclassify as collector/consider parking restrictions
Long-Term Projects	
32nd Avenue NE/9th Street NE/Skyline Drive NE Intersection Improvements, LT-1	Traffic control/geometric improvements (e.g., roundabout) and/or potential closure of access
6th Street NW Reconstruction, LT-2	Construct to minor arterial standard
Shared Use (Bicycle) Markings, LT-3	6th Street NW, Division Rd, 6th St NE, 9th St NE and 36th Ave NE
US 87/Bootlegger Trail Intersection Improvements, LT-4	Retrofit to a traffic signal or roundabout if access to US 87 remains
43rd Avenue NW/NE Connectivity, LT-5	Construct to collector or arterial standard from 6th Street NW to US 87
US 87/43rd Avenue NE Access Construction, LT-6	New intersection at US 87

5

FUNDING ALTERNATIVES

The following discussion of funding options and methods has been developed primarily with a focus on how other local governments in Montana have funded transportation projects and what funding options may be available for use by the City of Great Falls.

Local Jurisdiction Types of Funding

Various local governments in Montana were contacted to solicit information on funding sources they typically use, methods for finding funding, and allocation of those funds to specific projects for new roadways and other similar types of projects as recommended in this report. The following paragraphs summarize how each municipality approaches the funding of these types of projects.

City of Billings

The City of Billings uses multiple different funding sources depending on the type of project, location, and street classification. Special Improvement Districts (SIDs) are frequently used by Billings, which puts the responsibility for improvement costs on the property owners. A SID can, however, be rejected if opposition by property owners within the district is over 50 percent. Typically, a SID is initiated when residents of existing neighborhoods come to the City requesting improvements. An urban SID can be utilized to fund improvements in a larger section of the city where needed improvements are not only due to the residents of the neighborhood but are also attributable to others passing through (such as on arterial and/or collector streets).

The City of Billings instituted an Arterial Construction Fee Program in 2004 to reduce a funding gap and in response to complaints over the assessment fees being charged to property owners in SIDs. At that time, the City's existing revenue sources were not sufficient to meet the community's arterial construction and reconstruction needs, so the City decided to explore other approaches to generate revenue to fund improvements to the transportation system. This arterial construction fee assessment is unique in Montana and is an example of a funding mechanism used to finance the local transportation system. The program

uses a formula to levy an annual fee on all properties within the city limits that is based on property value. The revenue (approximately \$3 million annually) is used for constructing or reconstructing arterial roads within Billings. The City's arterial construction fee revenues may be used to construct or reconstruct arterial roadways within the Billings city limits.

Developers of commercial or industrial sites or subdivision projects in Billings are typically required to help fund transportation improvements as a condition of approval. This is done through analysis in a traffic impact study (TIS) for the development, which evaluates improvements needed at certain intersections and assigns a percentage of improvement cost to the developer based on the new traffic added by the development. Billings has also considered the implementation of developer impact fees in the past but hasn't yet done so as of this writing.

Generally, smaller improvements like adding stop signs to certain streets are often done by City sign crews while larger improvements like adding a roundabout would be assigned priority and incorporated into the CIP. Higher priority would likely be given to a roundabout that was expected to improve safety and operations at a noted problem intersection.

Contact: City Traffic Engineer, 406-657-8231

City of Bozeman

The City of Bozeman uses several different sources to fund safety and other street improvement projects, including a Street Maintenance Fund, Street Impact Fees Fund, Arterial and Collector District Fund, Street and Curb Reconstruction Fund, General Funds (where appropriate), and Grant Funds (where applicable). The City's Transportation Master Plan (TMP) is generally utilized to prioritize projects, and the process for prioritizing capital project funds is renewed every year for development of the 5-year capital plan. Ultimately, the final authority on which projects to prioritize lies with the City Commission.

The City of Bozeman's impact fee program is used to fund system capacity improvements, including improvements to water, sewer and transportation systems. It is estimated that impact fees pay for roughly 50 – 65% of all new infrastructure in Bozeman. Impact fees are collected from developments to pay for their incremental impact on the capacity of the utility and/or road that they are using. The City's impact fee schedule, illustrated on the right, determines the impact fee per unit of residential or non-residential land

uses. The traffic capacity needs are defined by required additional travel lanes needed; these improvements are identified through the TMP

The City of Bozeman requires impact fee payment when building permits are issued. The impact fees are used city wide and not limited to a particular neighborhood. The fees can be used adjacent to the development or throughout the city.

There is no time limitation on the use of the collected impact fees.

The City of Bozeman recommends that when creating an impact fee program to clearly define the fees and to allow their use city wide. The fees have potential to be challenged by builders/developers, including through lawsuits. Bozeman has been sued a handful of times, but they have been successful in the legal defense of the program due to the careful and thorough definition of the Impact Fee process. The City also hires an independent accountant every 3 or 4 years to audit their process. They warn that the initial creation of an impact fee program may be strongly contested by developers. However, the general public largely supports the program. The intent is that development pays for its impacts to the transportation system. Therefore, the general public is not required to fund the improvement needs that may be primarily driven by particular development.

This fee schedule applies for building permits deemed complete after January 1, 2021

Calendar Year 2021 v1	
Effective January 1, 2021	
Transportation Impact Fee	
<i>Single Home Residential (Square Feet of Living Area)[Includes Townhomes]</i>	
1400 or less	\$ 6,117.78
1401-1600	\$ 6,814.16
1601-1800	\$ 7,433.63
1801-2000	\$ 7,963.71
2001-2200	\$ 8,468.85
2201-2400	\$ 8,903.31
2401-2600	\$ 9,312.83
2601-2800	\$ 9,704.67
2801-3000	\$ 10,061.18
3001 or more	\$ 10,166.16
<i>Multi-Household Residential (Square Feet of Living Area) [Includes Accessory Dwellings]</i>	
1400 or less	\$ 3,801.01
1401-1600	\$ 4,237.54
1601-1800	\$ 4,610.68
1801-2000	\$ 4,946.40
2001-2200	\$ 5,250.94
2201-2400	\$ 5,523.25
2401-2600	\$ 5,774.78
2601-2800	\$ 6,009.68
2801-3000	\$ 6,240.43
3001 or more	\$ 6,302.79
Group Quarters per person	\$ 2,253.37
<i>Non-Residential (Unit descriptor)</i>	
Retail/Restaurant (per 1,000 sq. ft.)	\$ 10,510.19
Research & Development Center (per 1,000 sq. ft.)	\$ 5,426.59
Office (per 1,000 sq. ft.)	\$ 3,603.52
Hospital (per 1,000 sq. ft.)	\$ 6,930.57
Day Care (per student)	\$ 607.00
University (per student)	\$ 1,122.53
Secondary School (per 1,000 sq. ft.)	\$ 4,634.59
Elementary School (per 1,000 sq. ft.)	\$ 6,425.43
Lodging (per room)	\$ 1,396.92
Assisted Living (per bed)	\$ 719.25
Mini-warehouse (per 1,000 sq. ft.)	\$ 378.33
Warehouse (per 1,000 sq. ft.)	\$ 642.34
Manufacturing (per 1,000 sq. ft.)	\$ 1,443.70
Light Industrial (per 1,000 sq. ft.)	\$ 1,828.27

Those projects located within the Trip Exchange District (TED) are charged 29% less than those fees listed here. The TED is an area with documented reduced transportation demand. This adjustment is applied during fee calculation. This modification only applies to transportation charges.

In addition to impact fees, Bozeman requires developers to extend any collector or arterial street adjacent to their development (based on full City of Bozeman collector/arterial street standards), including acquisition of right-of-way, if required. The City does have the ability to use impact fees to help limit the costs of these types of projects for the developers. The City of Bozeman defines a local street (30-foot street section) as the minimum road needed for transportation. Therefore, anything required beyond a 30-foot section is considered as additional capacity for a development and impact fees can be used to pay for the arterials or collectors to build beyond the 30-ft section. This includes turn lanes, through lanes, sidewalks, and trails.

Contact: City Engineer, 406-582-2280

City of Kalispell

The City of Kalispell typically uses street assessments, gas tax, and Bridge and Road Safety and Accountability Act (BaRSAA) funds to perform general maintenance, such as updating pavement markings, signs, traffic signals, chip seals, mill and overlays, ADA ramps, and street reconstruction projects (depending on the condition of the street via PCI rating). Work involving installation of signs and maintenance on signals and streetlights is performed by the City's Traffic Signs and Signals (TSS) Division, which has a crew of three employees and is funded through the street maintenance fund.

For new construction, the City requires developers to extend utilities and roadways adjacent to and through a proposed development, with requirements to build to minimum City standards prior to acceptance of ownership and maintenance responsibilities. The City of Kalispell does not currently have transportation impact fees.

Contact: City Engineer, 406-758-7720

City of Missoula

The City of Missoula uses a variety of funds for transportation improvements, including: road maintenance district funds (from property assessments), SIDs, tax increment finance (TIF) districts, and development impact fees. The impact fees are enabled through State law and assessed at the building permit phase. The level of funding depends on the amount and value of development that is occurring. On average, Missoula

collects a little over one million dollars annually from transportation impact fees. The City has used a consultant to help set and review the impact fees.

The City recently created a Special Transportation Impact Fee to help supplement monies from a BUILD grant that they received for the Mullan Road area to help provide connectivity to the area. The special impact fees, in addition to the city-wide impact fees and other existing development fees, will allow the City to construct key infrastructure improvements ahead of development, lowering the overall cost for developers. A unit fee approach (trip-based) is used to estimate the proportionate share of the infrastructure improvements made necessary by the new development.

Contact: Department of Public Works & Mobility, 406-552-6000

Local Agency Federal Funding Uses

The following information discusses how local agencies have used federal funding for projects that are similar to the North Great Falls Sub-Area recommended projects.

City of Billings

The City of Billings uses Transportation Alternatives (TA) grants from the Federal Highway Trust Fund for improvements to alternate mode systems, generally being used for larger-scale projects such as sidewalks, shared use paths, and safe routes to school type projects. These projects need to be built for transportation purposes and not recreation. Another source of Federal project funding used by the City of Billings include CMAQ Improvement Program funds, which could be used for sidewalk improvements to encourage walking versus driving, which ultimately reduces air pollution. CMAQ funds are described in more detail in the federal funding section that follows.

City of Kalispell

The City of Kalispell has several current projects utilizing funds from a variety of sources, including TA Grant Funds, TIGER Grant Funds, a “Round-up For Safety” grant from the local electric co-op with local matching funds, and an MDT Safety Project which is funded, designed, and constructed by the MDT.

TIGER and TA Grant funds are currently being used in Kalispell to build pedestrian facilities. One project involves building an industrial rail park, which includes removal of train traffic and tracks that were bisecting Kalispell and installing a pedestrian facility in the old rail corridor. Other projects involve completing pedestrian trail connections. The City is in the process of updating their pedestrian and bicycle plan as a component of their Transportation Plan Update, which aides in identifying and prioritizing these types of projects.

Funding Alternatives

The following discussion of funding alternatives has been developed primarily with a focus on transportation-specific funding programs that would be applicable to the City of Great Falls, particularly within the context of this study. Many of the programs focus on the impacts of growth on a community's infrastructure systems, including roads, parks, water, wastewater, sidewalks, bicycle paths, and more. FHWA's Center for Innovative Finance, FHWA's Office of Safety, the Montana FHWA Division Office, and Smart Cities Financing Guide (Arizona State University's Center for Urban Innovation) were utilized to guide our research and to ensure as many tools as possible were explored.

FHWA Transportation Alternatives (TA) Funds

Transportation Alternative (TA) funds are Federal funds reimbursed from the Highway Trust Fund via MDT. These set-aside funds are applicable for the type of projects and activities that were previously eligible under TAP (Transportation Alternatives Program). Projects are selected through a competitive grant program that requires communities to submit applications for specific projects. MDT evaluates the projects for funding eligibility based on the merits of the projects. Projects that improve the accessibility, safety and connectivity of a community/corridor are generally considered to be high priority in addition to projects associated with low risk (i.e. right-of-way needs, utility impacts, etc.). Typical infrastructure that is constructed through TA funding includes sidewalks, bicycle infrastructure, pedestrian and bicycle signals, traffic calming measures, street lighting, and other safety-related infrastructure, as well as projects intended to achieve compliance with the Americans with Disabilities Act of 1990. Projects are to be located within the jurisdiction of the local entity sponsor (jurisdiction/applicant). There is no requirement for TA projects to be located along Federal-aid highways. The TA program would be a good source of funding for the City of Great Falls for sidewalks, ADA improvements, and shared-use paths and bicycle lanes. TA funds used for project located off the federal highway system do require a local match and MDT-based design which

may increase project costs and implementation time. The City of Great Falls has had three previous TA projects, and all have been very successful.

The TA program contact is Dave Holien at MDT (dholien@mt.gov or 406-444-6118).

Potentially Applicable Projects:

- ✓ Intersection Traffic Control, ST-1
- ✓ Division Road Intersection Improvements, ST-2
- ✓ 32nd Avenue NE/9th Street NE/Skyline Drive NE Intersection Improvements, ST-3
- ✓ Skyline Drive NW/NE Corridor Improvements, ST-5
- ✓ 36th Avenue NE Corridor Improvements, ST-6
- ✓ 5th Street NE Corridor On-Street Parking, ST-7
- ✓ Sidewalks/Shared-Use Paths, ST-8
- ✓ 2nd Street NE Functional Classification, ST-9
- ✓ Shared Use Markings, LT-3

Surface Transportation Program-Urban (STPU)

Surface Transportation Program-Urban (STPU) funds are a sub-allocation of the larger Surface Transportation Block Grant (STBG) Program. Montana Metropolitan Planning Organizations (MPOs) and local agency officials prioritize funding of Surface Transportation Program-Urban funds (STPU) for projects located on the urban system or local roads. The STPU funds are eligible for rehabilitation, resurfacing, new construction, reconstruction of existing facilities, operational improvements, vehicle-to-infrastructure communication equipment, bicycle facilities, pedestrian walkways, carpool projects and traffic operation projects on the 430 miles of the State-designated Urban Highway System. Priorities for the use of Urban funds are established at the local level through local planning processes with final approval by the Transportation Commission.

Bootlegger Trail may be eligible for STPU funds to help supplement costs associated with the addition of shared-use paths or sidewalks or intersection improvements with US 87.

The contact for the STPU Funds program is Great Falls MPO

Potentially Applicable Projects:

- ✓ US 87/Bootlegger Trail Intersection Improvements, LT-4

Congestion Mitigation Air Quality (CMAQ) Improvement Program

The primary goal of the Congestion Mitigation Air Quality (CMAQ) Improvement Program is to improve air quality, though many of the associated efforts also support mobility goals. Projects that improve air quality through better traffic flow, enhanced transit services, and provision of alternate travel modes typically provide substantial benefits to a transportation system. CMAQ funds are often used for adding bicycle lanes and sidewalks to promote alternate modes of transportation and safe access/routing of pedestrians and bicyclists to schools and parks. Eligibility requirements focus on pedestrian and bicycle projects that construct bicycle and pedestrian facilities (paths, bicycle racks, support facilities, ADA upgrades, etc.) that are not exclusively recreational and reduce vehicle trips in addition to non-construction outreach related to safe bicycle use. Transit uses of CMAQ funds include transit improvements and public fleet conversion to cleaner fuels. Congestion reduction and intersection projects that reduce delay and idling time (such as traffic signal synchronization, intersection improvements, travel demand management strategies, traffic flow improvements) are also given priority. Other eligible projects that focus on reducing vehicle emissions include air quality equipment purchase, vehicle to infrastructure communication equipment and public fleet conversions to cleaner fuels.

Great Falls receives an annual allocation of CMAQ funding to prioritize. The MPO is able to prioritize projects without competing with other MDT projects.

The MDT contact for CMAQ is Katie Potts (kpotts@mt.gov or 406-444-9238).

Potentially Applicable Projects:

- ✓ Sidewalk/Shared-Use Paths, ST-8
- ✓ Shared Use Markings, LT-3

Bridge and Road Safety Accountability Act

The Bridge and Road Safety and Accountability Act (BaRSAA) provides funding to local governments in Montana for construction, reconstruction, maintenance, and repair of rural roads, city or town streets, alleys, and bridges. A portion of motor fuel tax revenues generated within the State of Montana provides funding for this program and allocates a portion of the fuel tax to local governments. The required match from the local government is 5%.

Funds can be used for:

- Payment for the construction, reconstruction, maintenance, and repair of rural roads, city or town streets and alleys, bridges, or roads and streets that the city, town, county, or consolidated city-county government has the responsibility to maintain; or
- As the match for federal funds used for the construction of roads and streets that are part of the national, primary, secondary, or urban highway systems, or roads and streets that the city, town, county, or consolidated city-county government has the responsibility to maintain.

The MACo contact for BaRSAA is Jason Rittal (jrittal@mtcounties.org, 406-441-5464).

The MLCT contact for BaRSAA is Sandy Lang (slang@mmia.net, 406-495-7013).

The MDT contact for BaRSAA is Geoff Streeter (gstreeter@mt.gov, 406-444-6256).

Potentially Applicable Projects:

- ✓ US 87/Bootlegger Trail Intersection Improvements, LT-4
- ✓ US 87/43rd Avenue NE Access Construction, LT-6

Special Improvement Districts

Special Improvement Districts (SID) are a widely used national mechanism to fund improvements that are intended to be directly and equally beneficial to the users in a particular area. Under a SID, the municipality uses its bonding capacity to fund a variety of improvements that are then paid back through assessments levied on the benefited properties as identified and included within an SID boundary (district).

Municipalities must create a SID that includes only benefited properties. The SID boundary and the property characteristic (i.e. square footage, frontage length, etc) must be carefully selected in order to be as

equitable in their assessment. The details of the proposed district are typically reviewed/approved by a bond council prior to advancing the initiative to public process, bond sale/funding, and ultimately construction. The following are some additional key considerations on SID usage in Montana:

- A list of specific project types that can be financed by SIDs in Montana is available at MCA 7-12-4102. The list of eligible improvements is quite comprehensive and includes streets, avenues, alleys, sidewalks, crosswalks, culverts, bridges, curbs, parking areas, and the planting of grassplots and the setting out of trees, as well as other infrastructure improvements.
- Although there are some limits on the ability to include adjacent county properties, there are examples throughout the state where, if the county is agreeable to the inclusion, a joint City/County SID/RSID package can be created.
- Protests Allowed – a SID may be defeated by written protests filed by owners comprising more than 50% of the property ownership group, unless the SID is being created to finance a sewer system, then the protest must exceed 75%. In the event of defeat, the municipality cannot reconsider for 6 months.
- The period allowed for the payment of the assessments levied upon the District cannot exceed 20 years. Ten (10)-year and 15-year payoff periods are common.

A separate and specifically focused district called a Street Light Maintenance Improvement District (SLMID) is also available. This type of district applies specifically to street lighting and can be structured to include the maintenance and energy costs to operate the street-light improvements along with the initial improvement/construction costs.

Potentially Applicable SID Projects:

- ✓ Intersection Traffic Control (safety), ST-1
- ✓ Division Road Intersection Improvements, ST-2
- ✓ 32nd Avenue NE/9th Street NE/Skyline Drive NE Intersection Improvements, ST-3
- ✓ 36th Avenue NE Operational Analysis (street lighting), ST-6
- ✓ Sidewalk/Shared-Use Paths, ST-8
- ✓ Shared Use Markings, LT-3

Potentially Applicable SLMID Projects:

- ✓ Skyline Drive NW/NE Corridor Improvements, ST-5

- ✓ 36th Avenue NE Corridor Improvements, ST-6

Special Districts

Under MCA 7-11-10, a city may create a Special District (SD), such as a road district or transportation district, to assess properties within that district for improvements to roads, sidewalks, and other infrastructure that benefits the public. The financing of special districts is by annual assessment of the property that lies within that District. It is a way for a municipality to collect a consistent revenue stream to fund a variety of project types on an ongoing basis. Unlike for a special improvement district (SID), a SD is not financed, nor is it a “one-off” fund, the value of which is pre-determined and targeted for a specific project or projects (as in the case of an SID). A SD assessment is typically collected annually with property taxes. The Billings Arterial Construction Fee Program, as previously discussed, is an example of a Special District.

The City of Missoula created a SD to raise approximately \$500,000 annually for road improvements. The City Council can set the assessment rate annually to accomplish roadway projects throughout the city. The road district includes provisions for streets, alleys, driveways, alley approaches, sidewalks, curb and gutters, medians, boulevards, lighting, parking lots, support facilities, public amenities, storm water facilities, traffic control, signs and pavement markings, acquisition of right-of-way, as well as other public facilities located in the public right-of-way and within city public easements.

Potentially Applicable Projects:

- ✓ Intersection Traffic Control, ST-1
- ✓ Division Road Intersection Improvements, ST-2
- ✓ 32nd Avenue NE/9th Street NE/Skyline Drive NE Intersection Improvements, ST-3
- ✓ 6th Street NW Improvements/Reconstruction, ST-4 and LT-2
- ✓ Skyline Drive NW/NE Corridor Improvements, ST-5
- ✓ Sidewalk/Shared-Use Paths, ST-8
- ✓ US 87/Bootlegger Trail Intersection Improvements, LT-4
- ✓ 43rd Avenue NW/NE Connectivity, LT-5
- ✓ US 87/43rd Avenue NE Access Construction, LT-6

General Obligation Bonds

Another option a municipality has for generating funding for a project or series of projects is to utilize its bonding capability. A city may identify needed improvements and program a project in their multi-year Capital Improvement Plan without having sufficient funds for the project, sell bonds to generate the necessary funding, complete the improvement project in the short-term, and then, through ongoing and potentially increased taxation, pay back the bond holders. Because General Obligation (GO) bonds are often fully or partially repaid via tax increases, their usage must be approved through a popular vote of the citizens of the municipality.

Potentially Applicable Projects:

- ✓ Intersection Traffic Control, ST-1
- ✓ Division Road Intersection Improvements, ST-2
- ✓ 32nd Avenue NE/9th Street NE/Skyline Drive NE Intersection Improvements, ST-3
- ✓ 6th Street NW Improvements/Reconstruction, ST-4 and LT-2
- ✓ US 87/Bootlegger Trail Intersection Improvements, LT-4
- ✓ 43rd Avenue NW/NE Connectivity, LT-5
- ✓ US 87/43rd Avenue NE Access Construction, LT-6

Transportation Impact Fees

Transportation impact fees can be used to assist cities in providing/improving transportation facilities to improve transportation system capacity as required by new development (see MCA 7-6-16). An impact fee program uses a developed fee schedule to determine fees for new developments, dependent upon type and magnitude of facility, which is typically based upon estimated vehicle or person trips generated by facility type. Collected fees from developers are typically used to fund projects that build collector and arterials roadways adjacent to or providing connectivity to/from the established roadway network.

A multi-modal transportation impact fee shares the same basic principles as a roadway impact fee except that it also provides additional flexibility to fund capital infrastructure for transit or standalone bicycle and pedestrian facilities, in addition to roads. The City of Bozeman discussion provides information on their impact fee program and suggestions for developing a new program.

Potentially Applicable Projects:

- ✓ Sidewalk/Shared-Use Paths, ST-8
- ✓ Shared Use Markings, LT-3
- ✓ 6th Street NW Reconstruction, LT-2
- ✓ 43rd Avenue NW/NE Connectivity, LT-5
- ✓ US 87/43rd Avenue NE Access Construction, LT-6

Great Falls Funding Recommendations

After researching available types of funding and collecting information from other local (Montana) and regional jurisdictions on project funding, Sanderson Stewart makes the following recommendations for the City of Great Falls to help fund the projects recommended in this report, as well as any future projects that may be necessary to maintain safe and efficient growth in the Sub-Area and the city:

- Consideration should be given to implementation of an urban SID for traffic calming, intersection, street lighting, and/or other safety improvements in the Sub-Area. Improvements on 36th Avenue NE, where residents are concerned about travel speeds and safety, would be a good application for an SID since the traffic on that street is primarily generated by local residents vs pass-through traffic.
- Consideration should be given to applying for CMAQ program funds for bicycle and pedestrian improvements, including completing sidewalk gaps and shared bicycle lanes, following Federal eligibility via the interim program guidance under MAP-21.
- Consideration should be given to developing a well-defined policy that defines off-site transportation system improvement requirements associated with development projects and/or a transportation impact fee program to help fund new street construction/connective projects for growth areas (such as in the vicinity of 43rd Avenue NE). The off-site improvement policies should carefully define right-of-way dedication/acquisition requirements as necessary to build a connected system of streets in the Sub-Area (generally depicted in Figure 17).
- Consideration should be given to tasking the City's sign crew with installation of any necessary traffic control changes, including sign installations and pavement markings. From a budgetary standpoint, it is presumed that these types of relatively inexpensive improvements may be accommodated within existing operations/maintenance budgets.

- In order to have a well-defined schedule for project prioritization, the City should plan to revisit this document and/or create a more specifically intentioned document that focuses on prioritization of transportation infrastructure projects to help inform the CIP development process. The project prioritization analysis should be revisited regularly to ensure that the list of planned projects is comprehensive and that the planned schedule/order of project construction will best serve the community.
- Consideration should be given to hiring a fiscal, economic and planning consultant that specializes in impact fees and fiscal impact analyses.

As future development and growth to the network increases, the importance of upgrading and continued development of the roadway network in the sub-area will become more important. 6th Street NW will need to be upgraded to an arterial status, and consideration needs to be given to limit the amount of access to match the functional classification. Extending 36th Avenue NW between 6th Street NW and Bootlegger Trail is important to improve the network and allow 6th Street NW to serve as a north-southbound arterial. The development and extension of 43rd Avenue NE/NW between 6th Street NW and US 87 will allow northern east-west traffic to travel an alternative path to 36th Avenue NE/NW, ultimately helping to prevent traffic volume growth on 36th Avenue NE/NW. As the roadways are improved and/or developed, particular attention should be given to the appropriate access for the functional class to help promote efficient mobility through the sub-area of the City of Great Falls.

APPENDIX A
Public Participation Plan

**NORTH
GREAT FALLS
SUB-AREA
TRANSPORTATION
STUDY**





Great Falls ***MPO***

Public Participation Plan for:

North Great Falls Sub-Area
Transportation Study

April 20, 2020

City of Great Falls MPO Project Manager:

Andrew Finch, Senior Planner – afinch@greatfallsmt.net

1.0 Project Description

The North Great Falls Sub-Area Transportation Study will help to facilitate and implement community transportation goals and improve transportation facilities and services by:

- Relating the transportation system to existing and future land use and community comprehensive plans and programs.
- Improving the multi-modal transportation circulation of people and goods, using both motorized and non-motorized transportation modes and facilities.
- Providing a safe, efficient, accessible, cost-effective and context sensitive transportation system.

The study will be prepared cooperatively by the consultant team (Sanderson Stewart, Great West, and DKS Associates) with assistance from the City of Great Falls (City), the Great Falls MPO (MPO), and the Montana Department of Transportation (MDT).

The study area for the project is generally located north of the Missouri River and west of US Highway 87. Figure 1 below depicts the study area with key streets labeled.

The proposed schedule for the project anticipates completion of the study late in calendar year 2020 or early in 2021. Attachment A provides a detailed graphical schedule with key project milestones, including two (2) planned public meetings.

2.0 Public Involvement Objectives

Through a targeted public involvement process, the project team will solicit input from the general public and other key project stakeholder groups. The specific objectives of the public involvement process will be to:

- Provide a transparent view of study process and development
- Communicate the intent and goals of the project
- Gather feedback on traffic safety and operations-related improvement needs in the study area
- Establish realistic expectations about need, timing, and cost of potential improvement projects
- Document and answer questions about study process, results, and recommendations
- Present the final study document

3.0 Public Involvement Tools

The public involvement process for this project originally intended to utilize a project website and two (2) public meetings to disseminate information to the public and solicit stakeholder feedback. The project website is active at: <http://sandersonstewart.com/projects/northgreatfallsstudy>. Through the course of the project, It will provide status updates, a calendar that lists key project milestones, including meetings and other public process events, links to project documents and exhibits (draft and final versions), and a project contact form for asking questions or providing comments throughout the

project process. To supplement the website, Sanderson Stewart is also willing to create and maintain a Facebook profile for the project that would likely assist with reaching more members of the community with key information and announcements about project milestones.

We had intended to hold two (2) open house-style public meetings; one early in the project process to communicate project goals and intent, and the other toward the end of the project to present the final study document. Given the current situation with the pandemic and social distancing protocols, it may not be advisable or even legal to hold a traditional public meeting within the next few weeks or even months. After consulting with the City on ideas for how to accomplish effective public engagement while following social distancing protocols, the decision was made to utilize the project website more strategically for targeted public outreach, at least early in the project timeline when public gatherings are still likely to be restricted. Sanderson Stewart will put together an informational video that describes the scope and purpose of the project, provides details on process and schedule, and outlines the type available avenues for input from the public. The video will be uploaded to the website to make it generally accessible to the public. A postcard mailing effort would also simultaneously be initiated to notify residents and business owners from within the study area about the availability of the website, general information provided there, and specifically, the video that explains the project. The City will provide Sanderson Stewart with a list of addressees to which the postcard will be sent.

A neighborhood meeting will be held toward the end of the project so as to solicit feedback on preliminary study results, conclusions, and recommendations. The venue for that meeting (whether traditional or virtual) will be determined at a later date depending upon various factors, not the least of which is social distancing restriction status related to the pandemic. If held in a virtual environment, the project team will most likely utilize some combination of Microsoft Teams, Zoom, and Facebook Live to try to make the meeting as accessible as possible. We would also plan to record the meeting and upload the recording to the website.

4.0 Public Involvement Schedule

The current schedule for the project anticipates completion in December of 2020. The intent is to develop the informational video about the project in the coming weeks and upload it to the project website no later Friday, May 22. The mailer campaign would be initiated that following week to notify targeted community members about the website and the video.

The project website (and Facebook profile) will be monitored continuously throughout the course of the project. Questions or comments received from the public will be compiled in a comment/response spreadsheet that will eventually be part of the appendix for the summary report.

We anticipate holding the neighborhood meeting in approximately September of 2020. An exact date and time for the neighborhood meeting will be determined based on project progress and in coordination with the City. Local media outlets will be notified of the schedule details for the neighborhood meeting in order to generate additional publicity.

The public will also presumably have the opportunity to provide comment on the project at the City Commission meeting when we present the draft study. We will plan to make that presentation at a

regularly scheduled Commission meeting in October or November after the neighborhood meeting is complete and comments have been summarized and addressed in the draft report. The format of and schedule for the City Commission presentation will of course be at the City's discretion.

APPENDIX B
Street Characteristics Inventory

**NORTH
GREAT FALLS
SUB-AREA
TRANSPORTATION
STUDY**



Street Characteristics Inventory

Street Name	Segment	Start - going east/north	Segment Length (ft)	Road Surface	Pavement Width (ft)	Lane Width (ft)	Shoulder		Sidewalk		Lighting	Speed Limit	2018 AADT	% PM peak/ADT	MDT Street Classification	Right-of-Way (ft)	Google Map * Image Dates	* 2017 MDT aerial also used
							Curb/Gutter	Type	Width	N/E side								
6th St NW	1	6th/Skyline	90	asphalt	21	N/A	No	N/A	N/A	No	No	No	25 mph	330	9.1%	major collector	90	2014, 2019
	2	to Vinyard	5425	gravel	21	N/A	No	N/A	N/A	No	No	No	35 mph	330	7.9%	major collector	90	2014, 2019
2nd	1	Skyline/2nd	170	asphalt	34	N/A	Yes	N/A	N/A	Yes	Yes	No	25mph	--		local	60	2011, 2014
	2		980	asphalt	26	N/A	Yes	N/A	N/A	No	Yes	No	25mph	--		local	60	2011, 2014
	3	to 2nd/36th	460	asphalt	26	N/A	Yes	N/A	N/A	Yes	Yes	No	25mph	--		local	60	2011, 2014
5th	1	Skyline/5th	280	asphalt	26	N/A	Yes	N/A	N/A	Yes	Yes	No	25mph	--		local	60	2011, 2014
	2		90	asphalt	26	N/A	Yes	N/A	N/A	No	Yes	No	25mph	--		local	60	2011, 2014
	3	to end	1245	asphalt	26	N/A	Yes	N/A	N/A	Yes	Yes	No	25mph	--		local	60	2011, 2014
8th	1	8th/Sacajawea	135	asphalt	30.5	17.7 (NW)/12.8 (SE)	Yes	N/A	N/A	Yes	Yes	Yes	25mph	3950	8.6%	major collector	60	2014, 2019
	2		465	asphalt	30.6	12.6 (NW)/14.1 (SE)	Yes	N/A	N/A	Yes	Yes	Yes	25mph	3950	8.6%	major collector	60	2014, 2019
9th Street	1	8th/9th/32nd/Skyline	65	asphalt	30.8	15.7 (W)/15.1 (E)	Yes	N/A	N/A	Yes	Yes	Yes	25mph	--		major collector	60	2014, 2019
	2		135	asphalt	30.9	16.1 (W)/14.8 (E)	Yes	N/A	N/A	No	No	No	25mph	--		major collector	60	2014, 2019
	3	to 9th/36th	1175	asphalt	34	16	Yes	N/A	N/A	Yes	Yes	No	25mph	--		major collector	60	2014, 2019
Bootlegger	1	Bootlegger/36th	650	asphalt	46	12.0 (W)/12.5 (CENTER)/12.0 (E)	No	paved	5.5	No	No	No	45mph	5355	4.5%	major collector	115	2014, 2019
	2	to Bootlegger/46th	2900	asphalt	48.4	12.4 (W)/14.1 (CENTER)/12.4 (E)	No	paved	4.5	No	No	No	70mph	2152	10.6%	major collector	115	2014, 2019
36th Ave NE	1	west end	2950	asphalt	44	N/A	Yes	N/A	N/A	Yes	Yes	No	25 mph	4642	5.5%	local	70	2011, 2014
	2		475	asphalt	44	N/A	Yes	N/A	N/A	Yes	No	Yes	25 mph	4642	6.0%	local	70	2011, 2014
	3	36th/6th	2330	asphalt	44	N/A	Yes	N/A	N/A	Yes	Yes	Yes	25 mph	4642	7.8%	local	80	2011, 2014, 2019
	4	36th/9th	115	asphalt	44	18.8 (S)/22.0 (N)	Yes	N/A	N/A	No	Yes	No	25 mph	4642	8.1%	major collector	80	2014, 2019
	5		115	asphalt	44	17.0 (S)/19.4 (N)	Yes	N/A	N/A	No	Yes	No	25 mph	4642	8.1%	major collector	80	2014, 2019
	6		240	asphalt	44	17.4 (S)/19.0 (n)	Yes	N/A	N/A	Yes	Yes	No	25 mph	4642	8.1%	major collector	80	2014, 2019
	7		220	asphalt	44	17.6 (S)/19.0 (N)	Yes	N/A	N/A	No	Yes	No	25 mph	4642	8.1%	major collector	80	2014, 2019
	8		65	asphalt	44	19.9 (S)/20.6 (N)	Yes	N/A	N/A	No	Yes	No	25 mph	4642	8.1%	major collector	80	2014, 2019
	9	at 35 mph sign	110	asphalt	44	20.3 (S)/20.5 (N)	Yes	N/A	N/A	No	Yes	No	35 mph	4642	8.1%	major collector	80	2014, 2019
	10	36th/12th	1325	asphalt	44	20.1 (S)/21.0 (N)	Yes	N/A	N/A	No	Yes	No	35 mph	4642	10.9%	major collector	80	2014, 2019
	11	to 36th/Bootlegger	200	asphalt	44	12.1 (S)/12.0 (CENTER)/16.9 (N)	Yes	N/A	N/A	No	No	No	35 mph	4642	10.9%	major collector	80	2014, 2019
Skyline Dr.	1	6th St NW/Skyline	1310	asphalt	19	N/A	No	N/A	N/A	No	No	No	35mph	--		local	60	2014, 2019
	2		1105	asphalt	30	N/A	Yes	N/A	N/A	Yes	Yes	No	25mph	--		local	60	2014, 2019
	3		360	asphalt	30	N/A	Yes	N/A	N/A	No	Yes	No	25mph	--		local	60	2014, 2019
	4		1330	asphalt	30	N/A	Yes	N/A	N/A	Yes	Yes	No	25mph	--		local	60	2011, 2014, 2019
	5		170	asphalt	34	N/A	Yes	N/A	N/A	No	Yes	No	25mph	--		local	60	2011, 2014
	6	Skyline/3rd St NE	190	asphalt	34	N/A	Yes	N/A	N/A	Yes	Yes	No	25mph	--		local	60	2011, 2014
	7		80	asphalt	34	N/A	Yes	N/A	N/A	No	Yes	No	25mph	--		local	60	2011, 2014
	8	to 8th/Skyline	3200	asphalt	34	N/A	Yes	N/A	N/A	Yes	Yes	Yes	25mph	--		local	60	2011, 2014
Division	1	Division/30th	310	asphalt	24	N/A	Yes	N/A	N/A	Yes	Yes	No	25 mph	4557	0.7%	local	60	2014, 2019

When Characteristics Varied Between Street and Aerial View the more recent view was used

*When characteristics varied between street and arterial view, the more recent view was used.

**Bootlegger Trail--All measurements based on 2017 MDT aerial, there is also a TWLTL approx. 15 ft

APPENDIX C
Traffic Count Data Worksheets

**NORTH
GREAT FALLS
SUB-AREA
TRANSPORTATION
STUDY**



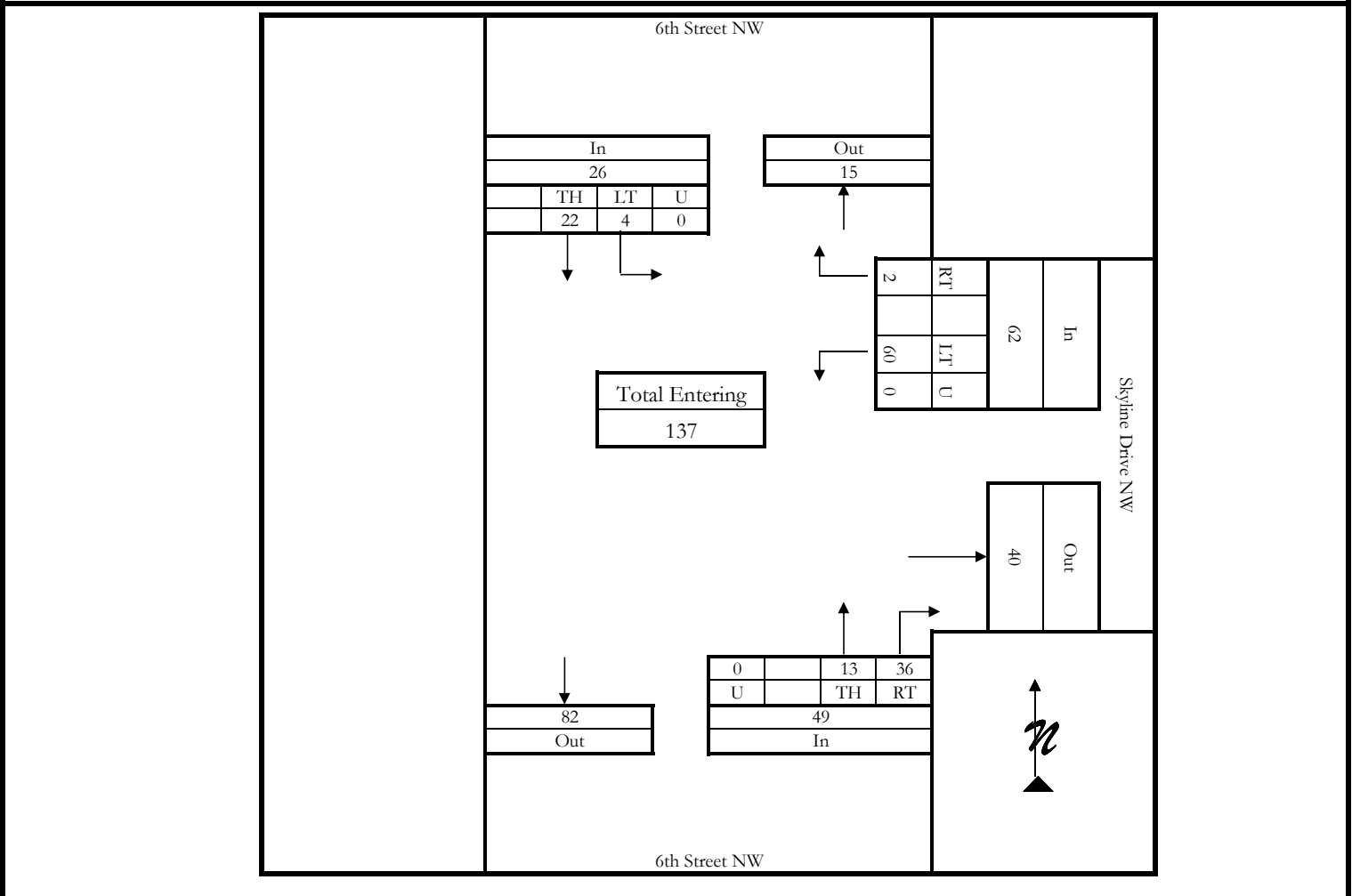
INTERSECTION TURNING MOVEMENT COUNT SUMMARY

General Information

Counted By: Audrey Stoltzfus	Intersection: 6th Street NW & Skyline Drive NW
Agency/Company: Sanderson Stewart	Jurisdiction: City of Great Falls/MDT
Date Performed: Wednesday, January 22, 2020	
Count Time Period: AM Peak Hour (7:30 - 8:30 AM)	
Project Number: 20013	Project Description: Great Falls Transportation Study
North/South Street: 6th Street NW	East/West Street: Skyline Drive NW

Vehicle Volumes and Adjustments

Start Time	6th Street NW Southbound					6th Street NW Northbound					Skyline Drive NW Eastbound					Skyline Drive NW Westbound					Int. Total
	Right	Thru	Left	U-turn	Total	Right	Thru	Left	U-turn	Total	Right	Thru	Left	U-turn	Total	Right	Thru	Left	U-turn	Total	
Factor	1.06	1.06	1.06	1.06		1.06	1.06	1.06	1.06		1.00	1.00	1.00	1.00		1.00	1.00	1.00	1.00		
7:30 AM	0	3	0	0	3	6	2	0	0	8					0	0	0	16	0	16	27
7:45 AM	0	6	1	0	7	8	1	0	0	9					0	1	0	16	0	17	33
8:00 AM	0	8	1	0	9	11	4	0	0	15					0	1	0	13	0	14	38
8:15 AM	0	5	2	0	7	11	6	0	0	17					0	0	0	15	0	15	39
Grand Total	0	22	4	0	26	36	13	0	0	49	0	0	0	0	0	2	0	60	0	62	137
Medium Truck %	0.0	4.5	0.0	0.0	3.8	0.0	0.0	0.0	0.0	0.0					0.0	0.0	0.0	1.7	0.0	1.6	
Heavy Truck %	0.0	0.0	0.0	0.0	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 Truck %	0.0	4.5	0.0	0.0	3.8	0.0	0.0	0.0	0.0	0.0					0.0	0.0	0.0	1.7	0.0	1.6	
Total %	0.0	16.1	2.9	0.0	19.0	26.3	9.5	0.0	0.0	35.8	0.0	0.0	0.0	0.0	0.0	1.5	0.0	43.8	0.0	45.3	100.0
PHF	0.93	0.93	0.93			0.73	0.73	0.73								1.00	1.00	1.00			0.89



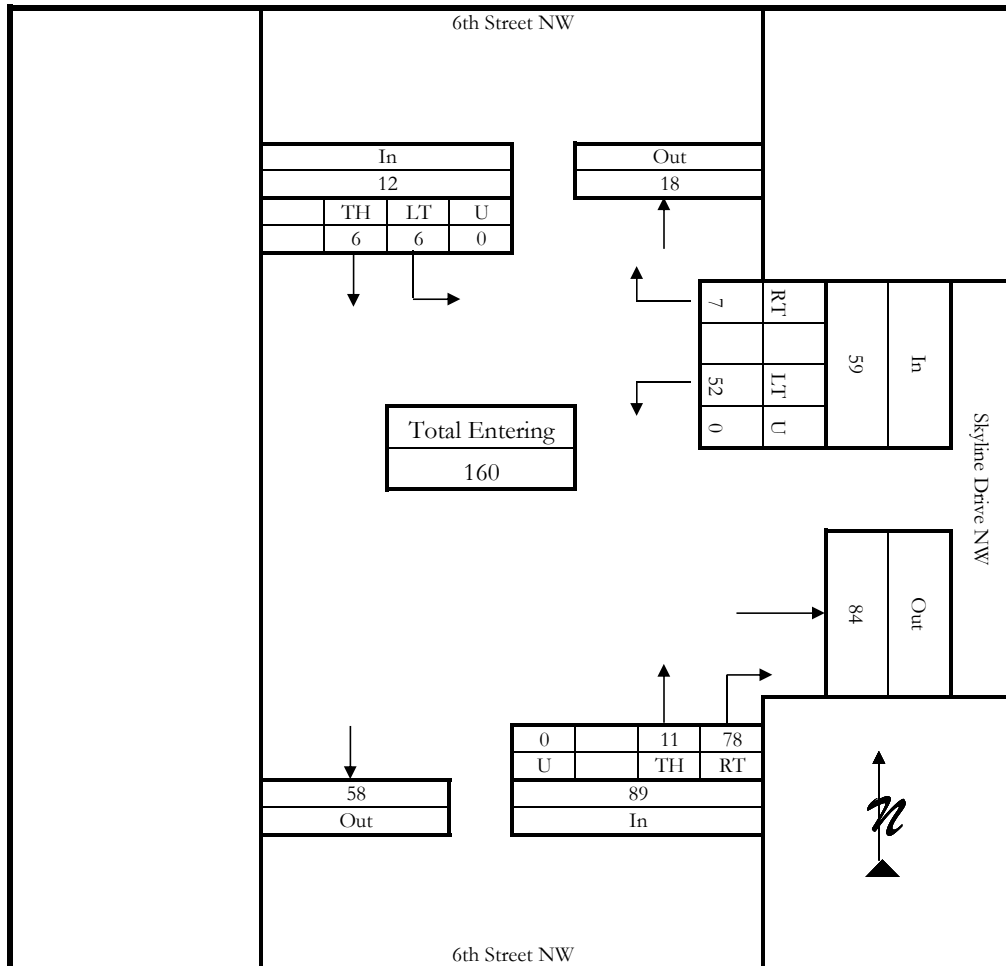
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Agency/Company: Sanderson Stewart	Jurisdiction: City of Great Falls/MDT
Date Performed: Wednesday, January 22, 2020	Project Description: Great Falls Transportation Study
Count Time Period: PM Peak Hour (4:45 - 5:45 PM)	Project Number: 20013
North/South Street: 6th Street NW	East/West Street: Skyline Drive NW

Vehicle Volumes and Adjustments

Start Time	6th Street NW Southbound					6th Street NW Northbound					Skyline Drive NW Eastbound					Skyline Drive NW Westbound					Int. Total
	Right	Thru	Left	U-turn	Total	Right	Thru	Left	U-turn	Total	Right	Thru	Left	U-turn	Total	Right	Thru	Left	U-turn	Total	
Factor	1.06	1.06	1.06	1.06		1.06	1.06	1.06	1.06		1.00	1.00	1.00	1.00		1.00	1.00	1.00	1.00		
4:45 PM	0	1	2	0	3	13	2	0	0	15					0	1	0	8	0	9	
5:00 PM	0	1	2	0	3	19	5	0	0	24					0	3	0	8	0	11	
5:15 PM	0	2	1	0	3	31	1	0	0	32					0	2	0	20	0	22	
5:30 PM	0	2	1	0	3	15	3	0	0	18					0	1	0	16	0	17	
Grand Total	0	6	6	0	12	78	11	0	0	89	0	0	0	0	0	7	0	52	0	59	
Medium Truck %	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0					0.0	0.0	0.0	0.0	0.0	0.0	
Heavy Truck %	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0					0.0	0.0	0.0	1.9	0.0	1.7	
Total Truck %	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0					0.0	0.0	0.0	1.9	0.0	1.7	
Total %	0.0	3.8	3.8	0.0	7.5	48.8	6.9	0.0	0.0	55.6	0.0	0.0	0.0	0.0	0.0	4.4	0.0	32.5	0.0	36.9	
PHF	1.00	1.00	1.00			0.70	0.70	0.70								0.67	0.67	0.67		0.70	



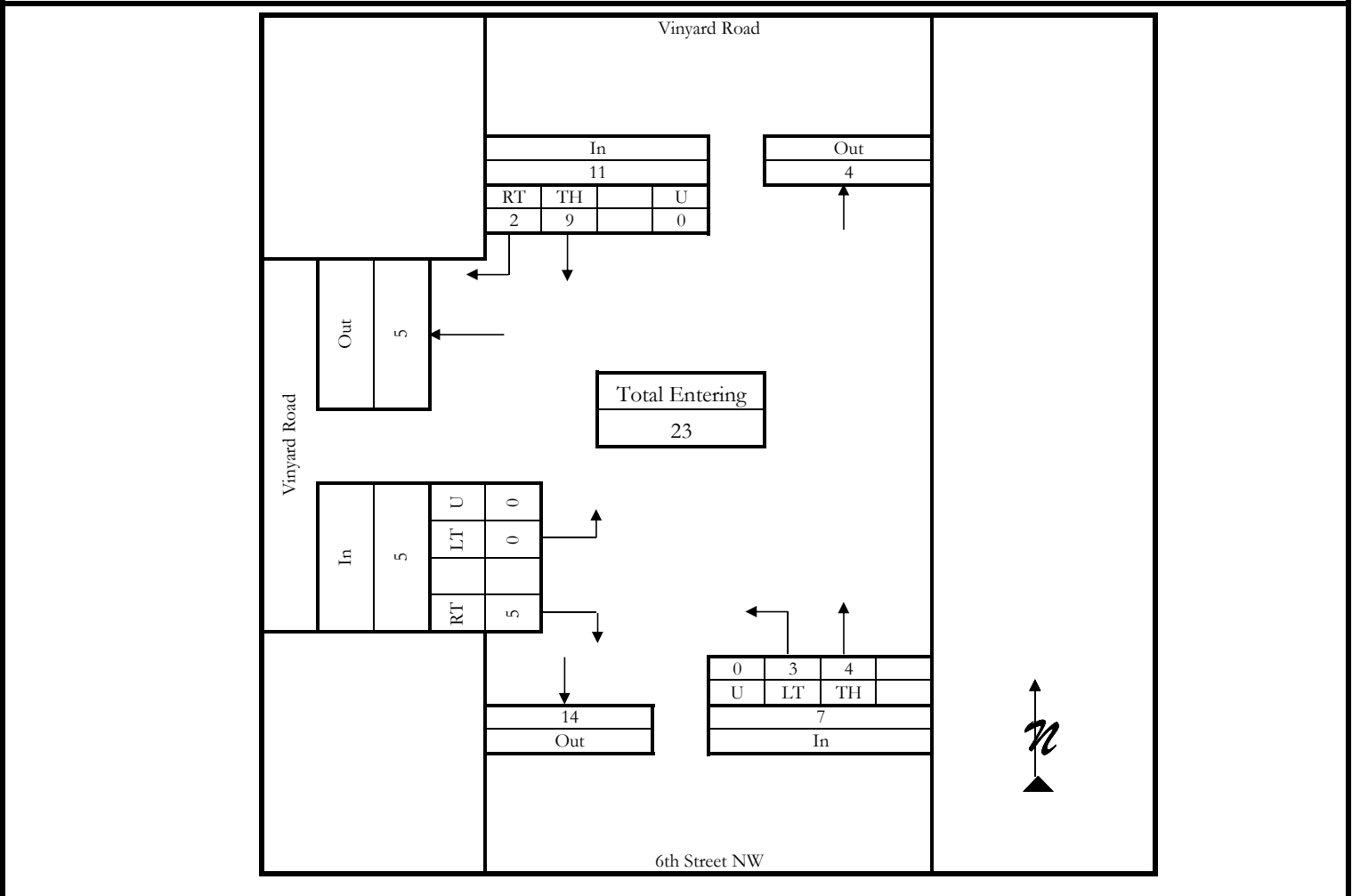
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Count Time Period: AM Peak Hour (7:30 - 8:30 AM)	Project Number: 20013
Project Number: 20013	Project Description: Great Falls Transportation Study
North/South Street: 6th Street NW/Vinyard Road	East/West Street: Vinyard Road

Vehicle Volumes and Adjustments

Start Time	Vinyard Road Southbound					6th Street NW Northbound					Vinyard Road Eastbound					Westbound					Int. Total
	Right	Thru	Left	U-turn	Total	Right	Thru	Left	U-turn	Total	Right	Thru	Left	U-turn	Total	Right	Thru	Left	U-turn	Total	
Factor	1.06	1.06	1.06	1.06		1.06	1.06	1.06	1.06		1.06	1.06	1.06	1.06		1.00	1.00	1.00	1.00		
7:30 AM	0	2	0	0	2	0	1	1	0	2	1	0	0	0	1					0	
7:45 AM	2	3	0	0	5	0	1	0	0	1	1	0	0	0	1					0	
8:00 AM	0	2	0	0	2	0	0	0	0	0	3	0	0	0	3					0	
8:15 AM	0	2	0	0	2	0	2	2	0	4	0	0	0	0	0					0	
Grand Total	2	9	0	0	11	0	4	3	0	7	5	0	0	0	5	0	0	0	0	0	
Medium Truck %	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	20.0	0.0	0.0	0.0	20.0					0.0	
Heavy Truck %	50.0	0.0	0.0	0.0	9.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0					0.0	
Total Truck %	50.0	0.0	0.0	0.0	9.1	0.0	0.0	0.0	0.0	0.0	20.0	0.0	0.0	0.0	20.0					0.0	
Total %	8.7	39.1	0.0	0.0	47.8	0.0	17.4	13.0	0.0	30.4	21.7	0.0	0.0	0.0	21.7	0.0	0.0	0.0	0.0	0.0	
PHF	0.55	0.55	0.55			1.00	1.00	1.00			1.00	1.00	1.00							0.82	



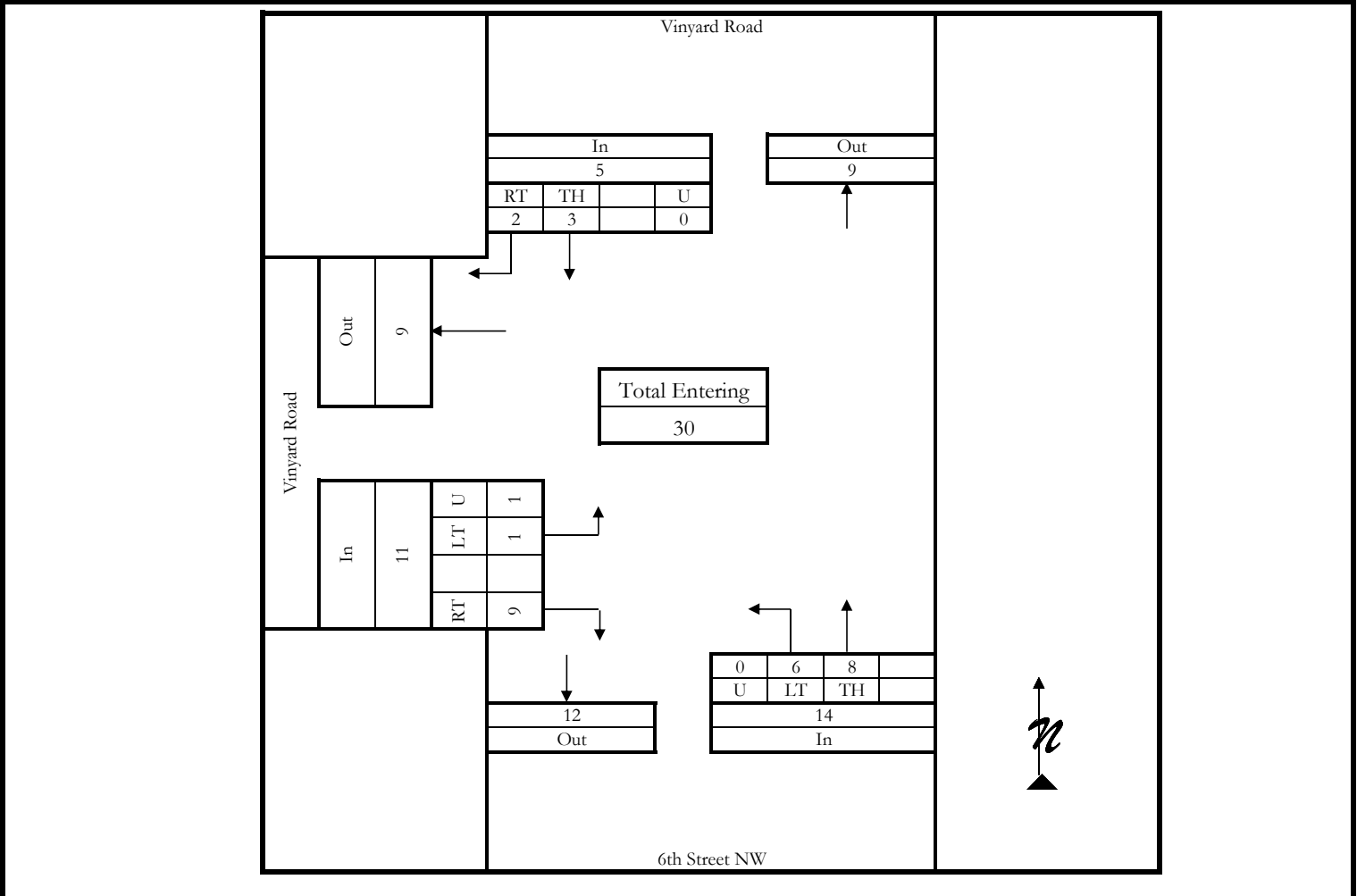
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Project Number: 20013	Project Description: Great Falls Transportation Study
North/South Street: 6th Street NW/Vinyard Road	East/West Street: Vinyard Road

Vehicle Volumes and Adjustments

Start Time	Vinyard Road Southbound					6th Street NW Northbound					Vinyard Road Eastbound					Westbound					Int. Total
	Right	Thru	Left	U-turn	Total	Right	Thru	Left	U-turn	Total	Right	Thru	Left	U-turn	Total	Right	Thru	Left	U-turn	Total	
Factor	1.06	1.06	1.06	1.06		1.06	1.06	1.06	1.06		1.06	1.06	1.06	1.06		1.00	1.00	1.00	1.00		
4:45 PM	0	0	0	0	0	0	1	0	0	1	4	0	1	1	6					0	7
5:00 PM	0	2	0	0	2	0	3	5	0	8	1	0	0	0	1					0	11
5:15 PM	2	0	0	0	2	0	2	1	0	3	2	0	0	0	2					0	7
5:30 PM	0	1	0	0	1	0	2	0	0	2	2	0	0	0	2					0	5
Grand Total	2	3	0	0	5	0	8	6	0	14	9	0	1	1	11	0	0	0	0	0	30
Medium Truck %	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0					0.0	
Heavy Truck %	0.0	0.0	0.0	0.0	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 Truck %	0.0	0.0	0.0	0.0	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 %	6.7	10.0	0.0	0.0	16.7	0.0	26.7	20.0	0.0	46.7	30.0	0.0	3.3	3.3	36.7	0.0	0.0	0.0	0.0	0.0	100.0
PHF	0.63	0.63	0.63			0.44	0.44	0.44			1.00	1.00	1.00								0.68



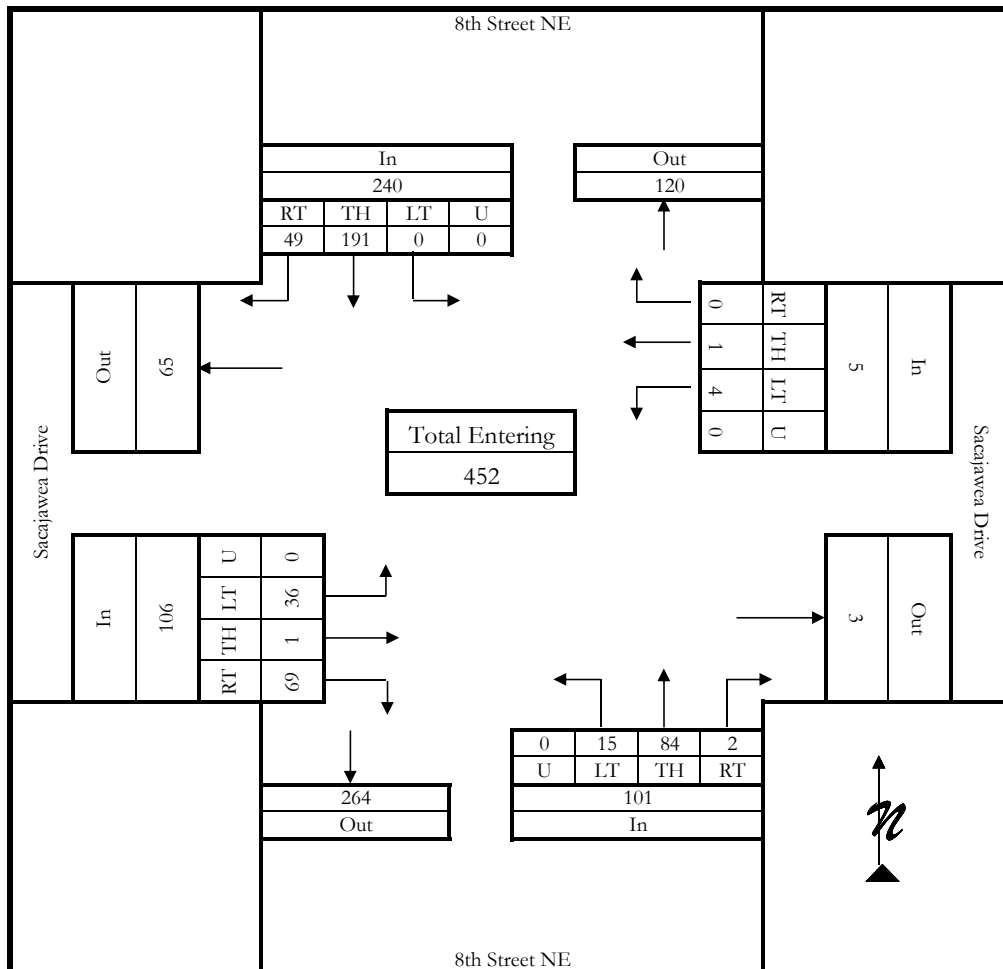
INTERSECTION TURNING MOVEMENT COUNT SUMMARY

General Information

Counted By: Audrey Stoltzfus	Intersection: 8th Street NE & Sacajawea Drive
Agency/Company: Sanderson Stewart	Jurisdiction: City of Great Falls/MDT
Date Performed: Wednesday, January 22, 2020	Project Description: Great Falls Transportation Study
Count Time Period: AM Peak Hour (7:30 - 8:30 AM)	Project Number: 20013
Project Number: 20013	Project Description: Great Falls Transportation Study
North/South Street: 8th Street NE	East/West Street: Sacajawea Drive

Vehicle Volumes and Adjustments

Start Time	8th Street NE Southbound					8th Street NE Northbound					Sacajawea Drive Eastbound					Sacajawea Drive Westbound					Int. Total
	Right	Thru	Left	U-turn	Total	Right	Thru	Left	U-turn	Total	Right	Thru	Left	U-turn	Total	Right	Thru	Left	U-turn	Total	
Factor	1.06	1.06	1.06	1.06		1.06	1.06	1.06	1.06		1.00	1.00	1.00	1.00		1.00	1.00	1.00	1.00		
7:30 AM	8	66	0	0	74	0	35	5	0	40	9	0	2	0	11	0	0	0	0	0	125
7:45 AM	10	60	0	0	70	1	23	3	0	27	4	0	6	0	10	0	0	3	0	3	110
8:00 AM	13	33	0	0	46	1	12	1	0	14	20	0	7	0	27	0	1	0	0	1	88
8:15 AM	18	32	0	0	50	0	14	6	0	20	36	1	21	0	58	0	0	1	0	1	129
Grand Total	49	191	0	0	240	2	84	15	0	101	69	1	36	0	106	0	1	4	0	5	452
Medium Truck %	0.0	2.6	0.0	0.0	2.1	0.0	3.6	0.0	0.0	3.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Heavy Truck %	0.0	0.0	0.0	0.0	0.0	0.0	1.2	0.0	0.0	1.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Truck %	0.0	2.6	0.0	0.0	2.1	0.0	4.8	0.0	0.0	4.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total %	10.8	42.3	0.0	0.0	53.1	0.4	18.6	3.3	0.0	22.3	15.3	0.2	8.0	0.0	23.5	0.0	0.2	0.9	0.0	1.1	100.0
PHF	1.00	1.00	1.00			1.00	1.00	1.00			0.46	0.46	0.46			1.00	1.00	1.00			0.87



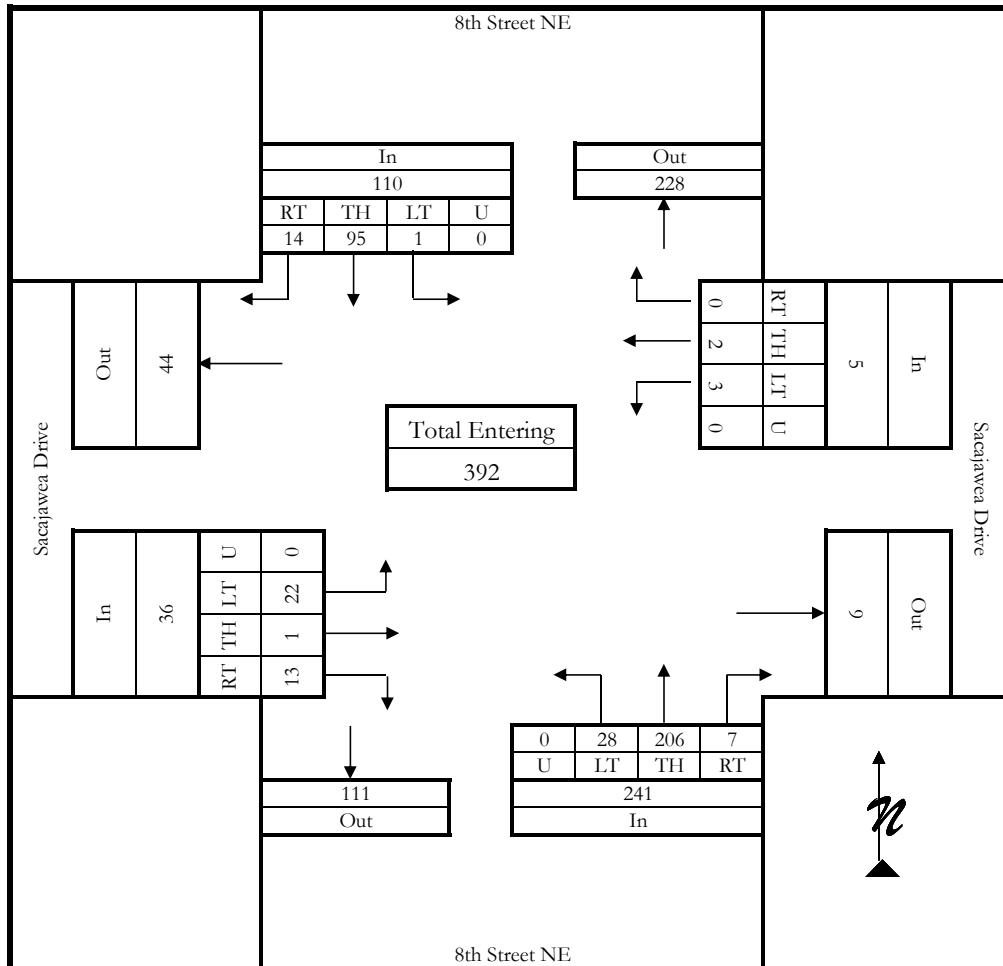
INTERSECTION TURNING MOVEMENT COUNT SUMMARY

General Information

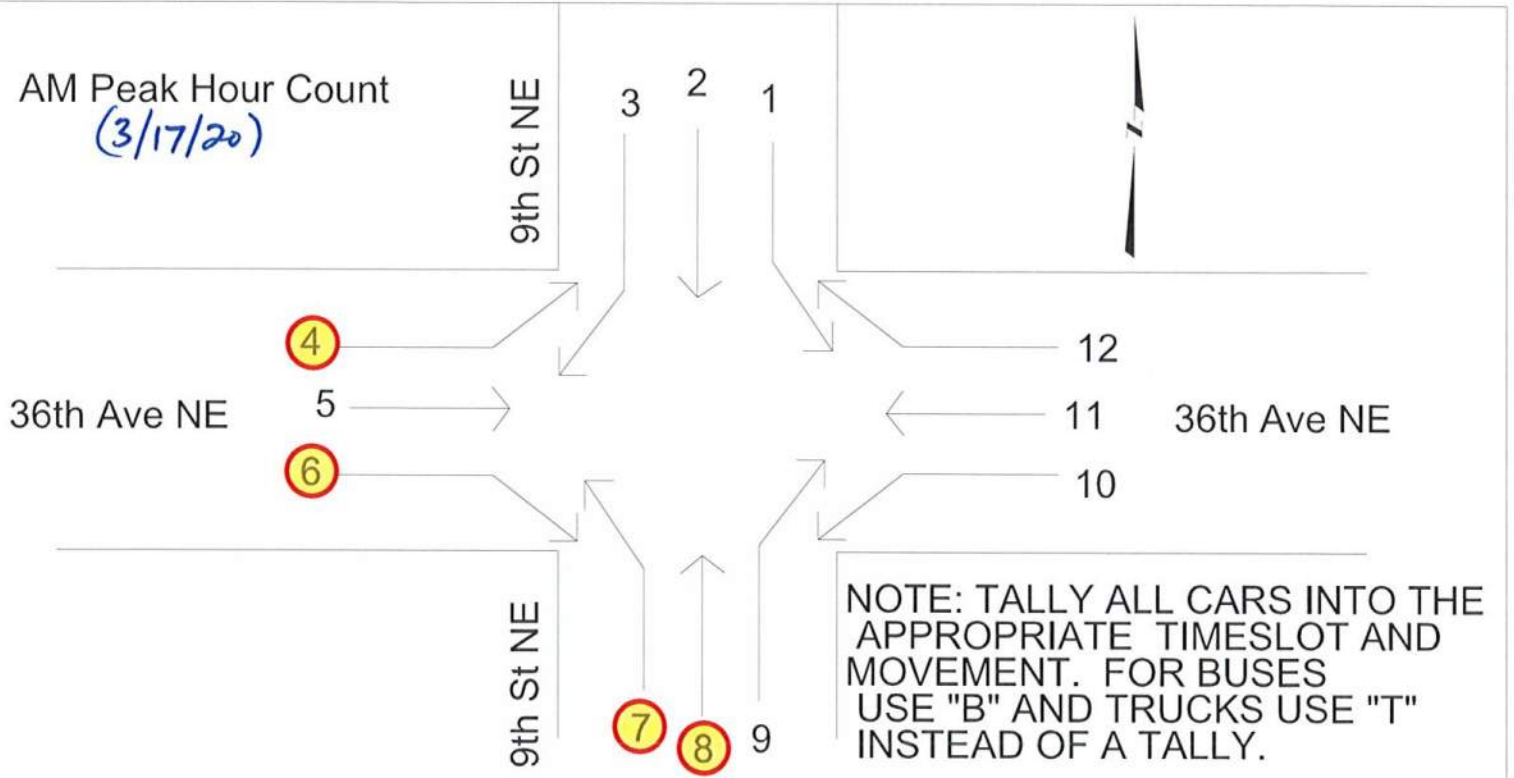
Counted By: Audrey Stoltzfus	Intersection: 8th Street NE & Sacajawea Drive
Agency/Company: Sanderson Stewart	Jurisdiction: City of Great Falls/MDT
Date Performed: Wednesday, January 22, 2020	Project Description: Great Falls Transportation Study
Count Time Period: PM Peak Hour (4:45 - 5:45 PM)	Project Number: 20013
Project Number: 20013	Project Description: Great Falls Transportation Study
North/South Street: 8th Street NE	East/West Street: Sacajawea Drive

Vehicle Volumes and Adjustments

Start Time	8th Street NE Southbound					8th Street NE Northbound					Sacajawea Drive Eastbound					Sacajawea Drive Westbound					Int. Total
	Right	Thru	Left	U-turn	Total	Right	Thru	Left	U-turn	Total	Right	Thru	Left	U-turn	Total	Right	Thru	Left	U-turn	Total	
Factor	1.06	1.06	1.06	1.06		1.06	1.06	1.06	1.06		1.00	1.00	1.00	1.00		1.00	1.00	1.00	1.00		
4:45 PM	6	22	0	0	28	3	37	5	0	45	4	0	6	0	10	0	0	0	0	0	83
5:00 PM	0	19	0	0	19	0	55	10	0	65	1	0	8	0	9	0	1	1	0	2	95
5:15 PM	5	23	1	0	29	4	59	6	0	69	6	1	2	0	9	0	1	1	0	2	109
5:30 PM	3	31	0	0	34	0	55	7	0	62	2	0	6	0	8	0	0	1	0	1	105
Grand Total	14	95	1	0	110	7	206	28	0	241	13	1	22	0	36	0	2	3	0	5	392
Medium Truck %	0.0	2.1	0.0	0.0	1.8	0.0	1.0	0.0	0.0	0.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Heavy Truck %	0.0	1.1	0.0	0.0	0.9	0.0	0.0	0.0	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 Truck %	0.0	3.2	0.0	0.0	2.7	0.0	1.0	0.0	0.0	0.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total %	3.6	24.2	0.3	0.0	28.1	1.8	52.6	7.1	0.0	61.5	3.3	0.3	5.6	0.0	9.2	0.0	0.5	0.8	0.0	1.3	100.0
PHF	0.94	0.94	0.94			0.87	0.87	0.87			1.00	1.00	1.00			0.63	0.63	0.63			0.89



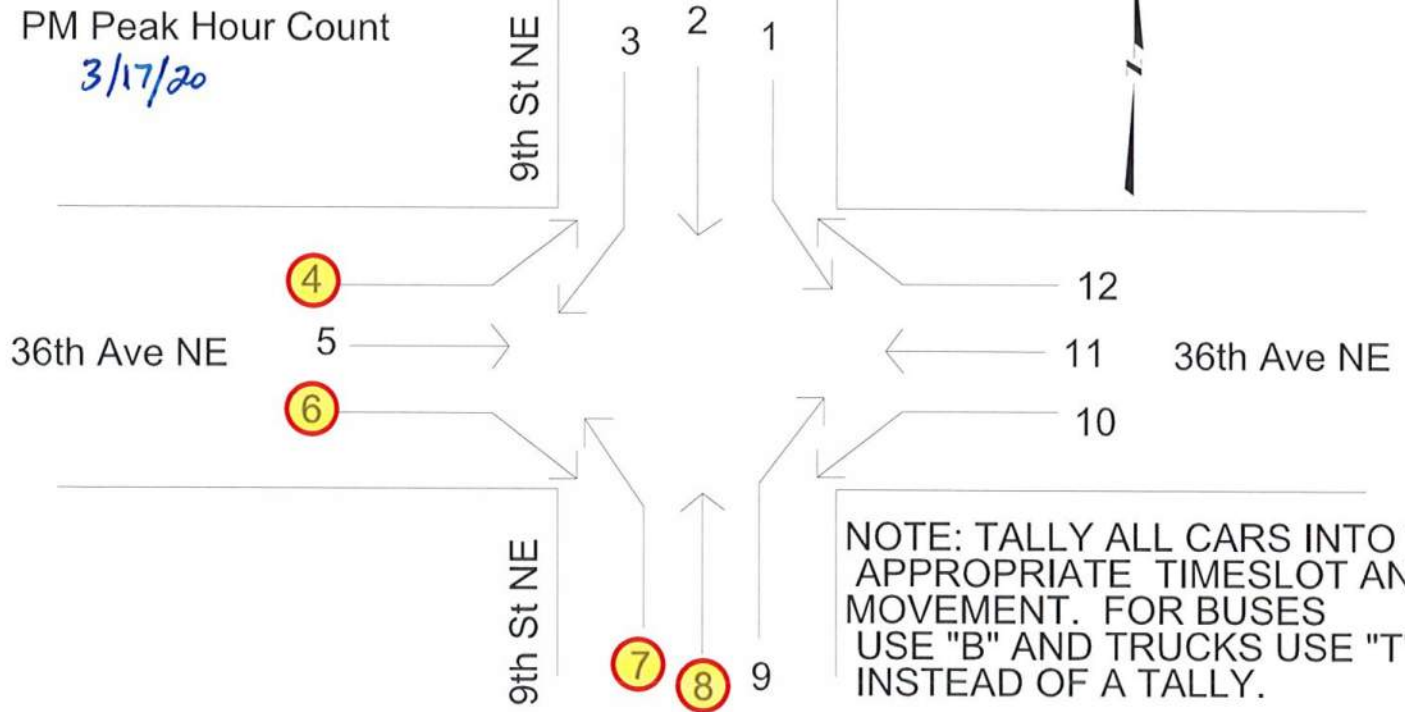
AM Peak Hour Count
(3/17/20)



	1	2	3	4	5	6	7	8	9	10	11	12
7:30 - 7:45					.							
7:45 - 8:00												
8:00 - 8:15												
8:15 - 8:30												

PM Peak Hour Count

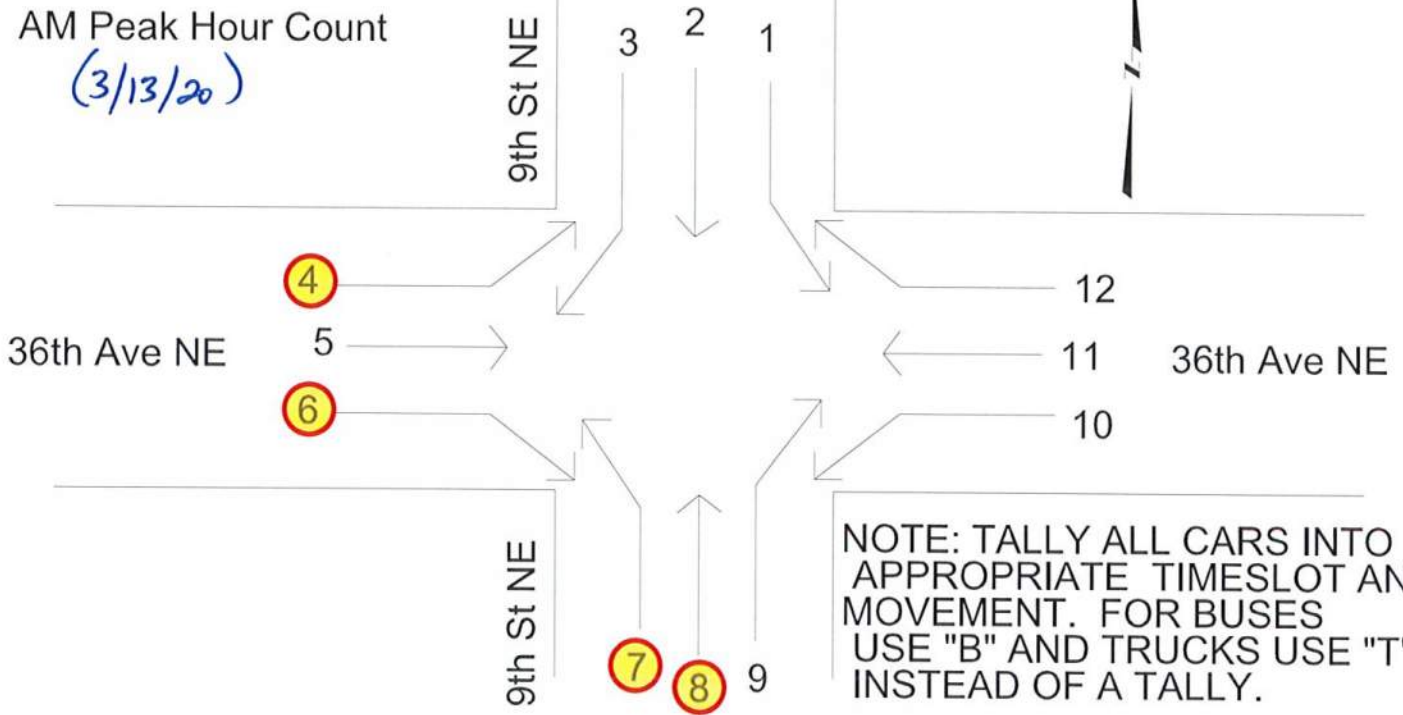
3/17/20



	1	2	3	4	5	6	7	8	9	10	11	12
4:45 - 5:00												
5:00 - 5:15												
5:15 - 5:30												
5:30 - 5:45												

AM Peak Hour Count

(3/13/20)



	1	2	3	4	5	6	7	8	9	10	11	12
7:30 - 7:45						 B	 B					
7:45 - 8:00						 B						
8:00 - 8:15							B					
8:15 - 8:30						 B						

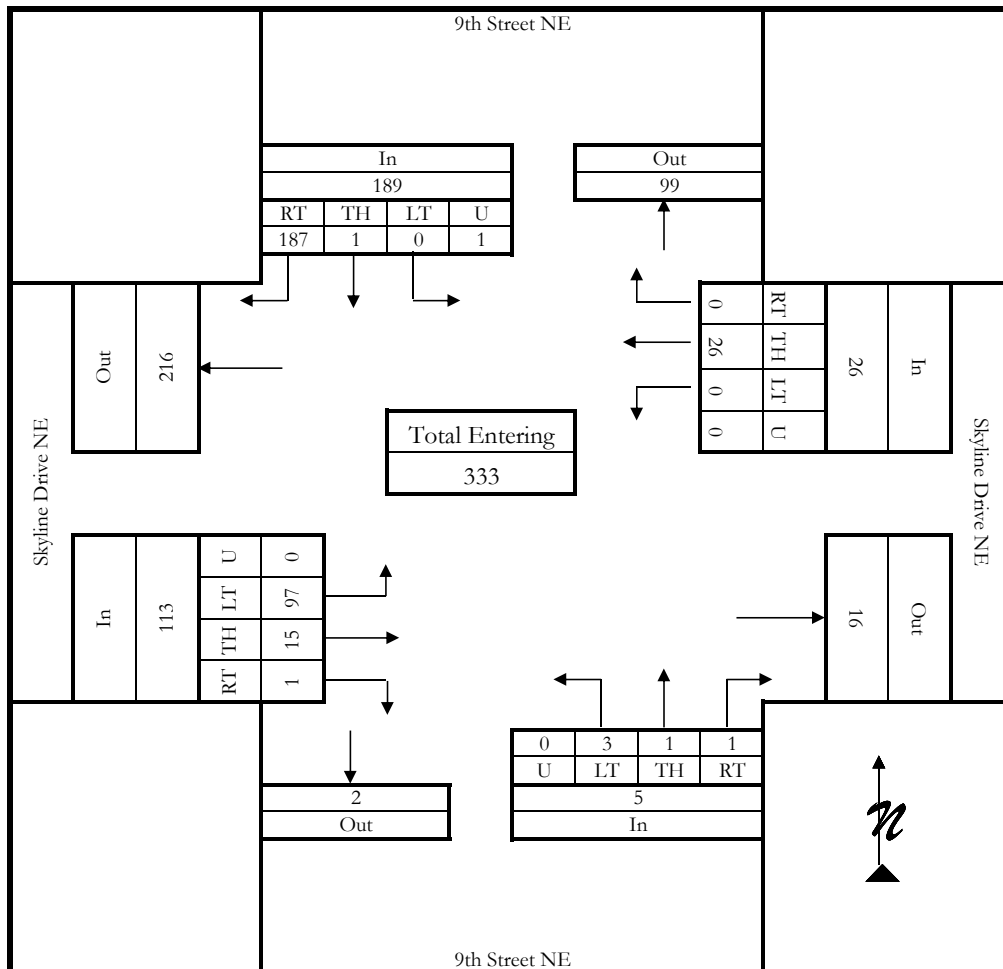
INTERSECTION TURNING MOVEMENT COUNT SUMMARY

General Information

Counted By: Audrey Stoltzfus	Intersection: 9th Street NE & Skyline Drive NE
Agency/Company: Sanderson Stewart	Jurisdiction: City of Great Falls/MDT
Date Performed: Wednesday, January 22, 2020	Project Description: Great Falls Transportation Study
Count Time Period: AM Peak Hour (7:30 - 8:30 AM)	Project Number: 20013
Project Number: 20013	Project Description: Great Falls Transportation Study
North/South Street: 9th Street NE	East/West Street: Skyline Drive NE

Vehicle Volumes and Adjustments

Start Time	9th Street NE Southbound					9th Street NE Northbound					Skyline Drive NE Eastbound					Skyline Drive NE Westbound					Int. Total
	Right	Thru	Left	U-turn	Total	Right	Thru	Left	U-turn	Total	Right	Thru	Left	U-turn	Total	Right	Thru	Left	U-turn	Total	
Factor	1.06	1.06	1.06	1.06		1.00	1.00	1.00	1.00		1.06	1.06	1.06	1.06		1.00	1.00	1.00	1.00		
7:30 AM	69	0	0	0	69	1	1	2	0	4	0	2	29	0	31	0	5	0	0	5	109
7:45 AM	42	0	0	1	43	0	0	0	0	0	0	4	24	0	28	0	4	0	0	4	75
8:00 AM	41	0	0	0	41	0	0	1	0	1	1	3	19	0	23	0	5	0	0	5	70
8:15 AM	35	1	0	0	36	0	0	0	0	0	0	6	25	0	31	0	12	0	0	12	79
Grand Total	187	1	0	1	189	1	1	3	0	5	1	15	97	0	113	0	26	0	0	26	333
Medium Truck %	2.7	0.0	0.0	0.0	2.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	3.1	0.0	2.7	0.0	0.0	0.0	0.0	0.0	
Heavy Truck %	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.0	0.0	0.9	0.0	0.0	0.0	0.0	0.0	
Total Truck %	2.7	0.0	0.0	0.0	2.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	4.1	0.0	3.5	0.0	0.0	0.0	0.0	0.0	
Total %	56.2	0.3	0.0	0.3	56.8	0.3	0.3	0.9	0.0	1.5	0.3	4.5	29.1	0.0	33.9	0.0	7.8	0.0	0.0	7.8	100.0
PHF	0.69	0.69	0.69			0.31	0.31	0.31			0.93	0.93	0.93			1.00	1.00	1.00			0.77



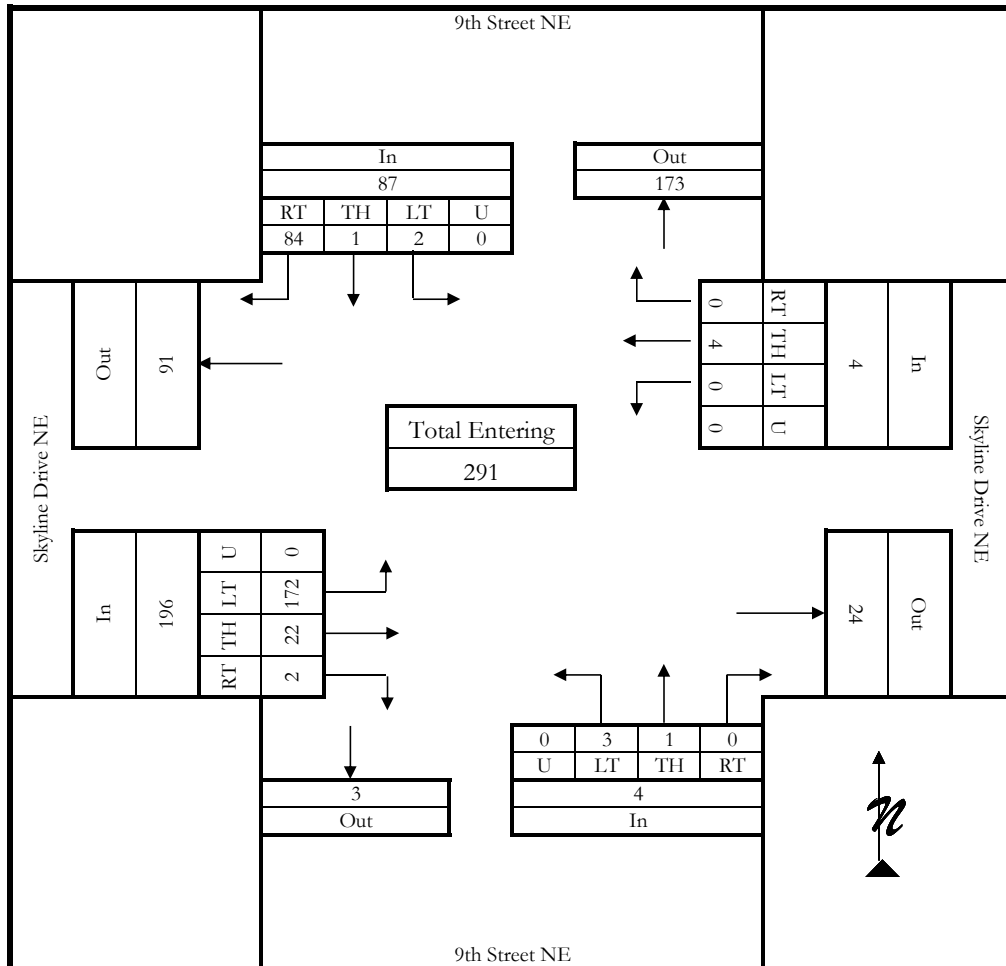
INTERSECTION TURNING MOVEMENT COUNT SUMMARY

General Information

Counted By: Audrey Stoltzfus	Intersection: 9th Street NE & Skyline Drive NE
Agency/Company: Sanderson Stewart	Jurisdiction: City of Great Falls/MDT
Date Performed: Wednesday, January 22, 2020	
Count Time Period: PM Peak Hour (4:45 - 5:45 PM)	
Project Number: 20013	Project Description: Great Falls Transportation Study
North/South Street: 9th Street NE	East/West Street: Skyline Drive NE

Vehicle Volumes and Adjustments

Start Time	9th Street NE Southbound					9th Street NE Northbound					Skyline Drive NE Eastbound					Skyline Drive NE Westbound					Int. Total
	Right	Thru	Left	U-turn	Total	Right	Thru	Left	U-turn	Total	Right	Thru	Left	U-turn	Total	Right	Thru	Left	U-turn	Total	
Factor	1.06	1.06	1.06	1.06		1.00	1.00	1.00	1.00		1.06	1.06	1.06	1.06		1.00	1.00	1.00	1.00		
4:45 PM	19	0	1	0	20	0	0	0	0	0	0	5	37	0	42	0	0	0	0	0	62
5:00 PM	18	1	1	0	20	0	0	0	0	0	1	6	47	0	54	0	1	0	0	1	75
5:15 PM	24	0	0	0	24	0	0	1	0	1	0	3	46	0	49	0	3	0	0	3	77
5:30 PM	23	0	0	0	23	0	1	2	0	3	1	8	42	0	51	0	0	0	0	0	77
Grand Total	84	1	2	0	87	0	1	3	0	4	2	22	172	0	196	0	4	0	0	4	291
Medium Truck %	2.4	0.0	0.0	0.0	2.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.2	0.0	1.0	0.0	0.0	0.0	0.0	0.0	
Heavy Truck %	1.2	0.0	0.0	0.0	1.1	0.0	0.0	0.0	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 Truck %	3.6	0.0	0.0	0.0	3.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.2	0.0	1.0	0.0	0.0	0.0	0.0	0.0	
Total %	28.9	0.3	0.7	0.0	29.9	0.0	0.3	1.0	0.0	1.4	0.7	7.6	59.1	0.0	67.4	0.0	1.4	0.0	0.0	1.4	100.0
PHF	0.94	0.94	0.94			0.33	0.33	0.33			0.95	0.95	0.95			1.00	1.00	1.00			0.94



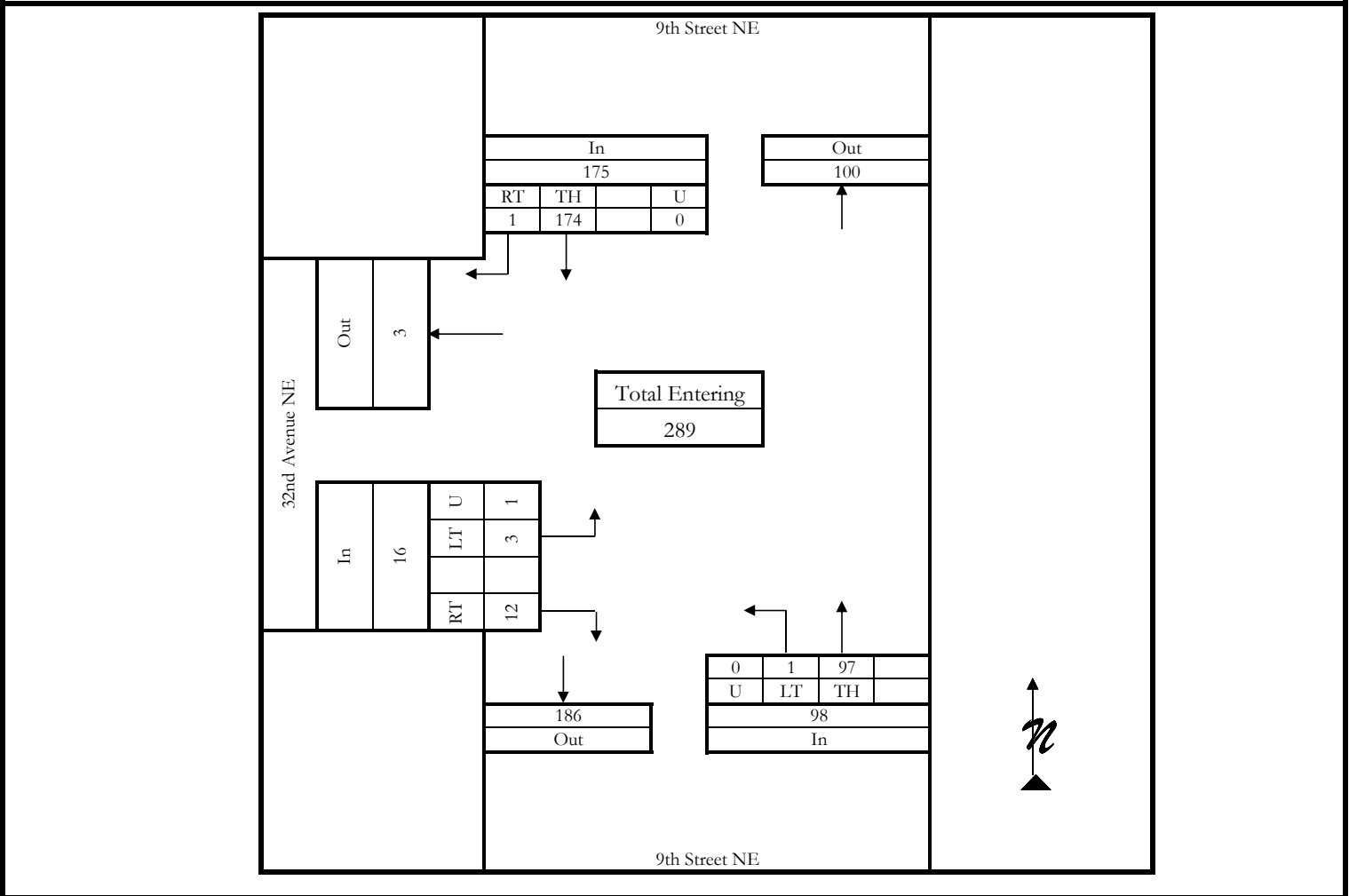
INTERSECTION TURNING MOVEMENT COUNT SUMMARY

General Information

Counted By: Audrey Stoltzfus	Intersection: 9th Street NE & 32nd Avenue NE
Agency/Company: Sanderson Stewart	Jurisdiction: City of Great Falls/MDT
Date Performed: Wednesday, January 22, 2020	
Count Time Period: AM Peak Hour (7:30 - 8:30 AM)	
Project Number: 20013	Project Description: Great Falls Transportation Study
North/South Street: 9th Street NE	East/West Street: 32nd Avenue NE

Vehicle Volumes and Adjustments

Start Time	9th Street NE Southbound					9th Street NE Northbound					32nd Avenue NE Eastbound					Westbound					Int. Total
	Right	Thru	Left	U-turn	Total	Right	Thru	Left	U-turn	Total	Right	Thru	Left	U-turn	Total	Right	Thru	Left	U-turn	Total	
Factor	1.06	1.06	1.06	1.06		1.06	1.06	1.06	1.06		1.00	1.00	1.00	1.00		1.00	1.00	1.00	1.00		
7:30 AM	0	66	0	0	66	0	29	0	0	29	4	0	0	0	4					0	99
7:45 AM	1	36	0	0	37	0	25	0	0	25	4	0	0	1	5					0	67
8:00 AM	0	40	0	0	40	0	19	0	0	19	1	0	0	0	1					0	60
8:15 AM	0	32	0	0	32	0	24	1	0	25	3	0	3	0	6					0	63
Grand Total	1	174	0	0	175	0	97	1	0	98	12	0	3	1	16	0	0	0	0	0	289
Medium Truck %	0.0	2.9	0.0	0.0	2.9	0.0	3.1	0.0	0.0	3.1	0.0	0.0	0.0	0.0	0.0					0.0	
Heavy Truck %	0.0	0.0	0.0	0.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0	0.0	0.0	0.0	0.0					0.0	
Total Truck %	0.0	2.9	0.0	0.0	2.9	0.0	4.1	0.0	0.0	4.1	0.0	0.0	0.0	0.0	0.0					0.0	
Total %	0.3	60.2	0.0	0.0	60.6	0.0	33.6	0.3	0.0	33.9	4.2	0.0	1.0	0.3	5.5	0.0	0.0	0.0	0.0	0.0	100.0
PHF	0.67	0.67	0.67			0.86	0.86	0.86			1.00	1.00	1.00								0.74



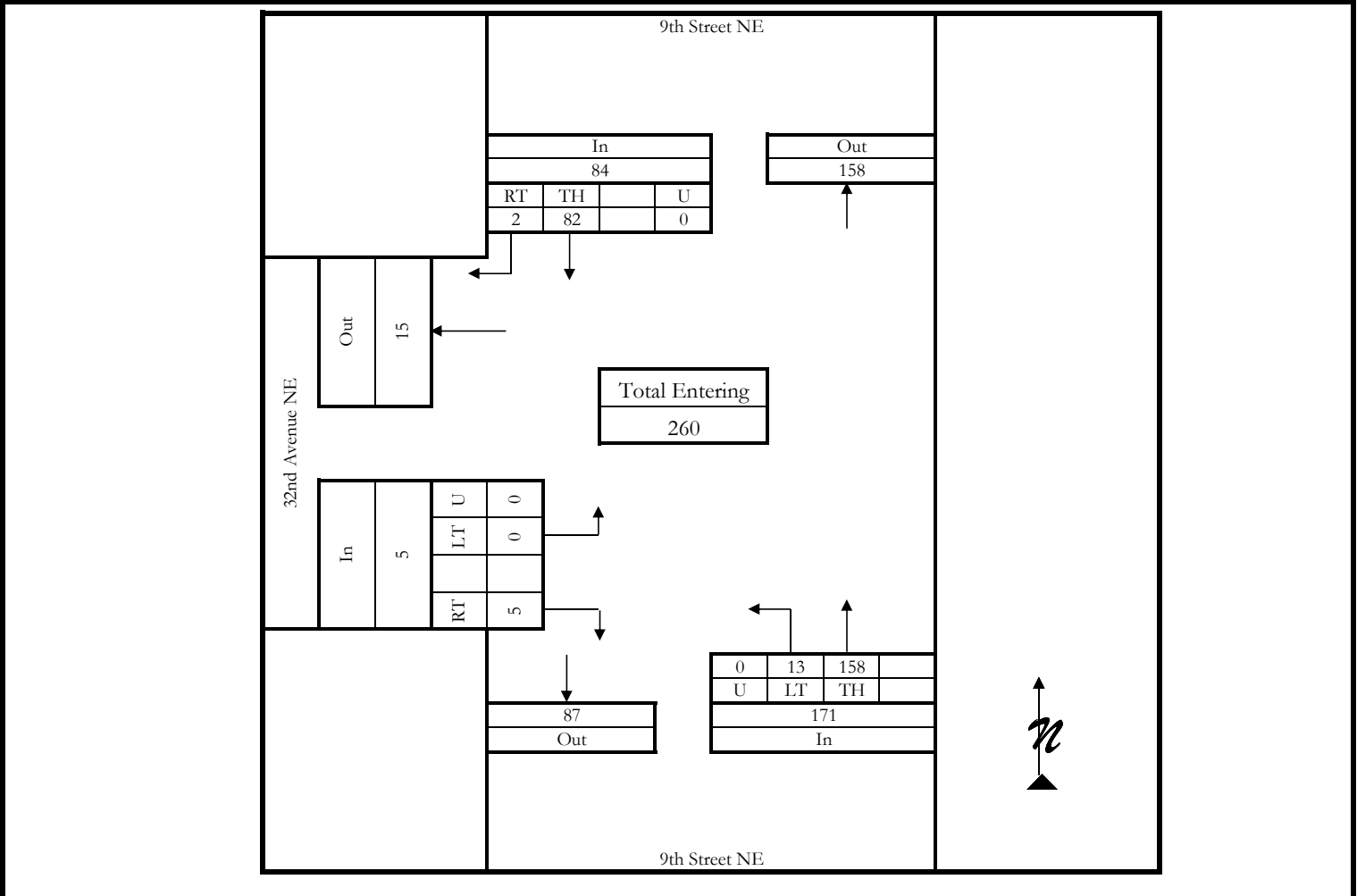
INTERSECTION TURNING MOVEMENT COUNT SUMMARY

General Information

Counted By: Audrey Stoltzfus	Intersection: 9th Street NE & 32nd Avenue NE
Agency/Company: Sanderson Stewart	Jurisdiction: City of Great Falls/MDT
Date Performed: Wednesday, January 22, 2020	
Count Time Period: PM Peak Hour (4:45 - 5:45 PM)	
Project Number: 20013	Project Description: Great Falls Transportation Study
North/South Street: 9th Street NE	East/West Street: 32nd Avenue NE

Vehicle Volumes and Adjustments

Start Time	9th Street NE Southbound					9th Street NE Northbound					32nd Avenue NE Eastbound					Westbound					Int. Total
	Right	Thru	Left	U-turn	Total	Right	Thru	Left	U-turn	Total	Right	Thru	Left	U-turn	Total	Right	Thru	Left	U-turn	Total	
Factor	1.06	1.06	1.06	1.06		1.06	1.06	1.06	1.06		1.00	1.00	1.00	1.00		1.00	1.00	1.00	1.00		
4:45 PM	0	19	0	0	19	0	35	2	0	37	1	0	0	0	1					0	
5:00 PM	2	19	0	0	21	0	40	5	0	45	0	0	0	0	0					0	
5:15 PM	0	24	0	0	24	0	39	6	0	45	1	0	0	0	1					0	
5:30 PM	0	20	0	0	20	0	44	0	0	44	3	0	0	0	3					0	
Grand Total	2	82	0	0	84	0	158	13	0	171	5	0	0	0	5	0	0	0	0	0	
Medium Truck %	0.0	2.4	0.0	0.0	2.4	0.0	1.3	0.0	0.0	1.2	0.0	0.0	0.0	0.0	0.0					0.0	
Heavy Truck %	0.0	1.2	0.0	0.0	1.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0					0.0	
Total Truck %	0.0	3.7	0.0	0.0	3.6	0.0	1.3	0.0	0.0	1.2	0.0	0.0	0.0	0.0	0.0					0.0	
Total %	0.8	31.5	0.0	0.0	32.3	0.0	60.8	5.0	0.0	65.8	1.9	0.0	0.0	0.0	1.9	0.0	0.0	0.0	0.0	100.0	
PHF	0.87	0.87	0.87			0.94	0.94	0.94			1.00	1.00	1.00							0.92	



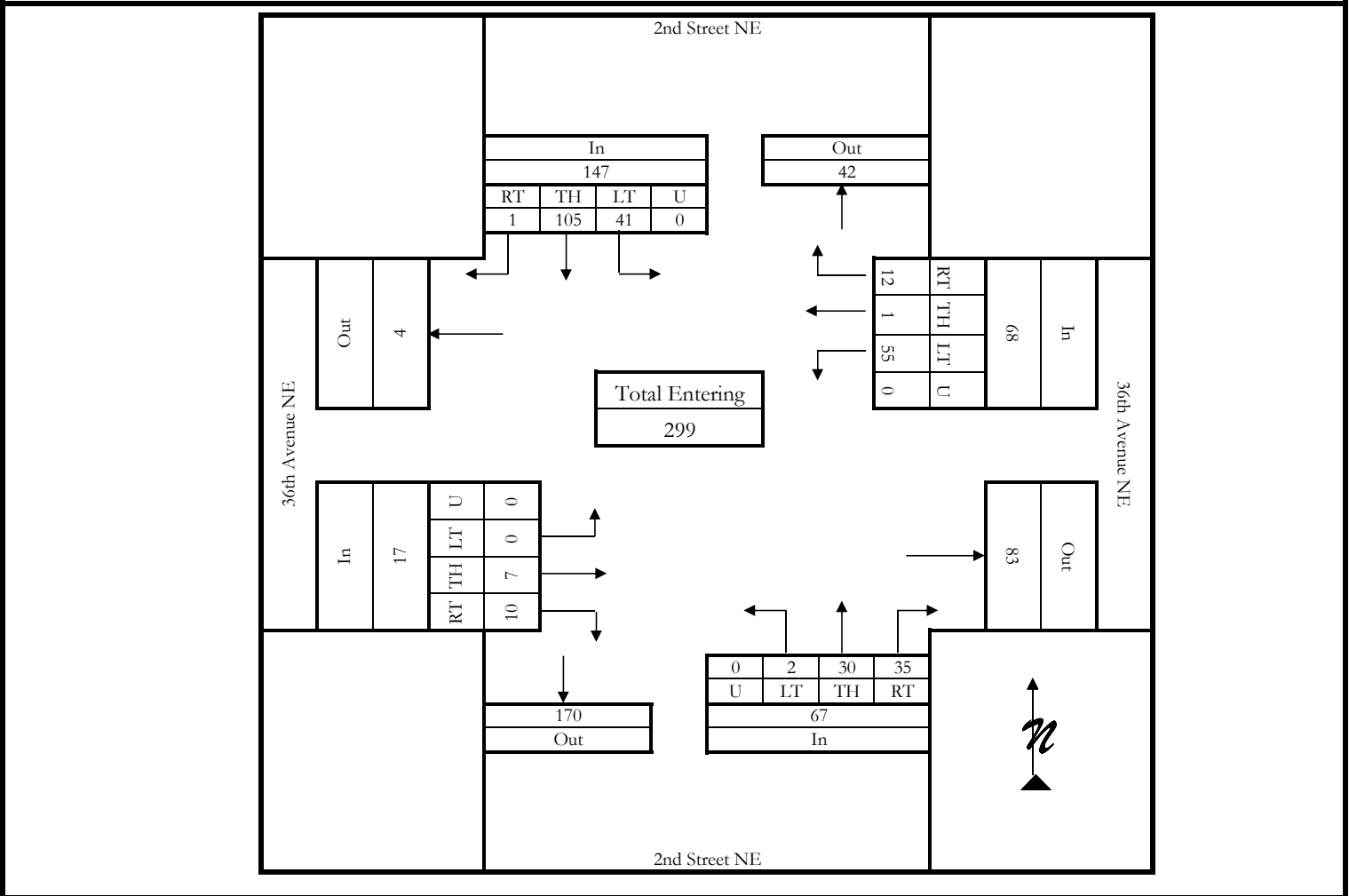
INTERSECTION TURNING MOVEMENT COUNT SUMMARY

General Information

Counted By: Audrey Stoltzfus	Intersection: 36th Avenue NE & 2nd Street NE
Agency/Company: Sanderson Stewart	Jurisdiction: City of Great Falls/MDT
Date Performed: Wednesday, January 22, 2020	
Count Time Period: AM Peak Hour (7:30 - 8:30 AM)	
Project Number: 20013	Project Description: Great Falls Transportation Study
North/South Street: 2nd Street NE	East/West Street: 36th Avenue NE

Vehicle Volumes and Adjustments

Start Time	2nd Street NE Southbound					2nd Street NE Northbound					36th Avenue NE Eastbound					36th Avenue NE Westbound					Int. Total
	Right	Thru	Left	U-turn	Total	Right	Thru	Left	U-turn	Total	Right	Thru	Left	U-turn	Total	Right	Thru	Left	U-turn	Total	
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		1.00	1.00	1.00	1.00		
7:30 AM	0	26	12	0	38	16	2	1	0	19	3	5	0	0	8	2	0	18	0	20	85
7:45 AM	0	34	16	0	50	6	5	0	0	11	5	1	0	0	6	2	1	12	0	15	82
8:00 AM	1	23	5	0	29	6	11	1	0	18	0	1	0	0	1	0	0	11	0	11	59
8:15 AM	0	22	8	0	30	7	12	0	0	19	2	0	0	0	2	8	0	14	0	22	73
Grand Total	1	105	41	0	147	35	30	2	0	67	10	7	0	0	17	12	1	55	0	68	299
Medium Truck %	0.0	1.9	0.0	0.0	1.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.8	0.0	1.5	
Heavy Truck %	0.0	0.0	0.0	0.0	0.0	2.9	0.0	0.0	0.0	1.5	0.0	0.0	0.0	0.0	0.0	25.0	0.0	0.0	0.0	4.4	
Total Truck %	0.0	1.9	0.0	0.0	1.4	2.9	0.0	0.0	0.0	1.5	0.0	0.0	0.0	0.0	0.0	25.0	0.0	1.8	0.0	5.9	
Total %	0.3	35.1	13.7	0.0	49.2	11.7	10.0	0.7	0.0	22.4	3.3	2.3	0.0	0.0	5.7	4.0	0.3	18.4	0.0	22.7	100.0
PHF	0.97	0.97	0.97			0.88	0.88	0.88			0.53	0.53	0.53			0.85	0.85	0.85			0.88



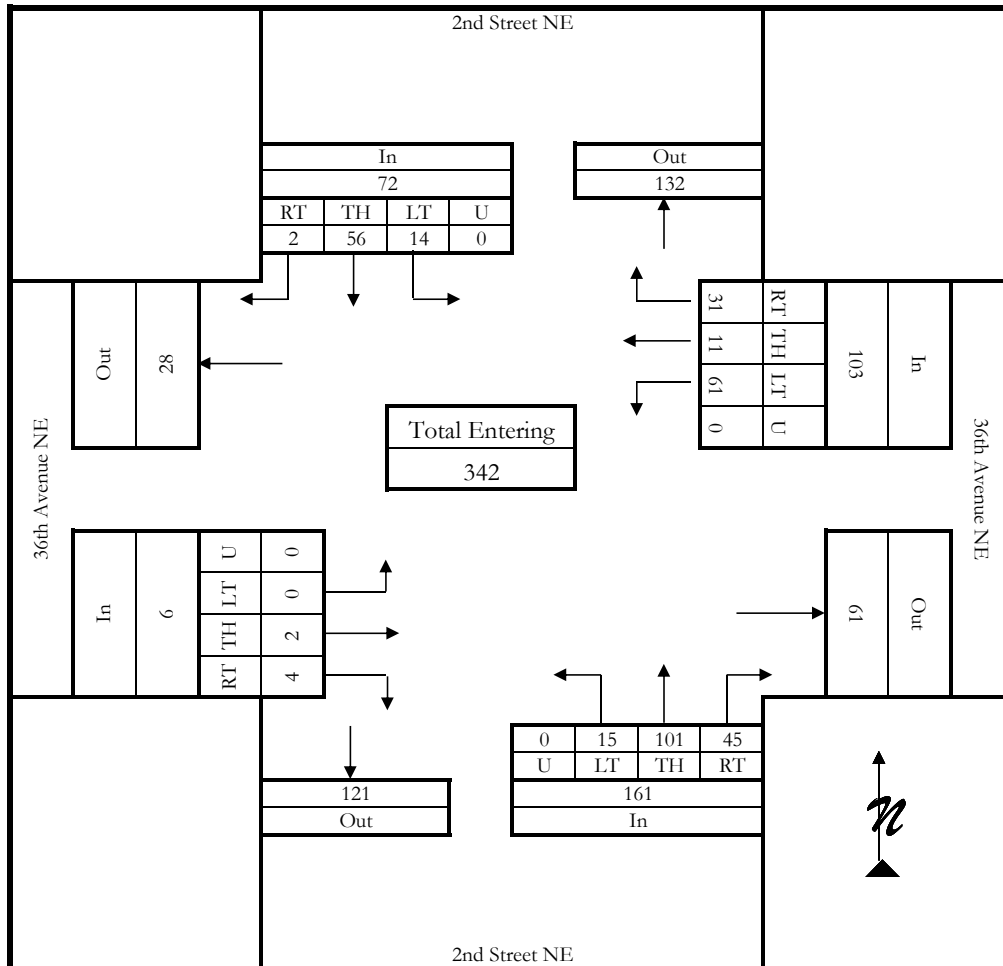
INTERSECTION TURNING MOVEMENT COUNT SUMMARY

General Information

Counted By: Audrey Stoltzfus	Intersection: 36th Avenue NE & 2nd Street NE
Agency/Company: Sanderson Stewart	Jurisdiction: City of Great Falls/MDT
Date Performed: Wednesday, January 22, 2020	Project Description: Great Falls Transportation Study
Count Time Period: PM Peak Hour (4:45 - 5:45 PM)	Project Number: 20013
Project Number: 20013	Project Description: Great Falls Transportation Study
North/South Street: 2nd Street NE	East/West Street: 36th Avenue NE

Vehicle Volumes and Adjustments

Start Time	2nd Street NE Southbound					2nd Street NE Northbound					36th Avenue NE Eastbound					36th Avenue NE Westbound					Int. Total
	Right	Thru	Left	U-turn	Total	Right	Thru	Left	U-turn	Total	Right	Thru	Left	U-turn	Total	Right	Thru	Left	U-turn	Total	
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		1.00	1.00	1.00	1.00		
4:45 PM	0	11	1	0	12	6	20	3	0	29	1	0	0	0	1	4	2	11	0	17	59
5:00 PM	1	20	6	0	27	13	27	4	0	44	1	0	0	0	1	7	4	17	0	28	100
5:15 PM	0	11	3	0	14	14	28	5	0	47	1	1	0	0	2	14	4	19	0	37	100
5:30 PM	1	14	4	0	19	12	26	3	0	41	1	1	0	0	2	6	1	14	0	21	83
Grand Total	2	56	14	0	72	45	101	15	0	161	4	2	0	0	6	31	11	61	0	103	342
Medium Truck %	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Heavy Truck %	100.0	0.0	0.0	0.0	2.8	0.0	1.0	0.0	0.0	0.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Truck %	100.0	0.0	0.0	0.0	2.8	0.0	1.0	0.0	0.0	0.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total %	0.6	16.4	4.1	0.0	21.1	13.2	29.5	4.4	0.0	47.1	1.2	0.6	0.0	0.0	1.8	9.1	3.2	17.8	0.0	30.1	100.0
PHF	0.67	0.67	0.67			0.91	0.91	0.91			1.00	1.00	1.00			0.92	0.92	0.92			0.86



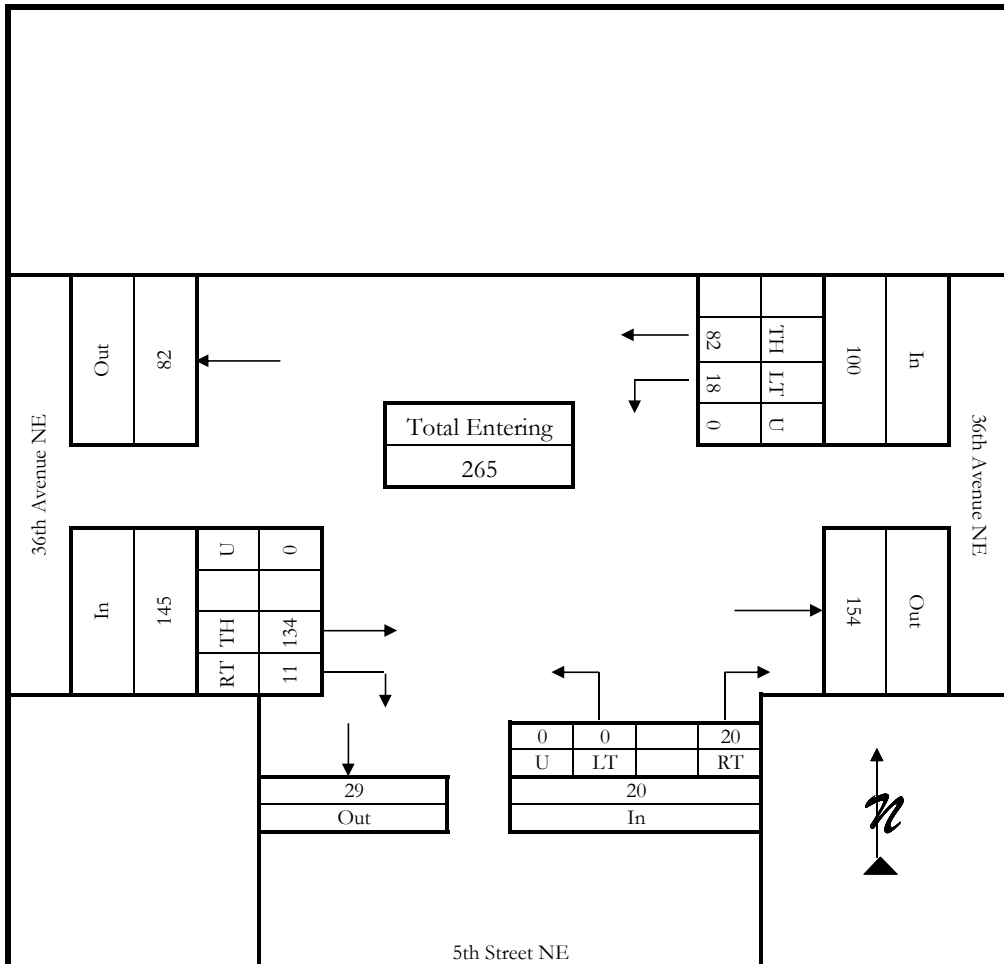
INTERSECTION TURNING MOVEMENT COUNT SUMMARY

General Information

Counted By:	Audrey Stoltzfus	Intersection:	36th Avenue NE & 5th Street NE
Agency/Company:	Sanderson Stewart	Jurisdiction:	City of Great Falls/MDT
Date Performed:	Wednesday, January 22, 2020	Project Description:	Great Falls Transportation Study
Count Time Period:	AM Peak Hour (7:30 - 8:30 AM)	North/South Street:	5th Street NE
Project Number:	20013	East/West Street:	36th Avenue NE

Vehicle Volumes and Adjustments

Start Time	Southbound					5th Street NE Northbound					36th Avenue NE Eastbound					36th Avenue NE Westbound					Int. Total
	Right	Thru	Left	U-turn	Total	Right	Thru	Left	U-turn	Total	Right	Thru	Left	U-turn	Total	Right	Thru	Left	U-turn	Total	
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		1.00	1.00	1.00	1.00		
7:30 AM					0	7	0	0	0	7	4	59	0	0	63	0	19	4	0	23	93
7:45 AM					0	5	0	0	0	5	3	37	0	0	40	0	18	3	0	21	66
8:00 AM					0	2	0	0	0	2	2	18	0	0	20	0	18	6	0	24	46
8:15 AM					0	6	0	0	0	6	2	20	0	0	22	0	27	5	0	32	60
Grand Total	0	0	0	0	0	20	0	0	0	20	11	134	0	0	145	0	82	18	0	100	265
Medium Truck %					0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	3.7	0.0	0.0	3.0	
Heavy Truck %					0.0	5.0	0.0	0.0	0.0	5.0	0.0	0.7	0.0	0.0	0.7	0.0	3.7	0.0	0.0	3.0	
Total Truck %					0.0	5.0	0.0	0.0	0.0	5.0	0.0	0.7	0.0	0.0	0.7	0.0	7.3	0.0	0.0	6.0	
Total %	0.0	0.0	0.0	0.0	0.0	7.5	0.0	0.0	0.0	7.5	4.2	50.6	0.0	0.0	54.7	0.0	30.9	6.8	0.0	37.7	100.0
PHF						0.71	0.71	0.71			0.58	0.58	0.58			1.00	1.00	1.00			0.71



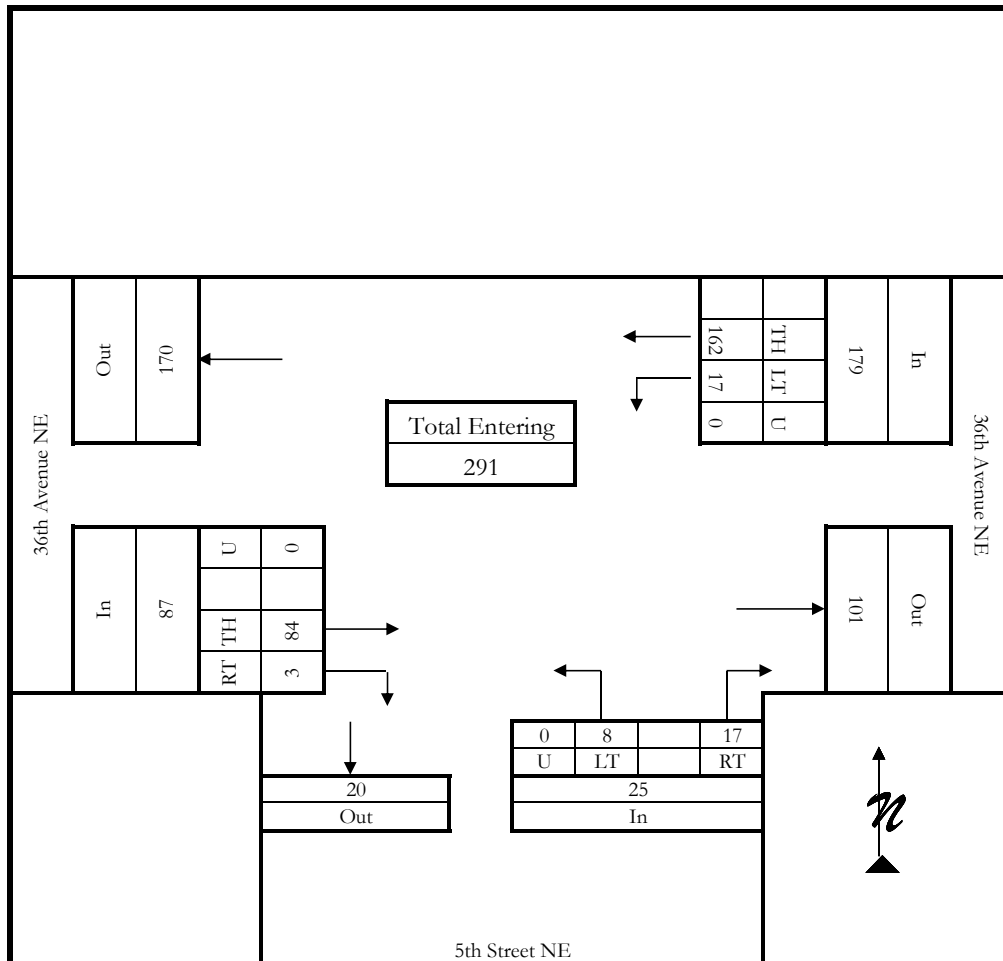
INTERSECTION TURNING MOVEMENT COUNT SUMMARY

General Information

Counted By:	Audrey Stoltzfus	Intersection:	36th Avenue NE & 5th Street NE
Agency/Company:	Sanderson Stewart	Jurisdiction:	City of Great Falls/MDT
Date Performed:	Wednesday, January 22, 2020		
Count Time Period:	PM Peak Hour (4:45 - 5:45 PM)		
Project Number:	20013	Project Description:	Great Falls Transportation Study
North/South Street:	5th Street NE	East/West Street:	36th Avenue NE

Vehicle Volumes and Adjustments

Start Time	Southbound					5th Street NE Northbound					36th Avenue NE Eastbound					36th Avenue NE Westbound					Int. Total
	Right	Thru	Left	U-turn	Total	Right	Thru	Left	U-turn	Total	Right	Thru	Left	U-turn	Total	Right	Thru	Left	U-turn	Total	
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		1.00	1.00	1.00	1.00		
4:45 PM					0	6	0	0	0	6	1	14	0	0	15	0	31	6	0	37	58
5:00 PM					0	5	0	6	0	11	1	29	0	0	30	0	37	3	0	40	81
5:15 PM					0	2	0	0	0	2	0	22	0	0	22	0	53	5	0	58	82
5:30 PM					0	4	0	2	0	6	1	19	0	0	20	0	41	3	0	44	70
Grand Total	0	0	0	0	0	17	0	8	0	25	3	84	0	0	87	0	162	17	0	179	291
Medium Truck %					0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Heavy Truck %					0.0	0.0	0.0	0.0	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 Truck %					0.0	0.0	0.0	0.0	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 %	0.0	0.0	0.0	0.0	0.0	5.8	0.0	2.7	0.0	8.6	1.0	28.9	0.0	0.0	29.9	0.0	55.7	5.8	0.0	61.5	100.0
PHF						1.00	1.00	1.00			0.99	0.99	0.99			0.77	0.77	0.77			0.89



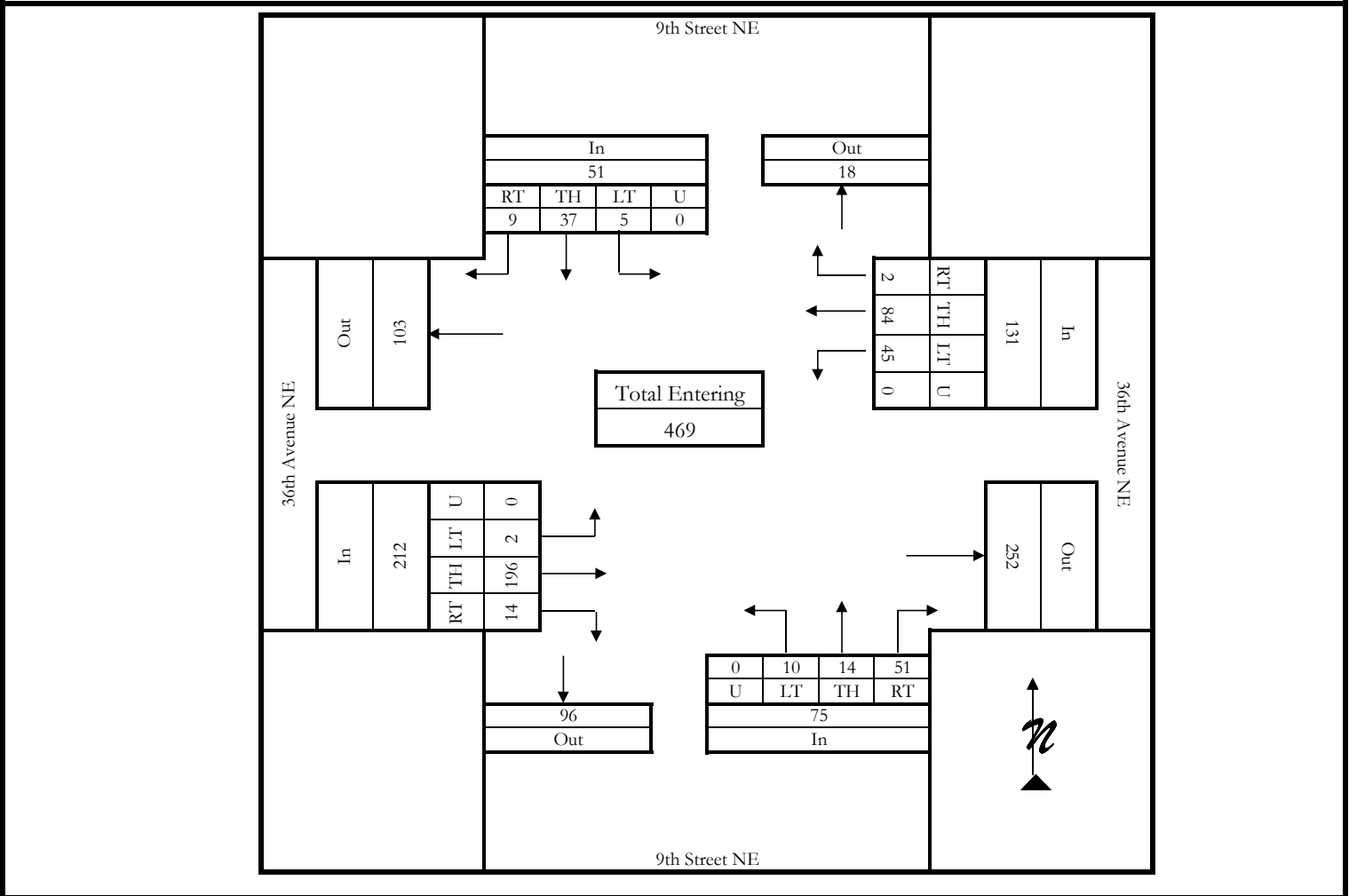
INTERSECTION TURNING MOVEMENT COUNT SUMMARY

General Information

Counted By: Audrey Stoltzfus	Intersection: 36th Avenue NE & 9th Street NE
Agency/Company: Sanderson Stewart	Jurisdiction: City of Great Falls/MDT
Date Performed: Wednesday, January 22, 2020	Project Description: Great Falls Transportation Study
Count Time Period: AM Peak Hour (7:30 - 8:30 AM)	Project Number: 20013
Project Number: 20013	Project Description: Great Falls Transportation Study
North/South Street: 9th Street NE	East/West Street: 36th Avenue NE

Vehicle Volumes and Adjustments

Start Time	9th Street NE Southbound					9th Street NE Northbound					36th Avenue NE Eastbound					36th Avenue NE Westbound					Int. Total
	Right	Thru	Left	U-turn	Total	Right	Thru	Left	U-turn	Total	Right	Thru	Left	U-turn	Total	Right	Thru	Left	U-turn	Total	
Factor	1.00	1.00	1.00	1.00		1.06	1.06	1.06	1.06		1.00	1.00	1.00	1.00		1.06	1.06	1.06	1.06		
7:30 AM	4	12	2	0	18	15	4	2	0	21	3	83	2	0	88	1	18	7	0	26	153
7:45 AM	1	11	2	0	14	17	3	1	0	21	8	62	0	0	70	1	16	4	0	21	126
8:00 AM	2	6	0	0	8	6	2	3	0	11	1	27	0	0	28	0	18	20	0	38	85
8:15 AM	2	8	1	0	11	13	5	4	0	22	2	24	0	0	26	0	32	14	0	46	105
Grand Total	9	37	5	0	51	51	14	10	0	75	14	196	2	0	212	2	84	45	0	131	469
Medium Truck %	11.1	2.7	0.0	0.0	3.9	0.0	0.0	20.0	0.0	2.7	0.0	0.0	0.0	0.0	0.0	0.0	2.4	4.4	0.0	3.1	
Heavy Truck %	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	7.1	0.5	0.0	0.0	0.9	0.0	4.8	0.0	0.0	3.1	
Total Truck %	11.1	2.7	0.0	0.0	3.9	0.0	0.0	20.0	0.0	2.7	7.1	0.5	0.0	0.0	0.9	0.0	7.1	4.4	0.0	6.1	
Total %	1.9	7.9	1.1	0.0	10.9	10.9	3.0	2.1	0.0	16.0	3.0	41.8	0.4	0.0	45.2	0.4	17.9	9.6	0.0	27.9	100.0
PHF	0.71	0.71	0.71			0.90	0.90	0.90			0.60	0.60	0.60			1.00	1.00	1.00			0.76



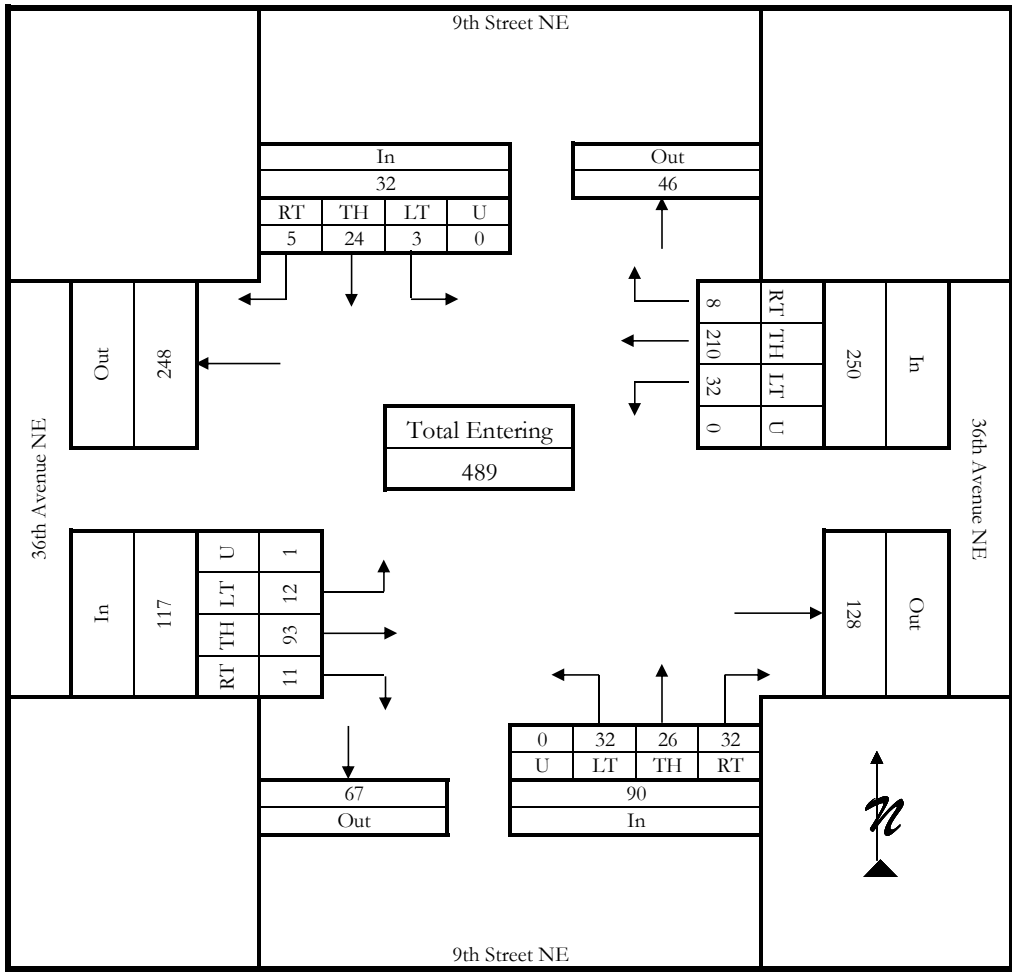
INTERSECTION TURNING MOVEMENT COUNT SUMMARY

General Information

Counted By:	Audrey Stoltzfus	Intersection:	36th Avenue NE & 9th Street NE
Agency/Company:	Sanderson Stewart	Jurisdiction:	City of Great Falls/MDT
Date Performed:	Wednesday, January 22, 2020	Project Description:	Great Falls Transportation Study
Count Time Period:	PM Peak Hour (4:45 - 5:45 PM)	North/South Street:	9th Street NE
Project Number:	20013	East/West Street:	36th Avenue NE

Vehicle Volumes and Adjustments

Start Time	9th Street NE Southbound					9th Street NE Northbound					36th Avenue NE Eastbound					36th Avenue NE Westbound					Int. Total
	Right	Thru	Left	U-turn	Total	Right	Thru	Left	U-turn	Total	Right	Thru	Left	U-turn	Total	Right	Thru	Left	U-turn	Total	
Factor	1.00	1.00	1.00	1.00		1.06	1.06	1.06	1.06		1.00	1.00	1.00	1.00		1.06	1.06	1.06	1.06		
4:45 PM	2	3	0	0	5	7	3	3	0	13	3	21	3	0	27	1	41	10	0	52	97
5:00 PM	1	13	2	0	16	12	5	10	0	27	4	26	1	1	32	4	53	10	0	67	142
5:15 PM	2	3	0	0	5	3	7	7	0	17	4	24	2	0	30	2	69	8	0	79	131
5:30 PM	0	5	1	0	6	10	11	12	0	33	0	22	6	0	28	1	47	4	0	52	119
Grand Total	5	24	3	0	32	32	26	32	0	90	11	93	12	1	117	8	210	32	0	250	489
Medium Truck %	0.0	0.0	0.0	0.0	0.0	0.0	0.0	6.3	0.0	2.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Heavy Truck %	0.0	4.2	0.0	0.0	3.1	0.0	0.0	0.0	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 Truck %	0.0	4.2	0.0	0.0	3.1	0.0	0.0	6.3	0.0	2.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total %	1.0	4.9	0.6	0.0	6.5	6.5	5.3	6.5	0.0	18.4	2.2	19.0	2.5	0.2	23.9	1.6	42.9	6.5	0.0	51.1	100.0
PHF	0.50	0.50	0.50			0.85	0.85	0.85			0.91	0.91	0.91			0.94	0.94	0.94			0.86



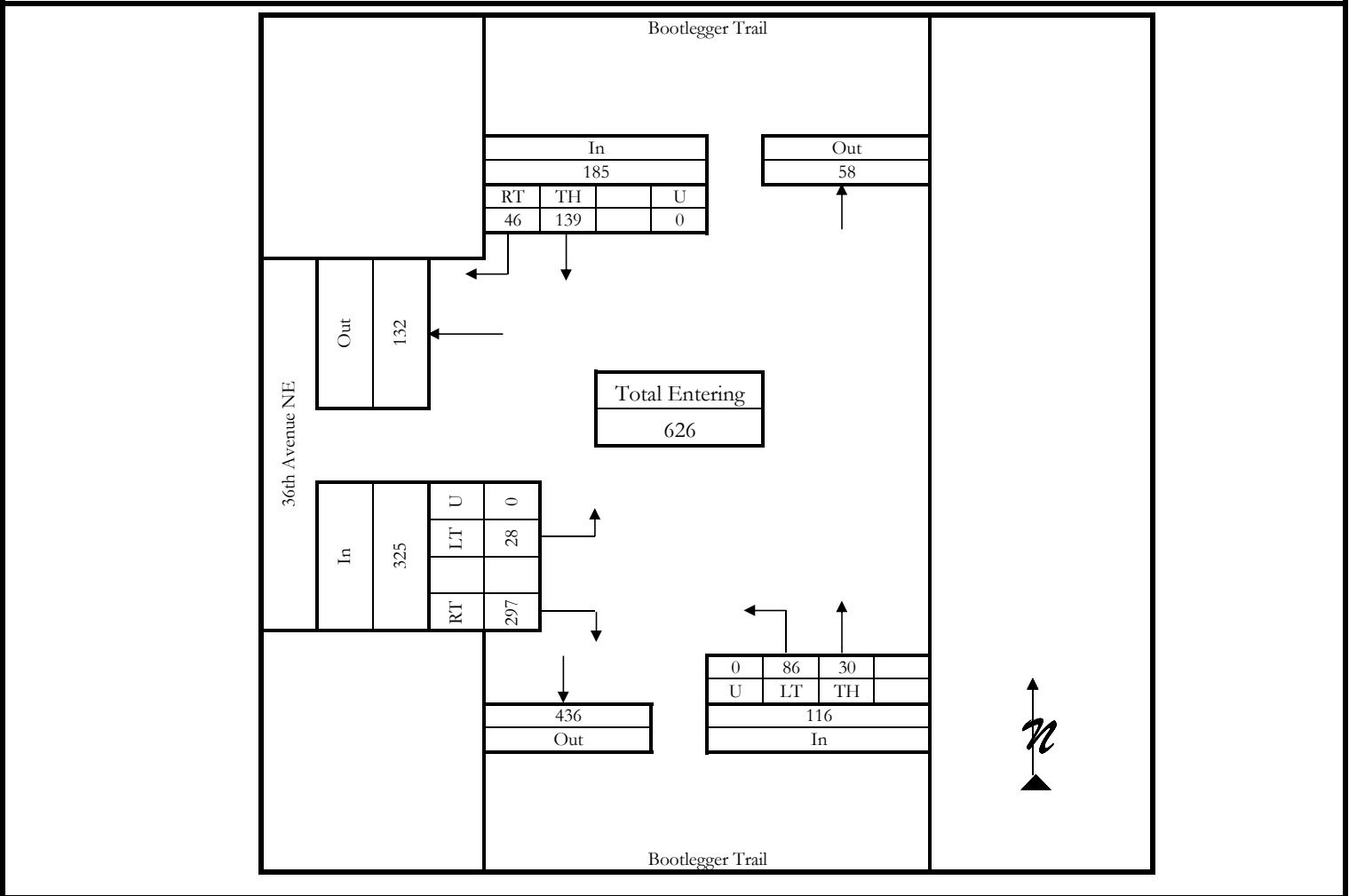
INTERSECTION TURNING MOVEMENT COUNT SUMMARY

General Information

Counted By: Audrey Stoltzfus	Intersection: Bootlegger Trail & 36th Avenue NE
Agency/Company: Sanderson Stewart	Jurisdiction: City of Great Falls/MDT
Date Performed: Wednesday, January 22, 2020	Project Description: Great Falls Transportation Study
Count Time Period: AM Peak Hour (7:30 - 8:30 AM)	Project Number: 20013
Project Number: 20013	Project Description: Great Falls Transportation Study
North/South Street: Bootlegger Trail	East/West Street: 36th Avenue NE

Vehicle Volumes and Adjustments

Start Time	Bootlegger Trail Southbound					Bootlegger Trail Northbound					36th Avenue NE Eastbound					Westbound					Int. Total
	Right	Thru	Left	U-turn	Total	Right	Thru	Left	U-turn	Total	Right	Thru	Left	U-turn	Total	Right	Thru	Left	U-turn	Total	
Factor	1.06	1.06	1.06	1.06		1.06	1.06	1.06	1.06		1.06	1.06	1.06	1.06		1.00	1.00	1.00	1.00		
7:30 AM	7	47	0	0	54	0	3	18	0	21	119	0	2	0	121					0	196
7:45 AM	6	50	0	0	56	0	11	17	0	28	102	0	8	0	110					0	194
8:00 AM	22	21	0	0	43	0	10	20	0	30	48	0	6	0	54					0	127
8:15 AM	11	21	0	0	32	0	6	31	0	37	28	0	12	0	40					0	109
Grand Total	46	139	0	0	185	0	30	86	0	116	297	0	28	0	325	0	0	0	0	0	626
Medium Truck %	6.5	0.0	0.0	0.0	1.6	0.0	6.7	2.3	0.0	3.4	0.0	0.0	3.6	0.0	0.3					0.0	
Heavy Truck %	0.0	0.0	0.0	0.0	0.0	0.0	0.0	9.3	0.0	6.9	0.7	0.0	0.0	0.0	0.6					0.0	
Total Truck %	6.5	0.0	0.0	0.0	1.6	0.0	6.7	11.6	0.0	10.3	0.7	0.0	3.6	0.0	0.9					0.0	
Total %	7.3	22.2	0.0	0.0	29.6	0.0	4.8	13.7	0.0	18.5	47.4	0.0	4.5	0.0	51.9	0.0	0.0	0.0	0.0	0.0	100.0
PHF	0.86	0.86	0.86			1.00	1.00	1.00			0.67	0.67	0.67								0.80



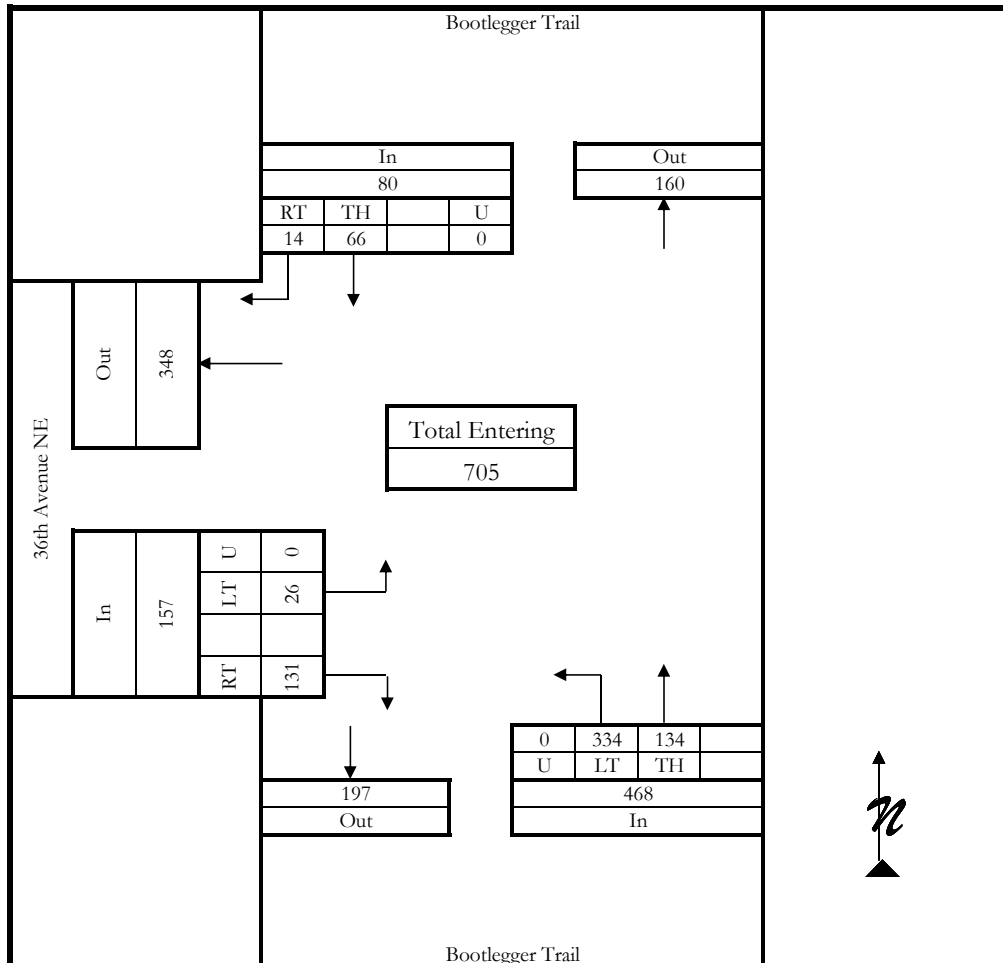
INTERSECTION TURNING MOVEMENT COUNT SUMMARY

General Information

Counted By: Audrey Stoltzfus	Intersection: Bootlegger Trail & 36th Avenue NE
Agency/Company: Sanderson Stewart	Jurisdiction: City of Great Falls/MDT
Date Performed: Wednesday, January 22, 2020	Project Description: Great Falls Transportation Study
Count Time Period: PM Peak Hour (4:45 - 5:45 PM)	Project Number: 20013
Project Number: 20013	Project Description: Great Falls Transportation Study
North/South Street: Bootlegger Trail	East/West Street: 36th Avenue NE

Vehicle Volumes and Adjustments

Start Time	Bootlegger Trail Southbound					Bootlegger Trail Northbound					36th Avenue NE Eastbound					Westbound					Int. Total
	Right	Thru	Left	U-turn	Total	Right	Thru	Left	U-turn	Total	Right	Thru	Left	U-turn	Total	Right	Thru	Left	U-turn	Total	
Factor	1.06	1.06	1.06	1.06		1.06	1.06	1.06	1.06		1.06	1.06	1.06	1.06		1.00	1.00	1.00	1.00		
4:45 PM	1	14	0	0	15	0	37	69	0	106	31	0	11	0	42					0	163
5:00 PM	1	7	0	0	8	0	37	103	0	140	36	0	6	0	42					0	190
5:15 PM	10	24	0	0	34	0	32	102	0	134	31	0	2	0	33					0	201
5:30 PM	2	21	0	0	23	0	28	60	0	88	33	0	7	0	40					0	151
Grand Total	14	66	0	0	80	0	134	334	0	468	131	0	26	0	157	0	0	0	0	0	705
Medium Truck %	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0					0.0	
Heavy Truck %	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.8	0.0	0.0	0.0	0.6					0.0	
Total Truck %	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.8	0.0	0.0	0.0	0.6					0.0	
Total %	2.0	9.4	0.0	0.0	11.3	0.0	19.0	47.4	0.0	66.4	18.6	0.0	3.7	0.0	22.3	0.0	0.0	0.0	0.0	0.0	100.0
PHF	0.59	0.59	0.59			0.88	0.88	0.88			1.00	1.00	1.00								0.88



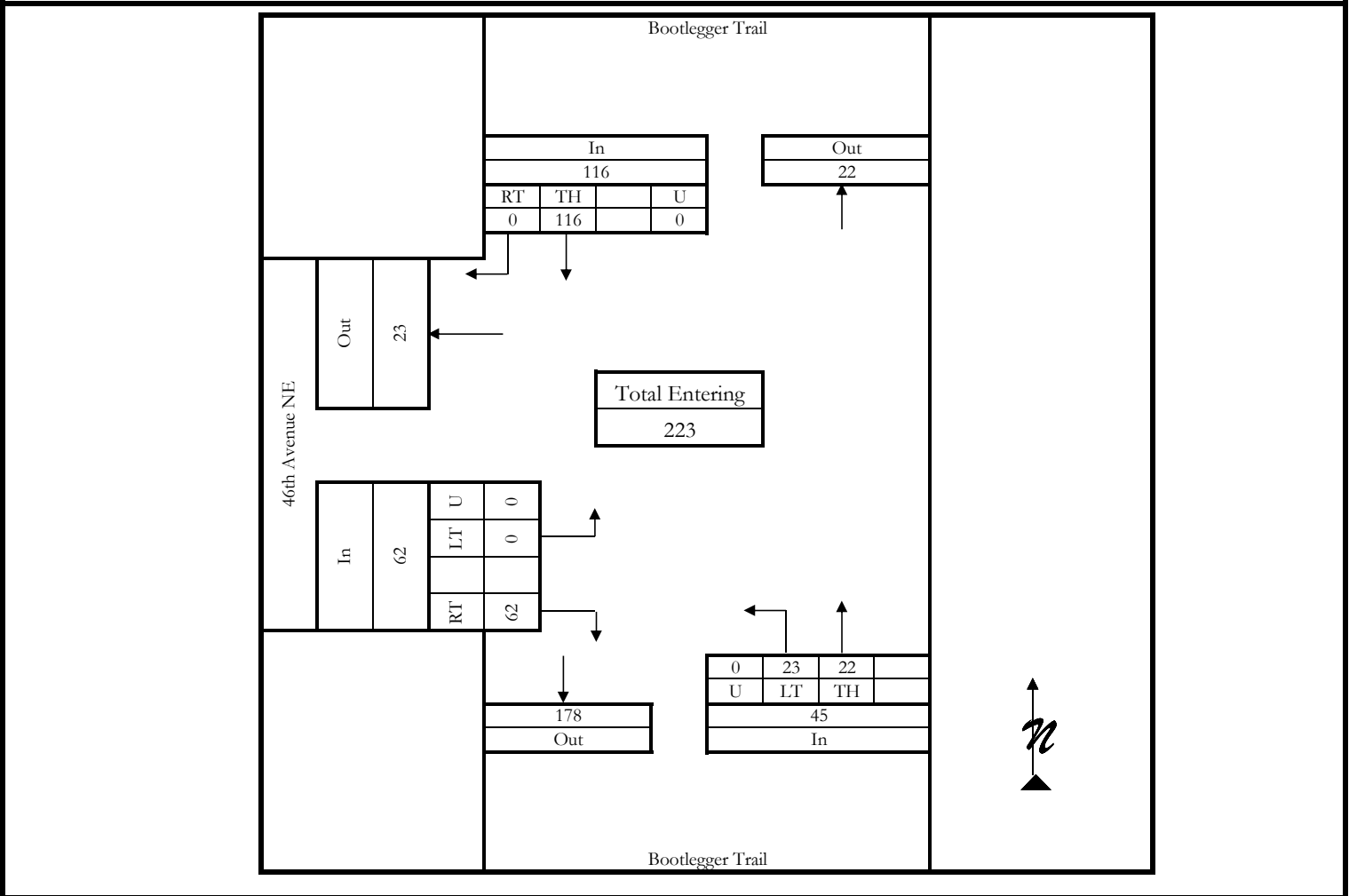
INTERSECTION TURNING MOVEMENT COUNT SUMMARY

General Information

Counted By: Audrey Stoltzfus	Intersection: Bootlegger Trail & 46th Avenue NE
Agency/Company: Sanderson Stewart	Jurisdiction: City of Great Falls/MDT
Date Performed: Wednesday, January 22, 2020	Project Description: Great Falls Transportation Study
Count Time Period: AM Peak Hour (7:30 - 8:30 AM)	Project Number: 20013
Project Number: 20013	Project Description: Great Falls Transportation Study
North/South Street: Bootlegger Trail	East/West Street: 46th Avenue NE

Vehicle Volumes and Adjustments

Start Time	Bootlegger Trail Southbound					Bootlegger Trail Northbound					46th Avenue NE Eastbound					Westbound					Int. Total
	Right	Thru	Left	U-turn	Total	Right	Thru	Left	U-turn	Total	Right	Thru	Left	U-turn	Total	Right	Thru	Left	U-turn	Total	
Factor	1.06	1.06	1.06	1.06		1.06	1.06	1.06	1.06		1.00	1.00	1.00	1.00		1.00	1.00	1.00	1.00		
7:30 AM	0	41	0	0	41	0	2	0	0	2	19	0	0	0	19					0	62
7:45 AM	0	33	0	0	33	0	6	6	0	12	15	0	0	0	15					0	60
8:00 AM	0	24	0	0	24	0	8	7	0	15	18	0	0	0	18					0	57
8:15 AM	0	18	0	0	18	0	6	10	0	16	10	0	0	0	10					0	44
Grand Total	0	116	0	0	116	0	22	23	0	45	62	0	0	0	62	0	0	0	0	0	223
Medium Truck %	0.0	1.7	0.0	0.0	1.7	0.0	9.1	4.3	0.0	6.7	1.6	0.0	0.0	0.0	1.6					0.0	
Heavy Truck %	0.0	0.0	0.0	0.0	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 Truck %	0.0	1.7	0.0	0.0	1.7	0.0	9.1	4.3	0.0	6.7	1.6	0.0	0.0	0.0	1.6					0.0	
Total %	0.0	52.0	0.0	0.0	52.0	0.0	9.9	10.3	0.0	20.2	27.8	0.0	0.0	0.0	27.8	0.0	0.0	0.0	0.0	0.0	100.0
PHF	0.71	0.71	0.71			1.00	1.00	1.00			0.82	0.82	0.82								0.90



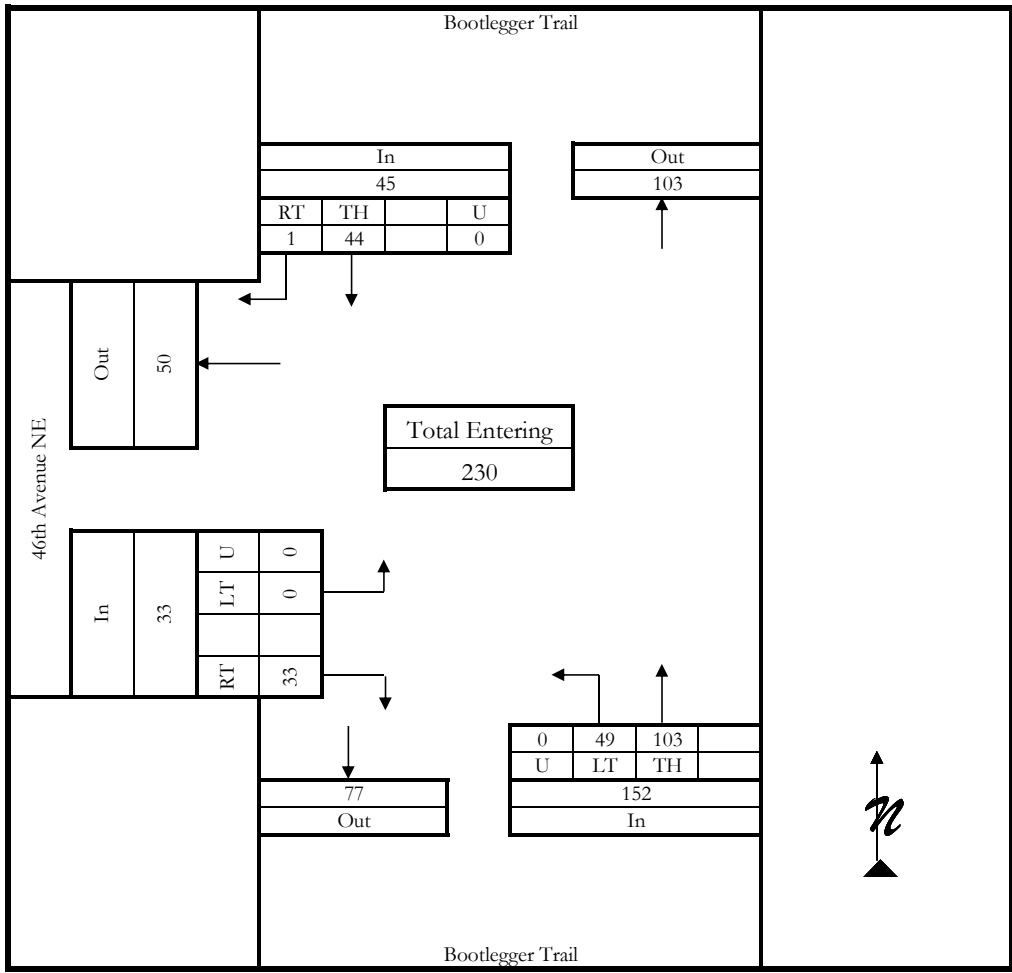
INTERSECTION TURNING MOVEMENT COUNT SUMMARY

General Information

Counted By: Audrey Stoltzfus	Intersection: Bootlegger Trail & 46th Avenue NE
Agency/Company: Sanderson Stewart	Jurisdiction: City of Great Falls/MDT
Date Performed: Wednesday, January 22, 2020	Project Description: Great Falls Transportation Study
Count Time Period: PM Peak Hour (4:45 - 5:45 PM)	Project Number: 20013
Project Number: 20013	Project Description: Great Falls Transportation Study
North/South Street: Bootlegger Trail	East/West Street: 46th Avenue NE

Vehicle Volumes and Adjustments

Start Time	Bootlegger Trail Southbound					Bootlegger Trail Northbound					46th Avenue NE Eastbound					Westbound					Int. Total
	Right	Thru	Left	U-turn	Total	Right	Thru	Left	U-turn	Total	Right	Thru	Left	U-turn	Total	Right	Thru	Left	U-turn	Total	
Factor	1.06	1.06	1.06	1.06		1.06	1.06	1.06	1.06		1.00	1.00	1.00	1.00		1.00	1.00	1.00	1.00		
4:45 PM	1	10	0	0	11	0	35	13	0	48	5	0	0	0	5					0	64
5:00 PM	0	3	0	0	3	0	25	16	0	41	6	0	0	0	6					0	50
5:15 PM	0	17	0	0	17	0	21	10	0	31	15	0	0	0	15					0	63
5:30 PM	0	14	0	0	14	0	22	10	0	32	7	0	0	0	7					0	53
Grand Total	1	44	0	0	45	0	103	49	0	152	33	0	0	0	33	0	0	0	0	0	230
Medium Truck %	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0					0.0	
Heavy Truck %	0.0	0.0	0.0	0.0	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 Truck %	0.0	0.0	0.0	0.0	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 %	0.4	19.1	0.0	0.0	19.6	0.0	44.8	21.3	0.0	66.1	14.3	0.0	0.0	0.0	14.3	0.0	0.0	0.0	0.0	0.0	100.0
PHF	0.66	0.66	0.66			1.00	1.00	1.00			0.55	0.55	0.55								0.91



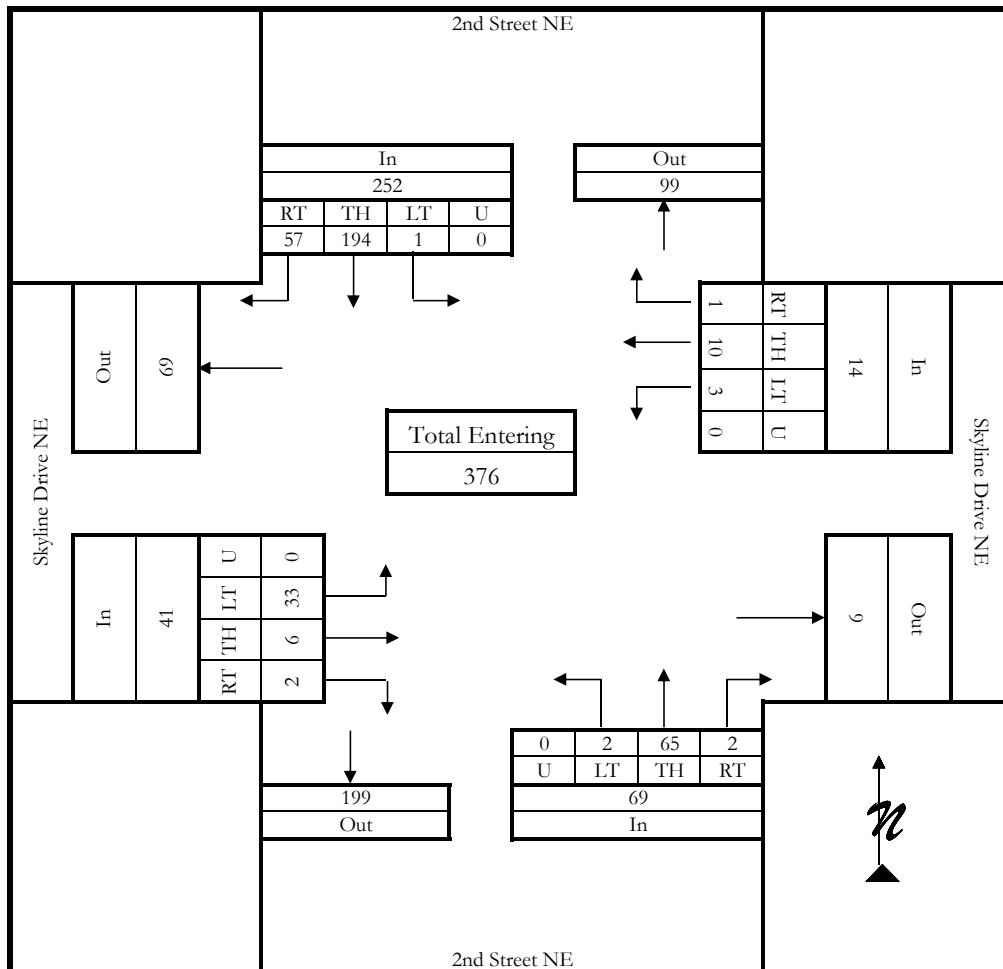
INTERSECTION TURNING MOVEMENT COUNT SUMMARY

General Information

Counted By: Audrey Stoltzfus	Intersection: Skyline Drive NE & 2nd Street NE
Agency/Company: Sanderson Stewart	Jurisdiction: City of Great Falls/MDT
Date Performed: Wednesday, January 22, 2020	Project Description: Great Falls Transportation Study
Count Time Period: AM Peak Hour (7:30 - 8:30 AM)	Project Number: 20013
Project Number: 20013	Project Description: Great Falls Transportation Study
North/South Street: 2nd Street NE	East/West Street: Skyline Drive NE

Vehicle Volumes and Adjustments

Start Time	2nd Street NE Southbound					2nd Street NE Northbound					Skyline Drive NE Eastbound					Skyline Drive NE Westbound					Int. Total
	Right	Thru	Left	U-turn	Total	Right	Thru	Left	U-turn	Total	Right	Thru	Left	U-turn	Total	Right	Thru	Left	U-turn	Total	
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		1.00	1.00	1.00	1.00		
7:30 AM	19	58	0	0	77	0	8	1	0	9	1	0	7	0	8	0	2	0	0	2	96
7:45 AM	14	62	1	0	77	1	12	1	0	14	0	0	8	0	8	0	5	1	0	6	105
8:00 AM	14	27	0	0	41	1	13	0	0	14	1	2	9	0	12	1	2	2	0	5	72
8:15 AM	10	47	0	0	57	0	32	0	0	32	0	4	9	0	13	0	1	0	0	1	103
Grand Total	57	194	1	0	252	2	65	2	0	69	2	6	33	0	41	1	10	3	0	14	376
Medium Truck %	1.8	2.1	0.0	0.0	2.0	0.0	4.6	0.0	0.0	4.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Heavy Truck %	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	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 Truck %	1.8	2.1	0.0	0.0	2.0	0.0	4.6	0.0	0.0	4.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total %	15.2	51.6	0.3	0.0	67.0	0.5	17.3	0.5	0.0	18.4	0.5	1.6	8.8	0.0	10.9	0.3	2.7	0.8	0.0	3.7	100.0
PHF	0.82	0.82	0.82			1.00	1.00	1.00			1.00	1.00	1.00			0.58	0.58	0.58			0.90



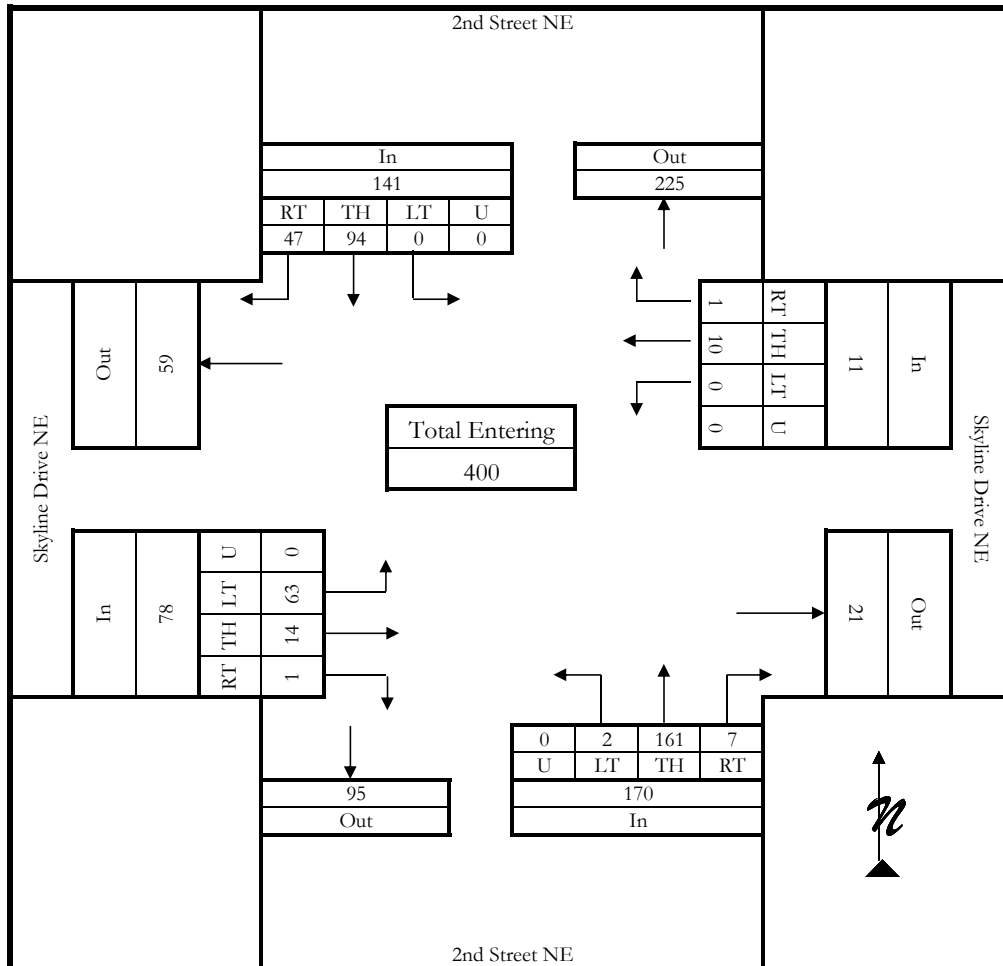
INTERSECTION TURNING MOVEMENT COUNT SUMMARY

General Information

Counted By: Audrey Stoltzfus	Intersection: Skyline Drive NE & 2nd Street NE
Agency/Company: Sanderson Stewart	Jurisdiction: City of Great Falls/MDT
Date Performed: Wednesday, January 22, 2020	
Count Time Period: PM Peak Hour (4:45 - 5:45 PM)	
Project Number: 20013	Project Description: Great Falls Transportation Study
North/South Street: 2nd Street NE	East/West Street: Skyline Drive NE

Vehicle Volumes and Adjustments

Start Time	2nd Street NE Southbound					2nd Street NE Northbound					Skyline Drive NE Eastbound					Skyline Drive NE Westbound					Int. Total
	Right	Thru	Left	U-turn	Total	Right	Thru	Left	U-turn	Total	Right	Thru	Left	U-turn	Total	Right	Thru	Left	U-turn	Total	
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		1.00	1.00	1.00	1.00		
4:45 PM	8	20	0	0	28	1	35	0	0	36	0	3	11	0	14	0	0	0	0	0	
5:00 PM	10	34	0	0	44	5	41	0	0	46	0	3	17	0	20	1	3	0	0	4	
5:15 PM	19	18	0	0	37	1	41	1	0	43	0	6	21	0	27	0	2	0	0	2	
5:30 PM	10	22	0	0	32	0	44	1	0	45	1	2	14	0	17	0	5	0	0	5	
Grand Total	47	94	0	0	141	7	161	2	0	170	1	14	63	0	78	1	10	0	0	11	
Medium Truck %	0.0	2.1	0.0	0.0	1.4	0.0	1.9	0.0	0.0	1.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Heavy Truck %	2.1	0.0	0.0	0.0	0.7	0.0	0.0	0.0	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 Truck %	2.1	2.1	0.0	0.0	2.1	0.0	1.9	0.0	0.0	1.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total %	11.8	23.5	0.0	0.0	35.3	1.8	40.3	0.5	0.0	42.5	0.3	3.5	15.8	0.0	19.5	0.3	2.5	0.0	0.0	2.8	
PHF	0.80	0.80	0.80			0.92	0.92	0.92			0.98	0.98	0.98			0.69	0.69	0.69			



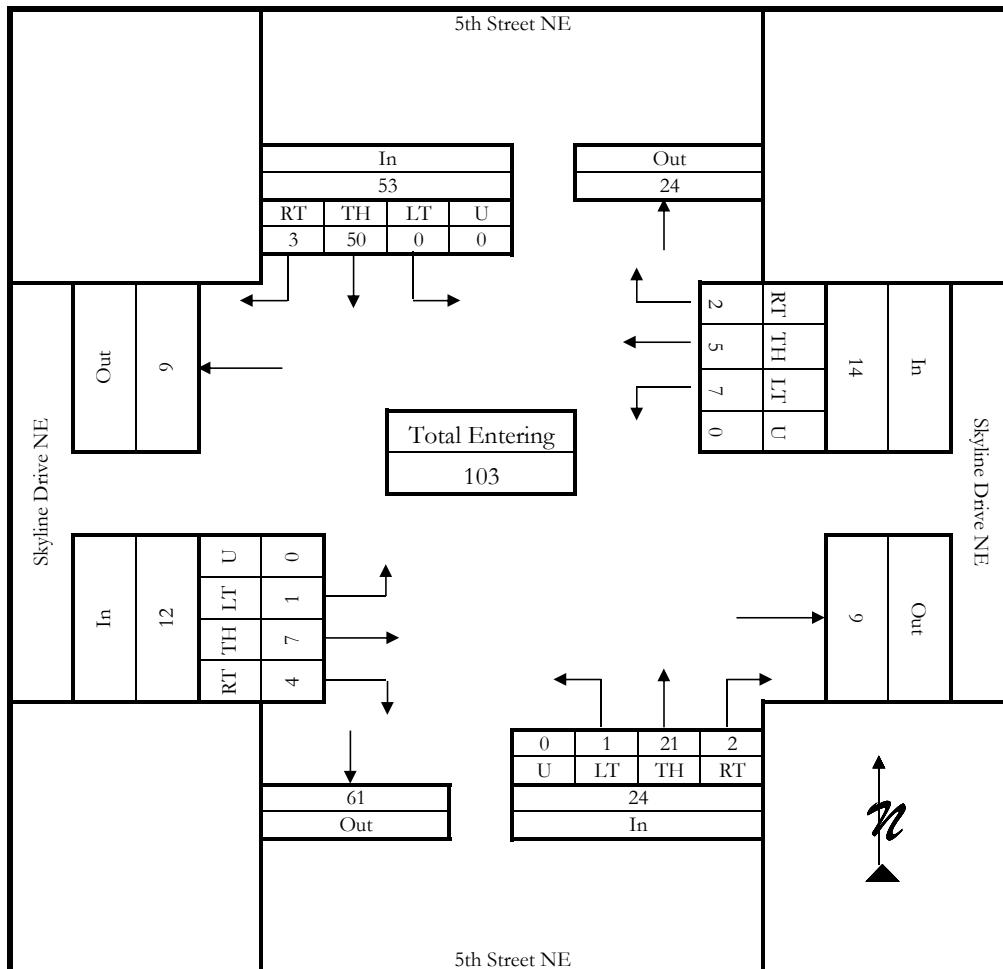
INTERSECTION TURNING MOVEMENT COUNT SUMMARY

General Information

Counted By: Audrey Stoltzfus	Intersection: Skyline Drive NE & 5th Street NE
Agency/Company: Sanderson Stewart	Jurisdiction: City of Great Falls/MDT
Date Performed: Wednesday, January 22, 2020	Project Description: Great Falls Transportation Study
Count Time Period: AM Peak Hour (7:30 - 8:30 AM)	Project Number: 20013
Project Number: 20013	Project Description: Great Falls Transportation Study
North/South Street: 5th Street NE	East/West Street: Skyline Drive NE

Vehicle Volumes and Adjustments

Start Time	5th Street NE Southbound					5th Street NE Northbound					Skyline Drive NE Eastbound					Skyline Drive NE Westbound					Int. Total
	Right	Thru	Left	U-turn	Total	Right	Thru	Left	U-turn	Total	Right	Thru	Left	U-turn	Total	Right	Thru	Left	U-turn	Total	
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		1.00	1.00	1.00	1.00		
7:30 AM	1	13	0	0	14	0	7	0	0	7	2	2	0	0	4	0	1	0	0	1	26
7:45 AM	1	13	0	0	14	1	3	0	0	4	0	2	0	0	2	0	2	1	0	3	23
8:00 AM	1	15	0	0	16	1	5	1	0	7	0	1	1	0	2	0	1	2	0	3	28
8:15 AM	0	9	0	0	9	0	6	0	0	6	2	2	0	0	4	2	1	4	0	7	26
Grand Total	3	50	0	0	53	2	21	1	0	24	4	7	1	0	12	2	5	7	0	14	103
Medium Truck %	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Heavy Truck %	0.0	0.0	0.0	0.0	0.0	0.0	9.5	0.0	0.0	8.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Truck %	0.0	0.0	0.0	0.0	0.0	0.0	9.5	0.0	0.0	8.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total %	2.9	48.5	0.0	0.0	51.5	1.9	20.4	1.0	0.0	23.3	3.9	6.8	1.0	0.0	11.7	1.9	4.9	6.8	0.0	13.6	100.0
PHF	0.83	0.83	0.83			0.86	0.86	0.86			1.00	1.00	1.00			1.00	1.00	1.00			0.92



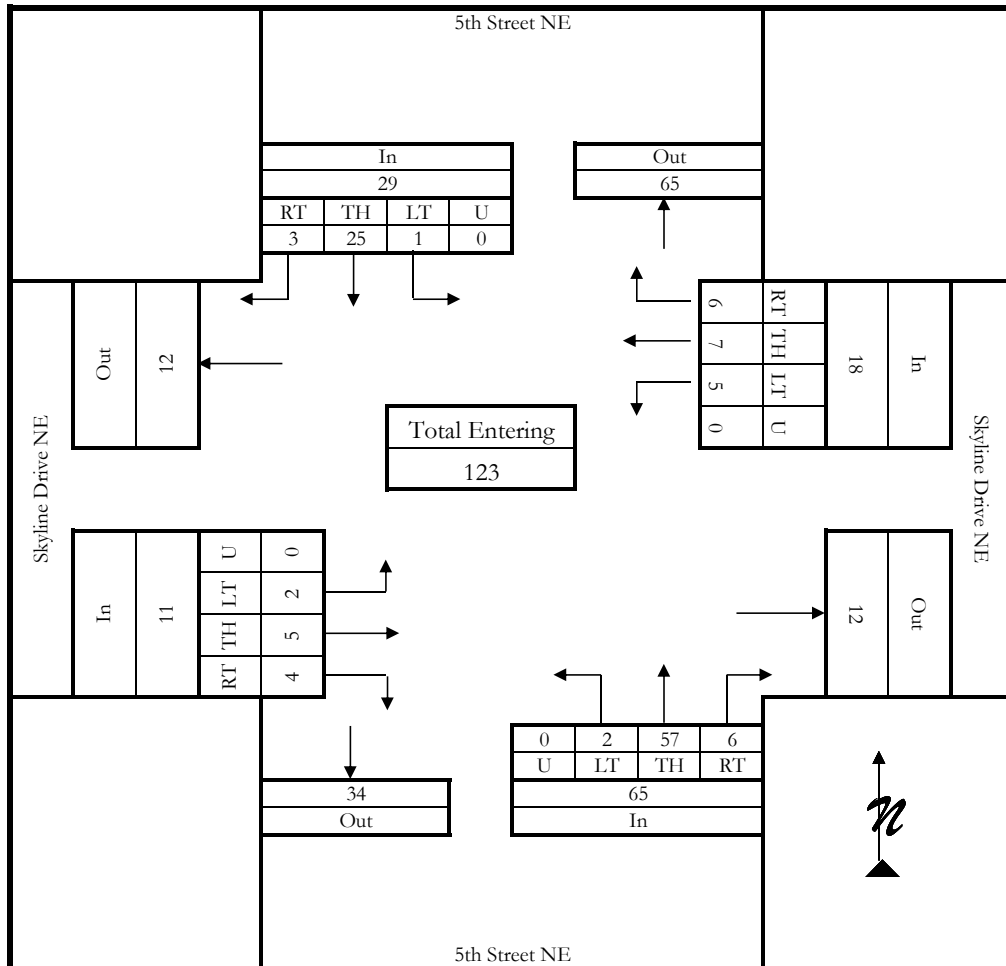
INTERSECTION TURNING MOVEMENT COUNT SUMMARY

General Information

Counted By: Audrey Stoltzfus	Intersection: Skyline Drive NE & 5th Street NE
Agency/Company: Sanderson Stewart	Jurisdiction: City of Great Falls/MDT
Date Performed: Wednesday, January 22, 2020	Project Description: Great Falls Transportation Study
Count Time Period: PM Peak Hour (4:45 - 5:45 PM)	Project Number: 20013
North/South Street: 5th Street NE	East/West Street: Skyline Drive NE

Vehicle Volumes and Adjustments

Start Time	5th Street NE Southbound					5th Street NE Northbound					Skyline Drive NE Eastbound					Skyline Drive NE Westbound					Int. Total
	Right	Thru	Left	U-turn	Total	Right	Thru	Left	U-turn	Total	Right	Thru	Left	U-turn	Total	Right	Thru	Left	U-turn	Total	
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		1.00	1.00	1.00	1.00		
4:45 PM	0	5	0	0	5	1	13	0	0	14	2	1	0	0	3	1	1	0	0	2	24
5:00 PM	1	2	1	0	4	2	15	1	0	18	0	1	1	0	2	3	3	4	0	10	34
5:15 PM	1	8	0	0	9	1	10	1	0	12	1	2	1	0	4	2	1	0	0	3	28
5:30 PM	1	10	0	0	11	2	19	0	0	21	1	1	0	0	2	0	2	1	0	3	37
Grand Total	3	25	1	0	29	6	57	2	0	65	4	5	2	0	11	6	7	5	0	18	123
Medium Truck %	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Heavy Truck %	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	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 Truck %	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	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 %	2.4	20.3	0.8	0.0	23.6	4.9	46.3	1.6	0.0	52.8	3.3	4.1	1.6	0.0	8.9	4.9	5.7	4.1	0.0	14.6	100.0
PHF	0.66	0.66	0.66			0.77	0.77	0.77			1.00	1.00	1.00			1.00	1.00	1.00			0.83



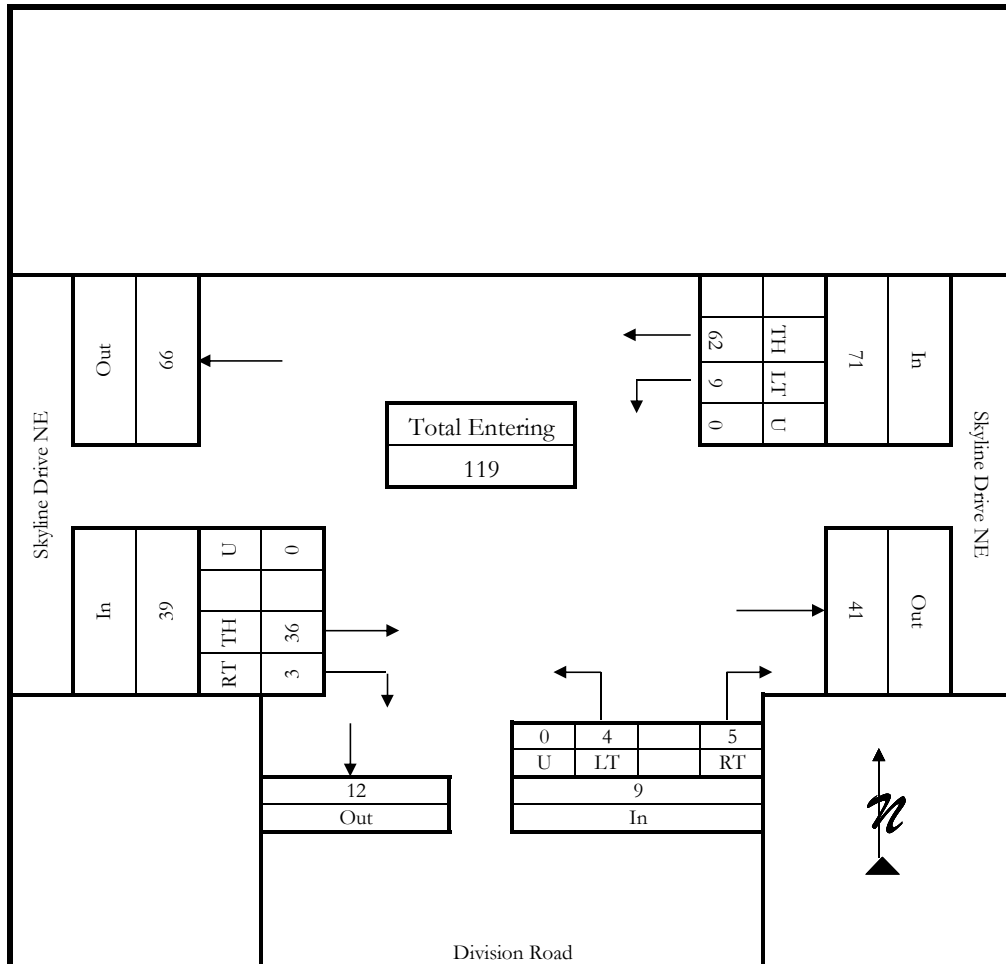
INTERSECTION TURNING MOVEMENT COUNT SUMMARY

General Information

Counted By: Audrey Stoltzfus	Intersection: Skyline Drive NE & Division Road
Agency/Company: Sanderson Stewart	Jurisdiction: City of Great Falls/MDT
Date Performed: Wednesday, January 22, 2020	Project Description: Great Falls Transportation Study
Count Time Period: AM Peak Hour (7:30 - 8:30 AM)	Project Number: 20013
North/South Street: Division Road	East/West Street: Skyline Drive NE

Vehicle Volumes and Adjustments

Start Time	Southbound					Division Road Northbound					Skyline Drive NE Eastbound					Skyline Drive NE Westbound					Int. Total
	Right	Thru	Left	U-turn	Total	Right	Thru	Left	U-turn	Total	Right	Thru	Left	U-turn	Total	Right	Thru	Left	U-turn	Total	
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		1.00	1.00	1.00	1.00		
7:30 AM					0	1	0	1	0	2	1	5	0	0	6	0	17	5	0	22	30
7:45 AM					0	2	0	2	0	4	1	7	0	0	8	0	18	2	0	20	32
8:00 AM					0	0	0	1	0	1	1	11	0	0	12	0	15	1	0	16	29
8:15 AM					0	2	0	0	0	2	0	13	0	0	13	0	12	1	0	13	28
Grand Total	0	0	0	0	0	5	0	4	0	9	3	36	0	0	39	0	62	9	0	71	119
Medium Truck %					0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.6	0.0	0.0	1.4	
Heavy Truck %					0.0	0.0	0.0	0.0	0.0	0.0	0.0	2.8	0.0	0.0	2.6	0.0	0.0	0.0	0.0	0.0	
Total Truck %					0.0	0.0	0.0	0.0	0.0	0.0	0.0	2.8	0.0	0.0	2.6	0.0	1.6	0.0	0.0	1.4	
Total %	0.0	0.0	0.0	0.0	0.0	4.2	0.0	3.4	0.0	7.6	2.5	30.3	0.0	0.0	32.8	0.0	52.1	7.6	0.0	59.7	100.0
PHF						0.56	0.56	0.56			1.00	1.00	1.00			0.89	0.89	0.89			0.93



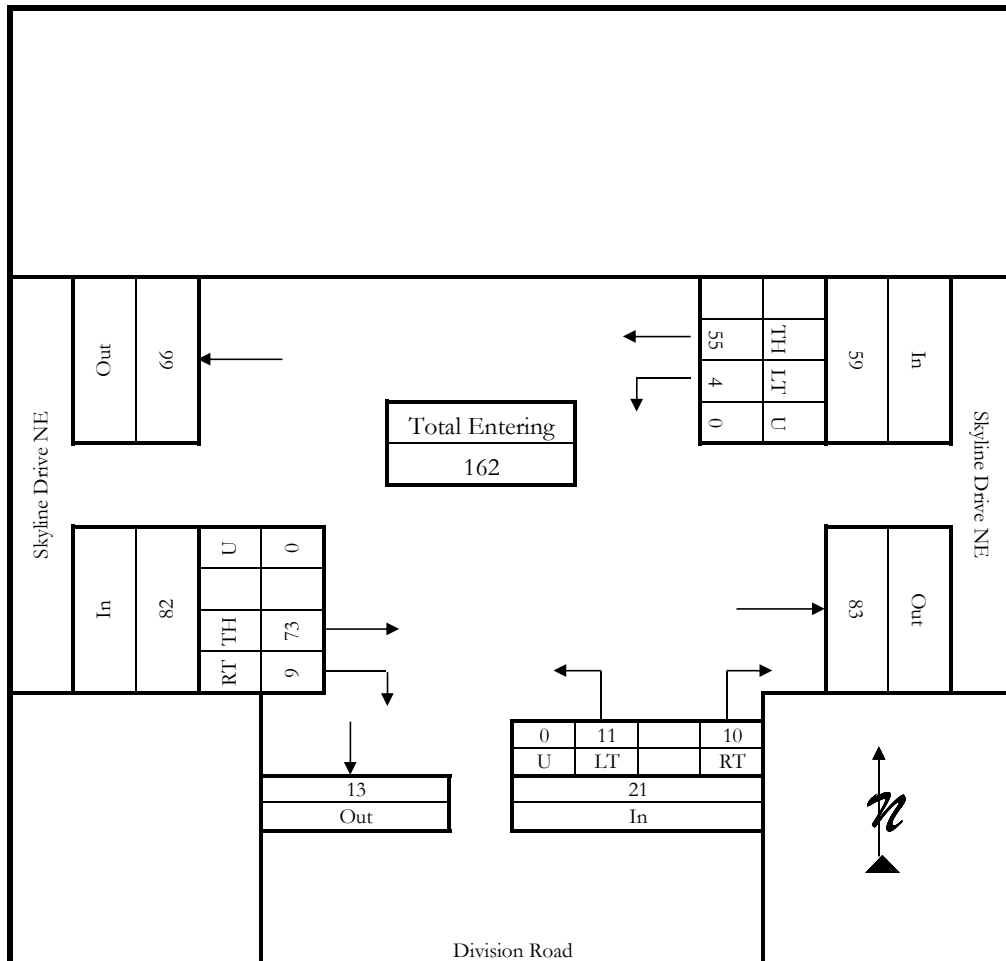
INTERSECTION TURNING MOVEMENT COUNT SUMMARY

General Information

Counted By:	Audrey Stoltzfus	Intersection:	Skyline Drive NE & Division Road
Agency/Company:	Sanderson Stewart	Jurisdiction:	City of Great Falls/MDT
Date Performed:	Wednesday, January 22, 2020		
Count Time Period:	PM Peak Hour (4:45 - 5:45 PM)		
Project Number:	20013	Project Description:	Great Falls Transportation Study
North/South Street:	Division Road	East/West Street:	Skyline Drive NE

Vehicle Volumes and Adjustments

Start Time	Southbound					Division Road Northbound					Skyline Drive NE Eastbound					Skyline Drive NE Westbound					Int. Total
	Right	Thru	Left	U-turn	Total	Right	Thru	Left	U-turn	Total	Right	Thru	Left	U-turn	Total	Right	Thru	Left	U-turn	Total	
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		1.00	1.00	1.00	1.00		
4:45 PM					0	0	0	4	0	4	2	15	0	0	17	0	6	0	0	6	27
5:00 PM					0	4	0	1	0	5	3	16	0	0	19	0	13	2	0	15	39
5:15 PM					0	5	0	3	0	8	2	27	0	0	29	0	20	1	0	21	58
5:30 PM					0	1	0	3	0	4	2	15	0	0	17	0	16	1	0	17	38
Grand Total	0	0	0	0	0	10	0	11	0	21	9	73	0	0	82	0	55	4	0	59	162
Medium Truck %					0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.8	0.0	0.0	1.7	
Heavy Truck %					0.0	0.0	0.0	0.0	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 Truck %					0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.8	0.0	0.0	1.7	
Total %	0.0	0.0	0.0	0.0	0.0	6.2	0.0	6.8	0.0	13.0	5.6	45.1	0.0	0.0	50.6	0.0	34.0	2.5	0.0	36.4	100.0
PHF						0.66	0.66	0.66			0.71	0.71	0.71			0.70	0.70	0.70			0.70



APPENDIX D
Crash Data Tables

**NORTH
GREAT FALLS
SUB-AREA
TRANSPORTATION
STUDY**



Corridor Crash Data (non intersection)

Corridor	Rear End	Rollover	Fixed Object	Wild Animal	LT, OD	LT, SD	SS, OD	SS,SD	Non Fixed Object	Right Angle	Backing Vehicle	Head On	Pedestrian	Bicycle	Other	Total
Vinyard Road	1	4	1	1				1								8
6th Street NW	9	2	4	1	1		2	3	2	4					1	29
Bootlegger Trail	1	3	6	3			1	1	1							16
36th Avenue NE	11		2					7	0	3	2				2	27
Skyline Drive NE			10				2	1	1	2	2	1			1	20
9th Street NE	1		1					3	1	2					1	9
2nd Street NE	0		0							2						2
5th Street NE	2		0					2		2					1	7
Division Road	0		1				0	0		0	0	1				2
Sacajawea Drive	1		2				1	2								6
32nd Avenue NE	2		0													2
8th Street NE			3					2								5
46th Avenue NE	0		1					1								2

* Crashes reported from January 1, 2010 to December 31, 2019

Intersection	2009-2018 DEV ¹	Reported Crashes ²	Crash Type			Crash Rates (per MVE ³)		SPICE Predictions ⁴		Collision Type												
			PDO	Injury	Fatality	Frequency (crashes/MVE)	Severity	Annual Crashes	Frequency (crashes/MVE)	Right-Angle	Rear End	Fixed Object	RT OD	RT SD	LT SD	LT OD	Sideswipe SD	Debris	Rollover	Head On	Backing Vehicle	Other
Vinyard Rd & 6th St NW	383		No Reported Crashes																			
Bootlegger Trl & 46th Ave NE	2504	1	1	0	0	0.11	0.11	0.32	0.35	0	0	1	0	0	0	0	0	0	0	0	0	0
36th Ave NE & 2nd St NE	7219	7	6	1	0	0.27	0.35	1.33	0.50	5	0	1	0	0	1	0	0	0	0	0	0	0
36th Ave NE & 5th St NE	4191		No Reported Crashes																			
36th Ave NE & 7th St NE	4660	3	2	1	0	0.18	0.30	0.89	0.52	2	0	0	0	1	0	0	0	0	0	0	0	0
36th Ave NE & 9th St NE	5197	7	5	2	0	0.37	0.58	0.91	0.48	4	0	1	0	0	0	1	0	0	0	0	0	1
Bootlegger Trl & 36th Ave NE	5621	8	7	1	0	0.26	0.33	0.76	0.37	2	2	2	1	0	0	0	0	0	0	0	0	1
Skyline Dr NE & 6th St NW	1472	3	2	1	0	0.56	0.93	0.21	0.39	1	0	0	0	0	0	0	1	0	1	0	0	0
Skyline Dr NE & Division Rd	1779	5	4	1	0	0.77	1.08	0.07	0.11	1	0	2	0	0	0	0	0	1	0	1	0	0
Skyline Dr NE & 2nd St NE	4913	6	4	2	0	0.33	0.55	0.55	0.31	4	0	0	1	0	0	0	0	0	0	0	1	0
Skyline Dr NE & 5th St NE	1431	4	1	3	0	0.77	1.93	0.16	0.31	4	0	0	0	0	0	0	0	0	0	0	0	0
Sacajawea Dr & 8th St NE	5042	3	3	0	0	0.16	0.16	0.94	0.51	0	1	2	0	0	0	0	0	0	0	0	0	0
32nd Ave NE/9th St NE/Skyline Dr NE	3976	2	2	0	0	0.14	0.14	0.08	0.06	0	0	1	0	0	0	0	1	0	0	0	0	0

¹ Daily Entering Volume (DEV) estimated from 2020 peak hour counts and 2009 through 2018 MDT published ADT's

² Crashes reported from January 1, 2009 to December 31, 2018

³ Crash and severity rates expressed as crashes per million vehicles entering (MVE) based on MDT severity factors

⁴ Rates calculated using FHWA's SPICE tool, using Highway Safety Manual (HSM) 1st Edition predictive methodology

APPENDIX E
Existing Conditions Capacity Calcs

**NORTH
GREAT FALLS
SUB-AREA
TRANSPORTATION
STUDY**



North Great Falls Transportation Study

Vistro File: P:\...\Great Falls.vistro

Scenario 1 AM Existing

Report File: P:\...\AM Existing.pdf

3/24/2020

Intersection Analysis Summary

ID	Intersection Name	Control Type	Method	Worst Mvmt	V/C	Delay (s/veh)	LOS
1	6th & Vinyard	Two-way stop	HCM 6th Edition	EB Right	0.006	8.6	A
2	Bootlegger & 46th	Two-way stop	HCM 6th Edition	EB Right	0.075	9.2	A
3	36th & 2nd	Two-way stop	HCM 6th Edition	WB Thru	0.002	11.5	B
4	36th & 5th	Two-way stop	HCM 6th Edition	NB Right	0.033	9.4	A
5	36th & 9th	Two-way stop	HCM 6th Edition	NB Left	0.035	15.8	C
6	Bootlegger & 36th	Two-way stop	HCM 6th Edition	EB Right	0.441	12.6	B
7	Skyline & 6th	Two-way stop	HCM 6th Edition	WB Left	0.072	9.2	A
8	Skyline & Division	Two-way stop	HCM 6th Edition	NB Left	0.005	9.2	A
9	Skyline & 2nd	Two-way stop	HCM 6th Edition	EB Thru	0.012	11.5	B
10	Skyline & 5th	Two-way stop	HCM 6th Edition	WB Thru	0.006	9.5	A
11	8th & Sacajawea	Two-way stop	HCM 6th Edition	EB Thru	0.002	12.6	B
12	9th & 32nd	Two-way stop	HCM 6th Edition	EB Left	0.008	10.8	B
13	9th & Skyline	Two-way stop	HCM 6th Edition	NB Thru	0.001	9.3	A

V/C, Delay, LOS: For two-way stop, these values are taken from the movement with the worst (highest) delay value. For all other control types, they are taken for the whole intersection.

**Intersection Level Of Service Report
Intersection 1: 6th & Vinyard**

Control Type:	Two-way stop	Delay (sec / veh):	8.6
Analysis Method:	HCM 6th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.006

Intersection Setup

Name	6th St NW		Vinyard Rd		Vinyard Rd	
Approach	Northbound		Southbound		Eastbound	
Lane Configuration	↰		↱		↻	
Turning Movement	Left	Thru	Thru	Right	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		No	

Volumes

Name	6th St NW		Vinyard Rd		Vinyard Rd	
Base Volume Input [veh/h]	3	4	9	2	0	5
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	50.00	0.00	20.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	3	4	9	2	0	5
Peak Hour Factor	0.8200	0.8200	0.8200	0.8200	0.8200	0.8200
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	1	1	3	1	0	2
Total Analysis Volume [veh/h]	4	5	11	2	0	6
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Free	Free	Stop
Flared Lane			No
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance			No
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.00	0.00	0.00	0.00	0.01
d_M, Delay for Movement [s/veh]	7.23	0.00	0.00	0.00	8.64	8.56
Movement LOS	A	A	A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.01	0.01	0.00	0.00	0.02	0.02
95th-Percentile Queue Length [ft/ln]	0.19	0.19	0.00	0.00	0.44	0.44
d_A, Approach Delay [s/veh]	3.21		0.00		8.56	
Approach LOS	A		A		A	
d_I, Intersection Delay [s/veh]	2.87					
Intersection LOS	A					

**Intersection Level Of Service Report
Intersection 2: Bootlegger & 46th**

Control Type:	Two-way stop	Delay (sec / veh):	9.2
Analysis Method:	HCM 6th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.075

Intersection Setup

Name	Bootlegger Trail		Bootlegger Trail		46th Ave NE	
Approach	Northbound		Southbound		Eastbound	
Lane Configuration						
Turning Movement	Left	Thru	Thru	Right	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	1	0	0	0	0
Entry Pocket Length [ft]	100.00	600.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	70.00		70.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		No	

Volumes

Name	Bootlegger Trail		Bootlegger Trail		46th Ave NE	
Base Volume Input [veh/h]	23	22	116	0	0	62
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	4.30	9.10	1.70	0.00	0.00	1.60
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	23	22	116	0	0	62
Peak Hour Factor	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	6	6	32	0	0	17
Total Analysis Volume [veh/h]	26	24	129	0	0	69
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Free	Free	Stop
Flared Lane			No
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance			No
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.02	0.00	0.00	0.00	0.00	0.07
d_M, Delay for Movement [s/veh]	7.54	0.00	0.00	0.00	9.97	9.22
Movement LOS	A	A	A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.06	0.00	0.00	0.00	0.24	0.24
95th-Percentile Queue Length [ft/ln]	1.38	0.00	0.00	0.00	6.05	6.05
d_A, Approach Delay [s/veh]	3.92		0.00		9.22	
Approach LOS	A		A		A	
d_I, Intersection Delay [s/veh]	3.36					
Intersection LOS	A					

**Intersection Level Of Service Report
Intersection 3: 36th & 2nd**

Control Type: Two-way stop
 Analysis Method: HCM 6th Edition
 Analysis Period: 15 minutes

Delay (sec / veh): 11.5
 Level Of Service: B
 Volume to Capacity (v/c): 0.002

Intersection Setup

Name	2nd St NE			2nd St NE			36th Ave NE			36th Ave NE		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration	+			+			+			+		
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	2nd St NE			2nd St NE			36th Ave NE			36th Ave NE		
Base Volume Input [veh/h]	2	30	35	41	105	1	0	7	10	55	1	12
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	2.90	0.00	1.90	0.00	0.00	0.00	0.00	1.80	0.00	25.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	2	30	35	41	105	1	0	7	10	55	1	12
Peak Hour Factor	0.8800	0.8800	0.8800	0.8800	0.8800	0.8800	0.8800	0.8800	0.8800	0.8800	0.8800	0.8800
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	1	9	10	12	30	0	0	2	3	16	0	3
Total Analysis Volume [veh/h]	2	34	40	47	119	1	0	8	11	63	1	14
Pedestrian Volume [ped/h]	0			0			0			0		




Intersection Settings

Priority Scheme	Free	Free	Stop	Stop
Flared Lane			No	No
Storage Area [veh]	0	0	0	0
Two-Stage Gap Acceptance			No	No
Number of Storage Spaces in Median	0	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.00	0.00	0.03	0.00	0.00	0.00	0.01	0.01	0.10	0.00	0.01
d_M, Delay for Movement [s/veh]	7.44	0.00	0.00	7.41	0.00	0.00	10.67	11.11	8.96	11.31	11.53	9.47
Movement LOS	A	A	A	A	A	A	B	B	A	B	B	A
95th-Percentile Queue Length [veh/ln]	0.00	0.00	0.00	0.09	0.09	0.09	0.08	0.08	0.08	0.39	0.39	0.39
95th-Percentile Queue Length [ft/ln]	0.10	0.10	0.10	2.36	2.36	2.36	1.92	1.92	1.92	9.67	9.67	9.67
d_A, Approach Delay [s/veh]	0.20			2.09			9.87			10.98		
Approach LOS	A			A			A			B		
d_I, Intersection Delay [s/veh]	4.14											
Intersection LOS	B											

**Intersection Level Of Service Report
Intersection 4: 36th & 5th**Control Type: Two-way stop
Analysis Method: HCM 6th Edition
Analysis Period: 15 minutesDelay (sec / veh): 9.4
Level Of Service: A
Volume to Capacity (v/c): 0.033**Intersection Setup**

Name	5th St NE		36th Ave NE		36th Ave NE	
Approach	Northbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Left	Right	Thru	Right	Left	Thru
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		No	

Volumes

Name	5th St NE		36th Ave NE		36th Ave NE	
Base Volume Input [veh/h]	0	20	134	11	18	82
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	5.00	0.70	0.00	0.00	7.30
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	20	134	11	18	82
Peak Hour Factor	0.7100	0.7100	0.7100	0.7100	0.7100	0.7100
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	7	47	4	6	29
Total Analysis Volume [veh/h]	0	28	189	15	25	115
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Stop	Free	Free
Flared Lane	No		
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance	No		
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.03	0.00	0.00	0.02	0.00
d_M, Delay for Movement [s/veh]	10.87	9.45	0.00	0.00	7.66	0.00
Movement LOS	B	A	A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.10	0.10	0.00	0.00	0.06	0.06
95th-Percentile Queue Length [ft/ln]	2.59	2.59	0.00	0.00	1.38	1.38
d_A, Approach Delay [s/veh]	9.45		0.00		1.37	
Approach LOS	A		A		A	
d_I, Intersection Delay [s/veh]	1.23					
Intersection LOS	A					

**Intersection Level Of Service Report
Intersection 5: 36th & 9th**

Control Type: Two-way stop
 Analysis Method: HCM 6th Edition
 Analysis Period: 15 minutes

Delay (sec / veh): 15.8
 Level Of Service: C
 Volume to Capacity (v/c): 0.035

Intersection Setup

Name	9th St NE			9th St NE			36th Ave NE			36th Ave NE		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration	+			+			+			+		
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	No			No			No			No		

Volumes

Name	9th St NE			9th St NE			36th Ave NE			36th Ave NE		
Base Volume Input [veh/h]	10	14	51	5	37	9	2	196	14	45	84	2
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	20.00	0.00	0.00	0.00	2.70	11.00	0.00	0.50	7.10	4.40	7.10	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	10	14	51	5	37	9	2	196	14	45	84	2
Peak Hour Factor	0.7600	0.7600	0.7600	0.7600	0.7600	0.7600	0.7600	0.7600	0.7600	0.7600	0.7600	0.7600
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	3	5	17	2	12	3	1	64	5	15	28	1
Total Analysis Volume [veh/h]	13	18	67	7	49	12	3	258	18	59	111	3
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Priority Scheme	Stop	Stop	Free	Free
Flared Lane	No	No		
Storage Area [veh]	0	0	0	0
Two-Stage Gap Acceptance	No	No		
Number of Storage Spaces in Median	0	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.03	0.04	0.09	0.02	0.11	0.01	0.00	0.00	0.00	0.05	0.00	0.00
d_M, Delay for Movement [s/veh]	15.79	14.17	10.77	15.62	14.43	10.18	7.42	0.00	0.00	7.96	0.00	0.00
Movement LOS	C	B	B	C	B	B	A	A	A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.57	0.57	0.57	0.49	0.49	0.49	0.01	0.01	0.01	0.15	0.15	0.15
95th-Percentile Queue Length [ft/ln]	14.30	14.30	14.30	12.36	12.36	12.36	0.15	0.15	0.15	3.64	3.64	3.64
d_A, Approach Delay [s/veh]	12.06			13.81			0.08			2.72		
Approach LOS	B			B			A			A		
d_I, Intersection Delay [s/veh]	4.23											
Intersection LOS	C											

**Intersection Level Of Service Report
Intersection 6: Bootlegger & 36th**

Control Type:	Two-way stop	Delay (sec / veh):	12.6
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.441

Intersection Setup

Name	Bootlegger Trail		Bootlegger Trail		36th Ave NE	
Approach	Northbound		Southbound		Eastbound	
Lane Configuration	↵		↵		↵↶	
Turning Movement	Left	Thru	Thru	Right	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	1	0	0	0	1
Entry Pocket Length [ft]	100.00	250.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	45.00		45.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		No	

Volumes

Name	Bootlegger Trail		Bootlegger Trail		36th Ave NE	
Base Volume Input [veh/h]	86	30	139	46	28	297
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	11.60	6.70	0.00	6.50	3.60	0.70
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	86	30	139	46	28	297
Peak Hour Factor	0.8000	0.8000	0.8000	0.8000	0.8000	0.8000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	27	9	43	14	9	93
Total Analysis Volume [veh/h]	108	38	174	58	35	371
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Free	Free	Stop
Flared Lane			
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance			No
Number of Storage Spaces in Median	0	0	1

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.08	0.00	0.00	0.00	0.07	0.44
d_M, Delay for Movement [s/veh]	8.07	0.00	0.00	0.00	12.55	12.61
Movement LOS	A	A	A	A	B	B
95th-Percentile Queue Length [veh/ln]	0.28	0.00	0.00	0.00	0.22	2.28
95th-Percentile Queue Length [ft/ln]	6.89	0.00	0.00	0.00	5.49	56.99
d_A, Approach Delay [s/veh]	5.97		0.00		12.61	
Approach LOS	A		A		B	
d_I, Intersection Delay [s/veh]	7.64					
Intersection LOS	B					

**Intersection Level Of Service Report
Intersection 7: Skyline & 6th**

Control Type:	Two-way stop	Delay (sec / veh):	9.2
Analysis Method:	HCM 6th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.072

Intersection Setup

Name	6th St NW		6th St NW		Skyline Dr NW	
Approach	Northbound		Southbound		Westbound	
Lane Configuration	↩		↪		↩	
Turning Movement	Thru	Right	Left	Thru	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		No	

Volumes

Name	6th St NW		6th St NW		Skyline Dr NW	
Base Volume Input [veh/h]	13	36	4	22	60	2
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	4.50	1.70	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	13	36	4	22	60	2
Peak Hour Factor	0.8900	0.8900	0.8900	0.8900	0.8900	0.8900
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	4	10	1	6	17	1
Total Analysis Volume [veh/h]	15	40	4	25	67	2
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Free	Free	Stop
Flared Lane			No
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance			No
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.00	0.00	0.00	0.07	0.00
d_M, Delay for Movement [s/veh]	0.00	0.00	7.31	0.00	9.15	8.75
Movement LOS	A	A	A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.00	0.00	0.01	0.01	0.24	0.24
95th-Percentile Queue Length [ft/ln]	0.00	0.00	0.19	0.19	5.94	5.94
d_A, Approach Delay [s/veh]	0.00		1.01		9.14	
Approach LOS	A		A		A	
d_I, Intersection Delay [s/veh]	4.31					
Intersection LOS	A					

**Intersection Level Of Service Report
Intersection 8: Skyline & Division**

Control Type:	Two-way stop	Delay (sec / veh):	9.2
Analysis Method:	HCM 6th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.005

Intersection Setup

Name	Division Rd		Skyline Dr NW		Skyline Dr NE	
Approach	Northbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Left	Right	Thru	Right	Left	Thru
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		No	

Volumes

Name	Division Rd		Skyline Dr NW		Skyline Dr NE	
Base Volume Input [veh/h]	4	5	36	3	9	62
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	2.80	0.00	0.00	1.60
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	4	5	36	3	9	62
Peak Hour Factor	0.9300	0.9300	0.9300	0.9300	0.9300	0.9300
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	1	1	10	1	2	17
Total Analysis Volume [veh/h]	4	5	39	3	10	67
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Stop	Free	Free
Flared Lane	No		
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance	No		
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.00	0.00	0.00	0.01	0.00
d_M, Delay for Movement [s/veh]	9.19	8.51	0.00	0.00	7.29	0.00
Movement LOS	A	A	A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.03	0.03	0.00	0.00	0.02	0.02
95th-Percentile Queue Length [ft/ln]	0.71	0.71	0.00	0.00	0.48	0.48
d_A, Approach Delay [s/veh]	8.81		0.00		0.95	
Approach LOS	A		A		A	
d_I, Intersection Delay [s/veh]	1.19					
Intersection LOS	A					

**Intersection Level Of Service Report
Intersection 9: Skyline & 2nd**

Control Type: Two-way stop
 Analysis Method: HCM 6th Edition
 Analysis Period: 15 minutes

Delay (sec / veh): 11.5
 Level Of Service: B
 Volume to Capacity (v/c): 0.012

Intersection Setup

Name	2nd St NE			2nd St NE			Skyline Dr NE			Skyline Dr NE		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration	+			+			+			+		
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	No			No			No			No		

Volumes

Name	2nd St NE			2nd St NE			Skyline Dr NE			Skyline Dr NE		
Base Volume Input [veh/h]	2	65	2	1	194	57	33	6	2	3	10	1
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	4.60	0.00	0.00	2.10	1.80	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	2	65	2	1	194	57	33	6	2	3	10	1
Peak Hour Factor	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	1	18	1	0	54	16	9	2	1	1	3	0
Total Analysis Volume [veh/h]	2	72	2	1	216	63	37	7	2	3	11	1
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Priority Scheme	Free	Free	Stop	Stop
Flared Lane			No	No
Storage Area [veh]	0	0	0	0
Two-Stage Gap Acceptance			No	No
Number of Storage Spaces in Median	0	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.00	0.00	0.00	0.00	0.00	0.06	0.01	0.00	0.00	0.02	0.00
d_M, Delay for Movement [s/veh]	7.78	0.00	0.00	7.34	0.00	0.00	11.33	11.54	9.99	10.98	11.47	8.78
Movement LOS	A	A	A	A	A	A	B	B	A	B	B	A
95th-Percentile Queue Length [veh/ln]	0.00	0.00	0.00	0.00	0.00	0.00	0.24	0.24	0.24	0.08	0.08	0.08
95th-Percentile Queue Length [ft/ln]	0.12	0.12	0.12	0.05	0.05	0.05	6.02	6.02	6.02	1.93	1.93	1.93
d_A, Approach Delay [s/veh]	0.20			0.03			11.31			11.19		
Approach LOS	A			A			B			B		
d_I, Intersection Delay [s/veh]	1.70											
Intersection LOS	B											

**Intersection Level Of Service Report
Intersection 10: Skyline & 5th**

Control Type: Two-way stop
 Analysis Method: HCM 6th Edition
 Analysis Period: 15 minutes

Delay (sec / veh): 9.5
 Level Of Service: A
 Volume to Capacity (v/c): 0.006

Intersection Setup

Name	5th St NE			5th St NE			Skyline Dr NE			Skyline Dr NE		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration	+			+			+			+		
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	No			No			No			No		

Volumes

Name	5th St NE			5th St NE			Skyline Dr NE			Skyline Dr NE		
Base Volume Input [veh/h]	1	21	2	0	50	3	1	7	4	7	5	2
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	9.50	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	1	21	2	0	50	3	1	7	4	7	5	2
Peak Hour Factor	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	6	1	0	14	1	0	2	1	2	1	1
Total Analysis Volume [veh/h]	1	23	2	0	54	3	1	8	4	8	5	2
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Priority Scheme	Free	Free	Stop	Stop
Flared Lane			No	No
Storage Area [veh]	0	0	0	0
Two-Stage Gap Acceptance			No	No
Number of Storage Spaces in Median	0	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.01	0.01	0.00
d_M, Delay for Movement [s/veh]	7.31	0.00	0.00	7.25	0.00	0.00	9.06	9.50	8.60	9.11	9.51	8.47
Movement LOS	A	A	A	A	A	A	A	A	A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.00	0.00	0.00	0.00	0.00	0.00	0.05	0.05	0.05	0.05	0.05	0.05
95th-Percentile Queue Length [ft/ln]	0.05	0.05	0.05	0.00	0.00	0.00	1.13	1.13	1.13	1.30	1.30	1.30
d_A, Approach Delay [s/veh]	0.28			0.00			9.19			9.16		
Approach LOS	A			A			A			A		
d_I, Intersection Delay [s/veh]	2.38											
Intersection LOS	A											

**Intersection Level Of Service Report
Intersection 11: 8th & Sacajawea**

Control Type:	Two-way stop	Delay (sec / veh):	12.6
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.002

Intersection Setup

Name	8th St NE			8th St NE			Sacajawea Dr			Sacajawea Dr		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration	+			+			+			+		
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	No			Yes			No			Yes		

Volumes

Name	8th St NE			8th St NE			Sacajawea Dr			Sacajawea Dr		
Base Volume Input [veh/h]	15	84	2	0	191	49	36	1	69	4	1	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	4.80	0.00	0.00	2.60	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	15	84	2	0	191	49	36	1	69	4	1	0
Peak Hour Factor	0.8700	0.8700	0.8700	0.8700	0.8700	0.8700	0.8700	0.8700	0.8700	0.8700	0.8700	0.8700
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	4	24	1	0	55	14	10	0	20	1	0	0
Total Analysis Volume [veh/h]	17	97	2	0	220	56	41	1	79	5	1	0
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Priority Scheme	Free	Free	Stop	Stop
Flared Lane			No	No
Storage Area [veh]	0	0	0	0
Two-Stage Gap Acceptance			No	No
Number of Storage Spaces in Median	0	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.01	0.00	0.00	0.00	0.00	0.00	0.07	0.00	0.10	0.01	0.00	0.00
d_M, Delay for Movement [s/veh]	7.81	0.00	0.00	7.39	0.00	0.00	12.34	12.65	10.59	12.48	11.90	8.83
Movement LOS	A	A	A	A	A	A	B	B	B	B	B	A
95th-Percentile Queue Length [veh/ln]	0.04	0.04	0.04	0.00	0.00	0.00	0.62	0.62	0.62	0.04	0.04	0.04
95th-Percentile Queue Length [ft/ln]	0.99	0.99	0.99	0.00	0.00	0.00	15.51	15.51	15.51	0.92	0.92	0.92
d_A, Approach Delay [s/veh]	1.14			0.00			11.20			12.39		
Approach LOS	A			A			B			B		
d_I, Intersection Delay [s/veh]	3.01											
Intersection LOS	B											

**Intersection Level Of Service Report
Intersection 12: 9th & 32nd**

Control Type:	Two-way stop	Delay (sec / veh):	10.8
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.008

Intersection Setup

Name	9th St NE		9th St NE		32nd Ave NE	
Approach	Northbound		Southbound		Eastbound	
Lane Configuration	↰		↳		↱	
Turning Movement	Left	Thru	Thru	Right	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		No	

Volumes

Name	9th St NE		9th St NE		32nd Ave NE	
Base Volume Input [veh/h]	1	97	174	1	4	12
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	4.10	2.90	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	1	97	174	1	4	12
Peak Hour Factor	0.7400	0.7400	0.7400	0.7400	0.7400	0.7400
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	33	59	0	1	4
Total Analysis Volume [veh/h]	1	131	235	1	5	16
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Free	Free	Stop
Flared Lane			No
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance			No
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.00	0.00	0.00	0.01	0.02
d_M, Delay for Movement [s/veh]	7.68	0.00	0.00	0.00	10.80	9.59
Movement LOS	A	A	A	A	B	A
95th-Percentile Queue Length [veh/ln]	0.00	0.00	0.00	0.00	0.09	0.09
95th-Percentile Queue Length [ft/ln]	0.06	0.06	0.00	0.00	2.13	2.13
d_A, Approach Delay [s/veh]	0.06		0.00		9.88	
Approach LOS	A		A		A	
d_I, Intersection Delay [s/veh]	0.55					
Intersection LOS	B					

**Intersection Level Of Service Report
Intersection 13: 9th & Skyline**

Control Type: Two-way stop
 Analysis Method: HCM 6th Edition
 Analysis Period: 15 minutes

Delay (sec / veh): 9.3
 Level Of Service: A
 Volume to Capacity (v/c): 0.001

Intersection Setup

Name	9th St NE			9th St NE			Skyline Dr NE			Skyline Dr NE		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration	+			+			+			+		
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	No			No			No			No		

Volumes

Name	9th St NE			9th St NE			Skyline Dr NE			Skyline Dr NE		
Base Volume Input [veh/h]	3	1	1	1	1	0	0	15	1	0	26	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	3	1	1	1	1	0	0	15	1	0	26	0
Peak Hour Factor	0.7700	0.7700	0.7700	0.7700	0.7700	0.7700	0.7700	0.7700	0.7700	0.7700	0.7700	0.7700
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	1	0	0	0	0	0	0	5	0	0	8	0
Total Analysis Volume [veh/h]	4	1	1	1	1	0	0	19	1	0	34	0
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Priority Scheme	Stop	Stop	Free	Free
Flared Lane	No	No		
Storage Area [veh]	0	0	0	0
Two-Stage Gap Acceptance	No	No		
Number of Storage Spaces in Median	0	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
d_M, Delay for Movement [s/veh]	8.82	9.30	8.41	8.81	9.29	8.45	7.26	0.00	0.00	7.24	0.00	0.00
Movement LOS	A	A	A	A	A	A	A	A	A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.02	0.02	0.02	0.01	0.01	0.01	0.00	0.00	0.00	0.00	0.00	0.00
95th-Percentile Queue Length [ft/ln]	0.48	0.48	0.48	0.17	0.17	0.17	0.00	0.00	0.00	0.00	0.00	0.00
d_A, Approach Delay [s/veh]	8.83			9.05			0.00			0.00		
Approach LOS	A			A			A			A		
d_I, Intersection Delay [s/veh]	1.15											
Intersection LOS	A											

North Great Falls Transportation Study

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3/24/2020

Intersection Analysis Summary

ID	Intersection Name	Control Type	Method	Worst Mvmt	V/C	Delay (s/veh)	LOS
1	6th & Vinyard	Two-way stop	HCM 6th Edition	EB Left	0.003	8.7	A
2	Bootlegger & 46th	Two-way stop	HCM 6th Edition	EB Right	0.035	8.6	A
3	36th & 2nd	Two-way stop	HCM 6th Edition	WB Thru	0.021	11.8	B
4	36th & 5th	Two-way stop	HCM 6th Edition	NB Left	0.013	10.5	B
5	36th & 9th	Two-way stop	HCM 6th Edition	NB Left	0.083	14.5	B
6	Bootlegger & 36th	Two-way stop	HCM 6th Edition	EB Left	0.146	25.5	D
7	Skyline & 6th	Two-way stop	HCM 6th Edition	WB Left	0.083	9.4	A
8	Skyline & Division	Two-way stop	HCM 6th Edition	NB Left	0.020	9.7	A
9	Skyline & 2nd	Two-way stop	HCM 6th Edition	EB Thru	0.027	12.1	B
10	Skyline & 5th	Two-way stop	HCM 6th Edition	WB Thru	0.010	9.7	A
11	8th & Sacajawea	Two-way stop	HCM 6th Edition	EB Thru	0.002	12.4	B
12	9th & 32nd	Two-way stop	HCM 6th Edition	EB Right	0.005	8.7	A
13	9th & Skyline	Two-way stop	HCM 6th Edition	SB Thru	0.001	9.2	A

V/C, Delay, LOS: For two-way stop, these values are taken from the movement with the worst (highest) delay value. For all other control types, they are taken for the whole intersection.

**Intersection Level Of Service Report
Intersection 1: 6th & Vinyard**

Control Type:	Two-way stop	Delay (sec / veh):	8.7
Analysis Method:	HCM 6th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.003

Intersection Setup

Name	6th St NW		Vinyard Rd		Vinyard Rd	
Approach	Northbound		Southbound		Eastbound	
Lane Configuration	↶		↷		↷	
Turning Movement	Left	Thru	Thru	Right	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		No	

Volumes

Name	6th St NW		Vinyard Rd		Vinyard Rd	
Base Volume Input [veh/h]	6	8	3	2	2	9
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	6	8	3	2	2	9
Peak Hour Factor	0.6800	0.6800	0.6800	0.6800	0.6800	0.6800
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	2	3	1	1	1	3
Total Analysis Volume [veh/h]	9	12	4	3	3	13
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Free	Free	Stop
Flared Lane			No
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance			No
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.01	0.00	0.00	0.00	0.00	0.01
d_M, Delay for Movement [s/veh]	7.23	0.00	0.00	0.00	8.74	8.37
Movement LOS	A	A	A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.02	0.02	0.00	0.00	0.05	0.05
95th-Percentile Queue Length [ft/ln]	0.42	0.42	0.00	0.00	1.15	1.15
d_A, Approach Delay [s/veh]	3.10		0.00		8.44	
Approach LOS	A		A		A	
d_I, Intersection Delay [s/veh]	4.55					
Intersection LOS	A					

**Intersection Level Of Service Report
Intersection 2: Bootlegger & 46th**

Control Type:	Two-way stop	Delay (sec / veh):	8.6
Analysis Method:	HCM 6th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.035

Intersection Setup

Name	Bootlegger Trail		Bootlegger Trail		46th Ave NE	
Approach	Northbound		Southbound		Eastbound	
Lane Configuration						
Turning Movement	Left	Thru	Thru	Right	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	1	0	0	0	0
Entry Pocket Length [ft]	100.00	600.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	70.00		70.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		No	

Volumes

Name	Bootlegger Trail		Bootlegger Trail		46th Ave NE	
Base Volume Input [veh/h]	49	103	44	1	0	33
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	49	103	44	1	0	33
Peak Hour Factor	0.9100	0.9100	0.9100	0.9100	0.9100	0.9100
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	13	28	12	0	0	9
Total Analysis Volume [veh/h]	54	113	48	1	0	36
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Free	Free	Stop
Flared Lane			No
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance			No
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.03	0.00	0.00	0.00	0.00	0.04
d_M, Delay for Movement [s/veh]	7.37	0.00	0.00	0.00	10.28	8.64
Movement LOS	A	A	A	A	B	A
95th-Percentile Queue Length [veh/ln]	0.11	0.00	0.00	0.00	0.11	0.11
95th-Percentile Queue Length [ft/ln]	2.67	0.00	0.00	0.00	2.72	2.72
d_A, Approach Delay [s/veh]	2.38		0.00		8.64	
Approach LOS	A		A		A	
d_I, Intersection Delay [s/veh]	2.81					
Intersection LOS	A					

**Intersection Level Of Service Report
Intersection 3: 36th & 2nd**

Control Type: Two-way stop
 Analysis Method: HCM 6th Edition
 Analysis Period: 15 minutes

Delay (sec / veh): 11.8
 Level Of Service: B
 Volume to Capacity (v/c): 0.021

Intersection Setup

Name	2nd St NE			2nd St NE			36th Ave NE			36th Ave NE		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration	+			+			+			+		
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	2nd St NE			2nd St NE			36th Ave NE			36th Ave NE		
Base Volume Input [veh/h]	15	101	45	14	56	2	0	2	4	61	11	31
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	1.00	0.00	0.00	0.00	100.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	15	101	45	14	56	2	0	2	4	61	11	31
Peak Hour Factor	0.8600	0.8600	0.8600	0.8600	0.8600	0.8600	0.8600	0.8600	0.8600	0.8600	0.8600	0.8600
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	4	29	13	4	16	1	0	1	1	18	3	9
Total Analysis Volume [veh/h]	17	117	52	16	65	2	0	2	5	71	13	36
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Priority Scheme	Free	Free	Stop	Stop
Flared Lane			No	No
Storage Area [veh]	0	0	0	0
Two-Stage Gap Acceptance			No	No
Number of Storage Spaces in Median	0	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.01	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.11	0.02	0.04
d_M, Delay for Movement [s/veh]	7.35	0.00	0.00	7.56	0.00	0.00	10.94	11.03	8.62	11.46	11.82	9.97
Movement LOS	A	A	A	A	A	A	B	B	A	B	B	A
95th-Percentile Queue Length [veh/ln]	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.60	0.60	0.60
95th-Percentile Queue Length [ft/ln]	0.83	0.83	0.83	0.85	0.85	0.85	0.63	0.63	0.63	15.02	15.02	15.02
d_A, Approach Delay [s/veh]	0.67			1.46			9.31			11.06		
Approach LOS	A			A			A			B		
d_I, Intersection Delay [s/veh]	4.14											
Intersection LOS	B											

**Intersection Level Of Service Report
Intersection 4: 36th & 5th**

Control Type: Two-way stop
 Analysis Method: HCM 6th Edition
 Analysis Period: 15 minutes

Delay (sec / veh): 10.5
 Level Of Service: B
 Volume to Capacity (v/c): 0.013

Intersection Setup

Name	5th St NE		36th Ave NE		36th Ave NE	
Approach	Northbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Left	Right	Thru	Right	Left	Thru
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		No	

Volumes

Name	5th St NE		36th Ave NE		36th Ave NE	
Base Volume Input [veh/h]	8	17	84	3	17	162
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	8	17	84	3	17	162
Peak Hour Factor	0.8900	0.8900	0.8900	0.8900	0.8900	0.8900
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	2	5	24	1	5	46
Total Analysis Volume [veh/h]	9	19	94	3	19	182
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Stop	Free	Free
Flared Lane	No		
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance	No		
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.01	0.02	0.00	0.00	0.01	0.00
d_M, Delay for Movement [s/veh]	10.50	8.87	0.00	0.00	7.42	0.00
Movement LOS	B	A	A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.10	0.10	0.00	0.00	0.04	0.04
95th-Percentile Queue Length [ft/ln]	2.56	2.56	0.00	0.00	0.96	0.96
d_A, Approach Delay [s/veh]	9.39		0.00		0.70	
Approach LOS	A		A		A	
d_I, Intersection Delay [s/veh]	1.24					
Intersection LOS	B					

**Intersection Level Of Service Report
Intersection 5: 36th & 9th**

Control Type:	Two-way stop	Delay (sec / veh):	14.5
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.083

Intersection Setup

Name	9th St NE			9th St NE			36th Ave NE			36th Ave NE		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration	+			+			+			+		
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	No			No			No			No		

Volumes

Name	9th St NE			9th St NE			36th Ave NE			36th Ave NE		
Base Volume Input [veh/h]	32	26	32	3	24	5	13	93	11	32	210	8
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	6.30	0.00	0.00	0.00	4.20	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	32	26	32	3	24	5	13	93	11	32	210	8
Peak Hour Factor	0.8600	0.8600	0.8600	0.8600	0.8600	0.8600	0.8600	0.8600	0.8600	0.8600	0.8600	0.8600
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	9	8	9	1	7	1	4	27	3	9	61	2
Total Analysis Volume [veh/h]	37	30	37	3	28	6	15	108	13	37	244	9
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Priority Scheme	Stop	Stop	Free	Free
Flared Lane	No	No		
Storage Area [veh]	0	0	0	0
Two-Stage Gap Acceptance	No	No		
Number of Storage Spaces in Median	0	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.08	0.06	0.04	0.01	0.06	0.01	0.01	0.00	0.00	0.03	0.00	0.00
d_M, Delay for Movement [s/veh]	14.53	14.06	10.27	13.98	13.31	10.11	7.75	0.00	0.00	7.50	0.00	0.00
Movement LOS	B	B	B	B	B	B	A	A	A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.68	0.68	0.68	0.24	0.24	0.24	0.03	0.03	0.03	0.08	0.08	0.08
95th-Percentile Queue Length [ft/ln]	16.89	16.89	16.89	6.02	6.02	6.02	0.86	0.86	0.86	1.92	1.92	1.92
d_A, Approach Delay [s/veh]	12.88			12.84			0.85			0.96		
Approach LOS	B			B			A			A		
d_I, Intersection Delay [s/veh]	3.89											
Intersection LOS	B											

**Intersection Level Of Service Report
Intersection 6: Bootlegger & 36th**

Control Type:	Two-way stop	Delay (sec / veh):	25.5
Analysis Method:	HCM 6th Edition	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.146

Intersection Setup

Name	Bootlegger Trail		Bootlegger Trail		36th Ave NE	
Approach	Northbound		Southbound		Eastbound	
Lane Configuration	↵		↵		↵↶	
Turning Movement	Left	Thru	Thru	Right	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	1	0	0	0	1
Entry Pocket Length [ft]	100.00	250.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	45.00		45.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		No	

Volumes

Name	Bootlegger Trail		Bootlegger Trail		36th Ave NE	
Base Volume Input [veh/h]	334	134	66	14	26	131
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.80
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	334	134	66	14	26	131
Peak Hour Factor	0.8800	0.8800	0.8800	0.8800	0.8800	0.8800
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	95	38	19	4	7	37
Total Analysis Volume [veh/h]	380	152	75	16	30	149
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Free	Free	Stop
Flared Lane			
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance			No
Number of Storage Spaces in Median	0	0	1

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.25	0.00	0.00	0.00	0.15	0.15
d_M, Delay for Movement [s/veh]	8.17	0.00	0.00	0.00	25.53	9.33
Movement LOS	A	A	A	A	D	A
95th-Percentile Queue Length [veh/ln]	1.00	0.00	0.00	0.00	0.50	0.54
95th-Percentile Queue Length [ft/ln]	24.90	0.00	0.00	0.00	12.56	13.38
d_A, Approach Delay [s/veh]	5.83		0.00		12.05	
Approach LOS	A		A		B	
d_I, Intersection Delay [s/veh]	6.56					
Intersection LOS	D					

**Intersection Level Of Service Report
Intersection 7: Skyline & 6th**

Control Type:	Two-way stop	Delay (sec / veh):	9.4
Analysis Method:	HCM 6th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.083

Intersection Setup

Name	6th St NW		6th St NW		Skyline Dr NW	
Approach	Northbound		Southbound		Westbound	
Lane Configuration						
Turning Movement	Thru	Right	Left	Thru	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		No	

Volumes

Name	6th St NW		6th St NW		Skyline Dr NW	
Base Volume Input [veh/h]	11	78	6	6	52	7
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	1.90	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	11	78	6	6	52	7
Peak Hour Factor	0.7000	0.7000	0.7000	0.7000	0.7000	0.7000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	4	28	2	2	19	3
Total Analysis Volume [veh/h]	16	111	9	9	74	10
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Free	Free	Stop
Flared Lane			No
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance			No
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.00	0.01	0.00	0.08	0.01
d_M, Delay for Movement [s/veh]	0.00	0.00	7.46	0.00	9.43	9.02
Movement LOS	A	A	A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.00	0.00	0.02	0.02	0.31	0.31
95th-Percentile Queue Length [ft/ln]	0.00	0.00	0.46	0.46	7.64	7.64
d_A, Approach Delay [s/veh]	0.00		3.73		9.38	
Approach LOS	A		A		A	
d_I, Intersection Delay [s/veh]	3.73					
Intersection LOS	A					

**Intersection Level Of Service Report
Intersection 8: Skyline & Division**

Control Type:	Two-way stop	Delay (sec / veh):	9.7
Analysis Method:	HCM 6th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.020

Intersection Setup

Name	Division Rd		Skyline Dr NW		Skyline Dr NE	
Approach	Northbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Left	Right	Thru	Right	Left	Thru
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		No	

Volumes

Name	Division Rd		Skyline Dr NW		Skyline Dr NE	
Base Volume Input [veh/h]	11	10	73	9	4	55
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	1.80
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	11	10	73	9	4	55
Peak Hour Factor	0.7000	0.7000	0.7000	0.7000	0.7000	0.7000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	4	4	26	3	1	20
Total Analysis Volume [veh/h]	16	14	104	13	6	79
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Stop	Free	Free
Flared Lane	No		
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance	No		
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.02	0.01	0.00	0.00	0.00	0.00
d_M, Delay for Movement [s/veh]	9.72	8.95	0.00	0.00	7.44	0.00
Movement LOS	A	A	A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.11	0.11	0.00	0.00	0.01	0.01
95th-Percentile Queue Length [ft/ln]	2.72	2.72	0.00	0.00	0.30	0.30
d_A, Approach Delay [s/veh]	9.36		0.00		0.52	
Approach LOS	A		A		A	
d_I, Intersection Delay [s/veh]	1.40					
Intersection LOS	A					

**Intersection Level Of Service Report
Intersection 9: Skyline & 2nd**

Control Type:	Two-way stop	Delay (sec / veh):	12.1
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.027

Intersection Setup

Name	2nd St NE			2nd St NE			Skyline Dr NE			Skyline Dr NE		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration	+			+			+			+		
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	No			No			No			No		

Volumes

Name	2nd St NE			2nd St NE			Skyline Dr NE			Skyline Dr NE		
Base Volume Input [veh/h]	2	161	7	0	94	47	63	14	1	0	10	1
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	1.90	0.00	0.00	2.10	2.10	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	2	161	7	0	94	47	63	14	1	0	10	1
Peak Hour Factor	0.8800	0.8800	0.8800	0.8800	0.8800	0.8800	0.8800	0.8800	0.8800	0.8800	0.8800	0.8800
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	1	46	2	0	27	13	18	4	0	0	3	0
Total Analysis Volume [veh/h]	2	183	8	0	107	53	72	16	1	0	11	1
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Priority Scheme	Free	Free	Stop	Stop
Flared Lane			No	No
Storage Area [veh]	0	0	0	0
Two-Stage Gap Acceptance			No	No
Number of Storage Spaces in Median	0	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.00	0.00	0.00	0.00	0.00	0.12	0.03	0.00	0.00	0.02	0.00
d_M, Delay for Movement [s/veh]	7.52	0.00	0.00	7.58	0.00	0.00	11.83	12.07	9.90	11.03	11.38	9.31
Movement LOS	A	A	A	A	A	A	B	B	A	B	B	A
95th-Percentile Queue Length [veh/ln]	0.00	0.00	0.00	0.00	0.00	0.00	0.50	0.50	0.50	0.06	0.06	0.06
95th-Percentile Queue Length [ft/ln]	0.10	0.10	0.10	0.00	0.00	0.00	12.62	12.62	12.62	1.55	1.55	1.55
d_A, Approach Delay [s/veh]	0.08			0.00			11.85			11.21		
Approach LOS	A			A			B			B		
d_I, Intersection Delay [s/veh]	2.65											
Intersection LOS	B											

**Intersection Level Of Service Report
Intersection 10: Skyline & 5th**

Control Type: Two-way stop
 Analysis Method: HCM 6th Edition
 Analysis Period: 15 minutes

Delay (sec / veh): 9.7
 Level Of Service: A
 Volume to Capacity (v/c): 0.010

Intersection Setup

Name	5th St NE			5th St NE			Skyline Dr NE			Skyline Dr NE		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration	+			+			+			+		
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	No			No			No			No		

Volumes

Name	5th St NE			5th St NE			Skyline Dr NE			Skyline Dr NE		
Base Volume Input [veh/h]	2	57	6	1	25	3	2	5	4	5	7	6
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	2	57	6	1	25	3	2	5	4	5	7	6
Peak Hour Factor	0.8300	0.8300	0.8300	0.8300	0.8300	0.8300	0.8300	0.8300	0.8300	0.8300	0.8300	0.8300
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	1	17	2	0	8	1	1	2	1	2	2	2
Total Analysis Volume [veh/h]	2	69	7	1	30	4	2	6	5	6	8	7
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Priority Scheme	Free	Free	Stop	Stop
Flared Lane			No	No
Storage Area [veh]	0	0	0	0
Two-Stage Gap Acceptance			No	No
Number of Storage Spaces in Median	0	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.01	0.01	0.01
d_M, Delay for Movement [s/veh]	7.27	0.00	0.00	7.35	0.00	0.00	9.30	9.69	8.50	9.32	9.72	8.72
Movement LOS	A	A	A	A	A	A	A	A	A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.00	0.00	0.00	0.00	0.00	0.00	0.05	0.05	0.05	0.07	0.07	0.07
95th-Percentile Queue Length [ft/ln]	0.09	0.09	0.09	0.05	0.05	0.05	1.13	1.13	1.13	1.87	1.87	1.87
d_A, Approach Delay [s/veh]	0.19			0.21			9.17			9.27		
Approach LOS	A			A			A			A		
d_I, Intersection Delay [s/veh]	2.28											
Intersection LOS	A											

**Intersection Level Of Service Report
Intersection 11: 8th & Sacajawea**

Control Type:	Two-way stop	Delay (sec / veh):	12.4
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.002

Intersection Setup

Name	8th St NE			8th St NE			Sacajawea Dr			Sacajawea Dr		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration	+			+			+			+		
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	No			Yes			No			Yes		

Volumes

Name	8th St NE			8th St NE			Sacajawea Dr			Sacajawea Dr		
Base Volume Input [veh/h]	28	206	7	1	95	14	22	1	13	3	2	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	1.00	0.00	0.00	3.20	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	28	206	7	1	95	14	22	1	13	3	2	0
Peak Hour Factor	0.8900	0.8900	0.8900	0.8900	0.8900	0.8900	0.8900	0.8900	0.8900	0.8900	0.8900	0.8900
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	8	58	2	0	27	4	6	0	4	1	1	0
Total Analysis Volume [veh/h]	31	231	8	1	107	16	25	1	15	3	2	0
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Priority Scheme	Free	Free	Stop	Stop
Flared Lane			No	No
Storage Area [veh]	0	0	0	0
Two-Stage Gap Acceptance			No	No
Number of Storage Spaces in Median	0	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.02	0.00	0.00	0.00	0.00	0.00	0.05	0.00	0.02	0.01	0.00	0.00
d_M, Delay for Movement [s/veh]	7.49	0.00	0.00	7.69	0.00	0.00	12.06	12.37	9.20	11.91	12.08	9.52
Movement LOS	A	A	A	A	A	A	B	B	A	B	B	A
95th-Percentile Queue Length [veh/ln]	0.06	0.06	0.06	0.00	0.00	0.00	0.21	0.21	0.21	0.03	0.03	0.03
95th-Percentile Queue Length [ft/ln]	1.61	1.61	1.61	0.06	0.06	0.06	5.13	5.13	5.13	0.73	0.73	0.73
d_A, Approach Delay [s/veh]	0.86			0.06			11.02			11.98		
Approach LOS	A			A			B			B		
d_I, Intersection Delay [s/veh]	1.71											
Intersection LOS	B											

**Intersection Level Of Service Report
Intersection 12: 9th & 32nd**

Control Type:	Two-way stop	Delay (sec / veh):	8.7
Analysis Method:	HCM 6th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.005

Intersection Setup

Name	9th St NE		9th St NE		32nd Ave NE	
Approach	Northbound		Southbound		Eastbound	
Lane Configuration	↶		↷		↷	
Turning Movement	Left	Thru	Thru	Right	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		No	

Volumes

Name	9th St NE		9th St NE		32nd Ave NE	
Base Volume Input [veh/h]	13	158	82	2	0	5
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	1.30	3.70	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	13	158	82	2	0	5
Peak Hour Factor	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	4	43	22	1	0	1
Total Analysis Volume [veh/h]	14	172	89	2	0	5
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Free	Free	Stop
Flared Lane			No
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance			No
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.01	0.00	0.00	0.00	0.00	0.01
d_M, Delay for Movement [s/veh]	7.40	0.00	0.00	0.00	10.18	8.72
Movement LOS	A	A	A	A	B	A
95th-Percentile Queue Length [veh/ln]	0.03	0.03	0.00	0.00	0.02	0.02
95th-Percentile Queue Length [ft/ln]	0.70	0.70	0.00	0.00	0.39	0.39
d_A, Approach Delay [s/veh]	0.56		0.00		8.72	
Approach LOS	A		A		A	
d_I, Intersection Delay [s/veh]	0.52					
Intersection LOS	A					

**Intersection Level Of Service Report
Intersection 13: 9th & Skyline**

Control Type: Two-way stop
 Analysis Method: HCM 6th Edition
 Analysis Period: 15 minutes

Delay (sec / veh): 9.2
 Level Of Service: A
 Volume to Capacity (v/c): 0.001

Intersection Setup

Name	9th St NE			9th St NE			Skyline Dr NE			Skyline Dr NE		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration	+			+			+			+		
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	No			No			No			No		

Volumes

Name	9th St NE			9th St NE			Skyline Dr NE			Skyline Dr NE		
Base Volume Input [veh/h]	3	1	0	2	1	0	0	22	2	0	4	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	3	1	0	2	1	0	0	22	2	0	4	0
Peak Hour Factor	0.9400	0.9400	0.9400	0.9400	0.9400	0.9400	0.9400	0.9400	0.9400	0.9400	0.9400	0.9400
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	1	0	0	1	0	0	0	6	1	0	1	0
Total Analysis Volume [veh/h]	3	1	0	2	1	0	0	23	2	0	4	0
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Priority Scheme	Stop	Stop	Free	Free
Flared Lane	No	No		
Storage Area [veh]	0	0	0	0
Two-Stage Gap Acceptance	No	No		
Number of Storage Spaces in Median	0	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
d_M, Delay for Movement [s/veh]	8.67	9.16	8.42	8.67	9.16	8.33	7.21	0.00	0.00	7.25	0.00	0.00
Movement LOS	A	A	A	A	A	A	A	A	A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.01	0.01	0.01	0.01	0.01	0.01	0.00	0.00	0.00	0.00	0.00	0.00
95th-Percentile Queue Length [ft/ln]	0.32	0.32	0.32	0.24	0.24	0.24	0.00	0.00	0.00	0.00	0.00	0.00
d_A, Approach Delay [s/veh]	8.79			8.83			0.00			0.00		
Approach LOS	A			A			A			A		
d_I, Intersection Delay [s/veh]	1.71											
Intersection LOS	A											

APPENDIX F
Public Comments Summary

**NORTH
GREAT FALLS
SUB-AREA
TRANSPORTATION
STUDY**



North Great Falls Sub-Area Transportation Study Public Comments

Comment Number	Name	Contact Information	Comment Date Type	Comment
1	Marvin Ambuehl	ambuehl29@msn.com 406-727-8277	7/23/2020 E-mail	<p>We live on the corner of 33B Av NE and 36th Av NE. The traffic in the morning, starting at 6:45 a.m. until 8:30 a.m. is VERY busy! Also from 3:30 until 6 p.m.</p> <ol style="list-style-type: none"> 1. We would like to see more streets added to access Bootlegger Trail. This would give access other than just 9th ST. and 12TH St NE. and help with the traffic on 36th Ave NE. 2. At the West end of 36th Av NE it would be nice to see a connection to 6th St NW. 3. Also, 6th St NW does need improvement, which would provide better access to the homes on all the NW side of Riverview. 4. We, as residents, would like to see a 25mph speed limit RETAINED on 36th Av NE. <ol style="list-style-type: none"> a. This is a residential area! There are many children living in this area....as well as crossing the street to go to school. b. Almost EVERY home has a driveway...which is sometime next to impossible to back out of onto 36th Ave NE. 5. 9th St NE and 36th Ave NE is a problem intersection, especially in the winter months. Even as the city does sand 9th St NE, many times this intersection is very slippery, causing traffic to back up and slide down 9th St NE. Or the intersection, being used a great deal, is VERY slippery which causes accidents or near misses. 6. Our suggestion on the 9th St NE & 36th Av NE would be to put in stop sign... on 36th Ave NE. This would slow the traffic down, making it a safer intersection. 7. Another stop sign that would be good to have is a 4-way stop sign on 7th St NE and 36th Av NE....which is the entrance to the trailer court. This intersection has had many accidents and near misses. 4-way stop signs DO work in other parts of Great Falls and need to be considered.
2	Courtney Baker	bakes_8@yahoo.com	9/29/2021 E-mail	How will residents who live out of the city limits on Bootlegger be affected by the plan? Will we be rerouted to US Highway 87 instead of a direct route on Bootlegger to get to 9/15th St? What have you and your party done to inform residents and get their input on how it will directly impact them who do not live in city limits?
3	Brad Hobson		7/25/2020 E-mail	<p>During the weekday morning rush hour, the intersection of 36th Ave NE and Bootlegger Tr is a major bottleneck ultimately due to the backup created at the Bootlegger Tr and 15th St/HWY 89 stop sign. It seems nearly all of the traffic is funneling South onto 15th St/HWY 89. Having a dedicated right turn (eliminate the right turn stop) off of Bootlegger and onto 15th/HWY 89 seems like a logical fix to this intersection. A dedicated (non-stop) right turn for vehicles traveling East on 36th Ave NE and onto Bootlegger would also help the flow of traffic in this area. The existing two stop signs less than a 150 yards apart from each other create quite the slowdown for the large amount of vehicles that make this drive every morning.</p> <p>Another concern in this area is the intersection of 2nd St NE and Skyline Dr NE. The traffic traveling south on 2nd St NE cannot be seen by the cars on Skyline Dr. NE. I have seen many close calls when a car on Skyline Dr NE either turns north onto 2nd St NE or crosses over 2nd St NE and is nearly t-boned by a car traveling south on 2nd St NE.</p>
4	Beth McKinney	working-mom@hotmail.com 406-590-8757 49 Cove Ln	9/23/2021 E-mail	<p>I very vaguely remember hearing something about this a long time back but never anything else. Now I see there have been proposals made without having been in better contact with area residents. Your own website only has 2 comments indicated on your map. Did you even send your postcards out to the Bootlegger residents??</p> <p>As the admin for the Bootlegger Community Facebook page I can assure you we are all very concerned. Is this a state, county, or city determined project? We need to know which of our representatives to contact. None of us appear to have been aware of what was being thought of for our area and your plan is putting all of us in danger.</p>
5	Jason Merideth	jason@visual-impact.org 406-360-9876	7/27/2020 E-mail	there needs be a sidewalk down 2nd street from 36th to division with wheelchair accessible corners
6	Lynn Oatman	lynnulmeroatman@gmail.com 406-781-7352	10/26/2020 E-mail	I have lived on 36th Ave NE for the past 34 years and have witnessed the increase in traffic flow. I would like to know if you have any plans to reroute traffic away from 36th Ave NE?
7	Scott Pasek	smpasek@gmail.com 406-727-9744	7/23/2020 E-mail	<p>I reside at 53-37th AVE NE. The major wide street into the neighborhood is 36th AVE Northeast, an east-west route from the water tower into the area. At 2nd St, 36th Ave NE ends within a block and is not connected to another street north of that point, where the large part of the recent development has occurred. That means that a major portion of the traffic heading east, travels on 37th AVE NE until they get to 2nd St. 37th Ave NE is a much narrower road than 36th AVE NE and was not set up for this much traffic.</p> <p>In fact, with many vehicles parked on both sides of the street, traffic must often wait until other cars go by, before they meet, otherwise there is not enough room for vehicles going in the opposite direction to go past each other at the same time. In addition, many children play basketball in their driveways and the kids are continually running into the street to retrieve their basketballs. With the amount of traffic traveling though on 37th AVE NE, (that it was not designed for) it is just a miracle that no one has been run over. The speed of the vehicles on 37th AVE NE is generally fast. If any more houses go in this neighborhood, the only safe way to have transportation is to connect the wide street of 36 AVE NE into the neighborhood, on 1st St, so that there is a reasonable wide roadway where vehicles and children can be safe.</p>

8	Shyla Patera	spatera@ncils.org 406-452-9834 North Central Independent Living Services, Inc. 1120 25th Avenue North East Black Eagle, Montana 59414	10/12/2021 E-mail	<p>I am an Independent Living Specialist who represents North in Central Independent Living Services, Inc. in Black Eagle, Montana. If this neighborhood is truly a growth area for the City of Great Falls, we need as a City to preserve and improve ADA access, sidewalk access, and traffic patterns. Right now, the connectors and streets receive good grades on the studies done by Sanderson Stewart and other traffic engineers. In the future, though how would we preserve our streets and urban connectors? This neighborhood at the present time seems to be a closed neighborhood with very few pathways in or out of this neighborhood. How will we grow this neighborhood while ensuring the community feel and accessibility to services which neighbors can currently access? Bootlegger Trail and US 87 are prime entranceways into this neighborhood. For pedestrians as well as mobility device users, the areas are difficult to traverse. How will we account for traffic and accessible pedestrian signals? This also brings up the discussion of accessible signage and wayfinding in our neighborhoods? If GFT needs to consider additional bus routes and increased fare rates, when should the future GFT board begin planning for the growth of our systems and our neighborhoods based upon future growth projections? Will mobility and disability accessible universal designed housing and complete sidewalks be part of any future developments? How will services for future growth be annexed into the city and benefit the neighborhood as growth has been somewhat incremental in the past? When funding growth for this neighborhood, should city developers, planners, and leaders consider a neighborhood tax increment financing structural systems or are leaders going to rely on BARSSA funding, CMAQ funding, and other traditional sources of infrastructure funding? How will our city support this neighborhood if growth projections occur as projected in the study?</p>
9	Victoria Plank	victoriapmt@gmail.com 406-727-6621	7/24/2020 E-mail	<p>In April 2020, I had a truck literally crash into my house causing \$75,000 worth of damages (corner of 3rd St NE & 229 Skyline Dr NE). Driver was going west to east on Skyline too fast and lost control at the top of the hill, hit a fire hydrant, went through neighbor's yard, and hit the corner of my house. A neighbor had a car flipped into their yard at 32nd Ave NE/9th St NE. Skyline Dr, NW to NE is very hilly and a thoroughfare to the rest of the neighborhood where people speed daily up and down the streets. Additionally, throughout the North neighborhoods (practically the entire map you've outlined) from April - October (warm weather client) each street will have RVs parked in various locations causing two-lane streets to become one-lane streets where you are weaving around monstrous trucks/RVs/trailers to navigate the neighborhoods. These neighborhood roads are actually high-speed and hazardous roads, as I would never expect a truck to slam 50-55mph, uphill into my home. I'm not sure what "transportation study" is entailing, but the number of children that live around, the hilly, narrowing streets (due to personal vehicles) needs to be taken into consideration. In winter most of the streets are not cleared of snow (besides Skyline and some of the steep hills).</p>
10	April Senger	april_senger@bresnan.net 406-788-3207	7/24/2020 E-mail	<p>I had many concerns about the infrastructure when our City expanded 2 developments into the North area. Our concerns were disregarded because basically the public became aware of things too late into the project to make changes without the developer threatening a law suit against the City. Our voices did not get heard and within weeks after, we were evacuated due to a fire. We could not get our families out of the area due to the same infrastructure issues they said did not exist. The developer had paid for a traffic study. It was conducted on dates where there was little traffic (not during school session) and tons of rain (people stayed indoors) showing the numbers of vehicles were not significant. The whole study was poorly designed and skewed. The public up here has a bad taste for how things were implemented. Here are some concerns that were disregarded.</p> <ol style="list-style-type: none"> 1) Bootlegger junction at the storage facility is rapidly outgrowing its intent. Pulling out onto the highway is essential for a significant portion of us to get off this hill and go to work etc. There are wait times because people coming in off of Bootlegger think they are in Nascar. Once past the intersection of 36th and Bootlegger you get to play Russian Roulette with the semi's and travelers coming into town off the Havre Highway. These 2 intersections are nearing over usage if not already there. As more homes are constructed, this will only compound the safety issues. Other routes for residents getting off this hill result in us being funneled mostly towards North Middle School and Walmart. This is also a nightmare. 6th street on the far west side of this project is not a safe road for the amount of growing traffic. It is too narrow. The weather drainage is terrible making the road poor for high traffic. There are large numbers coming in from the county in the morning. It is a well used route due to CMR/Riverview being at the bottom and our kids/families having to drive into that area. When the City looked for public comment when they approved the developments mostly north, we saw proposed images that showed Division Rd coming straight up the hill. This would potentially give us another access. It is difficult to believe the City will be able to tear down the Mansion in the middle of the path as the images showed. Does this mean it will look to purchase the house/land next to it and make Division go around the Mansion? 2) There is concern about doing any improvements that increase traffic around Skyline School. There is an option that at some point this building will reopen as a full elementary. It is currently being used for education, but a full elementary will increase traffic further. There are several bus pick ups in this area. My daughter rode the bus from Riverview School to her drop off on 2nd Street and 37th Ave NE. Her bus was hit in a traffic accident on 2nd Street nearer Skyline School due to increased traffic at the end of the school day. She had minor injuries due to the bus getting T-boned at the spot she was sitting. We do NOT need to increase any sort of traffic to 36th or 37th for the safety of our kids in the area of Skyline School. PLEASE do NOT punch 36th or 37th through to make a connection to 2nd & 6th Street or our elderly in the condos area and our kids will be in increased danger. If it comes later after a safe route is developed...so be it. However, 36th or 37th should not be the first Avenues to connect. 3) The hill on 2nd street doesn't have continuous sidewalks. It is unsafe for our elderly that walk in the mornings in the big condo area. It is not safe for our kids that walk down that hill to go to Sac or CMR for school. There are discontinuous side walks on Skyline Drive that go east from 2nd Street towards Sac School. Not safe for our walking kids. It would be nice if Skyline Park had sidewalks so people don't walk in the street. 4) When we reviewed the proposal for the developments that were approved North of the GF boundry, there was concern about the proposal for a Northern Bypass. That would mean large traffic volume and over-sized vehicles coming up 6th Street on that narrow hill (By the way, why when they redid Skyline Drive did they allow it to have that bottle neck in the area where they approved the latest development and brought in City utility connections?) 6th can barely handle the traffic we have. When we have emergencies, it becomes blocked up. Too narrow, constantly looks like it is sloughing off and too many residents close with schools in the bottom of it to make it a significant portion of any plan in its state. 5) In the Northern Bypass proposal images we saw...It showed streets punching through east to west. Major travel routes should not be any E to W punch throughs connecting the area of 2nd and 6th street near Skyline School. The proposals all showed punch throughs closer to 40th or 42nd and North of GF. This seems more realistic with it being able to go all the way E to West connecting 6th Street to Bootlegger near Eagles Crossing. This

11	Ruth Tuss	71draftin@live.com	7/28/2020 E-mail	<p>There are no sidewalks along Sacajawea Dr along the park from 8th St NE to the school and it would be beneficial as there are a lot of people that walk in this area.</p> <p>The large curved intersection at skyline drive and 9th st ne where 8th street curves & turns in to 9th street has become much more dangerous over the years since I moved into the area in 2001. Cars go very fast speeding down or going to head up skyline dr & some cars speed all the way down 9th st from the top straight thru the intersection down to the bottom where 9th St Ne ends -making it very dangerous at times.</p> <p>Connecting to Eagles Crossing might be nice to see in the future from the area between 9th & 12th St ne.</p> <p>There is a lot of traffic along 36th ave ne. Some people get very impatient & have been seen passing other cars and speeding by when they are in a hurry.</p>
12	Mary Young	ymaryo@comcast.net 719-685-6449	8/6/2021 E-mail	<p>I have property shown on your map. Currently the only access to my and my neighbors property is on what I believe is the end of 43rd street. The subdivision to the east is yet to be developed but is an approved area. We have been waiting for years. Some of my neighbors to the east of my property asked when this comes in if I could give them legal easement, which I will. But, if 43rd is going to be extended we all would have to give easement through our properties. For now, I am wondering since there is a dedicated city street (on paper) butting up against my county property now, can I use it as legal access even though it is just unfinished dirt? I want to build, to start with a shop/barn and eventually a home.</p>
13	Sarah Chandler		Project Website Comment	<p>This intersection (9th/32nd/Skyline) is completely disfunctional. There are no clear markings and drivers are very confused about where to turn, wait, yield, etc. Also would like to comment that Skyline Dr NE should not be the main thoroughfare to 36th Ave NE. Drivers speed down the hill and it's unsafe for residents who live in the area. More speed limit signs/caution signs might help with this.</p>
14	Kirsten Myre		Project Website Comment	<p>An east-west connection from 6th St NW towards the east would provide a better connection to the neighborhood north of 36th Ave NE rather than having to always use 2nd St NE and then travel west</p>
15	Cory Mckinney	working-mom@hotmail.com 406-590-8757 49 Cove Ln	9/23/2021 Facebook Comment	<p>Disconnecting Bootlegger from US 87 will not happen i will fight it and ill be having my county representatives challenge it. It is the safest way for people who live in the county to commute to town in the winter as that road is frozen solid and drifting snow from highwinds. Forcing people to try to slow down and make the turn to 87 is stupid and dangerous. I'd rather see eagles crossing lose their access to bootlegger trl. and have them use only city streets. Bootlegger trail is not a city street its a HWY and they cant seem to figure that out when they keep pulling out infront of people doing 65mph. Its ridiculous and you better go back to the drawing board had they chose someone local to do the study they would probably know all this. I live about 3 miles up the road, you know the people who depend on that route but were not consulted about how it would effect their commute and community. Try driving that road in the winter and you will understand why having people stop to turn on another road just to stop and turn on another hwy is stupid and dangerous instead of just going straight directly to 9th st. Try hauling water from the tower in the winter and having to navigate through a maze hoping to get home and unload the water before it freezes when you could just fill up and go straight home on bootlegger. Cutting bootlegger off is not going to happen it was our hwy before eagles crossing popped up and allowed themselves to be annexed by the city. You can either note my concerns down now, post the link here, or deal with the county/our elected representatives/county attorney/and everyone else we contact to get involved.</p> <p>This is nonsense and completely not necessary. If you want to expand thats fine but leave bootlegger trail alone put your other roads in however you please but if you're planning to close bootlegger be ready for a fight</p>
16	Carol Richard		7/30/2021 Facebook Comment	<p>farmers have to get the grain to the elevator. A semi with a pup would not be safe in a roundabout. Fix our roads 5--6 Miles out off bootlegger. Annex lake flat ,cove and spend the money on our roads. We have to maintain out of our own pockets.</p> <p>There are a lot of farmers that haul grain with a pup on the back and how will that work for their access to get to the elevator to sell the grain. I'm not sure you guys thought this through. Instead of wasting all the money on a roundabout maybe you need to fix all these roads that we live on that are impossible in the winter.</p>
17	Unknown		9/27/2021 Public Meeting	<p>concerns about 6th St NW - how people use it, trying to back out of driveways with traffic, how to prevent changes to 6th/keep traffic low</p>
18	Beth McKinney	working-mom@hotmail.com 406-590-8757 49 Cove Ln	9/27/2021 Public Meeting	<p>have lived in area for 30 years, in Bootlegger, outside study area, 43rd to highway 87 would be helpful but goes through wheat field, winter on Bootlegger is bad, 90 degree turn from 43rd to 87 is asking for accidents, detrimental to commercial operations, water tower issues in winter - freezing, closing access from Bootlegger to 87 will be fought, makes route longer</p>
19	Jackie Rea	jackierea82@gmail.com 568 Bootlegger Tr	9/27/2021 Public Meeting	<p>bad idea to close 36 to US 87 on Bootlegger, people haul water, icy in wintertime, want flat route w/o hilly terrain with load of water, don't want to transition to traffic with high speed, need road with lower speed in winter, would disrupt lifestyle if closed off, 87 can get treacherous in winter</p>
20	Rich & Eva Martz		9/27/2021 Public Meeting - online comment	<p>will the city take an early lead on building 43rd Avenue NE all the way east/west to stress the transportation benefits and need of such a corridor, rather than leaving portions to be done piece-meal by adjoining subdivision developers</p>
21	Kaylene		9/27/2021 Public Meeting - online comment	<p>why can Bootlegger not be constructed to go straight (next to TV stations, freillings, etc) and avoid Havre Hwy (87) entirely? I live on the property that 43rd would go directly in front of. We are snowed in every year. Is the city willing to keep it clear, due to the fact that there (right now) is nothing to stop drifting? Who will be responsible for undeveloped portions of 43rd - county or city? 43rd is a great idea, but as with all growth there are many unexpected problems. Storm water run-off overloading Watson Coulee</p>

APPENDIX G
Future Traffic Volume Forecasts

**NORTH
GREAT FALLS
SUB-AREA
TRANSPORTATION
STUDY**



Corridor	Location		Existing (2020) Daily Volume (vehicles)	Future Baseline Scenario Daily Volume (vehicles)	Baseline Scenario Growth (vehicles)	Baseline Scenario Growth %	Scenario 1 Daily Volume Growth (vehicles)	Scenario 1 Growth %*	Scenario 2 Daily Volume Growth (vehicles)	Scenario 2 Growth %*	Scenario 3 Daily Volume Growth (vehicles)	Scenario 3 Growth %*	Scenario 4 Daily Volume Growth (vehicles)	Scenario 4 Growth %*	Scenario 5 Daily Volume Growth (vehicles)	Scenario 5 Growth %*	Scenario 6 Daily Volume Growth (vehicles)	Scenario 6 Growth %*	Scenario 7 Daily Volume Growth (vehicles)	Scenario 7 Growth %*	Scenario 8 Daily Volume Growth (vehicles)	Scenario 8 Growth %*	Scenario 9 Daily Volume Growth (vehicles)	Scenario 9 Growth %*
	To	From																						
Bootlegger Trail	US 87	36th Ave NE	6050	7820	1770	29.2	-	-	-	-	-	-	-	-	-7820	-100	-	-	-	-	-	-	-	-
	36th Ave NE	46th Ave NE	2180	3180	1000	45.9	-	-	-	-	410	12.9	410	12.9	-270	-8.5	-	-	410	12.9	410	12.9	-	-
36th Ave NE	Bootlegger Trail	9th St NE	3440	4230	790	22.9	-	-	-	-	-500	-11.8	-500	-11.8	-1910	-45.2	-	-	-500	-11.8	-500	-11.8	-	-
	9th St NE	7th St NE	3300	4820	1520	46	-	-	-	-	-640	-13.3	-640	13.3	-2050	-42.5	-	-	-640	-13.3	-590	-12.2	-	-
9th St NE	2nd St NE	4th St NE	1490	1820	330	22.1	-	-	-	-	-	-	-	-	-410	-22.6	-	-	-	-	-	-	-	-
	32nd Ave NE	33rd Ave NE	2200	3140	940	42.7	-	-	-	-	-	-	-	-	360	11.5	-	-	-	-	-	-	-	-
2nd St NE	36th Ave NE	Skyline Dr NE	2560	2820	260	10.2	860	30.5	-	-	-	-	-	-	-	-	770	27.3	-	-	-	-	410	14.5
	Skyline Dr NE	30th Ave NE	2410	3090	680	28.2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	730	23.6
Skyline Dr NE	2nd St NE	6th St NW	1300	730	-570	43.9	1180	161.6	-	-	-	-	-	-	-	-	1000	137	-	-	-	-	-410	-56.2
6th St NW	Skyline Dr NE	Vinyard Rd	270	1680	1410	522	-1360	81	-	-	-	-	-	-	-	-	-1130	-67.2	-	-	-	-	-450	-26.8

Note: Dash indicates no significant change in daily volume relative to the Baseline Scenario

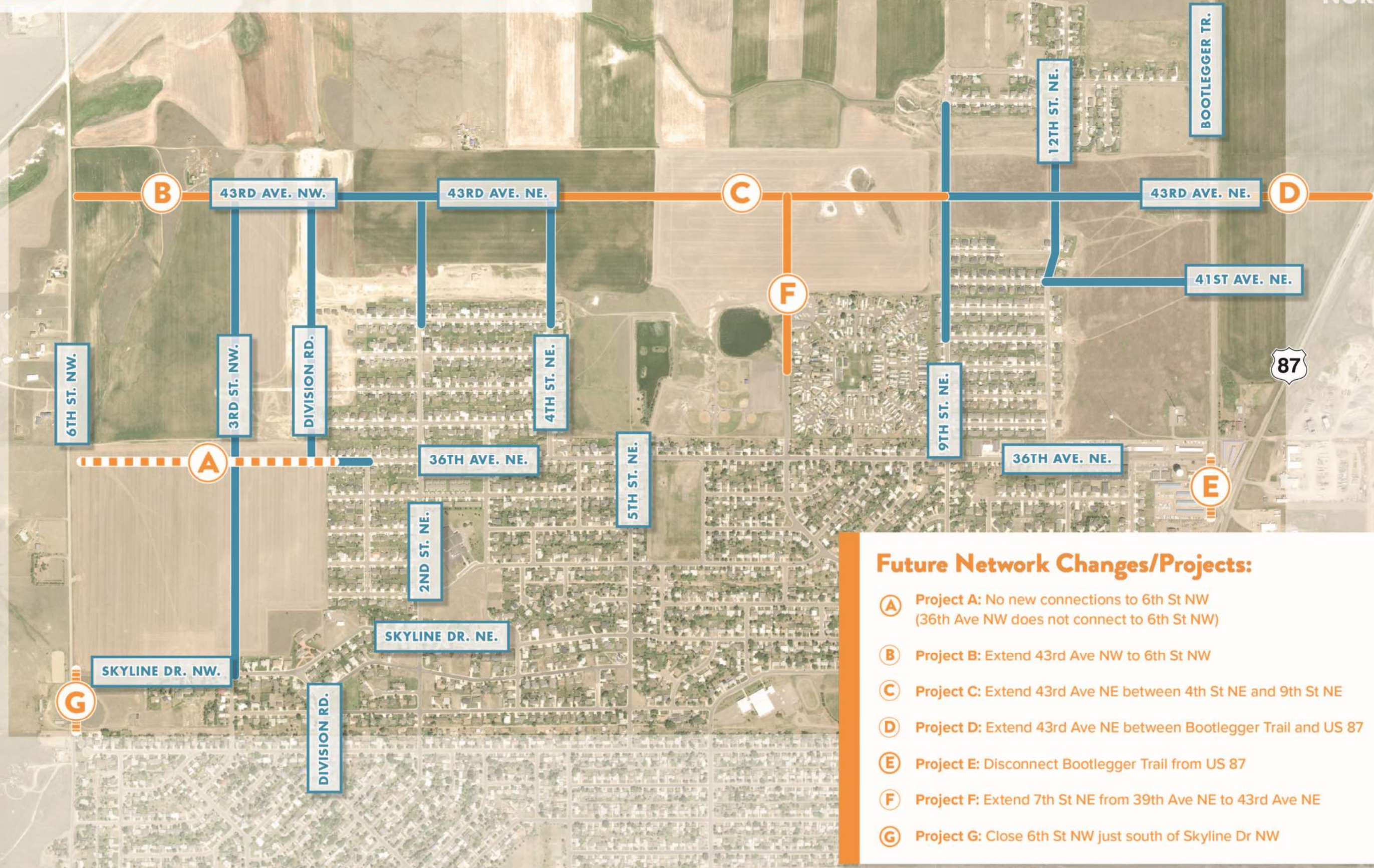
*Percentage Change Relative to Baseline Scenario

APPENDIX H
Future Project Descriptions

**NORTH
GREAT FALLS
SUB-AREA
TRANSPORTATION
STUDY**



FUTURE NETWORK CHANGES/PROJECTS



- ### Future Network Changes/Projects:
- (A)** Project A: No new connections to 6th St NW (36th Ave NW does not connect to 6th St NW)
 - (B)** Project B: Extend 43rd Ave NW to 6th St NW
 - (C)** Project C: Extend 43rd Ave NE between 4th St NE and 9th St NE
 - (D)** Project D: Extend 43rd Ave NE between Bootlegger Trail and US 87
 - (E)** Project E: Disconnect Bootlegger Trail from US 87
 - (F)** Project F: Extend 7th St NE from 39th Ave NE to 43rd Ave NE
 - (G)** Project G: Close 6th St NW just south of Skyline Dr NW

FUTURE NETWORK CHANGES/PROJECTS - DESCRIPTIONS

- **Project A: No new connections to 6th St NW (36th Ave NW does not connect to 6th St NW)** – This project, or more accurately, lack of a project, would maintain existing traffic patterns for current land uses, and re-route future traffic growth to 3rd Street NW, 2nd Street NE, and Skyline Drive NW, as these roads provide faster routes to and from the new developments in the west of the study area opposed to 6th Street NW. This traffic re-routing still occurs even with a 43rd Avenue NE extension between 3rd Street NW and 6th Street NW (Project B), as much of the new housing developments are assumed to occur south of 43rd Avenue NW, meaning vehicles would need to travel north out-of-direction to access the 43rd Avenue NW extension. When compared to future baseline conditions, Project A does not have discernable impacts east of 2nd Street NE.
- **Project B: Extend 43rd Ave NW to 6th St NW** – As noted in the Project A findings, this extension of 43rd Avenue NW does not draw traffic away from east-west connections to the south (NW 36th Avenue and Skyline Drive NW) due to the locations of anticipated future subdivision. This extension would likely experience higher usage further out into the future when development extends north of SW 43rd Avenue. When compared to future baseline conditions, Project B does not have discernable impacts east of 2nd Street NE.
- **Project C: Extend 43rd Avenue NE between 4th Street NE and 7th Street NE** – This project provides an alternate east-west connection to NE 36th Avenue for new growth areas in the future and could reduce traffic on NE 36th Avenue between 10-15%.
- **Project D: Extend 43rd Avenue NE between Bootlegger Trail and SR 87** – As a stand-alone project, this extension of 43rd Avenue NE does not draw much traffic away 36th Avenue NE, as the higher speeds likely achieved routing through the 43rd Avenue NE extension when traveling to or from SR 87 to the south do not overcome the more direct route by distance via Bootlegger Trail. When combined with Project E (Bootlegger disconnection from SR 87), as well as Project C and potential speed reductions on Bootlegger Trail, this project would significantly (45-55%) reduce traffic on both Bootlegger Trail and 36th Avenue NE east of 6th Street NE.
- **Project E: Disconnect Bootlegger Trail and SR 87** – When combined with Project D, as discussed previously this project would shift traffic away from 36th Avenue NE and

Bootlegger Trail Road while virtually eliminating traffic at the skewed intersection of Bootlegger Trail and SR 87. Overall, the combinations for projects C, D, E, and farther into the future, Project B as well, would generate collector level volume on at least some portions of 43rd Avenue.

- **Project E: Disconnect Bootlegger Trail and SR 87** – When combined with Project D, as discussed previously this project would shift traffic away from 36th Avenue NE and Bootlegger Trail Road while virtually eliminating traffic at the skewed intersection of Bootlegger Trail and SR 87. Overall, the combinations for projects C, D, E, and farther into the future, Project B as well, would generate collector level volume on at least some portions of 43rd Avenue.
- **Project F: Extend 7th Street NE from 39th Avenue NE to 43rd Avenue NE** – This project provides additional connectivity to the north, but has a relatively traffic benefit, with most north-south traffic in this area remaining focused on 9th Street NE and 4th Street NE due to better connectivity further to the south (outside the project study area). As land continues develop to the north beyond 2040, this may become a more useful connection.
- **Project E: Close 6th Avenue NW just south of Skyline Drive NW** – This project would have the undesirable outcome of driving a significant amount of traffic to streets meant to serve more local type traffic such as 3rd Street NW and 2nd Street NE.

APPENDIX I
Future Scenario Capacity Calcs

**NORTH
GREAT FALLS
SUB-AREA
TRANSPORTATION
STUDY**



North Great Falls Transportation Study

Vistro File: P:\...\Great Falls.vistro

Scenario 5 2040 AM No Build

Report File: P:\...\2040 AM No Build.pdf

10/7/2020

Intersection Analysis Summary

ID	Intersection Name	Control Type	Method	Worst Mvmt	V/C	Delay (s/veh)	LOS
1	6th & Vinyard	Two-way stop	HCM 6th Edition	EB Left	0.005	8.8	A
2	Bootlegger & 46th	Two-way stop	HCM 6th Edition	EB Left	0.007	10.3	B
3	36th & 2nd	Two-way stop	HCM 6th Edition	WB Left	0.078	12.4	B
4	36th & 5th	Two-way stop	HCM 6th Edition	NB Left	0.008	10.9	B
5	36th & 9th	Two-way stop	HCM 6th Edition	NB Left	0.055	19.5	C
6	Bootlegger & 36th	Two-way stop	HCM 6th Edition	EB Left	0.048	13.3	B
7	Skyline & 6th	Two-way stop	HCM 6th Edition	WB Left	0.032	9.5	A
8	Skyline & Division	Two-way stop	HCM 6th Edition	NB Left	0.012	8.9	A
9	Skyline & 2nd	Two-way stop	HCM 6th Edition	EB Thru	0.020	11.7	B
10	Skyline & 5th	Two-way stop	HCM 6th Edition	WB Thru	0.015	9.9	A
11	8th & Sacajawea	Two-way stop	HCM 6th Edition	EB Thru	0.011	14.6	B
12	9th & 32nd	Two-way stop	HCM 6th Edition	EB Left	0.009	11.4	B
13	9th & Skyline	Two-way stop	HCM 6th Edition	NB Thru	0.006	9.5	A

V/C, Delay, LOS: For two-way stop, these values are taken from the movement with the worst (highest) delay value. For all other control types, they are taken for the whole intersection.

Intersection Level Of Service Report
Intersection 1: 6th & Vinyard

Control Type:	Two-way stop	Delay (sec / veh):	8.8
Analysis Method:	HCM 6th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.005

Intersection Setup

Name	6th St NW		Vinyard Rd		Vinyard Rd	
Approach	Northbound		Southbound		Eastbound	
Lane Configuration	↶		↷		↷	
Turning Movement	Left	Thru	Thru	Right	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		No	

Volumes

Name	6th St NW		Vinyard Rd		Vinyard Rd	
Base Volume Input [veh/h]	10	10	15	5	5	15
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	50.00	0.00	20.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	10	10	15	5	5	15
Peak Hour Factor	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	3	3	4	1	1	4
Total Analysis Volume [veh/h]	11	11	16	5	5	16
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Free	Free	Stop
Flared Lane			No
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance			No
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.01	0.00	0.00	0.00	0.01	0.02
d_M, Delay for Movement [s/veh]	7.25	0.00	0.00	0.00	8.84	8.64
Movement LOS	A	A	A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.02	0.02	0.00	0.00	0.06	0.06
95th-Percentile Queue Length [ft/ln]	0.52	0.52	0.00	0.00	1.61	1.61
d_A, Approach Delay [s/veh]	3.63		0.00		8.69	
Approach LOS	A		A		A	
d_I, Intersection Delay [s/veh]	4.10					
Intersection LOS	A					

**Intersection Level Of Service Report
Intersection 2: Bootlegger & 46th**

Control Type:	Two-way stop	Delay (sec / veh):	10.3
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.007

Intersection Setup

Name	Bootlegger Trail		Bootlegger Trail		46th Ave NE	
Approach	Northbound		Southbound		Eastbound	
Lane Configuration						
Turning Movement	Left	Thru	Thru	Right	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	1	0	0	0	0
Entry Pocket Length [ft]	100.00	600.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	70.00		70.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		No	

Volumes

Name	Bootlegger Trail		Bootlegger Trail		46th Ave NE	
Base Volume Input [veh/h]	25	55	135	5	5	45
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	4.30	9.10	1.70	0.00	0.00	1.60
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	25	55	135	5	5	45
Peak Hour Factor	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	7	15	37	1	1	12
Total Analysis Volume [veh/h]	27	60	147	5	5	49
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Free	Free	Stop
Flared Lane			No
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance			No
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.02	0.00	0.00	0.00	0.01	0.05
d_M, Delay for Movement [s/veh]	7.59	0.00	0.00	0.00	10.30	9.28
Movement LOS	A	A	A	A	B	A
95th-Percentile Queue Length [veh/ln]	0.06	0.00	0.00	0.00	0.20	0.20
95th-Percentile Queue Length [ft/ln]	1.46	0.00	0.00	0.00	4.91	4.91
d_A, Approach Delay [s/veh]	2.36		0.00		9.37	
Approach LOS	A		A		A	
d_I, Intersection Delay [s/veh]	2.43					
Intersection LOS	B					

**Intersection Level Of Service Report
Intersection 3: 36th & 2nd**

Control Type: Two-way stop
 Analysis Method: HCM 6th Edition
 Analysis Period: 15 minutes

Delay (sec / veh): 12.4
 Level Of Service: B
 Volume to Capacity (v/c): 0.078

Intersection Setup

Name	2nd St NE			2nd St NE			36th Ave NE			36th Ave NE		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration	+			+			+			+		
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	2nd St NE			2nd St NE			36th Ave NE			36th Ave NE		
Base Volume Input [veh/h]	5	40	35	45	145	10	5	25	15	40	15	15
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	2.90	0.00	1.90	0.00	0.00	0.00	0.00	1.80	0.00	25.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	5	40	35	45	145	10	5	25	15	40	15	15
Peak Hour Factor	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	1	11	10	12	39	3	1	7	4	11	4	4
Total Analysis Volume [veh/h]	5	43	38	49	158	11	5	27	16	43	16	16
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Priority Scheme	Free	Free	Stop	Stop
Flared Lane			No	No
Storage Area [veh]	0	0	0	0
Two-Stage Gap Acceptance			No	No
Number of Storage Spaces in Median	0	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.00	0.00	0.03	0.00	0.00	0.01	0.05	0.02	0.08	0.03	0.02
d_M, Delay for Movement [s/veh]	7.54	0.00	0.00	7.43	0.00	0.00	11.80	11.97	9.53	12.37	12.23	9.65
Movement LOS	A	A	A	A	A	A	B	B	A	B	B	A
95th-Percentile Queue Length [veh/ln]	0.01	0.01	0.01	0.10	0.10	0.10	0.24	0.24	0.24	0.42	0.42	0.42
95th-Percentile Queue Length [ft/ln]	0.26	0.26	0.26	2.48	2.48	2.48	6.12	6.12	6.12	10.50	10.50	10.50
d_A, Approach Delay [s/veh]	0.44			1.67			11.14			11.76		
Approach LOS	A			A			B			B		
d_I, Intersection Delay [s/veh]	4.26											
Intersection LOS	B											

**Intersection Level Of Service Report
Intersection 4: 36th & 5th**

Control Type:	Two-way stop	Delay (sec / veh):	10.9
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.008

Intersection Setup

Name	5th St NE		36th Ave NE		36th Ave NE	
Approach	Northbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Left	Right	Thru	Right	Left	Thru
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		No	

Volumes

Name	5th St NE		36th Ave NE		36th Ave NE	
Base Volume Input [veh/h]	5	25	190	30	20	90
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	5.00	0.70	0.00	0.00	7.30
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	5	25	190	30	20	90
Peak Hour Factor	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	1	7	52	8	5	24
Total Analysis Volume [veh/h]	5	27	207	33	22	98
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Stop	Free	Free
Flared Lane	No		
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance	No		
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.01	0.03	0.00	0.00	0.02	0.00
d_M, Delay for Movement [s/veh]	10.94	9.65	0.00	0.00	7.73	0.00
Movement LOS	B	A	A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.13	0.13	0.00	0.00	0.05	0.05
95th-Percentile Queue Length [ft/ln]	3.23	3.23	0.00	0.00	1.25	1.25
d_A, Approach Delay [s/veh]	9.85		0.00		1.42	
Approach LOS	A		A		A	
d_I, Intersection Delay [s/veh]	1.24					
Intersection LOS	B					

**Intersection Level Of Service Report
Intersection 5: 36th & 9th**

Control Type: Two-way stop
 Analysis Method: HCM 6th Edition
 Analysis Period: 15 minutes

Delay (sec / veh): 19.5
 Level Of Service: C
 Volume to Capacity (v/c): 0.055

Intersection Setup

Name	9th St NE			9th St NE			36th Ave NE			36th Ave NE		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration	+			+			+			+		
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	No			No			No			No		

Volumes

Name	9th St NE			9th St NE			36th Ave NE			36th Ave NE		
Base Volume Input [veh/h]	15	45	40	10	110	25	15	225	35	50	95	5
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	20.00	0.00	0.00	0.00	2.70	11.00	0.00	0.50	7.10	4.40	7.10	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	15	45	40	10	110	25	15	225	35	50	95	5
Peak Hour Factor	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	4	12	11	3	30	7	4	61	10	14	26	1
Total Analysis Volume [veh/h]	16	49	43	11	120	27	16	245	38	54	103	5
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Priority Scheme	Stop	Stop	Free	Free
Flared Lane	No	No		
Storage Area [veh]	0	0	0	0
Two-Stage Gap Acceptance	No	No		
Number of Storage Spaces in Median	0	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.06	0.11	0.06	0.03	0.28	0.03	0.01	0.00	0.00	0.04	0.00	0.00
d_M, Delay for Movement [s/veh]	19.49	15.24	11.70	18.70	17.32	12.81	7.43	0.00	0.00	7.97	0.00	0.00
Movement LOS	C	C	B	C	C	B	A	A	A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.84	0.84	0.84	1.48	1.48	1.48	0.03	0.03	0.03	0.13	0.13	0.13
95th-Percentile Queue Length [ft/ln]	20.95	20.95	20.95	37.08	37.08	37.08	0.81	0.81	0.81	3.34	3.34	3.34
d_A, Approach Delay [s/veh]	14.46			16.65			0.40			2.66		
Approach LOS	B			C			A			A		
d_I, Intersection Delay [s/veh]	6.52											
Intersection LOS	C											

**Intersection Level Of Service Report
Intersection 6: Bootlegger & 36th**

Control Type:	Two-way stop	Delay (sec / veh):	13.3
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.048

Intersection Setup

Name	Bootlegger Trail		Bootlegger Trail		36th Ave NE	
Approach	Northbound		Southbound		Eastbound	
Lane Configuration	↙		↘		↙ ↘	
Turning Movement	Left	Thru	Thru	Right	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	1	0	0	0	1
Entry Pocket Length [ft]	100.00	250.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	45.00		45.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		No	

Volumes

Name	Bootlegger Trail		Bootlegger Trail		36th Ave NE	
Base Volume Input [veh/h]	95	60	225	50	20	300
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	11.60	6.70	0.00	6.50	3.60	0.70
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	95	60	225	50	20	300
Peak Hour Factor	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	26	16	61	14	5	82
Total Analysis Volume [veh/h]	103	65	245	54	22	326
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Free	Free	Stop
Flared Lane			
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance			No
Number of Storage Spaces in Median	0	0	1

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.09	0.00	0.00	0.00	0.05	0.42
d_M, Delay for Movement [s/veh]	8.25	0.00	0.00	0.00	13.30	13.07
Movement LOS	A	A	A	A	B	B
95th-Percentile Queue Length [veh/ln]	0.28	0.00	0.00	0.00	0.15	2.12
95th-Percentile Queue Length [ft/ln]	6.97	0.00	0.00	0.00	3.80	53.06
d_A, Approach Delay [s/veh]	5.06		0.00		13.08	
Approach LOS	A		A		B	
d_I, Intersection Delay [s/veh]	6.63					
Intersection LOS	B					

**Intersection Level Of Service Report
Intersection 7: Skyline & 6th**

Control Type: Two-way stop
 Analysis Method: HCM 6th Edition
 Analysis Period: 15 minutes

Delay (sec / veh): 9.5
 Level Of Service: A
 Volume to Capacity (v/c): 0.032

Intersection Setup

Name	6th St NW		6th St NW		Skyline Dr NW	
Approach	Northbound		Southbound		Westbound	
Lane Configuration	↬		↵		↶	
Turning Movement	Thru	Right	Left	Thru	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		No	

Volumes

Name	6th St NW		6th St NW		Skyline Dr NW	
Base Volume Input [veh/h]	45	20	5	80	25	5
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	4.50	1.70	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	45	20	5	80	25	5
Peak Hour Factor	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	12	5	1	22	7	1
Total Analysis Volume [veh/h]	49	22	5	87	27	5
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Free	Free	Stop
Flared Lane			No
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance			No
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.00	0.00	0.00	0.03	0.00
d_M, Delay for Movement [s/veh]	0.00	0.00	7.34	0.00	9.49	8.72
Movement LOS	A	A	A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.00	0.00	0.01	0.01	0.12	0.12
95th-Percentile Queue Length [ft/ln]	0.00	0.00	0.24	0.24	2.91	2.91
d_A, Approach Delay [s/veh]	0.00		0.40		9.37	
Approach LOS	A		A		A	
d_I, Intersection Delay [s/veh]	1.73					
Intersection LOS	A					

**Intersection Level Of Service Report
Intersection 8: Skyline & Division**

Control Type:	Two-way stop	Delay (sec / veh):	8.9
Analysis Method:	HCM 6th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.012

Intersection Setup

Name	Division Rd		Skyline Dr NW		Skyline Dr NE	
Approach	Northbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Left	Right	Thru	Right	Left	Thru
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		No	

Volumes

Name	Division Rd		Skyline Dr NW		Skyline Dr NE	
Base Volume Input [veh/h]	10	5	15	35	10	15
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	2.80	0.00	0.00	1.60
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	10	5	15	35	10	15
Peak Hour Factor	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	3	1	4	10	3	4
Total Analysis Volume [veh/h]	11	5	16	38	11	16
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Stop	Free	Free
Flared Lane	No		
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance	No		
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.01	0.00	0.00	0.00	0.01	0.00
d_M, Delay for Movement [s/veh]	8.94	8.51	0.00	0.00	7.32	0.00
Movement LOS	A	A	A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.05	0.05	0.00	0.00	0.02	0.02
95th-Percentile Queue Length [ft/ln]	1.27	1.27	0.00	0.00	0.53	0.53
d_A, Approach Delay [s/veh]	8.80		0.00		2.98	
Approach LOS	A		A		A	
d_I, Intersection Delay [s/veh]	2.28					
Intersection LOS	A					

**Intersection Level Of Service Report
Intersection 9: Skyline & 2nd**

Control Type: Two-way stop
 Analysis Method: HCM 6th Edition
 Analysis Period: 15 minutes

Delay (sec / veh): 11.7
 Level Of Service: B
 Volume to Capacity (v/c): 0.020

Intersection Setup

Name	2nd St NE			2nd St NE			Skyline Dr NE			Skyline Dr NE		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration	+			+			+			+		
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	No			No			No			No		

Volumes

Name	2nd St NE			2nd St NE			Skyline Dr NE			Skyline Dr NE		
Base Volume Input [veh/h]	5	80	5	5	225	15	10	10	5	5	10	10
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	4.60	0.00	0.00	2.10	1.80	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	5	80	5	5	225	15	10	10	5	5	10	10
Peak Hour Factor	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	1	22	1	1	61	4	3	3	1	1	3	3
Total Analysis Volume [veh/h]	5	87	5	5	245	16	11	11	5	5	11	11
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Priority Scheme	Free	Free	Stop	Stop
Flared Lane			No	No
Storage Area [veh]	0	0	0	0
Two-Stage Gap Acceptance			No	No
Number of Storage Spaces in Median	0	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.00	0.00	0.00	0.00	0.00	0.02	0.02	0.01	0.01	0.02	0.01
d_M, Delay for Movement [s/veh]	7.75	0.00	0.00	7.38	0.00	0.00	11.62	11.69	9.84	11.49	11.67	8.92
Movement LOS	A	A	A	A	A	A	B	B	A	B	B	A
95th-Percentile Queue Length [veh/ln]	0.01	0.01	0.01	0.01	0.01	0.01	0.14	0.14	0.14	0.12	0.12	0.12
95th-Percentile Queue Length [ft/ln]	0.29	0.29	0.29	0.25	0.25	0.25	3.55	3.55	3.55	3.10	3.10	3.10
d_A, Approach Delay [s/veh]	0.40			0.14			11.32			10.51		
Approach LOS	A			A			B			B		
d_I, Intersection Delay [s/veh]	1.60											
Intersection LOS	B											

**Intersection Level Of Service Report
Intersection 10: Skyline & 5th**

Control Type: Two-way stop
 Analysis Method: HCM 6th Edition
 Analysis Period: 15 minutes

Delay (sec / veh): 9.9
 Level Of Service: A
 Volume to Capacity (v/c): 0.015

Intersection Setup

Name	5th St NE			5th St NE			Skyline Dr NE			Skyline Dr NE		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration	+			+			+			+		
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	No			No			No			No		

Volumes

Name	5th St NE			5th St NE			Skyline Dr NE			Skyline Dr NE		
Base Volume Input [veh/h]	5	30	5	5	65	5	5	10	5	10	10	5
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	9.50	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	5	30	5	5	65	5	5	10	5	10	10	5
Peak Hour Factor	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	1	8	1	1	18	1	1	3	1	3	3	1
Total Analysis Volume [veh/h]	5	33	5	5	71	5	5	11	5	11	11	5
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Priority Scheme	Free	Free	Stop	Stop
Flared Lane			No	No
Storage Area [veh]	0	0	0	0
Two-Stage Gap Acceptance			No	No
Number of Storage Spaces in Median	0	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.01	0.01	0.01	0.01	0.00
d_M, Delay for Movement [s/veh]	7.35	0.00	0.00	7.28	0.00	0.00	9.50	9.87	8.74	9.53	9.90	8.60
Movement LOS	A	A	A	A	A	A	A	A	A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.01	0.01	0.01	0.01	0.01	0.01	0.08	0.08	0.08	0.10	0.10	0.10
95th-Percentile Queue Length [ft/ln]	0.24	0.24	0.24	0.24	0.24	0.24	1.97	1.97	1.97	2.53	2.53	2.53
d_A, Approach Delay [s/veh]	0.85			0.45			9.51			9.51		
Approach LOS	A			A			A			A		
d_I, Intersection Delay [s/veh]	3.08											
Intersection LOS	A											

**Intersection Level Of Service Report
Intersection 11: 8th & Sacajawea**

Control Type:	Two-way stop	Delay (sec / veh):	14.6
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.011

Intersection Setup

Name	8th St NE			8th St NE			Sacajawea Dr			Sacajawea Dr		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration	+			+			+			+		
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	No			Yes			No			Yes		

Volumes

Name	8th St NE			8th St NE			Sacajawea Dr			Sacajawea Dr		
Base Volume Input [veh/h]	20	110	5	5	265	80	45	5	70	5	5	5
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	4.80	0.00	0.00	2.60	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	20	110	5	5	265	80	45	5	70	5	5	5
Peak Hour Factor	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	5	30	1	1	72	22	12	1	19	1	1	1
Total Analysis Volume [veh/h]	22	120	5	5	288	87	49	5	76	5	5	5
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Priority Scheme	Free	Free	Stop	Stop
Flared Lane			No	No
Storage Area [veh]	0	0	0	0
Two-Stage Gap Acceptance			No	No
Number of Storage Spaces in Median	0	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.02	0.00	0.00	0.00	0.00	0.00	0.11	0.01	0.11	0.01	0.01	0.01
d_M, Delay for Movement [s/veh]	8.07	0.00	0.00	7.45	0.00	0.00	14.61	14.64	11.82	14.42	13.51	9.07
Movement LOS	A	A	A	A	A	A	B	B	B	B	B	A
95th-Percentile Queue Length [veh/ln]	0.06	0.06	0.06	0.01	0.01	0.01	0.85	0.85	0.85	0.09	0.09	0.09
95th-Percentile Queue Length [ft/ln]	1.41	1.41	1.41	0.26	0.26	0.26	21.31	21.31	21.31	2.29	2.29	2.29
d_A, Approach Delay [s/veh]	1.21			0.10			12.98			12.33		
Approach LOS	A			A			B			B		
d_I, Intersection Delay [s/veh]	3.11											
Intersection LOS	B											

**Intersection Level Of Service Report
Intersection 12: 9th & 32nd**

Control Type: Two-way stop
 Analysis Method: HCM 6th Edition
 Analysis Period: 15 minutes

Delay (sec / veh): 11.4
 Level Of Service: B
 Volume to Capacity (v/c): 0.009

Intersection Setup

Name	9th St NE		9th St NE		32nd Ave NE	
Approach	Northbound		Southbound		Eastbound	
Lane Configuration	↶		↷		↷	
Turning Movement	Left	Thru	Thru	Right	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		No	

Volumes

Name	9th St NE		9th St NE		32nd Ave NE	
Base Volume Input [veh/h]	5	125	270	5	5	15
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	4.10	2.90	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	5	125	270	5	5	15
Peak Hour Factor	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	1	34	73	1	1	4
Total Analysis Volume [veh/h]	5	136	293	5	5	16
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Free	Free	Stop
Flared Lane			No
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance			No
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.00	0.00	0.00	0.01	0.02
d_M, Delay for Movement [s/veh]	7.84	0.00	0.00	0.00	11.42	9.97
Movement LOS	A	A	A	A	B	A
95th-Percentile Queue Length [veh/ln]	0.01	0.01	0.00	0.00	0.09	0.09
95th-Percentile Queue Length [ft/ln]	0.30	0.30	0.00	0.00	2.32	2.32
d_A, Approach Delay [s/veh]	0.28		0.00		10.32	
Approach LOS	A		A		B	
d_I, Intersection Delay [s/veh]	0.56					
Intersection LOS	B					

**Intersection Level Of Service Report
Intersection 13: 9th & Skyline**

Control Type:	Two-way stop	Delay (sec / veh):	9.5
Analysis Method:	HCM 6th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.006

Intersection Setup

Name	9th St NE			9th St NE			Skyline Dr NE			Skyline Dr NE		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration	+			+			+			+		
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	No			No			No			No		

Volumes

Name	9th St NE			9th St NE			Skyline Dr NE			Skyline Dr NE		
Base Volume Input [veh/h]	5	5	5	5	5	0	0	20	5	5	30	5
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	5	5	5	5	5	0	0	20	5	5	30	5
Peak Hour Factor	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	1	1	1	1	1	0	0	5	1	1	8	1
Total Analysis Volume [veh/h]	5	5	5	5	5	0	0	22	5	5	33	5
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Priority Scheme	Stop	Stop	Free	Free
Flared Lane	No	No		
Storage Area [veh]	0	0	0	0
Two-Stage Gap Acceptance	No	No		
Number of Storage Spaces in Median	0	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.01	0.01	0.00	0.01	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00
d_M, Delay for Movement [s/veh]	8.99	9.46	8.47	9.01	9.44	8.50	7.27	0.00	0.00	7.26	0.00	0.00
Movement LOS	A	A	A	A	A	A	A	A	A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.05	0.05	0.05	0.04	0.04	0.04	0.00	0.00	0.00	0.01	0.01	0.01
95th-Percentile Queue Length [ft/ln]	1.24	1.24	1.24	0.88	0.88	0.88	0.00	0.00	0.00	0.24	0.24	0.24
d_A, Approach Delay [s/veh]	8.97			9.23			0.00			0.84		
Approach LOS	A			A			A			A		
d_I, Intersection Delay [s/veh]	2.77											
Intersection LOS	A											

North Great Falls Transportation Study

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Scenario 6 2040 PM No Build

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10/7/2020

Intersection Analysis Summary

ID	Intersection Name	Control Type	Method	Worst Mvmt	V/C	Delay (s/veh)	LOS
1	6th & Vinyard	Two-way stop	HCM 6th Edition	EB Left	0.005	8.8	A
2	Bootlegger & 46th	Two-way stop	HCM 6th Edition	EB Left	0.007	10.2	B
3	36th & 2nd	Two-way stop	HCM 6th Edition	WB Thru	0.075	12.7	B
4	36th & 5th	Two-way stop	HCM 6th Edition	NB Left	0.040	11.9	B
5	36th & 9th	Two-way stop	HCM 6th Edition	NB Left	0.143	25.2	D
6	Bootlegger & 36th	Two-way stop	HCM 6th Edition	EB Left	0.112	33.3	D
7	Skyline & 6th	Two-way stop	HCM 6th Edition	WB Left	0.029	9.8	A
8	Skyline & Division	Two-way stop	HCM 6th Edition	NB Left	0.028	8.9	A
9	Skyline & 2nd	Two-way stop	HCM 6th Edition	WB Thru	0.020	11.8	B
10	Skyline & 5th	Two-way stop	HCM 6th Edition	WB Thru	0.021	10.0	B
11	8th & Sacajawea	Two-way stop	HCM 6th Edition	EB Thru	0.012	14.1	B
12	9th & 32nd	Two-way stop	HCM 6th Edition	EB Left	0.008	11.1	B
13	9th & Skyline	Two-way stop	HCM 6th Edition	NB Thru	0.006	9.3	A

V/C, Delay, LOS: For two-way stop, these values are taken from the movement with the worst (highest) delay value. For all other control types, they are taken for the whole intersection.

**Intersection Level Of Service Report
Intersection 1: 6th & Vinyard**

Control Type:	Two-way stop	Delay (sec / veh):	8.8
Analysis Method:	HCM 6th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.005

Intersection Setup

Name	6th St NW		Vinyard Rd		Vinyard Rd	
Approach	Northbound		Southbound		Eastbound	
Lane Configuration	↶		↷		↷	
Turning Movement	Left	Thru	Thru	Right	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		No	

Volumes

Name	6th St NW		Vinyard Rd		Vinyard Rd	
Base Volume Input [veh/h]	10	10	10	5	5	20
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	10	10	10	5	5	20
Peak Hour Factor	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	3	3	3	1	1	5
Total Analysis Volume [veh/h]	11	11	11	5	5	22
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Free	Free	Stop
Flared Lane			No
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance			No
Number of Storage Spaces in Median	0	0	0




Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.01	0.00	0.00	0.00	0.01	0.02
d_M, Delay for Movement [s/veh]	7.24	0.00	0.00	0.00	8.83	8.45
Movement LOS	A	A	A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.02	0.02	0.00	0.00	0.08	0.08
95th-Percentile Queue Length [ft/ln]	0.51	0.51	0.00	0.00	1.98	1.98
d_A, Approach Delay [s/veh]	3.62		0.00		8.52	
Approach LOS	A		A		A	
d_I, Intersection Delay [s/veh]	4.76					
Intersection LOS	A					

**Intersection Level Of Service Report
Intersection 2: Bootlegger & 46th**

Control Type:	Two-way stop	Delay (sec / veh):	10.2
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.007

Intersection Setup

Name	Bootlegger Trail		Bootlegger Trail		46th Ave NE	
Approach	Northbound		Southbound		Eastbound	
Lane Configuration						
Turning Movement	Left	Thru	Thru	Right	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	1	0	0	0	0
Entry Pocket Length [ft]	100.00	600.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	70.00		70.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		No	

Volumes

Name	Bootlegger Trail		Bootlegger Trail		46th Ave NE	
Base Volume Input [veh/h]	30	120	55	5	5	30
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	30	120	55	5	5	30
Peak Hour Factor	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	8	33	15	1	1	8
Total Analysis Volume [veh/h]	33	130	60	5	5	33
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Free	Free	Stop
Flared Lane			No
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance			No
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.02	0.00	0.00	0.00	0.01	0.03
d_M, Delay for Movement [s/veh]	7.37	0.00	0.00	0.00	10.16	8.73
Movement LOS	A	A	A	A	B	A
95th-Percentile Queue Length [veh/ln]	0.07	0.00	0.00	0.00	0.12	0.12
95th-Percentile Queue Length [ft/ln]	1.63	0.00	0.00	0.00	3.10	3.10
d_A, Approach Delay [s/veh]	1.49		0.00		8.92	
Approach LOS	A		A		A	
d_I, Intersection Delay [s/veh]	2.19					
Intersection LOS	B					

**Intersection Level Of Service Report
Intersection 3: 36th & 2nd**

Control Type: Two-way stop
 Analysis Method: HCM 6th Edition
 Analysis Period: 15 minutes

Delay (sec / veh): 12.7
 Level Of Service: B
 Volume to Capacity (v/c): 0.075

Intersection Setup

Name	2nd St NE			2nd St NE			36th Ave NE			36th Ave NE		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration	+			+			+			+		
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	2nd St NE			2nd St NE			36th Ave NE			36th Ave NE		
Base Volume Input [veh/h]	20	130	35	20	70	5	5	25	5	50	40	30
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	1.00	0.00	0.00	0.00	100.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	20	130	35	20	70	5	5	25	5	50	40	30
Peak Hour Factor	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	5	35	10	5	19	1	1	7	1	14	11	8
Total Analysis Volume [veh/h]	22	141	38	22	76	5	5	27	5	54	43	33
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Priority Scheme	Free	Free	Stop	Stop
Flared Lane			No	No
Storage Area [veh]	0	0	0	0
Two-Stage Gap Acceptance			No	No
Number of Storage Spaces in Median	0	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.01	0.00	0.00	0.02	0.00	0.00	0.01	0.05	0.01	0.09	0.07	0.04
d_M, Delay for Movement [s/veh]	7.39	0.00	0.00	7.60	0.00	0.00	12.23	11.81	9.05	12.73	12.74	10.51
Movement LOS	A	A	A	A	A	A	B	B	A	B	B	B
95th-Percentile Queue Length [veh/ln]	0.04	0.04	0.04	0.05	0.05	0.05	0.20	0.20	0.20	0.77	0.77	0.77
95th-Percentile Queue Length [ft/ln]	1.09	1.09	1.09	1.19	1.19	1.19	4.99	4.99	4.99	19.20	19.20	19.20
d_A, Approach Delay [s/veh]	0.81			1.62			11.49			12.17		
Approach LOS	A			A			B			B		
d_I, Intersection Delay [s/veh]	4.96											
Intersection LOS	B											

**Intersection Level Of Service Report
Intersection 4: 36th & 5th**

Control Type:	Two-way stop	Delay (sec / veh):	11.9
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.040

Intersection Setup

Name	5th St NE		36th Ave NE		36th Ave NE	
Approach	Northbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Left	Right	Thru	Right	Left	Thru
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		No	

Volumes

Name	5th St NE		36th Ave NE		36th Ave NE	
Base Volume Input [veh/h]	20	25	125	10	25	245
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	20	25	125	10	25	245
Peak Hour Factor	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	5	7	34	3	7	67
Total Analysis Volume [veh/h]	22	27	136	11	27	266
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Stop	Free	Free
Flared Lane	No		
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance	No		
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.04	0.03	0.00	0.00	0.02	0.00
d_M, Delay for Movement [s/veh]	11.93	9.33	0.00	0.00	7.53	0.00
Movement LOS	B	A	A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.22	0.22	0.00	0.00	0.06	0.06
95th-Percentile Queue Length [ft/ln]	5.60	5.60	0.00	0.00	1.43	1.43
d_A, Approach Delay [s/veh]	10.50		0.00		0.69	
Approach LOS	B		A		A	
d_I, Intersection Delay [s/veh]	1.47					
Intersection LOS	B					

**Intersection Level Of Service Report
Intersection 5: 36th & 9th**

Control Type: Two-way stop
 Analysis Method: HCM 6th Edition
 Analysis Period: 15 minutes

Delay (sec / veh): 25.2
 Level Of Service: D
 Volume to Capacity (v/c): 0.143

Intersection Setup

Name	9th St NE			9th St NE			36th Ave NE			36th Ave NE		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration	+			+			+			+		
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	No			No			No			No		

Volumes

Name	9th St NE			9th St NE			36th Ave NE			36th Ave NE		
Base Volume Input [veh/h]	35	70	15	5	50	25	65	120	15	45	270	10
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	6.30	0.00	0.00	0.00	4.20	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	35	70	15	5	50	25	65	120	15	45	270	10
Peak Hour Factor	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	10	19	4	1	14	7	18	33	4	12	73	3
Total Analysis Volume [veh/h]	38	76	16	5	54	27	71	130	16	49	293	11
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Priority Scheme	Stop	Stop	Free	Free
Flared Lane	No	No		
Storage Area [veh]	0	0	0	0
Two-Stage Gap Acceptance	No	No		
Number of Storage Spaces in Median	0	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.14	0.23	0.02	0.02	0.16	0.04	0.06	0.00	0.00	0.03	0.00	0.00
d_M, Delay for Movement [s/veh]	25.16	22.24	15.50	21.42	18.39	12.36	8.01	0.00	0.00	7.57	0.00	0.00
Movement LOS	D	C	C	C	C	B	A	A	A	A	A	A
95th-Percentile Queue Length [veh/ln]	1.77	1.77	1.77	0.82	0.82	0.82	0.18	0.18	0.18	0.10	0.10	0.10
95th-Percentile Queue Length [ft/ln]	44.16	44.16	44.16	20.51	20.51	20.51	4.44	4.44	4.44	2.62	2.62	2.62
d_A, Approach Delay [s/veh]	22.26			16.67			2.62			1.05		
Approach LOS	C			C			A			A		
d_I, Intersection Delay [s/veh]	6.70											
Intersection LOS	D											

**Intersection Level Of Service Report
Intersection 6: Bootlegger & 36th**

Control Type:	Two-way stop	Delay (sec / veh):	33.3
Analysis Method:	HCM 6th Edition	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.112

Intersection Setup

Name	Bootlegger Trail		Bootlegger Trail		36th Ave NE	
Approach	Northbound		Southbound		Eastbound	
Lane Configuration	↵		↵		↵↶	
Turning Movement	Left	Thru	Thru	Right	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	1	0	0	0	1
Entry Pocket Length [ft]	100.00	250.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	45.00		45.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		No	

Volumes

Name	Bootlegger Trail		Bootlegger Trail		36th Ave NE	
Base Volume Input [veh/h]	395	205	110	20	15	150
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.80
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	395	205	110	20	15	150
Peak Hour Factor	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	107	56	30	5	4	41
Total Analysis Volume [veh/h]	429	223	120	22	16	163
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Free	Free	Stop
Flared Lane			
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance			No
Number of Storage Spaces in Median	0	0	1

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.30	0.00	0.00	0.00	0.11	0.18
d_M, Delay for Movement [s/veh]	8.51	0.00	0.00	0.00	33.30	9.74
Movement LOS	A	A	A	A	D	A
95th-Percentile Queue Length [veh/ln]	1.24	0.00	0.00	0.00	0.37	0.64
95th-Percentile Queue Length [ft/ln]	31.11	0.00	0.00	0.00	9.23	16.00
d_A, Approach Delay [s/veh]	5.60		0.00		11.85	
Approach LOS	A		A		B	
d_I, Intersection Delay [s/veh]	5.93					
Intersection LOS	D					

**Intersection Level Of Service Report
Intersection 7: Skyline & 6th**

Control Type:	Two-way stop	Delay (sec / veh):	9.8
Analysis Method:	HCM 6th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.029

Intersection Setup

Name	6th St NW		6th St NW		Skyline Dr NW	
Approach	Northbound		Southbound		Westbound	
Lane Configuration	↬		↵		↶	
Turning Movement	Thru	Right	Left	Thru	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		No	

Volumes

Name	6th St NW		6th St NW		Skyline Dr NW	
Base Volume Input [veh/h]	105	30	5	70	20	5
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	1.90	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	105	30	5	70	20	5
Peak Hour Factor	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	29	8	1	19	5	1
Total Analysis Volume [veh/h]	114	33	5	76	22	5
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Free	Free	Stop
Flared Lane			No
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance			No
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.00	0.00	0.00	0.03	0.01
d_M, Delay for Movement [s/veh]	0.00	0.00	7.50	0.00	9.84	9.05
Movement LOS	A	A	A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.00	0.00	0.01	0.01	0.11	0.11
95th-Percentile Queue Length [ft/ln]	0.00	0.00	0.26	0.26	2.64	2.64
d_A, Approach Delay [s/veh]	0.00		0.46		9.69	
Approach LOS	A		A		A	
d_I, Intersection Delay [s/veh]	1.17					
Intersection LOS	A					

**Intersection Level Of Service Report
Intersection 8: Skyline & Division**

Control Type:	Two-way stop	Delay (sec / veh):	8.9
Analysis Method:	HCM 6th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.028

Intersection Setup

Name	Division Rd		Skyline Dr NW		Skyline Dr NE	
Approach	Northbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Left	Right	Thru	Right	Left	Thru
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		No	

Volumes

Name	Division Rd		Skyline Dr NW		Skyline Dr NE	
Base Volume Input [veh/h]	25	10	10	20	5	20
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	1.80
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	25	10	10	20	5	20
Peak Hour Factor	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	7	3	3	5	1	5
Total Analysis Volume [veh/h]	27	11	11	22	5	22
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Stop	Free	Free
Flared Lane	No		
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance	No		
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.03	0.01	0.00	0.00	0.00	0.00
d_M, Delay for Movement [s/veh]	8.91	8.54	0.00	0.00	7.27	0.00
Movement LOS	A	A	A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.12	0.12	0.00	0.00	0.01	0.01
95th-Percentile Queue Length [ft/ln]	3.01	3.01	0.00	0.00	0.24	0.24
d_A, Approach Delay [s/veh]	8.80		0.00		1.35	
Approach LOS	A		A		A	
d_I, Intersection Delay [s/veh]	3.78					
Intersection LOS	A					

**Intersection Level Of Service Report
Intersection 9: Skyline & 2nd**

Control Type:	Two-way stop	Delay (sec / veh):	11.8
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.020

Intersection Setup

Name	2nd St NE			2nd St NE			Skyline Dr NE			Skyline Dr NE		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration	+			+			+			+		
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	No			No			No			No		

Volumes

Name	2nd St NE			2nd St NE			Skyline Dr NE			Skyline Dr NE		
Base Volume Input [veh/h]	5	200	10	5	115	15	5	15	5	5	10	15
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	1.90	0.00	0.00	2.10	2.10	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	5	200	10	5	115	15	5	15	5	5	10	15
Peak Hour Factor	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	1	54	3	1	31	4	1	4	1	1	3	4
Total Analysis Volume [veh/h]	5	217	11	5	125	16	5	16	5	5	11	16
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Priority Scheme	Free	Free	Stop	Stop
Flared Lane			No	No
Storage Area [veh]	0	0	0	0
Two-Stage Gap Acceptance			No	No
Number of Storage Spaces in Median	0	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.03	0.01	0.01	0.02	0.02
d_M, Delay for Movement [s/veh]	7.48	0.00	0.00	7.67	0.00	0.00	11.81	11.82	9.18	11.74	11.84	9.66
Movement LOS	A	A	A	A	A	A	B	B	A	B	B	A
95th-Percentile Queue Length [veh/ln]	0.01	0.01	0.01	0.01	0.01	0.01	0.14	0.14	0.14	0.15	0.15	0.15
95th-Percentile Queue Length [ft/ln]	0.26	0.26	0.26	0.28	0.28	0.28	3.41	3.41	3.41	3.81	3.81	3.81
d_A, Approach Delay [s/veh]	0.16			0.26			11.31			10.73		
Approach LOS	A			A			B			B		
d_I, Intersection Delay [s/veh]	1.63											
Intersection LOS	B											

**Intersection Level Of Service Report
Intersection 10: Skyline & 5th**

Control Type: Two-way stop
 Analysis Method: HCM 6th Edition
 Analysis Period: 15 minutes

Delay (sec / veh): 10.0
 Level Of Service: B
 Volume to Capacity (v/c): 0.021

Intersection Setup

Name	5th St NE			5th St NE			Skyline Dr NE			Skyline Dr NE		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration	+			+			+			+		
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	No			No			No			No		

Volumes

Name	5th St NE			5th St NE			Skyline Dr NE			Skyline Dr NE		
Base Volume Input [veh/h]	5	75	10	5	30	5	5	10	5	10	15	10
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	5	75	10	5	30	5	5	10	5	10	15	10
Peak Hour Factor	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	1	20	3	1	8	1	1	3	1	3	4	3
Total Analysis Volume [veh/h]	5	82	11	5	33	5	5	11	5	11	16	11
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Priority Scheme	Free	Free	Stop	Stop
Flared Lane			No	No
Storage Area [veh]	0	0	0	0
Two-Stage Gap Acceptance			No	No
Number of Storage Spaces in Median	0	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.01	0.00	0.01	0.02	0.01
d_M, Delay for Movement [s/veh]	7.28	0.00	0.00	7.39	0.00	0.00	9.69	9.97	8.57	9.69	10.05	8.90
Movement LOS	A	A	A	A	A	A	A	A	A	A	B	A
95th-Percentile Queue Length [veh/ln]	0.01	0.01	0.01	0.01	0.01	0.01	0.08	0.08	0.08	0.15	0.15	0.15
95th-Percentile Queue Length [ft/ln]	0.24	0.24	0.24	0.25	0.25	0.25	2.00	2.00	2.00	3.65	3.65	3.65
d_A, Approach Delay [s/veh]	0.37			0.86			9.57			9.61		
Approach LOS	A			A			A			A		
d_I, Intersection Delay [s/veh]	3.20											
Intersection LOS	B											

**Intersection Level Of Service Report
Intersection 11: 8th & Sacajawea**

Control Type:	Two-way stop	Delay (sec / veh):	14.1
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.012

Intersection Setup

Name	8th St NE			8th St NE			Sacajawea Dr			Sacajawea Dr		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration	+			+			+			+		
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	No			Yes			No			Yes		

Volumes

Name	8th St NE			8th St NE			Sacajawea Dr			Sacajawea Dr		
Base Volume Input [veh/h]	30	275	10	5	130	30	30	5	15	5	5	5
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	1.00	0.00	0.00	3.20	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	30	275	10	5	130	30	30	5	15	5	5	5
Peak Hour Factor	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	8	75	3	1	35	8	8	1	4	1	1	1
Total Analysis Volume [veh/h]	33	299	11	5	141	33	33	5	16	5	5	5
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Priority Scheme	Free	Free	Stop	Stop
Flared Lane			No	No
Storage Area [veh]	0	0	0	0
Two-Stage Gap Acceptance			No	No
Number of Storage Spaces in Median	0	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.02	0.00	0.00	0.00	0.00	0.00	0.08	0.01	0.02	0.01	0.01	0.01
d_M, Delay for Movement [s/veh]	7.61	0.00	0.00	7.86	0.00	0.00	14.09	14.10	9.85	13.65	13.62	10.09
Movement LOS	A	A	A	A	A	A	B	B	A	B	B	B
95th-Percentile Queue Length [veh/ln]	0.07	0.07	0.07	0.01	0.01	0.01	0.35	0.35	0.35	0.09	0.09	0.09
95th-Percentile Queue Length [ft/ln]	1.79	1.79	1.79	0.30	0.30	0.30	8.76	8.76	8.76	2.33	2.33	2.33
d_A, Approach Delay [s/veh]	0.73			0.22			12.83			12.46		
Approach LOS	A			A			B			B		
d_I, Intersection Delay [s/veh]	1.98											
Intersection LOS	B											

**Intersection Level Of Service Report
Intersection 12: 9th & 32nd**

Control Type: Two-way stop
 Analysis Method: HCM 6th Edition
 Analysis Period: 15 minutes

Delay (sec / veh): 11.1
 Level Of Service: B
 Volume to Capacity (v/c): 0.008

Intersection Setup

Name	9th St NE		9th St NE		32nd Ave NE	
Approach	Northbound		Southbound		Eastbound	
Lane Configuration	↶		↷		↷	
Turning Movement	Left	Thru	Thru	Right	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		No	

Volumes

Name	9th St NE		9th St NE		32nd Ave NE	
Base Volume Input [veh/h]	15	215	120	5	5	10
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	1.30	3.70	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	15	215	120	5	5	10
Peak Hour Factor	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	4	58	33	1	1	3
Total Analysis Volume [veh/h]	16	234	130	5	5	11
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Free	Free	Stop
Flared Lane			No
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance			No
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.01	0.00	0.00	0.00	0.01	0.01
d_M, Delay for Movement [s/veh]	7.49	0.00	0.00	0.00	11.06	9.00
Movement LOS	A	A	A	A	B	A
95th-Percentile Queue Length [veh/ln]	0.03	0.03	0.00	0.00	0.06	0.06
95th-Percentile Queue Length [ft/ln]	0.83	0.83	0.00	0.00	1.55	1.55
d_A, Approach Delay [s/veh]	0.48		0.00		9.64	
Approach LOS	A		A		A	
d_I, Intersection Delay [s/veh]	0.68					
Intersection LOS	B					

**Intersection Level Of Service Report
Intersection 13: 9th & Skyline**

Control Type: Two-way stop
 Analysis Method: HCM 6th Edition
 Analysis Period: 15 minutes

Delay (sec / veh): 9.3
 Level Of Service: A
 Volume to Capacity (v/c): 0.006

Intersection Setup

Name	9th St NE			9th St NE			Skyline Dr NE			Skyline Dr NE		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration	+			+			+			+		
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	No			No			No			No		

Volumes

Name	9th St NE			9th St NE			Skyline Dr NE			Skyline Dr NE		
Base Volume Input [veh/h]	5	5	5	5	5	0	0	25	5	5	5	5
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	5	5	5	5	5	0	0	25	5	5	5	5
Peak Hour Factor	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	1	1	1	1	1	0	0	7	1	1	1	1
Total Analysis Volume [veh/h]	5	5	5	5	5	0	0	27	5	5	5	5
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Priority Scheme	Stop	Stop	Free	Free
Flared Lane	No	No		
Storage Area [veh]	0	0	0	0
Two-Stage Gap Acceptance	No	No		
Number of Storage Spaces in Median	0	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.01	0.01	0.00	0.01	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00
d_M, Delay for Movement [s/veh]	8.86	9.33	8.49	8.87	9.32	8.38	7.22	0.00	0.00	7.27	0.00	0.00
Movement LOS	A	A	A	A	A	A	A	A	A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.05	0.05	0.05	0.03	0.03	0.03	0.00	0.00	0.00	0.01	0.01	0.01
95th-Percentile Queue Length [ft/ln]	1.22	1.22	1.22	0.85	0.85	0.85	0.00	0.00	0.00	0.24	0.24	0.24
d_A, Approach Delay [s/veh]	8.89			9.09			0.00			2.42		
Approach LOS	A			A			A			A		
d_I, Intersection Delay [s/veh]	3.62											
Intersection LOS	A											

North Great Falls Transportation Study

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Scenario 7 2040 AM Scenario 1

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10/7/2020

Intersection Analysis Summary

ID	Intersection Name	Control Type	Method	Worst Mvmt	V/C	Delay (s/veh)	LOS
1	6th & Vinyard	Two-way stop	HCM 6th Edition	EB Left	0.005	8.8	A
2	Bootlegger & 46th	Two-way stop	HCM 6th Edition	EB Left	0.007	10.3	B
3	36th & 2nd	Two-way stop	HCM 6th Edition	WB Left	0.089	12.3	B
4	36th & 5th	Two-way stop	HCM 6th Edition	NB Left	0.008	10.9	B
5	36th & 9th	Two-way stop	HCM 6th Edition	NB Left	0.055	19.5	C
6	Bootlegger & 36th	Two-way stop	HCM 6th Edition	EB Left	0.048	13.3	B
7	Skyline & 6th	Two-way stop	HCM 6th Edition	WB Left	0.100	9.4	A
8	Skyline & Division	Two-way stop	HCM 6th Edition	NB Left	0.012	9.1	A
9	Skyline & 2nd	Two-way stop	HCM 6th Edition	EB Thru	0.020	12.3	B
10	Skyline & 5th	Two-way stop	HCM 6th Edition	WB Thru	0.015	9.9	A
11	8th & Sacajawea	Two-way stop	HCM 6th Edition	EB Thru	0.011	14.6	B
12	9th & 32nd	Two-way stop	HCM 6th Edition	EB Left	0.009	11.4	B
13	9th & Skyline	Two-way stop	HCM 6th Edition	NB Thru	0.006	9.5	A

V/C, Delay, LOS: For two-way stop, these values are taken from the movement with the worst (highest) delay value. For all other control types, they are taken for the whole intersection.

**Intersection Level Of Service Report
Intersection 1: 6th & Vinyard**

Control Type:	Two-way stop	Delay (sec / veh):	8.8
Analysis Method:	HCM 6th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.005

Intersection Setup

Name	6th St NW		Vinyard Rd		Vinyard Rd	
Approach	Northbound		Southbound		Eastbound	
Lane Configuration	↶		↷		↷	
Turning Movement	Left	Thru	Thru	Right	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		No	

Volumes

Name	6th St NW		Vinyard Rd		Vinyard Rd	
Base Volume Input [veh/h]	10	10	15	5	5	15
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	50.00	0.00	20.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	10	10	15	5	5	15
Peak Hour Factor	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	3	3	4	1	1	4
Total Analysis Volume [veh/h]	11	11	16	5	5	16
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Free	Free	Stop
Flared Lane			No
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance			No
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.01	0.00	0.00	0.00	0.01	0.02
d_M, Delay for Movement [s/veh]	7.25	0.00	0.00	0.00	8.84	8.64
Movement LOS	A	A	A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.02	0.02	0.00	0.00	0.06	0.06
95th-Percentile Queue Length [ft/ln]	0.52	0.52	0.00	0.00	1.61	1.61
d_A, Approach Delay [s/veh]	3.63		0.00		8.69	
Approach LOS	A		A		A	
d_I, Intersection Delay [s/veh]	4.10					
Intersection LOS	A					

**Intersection Level Of Service Report
Intersection 2: Bootlegger & 46th**

Control Type:	Two-way stop	Delay (sec / veh):	10.3
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.007

Intersection Setup

Name	Bootlegger Trail		Bootlegger Trail		46th Ave NE	
Approach	Northbound		Southbound		Eastbound	
Lane Configuration						
Turning Movement	Left	Thru	Thru	Right	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	1	0	0	0	0
Entry Pocket Length [ft]	100.00	600.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	70.00		70.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		No	

Volumes

Name	Bootlegger Trail		Bootlegger Trail		46th Ave NE	
Base Volume Input [veh/h]	25	55	135	5	5	45
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	4.30	9.10	1.70	0.00	0.00	1.60
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	25	55	135	5	5	45
Peak Hour Factor	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	7	15	37	1	1	12
Total Analysis Volume [veh/h]	27	60	147	5	5	49
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Free	Free	Stop
Flared Lane			No
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance			No
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.02	0.00	0.00	0.00	0.01	0.05
d_M, Delay for Movement [s/veh]	7.59	0.00	0.00	0.00	10.30	9.28
Movement LOS	A	A	A	A	B	A
95th-Percentile Queue Length [veh/ln]	0.06	0.00	0.00	0.00	0.20	0.20
95th-Percentile Queue Length [ft/ln]	1.46	0.00	0.00	0.00	4.91	4.91
d_A, Approach Delay [s/veh]	2.36		0.00		9.37	
Approach LOS	A		A		A	
d_I, Intersection Delay [s/veh]	2.43					
Intersection LOS	B					

**Intersection Level Of Service Report
Intersection 3: 36th & 2nd**

Control Type: Two-way stop
 Analysis Method: HCM 6th Edition
 Analysis Period: 15 minutes

Delay (sec / veh): 12.3
 Level Of Service: B
 Volume to Capacity (v/c): 0.089

Intersection Setup

Name	2nd St NE			2nd St NE			36th Ave NE			36th Ave NE		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration	+			+			+			+		
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	2nd St NE			2nd St NE			36th Ave NE			36th Ave NE		
Base Volume Input [veh/h]	0	45	40	45	155	5	5	20	15	45	5	15
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	2.90	0.00	1.90	0.00	0.00	0.00	0.00	1.80	0.00	25.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	45	40	45	155	5	5	20	15	45	5	15
Peak Hour Factor	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	12	11	12	42	1	1	5	4	12	1	4
Total Analysis Volume [veh/h]	0	49	43	49	168	5	5	22	16	49	5	16
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Priority Scheme	Free	Free	Stop	Stop
Flared Lane			No	No
Storage Area [veh]	0	0	0	0
Two-Stage Gap Acceptance			No	No
Number of Storage Spaces in Median	0	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.00	0.00	0.03	0.00	0.00	0.01	0.04	0.02	0.09	0.01	0.02
d_M, Delay for Movement [s/veh]	7.54	0.00	0.00	7.45	0.00	0.00	11.63	11.96	9.50	12.27	12.16	9.63
Movement LOS	A	A	A	A	A	A	B	B	A	B	B	A
95th-Percentile Queue Length [veh/ln]	0.00	0.00	0.00	0.10	0.10	0.10	0.21	0.21	0.21	0.39	0.39	0.39
95th-Percentile Queue Length [ft/ln]	0.00	0.00	0.00	2.50	2.50	2.50	5.36	5.36	5.36	9.65	9.65	9.65
d_A, Approach Delay [s/veh]	0.00			1.65			11.00			11.65		
Approach LOS	A			A			B			B		
d_I, Intersection Delay [s/veh]	3.87											
Intersection LOS	B											

**Intersection Level Of Service Report
Intersection 4: 36th & 5th**

Control Type:	Two-way stop	Delay (sec / veh):	10.9
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.008

Intersection Setup

Name	5th St NE		36th Ave NE		36th Ave NE	
Approach	Northbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Left	Right	Thru	Right	Left	Thru
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		No	

Volumes

Name	5th St NE		36th Ave NE		36th Ave NE	
Base Volume Input [veh/h]	5	25	190	30	20	90
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	5.00	0.70	0.00	0.00	7.30
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	5	25	190	30	20	90
Peak Hour Factor	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	1	7	52	8	5	24
Total Analysis Volume [veh/h]	5	27	207	33	22	98
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Stop	Free	Free
Flared Lane	No		
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance	No		
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.01	0.03	0.00	0.00	0.02	0.00
d_M, Delay for Movement [s/veh]	10.94	9.65	0.00	0.00	7.73	0.00
Movement LOS	B	A	A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.13	0.13	0.00	0.00	0.05	0.05
95th-Percentile Queue Length [ft/ln]	3.23	3.23	0.00	0.00	1.25	1.25
d_A, Approach Delay [s/veh]	9.85		0.00		1.42	
Approach LOS	A		A		A	
d_I, Intersection Delay [s/veh]	1.24					
Intersection LOS	B					

**Intersection Level Of Service Report
Intersection 5: 36th & 9th**

Control Type: Two-way stop
 Analysis Method: HCM 6th Edition
 Analysis Period: 15 minutes

Delay (sec / veh): 19.5
 Level Of Service: C
 Volume to Capacity (v/c): 0.055

Intersection Setup

Name	9th St NE			9th St NE			36th Ave NE			36th Ave NE		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration	+			+			+			+		
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	No			No			No			No		

Volumes

Name	9th St NE			9th St NE			36th Ave NE			36th Ave NE		
Base Volume Input [veh/h]	15	45	40	10	110	25	15	225	35	50	95	5
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	20.00	0.00	0.00	0.00	2.70	11.00	0.00	0.50	7.10	4.40	7.10	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	15	45	40	10	110	25	15	225	35	50	95	5
Peak Hour Factor	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	4	12	11	3	30	7	4	61	10	14	26	1
Total Analysis Volume [veh/h]	16	49	43	11	120	27	16	245	38	54	103	5
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Priority Scheme	Stop	Stop	Free	Free
Flared Lane	No	No		
Storage Area [veh]	0	0	0	0
Two-Stage Gap Acceptance	No	No		
Number of Storage Spaces in Median	0	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.06	0.11	0.06	0.03	0.28	0.03	0.01	0.00	0.00	0.04	0.00	0.00
d_M, Delay for Movement [s/veh]	19.49	15.24	11.70	18.70	17.32	12.81	7.43	0.00	0.00	7.97	0.00	0.00
Movement LOS	C	C	B	C	C	B	A	A	A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.84	0.84	0.84	1.48	1.48	1.48	0.03	0.03	0.03	0.13	0.13	0.13
95th-Percentile Queue Length [ft/ln]	20.95	20.95	20.95	37.08	37.08	37.08	0.81	0.81	0.81	3.34	3.34	3.34
d_A, Approach Delay [s/veh]	14.46			16.65			0.40			2.66		
Approach LOS	B			C			A			A		
d_I, Intersection Delay [s/veh]	6.52											
Intersection LOS	C											

**Intersection Level Of Service Report
Intersection 6: Bootlegger & 36th**

Control Type:	Two-way stop	Delay (sec / veh):	13.3
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.048

Intersection Setup

Name	Bootlegger Trail		Bootlegger Trail		36th Ave NE	
Approach	Northbound		Southbound		Eastbound	
Lane Configuration	↵		↵		↵↵	
Turning Movement	Left	Thru	Thru	Right	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	1	0	0	0	1
Entry Pocket Length [ft]	100.00	250.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	45.00		45.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		No	

Volumes

Name	Bootlegger Trail		Bootlegger Trail		36th Ave NE	
Base Volume Input [veh/h]	95	60	225	50	20	300
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	11.60	6.70	0.00	6.50	3.60	0.70
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	95	60	225	50	20	300
Peak Hour Factor	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	26	16	61	14	5	82
Total Analysis Volume [veh/h]	103	65	245	54	22	326
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Free	Free	Stop
Flared Lane			
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance			No
Number of Storage Spaces in Median	0	0	1

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.09	0.00	0.00	0.00	0.05	0.42
d_M, Delay for Movement [s/veh]	8.25	0.00	0.00	0.00	13.30	13.07
Movement LOS	A	A	A	A	B	B
95th-Percentile Queue Length [veh/ln]	0.28	0.00	0.00	0.00	0.15	2.12
95th-Percentile Queue Length [ft/ln]	6.97	0.00	0.00	0.00	3.80	53.06
d_A, Approach Delay [s/veh]	5.06		0.00		13.08	
Approach LOS	A		A		B	
d_I, Intersection Delay [s/veh]	6.63					
Intersection LOS	B					

**Intersection Level Of Service Report
Intersection 7: Skyline & 6th**

Control Type:	Two-way stop	Delay (sec / veh):	9.4
Analysis Method:	HCM 6th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.100

Intersection Setup

Name	6th St NW		6th St NW		Skyline Dr NW	
Approach	Northbound		Southbound		Westbound	
Lane Configuration	↩		↪		↩	
Turning Movement	Thru	Right	Left	Thru	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		No	

Volumes

Name	6th St NW		6th St NW		Skyline Dr NW	
Base Volume Input [veh/h]	15	50	5	25	85	5
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	4.50	1.70	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	15	50	5	25	85	5
Peak Hour Factor	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	4	14	1	7	23	1
Total Analysis Volume [veh/h]	16	54	5	27	92	5
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Free	Free	Stop
Flared Lane			No
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance			No
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.00	0.00	0.00	0.10	0.00
d_M, Delay for Movement [s/veh]	0.00	0.00	7.34	0.00	9.37	8.94
Movement LOS	A	A	A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.00	0.00	0.01	0.01	0.35	0.35
95th-Percentile Queue Length [ft/ln]	0.00	0.00	0.24	0.24	8.75	8.75
d_A, Approach Delay [s/veh]	0.00		1.15		9.35	
Approach LOS	A		A		A	
d_I, Intersection Delay [s/veh]	4.74					
Intersection LOS	A					

**Intersection Level Of Service Report
Intersection 8: Skyline & Division**

Control Type:	Two-way stop	Delay (sec / veh):	9.1
Analysis Method:	HCM 6th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.012

Intersection Setup

Name	Division Rd		Skyline Dr NW		Skyline Dr NE	
Approach	Northbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Left	Right	Thru	Right	Left	Thru
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		No	

Volumes

Name	Division Rd		Skyline Dr NW		Skyline Dr NE	
Base Volume Input [veh/h]	10	5	25	35	10	30
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	2.80	0.00	0.00	1.60
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	10	5	25	35	10	30
Peak Hour Factor	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	3	1	7	10	3	8
Total Analysis Volume [veh/h]	11	5	27	38	11	33
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Stop	Free	Free
Flared Lane	No		
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance	No		
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.01	0.00	0.00	0.00	0.01	0.00
d_M, Delay for Movement [s/veh]	9.09	8.57	0.00	0.00	7.34	0.00
Movement LOS	A	A	A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.05	0.05	0.00	0.00	0.02	0.02
95th-Percentile Queue Length [ft/ln]	1.31	1.31	0.00	0.00	0.54	0.54
d_A, Approach Delay [s/veh]	8.92		0.00		1.83	
Approach LOS	A		A		A	
d_I, Intersection Delay [s/veh]	1.79					
Intersection LOS	A					

**Intersection Level Of Service Report
Intersection 9: Skyline & 2nd**

Control Type:	Two-way stop	Delay (sec / veh):	12.3
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.020

Intersection Setup

Name	2nd St NE			2nd St NE			Skyline Dr NE			Skyline Dr NE		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration	+			+			+			+		
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	No			No			No			No		

Volumes

Name	2nd St NE			2nd St NE			Skyline Dr NE			Skyline Dr NE		
Base Volume Input [veh/h]	5	80	5	5	225	60	35	10	5	5	10	10
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	4.60	0.00	0.00	2.10	1.80	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	5	80	5	5	225	60	35	10	5	5	10	10
Peak Hour Factor	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	1	22	1	1	61	16	10	3	1	1	3	3
Total Analysis Volume [veh/h]	5	87	5	5	245	65	38	11	5	5	11	11
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Priority Scheme	Free	Free	Stop	Stop
Flared Lane			No	No
Storage Area [veh]	0	0	0	0
Two-Stage Gap Acceptance			No	No
Number of Storage Spaces in Median	0	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.00	0.00	0.00	0.00	0.00	0.07	0.02	0.01	0.01	0.02	0.01
d_M, Delay for Movement [s/veh]	7.86	0.00	0.00	7.38	0.00	0.00	12.26	12.30	10.38	11.75	12.11	8.93
Movement LOS	A	A	A	A	A	A	B	B	B	B	B	A
95th-Percentile Queue Length [veh/ln]	0.01	0.01	0.01	0.01	0.01	0.01	0.32	0.32	0.32	0.13	0.13	0.13
95th-Percentile Queue Length [ft/ln]	0.30	0.30	0.30	0.25	0.25	0.25	7.94	7.94	7.94	3.23	3.23	3.23
d_A, Approach Delay [s/veh]	0.41			0.12			12.10			10.75		
Approach LOS	A			A			B			B		
d_I, Intersection Delay [s/veh]	2.07											
Intersection LOS	B											

**Intersection Level Of Service Report
Intersection 10: Skyline & 5th**

Control Type: Two-way stop
 Analysis Method: HCM 6th Edition
 Analysis Period: 15 minutes

Delay (sec / veh): 9.9
 Level Of Service: A
 Volume to Capacity (v/c): 0.015

Intersection Setup

Name	5th St NE			5th St NE			Skyline Dr NE			Skyline Dr NE		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration	+			+			+			+		
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	No			No			No			No		

Volumes

Name	5th St NE			5th St NE			Skyline Dr NE			Skyline Dr NE		
Base Volume Input [veh/h]	5	30	5	5	65	5	5	10	5	10	10	5
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	9.50	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	5	30	5	5	65	5	5	10	5	10	10	5
Peak Hour Factor	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	1	8	1	1	18	1	1	3	1	3	3	1
Total Analysis Volume [veh/h]	5	33	5	5	71	5	5	11	5	11	11	5
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Priority Scheme	Free	Free	Stop	Stop
Flared Lane			No	No
Storage Area [veh]	0	0	0	0
Two-Stage Gap Acceptance			No	No
Number of Storage Spaces in Median	0	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.01	0.01	0.01	0.01	0.00
d_M, Delay for Movement [s/veh]	7.35	0.00	0.00	7.28	0.00	0.00	9.50	9.87	8.74	9.53	9.90	8.60
Movement LOS	A	A	A	A	A	A	A	A	A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.01	0.01	0.01	0.01	0.01	0.01	0.08	0.08	0.08	0.10	0.10	0.10
95th-Percentile Queue Length [ft/ln]	0.24	0.24	0.24	0.24	0.24	0.24	1.97	1.97	1.97	2.53	2.53	2.53
d_A, Approach Delay [s/veh]	0.85			0.45			9.51			9.51		
Approach LOS	A			A			A			A		
d_I, Intersection Delay [s/veh]	3.08											
Intersection LOS	A											

**Intersection Level Of Service Report
Intersection 11: 8th & Sacajawea**

Control Type:	Two-way stop	Delay (sec / veh):	14.6
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.011

Intersection Setup

Name	8th St NE			8th St NE			Sacajawea Dr			Sacajawea Dr		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration	+			+			+			+		
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	No			Yes			No			Yes		

Volumes

Name	8th St NE			8th St NE			Sacajawea Dr			Sacajawea Dr		
Base Volume Input [veh/h]	20	110	5	5	265	80	45	5	70	5	5	5
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	4.80	0.00	0.00	2.60	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	20	110	5	5	265	80	45	5	70	5	5	5
Peak Hour Factor	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	5	30	1	1	72	22	12	1	19	1	1	1
Total Analysis Volume [veh/h]	22	120	5	5	288	87	49	5	76	5	5	5
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Priority Scheme	Free	Free	Stop	Stop
Flared Lane			No	No
Storage Area [veh]	0	0	0	0
Two-Stage Gap Acceptance			No	No
Number of Storage Spaces in Median	0	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.02	0.00	0.00	0.00	0.00	0.00	0.11	0.01	0.11	0.01	0.01	0.01
d_M, Delay for Movement [s/veh]	8.07	0.00	0.00	7.45	0.00	0.00	14.61	14.64	11.82	14.42	13.51	9.07
Movement LOS	A	A	A	A	A	A	B	B	B	B	B	A
95th-Percentile Queue Length [veh/ln]	0.06	0.06	0.06	0.01	0.01	0.01	0.85	0.85	0.85	0.09	0.09	0.09
95th-Percentile Queue Length [ft/ln]	1.41	1.41	1.41	0.26	0.26	0.26	21.31	21.31	21.31	2.29	2.29	2.29
d_A, Approach Delay [s/veh]	1.21			0.10			12.98			12.33		
Approach LOS	A			A			B			B		
d_I, Intersection Delay [s/veh]	3.11											
Intersection LOS	B											

**Intersection Level Of Service Report
Intersection 12: 9th & 32nd**

Control Type: Two-way stop
 Analysis Method: HCM 6th Edition
 Analysis Period: 15 minutes

Delay (sec / veh): 11.4
 Level Of Service: B
 Volume to Capacity (v/c): 0.009

Intersection Setup

Name	9th St NE		9th St NE		32nd Ave NE	
Approach	Northbound		Southbound		Eastbound	
Lane Configuration	↶		↷		↷	
Turning Movement	Left	Thru	Thru	Right	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		No	

Volumes

Name	9th St NE		9th St NE		32nd Ave NE	
Base Volume Input [veh/h]	5	125	270	5	5	15
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	4.10	2.90	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	5	125	270	5	5	15
Peak Hour Factor	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	1	34	73	1	1	4
Total Analysis Volume [veh/h]	5	136	293	5	5	16
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Free	Free	Stop
Flared Lane			No
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance			No
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.00	0.00	0.00	0.01	0.02
d_M, Delay for Movement [s/veh]	7.84	0.00	0.00	0.00	11.42	9.97
Movement LOS	A	A	A	A	B	A
95th-Percentile Queue Length [veh/ln]	0.01	0.01	0.00	0.00	0.09	0.09
95th-Percentile Queue Length [ft/ln]	0.30	0.30	0.00	0.00	2.32	2.32
d_A, Approach Delay [s/veh]	0.28		0.00		10.32	
Approach LOS	A		A		B	
d_I, Intersection Delay [s/veh]	0.56					
Intersection LOS	B					

**Intersection Level Of Service Report
Intersection 13: 9th & Skyline**

Control Type: Two-way stop
 Analysis Method: HCM 6th Edition
 Analysis Period: 15 minutes

Delay (sec / veh): 9.5
 Level Of Service: A
 Volume to Capacity (v/c): 0.006

Intersection Setup

Name	9th St NE			9th St NE			Skyline Dr NE			Skyline Dr NE		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration	+			+			+			+		
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	No			No			No			No		

Volumes

Name	9th St NE			9th St NE			Skyline Dr NE			Skyline Dr NE		
Base Volume Input [veh/h]	5	5	5	5	5	0	0	20	5	5	30	5
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	5	5	5	5	5	0	0	20	5	5	30	5
Peak Hour Factor	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	1	1	1	1	1	0	0	5	1	1	8	1
Total Analysis Volume [veh/h]	5	5	5	5	5	0	0	22	5	5	33	5
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Priority Scheme	Stop	Stop	Free	Free
Flared Lane	No	No		
Storage Area [veh]	0	0	0	0
Two-Stage Gap Acceptance	No	No		
Number of Storage Spaces in Median	0	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.01	0.01	0.00	0.01	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00
d_M, Delay for Movement [s/veh]	8.99	9.46	8.47	9.01	9.44	8.50	7.27	0.00	0.00	7.26	0.00	0.00
Movement LOS	A	A	A	A	A	A	A	A	A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.05	0.05	0.05	0.04	0.04	0.04	0.00	0.00	0.00	0.01	0.01	0.01
95th-Percentile Queue Length [ft/ln]	1.24	1.24	1.24	0.88	0.88	0.88	0.00	0.00	0.00	0.24	0.24	0.24
d_A, Approach Delay [s/veh]	8.97			9.23			0.00			0.84		
Approach LOS	A			A			A			A		
d_I, Intersection Delay [s/veh]	2.77											
Intersection LOS	A											

North Great Falls Transportation Study

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Scenario 8 2040 PM Scenario 1

Report File: P:\...\2040 AM Scenario 2.pdf

10/7/2020

Intersection Analysis Summary

ID	Intersection Name	Control Type	Method	Worst Mvmt	V/C	Delay (s/veh)	LOS
1	6th & Vinyard	Two-way stop	HCM 6th Edition	EB Left	0.005	8.8	A
2	Bootlegger & 46th	Two-way stop	HCM 6th Edition	EB Left	0.007	10.2	B
3	36th & 2nd	Two-way stop	HCM 6th Edition	WB Thru	0.049	13.0	B
4	36th & 5th	Two-way stop	HCM 6th Edition	NB Left	0.040	11.9	B
5	36th & 9th	Two-way stop	HCM 6th Edition	NB Left	0.143	25.2	D
6	Bootlegger & 36th	Two-way stop	HCM 6th Edition	EB Left	0.112	33.3	D
7	Skyline & 6th	Two-way stop	HCM 6th Edition	WB Left	0.097	9.5	A
8	Skyline & Division	Two-way stop	HCM 6th Edition	NB Left	0.030	9.2	A
9	Skyline & 2nd	Two-way stop	HCM 6th Edition	EB Left	0.061	12.4	B
10	Skyline & 5th	Two-way stop	HCM 6th Edition	WB Thru	0.021	10.0	B
11	8th & Sacajawea	Two-way stop	HCM 6th Edition	EB Thru	0.012	14.1	B
12	9th & 32nd	Two-way stop	HCM 6th Edition	EB Left	0.008	11.1	B
13	9th & Skyline	Two-way stop	HCM 6th Edition	NB Thru	0.006	9.3	A

V/C, Delay, LOS: For two-way stop, these values are taken from the movement with the worst (highest) delay value. For all other control types, they are taken for the whole intersection.

**Intersection Level Of Service Report
Intersection 1: 6th & Vinyard**

Control Type:	Two-way stop	Delay (sec / veh):	8.8
Analysis Method:	HCM 6th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.005

Intersection Setup

Name	6th St NW		Vinyard Rd		Vinyard Rd	
Approach	Northbound		Southbound		Eastbound	
Lane Configuration	↶		↷		↷	
Turning Movement	Left	Thru	Thru	Right	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		No	

Volumes

Name	6th St NW		Vinyard Rd		Vinyard Rd	
Base Volume Input [veh/h]	10	10	10	5	5	20
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	10	10	10	5	5	20
Peak Hour Factor	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	3	3	3	1	1	5
Total Analysis Volume [veh/h]	11	11	11	5	5	22
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Free	Free	Stop
Flared Lane			No
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance			No
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.01	0.00	0.00	0.00	0.01	0.02
d_M, Delay for Movement [s/veh]	7.24	0.00	0.00	0.00	8.83	8.45
Movement LOS	A	A	A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.02	0.02	0.00	0.00	0.08	0.08
95th-Percentile Queue Length [ft/ln]	0.51	0.51	0.00	0.00	1.98	1.98
d_A, Approach Delay [s/veh]	3.62		0.00		8.52	
Approach LOS	A		A		A	
d_I, Intersection Delay [s/veh]	4.76					
Intersection LOS	A					

**Intersection Level Of Service Report
Intersection 2: Bootlegger & 46th**

Control Type:	Two-way stop	Delay (sec / veh):	10.2
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.007

Intersection Setup

Name	Bootlegger Trail		Bootlegger Trail		46th Ave NE	
Approach	Northbound		Southbound		Eastbound	
Lane Configuration						
Turning Movement	Left	Thru	Thru	Right	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	1	0	0	0	0
Entry Pocket Length [ft]	100.00	600.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	70.00		70.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		No	

Volumes

Name	Bootlegger Trail		Bootlegger Trail		46th Ave NE	
Base Volume Input [veh/h]	30	120	55	5	5	30
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	30	120	55	5	5	30
Peak Hour Factor	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	8	33	15	1	1	8
Total Analysis Volume [veh/h]	33	130	60	5	5	33
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Free	Free	Stop
Flared Lane			No
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance			No
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.02	0.00	0.00	0.00	0.01	0.03
d_M, Delay for Movement [s/veh]	7.37	0.00	0.00	0.00	10.16	8.73
Movement LOS	A	A	A	A	B	A
95th-Percentile Queue Length [veh/ln]	0.07	0.00	0.00	0.00	0.12	0.12
95th-Percentile Queue Length [ft/ln]	1.63	0.00	0.00	0.00	3.10	3.10
d_A, Approach Delay [s/veh]	1.49		0.00		8.92	
Approach LOS	A		A		A	
d_I, Intersection Delay [s/veh]	2.19					
Intersection LOS	B					

**Intersection Level Of Service Report
Intersection 3: 36th & 2nd**

Control Type: Two-way stop
 Analysis Method: HCM 6th Edition
 Analysis Period: 15 minutes

Delay (sec / veh): 13.0
 Level Of Service: B
 Volume to Capacity (v/c): 0.049

Intersection Setup

Name	2nd St NE			2nd St NE			36th Ave NE			36th Ave NE		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration	+			+			+			+		
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	2nd St NE			2nd St NE			36th Ave NE			36th Ave NE		
Base Volume Input [veh/h]	20	135	50	20	80	5	5	10	5	65	25	30
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	1.00	0.00	0.00	0.00	100.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	20	135	50	20	80	5	5	10	5	65	25	30
Peak Hour Factor	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	5	37	14	5	22	1	1	3	1	18	7	8
Total Analysis Volume [veh/h]	22	147	54	22	87	5	5	11	5	71	27	33
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Priority Scheme	Free	Free	Stop	Stop
Flared Lane			No	No
Storage Area [veh]	0	0	0	0
Two-Stage Gap Acceptance			No	No
Number of Storage Spaces in Median	0	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.01	0.00	0.00	0.02	0.00	0.00	0.01	0.02	0.01	0.12	0.05	0.04
d_M, Delay for Movement [s/veh]	7.41	0.00	0.00	7.64	0.00	0.00	12.09	11.91	8.92	12.82	13.01	10.65
Movement LOS	A	A	A	A	A	A	B	B	A	B	B	B
95th-Percentile Queue Length [veh/ln]	0.04	0.04	0.04	0.05	0.05	0.05	0.11	0.11	0.11	0.79	0.79	0.79
95th-Percentile Queue Length [ft/ln]	1.10	1.10	1.10	1.21	1.21	1.21	2.72	2.72	2.72	19.72	19.72	19.72
d_A, Approach Delay [s/veh]	0.73			1.48			11.24			12.31		
Approach LOS	A			A			B			B		
d_I, Intersection Delay [s/veh]	4.46											
Intersection LOS	B											

**Intersection Level Of Service Report
Intersection 4: 36th & 5th**

Control Type:	Two-way stop	Delay (sec / veh):	11.9
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.040

Intersection Setup

Name	5th St NE		36th Ave NE		36th Ave NE	
Approach	Northbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Left	Right	Thru	Right	Left	Thru
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		No	

Volumes

Name	5th St NE		36th Ave NE		36th Ave NE	
Base Volume Input [veh/h]	20	25	125	10	25	245
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	20	25	125	10	25	245
Peak Hour Factor	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	5	7	34	3	7	67
Total Analysis Volume [veh/h]	22	27	136	11	27	266
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Stop	Free	Free
Flared Lane	No		
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance	No		
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.04	0.03	0.00	0.00	0.02	0.00
d_M, Delay for Movement [s/veh]	11.93	9.33	0.00	0.00	7.53	0.00
Movement LOS	B	A	A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.22	0.22	0.00	0.00	0.06	0.06
95th-Percentile Queue Length [ft/ln]	5.60	5.60	0.00	0.00	1.43	1.43
d_A, Approach Delay [s/veh]	10.50		0.00		0.69	
Approach LOS	B		A		A	
d_I, Intersection Delay [s/veh]	1.47					
Intersection LOS	B					

**Intersection Level Of Service Report
Intersection 5: 36th & 9th**

Control Type: Two-way stop
 Analysis Method: HCM 6th Edition
 Analysis Period: 15 minutes

Delay (sec / veh): 25.2
 Level Of Service: D
 Volume to Capacity (v/c): 0.143

Intersection Setup

Name	9th St NE			9th St NE			36th Ave NE			36th Ave NE		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration	+			+			+			+		
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	No			No			No			No		

Volumes

Name	9th St NE			9th St NE			36th Ave NE			36th Ave NE		
Base Volume Input [veh/h]	35	70	15	5	50	25	65	120	15	45	270	10
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	6.30	0.00	0.00	0.00	4.20	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	35	70	15	5	50	25	65	120	15	45	270	10
Peak Hour Factor	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	10	19	4	1	14	7	18	33	4	12	73	3
Total Analysis Volume [veh/h]	38	76	16	5	54	27	71	130	16	49	293	11
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Priority Scheme	Stop	Stop	Free	Free
Flared Lane	No	No		
Storage Area [veh]	0	0	0	0
Two-Stage Gap Acceptance	No	No		
Number of Storage Spaces in Median	0	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.14	0.23	0.02	0.02	0.16	0.04	0.06	0.00	0.00	0.03	0.00	0.00
d_M, Delay for Movement [s/veh]	25.16	22.24	15.50	21.42	18.39	12.36	8.01	0.00	0.00	7.57	0.00	0.00
Movement LOS	D	C	C	C	C	B	A	A	A	A	A	A
95th-Percentile Queue Length [veh/ln]	1.77	1.77	1.77	0.82	0.82	0.82	0.18	0.18	0.18	0.10	0.10	0.10
95th-Percentile Queue Length [ft/ln]	44.16	44.16	44.16	20.51	20.51	20.51	4.44	4.44	4.44	2.62	2.62	2.62
d_A, Approach Delay [s/veh]	22.26			16.67			2.62			1.05		
Approach LOS	C			C			A			A		
d_I, Intersection Delay [s/veh]	6.70											
Intersection LOS	D											

**Intersection Level Of Service Report
Intersection 6: Bootlegger & 36th**

Control Type:	Two-way stop	Delay (sec / veh):	33.3
Analysis Method:	HCM 6th Edition	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.112

Intersection Setup

Name	Bootlegger Trail		Bootlegger Trail		36th Ave NE	
Approach	Northbound		Southbound		Eastbound	
Lane Configuration	↵		↵		↵↶	
Turning Movement	Left	Thru	Thru	Right	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	1	0	0	0	1
Entry Pocket Length [ft]	100.00	250.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	45.00		45.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		No	

Volumes

Name	Bootlegger Trail		Bootlegger Trail		36th Ave NE	
Base Volume Input [veh/h]	395	205	110	20	15	150
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.80
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	395	205	110	20	15	150
Peak Hour Factor	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	107	56	30	5	4	41
Total Analysis Volume [veh/h]	429	223	120	22	16	163
Pedestrian Volume [ped/h]	0		0		0	




Intersection Settings

Priority Scheme	Free	Free	Stop
Flared Lane			
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance			No
Number of Storage Spaces in Median	0	0	1

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.30	0.00	0.00	0.00	0.11	0.18
d_M, Delay for Movement [s/veh]	8.51	0.00	0.00	0.00	33.30	9.74
Movement LOS	A	A	A	A	D	A
95th-Percentile Queue Length [veh/ln]	1.24	0.00	0.00	0.00	0.37	0.64
95th-Percentile Queue Length [ft/ln]	31.11	0.00	0.00	0.00	9.23	16.00
d_A, Approach Delay [s/veh]	5.60		0.00		11.85	
Approach LOS	A		A		B	
d_I, Intersection Delay [s/veh]	5.93					
Intersection LOS	D					

**Intersection Level Of Service Report
Intersection 7: Skyline & 6th**Control Type: Two-way stop
Analysis Method: HCM 6th Edition
Analysis Period: 15 minutesDelay (sec / veh): 9.5
Level Of Service: A
Volume to Capacity (v/c): 0.097**Intersection Setup**

Name	6th St NW		6th St NW		Skyline Dr NW	
Approach	Northbound		Southbound		Westbound	
Lane Configuration						
Turning Movement	Thru	Right	Left	Thru	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		No	

Volumes

Name	6th St NW		6th St NW		Skyline Dr NW	
Base Volume Input [veh/h]	15	120	5	10	80	5
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	1.90	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	15	120	5	10	80	5
Peak Hour Factor	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	4	33	1	3	22	1
Total Analysis Volume [veh/h]	16	130	5	11	87	5
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Free	Free	Stop
Flared Lane			No
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance			No
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.00	0.00	0.00	0.10	0.01
d_M, Delay for Movement [s/veh]	0.00	0.00	7.49	0.00	9.49	9.11
Movement LOS	A	A	A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.00	0.00	0.01	0.01	0.34	0.34
95th-Percentile Queue Length [ft/ln]	0.00	0.00	0.26	0.26	8.53	8.53
d_A, Approach Delay [s/veh]	0.00		2.34		9.47	
Approach LOS	A		A		A	
d_I, Intersection Delay [s/veh]	3.58					
Intersection LOS	A					

**Intersection Level Of Service Report
Intersection 8: Skyline & Division**

Control Type:	Two-way stop	Delay (sec / veh):	9.2
Analysis Method:	HCM 6th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.030

Intersection Setup

Name	Division Rd		Skyline Dr NW		Skyline Dr NE	
Approach	Northbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Left	Right	Thru	Right	Left	Thru
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		No	

Volumes

Name	Division Rd		Skyline Dr NW		Skyline Dr NE	
Base Volume Input [veh/h]	25	10	30	20	5	45
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	1.80
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	25	10	30	20	5	45
Peak Hour Factor	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	7	3	8	5	1	12
Total Analysis Volume [veh/h]	27	11	33	22	5	49
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Stop	Free	Free
Flared Lane	No		
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance	No		
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.03	0.01	0.00	0.00	0.00	0.00
d_M, Delay for Movement [s/veh]	9.18	8.65	0.00	0.00	7.31	0.00
Movement LOS	A	A	A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.13	0.13	0.00	0.00	0.01	0.01
95th-Percentile Queue Length [ft/ln]	3.18	3.18	0.00	0.00	0.24	0.24
d_A, Approach Delay [s/veh]	9.03		0.00		0.68	
Approach LOS	A		A		A	
d_I, Intersection Delay [s/veh]	2.58					
Intersection LOS	A					

**Intersection Level Of Service Report
Intersection 9: Skyline & 2nd**

Control Type:	Two-way stop	Delay (sec / veh):	12.4
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.061

Intersection Setup

Name	2nd St NE			2nd St NE			Skyline Dr NE			Skyline Dr NE		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration	+			+			+			+		
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	No			No			No			No		

Volumes

Name	2nd St NE			2nd St NE			Skyline Dr NE			Skyline Dr NE		
Base Volume Input [veh/h]	5	200	10	5	115	40	30	15	5	5	10	15
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	1.90	0.00	0.00	2.10	2.10	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	5	200	10	5	115	40	30	15	5	5	10	15
Peak Hour Factor	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	1	54	3	1	31	11	8	4	1	1	3	4
Total Analysis Volume [veh/h]	5	217	11	5	125	43	33	16	5	5	11	16
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Priority Scheme	Free	Free	Stop	Stop
Flared Lane			No	No
Storage Area [veh]	0	0	0	0
Two-Stage Gap Acceptance			No	No
Number of Storage Spaces in Median	0	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.00	0.00	0.00	0.00	0.00	0.06	0.03	0.01	0.01	0.02	0.02
d_M, Delay for Movement [s/veh]	7.54	0.00	0.00	7.67	0.00	0.00	12.36	12.34	9.66	11.89	12.08	9.67
Movement LOS	A	A	A	A	A	A	B	B	A	B	B	A
95th-Percentile Queue Length [veh/ln]	0.01	0.01	0.01	0.01	0.01	0.01	0.32	0.32	0.32	0.16	0.16	0.16
95th-Percentile Queue Length [ft/ln]	0.26	0.26	0.26	0.28	0.28	0.28	7.96	7.96	7.96	3.89	3.89	3.89
d_A, Approach Delay [s/veh]	0.16			0.22			12.11			10.85		
Approach LOS	A			A			B			B		
d_I, Intersection Delay [s/veh]	2.19											
Intersection LOS	B											

**Intersection Level Of Service Report
Intersection 10: Skyline & 5th**

Control Type: Two-way stop
 Analysis Method: HCM 6th Edition
 Analysis Period: 15 minutes

Delay (sec / veh): 10.0
 Level Of Service: B
 Volume to Capacity (v/c): 0.021

Intersection Setup

Name	5th St NE			5th St NE			Skyline Dr NE			Skyline Dr NE		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration	+			+			+			+		
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	No			No			No			No		

Volumes

Name	5th St NE			5th St NE			Skyline Dr NE			Skyline Dr NE		
Base Volume Input [veh/h]	5	75	10	5	30	5	5	10	5	10	15	10
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	5	75	10	5	30	5	5	10	5	10	15	10
Peak Hour Factor	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	1	20	3	1	8	1	1	3	1	3	4	3
Total Analysis Volume [veh/h]	5	82	11	5	33	5	5	11	5	11	16	11
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Priority Scheme	Free	Free	Stop	Stop
Flared Lane			No	No
Storage Area [veh]	0	0	0	0
Two-Stage Gap Acceptance			No	No
Number of Storage Spaces in Median	0	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.01	0.00	0.01	0.02	0.01
d_M, Delay for Movement [s/veh]	7.28	0.00	0.00	7.39	0.00	0.00	9.69	9.97	8.57	9.69	10.05	8.90
Movement LOS	A	A	A	A	A	A	A	A	A	A	B	A
95th-Percentile Queue Length [veh/ln]	0.01	0.01	0.01	0.01	0.01	0.01	0.08	0.08	0.08	0.15	0.15	0.15
95th-Percentile Queue Length [ft/ln]	0.24	0.24	0.24	0.25	0.25	0.25	2.00	2.00	2.00	3.65	3.65	3.65
d_A, Approach Delay [s/veh]	0.37			0.86			9.57			9.61		
Approach LOS	A			A			A			A		
d_I, Intersection Delay [s/veh]	3.20											
Intersection LOS	B											

**Intersection Level Of Service Report
Intersection 11: 8th & Sacajawea**

Control Type: Two-way stop
 Analysis Method: HCM 6th Edition
 Analysis Period: 15 minutes

Delay (sec / veh): 14.1
 Level Of Service: B
 Volume to Capacity (v/c): 0.012

Intersection Setup

Name	8th St NE			8th St NE			Sacajawea Dr			Sacajawea Dr		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration	+			+			+			+		
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	No			Yes			No			Yes		

Volumes

Name	8th St NE			8th St NE			Sacajawea Dr			Sacajawea Dr		
Base Volume Input [veh/h]	30	275	10	5	130	30	30	5	15	5	5	5
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	1.00	0.00	0.00	3.20	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	30	275	10	5	130	30	30	5	15	5	5	5
Peak Hour Factor	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	8	75	3	1	35	8	8	1	4	1	1	1
Total Analysis Volume [veh/h]	33	299	11	5	141	33	33	5	16	5	5	5
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Priority Scheme	Free	Free	Stop	Stop
Flared Lane			No	No
Storage Area [veh]	0	0	0	0
Two-Stage Gap Acceptance			No	No
Number of Storage Spaces in Median	0	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.02	0.00	0.00	0.00	0.00	0.00	0.08	0.01	0.02	0.01	0.01	0.01
d_M, Delay for Movement [s/veh]	7.61	0.00	0.00	7.86	0.00	0.00	14.09	14.10	9.85	13.65	13.62	10.09
Movement LOS	A	A	A	A	A	A	B	B	A	B	B	B
95th-Percentile Queue Length [veh/ln]	0.07	0.07	0.07	0.01	0.01	0.01	0.35	0.35	0.35	0.09	0.09	0.09
95th-Percentile Queue Length [ft/ln]	1.79	1.79	1.79	0.30	0.30	0.30	8.76	8.76	8.76	2.33	2.33	2.33
d_A, Approach Delay [s/veh]	0.73			0.22			12.83			12.46		
Approach LOS	A			A			B			B		
d_I, Intersection Delay [s/veh]	1.98											
Intersection LOS	B											

**Intersection Level Of Service Report
Intersection 12: 9th & 32nd**

Control Type: Two-way stop
 Analysis Method: HCM 6th Edition
 Analysis Period: 15 minutes

Delay (sec / veh): 11.1
 Level Of Service: B
 Volume to Capacity (v/c): 0.008

Intersection Setup

Name	9th St NE		9th St NE		32nd Ave NE	
Approach	Northbound		Southbound		Eastbound	
Lane Configuration	↶		↷		↷	
Turning Movement	Left	Thru	Thru	Right	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		No	

Volumes

Name	9th St NE		9th St NE		32nd Ave NE	
Base Volume Input [veh/h]	15	215	120	5	5	10
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	1.30	3.70	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	15	215	120	5	5	10
Peak Hour Factor	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	4	58	33	1	1	3
Total Analysis Volume [veh/h]	16	234	130	5	5	11
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Free	Free	Stop
Flared Lane			No
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance			No
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.01	0.00	0.00	0.00	0.01	0.01
d_M, Delay for Movement [s/veh]	7.49	0.00	0.00	0.00	11.06	9.00
Movement LOS	A	A	A	A	B	A
95th-Percentile Queue Length [veh/ln]	0.03	0.03	0.00	0.00	0.06	0.06
95th-Percentile Queue Length [ft/ln]	0.83	0.83	0.00	0.00	1.55	1.55
d_A, Approach Delay [s/veh]	0.48		0.00		9.64	
Approach LOS	A		A		A	
d_I, Intersection Delay [s/veh]	0.68					
Intersection LOS	B					

**Intersection Level Of Service Report
Intersection 13: 9th & Skyline**

Control Type: Two-way stop
 Analysis Method: HCM 6th Edition
 Analysis Period: 15 minutes

Delay (sec / veh): 9.3
 Level Of Service: A
 Volume to Capacity (v/c): 0.006

Intersection Setup

Name	9th St NE			9th St NE			Skyline Dr NE			Skyline Dr NE		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration	+			+			+			+		
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	No			No			No			No		

Volumes

Name	9th St NE			9th St NE			Skyline Dr NE			Skyline Dr NE		
Base Volume Input [veh/h]	5	5	5	5	5	0	0	25	5	5	5	5
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	5	5	5	5	5	0	0	25	5	5	5	5
Peak Hour Factor	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	1	1	1	1	1	0	0	7	1	1	1	1
Total Analysis Volume [veh/h]	5	5	5	5	5	0	0	27	5	5	5	5
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Priority Scheme	Stop	Stop	Free	Free
Flared Lane	No	No		
Storage Area [veh]	0	0	0	0
Two-Stage Gap Acceptance	No	No		
Number of Storage Spaces in Median	0	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.01	0.01	0.00	0.01	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00
d_M, Delay for Movement [s/veh]	8.86	9.33	8.49	8.87	9.32	8.38	7.22	0.00	0.00	7.27	0.00	0.00
Movement LOS	A	A	A	A	A	A	A	A	A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.05	0.05	0.05	0.03	0.03	0.03	0.00	0.00	0.00	0.01	0.01	0.01
95th-Percentile Queue Length [ft/ln]	1.22	1.22	1.22	0.85	0.85	0.85	0.00	0.00	0.00	0.24	0.24	0.24
d_A, Approach Delay [s/veh]	8.89			9.09			0.00			2.42		
Approach LOS	A			A			A			A		
d_I, Intersection Delay [s/veh]	3.62											
Intersection LOS	A											

North Great Falls Transportation Study

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Scenario 9 2040 AM Scenario 2

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10/7/2020

Intersection Analysis Summary

ID	Intersection Name	Control Type	Method	Worst Mvmt	V/C	Delay (s/veh)	LOS
1	6th & Vinyard	Two-way stop	HCM 6th Edition	EB Left	0.005	8.8	A
2	Bootlegger & 46th	Two-way stop	HCM 6th Edition	EB Left	0.007	10.3	B
3	36th & 2nd	Two-way stop	HCM 6th Edition	WB Left	0.078	12.4	B
4	36th & 5th	Two-way stop	HCM 6th Edition	NB Left	0.008	10.9	B
5	36th & 9th	Two-way stop	HCM 6th Edition	NB Left	0.055	19.5	C
6	Bootlegger & 36th	Two-way stop	HCM 6th Edition	EB Left	0.048	13.3	B
7	Skyline & 6th	Two-way stop	HCM 6th Edition	WB Left	0.032	9.5	A
8	Skyline & Division	Two-way stop	HCM 6th Edition	NB Left	0.012	8.9	A
9	Skyline & 2nd	Two-way stop	HCM 6th Edition	EB Thru	0.020	11.7	B
10	Skyline & 5th	Two-way stop	HCM 6th Edition	WB Thru	0.015	9.9	A
11	8th & Sacajawea	Two-way stop	HCM 6th Edition	EB Thru	0.011	14.6	B
12	9th & 32nd	Two-way stop	HCM 6th Edition	EB Left	0.009	11.4	B
13	9th & Skyline	Two-way stop	HCM 6th Edition	NB Thru	0.006	9.5	A

V/C, Delay, LOS: For two-way stop, these values are taken from the movement with the worst (highest) delay value. For all other control types, they are taken for the whole intersection.

Intersection Level Of Service Report
Intersection 1: 6th & Vinyard

Control Type:	Two-way stop	Delay (sec / veh):	8.8
Analysis Method:	HCM 6th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.005

Intersection Setup

Name	6th St NW		Vinyard Rd		Vinyard Rd	
Approach	Northbound		Southbound		Eastbound	
Lane Configuration	↶		↷		↷	
Turning Movement	Left	Thru	Thru	Right	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		No	

Volumes

Name	6th St NW		Vinyard Rd		Vinyard Rd	
Base Volume Input [veh/h]	10	10	15	5	5	15
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	50.00	0.00	20.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	10	10	15	5	5	15
Peak Hour Factor	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	3	3	4	1	1	4
Total Analysis Volume [veh/h]	11	11	16	5	5	16
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Free	Free	Stop
Flared Lane			No
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance			No
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.01	0.00	0.00	0.00	0.01	0.02
d_M, Delay for Movement [s/veh]	7.25	0.00	0.00	0.00	8.84	8.64
Movement LOS	A	A	A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.02	0.02	0.00	0.00	0.06	0.06
95th-Percentile Queue Length [ft/ln]	0.52	0.52	0.00	0.00	1.61	1.61
d_A, Approach Delay [s/veh]	3.63		0.00		8.69	
Approach LOS	A		A		A	
d_I, Intersection Delay [s/veh]	4.10					
Intersection LOS	A					

**Intersection Level Of Service Report
Intersection 2: Bootlegger & 46th**

Control Type:	Two-way stop	Delay (sec / veh):	10.3
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.007

Intersection Setup

Name	Bootlegger Trail		Bootlegger Trail		46th Ave NE	
Approach	Northbound		Southbound		Eastbound	
Lane Configuration						
Turning Movement	Left	Thru	Thru	Right	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	1	0	0	0	0
Entry Pocket Length [ft]	100.00	600.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	70.00		70.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		No	

Volumes

Name	Bootlegger Trail		Bootlegger Trail		46th Ave NE	
Base Volume Input [veh/h]	25	55	135	5	5	45
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	4.30	9.10	1.70	0.00	0.00	1.60
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	25	55	135	5	5	45
Peak Hour Factor	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	7	15	37	1	1	12
Total Analysis Volume [veh/h]	27	60	147	5	5	49
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Free	Free	Stop
Flared Lane			No
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance			No
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.02	0.00	0.00	0.00	0.01	0.05
d_M, Delay for Movement [s/veh]	7.59	0.00	0.00	0.00	10.30	9.28
Movement LOS	A	A	A	A	B	A
95th-Percentile Queue Length [veh/ln]	0.06	0.00	0.00	0.00	0.20	0.20
95th-Percentile Queue Length [ft/ln]	1.46	0.00	0.00	0.00	4.91	4.91
d_A, Approach Delay [s/veh]	2.36		0.00		9.37	
Approach LOS	A		A		A	
d_I, Intersection Delay [s/veh]	2.43					
Intersection LOS	B					

**Intersection Level Of Service Report
Intersection 3: 36th & 2nd**

Control Type: Two-way stop
 Analysis Method: HCM 6th Edition
 Analysis Period: 15 minutes

Delay (sec / veh): 12.4
 Level Of Service: B
 Volume to Capacity (v/c): 0.078

Intersection Setup

Name	2nd St NE			2nd St NE			36th Ave NE			36th Ave NE		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration	+			+			+			+		
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	2nd St NE			2nd St NE			36th Ave NE			36th Ave NE		
Base Volume Input [veh/h]	5	40	35	45	145	10	5	25	15	40	15	15
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	2.90	0.00	1.90	0.00	0.00	0.00	0.00	1.80	0.00	25.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	5	40	35	45	145	10	5	25	15	40	15	15
Peak Hour Factor	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	1	11	10	12	39	3	1	7	4	11	4	4
Total Analysis Volume [veh/h]	5	43	38	49	158	11	5	27	16	43	16	16
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Priority Scheme	Free	Free	Stop	Stop
Flared Lane			No	No
Storage Area [veh]	0	0	0	0
Two-Stage Gap Acceptance			No	No
Number of Storage Spaces in Median	0	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.00	0.00	0.03	0.00	0.00	0.01	0.05	0.02	0.08	0.03	0.02
d_M, Delay for Movement [s/veh]	7.54	0.00	0.00	7.43	0.00	0.00	11.80	11.97	9.53	12.37	12.23	9.65
Movement LOS	A	A	A	A	A	A	B	B	A	B	B	A
95th-Percentile Queue Length [veh/ln]	0.01	0.01	0.01	0.10	0.10	0.10	0.24	0.24	0.24	0.42	0.42	0.42
95th-Percentile Queue Length [ft/ln]	0.26	0.26	0.26	2.48	2.48	2.48	6.12	6.12	6.12	10.50	10.50	10.50
d_A, Approach Delay [s/veh]	0.44			1.67			11.14			11.76		
Approach LOS	A			A			B			B		
d_I, Intersection Delay [s/veh]	4.26											
Intersection LOS	B											

**Intersection Level Of Service Report
Intersection 4: 36th & 5th**

Control Type:	Two-way stop	Delay (sec / veh):	10.9
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.008

Intersection Setup

Name	5th St NE		36th Ave NE		36th Ave NE	
Approach	Northbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Left	Right	Thru	Right	Left	Thru
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		No	

Volumes

Name	5th St NE		36th Ave NE		36th Ave NE	
Base Volume Input [veh/h]	5	25	190	30	20	90
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	5.00	0.70	0.00	0.00	7.30
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	5	25	190	30	20	90
Peak Hour Factor	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	1	7	52	8	5	24
Total Analysis Volume [veh/h]	5	27	207	33	22	98
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Stop	Free	Free
Flared Lane	No		
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance	No		
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.01	0.03	0.00	0.00	0.02	0.00
d_M, Delay for Movement [s/veh]	10.94	9.65	0.00	0.00	7.73	0.00
Movement LOS	B	A	A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.13	0.13	0.00	0.00	0.05	0.05
95th-Percentile Queue Length [ft/ln]	3.23	3.23	0.00	0.00	1.25	1.25
d_A, Approach Delay [s/veh]	9.85		0.00		1.42	
Approach LOS	A		A		A	
d_I, Intersection Delay [s/veh]	1.24					
Intersection LOS	B					

**Intersection Level Of Service Report
Intersection 5: 36th & 9th**

Control Type: Two-way stop
 Analysis Method: HCM 6th Edition
 Analysis Period: 15 minutes

Delay (sec / veh): 19.5
 Level Of Service: C
 Volume to Capacity (v/c): 0.055

Intersection Setup

Name	9th St NE			9th St NE			36th Ave NE			36th Ave NE		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration	+			+			+			+		
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	No			No			No			No		

Volumes

Name	9th St NE			9th St NE			36th Ave NE			36th Ave NE		
Base Volume Input [veh/h]	15	45	40	10	110	25	15	225	35	50	95	5
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	20.00	0.00	0.00	0.00	2.70	11.00	0.00	0.50	7.10	4.40	7.10	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	15	45	40	10	110	25	15	225	35	50	95	5
Peak Hour Factor	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	4	12	11	3	30	7	4	61	10	14	26	1
Total Analysis Volume [veh/h]	16	49	43	11	120	27	16	245	38	54	103	5
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Priority Scheme	Stop	Stop	Free	Free
Flared Lane	No	No		
Storage Area [veh]	0	0	0	0
Two-Stage Gap Acceptance	No	No		
Number of Storage Spaces in Median	0	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.06	0.11	0.06	0.03	0.28	0.03	0.01	0.00	0.00	0.04	0.00	0.00
d_M, Delay for Movement [s/veh]	19.49	15.24	11.70	18.70	17.32	12.81	7.43	0.00	0.00	7.97	0.00	0.00
Movement LOS	C	C	B	C	C	B	A	A	A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.84	0.84	0.84	1.48	1.48	1.48	0.03	0.03	0.03	0.13	0.13	0.13
95th-Percentile Queue Length [ft/ln]	20.95	20.95	20.95	37.08	37.08	37.08	0.81	0.81	0.81	3.34	3.34	3.34
d_A, Approach Delay [s/veh]	14.46			16.65			0.40			2.66		
Approach LOS	B			C			A			A		
d_I, Intersection Delay [s/veh]	6.52											
Intersection LOS	C											

**Intersection Level Of Service Report
Intersection 6: Bootlegger & 36th**

Control Type:	Two-way stop	Delay (sec / veh):	13.3
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.048

Intersection Setup

Name	Bootlegger Trail		Bootlegger Trail		36th Ave NE	
Approach	Northbound		Southbound		Eastbound	
Lane Configuration	↵		↵		↵↵	
Turning Movement	Left	Thru	Thru	Right	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	1	0	0	0	1
Entry Pocket Length [ft]	100.00	250.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	45.00		45.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		No	

Volumes

Name	Bootlegger Trail		Bootlegger Trail		36th Ave NE	
Base Volume Input [veh/h]	95	60	225	50	20	300
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	11.60	6.70	0.00	6.50	3.60	0.70
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	95	60	225	50	20	300
Peak Hour Factor	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	26	16	61	14	5	82
Total Analysis Volume [veh/h]	103	65	245	54	22	326
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Free	Free	Stop
Flared Lane			
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance			No
Number of Storage Spaces in Median	0	0	1

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.09	0.00	0.00	0.00	0.05	0.42
d_M, Delay for Movement [s/veh]	8.25	0.00	0.00	0.00	13.30	13.07
Movement LOS	A	A	A	A	B	B
95th-Percentile Queue Length [veh/ln]	0.28	0.00	0.00	0.00	0.15	2.12
95th-Percentile Queue Length [ft/ln]	6.97	0.00	0.00	0.00	3.80	53.06
d_A, Approach Delay [s/veh]	5.06		0.00		13.08	
Approach LOS	A		A		B	
d_I, Intersection Delay [s/veh]	6.63					
Intersection LOS	B					

**Intersection Level Of Service Report
Intersection 7: Skyline & 6th**

Control Type:	Two-way stop	Delay (sec / veh):	9.5
Analysis Method:	HCM 6th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.032

Intersection Setup

Name	6th St NW		6th St NW		Skyline Dr NW	
Approach	Northbound		Southbound		Westbound	
Lane Configuration	↷		↶		↵	
Turning Movement	Thru	Right	Left	Thru	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		No	

Volumes

Name	6th St NW		6th St NW		Skyline Dr NW	
Base Volume Input [veh/h]	45	20	5	80	25	5
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	4.50	1.70	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	45	20	5	80	25	5
Peak Hour Factor	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	12	5	1	22	7	1
Total Analysis Volume [veh/h]	49	22	5	87	27	5
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Free	Free	Stop
Flared Lane			No
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance			No
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.00	0.00	0.00	0.03	0.00
d_M, Delay for Movement [s/veh]	0.00	0.00	7.34	0.00	9.49	8.72
Movement LOS	A	A	A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.00	0.00	0.01	0.01	0.12	0.12
95th-Percentile Queue Length [ft/ln]	0.00	0.00	0.24	0.24	2.91	2.91
d_A, Approach Delay [s/veh]	0.00		0.40		9.37	
Approach LOS	A		A		A	
d_I, Intersection Delay [s/veh]	1.73					
Intersection LOS	A					

**Intersection Level Of Service Report
Intersection 8: Skyline & Division**

Control Type:	Two-way stop	Delay (sec / veh):	8.9
Analysis Method:	HCM 6th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.012

Intersection Setup

Name	Division Rd		Skyline Dr NW		Skyline Dr NE	
Approach	Northbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Left	Right	Thru	Right	Left	Thru
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		No	

Volumes

Name	Division Rd		Skyline Dr NW		Skyline Dr NE	
Base Volume Input [veh/h]	10	5	15	35	10	15
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	2.80	0.00	0.00	1.60
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	10	5	15	35	10	15
Peak Hour Factor	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	3	1	4	10	3	4
Total Analysis Volume [veh/h]	11	5	16	38	11	16
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Stop	Free	Free
Flared Lane	No		
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance	No		
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.01	0.00	0.00	0.00	0.01	0.00
d_M, Delay for Movement [s/veh]	8.94	8.51	0.00	0.00	7.32	0.00
Movement LOS	A	A	A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.05	0.05	0.00	0.00	0.02	0.02
95th-Percentile Queue Length [ft/ln]	1.27	1.27	0.00	0.00	0.53	0.53
d_A, Approach Delay [s/veh]	8.80		0.00		2.98	
Approach LOS	A		A		A	
d_I, Intersection Delay [s/veh]	2.28					
Intersection LOS	A					

**Intersection Level Of Service Report
Intersection 9: Skyline & 2nd**

Control Type: Two-way stop
 Analysis Method: HCM 6th Edition
 Analysis Period: 15 minutes

Delay (sec / veh): 11.7
 Level Of Service: B
 Volume to Capacity (v/c): 0.020

Intersection Setup

Name	2nd St NE			2nd St NE			Skyline Dr NE			Skyline Dr NE		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration	+			+			+			+		
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	No			No			No			No		

Volumes

Name	2nd St NE			2nd St NE			Skyline Dr NE			Skyline Dr NE		
Base Volume Input [veh/h]	5	80	5	5	225	15	10	10	5	5	10	10
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	4.60	0.00	0.00	2.10	1.80	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	5	80	5	5	225	15	10	10	5	5	10	10
Peak Hour Factor	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	1	22	1	1	61	4	3	3	1	1	3	3
Total Analysis Volume [veh/h]	5	87	5	5	245	16	11	11	5	5	11	11
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Priority Scheme	Free	Free	Stop	Stop
Flared Lane			No	No
Storage Area [veh]	0	0	0	0
Two-Stage Gap Acceptance			No	No
Number of Storage Spaces in Median	0	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.00	0.00	0.00	0.00	0.00	0.02	0.02	0.01	0.01	0.02	0.01
d_M, Delay for Movement [s/veh]	7.75	0.00	0.00	7.38	0.00	0.00	11.62	11.69	9.84	11.49	11.67	8.92
Movement LOS	A	A	A	A	A	A	B	B	A	B	B	A
95th-Percentile Queue Length [veh/ln]	0.01	0.01	0.01	0.01	0.01	0.01	0.14	0.14	0.14	0.12	0.12	0.12
95th-Percentile Queue Length [ft/ln]	0.29	0.29	0.29	0.25	0.25	0.25	3.55	3.55	3.55	3.10	3.10	3.10
d_A, Approach Delay [s/veh]	0.40			0.14			11.32			10.51		
Approach LOS	A			A			B			B		
d_I, Intersection Delay [s/veh]	1.60											
Intersection LOS	B											

**Intersection Level Of Service Report
Intersection 10: Skyline & 5th**

Control Type: Two-way stop
 Analysis Method: HCM 6th Edition
 Analysis Period: 15 minutes

Delay (sec / veh): 9.9
 Level Of Service: A
 Volume to Capacity (v/c): 0.015

Intersection Setup

Name	5th St NE			5th St NE			Skyline Dr NE			Skyline Dr NE		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration	+			+			+			+		
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	No			No			No			No		

Volumes

Name	5th St NE			5th St NE			Skyline Dr NE			Skyline Dr NE		
Base Volume Input [veh/h]	5	30	5	5	65	5	5	10	5	10	10	5
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	9.50	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	5	30	5	5	65	5	5	10	5	10	10	5
Peak Hour Factor	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	1	8	1	1	18	1	1	3	1	3	3	1
Total Analysis Volume [veh/h]	5	33	5	5	71	5	5	11	5	11	11	5
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Priority Scheme	Free	Free	Stop	Stop
Flared Lane			No	No
Storage Area [veh]	0	0	0	0
Two-Stage Gap Acceptance			No	No
Number of Storage Spaces in Median	0	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.01	0.01	0.01	0.01	0.00
d_M, Delay for Movement [s/veh]	7.35	0.00	0.00	7.28	0.00	0.00	9.50	9.87	8.74	9.53	9.90	8.60
Movement LOS	A	A	A	A	A	A	A	A	A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.01	0.01	0.01	0.01	0.01	0.01	0.08	0.08	0.08	0.10	0.10	0.10
95th-Percentile Queue Length [ft/ln]	0.24	0.24	0.24	0.24	0.24	0.24	1.97	1.97	1.97	2.53	2.53	2.53
d_A, Approach Delay [s/veh]	0.85			0.45			9.51			9.51		
Approach LOS	A			A			A			A		
d_I, Intersection Delay [s/veh]	3.08											
Intersection LOS	A											

**Intersection Level Of Service Report
Intersection 11: 8th & Sacajawea**

Control Type:	Two-way stop	Delay (sec / veh):	14.6
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.011

Intersection Setup

Name	8th St NE			8th St NE			Sacajawea Dr			Sacajawea Dr		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration	+			+			+			+		
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	No			Yes			No			Yes		

Volumes

Name	8th St NE			8th St NE			Sacajawea Dr			Sacajawea Dr		
Base Volume Input [veh/h]	20	110	5	5	265	80	45	5	70	5	5	5
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	4.80	0.00	0.00	2.60	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	20	110	5	5	265	80	45	5	70	5	5	5
Peak Hour Factor	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	5	30	1	1	72	22	12	1	19	1	1	1
Total Analysis Volume [veh/h]	22	120	5	5	288	87	49	5	76	5	5	5
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Priority Scheme	Free	Free	Stop	Stop
Flared Lane			No	No
Storage Area [veh]	0	0	0	0
Two-Stage Gap Acceptance			No	No
Number of Storage Spaces in Median	0	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.02	0.00	0.00	0.00	0.00	0.00	0.11	0.01	0.11	0.01	0.01	0.01
d_M, Delay for Movement [s/veh]	8.07	0.00	0.00	7.45	0.00	0.00	14.61	14.64	11.82	14.42	13.51	9.07
Movement LOS	A	A	A	A	A	A	B	B	B	B	B	A
95th-Percentile Queue Length [veh/ln]	0.06	0.06	0.06	0.01	0.01	0.01	0.85	0.85	0.85	0.09	0.09	0.09
95th-Percentile Queue Length [ft/ln]	1.41	1.41	1.41	0.26	0.26	0.26	21.31	21.31	21.31	2.29	2.29	2.29
d_A, Approach Delay [s/veh]	1.21			0.10			12.98			12.33		
Approach LOS	A			A			B			B		
d_I, Intersection Delay [s/veh]	3.11											
Intersection LOS	B											

**Intersection Level Of Service Report
Intersection 12: 9th & 32nd**

Control Type: Two-way stop
 Analysis Method: HCM 6th Edition
 Analysis Period: 15 minutes

Delay (sec / veh): 11.4
 Level Of Service: B
 Volume to Capacity (v/c): 0.009

Intersection Setup

Name	9th St NE		9th St NE		32nd Ave NE	
Approach	Northbound		Southbound		Eastbound	
Lane Configuration	↶		↷		↷	
Turning Movement	Left	Thru	Thru	Right	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		No	

Volumes

Name	9th St NE		9th St NE		32nd Ave NE	
Base Volume Input [veh/h]	5	125	270	5	5	15
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	4.10	2.90	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	5	125	270	5	5	15
Peak Hour Factor	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	1	34	73	1	1	4
Total Analysis Volume [veh/h]	5	136	293	5	5	16
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Free	Free	Stop
Flared Lane			No
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance			No
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.00	0.00	0.00	0.01	0.02
d_M, Delay for Movement [s/veh]	7.84	0.00	0.00	0.00	11.42	9.97
Movement LOS	A	A	A	A	B	A
95th-Percentile Queue Length [veh/ln]	0.01	0.01	0.00	0.00	0.09	0.09
95th-Percentile Queue Length [ft/ln]	0.30	0.30	0.00	0.00	2.32	2.32
d_A, Approach Delay [s/veh]	0.28		0.00		10.32	
Approach LOS	A		A		B	
d_I, Intersection Delay [s/veh]	0.56					
Intersection LOS	B					

**Intersection Level Of Service Report
Intersection 13: 9th & Skyline**

Control Type: Two-way stop
 Analysis Method: HCM 6th Edition
 Analysis Period: 15 minutes

Delay (sec / veh): 9.5
 Level Of Service: A
 Volume to Capacity (v/c): 0.006

Intersection Setup

Name	9th St NE			9th St NE			Skyline Dr NE			Skyline Dr NE		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration	+			+			+			+		
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	No			No			No			No		

Volumes

Name	9th St NE			9th St NE			Skyline Dr NE			Skyline Dr NE		
Base Volume Input [veh/h]	5	5	5	5	5	0	0	20	5	5	30	5
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	5	5	5	5	5	0	0	20	5	5	30	5
Peak Hour Factor	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	1	1	1	1	1	0	0	5	1	1	8	1
Total Analysis Volume [veh/h]	5	5	5	5	5	0	0	22	5	5	33	5
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Priority Scheme	Stop	Stop	Free	Free
Flared Lane	No	No		
Storage Area [veh]	0	0	0	0
Two-Stage Gap Acceptance	No	No		
Number of Storage Spaces in Median	0	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.01	0.01	0.00	0.01	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00
d_M, Delay for Movement [s/veh]	8.99	9.46	8.47	9.01	9.44	8.50	7.27	0.00	0.00	7.26	0.00	0.00
Movement LOS	A	A	A	A	A	A	A	A	A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.05	0.05	0.05	0.04	0.04	0.04	0.00	0.00	0.00	0.01	0.01	0.01
95th-Percentile Queue Length [ft/ln]	1.24	1.24	1.24	0.88	0.88	0.88	0.00	0.00	0.00	0.24	0.24	0.24
d_A, Approach Delay [s/veh]	8.97			9.23			0.00			0.84		
Approach LOS	A			A			A			A		
d_I, Intersection Delay [s/veh]	2.77											
Intersection LOS	A											

North Great Falls Transportation Study

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Scenario 10 2040 PM Scenario 2

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10/7/2020

Intersection Analysis Summary

ID	Intersection Name	Control Type	Method	Worst Mvmt	V/C	Delay (s/veh)	LOS
1	6th & Vinyard	Two-way stop	HCM 6th Edition	EB Left	0.005	8.8	A
2	Bootlegger & 46th	Two-way stop	HCM 6th Edition	EB Left	0.007	10.2	B
3	36th & 2nd	Two-way stop	HCM 6th Edition	WB Thru	0.075	12.7	B
4	36th & 5th	Two-way stop	HCM 6th Edition	NB Left	0.040	11.9	B
5	36th & 9th	Two-way stop	HCM 6th Edition	NB Left	0.143	25.2	D
6	Bootlegger & 36th	Two-way stop	HCM 6th Edition	EB Left	0.112	33.3	D
7	Skyline & 6th	Two-way stop	HCM 6th Edition	WB Left	0.029	9.8	A
8	Skyline & Division	Two-way stop	HCM 6th Edition	NB Left	0.028	8.9	A
9	Skyline & 2nd	Two-way stop	HCM 6th Edition	WB Thru	0.020	11.8	B
10	Skyline & 5th	Two-way stop	HCM 6th Edition	WB Thru	0.021	10.0	B
11	8th & Sacajawea	Two-way stop	HCM 6th Edition	EB Thru	0.012	14.1	B
12	9th & 32nd	Two-way stop	HCM 6th Edition	EB Left	0.008	11.1	B
13	9th & Skyline	Two-way stop	HCM 6th Edition	NB Thru	0.006	9.3	A

V/C, Delay, LOS: For two-way stop, these values are taken from the movement with the worst (highest) delay value. For all other control types, they are taken for the whole intersection.

**Intersection Level Of Service Report
Intersection 1: 6th & Vinyard**

Control Type:	Two-way stop	Delay (sec / veh):	8.8
Analysis Method:	HCM 6th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.005

Intersection Setup

Name	6th St NW		Vinyard Rd		Vinyard Rd	
Approach	Northbound		Southbound		Eastbound	
Lane Configuration	↶		↷		↷	
Turning Movement	Left	Thru	Thru	Right	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		No	

Volumes

Name	6th St NW		Vinyard Rd		Vinyard Rd	
Base Volume Input [veh/h]	10	10	10	5	5	20
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	10	10	10	5	5	20
Peak Hour Factor	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	3	3	3	1	1	5
Total Analysis Volume [veh/h]	11	11	11	5	5	22
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Free	Free	Stop
Flared Lane			No
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance			No
Number of Storage Spaces in Median	0	0	0




Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.01	0.00	0.00	0.00	0.01	0.02
d_M, Delay for Movement [s/veh]	7.24	0.00	0.00	0.00	8.83	8.45
Movement LOS	A	A	A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.02	0.02	0.00	0.00	0.08	0.08
95th-Percentile Queue Length [ft/ln]	0.51	0.51	0.00	0.00	1.98	1.98
d_A, Approach Delay [s/veh]	3.62		0.00		8.52	
Approach LOS	A		A		A	
d_I, Intersection Delay [s/veh]	4.76					
Intersection LOS	A					

**Intersection Level Of Service Report
Intersection 2: Bootlegger & 46th**

Control Type:	Two-way stop	Delay (sec / veh):	10.2
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.007

Intersection Setup

Name	Bootlegger Trail		Bootlegger Trail		46th Ave NE	
Approach	Northbound		Southbound		Eastbound	
Lane Configuration						
Turning Movement	Left	Thru	Thru	Right	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	1	0	0	0	0
Entry Pocket Length [ft]	100.00	600.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	70.00		70.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		No	

Volumes

Name	Bootlegger Trail		Bootlegger Trail		46th Ave NE	
Base Volume Input [veh/h]	30	120	55	5	5	30
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	30	120	55	5	5	30
Peak Hour Factor	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	8	33	15	1	1	8
Total Analysis Volume [veh/h]	33	130	60	5	5	33
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Free	Free	Stop
Flared Lane			No
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance			No
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.02	0.00	0.00	0.00	0.01	0.03
d_M, Delay for Movement [s/veh]	7.37	0.00	0.00	0.00	10.16	8.73
Movement LOS	A	A	A	A	B	A
95th-Percentile Queue Length [veh/ln]	0.07	0.00	0.00	0.00	0.12	0.12
95th-Percentile Queue Length [ft/ln]	1.63	0.00	0.00	0.00	3.10	3.10
d_A, Approach Delay [s/veh]	1.49		0.00		8.92	
Approach LOS	A		A		A	
d_I, Intersection Delay [s/veh]	2.19					
Intersection LOS	B					

**Intersection Level Of Service Report
Intersection 3: 36th & 2nd**

Control Type:	Two-way stop	Delay (sec / veh):	12.7
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.075

Intersection Setup

Name	2nd St NE			2nd St NE			36th Ave NE			36th Ave NE		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration	+			+			+			+		
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	2nd St NE			2nd St NE			36th Ave NE			36th Ave NE		
Base Volume Input [veh/h]	20	130	35	20	70	5	5	25	5	50	40	30
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	1.00	0.00	0.00	0.00	100.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	20	130	35	20	70	5	5	25	5	50	40	30
Peak Hour Factor	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	5	35	10	5	19	1	1	7	1	14	11	8
Total Analysis Volume [veh/h]	22	141	38	22	76	5	5	27	5	54	43	33
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Priority Scheme	Free	Free	Stop	Stop
Flared Lane			No	No
Storage Area [veh]	0	0	0	0
Two-Stage Gap Acceptance			No	No
Number of Storage Spaces in Median	0	0	0	0




Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.01	0.00	0.00	0.02	0.00	0.00	0.01	0.05	0.01	0.09	0.07	0.04
d_M, Delay for Movement [s/veh]	7.39	0.00	0.00	7.60	0.00	0.00	12.23	11.81	9.05	12.73	12.74	10.51
Movement LOS	A	A	A	A	A	A	B	B	A	B	B	B
95th-Percentile Queue Length [veh/ln]	0.04	0.04	0.04	0.05	0.05	0.05	0.20	0.20	0.20	0.77	0.77	0.77
95th-Percentile Queue Length [ft/ln]	1.09	1.09	1.09	1.19	1.19	1.19	4.99	4.99	4.99	19.20	19.20	19.20
d_A, Approach Delay [s/veh]	0.81			1.62			11.49			12.17		
Approach LOS	A			A			B			B		
d_I, Intersection Delay [s/veh]	4.96											
Intersection LOS	B											

**Intersection Level Of Service Report
Intersection 4: 36th & 5th**

Control Type:	Two-way stop	Delay (sec / veh):	11.9
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.040

Intersection Setup

Name	5th St NE		36th Ave NE		36th Ave NE	
Approach	Northbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Left	Right	Thru	Right	Left	Thru
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		No	

Volumes

Name	5th St NE		36th Ave NE		36th Ave NE	
Base Volume Input [veh/h]	20	25	125	10	25	245
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	20	25	125	10	25	245
Peak Hour Factor	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	5	7	34	3	7	67
Total Analysis Volume [veh/h]	22	27	136	11	27	266
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Stop	Free	Free
Flared Lane	No		
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance	No		
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.04	0.03	0.00	0.00	0.02	0.00
d_M, Delay for Movement [s/veh]	11.93	9.33	0.00	0.00	7.53	0.00
Movement LOS	B	A	A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.22	0.22	0.00	0.00	0.06	0.06
95th-Percentile Queue Length [ft/ln]	5.60	5.60	0.00	0.00	1.43	1.43
d_A, Approach Delay [s/veh]	10.50		0.00		0.69	
Approach LOS	B		A		A	
d_I, Intersection Delay [s/veh]	1.47					
Intersection LOS	B					

**Intersection Level Of Service Report
Intersection 5: 36th & 9th**

Control Type: Two-way stop
 Analysis Method: HCM 6th Edition
 Analysis Period: 15 minutes

Delay (sec / veh): 25.2
 Level Of Service: D
 Volume to Capacity (v/c): 0.143

Intersection Setup

Name	9th St NE			9th St NE			36th Ave NE			36th Ave NE		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration	+			+			+			+		
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	No			No			No			No		

Volumes

Name	9th St NE			9th St NE			36th Ave NE			36th Ave NE		
Base Volume Input [veh/h]	35	70	15	5	50	25	65	120	15	45	270	10
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	6.30	0.00	0.00	0.00	4.20	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	35	70	15	5	50	25	65	120	15	45	270	10
Peak Hour Factor	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	10	19	4	1	14	7	18	33	4	12	73	3
Total Analysis Volume [veh/h]	38	76	16	5	54	27	71	130	16	49	293	11
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Priority Scheme	Stop	Stop	Free	Free
Flared Lane	No	No		
Storage Area [veh]	0	0	0	0
Two-Stage Gap Acceptance	No	No		
Number of Storage Spaces in Median	0	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.14	0.23	0.02	0.02	0.16	0.04	0.06	0.00	0.00	0.03	0.00	0.00
d_M, Delay for Movement [s/veh]	25.16	22.24	15.50	21.42	18.39	12.36	8.01	0.00	0.00	7.57	0.00	0.00
Movement LOS	D	C	C	C	C	B	A	A	A	A	A	A
95th-Percentile Queue Length [veh/ln]	1.77	1.77	1.77	0.82	0.82	0.82	0.18	0.18	0.18	0.10	0.10	0.10
95th-Percentile Queue Length [ft/ln]	44.16	44.16	44.16	20.51	20.51	20.51	4.44	4.44	4.44	2.62	2.62	2.62
d_A, Approach Delay [s/veh]	22.26			16.67			2.62			1.05		
Approach LOS	C			C			A			A		
d_I, Intersection Delay [s/veh]	6.70											
Intersection LOS	D											

**Intersection Level Of Service Report
Intersection 6: Bootlegger & 36th**

Control Type:	Two-way stop	Delay (sec / veh):	33.3
Analysis Method:	HCM 6th Edition	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.112

Intersection Setup

Name	Bootlegger Trail		Bootlegger Trail		36th Ave NE	
Approach	Northbound		Southbound		Eastbound	
Lane Configuration	↵		↵		↵↵	
Turning Movement	Left	Thru	Thru	Right	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	1	0	0	0	1
Entry Pocket Length [ft]	100.00	250.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	45.00		45.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		No	

Volumes

Name	Bootlegger Trail		Bootlegger Trail		36th Ave NE	
Base Volume Input [veh/h]	395	205	110	20	15	150
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.80
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	395	205	110	20	15	150
Peak Hour Factor	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	107	56	30	5	4	41
Total Analysis Volume [veh/h]	429	223	120	22	16	163
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Free	Free	Stop
Flared Lane			
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance			No
Number of Storage Spaces in Median	0	0	1




Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.30	0.00	0.00	0.00	0.11	0.18
d_M, Delay for Movement [s/veh]	8.51	0.00	0.00	0.00	33.30	9.74
Movement LOS	A	A	A	A	D	A
95th-Percentile Queue Length [veh/ln]	1.24	0.00	0.00	0.00	0.37	0.64
95th-Percentile Queue Length [ft/ln]	31.11	0.00	0.00	0.00	9.23	16.00
d_A, Approach Delay [s/veh]	5.60		0.00		11.85	
Approach LOS	A		A		B	
d_I, Intersection Delay [s/veh]	5.93					
Intersection LOS	D					

**Intersection Level Of Service Report
Intersection 7: Skyline & 6th**

Control Type:	Two-way stop	Delay (sec / veh):	9.8
Analysis Method:	HCM 6th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.029

Intersection Setup

Name	6th St NW		6th St NW		Skyline Dr NW	
Approach	Northbound		Southbound		Westbound	
Lane Configuration						
Turning Movement	Thru	Right	Left	Thru	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		No	

Volumes

Name	6th St NW		6th St NW		Skyline Dr NW	
Base Volume Input [veh/h]	105	30	5	70	20	5
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	1.90	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	105	30	5	70	20	5
Peak Hour Factor	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	29	8	1	19	5	1
Total Analysis Volume [veh/h]	114	33	5	76	22	5
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Free	Free	Stop
Flared Lane			No
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance			No
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.00	0.00	0.00	0.03	0.01
d_M, Delay for Movement [s/veh]	0.00	0.00	7.50	0.00	9.84	9.05
Movement LOS	A	A	A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.00	0.00	0.01	0.01	0.11	0.11
95th-Percentile Queue Length [ft/ln]	0.00	0.00	0.26	0.26	2.64	2.64
d_A, Approach Delay [s/veh]	0.00		0.46		9.69	
Approach LOS	A		A		A	
d_I, Intersection Delay [s/veh]	1.17					
Intersection LOS	A					

**Intersection Level Of Service Report
Intersection 8: Skyline & Division**

Control Type:	Two-way stop	Delay (sec / veh):	8.9
Analysis Method:	HCM 6th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.028

Intersection Setup

Name	Division Rd		Skyline Dr NW		Skyline Dr NE	
Approach	Northbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Left	Right	Thru	Right	Left	Thru
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		No	

Volumes

Name	Division Rd		Skyline Dr NW		Skyline Dr NE	
Base Volume Input [veh/h]	25	10	10	20	5	20
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	1.80
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	25	10	10	20	5	20
Peak Hour Factor	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	7	3	3	5	1	5
Total Analysis Volume [veh/h]	27	11	11	22	5	22
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Stop	Free	Free
Flared Lane	No		
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance	No		
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.03	0.01	0.00	0.00	0.00	0.00
d_M, Delay for Movement [s/veh]	8.91	8.54	0.00	0.00	7.27	0.00
Movement LOS	A	A	A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.12	0.12	0.00	0.00	0.01	0.01
95th-Percentile Queue Length [ft/ln]	3.01	3.01	0.00	0.00	0.24	0.24
d_A, Approach Delay [s/veh]	8.80		0.00		1.35	
Approach LOS	A		A		A	
d_I, Intersection Delay [s/veh]	3.78					
Intersection LOS	A					

**Intersection Level Of Service Report
Intersection 9: Skyline & 2nd**

Control Type: Two-way stop
 Analysis Method: HCM 6th Edition
 Analysis Period: 15 minutes

Delay (sec / veh): 11.8
 Level Of Service: B
 Volume to Capacity (v/c): 0.020

Intersection Setup

Name	2nd St NE			2nd St NE			Skyline Dr NE			Skyline Dr NE		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration	+			+			+			+		
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	No			No			No			No		

Volumes

Name	2nd St NE			2nd St NE			Skyline Dr NE			Skyline Dr NE		
Base Volume Input [veh/h]	5	200	10	5	115	15	5	15	5	5	10	15
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	1.90	0.00	0.00	2.10	2.10	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	5	200	10	5	115	15	5	15	5	5	10	15
Peak Hour Factor	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	1	54	3	1	31	4	1	4	1	1	3	4
Total Analysis Volume [veh/h]	5	217	11	5	125	16	5	16	5	5	11	16
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Priority Scheme	Free	Free	Stop	Stop
Flared Lane			No	No
Storage Area [veh]	0	0	0	0
Two-Stage Gap Acceptance			No	No
Number of Storage Spaces in Median	0	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.03	0.01	0.01	0.02	0.02
d_M, Delay for Movement [s/veh]	7.48	0.00	0.00	7.67	0.00	0.00	11.81	11.82	9.18	11.74	11.84	9.66
Movement LOS	A	A	A	A	A	A	B	B	A	B	B	A
95th-Percentile Queue Length [veh/ln]	0.01	0.01	0.01	0.01	0.01	0.01	0.14	0.14	0.14	0.15	0.15	0.15
95th-Percentile Queue Length [ft/ln]	0.26	0.26	0.26	0.28	0.28	0.28	3.41	3.41	3.41	3.81	3.81	3.81
d_A, Approach Delay [s/veh]	0.16			0.26			11.31			10.73		
Approach LOS	A			A			B			B		
d_I, Intersection Delay [s/veh]	1.63											
Intersection LOS	B											

**Intersection Level Of Service Report
Intersection 10: Skyline & 5th**

Control Type: Two-way stop
 Analysis Method: HCM 6th Edition
 Analysis Period: 15 minutes

Delay (sec / veh): 10.0
 Level Of Service: B
 Volume to Capacity (v/c): 0.021

Intersection Setup

Name	5th St NE			5th St NE			Skyline Dr NE			Skyline Dr NE		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration	+			+			+			+		
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	No			No			No			No		

Volumes

Name	5th St NE			5th St NE			Skyline Dr NE			Skyline Dr NE		
Base Volume Input [veh/h]	5	75	10	5	30	5	5	10	5	10	15	10
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	5	75	10	5	30	5	5	10	5	10	15	10
Peak Hour Factor	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	1	20	3	1	8	1	1	3	1	3	4	3
Total Analysis Volume [veh/h]	5	82	11	5	33	5	5	11	5	11	16	11
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Priority Scheme	Free	Free	Stop	Stop
Flared Lane			No	No
Storage Area [veh]	0	0	0	0
Two-Stage Gap Acceptance			No	No
Number of Storage Spaces in Median	0	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.01	0.00	0.01	0.02	0.01
d_M, Delay for Movement [s/veh]	7.28	0.00	0.00	7.39	0.00	0.00	9.69	9.97	8.57	9.69	10.05	8.90
Movement LOS	A	A	A	A	A	A	A	A	A	A	B	A
95th-Percentile Queue Length [veh/ln]	0.01	0.01	0.01	0.01	0.01	0.01	0.08	0.08	0.08	0.15	0.15	0.15
95th-Percentile Queue Length [ft/ln]	0.24	0.24	0.24	0.25	0.25	0.25	2.00	2.00	2.00	3.65	3.65	3.65
d_A, Approach Delay [s/veh]	0.37			0.86			9.57			9.61		
Approach LOS	A			A			A			A		
d_I, Intersection Delay [s/veh]	3.20											
Intersection LOS	B											

**Intersection Level Of Service Report
Intersection 11: 8th & Sacajawea**

Control Type: Two-way stop
 Analysis Method: HCM 6th Edition
 Analysis Period: 15 minutes

Delay (sec / veh): 14.1
 Level Of Service: B
 Volume to Capacity (v/c): 0.012

Intersection Setup

Name	8th St NE			8th St NE			Sacajawea Dr			Sacajawea Dr		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration	+			+			+			+		
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	No			Yes			No			Yes		

Volumes

Name	8th St NE			8th St NE			Sacajawea Dr			Sacajawea Dr		
Base Volume Input [veh/h]	30	275	10	5	130	30	30	5	15	5	5	5
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	1.00	0.00	0.00	3.20	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	30	275	10	5	130	30	30	5	15	5	5	5
Peak Hour Factor	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	8	75	3	1	35	8	8	1	4	1	1	1
Total Analysis Volume [veh/h]	33	299	11	5	141	33	33	5	16	5	5	5
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Priority Scheme	Free	Free	Stop	Stop
Flared Lane			No	No
Storage Area [veh]	0	0	0	0
Two-Stage Gap Acceptance			No	No
Number of Storage Spaces in Median	0	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.02	0.00	0.00	0.00	0.00	0.00	0.08	0.01	0.02	0.01	0.01	0.01
d_M, Delay for Movement [s/veh]	7.61	0.00	0.00	7.86	0.00	0.00	14.09	14.10	9.85	13.65	13.62	10.09
Movement LOS	A	A	A	A	A	A	B	B	A	B	B	B
95th-Percentile Queue Length [veh/ln]	0.07	0.07	0.07	0.01	0.01	0.01	0.35	0.35	0.35	0.09	0.09	0.09
95th-Percentile Queue Length [ft/ln]	1.79	1.79	1.79	0.30	0.30	0.30	8.76	8.76	8.76	2.33	2.33	2.33
d_A, Approach Delay [s/veh]	0.73			0.22			12.83			12.46		
Approach LOS	A			A			B			B		
d_I, Intersection Delay [s/veh]	1.98											
Intersection LOS	B											

**Intersection Level Of Service Report
Intersection 12: 9th & 32nd**

Control Type: Two-way stop
 Analysis Method: HCM 6th Edition
 Analysis Period: 15 minutes

Delay (sec / veh): 11.1
 Level Of Service: B
 Volume to Capacity (v/c): 0.008

Intersection Setup

Name	9th St NE		9th St NE		32nd Ave NE	
Approach	Northbound		Southbound		Eastbound	
Lane Configuration	↶		↷		↷	
Turning Movement	Left	Thru	Thru	Right	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		No	

Volumes

Name	9th St NE		9th St NE		32nd Ave NE	
Base Volume Input [veh/h]	15	215	120	5	5	10
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	1.30	3.70	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	15	215	120	5	5	10
Peak Hour Factor	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	4	58	33	1	1	3
Total Analysis Volume [veh/h]	16	234	130	5	5	11
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Free	Free	Stop
Flared Lane			No
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance			No
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.01	0.00	0.00	0.00	0.01	0.01
d_M, Delay for Movement [s/veh]	7.49	0.00	0.00	0.00	11.06	9.00
Movement LOS	A	A	A	A	B	A
95th-Percentile Queue Length [veh/ln]	0.03	0.03	0.00	0.00	0.06	0.06
95th-Percentile Queue Length [ft/ln]	0.83	0.83	0.00	0.00	1.55	1.55
d_A, Approach Delay [s/veh]	0.48		0.00		9.64	
Approach LOS	A		A		A	
d_I, Intersection Delay [s/veh]	0.68					
Intersection LOS	B					

**Intersection Level Of Service Report
Intersection 13: 9th & Skyline**

Control Type: Two-way stop
 Analysis Method: HCM 6th Edition
 Analysis Period: 15 minutes

Delay (sec / veh): 9.3
 Level Of Service: A
 Volume to Capacity (v/c): 0.006

Intersection Setup

Name	9th St NE			9th St NE			Skyline Dr NE			Skyline Dr NE		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration	+			+			+			+		
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	No			No			No			No		

Volumes

Name	9th St NE			9th St NE			Skyline Dr NE			Skyline Dr NE		
Base Volume Input [veh/h]	5	5	5	5	5	0	0	25	5	5	5	5
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	5	5	5	5	5	0	0	25	5	5	5	5
Peak Hour Factor	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	1	1	1	1	1	0	0	7	1	1	1	1
Total Analysis Volume [veh/h]	5	5	5	5	5	0	0	27	5	5	5	5
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Priority Scheme	Stop	Stop	Free	Free
Flared Lane	No	No		
Storage Area [veh]	0	0	0	0
Two-Stage Gap Acceptance	No	No		
Number of Storage Spaces in Median	0	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.01	0.01	0.00	0.01	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00
d_M, Delay for Movement [s/veh]	8.86	9.33	8.49	8.87	9.32	8.38	7.22	0.00	0.00	7.27	0.00	0.00
Movement LOS	A	A	A	A	A	A	A	A	A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.05	0.05	0.05	0.03	0.03	0.03	0.00	0.00	0.00	0.01	0.01	0.01
95th-Percentile Queue Length [ft/ln]	1.22	1.22	1.22	0.85	0.85	0.85	0.00	0.00	0.00	0.24	0.24	0.24
d_A, Approach Delay [s/veh]	8.89			9.09			0.00			2.42		
Approach LOS	A			A			A			A		
d_I, Intersection Delay [s/veh]	3.62											
Intersection LOS	A											

North Great Falls Transportation Study

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Scenario 11 2040 AM Scenario 3

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10/7/2020

Intersection Analysis Summary




ID	Intersection Name	Control Type	Method	Worst Mvmt	V/C	Delay (s/veh)	LOS
1	6th & Vinyard	Two-way stop	HCM 6th Edition	EB Left	0.005	8.8	A
2	Bootlegger & 46th	Two-way stop	HCM 6th Edition	EB Left	0.007	10.3	B
3	36th & 2nd	Two-way stop	HCM 6th Edition	WB Left	0.080	12.6	B
4	36th & 5th	Two-way stop	HCM 6th Edition	NB Left	0.008	10.7	B
5	36th & 9th	Two-way stop	HCM 6th Edition	NB Left	0.051	18.4	C
6	Bootlegger & 36th	Two-way stop	HCM 6th Edition	EB Left	0.049	13.4	B
7	Skyline & 6th	Two-way stop	HCM 6th Edition	WB Left	0.032	9.5	A
8	Skyline & Division	Two-way stop	HCM 6th Edition	NB Left	0.012	8.9	A
9	Skyline & 2nd	Two-way stop	HCM 6th Edition	EB Thru	0.020	11.8	B
10	Skyline & 5th	Two-way stop	HCM 6th Edition	WB Thru	0.015	9.9	A
11	8th & Sacajawea	Two-way stop	HCM 6th Edition	EB Thru	0.011	14.6	B
12	9th & 32nd	Two-way stop	HCM 6th Edition	EB Left	0.009	11.3	B
13	9th & Skyline	Two-way stop	HCM 6th Edition	NB Thru	0.006	9.5	A

V/C, Delay, LOS: For two-way stop, these values are taken from the movement with the worst (highest) delay value. For all other control types, they are taken for the whole intersection.

**Intersection Level Of Service Report
Intersection 1: 6th & Vinyard**

Control Type:	Two-way stop	Delay (sec / veh):	8.8
Analysis Method:	HCM 6th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.005

Intersection Setup

Name	6th St NW		Vinyard Rd		Vinyard Rd	
Approach	Northbound		Southbound		Eastbound	
Lane Configuration						
Turning Movement	Left	Thru	Thru	Right	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		No	

Volumes

Name	6th St NW		Vinyard Rd		Vinyard Rd	
Base Volume Input [veh/h]	10	10	15	5	5	15
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	50.00	0.00	20.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	10	10	15	5	5	15
Peak Hour Factor	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	3	3	4	1	1	4
Total Analysis Volume [veh/h]	11	11	16	5	5	16
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Free	Free	Stop
Flared Lane			No
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance			No
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.01	0.00	0.00	0.00	0.01	0.02
d_M, Delay for Movement [s/veh]	7.25	0.00	0.00	0.00	8.84	8.64
Movement LOS	A	A	A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.02	0.02	0.00	0.00	0.06	0.06
95th-Percentile Queue Length [ft/ln]	0.52	0.52	0.00	0.00	1.61	1.61
d_A, Approach Delay [s/veh]	3.63		0.00		8.69	
Approach LOS	A		A		A	
d_I, Intersection Delay [s/veh]	4.10					
Intersection LOS	A					

**Intersection Level Of Service Report
Intersection 2: Bootlegger & 46th**

Control Type:	Two-way stop	Delay (sec / veh):	10.3
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.007

Intersection Setup

Name	Bootlegger Trail		Bootlegger Trail		46th Ave NE	
Approach	Northbound		Southbound		Eastbound	
Lane Configuration	↙ ↑		↑ ↘		↔	
Turning Movement	Left	Thru	Thru	Right	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	1	0	0	0	0
Entry Pocket Length [ft]	100.00	600.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	70.00		70.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		No	

Volumes

Name	Bootlegger Trail		Bootlegger Trail		46th Ave NE	
Base Volume Input [veh/h]	25	55	135	5	5	45
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	4.30	9.10	1.70	0.00	0.00	1.60
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	25	55	135	5	5	45
Peak Hour Factor	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	7	15	37	1	1	12
Total Analysis Volume [veh/h]	27	60	147	5	5	49
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Free	Free	Stop
Flared Lane			No
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance			No
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.02	0.00	0.00	0.00	0.01	0.05
d_M, Delay for Movement [s/veh]	7.59	0.00	0.00	0.00	10.30	9.28
Movement LOS	A	A	A	A	B	A
95th-Percentile Queue Length [veh/ln]	0.06	0.00	0.00	0.00	0.20	0.20
95th-Percentile Queue Length [ft/ln]	1.46	0.00	0.00	0.00	4.91	4.91
d_A, Approach Delay [s/veh]	2.36		0.00		9.37	
Approach LOS	A		A		A	
d_I, Intersection Delay [s/veh]	2.43					
Intersection LOS	B					

**Intersection Level Of Service Report
Intersection 3: 36th & 2nd**

Control Type: Two-way stop
 Analysis Method: HCM 6th Edition
 Analysis Period: 15 minutes

Delay (sec / veh): 12.6
 Level Of Service: B
 Volume to Capacity (v/c): 0.080

Intersection Setup

Name	2nd St NE			2nd St NE			36th Ave NE			36th Ave NE		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration	+			+			+			+		
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	2nd St NE			2nd St NE			36th Ave NE			36th Ave NE		
Base Volume Input [veh/h]	5	45	35	45	155	10	5	25	15	40	15	15
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	2.90	0.00	1.90	0.00	0.00	0.00	0.00	1.80	0.00	25.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	5	45	35	45	155	10	5	25	15	40	15	15
Peak Hour Factor	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	1	12	10	12	42	3	1	7	4	11	4	4
Total Analysis Volume [veh/h]	5	49	38	49	168	11	5	27	16	43	16	16
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Priority Scheme	Free	Free	Stop	Stop
Flared Lane			No	No
Storage Area [veh]	0	0	0	0
Two-Stage Gap Acceptance			No	No
Number of Storage Spaces in Median	0	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.00	0.00	0.03	0.00	0.00	0.01	0.05	0.02	0.08	0.03	0.02
d_M, Delay for Movement [s/veh]	7.56	0.00	0.00	7.44	0.00	0.00	11.98	12.13	9.60	12.58	12.41	9.73
Movement LOS	A	A	A	A	A	A	B	B	A	B	B	A
95th-Percentile Queue Length [veh/ln]	0.01	0.01	0.01	0.10	0.10	0.10	0.25	0.25	0.25	0.43	0.43	0.43
95th-Percentile Queue Length [ft/ln]	0.27	0.27	0.27	2.49	2.49	2.49	6.25	6.25	6.25	10.76	10.76	10.76
d_A, Approach Delay [s/veh]	0.41			1.60			11.27			11.93		
Approach LOS	A			A			B			B		
d_I, Intersection Delay [s/veh]	4.15											
Intersection LOS	B											

**Intersection Level Of Service Report
Intersection 4: 36th & 5th**

Control Type:	Two-way stop	Delay (sec / veh):	10.7
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.008

Intersection Setup

Name	5th St NE		36th Ave NE		36th Ave NE	
Approach	Northbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Left	Right	Thru	Right	Left	Thru
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		No	

Volumes

Name	5th St NE		36th Ave NE		36th Ave NE	
Base Volume Input [veh/h]	5	25	165	35	20	80
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	5.00	0.70	0.00	0.00	7.30
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	5	25	165	35	20	80
Peak Hour Factor	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	1	7	45	10	5	22
Total Analysis Volume [veh/h]	5	27	179	38	22	87
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Stop	Free	Free
Flared Lane	No		
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance	No		
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.01	0.03	0.00	0.00	0.02	0.00
d_M, Delay for Movement [s/veh]	10.66	9.50	0.00	0.00	7.68	0.00
Movement LOS	B	A	A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.12	0.12	0.00	0.00	0.05	0.05
95th-Percentile Queue Length [ft/ln]	3.11	3.11	0.00	0.00	1.23	1.23
d_A, Approach Delay [s/veh]	9.68		0.00		1.55	
Approach LOS	A		A		A	
d_I, Intersection Delay [s/veh]	1.34					
Intersection LOS	B					

**Intersection Level Of Service Report
Intersection 5: 36th & 9th**

Control Type:	Two-way stop	Delay (sec / veh):	18.4
Analysis Method:	HCM 6th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.051

Intersection Setup

Name	9th St NE			9th St NE			36th Ave NE			36th Ave NE		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration	+			+			+			+		
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	No			No			No			No		

Volumes

Name	9th St NE			9th St NE			36th Ave NE			36th Ave NE		
Base Volume Input [veh/h]	15	45	40	10	105	5	20	200	35	55	85	5
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	20.00	0.00	0.00	0.00	2.70	11.00	0.00	0.50	7.10	4.40	7.10	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	15	45	40	10	105	5	20	200	35	55	85	5
Peak Hour Factor	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	4	12	11	3	29	1	5	54	10	15	23	1
Total Analysis Volume [veh/h]	16	49	43	11	114	5	22	217	38	60	92	5
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Priority Scheme	Stop	Stop	Free	Free
Flared Lane	No	No		
Storage Area [veh]	0	0	0	0
Two-Stage Gap Acceptance	No	No		
Number of Storage Spaces in Median	0	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.05	0.11	0.05	0.03	0.26	0.01	0.01	0.00	0.00	0.05	0.00	0.00
d_M, Delay for Movement [s/veh]	18.37	14.99	11.38	18.04	16.77	12.30	7.42	0.00	0.00	7.91	0.00	0.00
Movement LOS	C	B	B	C	C	B	A	A	A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.80	0.80	0.80	1.23	1.23	1.23	0.04	0.04	0.04	0.15	0.15	0.15
95th-Percentile Queue Length [ft/ln]	20.08	20.08	20.08	30.81	30.81	30.81	1.11	1.11	1.11	3.64	3.64	3.64
d_A, Approach Delay [s/veh]	14.06			16.70			0.59			3.02		
Approach LOS	B			C			A			A		
d_I, Intersection Delay [s/veh]	6.44											
Intersection LOS	C											

**Intersection Level Of Service Report
Intersection 6: Bootlegger & 36th**

Control Type:	Two-way stop	Delay (sec / veh):	13.4
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.049

Intersection Setup

Name	Bootlegger Trail		Bootlegger Trail		36th Ave NE	
Approach	Northbound		Southbound		Eastbound	
Lane Configuration	↵		↳		↵↻	
Turning Movement	Left	Thru	Thru	Right	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	1	0	0	0	1
Entry Pocket Length [ft]	100.00	250.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	45.00		45.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		No	

Volumes

Name	Bootlegger Trail		Bootlegger Trail		36th Ave NE	
Base Volume Input [veh/h]	85	70	250	50	20	275
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	11.60	6.70	0.00	6.50	3.60	0.70
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	85	70	250	50	20	275
Peak Hour Factor	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	23	19	68	14	5	75
Total Analysis Volume [veh/h]	92	76	272	54	22	299
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Free	Free	Stop
Flared Lane			
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance			No
Number of Storage Spaces in Median	0	0	1

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.08	0.00	0.00	0.00	0.05	0.40
d_M, Delay for Movement [s/veh]	8.30	0.00	0.00	0.00	13.42	13.06
Movement LOS	A	A	A	A	B	B
95th-Percentile Queue Length [veh/ln]	0.25	0.00	0.00	0.00	0.15	1.95
95th-Percentile Queue Length [ft/ln]	6.32	0.00	0.00	0.00	3.85	48.73
d_A, Approach Delay [s/veh]	4.55		0.00		13.08	
Approach LOS	A		A		B	
d_I, Intersection Delay [s/veh]	6.09					
Intersection LOS	B					

**Intersection Level Of Service Report
Intersection 7: Skyline & 6th**

Control Type: Two-way stop
 Analysis Method: HCM 6th Edition
 Analysis Period: 15 minutes

Delay (sec / veh): 9.5
 Level Of Service: A
 Volume to Capacity (v/c): 0.032

Intersection Setup

Name	6th St NW		6th St NW		Skyline Dr NW	
Approach	Northbound		Southbound		Westbound	
Lane Configuration	↬		↵		↶	
Turning Movement	Thru	Right	Left	Thru	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		No	

Volumes

Name	6th St NW		6th St NW		Skyline Dr NW	
Base Volume Input [veh/h]	45	20	5	80	25	5
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	4.50	1.70	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	45	20	5	80	25	5
Peak Hour Factor	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	12	5	1	22	7	1
Total Analysis Volume [veh/h]	49	22	5	87	27	5
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Free	Free	Stop
Flared Lane			No
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance			No
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.00	0.00	0.00	0.03	0.00
d_M, Delay for Movement [s/veh]	0.00	0.00	7.34	0.00	9.49	8.72
Movement LOS	A	A	A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.00	0.00	0.01	0.01	0.12	0.12
95th-Percentile Queue Length [ft/ln]	0.00	0.00	0.24	0.24	2.91	2.91
d_A, Approach Delay [s/veh]	0.00		0.40		9.37	
Approach LOS	A		A		A	
d_I, Intersection Delay [s/veh]	1.73					
Intersection LOS	A					

**Intersection Level Of Service Report
Intersection 8: Skyline & Division**

Control Type:	Two-way stop	Delay (sec / veh):	8.9
Analysis Method:	HCM 6th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.012

Intersection Setup

Name	Division Rd		Skyline Dr NW		Skyline Dr NE	
Approach	Northbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Left	Right	Thru	Right	Left	Thru
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		No	

Volumes

Name	Division Rd		Skyline Dr NW		Skyline Dr NE	
Base Volume Input [veh/h]	10	5	15	35	10	15
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	2.80	0.00	0.00	1.60
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	10	5	15	35	10	15
Peak Hour Factor	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	3	1	4	10	3	4
Total Analysis Volume [veh/h]	11	5	16	38	11	16
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Stop	Free	Free
Flared Lane	No		
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance	No		
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.01	0.00	0.00	0.00	0.01	0.00
d_M, Delay for Movement [s/veh]	8.94	8.51	0.00	0.00	7.32	0.00
Movement LOS	A	A	A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.05	0.05	0.00	0.00	0.02	0.02
95th-Percentile Queue Length [ft/ln]	1.27	1.27	0.00	0.00	0.53	0.53
d_A, Approach Delay [s/veh]	8.80		0.00		2.98	
Approach LOS	A		A		A	
d_I, Intersection Delay [s/veh]	2.28					
Intersection LOS	A					

**Intersection Level Of Service Report
Intersection 9: Skyline & 2nd**

Control Type: Two-way stop
 Analysis Method: HCM 6th Edition
 Analysis Period: 15 minutes

Delay (sec / veh): 11.8
 Level Of Service: B
 Volume to Capacity (v/c): 0.020

Intersection Setup

Name	2nd St NE			2nd St NE			Skyline Dr NE			Skyline Dr NE		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration	+			+			+			+		
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	No			No			No			No		

Volumes

Name	2nd St NE			2nd St NE			Skyline Dr NE			Skyline Dr NE		
Base Volume Input [veh/h]	5	80	5	5	235	15	10	10	5	5	10	10
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	4.60	0.00	0.00	2.10	1.80	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	5	80	5	5	235	15	10	10	5	5	10	10
Peak Hour Factor	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	1	22	1	1	64	4	3	3	1	1	3	3
Total Analysis Volume [veh/h]	5	87	5	5	255	16	11	11	5	5	11	11
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Priority Scheme	Free	Free	Stop	Stop
Flared Lane			No	No
Storage Area [veh]	0	0	0	0
Two-Stage Gap Acceptance			No	No
Number of Storage Spaces in Median	0	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.00	0.00	0.00	0.00	0.00	0.02	0.02	0.01	0.01	0.02	0.01
d_M, Delay for Movement [s/veh]	7.77	0.00	0.00	7.38	0.00	0.00	11.73	11.78	9.91	11.59	11.76	8.92
Movement LOS	A	A	A	A	A	A	B	B	A	B	B	A
95th-Percentile Queue Length [veh/ln]	0.01	0.01	0.01	0.01	0.01	0.01	0.14	0.14	0.14	0.13	0.13	0.13
95th-Percentile Queue Length [ft/ln]	0.29	0.29	0.29	0.25	0.25	0.25	3.60	3.60	3.60	3.13	3.13	3.13
d_A, Approach Delay [s/veh]	0.40			0.13			11.41			10.57		
Approach LOS	A			A			B			B		
d_I, Intersection Delay [s/veh]	1.57											
Intersection LOS	B											

**Intersection Level Of Service Report
Intersection 10: Skyline & 5th**

Control Type: Two-way stop
 Analysis Method: HCM 6th Edition
 Analysis Period: 15 minutes

Delay (sec / veh): 9.9
 Level Of Service: A
 Volume to Capacity (v/c): 0.015

Intersection Setup

Name	5th St NE			5th St NE			Skyline Dr NE			Skyline Dr NE		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration	+			+			+			+		
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	No			No			No			No		

Volumes

Name	5th St NE			5th St NE			Skyline Dr NE			Skyline Dr NE		
Base Volume Input [veh/h]	5	30	5	5	65	5	5	10	5	10	10	5
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	9.50	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	5	30	5	5	65	5	5	10	5	10	10	5
Peak Hour Factor	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	1	8	1	1	18	1	1	3	1	3	3	1
Total Analysis Volume [veh/h]	5	33	5	5	71	5	5	11	5	11	11	5
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Priority Scheme	Free	Free	Stop	Stop
Flared Lane			No	No
Storage Area [veh]	0	0	0	0
Two-Stage Gap Acceptance			No	No
Number of Storage Spaces in Median	0	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.01	0.01	0.01	0.01	0.00
d_M, Delay for Movement [s/veh]	7.35	0.00	0.00	7.28	0.00	0.00	9.50	9.87	8.74	9.53	9.90	8.60
Movement LOS	A	A	A	A	A	A	A	A	A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.01	0.01	0.01	0.01	0.01	0.01	0.08	0.08	0.08	0.10	0.10	0.10
95th-Percentile Queue Length [ft/ln]	0.24	0.24	0.24	0.24	0.24	0.24	1.97	1.97	1.97	2.53	2.53	2.53
d_A, Approach Delay [s/veh]	0.85			0.45			9.51			9.51		
Approach LOS	A			A			A			A		
d_I, Intersection Delay [s/veh]	3.08											
Intersection LOS	A											

**Intersection Level Of Service Report
Intersection 11: 8th & Sacajawea**

Control Type: Two-way stop
 Analysis Method: HCM 6th Edition
 Analysis Period: 15 minutes

Delay (sec / veh): 14.6
 Level Of Service: B
 Volume to Capacity (v/c): 0.011

Intersection Setup

Name	8th St NE			8th St NE			Sacajawea Dr			Sacajawea Dr		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration	+			+			+			+		
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	No			Yes			No			Yes		

Volumes

Name	8th St NE			8th St NE			Sacajawea Dr			Sacajawea Dr		
Base Volume Input [veh/h]	20	110	5	5	265	70	45	5	70	5	5	5
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	4.80	0.00	0.00	2.60	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	20	110	5	5	265	70	45	5	70	5	5	5
Peak Hour Factor	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	5	30	1	1	72	19	12	1	19	1	1	1
Total Analysis Volume [veh/h]	22	120	5	5	288	76	49	5	76	5	5	5
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Priority Scheme	Free	Free	Stop	Stop
Flared Lane			No	No
Storage Area [veh]	0	0	0	0
Two-Stage Gap Acceptance			No	No
Number of Storage Spaces in Median	0	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.02	0.00	0.00	0.00	0.00	0.00	0.11	0.01	0.11	0.01	0.01	0.01
d_M, Delay for Movement [s/veh]	8.04	0.00	0.00	7.45	0.00	0.00	14.51	14.55	11.75	14.32	13.39	9.07
Movement LOS	A	A	A	A	A	A	B	B	B	B	B	A
95th-Percentile Queue Length [veh/ln]	0.06	0.06	0.06	0.01	0.01	0.01	0.84	0.84	0.84	0.09	0.09	0.09
95th-Percentile Queue Length [ft/ln]	1.39	1.39	1.39	0.26	0.26	0.26	21.10	21.10	21.10	2.27	2.27	2.27
d_A, Approach Delay [s/veh]	1.20			0.10			12.90			12.26		
Approach LOS	A			A			B			B		
d_I, Intersection Delay [s/veh]	3.14											
Intersection LOS	B											

**Intersection Level Of Service Report
Intersection 12: 9th & 32nd**

Control Type: Two-way stop
 Analysis Method: HCM 6th Edition
 Analysis Period: 15 minutes

Delay (sec / veh): 11.3
 Level Of Service: B
 Volume to Capacity (v/c): 0.009

Intersection Setup

Name	9th St NE		9th St NE		32nd Ave NE	
Approach	Northbound		Southbound		Eastbound	
Lane Configuration	↶		↷		↷	
Turning Movement	Left	Thru	Thru	Right	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		No	

Volumes

Name	9th St NE		9th St NE		32nd Ave NE	
Base Volume Input [veh/h]	5	125	260	5	5	15
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	4.10	2.90	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	5	125	260	5	5	15
Peak Hour Factor	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	1	34	71	1	1	4
Total Analysis Volume [veh/h]	5	136	283	5	5	16
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Free	Free	Stop
Flared Lane			No
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance			No
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.00	0.00	0.00	0.01	0.02
d_M, Delay for Movement [s/veh]	7.81	0.00	0.00	0.00	11.34	9.90
Movement LOS	A	A	A	A	B	A
95th-Percentile Queue Length [veh/ln]	0.01	0.01	0.00	0.00	0.09	0.09
95th-Percentile Queue Length [ft/ln]	0.29	0.29	0.00	0.00	2.29	2.29
d_A, Approach Delay [s/veh]	0.28		0.00		10.24	
Approach LOS	A		A		B	
d_I, Intersection Delay [s/veh]	0.56					
Intersection LOS	B					

**Intersection Level Of Service Report
Intersection 13: 9th & Skyline**

Control Type: Two-way stop
 Analysis Method: HCM 6th Edition
 Analysis Period: 15 minutes

Delay (sec / veh): 9.5
 Level Of Service: A
 Volume to Capacity (v/c): 0.006

Intersection Setup

Name	9th St NE			9th St NE			Skyline Dr NE			Skyline Dr NE		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration	+			+			+			+		
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	No			No			No			No		

Volumes

Name	9th St NE			9th St NE			Skyline Dr NE			Skyline Dr NE		
Base Volume Input [veh/h]	5	5	5	5	5	0	0	20	5	5	30	5
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	5	5	5	5	5	0	0	20	5	5	30	5
Peak Hour Factor	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	1	1	1	1	1	0	0	5	1	1	8	1
Total Analysis Volume [veh/h]	5	5	5	5	5	0	0	22	5	5	33	5
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Priority Scheme	Stop	Stop	Free	Free
Flared Lane	No	No		
Storage Area [veh]	0	0	0	0
Two-Stage Gap Acceptance	No	No		
Number of Storage Spaces in Median	0	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.01	0.01	0.00	0.01	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00
d_M, Delay for Movement [s/veh]	8.99	9.46	8.47	9.01	9.44	8.50	7.27	0.00	0.00	7.26	0.00	0.00
Movement LOS	A	A	A	A	A	A	A	A	A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.05	0.05	0.05	0.04	0.04	0.04	0.00	0.00	0.00	0.01	0.01	0.01
95th-Percentile Queue Length [ft/ln]	1.24	1.24	1.24	0.88	0.88	0.88	0.00	0.00	0.00	0.24	0.24	0.24
d_A, Approach Delay [s/veh]	8.97			9.23			0.00			0.84		
Approach LOS	A			A			A			A		
d_I, Intersection Delay [s/veh]	2.77											
Intersection LOS	A											

North Great Falls Transportation Study

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Scenario 12 2040 PM Scenario 3

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10/7/2020

Intersection Analysis Summary

ID	Intersection Name	Control Type	Method	Worst Mvmt	V/C	Delay (s/veh)	LOS
1	6th & Vinyard	Two-way stop	HCM 6th Edition	EB Left	0.005	8.8	A
2	Bootlegger & 46th	Two-way stop	HCM 6th Edition	EB Left	0.007	10.2	B
3	36th & 2nd	Two-way stop	HCM 6th Edition	WB Left	0.096	12.9	B
4	36th & 5th	Two-way stop	HCM 6th Edition	NB Left	0.027	11.3	B
5	36th & 9th	Two-way stop	HCM 6th Edition	NB Left	0.112	21.3	C
6	Bootlegger & 36th	Two-way stop	HCM 6th Edition	EB Left	0.107	31.8	D
7	Skyline & 6th	Two-way stop	HCM 6th Edition	WB Left	0.029	9.8	A
8	Skyline & Division	Two-way stop	HCM 6th Edition	NB Left	0.028	8.9	A
9	Skyline & 2nd	Two-way stop	HCM 6th Edition	WB Thru	0.020	11.9	B
10	Skyline & 5th	Two-way stop	HCM 6th Edition	WB Thru	0.021	10.0	B
11	8th & Sacajawea	Two-way stop	HCM 6th Edition	EB Thru	0.012	14.1	B
12	9th & 32nd	Two-way stop	HCM 6th Edition	EB Left	0.008	11.0	B
13	9th & Skyline	Two-way stop	HCM 6th Edition	NB Thru	0.006	9.3	A

V/C, Delay, LOS: For two-way stop, these values are taken from the movement with the worst (highest) delay value. For all other control types, they are taken for the whole intersection.

**Intersection Level Of Service Report
Intersection 1: 6th & Vinyard**

Control Type:	Two-way stop	Delay (sec / veh):	8.8
Analysis Method:	HCM 6th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.005

Intersection Setup

Name	6th St NW		Vinyard Rd		Vinyard Rd	
Approach	Northbound		Southbound		Eastbound	
Lane Configuration	↶		↷		↷	
Turning Movement	Left	Thru	Thru	Right	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		No	

Volumes

Name	6th St NW		Vinyard Rd		Vinyard Rd	
Base Volume Input [veh/h]	10	10	10	5	5	20
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	10	10	10	5	5	20
Peak Hour Factor	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	3	3	3	1	1	5
Total Analysis Volume [veh/h]	11	11	11	5	5	22
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Free	Free	Stop
Flared Lane			No
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance			No
Number of Storage Spaces in Median	0	0	0




Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.01	0.00	0.00	0.00	0.01	0.02
d_M, Delay for Movement [s/veh]	7.24	0.00	0.00	0.00	8.83	8.45
Movement LOS	A	A	A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.02	0.02	0.00	0.00	0.08	0.08
95th-Percentile Queue Length [ft/ln]	0.51	0.51	0.00	0.00	1.98	1.98
d_A, Approach Delay [s/veh]	3.62		0.00		8.52	
Approach LOS	A		A		A	
d_I, Intersection Delay [s/veh]	4.76					
Intersection LOS	A					

**Intersection Level Of Service Report
Intersection 2: Bootlegger & 46th**

Control Type:	Two-way stop	Delay (sec / veh):	10.2
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.007

Intersection Setup

Name	Bootlegger Trail		Bootlegger Trail		46th Ave NE	
Approach	Northbound		Southbound		Eastbound	
Lane Configuration						
Turning Movement	Left	Thru	Thru	Right	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	1	0	0	0	0
Entry Pocket Length [ft]	100.00	600.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	70.00		70.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		No	

Volumes

Name	Bootlegger Trail		Bootlegger Trail		46th Ave NE	
Base Volume Input [veh/h]	30	120	55	5	5	30
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	30	120	55	5	5	30
Peak Hour Factor	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	8	33	15	1	1	8
Total Analysis Volume [veh/h]	33	130	60	5	5	33
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Free	Free	Stop
Flared Lane			No
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance			No
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.02	0.00	0.00	0.00	0.01	0.03
d_M, Delay for Movement [s/veh]	7.37	0.00	0.00	0.00	10.16	8.73
Movement LOS	A	A	A	A	B	A
95th-Percentile Queue Length [veh/ln]	0.07	0.00	0.00	0.00	0.12	0.12
95th-Percentile Queue Length [ft/ln]	1.63	0.00	0.00	0.00	3.10	3.10
d_A, Approach Delay [s/veh]	1.49		0.00		8.92	
Approach LOS	A		A		A	
d_I, Intersection Delay [s/veh]	2.19					
Intersection LOS	B					

**Intersection Level Of Service Report
Intersection 3: 36th & 2nd**

Control Type: Two-way stop
 Analysis Method: HCM 6th Edition
 Analysis Period: 15 minutes

Delay (sec / veh): 12.9
 Level Of Service: B
 Volume to Capacity (v/c): 0.096

Intersection Setup

Name	2nd St NE			2nd St NE			36th Ave NE			36th Ave NE		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration	+			+			+			+		
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	2nd St NE			2nd St NE			36th Ave NE			36th Ave NE		
Base Volume Input [veh/h]	20	140	25	20	75	5	5	25	5	50	40	35
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	1.00	0.00	0.00	0.00	100.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	20	140	25	20	75	5	5	25	5	50	40	35
Peak Hour Factor	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	5	38	7	5	20	1	1	7	1	14	11	10
Total Analysis Volume [veh/h]	22	152	27	22	82	5	5	27	5	54	43	38
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Priority Scheme	Free	Free	Stop	Stop
Flared Lane			No	No
Storage Area [veh]	0	0	0	0
Two-Stage Gap Acceptance			No	No
Number of Storage Spaces in Median	0	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.01	0.00	0.00	0.02	0.00	0.00	0.01	0.05	0.01	0.10	0.08	0.04
d_M, Delay for Movement [s/veh]	7.40	0.00	0.00	7.60	0.00	0.00	12.44	11.87	9.09	12.92	12.92	10.63
Movement LOS	A	A	A	A	A	A	B	B	A	B	B	B
95th-Percentile Queue Length [veh/ln]	0.04	0.04	0.04	0.05	0.05	0.05	0.20	0.20	0.20	0.81	0.81	0.81
95th-Percentile Queue Length [ft/ln]	1.10	1.10	1.10	1.19	1.19	1.19	5.05	5.05	5.05	20.22	20.22	20.22
d_A, Approach Delay [s/veh]	0.81			1.53			11.57			12.28		
Approach LOS	A			A			B			B		
d_I, Intersection Delay [s/veh]	5.01											
Intersection LOS	B											

**Intersection Level Of Service Report
Intersection 4: 36th & 5th**

Control Type: Two-way stop
 Analysis Method: HCM 6th Edition
 Analysis Period: 15 minutes

Delay (sec / veh): 11.3
 Level Of Service: B
 Volume to Capacity (v/c): 0.027

Intersection Setup

Name	5th St NE		36th Ave NE		36th Ave NE	
Approach	Northbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Left	Right	Thru	Right	Left	Thru
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		No	

Volumes

Name	5th St NE		36th Ave NE		36th Ave NE	
Base Volume Input [veh/h]	15	20	100	10	25	210
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	15	20	100	10	25	210
Peak Hour Factor	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	4	5	27	3	7	57
Total Analysis Volume [veh/h]	16	22	109	11	27	228
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Stop	Free	Free
Flared Lane	No		
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance	No		
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.03	0.02	0.00	0.00	0.02	0.00
d_M, Delay for Movement [s/veh]	11.25	9.06	0.00	0.00	7.48	0.00
Movement LOS	B	A	A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.16	0.16	0.00	0.00	0.06	0.06
95th-Percentile Queue Length [ft/ln]	3.94	3.94	0.00	0.00	1.39	1.39
d_A, Approach Delay [s/veh]	9.99		0.00		0.79	
Approach LOS	A		A		A	
d_I, Intersection Delay [s/veh]	1.41					
Intersection LOS	B					

**Intersection Level Of Service Report
Intersection 5: 36th & 9th**

Control Type: Two-way stop
 Analysis Method: HCM 6th Edition
 Analysis Period: 15 minutes

Delay (sec / veh): 21.3
 Level Of Service: C
 Volume to Capacity (v/c): 0.112

Intersection Setup

Name	9th St NE			9th St NE			36th Ave NE			36th Ave NE		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration	+			+			+			+		
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	No			No			No			No		

Volumes

Name	9th St NE			9th St NE			36th Ave NE			36th Ave NE		
Base Volume Input [veh/h]	35	100	15	5	45	20	45	105	15	35	240	10
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	6.30	0.00	0.00	0.00	4.20	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	35	100	15	5	45	20	45	105	15	35	240	10
Peak Hour Factor	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	10	27	4	1	12	5	12	29	4	10	65	3
Total Analysis Volume [veh/h]	38	109	16	5	49	22	49	114	16	38	261	11
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Priority Scheme	Stop	Stop	Free	Free
Flared Lane	No	No		
Storage Area [veh]	0	0	0	0
Two-Stage Gap Acceptance	No	No		
Number of Storage Spaces in Median	0	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.11	0.27	0.02	0.02	0.12	0.03	0.04	0.00	0.00	0.03	0.00	0.00
d_M, Delay for Movement [s/veh]	21.28	19.59	14.55	18.78	15.65	11.24	7.87	0.00	0.00	7.52	0.00	0.00
Movement LOS	C	C	B	C	C	B	A	A	A	A	A	A
95th-Percentile Queue Length [veh/ln]	1.87	1.87	1.87	0.60	0.60	0.60	0.12	0.12	0.12	0.08	0.08	0.08
95th-Percentile Queue Length [ft/ln]	46.77	46.77	46.77	14.99	14.99	14.99	2.93	2.93	2.93	1.99	1.99	1.99
d_A, Approach Delay [s/veh]	19.49			14.58			2.15			0.92		
Approach LOS	C			B			A			A		
d_I, Intersection Delay [s/veh]	6.81											
Intersection LOS	C											

**Intersection Level Of Service Report
Intersection 6: Bootlegger & 36th**

Control Type:	Two-way stop	Delay (sec / veh):	31.8
Analysis Method:	HCM 6th Edition	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.107

Intersection Setup

Name	Bootlegger Trail		Bootlegger Trail		36th Ave NE	
Approach	Northbound		Southbound		Eastbound	
Lane Configuration	↵		↵		↵↶	
Turning Movement	Left	Thru	Thru	Right	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	1	0	0	0	1
Entry Pocket Length [ft]	100.00	250.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	45.00		45.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		No	

Volumes

Name	Bootlegger Trail		Bootlegger Trail		36th Ave NE	
Base Volume Input [veh/h]	365	235	125	20	15	135
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.80
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	365	235	125	20	15	135
Peak Hour Factor	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	99	64	34	5	4	37
Total Analysis Volume [veh/h]	397	255	136	22	16	147
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Free	Free	Stop
Flared Lane			
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance			No
Number of Storage Spaces in Median	0	0	1

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.28	0.00	0.00	0.00	0.11	0.16
d_M, Delay for Movement [s/veh]	8.47	0.00	0.00	0.00	31.83	9.76
Movement LOS	A	A	A	A	D	A
95th-Percentile Queue Length [veh/ln]	1.14	0.00	0.00	0.00	0.35	0.58
95th-Percentile Queue Length [ft/ln]	28.46	0.00	0.00	0.00	8.77	14.49
d_A, Approach Delay [s/veh]	5.16		0.00		11.93	
Approach LOS	A		A		B	
d_I, Intersection Delay [s/veh]	5.45					
Intersection LOS	D					

**Intersection Level Of Service Report
Intersection 7: Skyline & 6th**

Control Type:	Two-way stop	Delay (sec / veh):	9.8
Analysis Method:	HCM 6th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.029

Intersection Setup

Name	6th St NW		6th St NW		Skyline Dr NW	
Approach	Northbound		Southbound		Westbound	
Lane Configuration	↬		↵		↶	
Turning Movement	Thru	Right	Left	Thru	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		No	

Volumes

Name	6th St NW		6th St NW		Skyline Dr NW	
Base Volume Input [veh/h]	105	30	5	70	20	5
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	1.90	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	105	30	5	70	20	5
Peak Hour Factor	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	29	8	1	19	5	1
Total Analysis Volume [veh/h]	114	33	5	76	22	5
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Free	Free	Stop
Flared Lane			No
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance			No
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.00	0.00	0.00	0.03	0.01
d_M, Delay for Movement [s/veh]	0.00	0.00	7.50	0.00	9.84	9.05
Movement LOS	A	A	A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.00	0.00	0.01	0.01	0.11	0.11
95th-Percentile Queue Length [ft/ln]	0.00	0.00	0.26	0.26	2.64	2.64
d_A, Approach Delay [s/veh]	0.00		0.46		9.69	
Approach LOS	A		A		A	
d_I, Intersection Delay [s/veh]	1.17					
Intersection LOS	A					

**Intersection Level Of Service Report
Intersection 8: Skyline & Division**

Control Type:	Two-way stop	Delay (sec / veh):	8.9
Analysis Method:	HCM 6th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.028

Intersection Setup

Name	Division Rd		Skyline Dr NW		Skyline Dr NE	
Approach	Northbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Left	Right	Thru	Right	Left	Thru
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		No	

Volumes

Name	Division Rd		Skyline Dr NW		Skyline Dr NE	
Base Volume Input [veh/h]	25	10	10	20	5	20
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	1.80
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	25	10	10	20	5	20
Peak Hour Factor	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	7	3	3	5	1	5
Total Analysis Volume [veh/h]	27	11	11	22	5	22
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Stop	Free	Free
Flared Lane	No		
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance	No		
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.03	0.01	0.00	0.00	0.00	0.00
d_M, Delay for Movement [s/veh]	8.91	8.54	0.00	0.00	7.27	0.00
Movement LOS	A	A	A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.12	0.12	0.00	0.00	0.01	0.01
95th-Percentile Queue Length [ft/ln]	3.01	3.01	0.00	0.00	0.24	0.24
d_A, Approach Delay [s/veh]	8.80		0.00		1.35	
Approach LOS	A		A		A	
d_I, Intersection Delay [s/veh]	3.78					
Intersection LOS	A					

**Intersection Level Of Service Report
Intersection 9: Skyline & 2nd**

Control Type:	Two-way stop	Delay (sec / veh):	11.9
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.020

Intersection Setup

Name	2nd St NE			2nd St NE			Skyline Dr NE			Skyline Dr NE		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration	+			+			+			+		
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	No			No			No			No		

Volumes

Name	2nd St NE			2nd St NE			Skyline Dr NE			Skyline Dr NE		
Base Volume Input [veh/h]	5	200	10	5	120	15	5	15	5	5	10	15
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	1.90	0.00	0.00	2.10	2.10	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	5	200	10	5	120	15	5	15	5	5	10	15
Peak Hour Factor	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	1	54	3	1	33	4	1	4	1	1	3	4
Total Analysis Volume [veh/h]	5	217	11	5	130	16	5	16	5	5	11	16
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Priority Scheme	Free	Free	Stop	Stop
Flared Lane			No	No
Storage Area [veh]	0	0	0	0
Two-Stage Gap Acceptance			No	No
Number of Storage Spaces in Median	0	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.03	0.01	0.01	0.02	0.02
d_M, Delay for Movement [s/veh]	7.49	0.00	0.00	7.67	0.00	0.00	11.87	11.86	9.21	11.79	11.88	9.66
Movement LOS	A	A	A	A	A	A	B	B	A	B	B	A
95th-Percentile Queue Length [veh/ln]	0.01	0.01	0.01	0.01	0.01	0.01	0.14	0.14	0.14	0.15	0.15	0.15
95th-Percentile Queue Length [ft/ln]	0.26	0.26	0.26	0.28	0.28	0.28	3.43	3.43	3.43	3.83	3.83	3.83
d_A, Approach Delay [s/veh]	0.16			0.25			11.35			10.76		
Approach LOS	A			A			B			B		
d_I, Intersection Delay [s/veh]	1.62											
Intersection LOS	B											

**Intersection Level Of Service Report
Intersection 10: Skyline & 5th**

Control Type: Two-way stop
 Analysis Method: HCM 6th Edition
 Analysis Period: 15 minutes

Delay (sec / veh): 10.0
 Level Of Service: B
 Volume to Capacity (v/c): 0.021

Intersection Setup

Name	5th St NE			5th St NE			Skyline Dr NE			Skyline Dr NE		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration	+			+			+			+		
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	No			No			No			No		

Volumes

Name	5th St NE			5th St NE			Skyline Dr NE			Skyline Dr NE		
Base Volume Input [veh/h]	5	75	10	5	30	5	5	10	5	10	15	10
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	5	75	10	5	30	5	5	10	5	10	15	10
Peak Hour Factor	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	1	20	3	1	8	1	1	3	1	3	4	3
Total Analysis Volume [veh/h]	5	82	11	5	33	5	5	11	5	11	16	11
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Priority Scheme	Free	Free	Stop	Stop
Flared Lane			No	No
Storage Area [veh]	0	0	0	0
Two-Stage Gap Acceptance			No	No
Number of Storage Spaces in Median	0	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.01	0.00	0.01	0.02	0.01
d_M, Delay for Movement [s/veh]	7.28	0.00	0.00	7.39	0.00	0.00	9.69	9.97	8.57	9.69	10.05	8.90
Movement LOS	A	A	A	A	A	A	A	A	A	A	B	A
95th-Percentile Queue Length [veh/ln]	0.01	0.01	0.01	0.01	0.01	0.01	0.08	0.08	0.08	0.15	0.15	0.15
95th-Percentile Queue Length [ft/ln]	0.24	0.24	0.24	0.25	0.25	0.25	2.00	2.00	2.00	3.65	3.65	3.65
d_A, Approach Delay [s/veh]	0.37			0.86			9.57			9.61		
Approach LOS	A			A			A			A		
d_I, Intersection Delay [s/veh]	3.20											
Intersection LOS	B											

**Intersection Level Of Service Report
Intersection 11: 8th & Sacajawea**

Control Type:	Two-way stop	Delay (sec / veh):	14.1
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.012

Intersection Setup

Name	8th St NE			8th St NE			Sacajawea Dr			Sacajawea Dr		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration	+			+			+			+		
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	No			Yes			No			Yes		

Volumes

Name	8th St NE			8th St NE			Sacajawea Dr			Sacajawea Dr		
Base Volume Input [veh/h]	30	275	10	5	130	30	30	5	15	5	5	5
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	1.00	0.00	0.00	3.20	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	30	275	10	5	130	30	30	5	15	5	5	5
Peak Hour Factor	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	8	75	3	1	35	8	8	1	4	1	1	1
Total Analysis Volume [veh/h]	33	299	11	5	141	33	33	5	16	5	5	5
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Priority Scheme	Free	Free	Stop	Stop
Flared Lane			No	No
Storage Area [veh]	0	0	0	0
Two-Stage Gap Acceptance			No	No
Number of Storage Spaces in Median	0	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.02	0.00	0.00	0.00	0.00	0.00	0.08	0.01	0.02	0.01	0.01	0.01
d_M, Delay for Movement [s/veh]	7.61	0.00	0.00	7.86	0.00	0.00	14.09	14.10	9.85	13.65	13.62	10.09
Movement LOS	A	A	A	A	A	A	B	B	A	B	B	B
95th-Percentile Queue Length [veh/ln]	0.07	0.07	0.07	0.01	0.01	0.01	0.35	0.35	0.35	0.09	0.09	0.09
95th-Percentile Queue Length [ft/ln]	1.79	1.79	1.79	0.30	0.30	0.30	8.76	8.76	8.76	2.33	2.33	2.33
d_A, Approach Delay [s/veh]	0.73			0.22			12.83			12.46		
Approach LOS	A			A			B			B		
d_I, Intersection Delay [s/veh]	1.98											
Intersection LOS	B											

**Intersection Level Of Service Report
Intersection 12: 9th & 32nd**

Control Type:	Two-way stop	Delay (sec / veh):	11.0
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.008

Intersection Setup

Name	9th St NE		9th St NE		32nd Ave NE	
Approach	Northbound		Southbound		Eastbound	
Lane Configuration	↶		↷		↷	
Turning Movement	Left	Thru	Thru	Right	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		No	

Volumes

Name	9th St NE		9th St NE		32nd Ave NE	
Base Volume Input [veh/h]	15	215	115	5	5	10
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	1.30	3.70	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	15	215	115	5	5	10
Peak Hour Factor	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	4	58	31	1	1	3
Total Analysis Volume [veh/h]	16	234	125	5	5	11
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Free	Free	Stop
Flared Lane			No
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance			No
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.01	0.00	0.00	0.00	0.01	0.01
d_M, Delay for Movement [s/veh]	7.48	0.00	0.00	0.00	11.02	8.97
Movement LOS	A	A	A	A	B	A
95th-Percentile Queue Length [veh/ln]	0.03	0.03	0.00	0.00	0.06	0.06
95th-Percentile Queue Length [ft/ln]	0.83	0.83	0.00	0.00	1.54	1.54
d_A, Approach Delay [s/veh]	0.48		0.00		9.61	
Approach LOS	A		A		A	
d_I, Intersection Delay [s/veh]	0.69					
Intersection LOS	B					

**Intersection Level Of Service Report
Intersection 13: 9th & Skyline**

Control Type: Two-way stop
 Analysis Method: HCM 6th Edition
 Analysis Period: 15 minutes

Delay (sec / veh): 9.3
 Level Of Service: A
 Volume to Capacity (v/c): 0.006

Intersection Setup

Name	9th St NE			9th St NE			Skyline Dr NE			Skyline Dr NE		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration	+			+			+			+		
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	No			No			No			No		

Volumes

Name	9th St NE			9th St NE			Skyline Dr NE			Skyline Dr NE		
Base Volume Input [veh/h]	5	5	5	5	5	0	0	25	5	5	5	5
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	5	5	5	5	5	0	0	25	5	5	5	5
Peak Hour Factor	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	1	1	1	1	1	0	0	7	1	1	1	1
Total Analysis Volume [veh/h]	5	5	5	5	5	0	0	27	5	5	5	5
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Priority Scheme	Stop	Stop	Free	Free
Flared Lane	No	No		
Storage Area [veh]	0	0	0	0
Two-Stage Gap Acceptance	No	No		
Number of Storage Spaces in Median	0	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.01	0.01	0.00	0.01	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00
d_M, Delay for Movement [s/veh]	8.86	9.33	8.49	8.87	9.32	8.38	7.22	0.00	0.00	7.27	0.00	0.00
Movement LOS	A	A	A	A	A	A	A	A	A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.05	0.05	0.05	0.03	0.03	0.03	0.00	0.00	0.00	0.01	0.01	0.01
95th-Percentile Queue Length [ft/ln]	1.22	1.22	1.22	0.85	0.85	0.85	0.00	0.00	0.00	0.24	0.24	0.24
d_A, Approach Delay [s/veh]	8.89			9.09			0.00			2.42		
Approach LOS	A			A			A			A		
d_I, Intersection Delay [s/veh]	3.62											
Intersection LOS	A											

North Great Falls Transportation Study

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Scenario 13 2040 AM Scenario 4

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10/7/2020

Intersection Analysis Summary

ID	Intersection Name	Control Type	Method	Worst Mvmt	V/C	Delay (s/veh)	LOS
1	6th & Vinyard	Two-way stop	HCM 6th Edition	EB Left	0.005	8.8	A
2	Bootlegger & 46th	Two-way stop	HCM 6th Edition	EB Left	0.007	10.3	B
3	36th & 2nd	Two-way stop	HCM 6th Edition	WB Left	0.080	12.6	B
4	36th & 5th	Two-way stop	HCM 6th Edition	NB Left	0.008	10.7	B
5	36th & 9th	Two-way stop	HCM 6th Edition	NB Left	0.047	17.3	C
6	Bootlegger & 36th	Two-way stop	HCM 6th Edition	EB Left	0.049	13.4	B
7	Skyline & 6th	Two-way stop	HCM 6th Edition	WB Left	0.032	9.5	A
8	Skyline & Division	Two-way stop	HCM 6th Edition	NB Left	0.012	8.9	A
9	Skyline & 2nd	Two-way stop	HCM 6th Edition	EB Thru	0.020	11.8	B
10	Skyline & 5th	Two-way stop	HCM 6th Edition	WB Thru	0.015	9.9	A
11	8th & Sacajawea	Two-way stop	HCM 6th Edition	EB Thru	0.011	14.6	B
12	9th & 32nd	Two-way stop	HCM 6th Edition	EB Left	0.009	11.3	B
13	9th & Skyline	Two-way stop	HCM 6th Edition	NB Thru	0.006	9.5	A

V/C, Delay, LOS: For two-way stop, these values are taken from the movement with the worst (highest) delay value. For all other control types, they are taken for the whole intersection.

Intersection Level Of Service Report
Intersection 1: 6th & Vinyard

Control Type: Two-way stop
Analysis Method: HCM 6th Edition
Analysis Period: 15 minutes

Delay (sec / veh): 8.8
Level Of Service: A
Volume to Capacity (v/c): 0.005

Intersection Setup

Name	6th St NW		Vinyard Rd		Vinyard Rd	
Approach	Northbound		Southbound		Eastbound	
Lane Configuration	↶		↷		↷	
Turning Movement	Left	Thru	Thru	Right	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		No	

Volumes

Name	6th St NW		Vinyard Rd		Vinyard Rd	
Base Volume Input [veh/h]	10	10	15	5	5	15
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	50.00	0.00	20.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	10	10	15	5	5	15
Peak Hour Factor	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	3	3	4	1	1	4
Total Analysis Volume [veh/h]	11	11	16	5	5	16
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Free	Free	Stop
Flared Lane			No
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance			No
Number of Storage Spaces in Median	0	0	0




Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.01	0.00	0.00	0.00	0.01	0.02
d_M, Delay for Movement [s/veh]	7.25	0.00	0.00	0.00	8.84	8.64
Movement LOS	A	A	A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.02	0.02	0.00	0.00	0.06	0.06
95th-Percentile Queue Length [ft/ln]	0.52	0.52	0.00	0.00	1.61	1.61
d_A, Approach Delay [s/veh]	3.63		0.00		8.69	
Approach LOS	A		A		A	
d_I, Intersection Delay [s/veh]	4.10					
Intersection LOS	A					

**Intersection Level Of Service Report
Intersection 2: Bootlegger & 46th**

Control Type:	Two-way stop	Delay (sec / veh):	10.3
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.007

Intersection Setup

Name	Bootlegger Trail		Bootlegger Trail		46th Ave NE	
Approach	Northbound		Southbound		Eastbound	
Lane Configuration						
Turning Movement	Left	Thru	Thru	Right	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	1	0	0	0	0
Entry Pocket Length [ft]	100.00	600.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	70.00		70.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		No	

Volumes

Name	Bootlegger Trail		Bootlegger Trail		46th Ave NE	
Base Volume Input [veh/h]	25	55	135	5	5	45
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	4.30	9.10	1.70	0.00	0.00	1.60
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	25	55	135	5	5	45
Peak Hour Factor	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	7	15	37	1	1	12
Total Analysis Volume [veh/h]	27	60	147	5	5	49
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Free	Free	Stop
Flared Lane			No
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance			No
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.02	0.00	0.00	0.00	0.01	0.05
d_M, Delay for Movement [s/veh]	7.59	0.00	0.00	0.00	10.30	9.28
Movement LOS	A	A	A	A	B	A
95th-Percentile Queue Length [veh/ln]	0.06	0.00	0.00	0.00	0.20	0.20
95th-Percentile Queue Length [ft/ln]	1.46	0.00	0.00	0.00	4.91	4.91
d_A, Approach Delay [s/veh]	2.36		0.00		9.37	
Approach LOS	A		A		A	
d_I, Intersection Delay [s/veh]	2.43					
Intersection LOS	B					

**Intersection Level Of Service Report
Intersection 3: 36th & 2nd**

Control Type: Two-way stop
 Analysis Method: HCM 6th Edition
 Analysis Period: 15 minutes

Delay (sec / veh): 12.6
 Level Of Service: B
 Volume to Capacity (v/c): 0.080

Intersection Setup

Name	2nd St NE			2nd St NE			36th Ave NE			36th Ave NE		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration	+			+			+			+		
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	2nd St NE			2nd St NE			36th Ave NE			36th Ave NE		
Base Volume Input [veh/h]	5	45	35	45	155	10	5	25	15	40	15	15
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	2.90	0.00	1.90	0.00	0.00	0.00	0.00	1.80	0.00	25.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	5	45	35	45	155	10	5	25	15	40	15	15
Peak Hour Factor	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	1	12	10	12	42	3	1	7	4	11	4	4
Total Analysis Volume [veh/h]	5	49	38	49	168	11	5	27	16	43	16	16
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Priority Scheme	Free	Free	Stop	Stop
Flared Lane			No	No
Storage Area [veh]	0	0	0	0
Two-Stage Gap Acceptance			No	No
Number of Storage Spaces in Median	0	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.00	0.00	0.03	0.00	0.00	0.01	0.05	0.02	0.08	0.03	0.02
d_M, Delay for Movement [s/veh]	7.56	0.00	0.00	7.44	0.00	0.00	11.98	12.13	9.60	12.58	12.41	9.73
Movement LOS	A	A	A	A	A	A	B	B	A	B	B	A
95th-Percentile Queue Length [veh/ln]	0.01	0.01	0.01	0.10	0.10	0.10	0.25	0.25	0.25	0.43	0.43	0.43
95th-Percentile Queue Length [ft/ln]	0.27	0.27	0.27	2.49	2.49	2.49	6.25	6.25	6.25	10.76	10.76	10.76
d_A, Approach Delay [s/veh]	0.41			1.60			11.27			11.93		
Approach LOS	A			A			B			B		
d_I, Intersection Delay [s/veh]	4.15											
Intersection LOS	B											

**Intersection Level Of Service Report
Intersection 4: 36th & 5th**

Control Type:	Two-way stop	Delay (sec / veh):	10.7
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.008

Intersection Setup

Name	5th St NE		36th Ave NE		36th Ave NE	
Approach	Northbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Left	Right	Thru	Right	Left	Thru
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		No	

Volumes

Name	5th St NE		36th Ave NE		36th Ave NE	
Base Volume Input [veh/h]	5	25	165	35	20	80
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	5.00	0.70	0.00	0.00	7.30
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	5	25	165	35	20	80
Peak Hour Factor	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	1	7	45	10	5	22
Total Analysis Volume [veh/h]	5	27	179	38	22	87
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Stop	Free	Free
Flared Lane	No		
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance	No		
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.01	0.03	0.00	0.00	0.02	0.00
d_M, Delay for Movement [s/veh]	10.66	9.50	0.00	0.00	7.68	0.00
Movement LOS	B	A	A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.12	0.12	0.00	0.00	0.05	0.05
95th-Percentile Queue Length [ft/ln]	3.11	3.11	0.00	0.00	1.23	1.23
d_A, Approach Delay [s/veh]	9.68		0.00		1.55	
Approach LOS	A		A		A	
d_I, Intersection Delay [s/veh]	1.34					
Intersection LOS	B					

**Intersection Level Of Service Report
Intersection 5: 36th & 9th**

Control Type: Two-way stop
 Analysis Method: HCM 6th Edition
 Analysis Period: 15 minutes

Delay (sec / veh): 17.3
 Level Of Service: C
 Volume to Capacity (v/c): 0.047

Intersection Setup

Name	9th St NE			9th St NE			36th Ave NE			36th Ave NE		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration	+			+			+			+		
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	No			No			No			No		

Volumes

Name	9th St NE			9th St NE			36th Ave NE			36th Ave NE		
Base Volume Input [veh/h]	15	45	40	10	105	5	10	200	35	50	85	5
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	20.00	0.00	0.00	0.00	2.70	11.00	0.00	0.50	7.10	4.40	7.10	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	15	45	40	10	105	5	10	200	35	50	85	5
Peak Hour Factor	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	4	12	11	3	29	1	3	54	10	14	23	1
Total Analysis Volume [veh/h]	16	49	43	11	114	5	11	217	38	54	92	5
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Priority Scheme	Stop	Stop	Free	Free
Flared Lane	No	No		
Storage Area [veh]	0	0	0	0
Two-Stage Gap Acceptance	No	No		
Number of Storage Spaces in Median	0	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.05	0.10	0.05	0.03	0.25	0.01	0.01	0.00	0.00	0.04	0.00	0.00
d_M, Delay for Movement [s/veh]	17.33	14.34	11.19	16.97	15.85	11.85	7.40	0.00	0.00	7.90	0.00	0.00
Movement LOS	C	B	B	C	C	B	A	A	A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.76	0.76	0.76	1.14	1.14	1.14	0.02	0.02	0.02	0.13	0.13	0.13
95th-Percentile Queue Length [ft/ln]	18.94	18.94	18.94	28.53	28.53	28.53	0.55	0.55	0.55	3.26	3.26	3.26
d_A, Approach Delay [s/veh]	13.53			15.79			0.31			2.82		
Approach LOS	B			C			A			A		
d_I, Intersection Delay [s/veh]	6.14											
Intersection LOS	C											

**Intersection Level Of Service Report
Intersection 6: Bootlegger & 36th**

Control Type:	Two-way stop	Delay (sec / veh):	13.4
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.049

Intersection Setup

Name	Bootlegger Trail		Bootlegger Trail		36th Ave NE	
Approach	Northbound		Southbound		Eastbound	
Lane Configuration	↵		↵		↵↶	
Turning Movement	Left	Thru	Thru	Right	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	1	0	0	0	1
Entry Pocket Length [ft]	100.00	250.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	45.00		45.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		No	

Volumes

Name	Bootlegger Trail		Bootlegger Trail		36th Ave NE	
Base Volume Input [veh/h]	85	70	250	50	20	275
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	11.60	6.70	0.00	6.50	3.60	0.70
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	85	70	250	50	20	275
Peak Hour Factor	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	23	19	68	14	5	75
Total Analysis Volume [veh/h]	92	76	272	54	22	299
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Free	Free	Stop
Flared Lane			
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance			No
Number of Storage Spaces in Median	0	0	1




Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.08	0.00	0.00	0.00	0.05	0.40
d_M, Delay for Movement [s/veh]	8.30	0.00	0.00	0.00	13.42	13.06
Movement LOS	A	A	A	A	B	B
95th-Percentile Queue Length [veh/ln]	0.25	0.00	0.00	0.00	0.15	1.95
95th-Percentile Queue Length [ft/ln]	6.32	0.00	0.00	0.00	3.85	48.73
d_A, Approach Delay [s/veh]	4.55		0.00		13.08	
Approach LOS	A		A		B	
d_I, Intersection Delay [s/veh]	6.09					
Intersection LOS	B					

**Intersection Level Of Service Report
Intersection 7: Skyline & 6th**

Control Type:	Two-way stop	Delay (sec / veh):	9.5
Analysis Method:	HCM 6th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.032

Intersection Setup

Name	6th St NW		6th St NW		Skyline Dr NW	
Approach	Northbound		Southbound		Westbound	
Lane Configuration						
Turning Movement	Thru	Right	Left	Thru	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		No	

Volumes

Name	6th St NW		6th St NW		Skyline Dr NW	
Base Volume Input [veh/h]	45	20	5	80	25	5
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	4.50	1.70	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	45	20	5	80	25	5
Peak Hour Factor	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	12	5	1	22	7	1
Total Analysis Volume [veh/h]	49	22	5	87	27	5
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Free	Free	Stop
Flared Lane			No
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance			No
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.00	0.00	0.00	0.03	0.00
d_M, Delay for Movement [s/veh]	0.00	0.00	7.34	0.00	9.49	8.72
Movement LOS	A	A	A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.00	0.00	0.01	0.01	0.12	0.12
95th-Percentile Queue Length [ft/ln]	0.00	0.00	0.24	0.24	2.91	2.91
d_A, Approach Delay [s/veh]	0.00		0.40		9.37	
Approach LOS	A		A		A	
d_I, Intersection Delay [s/veh]	1.73					
Intersection LOS	A					

**Intersection Level Of Service Report
Intersection 8: Skyline & Division**

Control Type:	Two-way stop	Delay (sec / veh):	8.9
Analysis Method:	HCM 6th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.012

Intersection Setup

Name	Division Rd		Skyline Dr NW		Skyline Dr NE	
Approach	Northbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Left	Right	Thru	Right	Left	Thru
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		No	

Volumes

Name	Division Rd		Skyline Dr NW		Skyline Dr NE	
Base Volume Input [veh/h]	10	5	15	35	10	15
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	2.80	0.00	0.00	1.60
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	10	5	15	35	10	15
Peak Hour Factor	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	3	1	4	10	3	4
Total Analysis Volume [veh/h]	11	5	16	38	11	16
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Stop	Free	Free
Flared Lane	No		
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance	No		
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.01	0.00	0.00	0.00	0.01	0.00
d_M, Delay for Movement [s/veh]	8.94	8.51	0.00	0.00	7.32	0.00
Movement LOS	A	A	A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.05	0.05	0.00	0.00	0.02	0.02
95th-Percentile Queue Length [ft/ln]	1.27	1.27	0.00	0.00	0.53	0.53
d_A, Approach Delay [s/veh]	8.80		0.00		2.98	
Approach LOS	A		A		A	
d_I, Intersection Delay [s/veh]	2.28					
Intersection LOS	A					

**Intersection Level Of Service Report
Intersection 9: Skyline & 2nd**

Control Type: Two-way stop
 Analysis Method: HCM 6th Edition
 Analysis Period: 15 minutes

Delay (sec / veh): 11.8
 Level Of Service: B
 Volume to Capacity (v/c): 0.020

Intersection Setup

Name	2nd St NE			2nd St NE			Skyline Dr NE			Skyline Dr NE		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration	+			+			+			+		
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	No			No			No			No		

Volumes

Name	2nd St NE			2nd St NE			Skyline Dr NE			Skyline Dr NE		
Base Volume Input [veh/h]	5	80	5	5	235	15	10	10	5	5	10	10
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	4.60	0.00	0.00	2.10	1.80	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	5	80	5	5	235	15	10	10	5	5	10	10
Peak Hour Factor	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	1	22	1	1	64	4	3	3	1	1	3	3
Total Analysis Volume [veh/h]	5	87	5	5	255	16	11	11	5	5	11	11
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Priority Scheme	Free	Free	Stop	Stop
Flared Lane			No	No
Storage Area [veh]	0	0	0	0
Two-Stage Gap Acceptance			No	No
Number of Storage Spaces in Median	0	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.00	0.00	0.00	0.00	0.00	0.02	0.02	0.01	0.01	0.02	0.01
d_M, Delay for Movement [s/veh]	7.77	0.00	0.00	7.38	0.00	0.00	11.73	11.78	9.91	11.59	11.76	8.92
Movement LOS	A	A	A	A	A	A	B	B	A	B	B	A
95th-Percentile Queue Length [veh/ln]	0.01	0.01	0.01	0.01	0.01	0.01	0.14	0.14	0.14	0.13	0.13	0.13
95th-Percentile Queue Length [ft/ln]	0.29	0.29	0.29	0.25	0.25	0.25	3.60	3.60	3.60	3.13	3.13	3.13
d_A, Approach Delay [s/veh]	0.40			0.13			11.41			10.57		
Approach LOS	A			A			B			B		
d_I, Intersection Delay [s/veh]	1.57											
Intersection LOS	B											

**Intersection Level Of Service Report
Intersection 10: Skyline & 5th**

Control Type: Two-way stop
 Analysis Method: HCM 6th Edition
 Analysis Period: 15 minutes

Delay (sec / veh): 9.9
 Level Of Service: A
 Volume to Capacity (v/c): 0.015

Intersection Setup

Name	5th St NE			5th St NE			Skyline Dr NE			Skyline Dr NE		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration	+			+			+			+		
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	No			No			No			No		

Volumes

Name	5th St NE			5th St NE			Skyline Dr NE			Skyline Dr NE		
Base Volume Input [veh/h]	5	30	5	5	65	5	5	10	5	10	10	5
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	9.50	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	5	30	5	5	65	5	5	10	5	10	10	5
Peak Hour Factor	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	1	8	1	1	18	1	1	3	1	3	3	1
Total Analysis Volume [veh/h]	5	33	5	5	71	5	5	11	5	11	11	5
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Priority Scheme	Free	Free	Stop	Stop
Flared Lane			No	No
Storage Area [veh]	0	0	0	0
Two-Stage Gap Acceptance			No	No
Number of Storage Spaces in Median	0	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.01	0.01	0.01	0.01	0.00
d_M, Delay for Movement [s/veh]	7.35	0.00	0.00	7.28	0.00	0.00	9.50	9.87	8.74	9.53	9.90	8.60
Movement LOS	A	A	A	A	A	A	A	A	A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.01	0.01	0.01	0.01	0.01	0.01	0.08	0.08	0.08	0.10	0.10	0.10
95th-Percentile Queue Length [ft/ln]	0.24	0.24	0.24	0.24	0.24	0.24	1.97	1.97	1.97	2.53	2.53	2.53
d_A, Approach Delay [s/veh]	0.85			0.45			9.51			9.51		
Approach LOS	A			A			A			A		
d_I, Intersection Delay [s/veh]	3.08											
Intersection LOS	A											

**Intersection Level Of Service Report
Intersection 11: 8th & Sacajawea**

Control Type:	Two-way stop	Delay (sec / veh):	14.6
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.011

Intersection Setup

Name	8th St NE			8th St NE			Sacajawea Dr			Sacajawea Dr		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration	+			+			+			+		
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	No			Yes			No			Yes		

Volumes

Name	8th St NE			8th St NE			Sacajawea Dr			Sacajawea Dr		
Base Volume Input [veh/h]	20	110	5	5	265	70	45	5	70	5	5	5
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	4.80	0.00	0.00	2.60	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	20	110	5	5	265	70	45	5	70	5	5	5
Peak Hour Factor	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	5	30	1	1	72	19	12	1	19	1	1	1
Total Analysis Volume [veh/h]	22	120	5	5	288	76	49	5	76	5	5	5
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Priority Scheme	Free	Free	Stop	Stop
Flared Lane			No	No
Storage Area [veh]	0	0	0	0
Two-Stage Gap Acceptance			No	No
Number of Storage Spaces in Median	0	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.02	0.00	0.00	0.00	0.00	0.00	0.11	0.01	0.11	0.01	0.01	0.01
d_M, Delay for Movement [s/veh]	8.04	0.00	0.00	7.45	0.00	0.00	14.51	14.55	11.75	14.32	13.39	9.07
Movement LOS	A	A	A	A	A	A	B	B	B	B	B	A
95th-Percentile Queue Length [veh/ln]	0.06	0.06	0.06	0.01	0.01	0.01	0.84	0.84	0.84	0.09	0.09	0.09
95th-Percentile Queue Length [ft/ln]	1.39	1.39	1.39	0.26	0.26	0.26	21.10	21.10	21.10	2.27	2.27	2.27
d_A, Approach Delay [s/veh]	1.20			0.10			12.90			12.26		
Approach LOS	A			A			B			B		
d_I, Intersection Delay [s/veh]	3.14											
Intersection LOS	B											

**Intersection Level Of Service Report
Intersection 12: 9th & 32nd**

Control Type: Two-way stop
 Analysis Method: HCM 6th Edition
 Analysis Period: 15 minutes

Delay (sec / veh): 11.3
 Level Of Service: B
 Volume to Capacity (v/c): 0.009

Intersection Setup

Name	9th St NE		9th St NE		32nd Ave NE	
Approach	Northbound		Southbound		Eastbound	
Lane Configuration	↶		↷		↷	
Turning Movement	Left	Thru	Thru	Right	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		No	

Volumes

Name	9th St NE		9th St NE		32nd Ave NE	
Base Volume Input [veh/h]	5	125	260	5	5	15
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	4.10	2.90	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	5	125	260	5	5	15
Peak Hour Factor	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	1	34	71	1	1	4
Total Analysis Volume [veh/h]	5	136	283	5	5	16
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Free	Free	Stop
Flared Lane			No
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance			No
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.00	0.00	0.00	0.01	0.02
d_M, Delay for Movement [s/veh]	7.81	0.00	0.00	0.00	11.34	9.90
Movement LOS	A	A	A	A	B	A
95th-Percentile Queue Length [veh/ln]	0.01	0.01	0.00	0.00	0.09	0.09
95th-Percentile Queue Length [ft/ln]	0.29	0.29	0.00	0.00	2.29	2.29
d_A, Approach Delay [s/veh]	0.28		0.00		10.24	
Approach LOS	A		A		B	
d_I, Intersection Delay [s/veh]	0.56					
Intersection LOS	B					

**Intersection Level Of Service Report
Intersection 13: 9th & Skyline**

Control Type: Two-way stop
 Analysis Method: HCM 6th Edition
 Analysis Period: 15 minutes

Delay (sec / veh): 9.5
 Level Of Service: A
 Volume to Capacity (v/c): 0.006

Intersection Setup

Name	9th St NE			9th St NE			Skyline Dr NE			Skyline Dr NE		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration	+			+			+			+		
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	No			No			No			No		

Volumes

Name	9th St NE			9th St NE			Skyline Dr NE			Skyline Dr NE		
Base Volume Input [veh/h]	5	5	5	5	5	0	0	20	5	5	30	5
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	5	5	5	5	5	0	0	20	5	5	30	5
Peak Hour Factor	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	1	1	1	1	1	0	0	5	1	1	8	1
Total Analysis Volume [veh/h]	5	5	5	5	5	0	0	22	5	5	33	5
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Priority Scheme	Stop	Stop	Free	Free
Flared Lane	No	No		
Storage Area [veh]	0	0	0	0
Two-Stage Gap Acceptance	No	No		
Number of Storage Spaces in Median	0	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.01	0.01	0.00	0.01	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00
d_M, Delay for Movement [s/veh]	8.99	9.46	8.47	9.01	9.44	8.50	7.27	0.00	0.00	7.26	0.00	0.00
Movement LOS	A	A	A	A	A	A	A	A	A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.05	0.05	0.05	0.04	0.04	0.04	0.00	0.00	0.00	0.01	0.01	0.01
95th-Percentile Queue Length [ft/ln]	1.24	1.24	1.24	0.88	0.88	0.88	0.00	0.00	0.00	0.24	0.24	0.24
d_A, Approach Delay [s/veh]	8.97			9.23			0.00			0.84		
Approach LOS	A			A			A			A		
d_I, Intersection Delay [s/veh]	2.77											
Intersection LOS	A											

North Great Falls Transportation Study

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Scenario 14 2040 PM Scenario 4

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10/7/2020

Intersection Analysis Summary

ID	Intersection Name	Control Type	Method	Worst Mvmt	V/C	Delay (s/veh)	LOS
1	6th & Vinyard	Two-way stop	HCM 6th Edition	EB Left	0.005	8.8	A
2	Bootlegger & 46th	Two-way stop	HCM 6th Edition	EB Left	0.007	10.2	B
3	36th & 2nd	Two-way stop	HCM 6th Edition	WB Left	0.096	12.9	B
4	36th & 5th	Two-way stop	HCM 6th Edition	NB Left	0.037	11.3	B
5	36th & 9th	Two-way stop	HCM 6th Edition	NB Left	0.115	21.8	C
6	Bootlegger & 36th	Two-way stop	HCM 6th Edition	EB Left	0.107	31.8	D
7	Skyline & 6th	Two-way stop	HCM 6th Edition	WB Left	0.029	9.8	A
8	Skyline & Division	Two-way stop	HCM 6th Edition	NB Left	0.028	8.9	A
9	Skyline & 2nd	Two-way stop	HCM 6th Edition	WB Thru	0.020	11.9	B
10	Skyline & 5th	Two-way stop	HCM 6th Edition	WB Thru	0.021	10.0	B
11	8th & Sacajawea	Two-way stop	HCM 6th Edition	EB Thru	0.012	14.1	B
12	9th & 32nd	Two-way stop	HCM 6th Edition	EB Left	0.008	11.0	B
13	9th & Skyline	Two-way stop	HCM 6th Edition	NB Thru	0.006	9.3	A

V/C, Delay, LOS: For two-way stop, these values are taken from the movement with the worst (highest) delay value. For all other control types, they are taken for the whole intersection.

**Intersection Level Of Service Report
Intersection 1: 6th & Vinyard**

Control Type:	Two-way stop	Delay (sec / veh):	8.8
Analysis Method:	HCM 6th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.005

Intersection Setup

Name	6th St NW		Vinyard Rd		Vinyard Rd	
Approach	Northbound		Southbound		Eastbound	
Lane Configuration	↶		↷		↷	
Turning Movement	Left	Thru	Thru	Right	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		No	

Volumes

Name	6th St NW		Vinyard Rd		Vinyard Rd	
Base Volume Input [veh/h]	10	10	10	5	5	20
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	10	10	10	5	5	20
Peak Hour Factor	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	3	3	3	1	1	5
Total Analysis Volume [veh/h]	11	11	11	5	5	22
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Free	Free	Stop
Flared Lane			No
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance			No
Number of Storage Spaces in Median	0	0	0




Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.01	0.00	0.00	0.00	0.01	0.02
d_M, Delay for Movement [s/veh]	7.24	0.00	0.00	0.00	8.83	8.45
Movement LOS	A	A	A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.02	0.02	0.00	0.00	0.08	0.08
95th-Percentile Queue Length [ft/ln]	0.51	0.51	0.00	0.00	1.98	1.98
d_A, Approach Delay [s/veh]	3.62		0.00		8.52	
Approach LOS	A		A		A	
d_I, Intersection Delay [s/veh]	4.76					
Intersection LOS	A					

**Intersection Level Of Service Report
Intersection 2: Bootlegger & 46th**

Control Type:	Two-way stop	Delay (sec / veh):	10.2
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.007

Intersection Setup

Name	Bootlegger Trail		Bootlegger Trail		46th Ave NE	
Approach	Northbound		Southbound		Eastbound	
Lane Configuration						
Turning Movement	Left	Thru	Thru	Right	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	1	0	0	0	0
Entry Pocket Length [ft]	100.00	600.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	70.00		70.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		No	

Volumes

Name	Bootlegger Trail		Bootlegger Trail		46th Ave NE	
Base Volume Input [veh/h]	30	120	55	5	5	30
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	30	120	55	5	5	30
Peak Hour Factor	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	8	33	15	1	1	8
Total Analysis Volume [veh/h]	33	130	60	5	5	33
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Free	Free	Stop
Flared Lane			No
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance			No
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.02	0.00	0.00	0.00	0.01	0.03
d_M, Delay for Movement [s/veh]	7.37	0.00	0.00	0.00	10.16	8.73
Movement LOS	A	A	A	A	B	A
95th-Percentile Queue Length [veh/ln]	0.07	0.00	0.00	0.00	0.12	0.12
95th-Percentile Queue Length [ft/ln]	1.63	0.00	0.00	0.00	3.10	3.10
d_A, Approach Delay [s/veh]	1.49		0.00		8.92	
Approach LOS	A		A		A	
d_I, Intersection Delay [s/veh]	2.19					
Intersection LOS	B					

**Intersection Level Of Service Report
Intersection 3: 36th & 2nd**

Control Type: Two-way stop
 Analysis Method: HCM 6th Edition
 Analysis Period: 15 minutes

Delay (sec / veh): 12.9
 Level Of Service: B
 Volume to Capacity (v/c): 0.096

Intersection Setup

Name	2nd St NE			2nd St NE			36th Ave NE			36th Ave NE		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration	+			+			+			+		
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	2nd St NE			2nd St NE			36th Ave NE			36th Ave NE		
Base Volume Input [veh/h]	20	140	25	20	75	5	5	25	5	50	40	35
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	1.00	0.00	0.00	0.00	100.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	20	140	25	20	75	5	5	25	5	50	40	35
Peak Hour Factor	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	5	38	7	5	20	1	1	7	1	14	11	10
Total Analysis Volume [veh/h]	22	152	27	22	82	5	5	27	5	54	43	38
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Priority Scheme	Free	Free	Stop	Stop
Flared Lane			No	No
Storage Area [veh]	0	0	0	0
Two-Stage Gap Acceptance			No	No
Number of Storage Spaces in Median	0	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.01	0.00	0.00	0.02	0.00	0.00	0.01	0.05	0.01	0.10	0.08	0.04
d_M, Delay for Movement [s/veh]	7.40	0.00	0.00	7.60	0.00	0.00	12.44	11.87	9.09	12.92	12.92	10.63
Movement LOS	A	A	A	A	A	A	B	B	A	B	B	B
95th-Percentile Queue Length [veh/ln]	0.04	0.04	0.04	0.05	0.05	0.05	0.20	0.20	0.20	0.81	0.81	0.81
95th-Percentile Queue Length [ft/ln]	1.10	1.10	1.10	1.19	1.19	1.19	5.05	5.05	5.05	20.22	20.22	20.22
d_A, Approach Delay [s/veh]	0.81			1.53			11.57			12.28		
Approach LOS	A			A			B			B		
d_I, Intersection Delay [s/veh]	5.01											
Intersection LOS	B											

**Intersection Level Of Service Report
Intersection 4: 36th & 5th**

Control Type: Two-way stop
 Analysis Method: HCM 6th Edition
 Analysis Period: 15 minutes

Delay (sec / veh): 11.3
 Level Of Service: B
 Volume to Capacity (v/c): 0.037

Intersection Setup

Name	5th St NE		36th Ave NE		36th Ave NE	
Approach	Northbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Left	Right	Thru	Right	Left	Thru
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		No	

Volumes

Name	5th St NE		36th Ave NE		36th Ave NE	
Base Volume Input [veh/h]	20	20	100	10	25	210
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	20	20	100	10	25	210
Peak Hour Factor	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	5	5	27	3	7	57
Total Analysis Volume [veh/h]	22	22	109	11	27	228
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Stop	Free	Free
Flared Lane	No		
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance	No		
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.04	0.02	0.00	0.00	0.02	0.00
d_M, Delay for Movement [s/veh]	11.32	9.13	0.00	0.00	7.48	0.00
Movement LOS	B	A	A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.19	0.19	0.00	0.00	0.06	0.06
95th-Percentile Queue Length [ft/ln]	4.78	4.78	0.00	0.00	1.39	1.39
d_A, Approach Delay [s/veh]	10.22		0.00		0.79	
Approach LOS	B		A		A	
d_I, Intersection Delay [s/veh]	1.56					
Intersection LOS	B					

**Intersection Level Of Service Report
Intersection 5: 36th & 9th**

Control Type: Two-way stop
 Analysis Method: HCM 6th Edition
 Analysis Period: 15 minutes

Delay (sec / veh): 21.8
 Level Of Service: C
 Volume to Capacity (v/c): 0.115

Intersection Setup

Name	9th St NE			9th St NE			36th Ave NE			36th Ave NE		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration	+			+			+			+		
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	No			No			No			No		

Volumes

Name	9th St NE			9th St NE			36th Ave NE			36th Ave NE		
Base Volume Input [veh/h]	35	100	15	5	55	20	45	105	15	35	240	10
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	6.30	0.00	0.00	0.00	4.20	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	35	100	15	5	55	20	45	105	15	35	240	10
Peak Hour Factor	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	10	27	4	1	15	5	12	29	4	10	65	3
Total Analysis Volume [veh/h]	38	109	16	5	60	22	49	114	16	38	261	11
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Priority Scheme	Stop	Stop	Free	Free
Flared Lane	No	No		
Storage Area [veh]	0	0	0	0
Two-Stage Gap Acceptance	No	No		
Number of Storage Spaces in Median	0	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.12	0.27	0.02	0.02	0.15	0.03	0.04	0.00	0.00	0.03	0.00	0.00
d_M, Delay for Movement [s/veh]	21.76	19.73	14.68	19.14	16.01	11.60	7.87	0.00	0.00	7.52	0.00	0.00
Movement LOS	C	C	B	C	C	B	A	A	A	A	A	A
95th-Percentile Queue Length [veh/ln]	1.90	1.90	1.90	0.72	0.72	0.72	0.12	0.12	0.12	0.08	0.08	0.08
95th-Percentile Queue Length [ft/ln]	47.40	47.40	47.40	17.99	17.99	17.99	2.93	2.93	2.93	1.99	1.99	1.99
d_A, Approach Delay [s/veh]	19.71			15.07			2.15			0.92		
Approach LOS	C			C			A			A		
d_I, Intersection Delay [s/veh]	7.03											
Intersection LOS	C											

**Intersection Level Of Service Report
Intersection 6: Bootlegger & 36th**

Control Type:	Two-way stop	Delay (sec / veh):	31.8
Analysis Method:	HCM 6th Edition	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.107

Intersection Setup

Name	Bootlegger Trail		Bootlegger Trail		36th Ave NE	
Approach	Northbound		Southbound		Eastbound	
Lane Configuration	↵		↵		↵↶	
Turning Movement	Left	Thru	Thru	Right	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	1	0	0	0	1
Entry Pocket Length [ft]	100.00	250.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	45.00		45.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		No	

Volumes

Name	Bootlegger Trail		Bootlegger Trail		36th Ave NE	
Base Volume Input [veh/h]	365	235	125	20	15	135
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.80
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	365	235	125	20	15	135
Peak Hour Factor	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	99	64	34	5	4	37
Total Analysis Volume [veh/h]	397	255	136	22	16	147
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Free	Free	Stop
Flared Lane			
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance			No
Number of Storage Spaces in Median	0	0	1

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.28	0.00	0.00	0.00	0.11	0.16
d_M, Delay for Movement [s/veh]	8.47	0.00	0.00	0.00	31.83	9.76
Movement LOS	A	A	A	A	D	A
95th-Percentile Queue Length [veh/ln]	1.14	0.00	0.00	0.00	0.35	0.58
95th-Percentile Queue Length [ft/ln]	28.46	0.00	0.00	0.00	8.77	14.49
d_A, Approach Delay [s/veh]	5.16		0.00		11.93	
Approach LOS	A		A		B	
d_I, Intersection Delay [s/veh]	5.45					
Intersection LOS	D					

**Intersection Level Of Service Report
Intersection 7: Skyline & 6th**

Control Type:	Two-way stop	Delay (sec / veh):	9.8
Analysis Method:	HCM 6th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.029

Intersection Setup

Name	6th St NW		6th St NW		Skyline Dr NW	
Approach	Northbound		Southbound		Westbound	
Lane Configuration	↷		↶		↵	
Turning Movement	Thru	Right	Left	Thru	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		No	

Volumes

Name	6th St NW		6th St NW		Skyline Dr NW	
Base Volume Input [veh/h]	105	30	5	70	20	5
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	1.90	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	105	30	5	70	20	5
Peak Hour Factor	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	29	8	1	19	5	1
Total Analysis Volume [veh/h]	114	33	5	76	22	5
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Free	Free	Stop
Flared Lane			No
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance			No
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.00	0.00	0.00	0.03	0.01
d_M, Delay for Movement [s/veh]	0.00	0.00	7.50	0.00	9.84	9.05
Movement LOS	A	A	A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.00	0.00	0.01	0.01	0.11	0.11
95th-Percentile Queue Length [ft/ln]	0.00	0.00	0.26	0.26	2.64	2.64
d_A, Approach Delay [s/veh]	0.00		0.46		9.69	
Approach LOS	A		A		A	
d_I, Intersection Delay [s/veh]	1.17					
Intersection LOS	A					

**Intersection Level Of Service Report
Intersection 8: Skyline & Division**

Control Type:	Two-way stop	Delay (sec / veh):	8.9
Analysis Method:	HCM 6th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.028

Intersection Setup

Name	Division Rd		Skyline Dr NW		Skyline Dr NE	
Approach	Northbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Left	Right	Thru	Right	Left	Thru
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		No	

Volumes

Name	Division Rd		Skyline Dr NW		Skyline Dr NE	
Base Volume Input [veh/h]	25	10	10	20	5	20
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	1.80
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	25	10	10	20	5	20
Peak Hour Factor	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	7	3	3	5	1	5
Total Analysis Volume [veh/h]	27	11	11	22	5	22
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Stop	Free	Free
Flared Lane	No		
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance	No		
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.03	0.01	0.00	0.00	0.00	0.00
d_M, Delay for Movement [s/veh]	8.91	8.54	0.00	0.00	7.27	0.00
Movement LOS	A	A	A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.12	0.12	0.00	0.00	0.01	0.01
95th-Percentile Queue Length [ft/ln]	3.01	3.01	0.00	0.00	0.24	0.24
d_A, Approach Delay [s/veh]	8.80		0.00		1.35	
Approach LOS	A		A		A	
d_I, Intersection Delay [s/veh]	3.78					
Intersection LOS	A					

**Intersection Level Of Service Report
Intersection 9: Skyline & 2nd**

Control Type: Two-way stop
 Analysis Method: HCM 6th Edition
 Analysis Period: 15 minutes

Delay (sec / veh): 11.9
 Level Of Service: B
 Volume to Capacity (v/c): 0.020

Intersection Setup

Name	2nd St NE			2nd St NE			Skyline Dr NE			Skyline Dr NE		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration	+			+			+			+		
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	No			No			No			No		

Volumes

Name	2nd St NE			2nd St NE			Skyline Dr NE			Skyline Dr NE		
Base Volume Input [veh/h]	5	200	10	5	120	15	5	15	5	5	10	15
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	1.90	0.00	0.00	2.10	2.10	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	5	200	10	5	120	15	5	15	5	5	10	15
Peak Hour Factor	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	1	54	3	1	33	4	1	4	1	1	3	4
Total Analysis Volume [veh/h]	5	217	11	5	130	16	5	16	5	5	11	16
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Priority Scheme	Free	Free	Stop	Stop
Flared Lane			No	No
Storage Area [veh]	0	0	0	0
Two-Stage Gap Acceptance			No	No
Number of Storage Spaces in Median	0	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.03	0.01	0.01	0.02	0.02
d_M, Delay for Movement [s/veh]	7.49	0.00	0.00	7.67	0.00	0.00	11.87	11.86	9.21	11.79	11.88	9.66
Movement LOS	A	A	A	A	A	A	B	B	A	B	B	A
95th-Percentile Queue Length [veh/ln]	0.01	0.01	0.01	0.01	0.01	0.01	0.14	0.14	0.14	0.15	0.15	0.15
95th-Percentile Queue Length [ft/ln]	0.26	0.26	0.26	0.28	0.28	0.28	3.43	3.43	3.43	3.83	3.83	3.83
d_A, Approach Delay [s/veh]	0.16			0.25			11.35			10.76		
Approach LOS	A			A			B			B		
d_I, Intersection Delay [s/veh]	1.62											
Intersection LOS	B											

**Intersection Level Of Service Report
Intersection 10: Skyline & 5th**

Control Type: Two-way stop
 Analysis Method: HCM 6th Edition
 Analysis Period: 15 minutes

Delay (sec / veh): 10.0
 Level Of Service: B
 Volume to Capacity (v/c): 0.021

Intersection Setup

Name	5th St NE			5th St NE			Skyline Dr NE			Skyline Dr NE		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration	+			+			+			+		
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	No			No			No			No		

Volumes

Name	5th St NE			5th St NE			Skyline Dr NE			Skyline Dr NE		
Base Volume Input [veh/h]	5	75	10	5	30	5	5	10	5	10	15	10
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	5	75	10	5	30	5	5	10	5	10	15	10
Peak Hour Factor	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	1	20	3	1	8	1	1	3	1	3	4	3
Total Analysis Volume [veh/h]	5	82	11	5	33	5	5	11	5	11	16	11
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Priority Scheme	Free	Free	Stop	Stop
Flared Lane			No	No
Storage Area [veh]	0	0	0	0
Two-Stage Gap Acceptance			No	No
Number of Storage Spaces in Median	0	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.01	0.00	0.01	0.02	0.01
d_M, Delay for Movement [s/veh]	7.28	0.00	0.00	7.39	0.00	0.00	9.69	9.97	8.57	9.69	10.05	8.90
Movement LOS	A	A	A	A	A	A	A	A	A	A	B	A
95th-Percentile Queue Length [veh/ln]	0.01	0.01	0.01	0.01	0.01	0.01	0.08	0.08	0.08	0.15	0.15	0.15
95th-Percentile Queue Length [ft/ln]	0.24	0.24	0.24	0.25	0.25	0.25	2.00	2.00	2.00	3.65	3.65	3.65
d_A, Approach Delay [s/veh]	0.37			0.86			9.57			9.61		
Approach LOS	A			A			A			A		
d_I, Intersection Delay [s/veh]	3.20											
Intersection LOS	B											

**Intersection Level Of Service Report
Intersection 11: 8th & Sacajawea**

Control Type: Two-way stop
 Analysis Method: HCM 6th Edition
 Analysis Period: 15 minutes

Delay (sec / veh): 14.1
 Level Of Service: B
 Volume to Capacity (v/c): 0.012

Intersection Setup

Name	8th St NE			8th St NE			Sacajawea Dr			Sacajawea Dr		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration	+			+			+			+		
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	No			Yes			No			Yes		

Volumes

Name	8th St NE			8th St NE			Sacajawea Dr			Sacajawea Dr		
Base Volume Input [veh/h]	30	275	10	5	130	30	30	5	15	5	5	5
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	1.00	0.00	0.00	3.20	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	30	275	10	5	130	30	30	5	15	5	5	5
Peak Hour Factor	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	8	75	3	1	35	8	8	1	4	1	1	1
Total Analysis Volume [veh/h]	33	299	11	5	141	33	33	5	16	5	5	5
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Priority Scheme	Free	Free	Stop	Stop
Flared Lane			No	No
Storage Area [veh]	0	0	0	0
Two-Stage Gap Acceptance			No	No
Number of Storage Spaces in Median	0	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.02	0.00	0.00	0.00	0.00	0.00	0.08	0.01	0.02	0.01	0.01	0.01
d_M, Delay for Movement [s/veh]	7.61	0.00	0.00	7.86	0.00	0.00	14.09	14.10	9.85	13.65	13.62	10.09
Movement LOS	A	A	A	A	A	A	B	B	A	B	B	B
95th-Percentile Queue Length [veh/ln]	0.07	0.07	0.07	0.01	0.01	0.01	0.35	0.35	0.35	0.09	0.09	0.09
95th-Percentile Queue Length [ft/ln]	1.79	1.79	1.79	0.30	0.30	0.30	8.76	8.76	8.76	2.33	2.33	2.33
d_A, Approach Delay [s/veh]	0.73			0.22			12.83			12.46		
Approach LOS	A			A			B			B		
d_I, Intersection Delay [s/veh]	1.98											
Intersection LOS	B											

Intersection Level Of Service Report
Intersection 12: 9th & 32nd

Control Type:	Two-way stop	Delay (sec / veh):	11.0
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.008

Intersection Setup

Name	9th St NE		9th St NE		32nd Ave NE	
Approach	Northbound		Southbound		Eastbound	
Lane Configuration	↶		↷		↷	
Turning Movement	Left	Thru	Thru	Right	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		No	

Volumes

Name	9th St NE		9th St NE		32nd Ave NE	
Base Volume Input [veh/h]	15	215	115	5	5	10
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	1.30	3.70	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	15	215	115	5	5	10
Peak Hour Factor	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	4	58	31	1	1	3
Total Analysis Volume [veh/h]	16	234	125	5	5	11
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Free	Free	Stop
Flared Lane			No
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance			No
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.01	0.00	0.00	0.00	0.01	0.01
d_M, Delay for Movement [s/veh]	7.48	0.00	0.00	0.00	11.02	8.97
Movement LOS	A	A	A	A	B	A
95th-Percentile Queue Length [veh/ln]	0.03	0.03	0.00	0.00	0.06	0.06
95th-Percentile Queue Length [ft/ln]	0.83	0.83	0.00	0.00	1.54	1.54
d_A, Approach Delay [s/veh]	0.48		0.00		9.61	
Approach LOS	A		A		A	
d_I, Intersection Delay [s/veh]	0.69					
Intersection LOS	B					

**Intersection Level Of Service Report
Intersection 13: 9th & Skyline**

Control Type: Two-way stop
 Analysis Method: HCM 6th Edition
 Analysis Period: 15 minutes

Delay (sec / veh): 9.3
 Level Of Service: A
 Volume to Capacity (v/c): 0.006

Intersection Setup

Name	9th St NE			9th St NE			Skyline Dr NE			Skyline Dr NE		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration	+			+			+			+		
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	No			No			No			No		

Volumes

Name	9th St NE			9th St NE			Skyline Dr NE			Skyline Dr NE		
Base Volume Input [veh/h]	5	5	5	5	5	0	0	25	5	5	5	5
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	5	5	5	5	5	0	0	25	5	5	5	5
Peak Hour Factor	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	1	1	1	1	1	0	0	7	1	1	1	1
Total Analysis Volume [veh/h]	5	5	5	5	5	0	0	27	5	5	5	5
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Priority Scheme	Stop	Stop	Free	Free
Flared Lane	No	No		
Storage Area [veh]	0	0	0	0
Two-Stage Gap Acceptance	No	No		
Number of Storage Spaces in Median	0	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.01	0.01	0.00	0.01	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00
d_M, Delay for Movement [s/veh]	8.86	9.33	8.49	8.87	9.32	8.38	7.22	0.00	0.00	7.27	0.00	0.00
Movement LOS	A	A	A	A	A	A	A	A	A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.05	0.05	0.05	0.03	0.03	0.03	0.00	0.00	0.00	0.01	0.01	0.01
95th-Percentile Queue Length [ft/ln]	1.22	1.22	1.22	0.85	0.85	0.85	0.00	0.00	0.00	0.24	0.24	0.24
d_A, Approach Delay [s/veh]	8.89			9.09			0.00			2.42		
Approach LOS	A			A			A			A		
d_I, Intersection Delay [s/veh]	3.62											
Intersection LOS	A											

North Great Falls Transportation Study

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Scenario 15 2040 AM Scenario 5

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10/7/2020

Intersection Analysis Summary

ID	Intersection Name	Control Type	Method	Worst Mvmt	V/C	Delay (s/veh)	LOS
1	6th & Vinyard	Two-way stop	HCM 6th Edition	EB Left	0.005	8.8	A
2	Bootlegger & 46th	Two-way stop	HCM 6th Edition	EB Left	0.007	10.3	B
3	36th & 2nd	Two-way stop	HCM 6th Edition	WB Left	0.065	11.9	B
4	36th & 5th	Two-way stop	HCM 6th Edition	NB Left	0.007	10.2	B
5	36th & 9th	Two-way stop	HCM 6th Edition	NB Left	0.035	14.1	B
6	Bootlegger & 36th	Two-way stop	HCM 6th Edition	EB Left	0.193	9.8	A
7	Skyline & 6th	Two-way stop	HCM 6th Edition	WB Left	0.032	9.5	A
8	Skyline & Division	Two-way stop	HCM 6th Edition	NB Left	0.012	8.9	A
9	Skyline & 2nd	Two-way stop	HCM 6th Edition	WB Thru	0.020	11.9	B
10	Skyline & 5th	Two-way stop	HCM 6th Edition	WB Thru	0.015	10.2	B
11	8th & Sacajawea	Two-way stop	HCM 6th Edition	EB Left	0.107	16.0	C
12	9th & 32nd	Two-way stop	HCM 6th Edition	EB Left	0.008	11.2	B
13	9th & Skyline	Two-way stop	HCM 6th Edition	NB Thru	0.006	9.5	A

V/C, Delay, LOS: For two-way stop, these values are taken from the movement with the worst (highest) delay value. For all other control types, they are taken for the whole intersection.

**Intersection Level Of Service Report
Intersection 1: 6th & Vinyard**

Control Type: Two-way stop
 Analysis Method: HCM 6th Edition
 Analysis Period: 15 minutes

Delay (sec / veh): 8.8
 Level Of Service: A
 Volume to Capacity (v/c): 0.005

Intersection Setup

Name	6th St NW		Vinyard Rd		Vinyard Rd	
Approach	Northbound		Southbound		Eastbound	
Lane Configuration	↶		↷		↷	
Turning Movement	Left	Thru	Thru	Right	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		No	

Volumes

Name	6th St NW		Vinyard Rd		Vinyard Rd	
Base Volume Input [veh/h]	10	10	15	5	5	15
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	50.00	0.00	20.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	10	10	15	5	5	15
Peak Hour Factor	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	3	3	4	1	1	4
Total Analysis Volume [veh/h]	11	11	16	5	5	16
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Free	Free	Stop
Flared Lane			No
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance			No
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.01	0.00	0.00	0.00	0.01	0.02
d_M, Delay for Movement [s/veh]	7.25	0.00	0.00	0.00	8.84	8.64
Movement LOS	A	A	A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.02	0.02	0.00	0.00	0.06	0.06
95th-Percentile Queue Length [ft/ln]	0.52	0.52	0.00	0.00	1.61	1.61
d_A, Approach Delay [s/veh]	3.63		0.00		8.69	
Approach LOS	A		A		A	
d_I, Intersection Delay [s/veh]	4.10					
Intersection LOS	A					

**Intersection Level Of Service Report
Intersection 2: Bootlegger & 46th**

Control Type:	Two-way stop	Delay (sec / veh):	10.3
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.007

Intersection Setup

Name	Bootlegger Trail		Bootlegger Trail		46th Ave NE	
Approach	Northbound		Southbound		Eastbound	
Lane Configuration	↙ ↑		↑ ↘		↔	
Turning Movement	Left	Thru	Thru	Right	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	1	0	0	0	0
Entry Pocket Length [ft]	100.00	600.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	70.00		70.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		No	

Volumes

Name	Bootlegger Trail		Bootlegger Trail		46th Ave NE	
Base Volume Input [veh/h]	25	55	135	5	5	45
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	4.30	9.10	1.70	0.00	0.00	1.60
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	25	55	135	5	5	45
Peak Hour Factor	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	7	15	37	1	1	12
Total Analysis Volume [veh/h]	27	60	147	5	5	49
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Free	Free	Stop
Flared Lane			No
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance			No
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.02	0.00	0.00	0.00	0.01	0.05
d_M, Delay for Movement [s/veh]	7.59	0.00	0.00	0.00	10.30	9.28
Movement LOS	A	A	A	A	B	A
95th-Percentile Queue Length [veh/ln]	0.06	0.00	0.00	0.00	0.20	0.20
95th-Percentile Queue Length [ft/ln]	1.46	0.00	0.00	0.00	4.91	4.91
d_A, Approach Delay [s/veh]	2.36		0.00		9.37	
Approach LOS	A		A		A	
d_I, Intersection Delay [s/veh]	2.43					
Intersection LOS	B					

**Intersection Level Of Service Report
Intersection 3: 36th & 2nd**

Control Type:	Two-way stop	Delay (sec / veh):	11.9
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.065

Intersection Setup

Name	2nd St NE			2nd St NE			36th Ave NE			36th Ave NE		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration	+			+			+			+		
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	2nd St NE			2nd St NE			36th Ave NE			36th Ave NE		
Base Volume Input [veh/h]	5	40	20	30	155	10	5	25	15	35	15	15
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	2.90	0.00	1.90	0.00	0.00	0.00	0.00	1.80	0.00	25.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	5	40	20	30	155	10	5	25	15	35	15	15
Peak Hour Factor	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	1	11	5	8	42	3	1	7	4	10	4	4
Total Analysis Volume [veh/h]	5	43	22	33	168	11	5	27	16	38	16	16
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Priority Scheme	Free	Free	Stop	Stop
Flared Lane			No	No
Storage Area [veh]	0	0	0	0
Two-Stage Gap Acceptance			No	No
Number of Storage Spaces in Median	0	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.00	0.00	0.02	0.00	0.00	0.01	0.05	0.02	0.07	0.03	0.02
d_M, Delay for Movement [s/veh]	7.56	0.00	0.00	7.37	0.00	0.00	11.42	11.55	9.54	11.86	11.77	9.47
Movement LOS	A	A	A	A	A	A	B	B	A	B	B	A
95th-Percentile Queue Length [veh/ln]	0.01	0.01	0.01	0.07	0.07	0.07	0.23	0.23	0.23	0.37	0.37	0.37
95th-Percentile Queue Length [ft/ln]	0.27	0.27	0.27	1.63	1.63	1.63	5.85	5.85	5.85	9.13	9.13	9.13
d_A, Approach Delay [s/veh]	0.54			1.15			10.86			11.29		
Approach LOS	A			A			B			B		
d_I, Intersection Delay [s/veh]	3.98											
Intersection LOS	B											

**Intersection Level Of Service Report
Intersection 4: 36th & 5th**

Control Type:	Two-way stop	Delay (sec / veh):	10.2
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.007

Intersection Setup

Name	5th St NE		36th Ave NE		36th Ave NE	
Approach	Northbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Left	Right	Thru	Right	Left	Thru
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		No	

Volumes

Name	5th St NE		36th Ave NE		36th Ave NE	
Base Volume Input [veh/h]	5	20	130	30	20	70
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	5.00	0.70	0.00	0.00	7.30
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	5	20	130	30	20	70
Peak Hour Factor	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	1	5	35	8	5	19
Total Analysis Volume [veh/h]	5	22	141	33	22	76
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Stop	Free	Free
Flared Lane	No		
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance	No		
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.01	0.02	0.00	0.00	0.02	0.00
d_M, Delay for Movement [s/veh]	10.25	9.23	0.00	0.00	7.58	0.00
Movement LOS	B	A	A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.10	0.10	0.00	0.00	0.05	0.05
95th-Percentile Queue Length [ft/ln]	2.48	2.48	0.00	0.00	1.18	1.18
d_A, Approach Delay [s/veh]	9.42		0.00		1.70	
Approach LOS	A		A		A	
d_I, Intersection Delay [s/veh]	1.41					
Intersection LOS	B					

**Intersection Level Of Service Report
Intersection 5: 36th & 9th**

Control Type: Two-way stop
 Analysis Method: HCM 6th Edition
 Analysis Period: 15 minutes

Delay (sec / veh): 14.1
 Level Of Service: B
 Volume to Capacity (v/c): 0.035

Intersection Setup

Name	9th St NE			9th St NE			36th Ave NE			36th Ave NE		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration	+			+			+			+		
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	No			No			No			No		

Volumes

Name	9th St NE			9th St NE			36th Ave NE			36th Ave NE		
Base Volume Input [veh/h]	15	45	40	10	105	10	10	110	40	40	50	5
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	20.00	0.00	0.00	0.00	2.70	11.00	0.00	0.50	7.10	4.40	7.10	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	15	45	40	10	105	10	10	110	40	40	50	5
Peak Hour Factor	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	4	12	11	3	29	3	3	30	11	11	14	1
Total Analysis Volume [veh/h]	16	49	43	11	114	11	11	120	43	43	54	5
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Priority Scheme	Stop	Stop	Free	Free
Flared Lane	No	No		
Storage Area [veh]	0	0	0	0
Two-Stage Gap Acceptance	No	No		
Number of Storage Spaces in Median	0	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.04	0.08	0.05	0.02	0.20	0.01	0.01	0.00	0.00	0.03	0.00	0.00
d_M, Delay for Movement [s/veh]	14.08	12.26	10.05	13.73	13.22	10.52	7.33	0.00	0.00	7.65	0.00	0.00
Movement LOS	B	B	B	B	B	B	A	A	A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.59	0.59	0.59	0.90	0.90	0.90	0.02	0.02	0.02	0.09	0.09	0.09
95th-Percentile Queue Length [ft/ln]	14.84	14.84	14.84	22.46	22.46	22.46	0.53	0.53	0.53	2.37	2.37	2.37
d_A, Approach Delay [s/veh]	11.65			13.04			0.46			3.23		
Approach LOS	B			B			A			A		
d_I, Intersection Delay [s/veh]	6.62											
Intersection LOS	B											

**Intersection Level Of Service Report
Intersection 6: Bootlegger & 36th**

Control Type:	Two-way stop	Delay (sec / veh):	9.8
Analysis Method:	HCM 6th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.193

Intersection Setup

Name	Bootlegger Trail		Bootlegger Trail		36th Ave NE	
Approach	Northbound		Southbound		Eastbound	
Lane Configuration	↵		↵		↵↶	
Turning Movement	Left	Thru	Thru	Right	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	1	0	0	0	1
Entry Pocket Length [ft]	100.00	250.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	45.00		45.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		No	

Volumes

Name	Bootlegger Trail		Bootlegger Trail		36th Ave NE	
Base Volume Input [veh/h]	5	5	5	95	165	5
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	11.60	6.70	0.00	6.50	3.60	0.70
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	5	5	5	95	165	5
Peak Hour Factor	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	1	1	1	26	45	1
Total Analysis Volume [veh/h]	5	5	5	103	179	5
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Free	Free	Stop
Flared Lane			
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance			No
Number of Storage Spaces in Median	0	0	1

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.00	0.00	0.00	0.19	0.00
d_M, Delay for Movement [s/veh]	7.54	0.00	0.00	0.00	9.82	8.57
Movement LOS	A	A	A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.01	0.00	0.00	0.00	0.71	0.01
95th-Percentile Queue Length [ft/ln]	0.26	0.00	0.00	0.00	17.85	0.37
d_A, Approach Delay [s/veh]	3.77		0.00		9.79	
Approach LOS	A		A		A	
d_I, Intersection Delay [s/veh]	6.09					
Intersection LOS	A					

**Intersection Level Of Service Report
Intersection 7: Skyline & 6th**

Control Type:	Two-way stop	Delay (sec / veh):	9.5
Analysis Method:	HCM 6th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.032

Intersection Setup

Name	6th St NW		6th St NW		Skyline Dr NW	
Approach	Northbound		Southbound		Westbound	
Lane Configuration						
Turning Movement	Thru	Right	Left	Thru	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		No	

Volumes

Name	6th St NW		6th St NW		Skyline Dr NW	
Base Volume Input [veh/h]	45	20	5	80	25	5
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	4.50	1.70	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	45	20	5	80	25	5
Peak Hour Factor	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	12	5	1	22	7	1
Total Analysis Volume [veh/h]	49	22	5	87	27	5
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Free	Free	Stop
Flared Lane			No
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance			No
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.00	0.00	0.00	0.03	0.00
d_M, Delay for Movement [s/veh]	0.00	0.00	7.34	0.00	9.49	8.72
Movement LOS	A	A	A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.00	0.00	0.01	0.01	0.12	0.12
95th-Percentile Queue Length [ft/ln]	0.00	0.00	0.24	0.24	2.91	2.91
d_A, Approach Delay [s/veh]	0.00		0.40		9.37	
Approach LOS	A		A		A	
d_I, Intersection Delay [s/veh]	1.73					
Intersection LOS	A					

**Intersection Level Of Service Report
Intersection 8: Skyline & Division**

Control Type:	Two-way stop	Delay (sec / veh):	8.9
Analysis Method:	HCM 6th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.012

Intersection Setup

Name	Division Rd		Skyline Dr NW		Skyline Dr NE	
Approach	Northbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Left	Right	Thru	Right	Left	Thru
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		No	

Volumes

Name	Division Rd		Skyline Dr NW		Skyline Dr NE	
Base Volume Input [veh/h]	10	5	15	35	10	15
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	2.80	0.00	0.00	1.60
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	10	5	15	35	10	15
Peak Hour Factor	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	3	1	4	10	3	4
Total Analysis Volume [veh/h]	11	5	16	38	11	16
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Stop	Free	Free
Flared Lane	No		
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance	No		
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.01	0.00	0.00	0.00	0.01	0.00
d_M, Delay for Movement [s/veh]	8.94	8.51	0.00	0.00	7.32	0.00
Movement LOS	A	A	A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.05	0.05	0.00	0.00	0.02	0.02
95th-Percentile Queue Length [ft/ln]	1.27	1.27	0.00	0.00	0.53	0.53
d_A, Approach Delay [s/veh]	8.80		0.00		2.98	
Approach LOS	A		A		A	
d_I, Intersection Delay [s/veh]	2.28					
Intersection LOS	A					

**Intersection Level Of Service Report
Intersection 9: Skyline & 2nd**

Control Type: Two-way stop
 Analysis Method: HCM 6th Edition
 Analysis Period: 15 minutes

Delay (sec / veh): 11.9
 Level Of Service: B
 Volume to Capacity (v/c): 0.020

Intersection Setup

Name	2nd St NE			2nd St NE			Skyline Dr NE			Skyline Dr NE		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration	+			+			+			+		
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	No			No			No			No		

Volumes

Name	2nd St NE			2nd St NE			Skyline Dr NE			Skyline Dr NE		
Base Volume Input [veh/h]	5	80	5	10	235	15	5	10	5	5	10	10
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	4.60	0.00	0.00	2.10	1.80	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	5	80	5	10	235	15	5	10	5	5	10	10
Peak Hour Factor	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	1	22	1	3	64	4	1	3	1	1	3	3
Total Analysis Volume [veh/h]	5	87	5	11	255	16	5	11	5	5	11	11
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Priority Scheme	Free	Free	Stop	Stop
Flared Lane			No	No
Storage Area [veh]	0	0	0	0
Two-Stage Gap Acceptance			No	No
Number of Storage Spaces in Median	0	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.00	0.00	0.01	0.00	0.00	0.01	0.02	0.01	0.01	0.02	0.01
d_M, Delay for Movement [s/veh]	7.77	0.00	0.00	7.39	0.00	0.00	11.80	11.85	9.84	11.74	11.90	8.93
Movement LOS	A	A	A	A	A	A	B	B	A	B	B	A
95th-Percentile Queue Length [veh/ln]	0.01	0.01	0.01	0.02	0.02	0.02	0.11	0.11	0.11	0.13	0.13	0.13
95th-Percentile Queue Length [ft/ln]	0.29	0.29	0.29	0.55	0.55	0.55	2.78	2.78	2.78	3.18	3.18	3.18
d_A, Approach Delay [s/veh]	0.40			0.29			11.36			10.66		
Approach LOS	A			A			B			B		
d_I, Intersection Delay [s/veh]	1.51											
Intersection LOS	B											

**Intersection Level Of Service Report
Intersection 10: Skyline & 5th**

Control Type: Two-way stop
 Analysis Method: HCM 6th Edition
 Analysis Period: 15 minutes

Delay (sec / veh): 10.2
 Level Of Service: B
 Volume to Capacity (v/c): 0.015

Intersection Setup

Name	5th St NE			5th St NE			Skyline Dr NE			Skyline Dr NE		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration	+			+			+			+		
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	No			No			No			No		

Volumes

Name	5th St NE			5th St NE			Skyline Dr NE			Skyline Dr NE		
Base Volume Input [veh/h]	5	30	5	5	105	5	5	10	5	10	10	5
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	9.50	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	5	30	5	5	105	5	5	10	5	10	10	5
Peak Hour Factor	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	1	8	1	1	29	1	1	3	1	3	3	1
Total Analysis Volume [veh/h]	5	33	5	5	114	5	5	11	5	11	11	5
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Priority Scheme	Free	Free	Stop	Stop
Flared Lane			No	No
Storage Area [veh]	0	0	0	0
Two-Stage Gap Acceptance			No	No
Number of Storage Spaces in Median	0	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.02	0.01	0.01	0.02	0.00
d_M, Delay for Movement [s/veh]	7.44	0.00	0.00	7.28	0.00	0.00	9.81	10.15	8.96	9.85	10.18	8.62
Movement LOS	A	A	A	A	A	A	A	B	A	A	B	A
95th-Percentile Queue Length [veh/ln]	0.01	0.01	0.01	0.01	0.01	0.01	0.08	0.08	0.08	0.11	0.11	0.11
95th-Percentile Queue Length [ft/ln]	0.25	0.25	0.25	0.24	0.24	0.24	2.09	2.09	2.09	2.67	2.67	2.67
d_A, Approach Delay [s/veh]	0.86			0.29			9.78			9.75		
Approach LOS	A			A			A			A		
d_I, Intersection Delay [s/veh]	2.52											
Intersection LOS	B											

**Intersection Level Of Service Report
Intersection 11: 8th & Sacajawea**

Control Type:	Two-way stop	Delay (sec / veh):	16.0
Analysis Method:	HCM 6th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.107

Intersection Setup

Name	8th St NE			8th St NE			Sacajawea Dr			Sacajawea Dr		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration	+			+			+			+		
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	No			Yes			No			Yes		

Volumes

Name	8th St NE			8th St NE			Sacajawea Dr			Sacajawea Dr		
Base Volume Input [veh/h]	25	145	5	5	305	65	40	5	75	5	5	5
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	4.80	0.00	0.00	2.60	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	25	145	5	5	305	65	40	5	75	5	5	5
Peak Hour Factor	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	7	39	1	1	83	18	11	1	20	1	1	1
Total Analysis Volume [veh/h]	27	158	5	5	332	71	43	5	82	5	5	5
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Priority Scheme	Free	Free	Stop	Stop
Flared Lane			No	No
Storage Area [veh]	0	0	0	0
Two-Stage Gap Acceptance			No	No
Number of Storage Spaces in Median	0	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.02	0.00	0.00	0.00	0.00	0.00	0.11	0.01	0.12	0.01	0.01	0.01
d_M, Delay for Movement [s/veh]	8.16	0.00	0.00	7.53	0.00	0.00	16.03	15.90	12.35	16.01	14.49	9.32
Movement LOS	A	A	A	A	A	A	C	C	B	C	B	A
95th-Percentile Queue Length [veh/ln]	0.07	0.07	0.07	0.01	0.01	0.01	0.93	0.93	0.93	0.10	0.10	0.10
95th-Percentile Queue Length [ft/ln]	1.78	1.78	1.78	0.26	0.26	0.26	23.19	23.19	23.19	2.58	2.58	2.58
d_A, Approach Delay [s/veh]	1.16			0.09			13.70			13.28		
Approach LOS	A			A			B			B		
d_I, Intersection Delay [s/veh]	3.01											
Intersection LOS	C											

**Intersection Level Of Service Report
Intersection 12: 9th & 32nd**

Control Type: Two-way stop
 Analysis Method: HCM 6th Edition
 Analysis Period: 15 minutes

Delay (sec / veh): 11.2
 Level Of Service: B
 Volume to Capacity (v/c): 0.008

Intersection Setup

Name	9th St NE		9th St NE		32nd Ave NE	
Approach	Northbound		Southbound		Eastbound	
Lane Configuration	↶		↷		↷	
Turning Movement	Left	Thru	Thru	Right	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		No	

Volumes

Name	9th St NE		9th St NE		32nd Ave NE	
Base Volume Input [veh/h]	5	110	255	5	5	25
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	4.10	2.90	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	5	110	255	5	5	25
Peak Hour Factor	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	1	30	69	1	1	7
Total Analysis Volume [veh/h]	5	120	277	5	5	27
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Free	Free	Stop
Flared Lane			No
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance			No
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.00	0.00	0.00	0.01	0.04
d_M, Delay for Movement [s/veh]	7.80	0.00	0.00	0.00	11.23	9.94
Movement LOS	A	A	A	A	B	A
95th-Percentile Queue Length [veh/ln]	0.01	0.01	0.00	0.00	0.14	0.14
95th-Percentile Queue Length [ft/ln]	0.29	0.29	0.00	0.00	3.42	3.42
d_A, Approach Delay [s/veh]	0.31		0.00		10.14	
Approach LOS	A		A		B	
d_I, Intersection Delay [s/veh]	0.83					
Intersection LOS	B					

**Intersection Level Of Service Report
Intersection 13: 9th & Skyline**

Control Type: Two-way stop
 Analysis Method: HCM 6th Edition
 Analysis Period: 15 minutes

Delay (sec / veh): 9.5
 Level Of Service: A
 Volume to Capacity (v/c): 0.006

Intersection Setup

Name	9th St NE			9th St NE			Skyline Dr NE			Skyline Dr NE		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration	+			+			+			+		
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	No			No			No			No		

Volumes

Name	9th St NE			9th St NE			Skyline Dr NE			Skyline Dr NE		
Base Volume Input [veh/h]	5	5	5	5	5	0	0	20	5	5	30	5
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	5	5	5	5	5	0	0	20	5	5	30	5
Peak Hour Factor	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	1	1	1	1	1	0	0	5	1	1	8	1
Total Analysis Volume [veh/h]	5	5	5	5	5	0	0	22	5	5	33	5
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Priority Scheme	Stop	Stop	Free	Free
Flared Lane	No	No		
Storage Area [veh]	0	0	0	0
Two-Stage Gap Acceptance	No	No		
Number of Storage Spaces in Median	0	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.01	0.01	0.00	0.01	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00
d_M, Delay for Movement [s/veh]	8.99	9.46	8.47	9.01	9.44	8.50	7.27	0.00	0.00	7.26	0.00	0.00
Movement LOS	A	A	A	A	A	A	A	A	A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.05	0.05	0.05	0.04	0.04	0.04	0.00	0.00	0.00	0.01	0.01	0.01
95th-Percentile Queue Length [ft/ln]	1.24	1.24	1.24	0.88	0.88	0.88	0.00	0.00	0.00	0.24	0.24	0.24
d_A, Approach Delay [s/veh]	8.97			9.23			0.00			0.84		
Approach LOS	A			A			A			A		
d_I, Intersection Delay [s/veh]	2.77											
Intersection LOS	A											

North Great Falls Transportation Study

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Scenario 16 2040 PM Scenario 5

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10/7/2020

Intersection Analysis Summary

ID	Intersection Name	Control Type	Method	Worst Mvmt	V/C	Delay (s/veh)	LOS
1	6th & Vinyard	Two-way stop	HCM 6th Edition	EB Left	0.005	8.8	A
2	Bootlegger & 46th	Two-way stop	HCM 6th Edition	EB Left	0.007	10.1	B
3	36th & 2nd	Two-way stop	HCM 6th Edition	WB Thru	0.074	12.3	B
4	36th & 5th	Two-way stop	HCM 6th Edition	NB Left	0.032	10.6	B
5	36th & 9th	Two-way stop	HCM 6th Edition	NB Left	0.078	15.1	C
6	Bootlegger & 36th	Two-way stop	HCM 6th Edition	EB Left	0.110	9.8	A
7	Skyline & 6th	Two-way stop	HCM 6th Edition	WB Left	0.029	9.8	A
8	Skyline & Division	Two-way stop	HCM 6th Edition	NB Left	0.028	8.9	A
9	Skyline & 2nd	Two-way stop	HCM 6th Edition	EB Left	0.009	11.9	B
10	Skyline & 5th	Two-way stop	HCM 6th Edition	WB Thru	0.022	10.1	B
11	8th & Sacajawea	Two-way stop	HCM 6th Edition	EB Left	0.079	16.6	C
12	9th & 32nd	Two-way stop	HCM 6th Edition	EB Left	0.008	11.0	B
13	9th & Skyline	Two-way stop	HCM 6th Edition	NB Thru	0.006	9.3	A

V/C, Delay, LOS: For two-way stop, these values are taken from the movement with the worst (highest) delay value. For all other control types, they are taken for the whole intersection.

**Intersection Level Of Service Report
Intersection 1: 6th & Vinyard**

Control Type:	Two-way stop	Delay (sec / veh):	8.8
Analysis Method:	HCM 6th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.005

Intersection Setup

Name	6th St NW		Vinyard Rd		Vinyard Rd	
Approach	Northbound		Southbound		Eastbound	
Lane Configuration	↶		↷		↷	
Turning Movement	Left	Thru	Thru	Right	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		No	

Volumes

Name	6th St NW		Vinyard Rd		Vinyard Rd	
Base Volume Input [veh/h]	10	10	10	5	5	20
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	10	10	10	5	5	20
Peak Hour Factor	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	3	3	3	1	1	5
Total Analysis Volume [veh/h]	11	11	11	5	5	22
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Free	Free	Stop
Flared Lane			No
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance			No
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.01	0.00	0.00	0.00	0.01	0.02
d_M, Delay for Movement [s/veh]	7.24	0.00	0.00	0.00	8.83	8.45
Movement LOS	A	A	A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.02	0.02	0.00	0.00	0.08	0.08
95th-Percentile Queue Length [ft/ln]	0.51	0.51	0.00	0.00	1.98	1.98
d_A, Approach Delay [s/veh]	3.62		0.00		8.52	
Approach LOS	A		A		A	
d_I, Intersection Delay [s/veh]	4.76					
Intersection LOS	A					

**Intersection Level Of Service Report
Intersection 2: Bootlegger & 46th**

Control Type:	Two-way stop	Delay (sec / veh):	10.1
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.007

Intersection Setup

Name	Bootlegger Trail		Bootlegger Trail		46th Ave NE	
Approach	Northbound		Southbound		Eastbound	
Lane Configuration						
Turning Movement	Left	Thru	Thru	Right	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	1	0	0	0	0
Entry Pocket Length [ft]	100.00	600.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	70.00		70.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		No	

Volumes

Name	Bootlegger Trail		Bootlegger Trail		46th Ave NE	
Base Volume Input [veh/h]	30	120	55	5	5	25
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	30	120	55	5	5	25
Peak Hour Factor	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	8	33	15	1	1	7
Total Analysis Volume [veh/h]	33	130	60	5	5	27
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Free	Free	Stop
Flared Lane			No
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance			No
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.02	0.00	0.00	0.00	0.01	0.03
d_M, Delay for Movement [s/veh]	7.37	0.00	0.00	0.00	10.14	8.70
Movement LOS	A	A	A	A	B	A
95th-Percentile Queue Length [veh/ln]	0.07	0.00	0.00	0.00	0.10	0.10
95th-Percentile Queue Length [ft/ln]	1.63	0.00	0.00	0.00	2.62	2.62
d_A, Approach Delay [s/veh]	1.49		0.00		8.93	
Approach LOS	A		A		A	
d_I, Intersection Delay [s/veh]	2.03					
Intersection LOS	B					

**Intersection Level Of Service Report
Intersection 3: 36th & 2nd**

Control Type:	Two-way stop	Delay (sec / veh):	12.3
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.074

Intersection Setup

Name	2nd St NE			2nd St NE			36th Ave NE			36th Ave NE		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration	+			+			+			+		
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	2nd St NE			2nd St NE			36th Ave NE			36th Ave NE		
Base Volume Input [veh/h]	20	140	20	15	75	5	5	25	5	35	40	20
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	1.00	0.00	0.00	0.00	100.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	20	140	20	15	75	5	5	25	5	35	40	20
Peak Hour Factor	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	5	38	5	4	20	1	1	7	1	10	11	5
Total Analysis Volume [veh/h]	22	152	22	16	82	5	5	27	5	38	43	22
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Priority Scheme	Free	Free	Stop	Stop
Flared Lane			No	No
Storage Area [veh]	0	0	0	0
Two-Stage Gap Acceptance			No	No
Number of Storage Spaces in Median	0	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.01	0.00	0.00	0.01	0.00	0.00	0.01	0.05	0.01	0.07	0.07	0.02
d_M, Delay for Movement [s/veh]	7.40	0.00	0.00	7.57	0.00	0.00	12.02	11.68	9.06	12.33	12.35	10.19
Movement LOS	A	A	A	A	A	A	B	B	A	B	B	B
95th-Percentile Queue Length [veh/ln]	0.04	0.04	0.04	0.03	0.03	0.03	0.20	0.20	0.20	0.59	0.59	0.59
95th-Percentile Queue Length [ft/ln]	1.10	1.10	1.10	0.86	0.86	0.86	4.90	4.90	4.90	14.64	14.64	14.64
d_A, Approach Delay [s/veh]	0.83			1.18			11.37			11.88		
Approach LOS	A			A			B			B		
d_I, Intersection Delay [s/veh]	4.39											
Intersection LOS	B											

**Intersection Level Of Service Report
Intersection 4: 36th & 5th**

Control Type:	Two-way stop	Delay (sec / veh):	10.6
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.032

Intersection Setup

Name	5th St NE		36th Ave NE		36th Ave NE	
Approach	Northbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Left	Right	Thru	Right	Left	Thru
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		No	

Volumes

Name	5th St NE		36th Ave NE		36th Ave NE	
Base Volume Input [veh/h]	20	20	80	10	15	170
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	20	20	80	10	15	170
Peak Hour Factor	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	5	5	22	3	4	46
Total Analysis Volume [veh/h]	22	22	87	11	16	185
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Stop	Free	Free
Flared Lane	No		
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance	No		
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.03	0.02	0.00	0.00	0.01	0.00
d_M, Delay for Movement [s/veh]	10.57	8.97	0.00	0.00	7.41	0.00
Movement LOS	B	A	A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.17	0.17	0.00	0.00	0.03	0.03
95th-Percentile Queue Length [ft/ln]	4.36	4.36	0.00	0.00	0.80	0.80
d_A, Approach Delay [s/veh]	9.77		0.00		0.59	
Approach LOS	A		A		A	
d_I, Intersection Delay [s/veh]	1.60					
Intersection LOS	B					

**Intersection Level Of Service Report
Intersection 5: 36th & 9th**

Control Type: Two-way stop
 Analysis Method: HCM 6th Edition
 Analysis Period: 15 minutes

Delay (sec / veh): 15.1
 Level Of Service: C
 Volume to Capacity (v/c): 0.078

Intersection Setup

Name	9th St NE			9th St NE			36th Ave NE			36th Ave NE		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration	+			+			+			+		
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	No			No			No			No		

Volumes

Name	9th St NE			9th St NE			36th Ave NE			36th Ave NE		
Base Volume Input [veh/h]	35	105	15	5	70	5	35	65	15	10	150	10
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	6.30	0.00	0.00	0.00	4.20	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	35	105	15	5	70	5	35	65	15	10	150	10
Peak Hour Factor	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	10	29	4	1	19	1	10	18	4	3	41	3
Total Analysis Volume [veh/h]	38	114	16	5	76	5	38	71	16	11	163	11
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Priority Scheme	Stop	Stop	Free	Free
Flared Lane	No	No		
Storage Area [veh]	0	0	0	0
Two-Stage Gap Acceptance	No	No		
Number of Storage Spaces in Median	0	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.08	0.21	0.02	0.01	0.14	0.01	0.03	0.00	0.00	0.01	0.00	0.00
d_M, Delay for Movement [s/veh]	15.08	14.19	11.36	14.24	12.77	10.28	7.61	0.00	0.00	7.38	0.00	0.00
Movement LOS	C	B	B	B	B	B	A	A	A	A	A	A
95th-Percentile Queue Length [veh/ln]	1.25	1.25	1.25	0.55	0.55	0.55	0.08	0.08	0.08	0.02	0.02	0.02
95th-Percentile Queue Length [ft/ln]	31.21	31.21	31.21	13.69	13.69	13.69	2.07	2.07	2.07	0.55	0.55	0.55
d_A, Approach Delay [s/veh]	14.12			12.71			2.31			0.44		
Approach LOS	B			B			A			A		
d_I, Intersection Delay [s/veh]	6.80											
Intersection LOS	C											

**Intersection Level Of Service Report
Intersection 6: Bootlegger & 36th**

Control Type:	Two-way stop	Delay (sec / veh):	9.8
Analysis Method:	HCM 6th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.110

Intersection Setup

Name	Bootlegger Trail		Bootlegger Trail		36th Ave NE	
Approach	Northbound		Southbound		Eastbound	
Lane Configuration	↵		↵		↵↶	
Turning Movement	Left	Thru	Thru	Right	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	1	0	0	0	1
Entry Pocket Length [ft]	100.00	250.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	45.00		45.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		No	

Volumes

Name	Bootlegger Trail		Bootlegger Trail		36th Ave NE	
Base Volume Input [veh/h]	5	5	25	205	85	5
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.80
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	5	5	25	205	85	5
Peak Hour Factor	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	1	1	7	56	23	1
Total Analysis Volume [veh/h]	5	5	27	223	92	5
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Free	Free	Stop
Flared Lane			
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance			No
Number of Storage Spaces in Median	0	0	1

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.00	0.00	0.00	0.11	0.01
d_M, Delay for Movement [s/veh]	7.72	0.00	0.00	0.00	9.81	8.96
Movement LOS	A	A	A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.01	0.00	0.00	0.00	0.37	0.02
95th-Percentile Queue Length [ft/ln]	0.28	0.00	0.00	0.00	9.19	0.41
d_A, Approach Delay [s/veh]	3.86		0.00		9.77	
Approach LOS	A		A		A	
d_I, Intersection Delay [s/veh]	2.76					
Intersection LOS	A					

**Intersection Level Of Service Report
Intersection 7: Skyline & 6th**

Control Type:	Two-way stop	Delay (sec / veh):	9.8
Analysis Method:	HCM 6th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.029

Intersection Setup

Name	6th St NW		6th St NW		Skyline Dr NW	
Approach	Northbound		Southbound		Westbound	
Lane Configuration	↩		↪		↩	
Turning Movement	Thru	Right	Left	Thru	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		No	

Volumes

Name	6th St NW		6th St NW		Skyline Dr NW	
Base Volume Input [veh/h]	105	30	5	70	20	5
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	1.90	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	105	30	5	70	20	5
Peak Hour Factor	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	29	8	1	19	5	1
Total Analysis Volume [veh/h]	114	33	5	76	22	5
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Free	Free	Stop
Flared Lane			No
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance			No
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.00	0.00	0.00	0.03	0.01
d_M, Delay for Movement [s/veh]	0.00	0.00	7.50	0.00	9.84	9.05
Movement LOS	A	A	A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.00	0.00	0.01	0.01	0.11	0.11
95th-Percentile Queue Length [ft/ln]	0.00	0.00	0.26	0.26	2.64	2.64
d_A, Approach Delay [s/veh]	0.00		0.46		9.69	
Approach LOS	A		A		A	
d_I, Intersection Delay [s/veh]	1.17					
Intersection LOS	A					

**Intersection Level Of Service Report
Intersection 8: Skyline & Division**

Control Type:	Two-way stop	Delay (sec / veh):	8.9
Analysis Method:	HCM 6th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.028

Intersection Setup

Name	Division Rd		Skyline Dr NW		Skyline Dr NE	
Approach	Northbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Left	Right	Thru	Right	Left	Thru
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		No	

Volumes

Name	Division Rd		Skyline Dr NW		Skyline Dr NE	
Base Volume Input [veh/h]	25	10	10	20	5	20
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	1.80
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	25	10	10	20	5	20
Peak Hour Factor	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	7	3	3	5	1	5
Total Analysis Volume [veh/h]	27	11	11	22	5	22
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Stop	Free	Free
Flared Lane	No		
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance	No		
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.03	0.01	0.00	0.00	0.00	0.00
d_M, Delay for Movement [s/veh]	8.91	8.54	0.00	0.00	7.27	0.00
Movement LOS	A	A	A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.12	0.12	0.00	0.00	0.01	0.01
95th-Percentile Queue Length [ft/ln]	3.01	3.01	0.00	0.00	0.24	0.24
d_A, Approach Delay [s/veh]	8.80		0.00		1.35	
Approach LOS	A		A		A	
d_I, Intersection Delay [s/veh]	3.78					
Intersection LOS	A					

**Intersection Level Of Service Report
Intersection 9: Skyline & 2nd**

Control Type:	Two-way stop	Delay (sec / veh):	11.9
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.009

Intersection Setup

Name	2nd St NE			2nd St NE			Skyline Dr NE			Skyline Dr NE		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration	+			+			+			+		
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	No			No			No			No		

Volumes

Name	2nd St NE			2nd St NE			Skyline Dr NE			Skyline Dr NE		
Base Volume Input [veh/h]	5	200	10	5	120	10	5	15	5	5	10	20
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	1.90	0.00	0.00	2.10	2.10	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	5	200	10	5	120	10	5	15	5	5	10	20
Peak Hour Factor	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	1	54	3	1	33	3	1	4	1	1	3	5
Total Analysis Volume [veh/h]	5	217	11	5	130	11	5	16	5	5	11	22
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Priority Scheme	Free	Free	Stop	Stop
Flared Lane			No	No
Storage Area [veh]	0	0	0	0
Two-Stage Gap Acceptance			No	No
Number of Storage Spaces in Median	0	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.03	0.01	0.01	0.02	0.03
d_M, Delay for Movement [s/veh]	7.48	0.00	0.00	7.67	0.00	0.00	11.92	11.84	9.20	11.80	11.87	9.69
Movement LOS	A	A	A	A	A	A	B	B	A	B	B	A
95th-Percentile Queue Length [veh/ln]	0.01	0.01	0.01	0.01	0.01	0.01	0.14	0.14	0.14	0.18	0.18	0.18
95th-Percentile Queue Length [ft/ln]	0.26	0.26	0.26	0.28	0.28	0.28	3.43	3.43	3.43	4.42	4.42	4.42
d_A, Approach Delay [s/veh]	0.16			0.26			11.35			10.60		
Approach LOS	A			A			B			B		
d_I, Intersection Delay [s/veh]	1.75											
Intersection LOS	B											

**Intersection Level Of Service Report
Intersection 10: Skyline & 5th**

Control Type: Two-way stop
 Analysis Method: HCM 6th Edition
 Analysis Period: 15 minutes

Delay (sec / veh): 10.1
 Level Of Service: B
 Volume to Capacity (v/c): 0.022

Intersection Setup

Name	5th St NE			5th St NE			Skyline Dr NE			Skyline Dr NE		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration	+			+			+			+		
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	No			No			No			No		

Volumes

Name	5th St NE			5th St NE			Skyline Dr NE			Skyline Dr NE		
Base Volume Input [veh/h]	5	70	10	5	40	5	5	10	5	10	15	10
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	5	70	10	5	40	5	5	10	5	10	15	10
Peak Hour Factor	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	1	19	3	1	11	1	1	3	1	3	4	3
Total Analysis Volume [veh/h]	5	76	11	5	43	5	5	11	5	11	16	11
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Priority Scheme	Free	Free	Stop	Stop
Flared Lane			No	No
Storage Area [veh]	0	0	0	0
Two-Stage Gap Acceptance			No	No
Number of Storage Spaces in Median	0	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.01	0.00	0.01	0.02	0.01
d_M, Delay for Movement [s/veh]	7.30	0.00	0.00	7.37	0.00	0.00	9.72	10.00	8.62	9.72	10.08	8.87
Movement LOS	A	A	A	A	A	A	A	A	A	A	B	A
95th-Percentile Queue Length [veh/ln]	0.01	0.01	0.01	0.01	0.01	0.01	0.08	0.08	0.08	0.15	0.15	0.15
95th-Percentile Queue Length [ft/ln]	0.24	0.24	0.24	0.25	0.25	0.25	2.01	2.01	2.01	3.66	3.66	3.66
d_A, Approach Delay [s/veh]	0.40			0.70			9.60			9.63		
Approach LOS	A			A			A			A		
d_I, Intersection Delay [s/veh]	3.14											
Intersection LOS	B											

**Intersection Level Of Service Report
Intersection 11: 8th & Sacajawea**

Control Type:	Two-way stop	Delay (sec / veh):	16.6
Analysis Method:	HCM 6th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.079

Intersection Setup

Name	8th St NE			8th St NE			Sacajawea Dr			Sacajawea Dr		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration	+			+			+			+		
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	No			Yes			No			Yes		

Volumes

Name	8th St NE			8th St NE			Sacajawea Dr			Sacajawea Dr		
Base Volume Input [veh/h]	55	335	20	5	155	15	25	5	15	5	5	5
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	1.00	0.00	0.00	3.20	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	55	335	20	5	155	15	25	5	15	5	5	5
Peak Hour Factor	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	15	91	5	1	42	4	7	1	4	1	1	1
Total Analysis Volume [veh/h]	60	364	22	5	168	16	27	5	16	5	5	5
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Priority Scheme	Free	Free	Stop	Stop
Flared Lane			No	No
Storage Area [veh]	0	0	0	0
Two-Stage Gap Acceptance			No	No
Number of Storage Spaces in Median	0	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.04	0.00	0.00	0.00	0.00	0.00	0.08	0.01	0.02	0.01	0.01	0.01
d_M, Delay for Movement [s/veh]	7.68	0.00	0.00	8.05	0.00	0.00	16.59	16.40	10.18	16.08	15.64	10.66
Movement LOS	A	A	A	A	A	A	C	C	B	C	C	B
95th-Percentile Queue Length [veh/ln]	0.13	0.13	0.13	0.01	0.01	0.01	0.37	0.37	0.37	0.11	0.11	0.11
95th-Percentile Queue Length [ft/ln]	3.35	3.35	3.35	0.32	0.32	0.32	9.36	9.36	9.36	2.85	2.85	2.85
d_A, Approach Delay [s/veh]	1.03			0.21			14.43			14.13		
Approach LOS	A			A			B			B		
d_I, Intersection Delay [s/veh]	2.01											
Intersection LOS	C											

**Intersection Level Of Service Report
Intersection 12: 9th & 32nd**

Control Type:	Two-way stop	Delay (sec / veh):	11.0
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.008

Intersection Setup

Name	9th St NE		9th St NE		32nd Ave NE	
Approach	Northbound		Southbound		Eastbound	
Lane Configuration	↶		↷		↷	
Turning Movement	Left	Thru	Thru	Right	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		No	

Volumes

Name	9th St NE		9th St NE		32nd Ave NE	
Base Volume Input [veh/h]	25	220	85	5	5	15
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	1.30	3.70	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	25	220	85	5	5	15
Peak Hour Factor	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	7	60	23	1	1	4
Total Analysis Volume [veh/h]	27	239	92	5	5	16
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Free	Free	Stop
Flared Lane			No
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance			No
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.02	0.00	0.00	0.00	0.01	0.02
d_M, Delay for Movement [s/veh]	7.43	0.00	0.00	0.00	11.04	8.83
Movement LOS	A	A	A	A	B	A
95th-Percentile Queue Length [veh/ln]	0.05	0.05	0.00	0.00	0.08	0.08
95th-Percentile Queue Length [ft/ln]	1.37	1.37	0.00	0.00	1.90	1.90
d_A, Approach Delay [s/veh]	0.75		0.00		9.35	
Approach LOS	A		A		A	
d_I, Intersection Delay [s/veh]	1.03					
Intersection LOS	B					

**Intersection Level Of Service Report
Intersection 13: 9th & Skyline**

Control Type: Two-way stop
 Analysis Method: HCM 6th Edition
 Analysis Period: 15 minutes

Delay (sec / veh): 9.3
 Level Of Service: A
 Volume to Capacity (v/c): 0.006

Intersection Setup

Name	9th St NE			9th St NE			Skyline Dr NE			Skyline Dr NE		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration	+			+			+			+		
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	No			No			No			No		

Volumes

Name	9th St NE			9th St NE			Skyline Dr NE			Skyline Dr NE		
Base Volume Input [veh/h]	5	5	5	5	5	0	0	25	5	5	5	5
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	5	5	5	5	5	0	0	25	5	5	5	5
Peak Hour Factor	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	1	1	1	1	1	0	0	7	1	1	1	1
Total Analysis Volume [veh/h]	5	5	5	5	5	0	0	27	5	5	5	5
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Priority Scheme	Stop	Stop	Free	Free
Flared Lane	No	No		
Storage Area [veh]	0	0	0	0
Two-Stage Gap Acceptance	No	No		
Number of Storage Spaces in Median	0	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.01	0.01	0.00	0.01	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00
d_M, Delay for Movement [s/veh]	8.86	9.33	8.49	8.87	9.32	8.38	7.22	0.00	0.00	7.27	0.00	0.00
Movement LOS	A	A	A	A	A	A	A	A	A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.05	0.05	0.05	0.03	0.03	0.03	0.00	0.00	0.00	0.01	0.01	0.01
95th-Percentile Queue Length [ft/ln]	1.22	1.22	1.22	0.85	0.85	0.85	0.00	0.00	0.00	0.24	0.24	0.24
d_A, Approach Delay [s/veh]	8.89			9.09			0.00			2.42		
Approach LOS	A			A			A			A		
d_I, Intersection Delay [s/veh]	3.62											
Intersection LOS	A											

North Great Falls Transportation Study

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10/7/2020

Intersection Analysis Summary




ID	Intersection Name	Control Type	Method	Worst Mvmt	V/C	Delay (s/veh)	LOS
1	6th & Vinyard	Two-way stop	HCM 6th Edition	EB Left	0.005	8.8	A
2	Bootlegger & 46th	Two-way stop	HCM 6th Edition	EB Left	0.007	10.3	B
3	36th & 2nd	Two-way stop	HCM 6th Edition	WB Left	0.088	12.2	B
4	36th & 5th	Two-way stop	HCM 6th Edition	NB Left	0.008	10.9	B
5	36th & 9th	Two-way stop	HCM 6th Edition	NB Left	0.055	19.5	C
6	Bootlegger & 36th	Two-way stop	HCM 6th Edition	EB Left	0.048	13.3	B
7	Skyline & 6th	Two-way stop	HCM 6th Edition	WB Left	0.050	9.4	A
8	Skyline & Division	Two-way stop	HCM 6th Edition	NB Left	0.012	9.1	A
9	Skyline & 2nd	Two-way stop	HCM 6th Edition	EB Thru	0.020	11.9	B
10	Skyline & 5th	Two-way stop	HCM 6th Edition	WB Thru	0.015	9.9	A
11	8th & Sacajawea	Two-way stop	HCM 6th Edition	EB Thru	0.011	14.6	B
12	9th & 32nd	Two-way stop	HCM 6th Edition	EB Left	0.009	11.4	B
13	9th & Skyline	Two-way stop	HCM 6th Edition	NB Thru	0.006	9.5	A

V/C, Delay, LOS: For two-way stop, these values are taken from the movement with the worst (highest) delay value. For all other control types, they are taken for the whole intersection.

**Intersection Level Of Service Report
Intersection 1: 6th & Vinyard**

Control Type:	Two-way stop	Delay (sec / veh):	8.8
Analysis Method:	HCM 6th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.005

Intersection Setup

Name	6th St NW		Vinyard Rd		Vinyard Rd	
Approach	Northbound		Southbound		Eastbound	
Lane Configuration						
Turning Movement	Left	Thru	Thru	Right	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		No	

Volumes

Name	6th St NW		Vinyard Rd		Vinyard Rd	
Base Volume Input [veh/h]	10	10	15	5	5	15
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	50.00	0.00	20.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	10	10	15	5	5	15
Peak Hour Factor	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	3	3	4	1	1	4
Total Analysis Volume [veh/h]	11	11	16	5	5	16
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Free	Free	Stop
Flared Lane			No
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance			No
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.01	0.00	0.00	0.00	0.01	0.02
d_M, Delay for Movement [s/veh]	7.25	0.00	0.00	0.00	8.84	8.64
Movement LOS	A	A	A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.02	0.02	0.00	0.00	0.06	0.06
95th-Percentile Queue Length [ft/ln]	0.52	0.52	0.00	0.00	1.61	1.61
d_A, Approach Delay [s/veh]	3.63		0.00		8.69	
Approach LOS	A		A		A	
d_I, Intersection Delay [s/veh]	4.10					
Intersection LOS	A					

**Intersection Level Of Service Report
Intersection 2: Bootlegger & 46th**

Control Type:	Two-way stop	Delay (sec / veh):	10.3
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.007

Intersection Setup

Name	Bootlegger Trail		Bootlegger Trail		46th Ave NE	
Approach	Northbound		Southbound		Eastbound	
Lane Configuration						
Turning Movement	Left	Thru	Thru	Right	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	1	0	0	0	0
Entry Pocket Length [ft]	100.00	600.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	70.00		70.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		No	

Volumes

Name	Bootlegger Trail		Bootlegger Trail		46th Ave NE	
Base Volume Input [veh/h]	25	55	135	5	5	45
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	4.30	9.10	1.70	0.00	0.00	1.60
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	25	55	135	5	5	45
Peak Hour Factor	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	7	15	37	1	1	12
Total Analysis Volume [veh/h]	27	60	147	5	5	49
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Free	Free	Stop
Flared Lane			No
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance			No
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.02	0.00	0.00	0.00	0.01	0.05
d_M, Delay for Movement [s/veh]	7.59	0.00	0.00	0.00	10.30	9.28
Movement LOS	A	A	A	A	B	A
95th-Percentile Queue Length [veh/ln]	0.06	0.00	0.00	0.00	0.20	0.20
95th-Percentile Queue Length [ft/ln]	1.46	0.00	0.00	0.00	4.91	4.91
d_A, Approach Delay [s/veh]	2.36		0.00		9.37	
Approach LOS	A		A		A	
d_I, Intersection Delay [s/veh]	2.43					
Intersection LOS	B					

**Intersection Level Of Service Report
Intersection 3: 36th & 2nd**

Control Type: Two-way stop
 Analysis Method: HCM 6th Edition
 Analysis Period: 15 minutes

Delay (sec / veh): 12.2
 Level Of Service: B
 Volume to Capacity (v/c): 0.088

Intersection Setup

Name	2nd St NE			2nd St NE			36th Ave NE			36th Ave NE		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration	+			+			+			+		
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	2nd St NE			2nd St NE			36th Ave NE			36th Ave NE		
Base Volume Input [veh/h]	0	45	40	45	150	5	5	20	15	45	5	15
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	2.90	0.00	1.90	0.00	0.00	0.00	0.00	1.80	0.00	25.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	45	40	45	150	5	5	20	15	45	5	15
Peak Hour Factor	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	12	11	12	41	1	1	5	4	12	1	4
Total Analysis Volume [veh/h]	0	49	43	49	163	5	5	22	16	49	5	16
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Priority Scheme	Free	Free	Stop	Stop
Flared Lane			No	No
Storage Area [veh]	0	0	0	0
Two-Stage Gap Acceptance			No	No
Number of Storage Spaces in Median	0	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.00	0.00	0.03	0.00	0.00	0.01	0.04	0.02	0.09	0.01	0.02
d_M, Delay for Movement [s/veh]	7.53	0.00	0.00	7.45	0.00	0.00	11.57	11.91	9.47	12.20	12.10	9.62
Movement LOS	A	A	A	A	A	A	B	B	A	B	B	A
95th-Percentile Queue Length [veh/ln]	0.00	0.00	0.00	0.10	0.10	0.10	0.21	0.21	0.21	0.38	0.38	0.38
95th-Percentile Queue Length [ft/ln]	0.00	0.00	0.00	2.50	2.50	2.50	5.32	5.32	5.32	9.58	9.58	9.58
d_A, Approach Delay [s/veh]	0.00			1.68			10.96			11.60		
Approach LOS	A			A			B			B		
d_I, Intersection Delay [s/veh]	3.91											
Intersection LOS	B											

**Intersection Level Of Service Report
Intersection 4: 36th & 5th**

Control Type:	Two-way stop	Delay (sec / veh):	10.9
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.008

Intersection Setup

Name	5th St NE		36th Ave NE		36th Ave NE	
Approach	Northbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Left	Right	Thru	Right	Left	Thru
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		No	

Volumes

Name	5th St NE		36th Ave NE		36th Ave NE	
Base Volume Input [veh/h]	5	25	190	30	20	90
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	5.00	0.70	0.00	0.00	7.30
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	5	25	190	30	20	90
Peak Hour Factor	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	1	7	52	8	5	24
Total Analysis Volume [veh/h]	5	27	207	33	22	98
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Stop	Free	Free
Flared Lane	No		
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance	No		
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.01	0.03	0.00	0.00	0.02	0.00
d_M, Delay for Movement [s/veh]	10.94	9.65	0.00	0.00	7.73	0.00
Movement LOS	B	A	A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.13	0.13	0.00	0.00	0.05	0.05
95th-Percentile Queue Length [ft/ln]	3.23	3.23	0.00	0.00	1.25	1.25
d_A, Approach Delay [s/veh]	9.85		0.00		1.42	
Approach LOS	A		A		A	
d_I, Intersection Delay [s/veh]	1.24					
Intersection LOS	B					

**Intersection Level Of Service Report
Intersection 5: 36th & 9th**

Control Type: Two-way stop
 Analysis Method: HCM 6th Edition
 Analysis Period: 15 minutes

Delay (sec / veh): 19.5
 Level Of Service: C
 Volume to Capacity (v/c): 0.055

Intersection Setup

Name	9th St NE			9th St NE			36th Ave NE			36th Ave NE		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration	+			+			+			+		
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	No			No			No			No		

Volumes

Name	9th St NE			9th St NE			36th Ave NE			36th Ave NE		
Base Volume Input [veh/h]	15	45	40	10	110	25	15	225	35	50	95	5
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	20.00	0.00	0.00	0.00	2.70	11.00	0.00	0.50	7.10	4.40	7.10	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	15	45	40	10	110	25	15	225	35	50	95	5
Peak Hour Factor	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	4	12	11	3	30	7	4	61	10	14	26	1
Total Analysis Volume [veh/h]	16	49	43	11	120	27	16	245	38	54	103	5
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Priority Scheme	Stop	Stop	Free	Free
Flared Lane	No	No		
Storage Area [veh]	0	0	0	0
Two-Stage Gap Acceptance	No	No		
Number of Storage Spaces in Median	0	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.06	0.11	0.06	0.03	0.28	0.03	0.01	0.00	0.00	0.04	0.00	0.00
d_M, Delay for Movement [s/veh]	19.49	15.24	11.70	18.70	17.32	12.81	7.43	0.00	0.00	7.97	0.00	0.00
Movement LOS	C	C	B	C	C	B	A	A	A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.84	0.84	0.84	1.48	1.48	1.48	0.03	0.03	0.03	0.13	0.13	0.13
95th-Percentile Queue Length [ft/ln]	20.95	20.95	20.95	37.08	37.08	37.08	0.81	0.81	0.81	3.34	3.34	3.34
d_A, Approach Delay [s/veh]	14.46			16.65			0.40			2.66		
Approach LOS	B			C			A			A		
d_I, Intersection Delay [s/veh]	6.52											
Intersection LOS	C											

**Intersection Level Of Service Report
Intersection 6: Bootlegger & 36th**

Control Type:	Two-way stop	Delay (sec / veh):	13.3
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.048

Intersection Setup

Name	Bootlegger Trail		Bootlegger Trail		36th Ave NE	
Approach	Northbound		Southbound		Eastbound	
Lane Configuration	↵		↵		↵↵	
Turning Movement	Left	Thru	Thru	Right	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	1	0	0	0	1
Entry Pocket Length [ft]	100.00	250.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	45.00		45.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		No	

Volumes

Name	Bootlegger Trail		Bootlegger Trail		36th Ave NE	
Base Volume Input [veh/h]	95	60	225	50	20	300
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	11.60	6.70	0.00	6.50	3.60	0.70
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	95	60	225	50	20	300
Peak Hour Factor	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	26	16	61	14	5	82
Total Analysis Volume [veh/h]	103	65	245	54	22	326
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Free	Free	Stop
Flared Lane			
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance			No
Number of Storage Spaces in Median	0	0	1

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.09	0.00	0.00	0.00	0.05	0.42
d_M, Delay for Movement [s/veh]	8.25	0.00	0.00	0.00	13.30	13.07
Movement LOS	A	A	A	A	B	B
95th-Percentile Queue Length [veh/ln]	0.28	0.00	0.00	0.00	0.15	2.12
95th-Percentile Queue Length [ft/ln]	6.97	0.00	0.00	0.00	3.80	53.06
d_A, Approach Delay [s/veh]	5.06		0.00		13.08	
Approach LOS	A		A		B	
d_I, Intersection Delay [s/veh]	6.63					
Intersection LOS	B					

**Intersection Level Of Service Report
Intersection 7: Skyline & 6th**

Control Type:	Two-way stop	Delay (sec / veh):	9.4
Analysis Method:	HCM 6th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.050

Intersection Setup

Name	6th St NW		6th St NW		Skyline Dr NW	
Approach	Northbound		Southbound		Westbound	
Lane Configuration	↬		↵		↶	
Turning Movement	Thru	Right	Left	Thru	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		No	

Volumes

Name	6th St NW		6th St NW		Skyline Dr NW	
Base Volume Input [veh/h]	20	50	5	65	40	5
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	4.50	1.70	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	20	50	5	65	40	5
Peak Hour Factor	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	5	14	1	18	11	1
Total Analysis Volume [veh/h]	22	54	5	71	43	5
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Free	Free	Stop
Flared Lane			No
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance			No
Number of Storage Spaces in Median	0	0	0


Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.00	0.00	0.00	0.05	0.00
d_M, Delay for Movement [s/veh]	0.00	0.00	7.35	0.00	9.41	8.75
Movement LOS	A	A	A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.00	0.00	0.01	0.01	0.17	0.17
95th-Percentile Queue Length [ft/ln]	0.00	0.00	0.24	0.24	4.34	4.34
d_A, Approach Delay [s/veh]	0.00		0.48		9.34	
Approach LOS	A		A		A	
d_I, Intersection Delay [s/veh]	2.43					
Intersection LOS	A					

**Intersection Level Of Service Report
Intersection 8: Skyline & Division**

Control Type:	Two-way stop	Delay (sec / veh):	9.1
Analysis Method:	HCM 6th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.012

Intersection Setup

Name	Division Rd		Skyline Dr NW		Skyline Dr NE	
Approach	Northbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Left	Right	Thru	Right	Left	Thru
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		No	

Volumes

Name	Division Rd		Skyline Dr NW		Skyline Dr NE	
Base Volume Input [veh/h]	10	5	25	35	10	25
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	2.80	0.00	0.00	1.60
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	10	5	25	35	10	25
Peak Hour Factor	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	3	1	7	10	3	7
Total Analysis Volume [veh/h]	11	5	27	38	11	27
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Stop	Free	Free
Flared Lane	No		
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance	No		
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.01	0.00	0.00	0.00	0.01	0.00
d_M, Delay for Movement [s/veh]	9.05	8.56	0.00	0.00	7.34	0.00
Movement LOS	A	A	A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.05	0.05	0.00	0.00	0.02	0.02
95th-Percentile Queue Length [ft/ln]	1.30	1.30	0.00	0.00	0.54	0.54
d_A, Approach Delay [s/veh]	8.90		0.00		2.12	
Approach LOS	A		A		A	
d_I, Intersection Delay [s/veh]	1.88					
Intersection LOS	A					

**Intersection Level Of Service Report
Intersection 9: Skyline & 2nd**

Control Type: Two-way stop
 Analysis Method: HCM 6th Edition
 Analysis Period: 15 minutes

Delay (sec / veh): 11.9
 Level Of Service: B
 Volume to Capacity (v/c): 0.020

Intersection Setup

Name	2nd St NE			2nd St NE			Skyline Dr NE			Skyline Dr NE		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration	+			+			+			+		
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	No			No			No			No		

Volumes

Name	2nd St NE			2nd St NE			Skyline Dr NE			Skyline Dr NE		
Base Volume Input [veh/h]	5	80	5	5	225	30	20	10	5	5	10	10
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	4.60	0.00	0.00	2.10	1.80	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	5	80	5	5	225	30	20	10	5	5	10	10
Peak Hour Factor	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	1	22	1	1	61	8	5	3	1	1	3	3
Total Analysis Volume [veh/h]	5	87	5	5	245	33	22	11	5	5	11	11
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Priority Scheme	Free	Free	Stop	Stop
Flared Lane			No	No
Storage Area [veh]	0	0	0	0
Two-Stage Gap Acceptance			No	No
Number of Storage Spaces in Median	0	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.00	0.00	0.00	0.00	0.00	0.04	0.02	0.01	0.01	0.02	0.01
d_M, Delay for Movement [s/veh]	7.79	0.00	0.00	7.38	0.00	0.00	11.85	11.91	10.04	11.58	11.82	8.92
Movement LOS	A	A	A	A	A	A	B	B	B	B	B	A
95th-Percentile Queue Length [veh/ln]	0.01	0.01	0.01	0.01	0.01	0.01	0.21	0.21	0.21	0.13	0.13	0.13
95th-Percentile Queue Length [ft/ln]	0.29	0.29	0.29	0.25	0.25	0.25	5.23	5.23	5.23	3.14	3.14	3.14
d_A, Approach Delay [s/veh]	0.40			0.13			11.63			10.60		
Approach LOS	A			A			B			B		
d_I, Intersection Delay [s/veh]	1.81											
Intersection LOS	B											

**Intersection Level Of Service Report
Intersection 10: Skyline & 5th**

Control Type: Two-way stop
 Analysis Method: HCM 6th Edition
 Analysis Period: 15 minutes

Delay (sec / veh): 9.9
 Level Of Service: A
 Volume to Capacity (v/c): 0.015

Intersection Setup

Name	5th St NE			5th St NE			Skyline Dr NE			Skyline Dr NE		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration	+			+			+			+		
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	No			No			No			No		

Volumes

Name	5th St NE			5th St NE			Skyline Dr NE			Skyline Dr NE		
Base Volume Input [veh/h]	5	30	5	5	65	5	5	10	5	10	10	5
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	9.50	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	5	30	5	5	65	5	5	10	5	10	10	5
Peak Hour Factor	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	1	8	1	1	18	1	1	3	1	3	3	1
Total Analysis Volume [veh/h]	5	33	5	5	71	5	5	11	5	11	11	5
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Priority Scheme	Free	Free	Stop	Stop
Flared Lane			No	No
Storage Area [veh]	0	0	0	0
Two-Stage Gap Acceptance			No	No
Number of Storage Spaces in Median	0	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.01	0.01	0.01	0.01	0.00
d_M, Delay for Movement [s/veh]	7.35	0.00	0.00	7.28	0.00	0.00	9.50	9.87	8.74	9.53	9.90	8.60
Movement LOS	A	A	A	A	A	A	A	A	A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.01	0.01	0.01	0.01	0.01	0.01	0.08	0.08	0.08	0.10	0.10	0.10
95th-Percentile Queue Length [ft/ln]	0.24	0.24	0.24	0.24	0.24	0.24	1.97	1.97	1.97	2.53	2.53	2.53
d_A, Approach Delay [s/veh]	0.85			0.45			9.51			9.51		
Approach LOS	A			A			A			A		
d_I, Intersection Delay [s/veh]	3.08											
Intersection LOS	A											

**Intersection Level Of Service Report
Intersection 11: 8th & Sacajawea**

Control Type:	Two-way stop	Delay (sec / veh):	14.6
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.011

Intersection Setup

Name	8th St NE			8th St NE			Sacajawea Dr			Sacajawea Dr		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration	+			+			+			+		
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	No			Yes			No			Yes		

Volumes

Name	8th St NE			8th St NE			Sacajawea Dr			Sacajawea Dr		
Base Volume Input [veh/h]	20	110	5	5	265	80	45	5	70	5	5	5
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	4.80	0.00	0.00	2.60	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	20	110	5	5	265	80	45	5	70	5	5	5
Peak Hour Factor	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	5	30	1	1	72	22	12	1	19	1	1	1
Total Analysis Volume [veh/h]	22	120	5	5	288	87	49	5	76	5	5	5
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Priority Scheme	Free	Free	Stop	Stop
Flared Lane			No	No
Storage Area [veh]	0	0	0	0
Two-Stage Gap Acceptance			No	No
Number of Storage Spaces in Median	0	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.02	0.00	0.00	0.00	0.00	0.00	0.11	0.01	0.11	0.01	0.01	0.01
d_M, Delay for Movement [s/veh]	8.07	0.00	0.00	7.45	0.00	0.00	14.61	14.64	11.82	14.42	13.51	9.07
Movement LOS	A	A	A	A	A	A	B	B	B	B	B	A
95th-Percentile Queue Length [veh/ln]	0.06	0.06	0.06	0.01	0.01	0.01	0.85	0.85	0.85	0.09	0.09	0.09
95th-Percentile Queue Length [ft/ln]	1.41	1.41	1.41	0.26	0.26	0.26	21.31	21.31	21.31	2.29	2.29	2.29
d_A, Approach Delay [s/veh]	1.21			0.10			12.98			12.33		
Approach LOS	A			A			B			B		
d_I, Intersection Delay [s/veh]	3.11											
Intersection LOS	B											

**Intersection Level Of Service Report
Intersection 12: 9th & 32nd**

Control Type:	Two-way stop	Delay (sec / veh):	11.4
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.009

Intersection Setup

Name	9th St NE		9th St NE		32nd Ave NE	
Approach	Northbound		Southbound		Eastbound	
Lane Configuration	↶		↷		↷	
Turning Movement	Left	Thru	Thru	Right	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		No	

Volumes

Name	9th St NE		9th St NE		32nd Ave NE	
Base Volume Input [veh/h]	5	125	270	5	5	15
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	4.10	2.90	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	5	125	270	5	5	15
Peak Hour Factor	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	1	34	73	1	1	4
Total Analysis Volume [veh/h]	5	136	293	5	5	16
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Free	Free	Stop
Flared Lane			No
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance			No
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.00	0.00	0.00	0.01	0.02
d_M, Delay for Movement [s/veh]	7.84	0.00	0.00	0.00	11.42	9.97
Movement LOS	A	A	A	A	B	A
95th-Percentile Queue Length [veh/ln]	0.01	0.01	0.00	0.00	0.09	0.09
95th-Percentile Queue Length [ft/ln]	0.30	0.30	0.00	0.00	2.32	2.32
d_A, Approach Delay [s/veh]	0.28		0.00		10.32	
Approach LOS	A		A		B	
d_I, Intersection Delay [s/veh]	0.56					
Intersection LOS	B					

**Intersection Level Of Service Report
Intersection 13: 9th & Skyline**

Control Type: Two-way stop
 Analysis Method: HCM 6th Edition
 Analysis Period: 15 minutes

Delay (sec / veh): 9.5
 Level Of Service: A
 Volume to Capacity (v/c): 0.006

Intersection Setup

Name	9th St NE			9th St NE			Skyline Dr NE			Skyline Dr NE		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration	+			+			+			+		
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	No			No			No			No		

Volumes

Name	9th St NE			9th St NE			Skyline Dr NE			Skyline Dr NE		
Base Volume Input [veh/h]	5	5	5	5	5	0	0	20	5	5	30	5
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	5	5	5	5	5	0	0	20	5	5	30	5
Peak Hour Factor	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	1	1	1	1	1	0	0	5	1	1	8	1
Total Analysis Volume [veh/h]	5	5	5	5	5	0	0	22	5	5	33	5
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Priority Scheme	Stop	Stop	Free	Free
Flared Lane	No	No		
Storage Area [veh]	0	0	0	0
Two-Stage Gap Acceptance	No	No		
Number of Storage Spaces in Median	0	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.01	0.01	0.00	0.01	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00
d_M, Delay for Movement [s/veh]	8.99	9.46	8.47	9.01	9.44	8.50	7.27	0.00	0.00	7.26	0.00	0.00
Movement LOS	A	A	A	A	A	A	A	A	A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.05	0.05	0.05	0.04	0.04	0.04	0.00	0.00	0.00	0.01	0.01	0.01
95th-Percentile Queue Length [ft/ln]	1.24	1.24	1.24	0.88	0.88	0.88	0.00	0.00	0.00	0.24	0.24	0.24
d_A, Approach Delay [s/veh]	8.97			9.23			0.00			0.84		
Approach LOS	A			A			A			A		
d_I, Intersection Delay [s/veh]	2.77											
Intersection LOS	A											

North Great Falls Transportation Study

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Scenario 18 2040 PM Scenario 6

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10/7/2020

Intersection Analysis Summary

ID	Intersection Name	Control Type	Method	Worst Mvmt	V/C	Delay (s/veh)	LOS
1	6th & Vinyard	Two-way stop	HCM 6th Edition	EB Left	0.005	8.8	A
2	Bootlegger & 46th	Two-way stop	HCM 6th Edition	EB Left	0.007	10.2	B
3	36th & 2nd	Two-way stop	HCM 6th Edition	WB Thru	0.059	13.0	B
4	36th & 5th	Two-way stop	HCM 6th Edition	NB Left	0.040	11.9	B
5	36th & 9th	Two-way stop	HCM 6th Edition	NB Left	0.143	25.2	D
6	Bootlegger & 36th	Two-way stop	HCM 6th Edition	EB Left	0.112	33.3	D
7	Skyline & 6th	Two-way stop	HCM 6th Edition	WB Left	0.082	9.6	A
8	Skyline & Division	Two-way stop	HCM 6th Edition	NB Left	0.030	9.1	A
9	Skyline & 2nd	Two-way stop	HCM 6th Edition	EB Left	0.061	12.3	B
10	Skyline & 5th	Two-way stop	HCM 6th Edition	WB Thru	0.021	10.0	B
11	8th & Sacajawea	Two-way stop	HCM 6th Edition	EB Thru	0.012	14.1	B
12	9th & 32nd	Two-way stop	HCM 6th Edition	EB Left	0.008	11.1	B
13	9th & Skyline	Two-way stop	HCM 6th Edition	NB Thru	0.006	9.3	A

V/C, Delay, LOS: For two-way stop, these values are taken from the movement with the worst (highest) delay value. For all other control types, they are taken for the whole intersection.

**Intersection Level Of Service Report
Intersection 1: 6th & Vinyard**

Control Type:	Two-way stop	Delay (sec / veh):	8.8
Analysis Method:	HCM 6th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.005

Intersection Setup

Name	6th St NW		Vinyard Rd		Vinyard Rd	
Approach	Northbound		Southbound		Eastbound	
Lane Configuration	↶		↷		↷	
Turning Movement	Left	Thru	Thru	Right	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		No	

Volumes

Name	6th St NW		Vinyard Rd		Vinyard Rd	
Base Volume Input [veh/h]	10	10	10	5	5	20
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	10	10	10	5	5	20
Peak Hour Factor	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	3	3	3	1	1	5
Total Analysis Volume [veh/h]	11	11	11	5	5	22
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Free	Free	Stop
Flared Lane			No
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance			No
Number of Storage Spaces in Median	0	0	0




Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.01	0.00	0.00	0.00	0.01	0.02
d_M, Delay for Movement [s/veh]	7.24	0.00	0.00	0.00	8.83	8.45
Movement LOS	A	A	A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.02	0.02	0.00	0.00	0.08	0.08
95th-Percentile Queue Length [ft/ln]	0.51	0.51	0.00	0.00	1.98	1.98
d_A, Approach Delay [s/veh]	3.62		0.00		8.52	
Approach LOS	A		A		A	
d_I, Intersection Delay [s/veh]	4.76					
Intersection LOS	A					

**Intersection Level Of Service Report
Intersection 2: Bootlegger & 46th**

Control Type:	Two-way stop	Delay (sec / veh):	10.2
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.007

Intersection Setup

Name	Bootlegger Trail		Bootlegger Trail		46th Ave NE	
Approach	Northbound		Southbound		Eastbound	
Lane Configuration						
Turning Movement	Left	Thru	Thru	Right	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	1	0	0	0	0
Entry Pocket Length [ft]	100.00	600.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	70.00		70.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		No	

Volumes

Name	Bootlegger Trail		Bootlegger Trail		46th Ave NE	
Base Volume Input [veh/h]	30	120	55	5	5	30
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	30	120	55	5	5	30
Peak Hour Factor	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	8	33	15	1	1	8
Total Analysis Volume [veh/h]	33	130	60	5	5	33
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Free	Free	Stop
Flared Lane			No
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance			No
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.02	0.00	0.00	0.00	0.01	0.03
d_M, Delay for Movement [s/veh]	7.37	0.00	0.00	0.00	10.16	8.73
Movement LOS	A	A	A	A	B	A
95th-Percentile Queue Length [veh/ln]	0.07	0.00	0.00	0.00	0.12	0.12
95th-Percentile Queue Length [ft/ln]	1.63	0.00	0.00	0.00	3.10	3.10
d_A, Approach Delay [s/veh]	1.49		0.00		8.92	
Approach LOS	A		A		A	
d_I, Intersection Delay [s/veh]	2.19					
Intersection LOS	B					

**Intersection Level Of Service Report
Intersection 3: 36th & 2nd**

Control Type: Two-way stop
 Analysis Method: HCM 6th Edition
 Analysis Period: 15 minutes

Delay (sec / veh): 13.0
 Level Of Service: B
 Volume to Capacity (v/c): 0.059

Intersection Setup

Name	2nd St NE			2nd St NE			36th Ave NE			36th Ave NE		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration	+			+			+			+		
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	2nd St NE			2nd St NE			36th Ave NE			36th Ave NE		
Base Volume Input [veh/h]	20	145	50	20	75	0	5	10	5	60	30	30
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	1.00	0.00	0.00	0.00	100.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	20	145	50	20	75	0	5	10	5	60	30	30
Peak Hour Factor	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	5	39	14	5	20	0	1	3	1	16	8	8
Total Analysis Volume [veh/h]	22	158	54	22	82	0	5	11	5	65	33	33
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Priority Scheme	Free	Free	Stop	Stop
Flared Lane			No	No
Storage Area [veh]	0	0	0	0
Two-Stage Gap Acceptance			No	No
Number of Storage Spaces in Median	0	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.01	0.00	0.00	0.02	0.00	0.00	0.01	0.02	0.01	0.11	0.06	0.04
d_M, Delay for Movement [s/veh]	7.39	0.00	0.00	7.67	0.00	0.00	12.22	11.94	8.88	12.88	13.05	10.73
Movement LOS	A	A	A	A	A	A	B	B	A	B	B	B
95th-Percentile Queue Length [veh/ln]	0.04	0.04	0.04	0.05	0.05	0.05	0.11	0.11	0.11	0.80	0.80	0.80
95th-Percentile Queue Length [ft/ln]	1.10	1.10	1.10	1.22	1.22	1.22	2.74	2.74	2.74	19.90	19.90	19.90
d_A, Approach Delay [s/veh]	0.69			1.62			11.28			12.38		
Approach LOS	A			A			B			B		
d_I, Intersection Delay [s/veh]	4.47											
Intersection LOS	B											

**Intersection Level Of Service Report
Intersection 4: 36th & 5th**

Control Type:	Two-way stop	Delay (sec / veh):	11.9
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.040

Intersection Setup

Name	5th St NE		36th Ave NE		36th Ave NE	
Approach	Northbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Left	Right	Thru	Right	Left	Thru
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		No	

Volumes

Name	5th St NE		36th Ave NE		36th Ave NE	
Base Volume Input [veh/h]	20	25	125	10	25	245
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	20	25	125	10	25	245
Peak Hour Factor	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	5	7	34	3	7	67
Total Analysis Volume [veh/h]	22	27	136	11	27	266
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Stop	Free	Free
Flared Lane	No		
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance	No		
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.04	0.03	0.00	0.00	0.02	0.00
d_M, Delay for Movement [s/veh]	11.93	9.33	0.00	0.00	7.53	0.00
Movement LOS	B	A	A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.22	0.22	0.00	0.00	0.06	0.06
95th-Percentile Queue Length [ft/ln]	5.60	5.60	0.00	0.00	1.43	1.43
d_A, Approach Delay [s/veh]	10.50		0.00		0.69	
Approach LOS	B		A		A	
d_I, Intersection Delay [s/veh]	1.47					
Intersection LOS	B					

**Intersection Level Of Service Report
Intersection 5: 36th & 9th**

Control Type: Two-way stop
 Analysis Method: HCM 6th Edition
 Analysis Period: 15 minutes

Delay (sec / veh): 25.2
 Level Of Service: D
 Volume to Capacity (v/c): 0.143

Intersection Setup

Name	9th St NE			9th St NE			36th Ave NE			36th Ave NE		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration	+			+			+			+		
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	No			No			No			No		

Volumes

Name	9th St NE			9th St NE			36th Ave NE			36th Ave NE		
Base Volume Input [veh/h]	35	70	15	5	50	25	65	120	15	45	270	10
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	6.30	0.00	0.00	0.00	4.20	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	35	70	15	5	50	25	65	120	15	45	270	10
Peak Hour Factor	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	10	19	4	1	14	7	18	33	4	12	73	3
Total Analysis Volume [veh/h]	38	76	16	5	54	27	71	130	16	49	293	11
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Priority Scheme	Stop	Stop	Free	Free
Flared Lane	No	No		
Storage Area [veh]	0	0	0	0
Two-Stage Gap Acceptance	No	No		
Number of Storage Spaces in Median	0	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.14	0.23	0.02	0.02	0.16	0.04	0.06	0.00	0.00	0.03	0.00	0.00
d_M, Delay for Movement [s/veh]	25.16	22.24	15.50	21.42	18.39	12.36	8.01	0.00	0.00	7.57	0.00	0.00
Movement LOS	D	C	C	C	C	B	A	A	A	A	A	A
95th-Percentile Queue Length [veh/ln]	1.77	1.77	1.77	0.82	0.82	0.82	0.18	0.18	0.18	0.10	0.10	0.10
95th-Percentile Queue Length [ft/ln]	44.16	44.16	44.16	20.51	20.51	20.51	4.44	4.44	4.44	2.62	2.62	2.62
d_A, Approach Delay [s/veh]	22.26			16.67			2.62			1.05		
Approach LOS	C			C			A			A		
d_I, Intersection Delay [s/veh]	6.70											
Intersection LOS	D											

**Intersection Level Of Service Report
Intersection 6: Bootlegger & 36th**

Control Type:	Two-way stop	Delay (sec / veh):	33.3
Analysis Method:	HCM 6th Edition	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.112

Intersection Setup

Name	Bootlegger Trail		Bootlegger Trail		36th Ave NE	
Approach	Northbound		Southbound		Eastbound	
Lane Configuration	↵		↵		↵↵	
Turning Movement	Left	Thru	Thru	Right	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	1	0	0	0	1
Entry Pocket Length [ft]	100.00	250.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	45.00		45.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		No	

Volumes

Name	Bootlegger Trail		Bootlegger Trail		36th Ave NE	
Base Volume Input [veh/h]	395	205	110	20	15	150
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.80
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	395	205	110	20	15	150
Peak Hour Factor	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	107	56	30	5	4	41
Total Analysis Volume [veh/h]	429	223	120	22	16	163
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Free	Free	Stop
Flared Lane			
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance			No
Number of Storage Spaces in Median	0	0	1




Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.30	0.00	0.00	0.00	0.11	0.18
d_M, Delay for Movement [s/veh]	8.51	0.00	0.00	0.00	33.30	9.74
Movement LOS	A	A	A	A	D	A
95th-Percentile Queue Length [veh/ln]	1.24	0.00	0.00	0.00	0.37	0.64
95th-Percentile Queue Length [ft/ln]	31.11	0.00	0.00	0.00	9.23	16.00
d_A, Approach Delay [s/veh]	5.60		0.00		11.85	
Approach LOS	A		A		B	
d_I, Intersection Delay [s/veh]	5.93					
Intersection LOS	D					

**Intersection Level Of Service Report
Intersection 7: Skyline & 6th**

Control Type:	Two-way stop	Delay (sec / veh):	9.6
Analysis Method:	HCM 6th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.082

Intersection Setup

Name	6th St NW		6th St NW		Skyline Dr NW	
Approach	Northbound		Southbound		Westbound	
Lane Configuration						
Turning Movement	Thru	Right	Left	Thru	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		No	

Volumes

Name	6th St NW		6th St NW		Skyline Dr NW	
Base Volume Input [veh/h]	25	115	5	25	65	5
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	1.90	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	25	115	5	25	65	5
Peak Hour Factor	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	7	31	1	7	18	1
Total Analysis Volume [veh/h]	27	125	5	27	71	5
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Free	Free	Stop
Flared Lane			No
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance			No
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.00	0.00	0.00	0.08	0.01
d_M, Delay for Movement [s/veh]	0.00	0.00	7.51	0.00	9.55	9.09
Movement LOS	A	A	A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.00	0.00	0.01	0.01	0.29	0.29
95th-Percentile Queue Length [ft/ln]	0.00	0.00	0.26	0.26	7.14	7.14
d_A, Approach Delay [s/veh]	0.00		1.17		9.52	
Approach LOS	A		A		A	
d_I, Intersection Delay [s/veh]	2.93					
Intersection LOS	A					

**Intersection Level Of Service Report
Intersection 8: Skyline & Division**

Control Type:	Two-way stop	Delay (sec / veh):	9.1
Analysis Method:	HCM 6th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.030

Intersection Setup

Name	Division Rd		Skyline Dr NW		Skyline Dr NE	
Approach	Northbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Left	Right	Thru	Right	Left	Thru
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		No	

Volumes

Name	Division Rd		Skyline Dr NW		Skyline Dr NE	
Base Volume Input [veh/h]	25	10	30	20	5	35
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	1.80
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	25	10	30	20	5	35
Peak Hour Factor	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	7	3	8	5	1	10
Total Analysis Volume [veh/h]	27	11	33	22	5	38
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Stop	Free	Free
Flared Lane	No		
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance	No		
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.03	0.01	0.00	0.00	0.00	0.00
d_M, Delay for Movement [s/veh]	9.12	8.65	0.00	0.00	7.31	0.00
Movement LOS	A	A	A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.13	0.13	0.00	0.00	0.01	0.01
95th-Percentile Queue Length [ft/ln]	3.15	3.15	0.00	0.00	0.24	0.24
d_A, Approach Delay [s/veh]	8.98		0.00		0.85	
Approach LOS	A		A		A	
d_I, Intersection Delay [s/veh]	2.78					
Intersection LOS	A					

**Intersection Level Of Service Report
Intersection 9: Skyline & 2nd**

Control Type:	Two-way stop	Delay (sec / veh):	12.3
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.061

Intersection Setup

Name	2nd St NE			2nd St NE			Skyline Dr NE			Skyline Dr NE		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration	+			+			+			+		
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	No			No			No			No		

Volumes

Name	2nd St NE			2nd St NE			Skyline Dr NE			Skyline Dr NE		
Base Volume Input [veh/h]	5	200	10	5	115	30	30	15	5	5	10	15
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	1.90	0.00	0.00	2.10	2.10	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	5	200	10	5	115	30	30	15	5	5	10	15
Peak Hour Factor	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	1	54	3	1	31	8	8	4	1	1	3	4
Total Analysis Volume [veh/h]	5	217	11	5	125	33	33	16	5	5	11	16
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Priority Scheme	Free	Free	Stop	Stop
Flared Lane			No	No
Storage Area [veh]	0	0	0	0
Two-Stage Gap Acceptance			No	No
Number of Storage Spaces in Median	0	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.00	0.00	0.00	0.00	0.00	0.06	0.03	0.01	0.01	0.02	0.02
d_M, Delay for Movement [s/veh]	7.52	0.00	0.00	7.67	0.00	0.00	12.30	12.29	9.62	11.83	11.99	9.66
Movement LOS	A	A	A	A	A	A	B	B	A	B	B	A
95th-Percentile Queue Length [veh/ln]	0.01	0.01	0.01	0.01	0.01	0.01	0.32	0.32	0.32	0.15	0.15	0.15
95th-Percentile Queue Length [ft/ln]	0.26	0.26	0.26	0.28	0.28	0.28	7.89	7.89	7.89	3.86	3.86	3.86
d_A, Approach Delay [s/veh]	0.16			0.24			12.05			10.80		
Approach LOS	A			A			B			B		
d_I, Intersection Delay [s/veh]	2.22											
Intersection LOS	B											

**Intersection Level Of Service Report
Intersection 10: Skyline & 5th**

Control Type: Two-way stop
 Analysis Method: HCM 6th Edition
 Analysis Period: 15 minutes

Delay (sec / veh): 10.0
 Level Of Service: B
 Volume to Capacity (v/c): 0.021

Intersection Setup

Name	5th St NE			5th St NE			Skyline Dr NE			Skyline Dr NE		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration	+			+			+			+		
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	No			No			No			No		

Volumes

Name	5th St NE			5th St NE			Skyline Dr NE			Skyline Dr NE		
Base Volume Input [veh/h]	5	75	10	5	30	5	5	10	5	10	15	10
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	5	75	10	5	30	5	5	10	5	10	15	10
Peak Hour Factor	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	1	20	3	1	8	1	1	3	1	3	4	3
Total Analysis Volume [veh/h]	5	82	11	5	33	5	5	11	5	11	16	11
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Priority Scheme	Free	Free	Stop	Stop
Flared Lane			No	No
Storage Area [veh]	0	0	0	0
Two-Stage Gap Acceptance			No	No
Number of Storage Spaces in Median	0	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.01	0.00	0.01	0.02	0.01
d_M, Delay for Movement [s/veh]	7.28	0.00	0.00	7.39	0.00	0.00	9.69	9.97	8.57	9.69	10.05	8.90
Movement LOS	A	A	A	A	A	A	A	A	A	A	B	A
95th-Percentile Queue Length [veh/ln]	0.01	0.01	0.01	0.01	0.01	0.01	0.08	0.08	0.08	0.15	0.15	0.15
95th-Percentile Queue Length [ft/ln]	0.24	0.24	0.24	0.25	0.25	0.25	2.00	2.00	2.00	3.65	3.65	3.65
d_A, Approach Delay [s/veh]	0.37			0.86			9.57			9.61		
Approach LOS	A			A			A			A		
d_I, Intersection Delay [s/veh]	3.20											
Intersection LOS	B											

**Intersection Level Of Service Report
Intersection 11: 8th & Sacajawea**

Control Type:	Two-way stop	Delay (sec / veh):	14.1
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.012

Intersection Setup

Name	8th St NE			8th St NE			Sacajawea Dr			Sacajawea Dr		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration	+			+			+			+		
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	No			Yes			No			Yes		

Volumes

Name	8th St NE			8th St NE			Sacajawea Dr			Sacajawea Dr		
Base Volume Input [veh/h]	30	275	10	5	130	30	30	5	15	5	5	5
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	1.00	0.00	0.00	3.20	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	30	275	10	5	130	30	30	5	15	5	5	5
Peak Hour Factor	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	8	75	3	1	35	8	8	1	4	1	1	1
Total Analysis Volume [veh/h]	33	299	11	5	141	33	33	5	16	5	5	5
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Priority Scheme	Free	Free	Stop	Stop
Flared Lane			No	No
Storage Area [veh]	0	0	0	0
Two-Stage Gap Acceptance			No	No
Number of Storage Spaces in Median	0	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.02	0.00	0.00	0.00	0.00	0.00	0.08	0.01	0.02	0.01	0.01	0.01
d_M, Delay for Movement [s/veh]	7.61	0.00	0.00	7.86	0.00	0.00	14.09	14.10	9.85	13.65	13.62	10.09
Movement LOS	A	A	A	A	A	A	B	B	A	B	B	B
95th-Percentile Queue Length [veh/ln]	0.07	0.07	0.07	0.01	0.01	0.01	0.35	0.35	0.35	0.09	0.09	0.09
95th-Percentile Queue Length [ft/ln]	1.79	1.79	1.79	0.30	0.30	0.30	8.76	8.76	8.76	2.33	2.33	2.33
d_A, Approach Delay [s/veh]	0.73			0.22			12.83			12.46		
Approach LOS	A			A			B			B		
d_I, Intersection Delay [s/veh]	1.98											
Intersection LOS	B											

**Intersection Level Of Service Report
Intersection 12: 9th & 32nd**

Control Type: Two-way stop
 Analysis Method: HCM 6th Edition
 Analysis Period: 15 minutes

Delay (sec / veh): 11.1
 Level Of Service: B
 Volume to Capacity (v/c): 0.008

Intersection Setup

Name	9th St NE		9th St NE		32nd Ave NE	
Approach	Northbound		Southbound		Eastbound	
Lane Configuration	↶		↷		↷	
Turning Movement	Left	Thru	Thru	Right	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		No	

Volumes

Name	9th St NE		9th St NE		32nd Ave NE	
Base Volume Input [veh/h]	15	215	120	5	5	10
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	1.30	3.70	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	15	215	120	5	5	10
Peak Hour Factor	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	4	58	33	1	1	3
Total Analysis Volume [veh/h]	16	234	130	5	5	11
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Free	Free	Stop
Flared Lane			No
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance			No
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.01	0.00	0.00	0.00	0.01	0.01
d_M, Delay for Movement [s/veh]	7.49	0.00	0.00	0.00	11.06	9.00
Movement LOS	A	A	A	A	B	A
95th-Percentile Queue Length [veh/ln]	0.03	0.03	0.00	0.00	0.06	0.06
95th-Percentile Queue Length [ft/ln]	0.83	0.83	0.00	0.00	1.55	1.55
d_A, Approach Delay [s/veh]	0.48		0.00		9.64	
Approach LOS	A		A		A	
d_I, Intersection Delay [s/veh]	0.68					
Intersection LOS	B					

**Intersection Level Of Service Report
Intersection 13: 9th & Skyline**

Control Type: Two-way stop
 Analysis Method: HCM 6th Edition
 Analysis Period: 15 minutes

Delay (sec / veh): 9.3
 Level Of Service: A
 Volume to Capacity (v/c): 0.006

Intersection Setup

Name	9th St NE			9th St NE			Skyline Dr NE			Skyline Dr NE		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration	+			+			+			+		
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	No			No			No			No		

Volumes

Name	9th St NE			9th St NE			Skyline Dr NE			Skyline Dr NE		
Base Volume Input [veh/h]	5	5	5	5	5	0	0	25	5	5	5	5
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	5	5	5	5	5	0	0	25	5	5	5	5
Peak Hour Factor	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	1	1	1	1	1	0	0	7	1	1	1	1
Total Analysis Volume [veh/h]	5	5	5	5	5	0	0	27	5	5	5	5
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Priority Scheme	Stop	Stop	Free	Free
Flared Lane	No	No		
Storage Area [veh]	0	0	0	0
Two-Stage Gap Acceptance	No	No		
Number of Storage Spaces in Median	0	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.01	0.01	0.00	0.01	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00
d_M, Delay for Movement [s/veh]	8.86	9.33	8.49	8.87	9.32	8.38	7.22	0.00	0.00	7.27	0.00	0.00
Movement LOS	A	A	A	A	A	A	A	A	A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.05	0.05	0.05	0.03	0.03	0.03	0.00	0.00	0.00	0.01	0.01	0.01
95th-Percentile Queue Length [ft/ln]	1.22	1.22	1.22	0.85	0.85	0.85	0.00	0.00	0.00	0.24	0.24	0.24
d_A, Approach Delay [s/veh]	8.89			9.09			0.00			2.42		
Approach LOS	A			A			A			A		
d_I, Intersection Delay [s/veh]	3.62											
Intersection LOS	A											

North Great Falls Transportation Study

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Scenario 19 2040 AM Scenario 7

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10/7/2020

Intersection Analysis Summary

ID	Intersection Name	Control Type	Method	Worst Mvmt	V/C	Delay (s/veh)	LOS
1	6th & Vinyard	Two-way stop	HCM 6th Edition	EB Left	0.005	8.8	A
2	Bootlegger & 46th	Two-way stop	HCM 6th Edition	EB Left	0.007	10.3	B
3	36th & 2nd	Two-way stop	HCM 6th Edition	WB Left	0.080	12.6	B
4	36th & 5th	Two-way stop	HCM 6th Edition	NB Left	0.008	10.7	B
5	36th & 9th	Two-way stop	HCM 6th Edition	NB Left	0.048	17.6	C
6	Bootlegger & 36th	Two-way stop	HCM 6th Edition	EB Left	0.049	13.5	B
7	Skyline & 6th	Two-way stop	HCM 6th Edition	WB Left	0.032	9.5	A
8	Skyline & Division	Two-way stop	HCM 6th Edition	NB Left	0.012	8.9	A
9	Skyline & 2nd	Two-way stop	HCM 6th Edition	EB Thru	0.020	11.8	B
10	Skyline & 5th	Two-way stop	HCM 6th Edition	WB Thru	0.015	9.9	A
11	8th & Sacajawea	Two-way stop	HCM 6th Edition	EB Thru	0.011	14.5	B
12	9th & 32nd	Two-way stop	HCM 6th Edition	EB Left	0.009	11.4	B
13	9th & Skyline	Two-way stop	HCM 6th Edition	NB Thru	0.006	9.5	A

V/C, Delay, LOS: For two-way stop, these values are taken from the movement with the worst (highest) delay value. For all other control types, they are taken for the whole intersection.

Intersection Level Of Service Report
Intersection 1: 6th & Vinyard

Control Type:	Two-way stop	Delay (sec / veh):	8.8
Analysis Method:	HCM 6th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.005

Intersection Setup

Name	6th St NW		Vinyard Rd		Vinyard Rd	
Approach	Northbound		Southbound		Eastbound	
Lane Configuration	↶		↷		↷	
Turning Movement	Left	Thru	Thru	Right	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		No	

Volumes

Name	6th St NW		Vinyard Rd		Vinyard Rd	
Base Volume Input [veh/h]	10	10	15	5	5	15
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	50.00	0.00	20.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	10	10	15	5	5	15
Peak Hour Factor	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	3	3	4	1	1	4
Total Analysis Volume [veh/h]	11	11	16	5	5	16
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Free	Free	Stop
Flared Lane			No
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance			No
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.01	0.00	0.00	0.00	0.01	0.02
d_M, Delay for Movement [s/veh]	7.25	0.00	0.00	0.00	8.84	8.64
Movement LOS	A	A	A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.02	0.02	0.00	0.00	0.06	0.06
95th-Percentile Queue Length [ft/ln]	0.52	0.52	0.00	0.00	1.61	1.61
d_A, Approach Delay [s/veh]	3.63		0.00		8.69	
Approach LOS	A		A		A	
d_I, Intersection Delay [s/veh]	4.10					
Intersection LOS	A					

**Intersection Level Of Service Report
Intersection 2: Bootlegger & 46th**

Control Type:	Two-way stop	Delay (sec / veh):	10.3
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.007

Intersection Setup

Name	Bootlegger Trail		Bootlegger Trail		46th Ave NE	
Approach	Northbound		Southbound		Eastbound	
Lane Configuration	↙		↘		↔	
Turning Movement	Left	Thru	Thru	Right	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	1	0	0	0	0
Entry Pocket Length [ft]	100.00	600.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	70.00		70.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		No	

Volumes

Name	Bootlegger Trail		Bootlegger Trail		46th Ave NE	
Base Volume Input [veh/h]	25	55	135	5	5	45
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	4.30	9.10	1.70	0.00	0.00	1.60
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	25	55	135	5	5	45
Peak Hour Factor	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	7	15	37	1	1	12
Total Analysis Volume [veh/h]	27	60	147	5	5	49
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Free	Free	Stop
Flared Lane			No
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance			No
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.02	0.00	0.00	0.00	0.01	0.05
d_M, Delay for Movement [s/veh]	7.59	0.00	0.00	0.00	10.30	9.28
Movement LOS	A	A	A	A	B	A
95th-Percentile Queue Length [veh/ln]	0.06	0.00	0.00	0.00	0.20	0.20
95th-Percentile Queue Length [ft/ln]	1.46	0.00	0.00	0.00	4.91	4.91
d_A, Approach Delay [s/veh]	2.36		0.00		9.37	
Approach LOS	A		A		A	
d_I, Intersection Delay [s/veh]	2.43					
Intersection LOS	B					

**Intersection Level Of Service Report
Intersection 3: 36th & 2nd**

Control Type: Two-way stop
 Analysis Method: HCM 6th Edition
 Analysis Period: 15 minutes

Delay (sec / veh): 12.6
 Level Of Service: B
 Volume to Capacity (v/c): 0.080

Intersection Setup

Name	2nd St NE			2nd St NE			36th Ave NE			36th Ave NE		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration	+			+			+			+		
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	2nd St NE			2nd St NE			36th Ave NE			36th Ave NE		
Base Volume Input [veh/h]	5	45	35	45	155	10	5	25	15	40	15	15
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	2.90	0.00	1.90	0.00	0.00	0.00	0.00	1.80	0.00	25.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	5	45	35	45	155	10	5	25	15	40	15	15
Peak Hour Factor	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	1	12	10	12	42	3	1	7	4	11	4	4
Total Analysis Volume [veh/h]	5	49	38	49	168	11	5	27	16	43	16	16
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Priority Scheme	Free	Free	Stop	Stop
Flared Lane			No	No
Storage Area [veh]	0	0	0	0
Two-Stage Gap Acceptance			No	No
Number of Storage Spaces in Median	0	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.00	0.00	0.03	0.00	0.00	0.01	0.05	0.02	0.08	0.03	0.02
d_M, Delay for Movement [s/veh]	7.56	0.00	0.00	7.44	0.00	0.00	11.98	12.13	9.60	12.58	12.41	9.73
Movement LOS	A	A	A	A	A	A	B	B	A	B	B	A
95th-Percentile Queue Length [veh/ln]	0.01	0.01	0.01	0.10	0.10	0.10	0.25	0.25	0.25	0.43	0.43	0.43
95th-Percentile Queue Length [ft/ln]	0.27	0.27	0.27	2.49	2.49	2.49	6.25	6.25	6.25	10.76	10.76	10.76
d_A, Approach Delay [s/veh]	0.41			1.60			11.27			11.93		
Approach LOS	A			A			B			B		
d_I, Intersection Delay [s/veh]	4.15											
Intersection LOS	B											

**Intersection Level Of Service Report
Intersection 4: 36th & 5th**

Control Type:	Two-way stop	Delay (sec / veh):	10.7
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.008

Intersection Setup

Name	5th St NE		36th Ave NE		36th Ave NE	
Approach	Northbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Left	Right	Thru	Right	Left	Thru
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		No	

Volumes

Name	5th St NE		36th Ave NE		36th Ave NE	
Base Volume Input [veh/h]	5	25	165	35	20	80
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	5.00	0.70	0.00	0.00	7.30
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	5	25	165	35	20	80
Peak Hour Factor	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	1	7	45	10	5	22
Total Analysis Volume [veh/h]	5	27	179	38	22	87
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Stop	Free	Free
Flared Lane	No		
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance	No		
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.01	0.03	0.00	0.00	0.02	0.00
d_M, Delay for Movement [s/veh]	10.66	9.50	0.00	0.00	7.68	0.00
Movement LOS	B	A	A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.12	0.12	0.00	0.00	0.05	0.05
95th-Percentile Queue Length [ft/ln]	3.11	3.11	0.00	0.00	1.23	1.23
d_A, Approach Delay [s/veh]	9.68		0.00		1.55	
Approach LOS	A		A		A	
d_I, Intersection Delay [s/veh]	1.34					
Intersection LOS	B					

**Intersection Level Of Service Report
Intersection 5: 36th & 9th**

Control Type:	Two-way stop	Delay (sec / veh):	17.6
Analysis Method:	HCM 6th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.048

Intersection Setup

Name	9th St NE			9th St NE			36th Ave NE			36th Ave NE		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration	+			+			+			+		
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	No			No			No			No		

Volumes

Name	9th St NE			9th St NE			36th Ave NE			36th Ave NE		
Base Volume Input [veh/h]	15	45	40	10	105	15	10	200	35	50	85	5
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	20.00	0.00	0.00	0.00	2.70	11.00	0.00	0.50	7.10	4.40	7.10	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	15	45	40	10	105	15	10	200	35	50	85	5
Peak Hour Factor	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	4	12	11	3	29	4	3	54	10	14	23	1
Total Analysis Volume [veh/h]	16	49	43	11	114	16	11	217	38	54	92	5
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Priority Scheme	Stop	Stop	Free	Free
Flared Lane	No	No		
Storage Area [veh]	0	0	0	0
Two-Stage Gap Acceptance	No	No		
Number of Storage Spaces in Median	0	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.05	0.10	0.05	0.03	0.25	0.02	0.01	0.00	0.00	0.04	0.00	0.00
d_M, Delay for Movement [s/veh]	17.56	14.36	11.21	17.02	15.90	11.90	7.40	0.00	0.00	7.90	0.00	0.00
Movement LOS	C	B	B	C	C	B	A	A	A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.76	0.76	0.76	1.21	1.21	1.21	0.02	0.02	0.02	0.13	0.13	0.13
95th-Percentile Queue Length [ft/ln]	19.05	19.05	19.05	30.18	30.18	30.18	0.55	0.55	0.55	3.26	3.26	3.26
d_A, Approach Delay [s/veh]	13.58			15.54			0.31			2.82		
Approach LOS	B			C			A			A		
d_I, Intersection Delay [s/veh]	6.25											
Intersection LOS	C											

**Intersection Level Of Service Report
Intersection 6: Bootlegger & 36th**

Control Type:	Two-way stop	Delay (sec / veh):	13.5
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.049

Intersection Setup

Name	Bootlegger Trail		Bootlegger Trail		36th Ave NE	
Approach	Northbound		Southbound		Eastbound	
Lane Configuration	↙		↘		↙ ↘	
Turning Movement	Left	Thru	Thru	Right	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	1	0	0	0	1
Entry Pocket Length [ft]	100.00	250.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	45.00		45.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		No	

Volumes

Name	Bootlegger Trail		Bootlegger Trail		36th Ave NE	
Base Volume Input [veh/h]	90	65	245	50	20	280
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	11.60	6.70	0.00	6.50	3.60	0.70
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	90	65	245	50	20	280
Peak Hour Factor	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	24	18	67	14	5	76
Total Analysis Volume [veh/h]	98	71	266	54	22	304
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Free	Free	Stop
Flared Lane			
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance			No
Number of Storage Spaces in Median	0	0	1

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.08	0.00	0.00	0.00	0.05	0.41
d_M, Delay for Movement [s/veh]	8.30	0.00	0.00	0.00	13.48	13.04
Movement LOS	A	A	A	A	B	B
95th-Percentile Queue Length [veh/ln]	0.27	0.00	0.00	0.00	0.15	1.98
95th-Percentile Queue Length [ft/ln]	6.73	0.00	0.00	0.00	3.87	49.44
d_A, Approach Delay [s/veh]	4.82		0.00		13.07	
Approach LOS	A		A		B	
d_I, Intersection Delay [s/veh]	6.23					
Intersection LOS	B					

**Intersection Level Of Service Report
Intersection 7: Skyline & 6th**

Control Type: Two-way stop
 Analysis Method: HCM 6th Edition
 Analysis Period: 15 minutes

Delay (sec / veh): 9.5
 Level Of Service: A
 Volume to Capacity (v/c): 0.032

Intersection Setup

Name	6th St NW		6th St NW		Skyline Dr NW	
Approach	Northbound		Southbound		Westbound	
Lane Configuration	↬		↵		↶	
Turning Movement	Thru	Right	Left	Thru	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		No	

Volumes

Name	6th St NW		6th St NW		Skyline Dr NW	
Base Volume Input [veh/h]	45	20	5	80	25	5
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	4.50	1.70	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	45	20	5	80	25	5
Peak Hour Factor	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	12	5	1	22	7	1
Total Analysis Volume [veh/h]	49	22	5	87	27	5
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Free	Free	Stop
Flared Lane			No
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance			No
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.00	0.00	0.00	0.03	0.00
d_M, Delay for Movement [s/veh]	0.00	0.00	7.34	0.00	9.49	8.72
Movement LOS	A	A	A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.00	0.00	0.01	0.01	0.12	0.12
95th-Percentile Queue Length [ft/ln]	0.00	0.00	0.24	0.24	2.91	2.91
d_A, Approach Delay [s/veh]	0.00		0.40		9.37	
Approach LOS	A		A		A	
d_I, Intersection Delay [s/veh]	1.73					
Intersection LOS	A					

**Intersection Level Of Service Report
Intersection 8: Skyline & Division**

Control Type:	Two-way stop	Delay (sec / veh):	8.9
Analysis Method:	HCM 6th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.012

Intersection Setup

Name	Division Rd		Skyline Dr NW		Skyline Dr NE	
Approach	Northbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Left	Right	Thru	Right	Left	Thru
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		No	

Volumes

Name	Division Rd		Skyline Dr NW		Skyline Dr NE	
Base Volume Input [veh/h]	10	5	15	35	10	15
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	2.80	0.00	0.00	1.60
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	10	5	15	35	10	15
Peak Hour Factor	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	3	1	4	10	3	4
Total Analysis Volume [veh/h]	11	5	16	38	11	16
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Stop	Free	Free
Flared Lane	No		
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance	No		
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.01	0.00	0.00	0.00	0.01	0.00
d_M, Delay for Movement [s/veh]	8.94	8.51	0.00	0.00	7.32	0.00
Movement LOS	A	A	A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.05	0.05	0.00	0.00	0.02	0.02
95th-Percentile Queue Length [ft/ln]	1.27	1.27	0.00	0.00	0.53	0.53
d_A, Approach Delay [s/veh]	8.80		0.00		2.98	
Approach LOS	A		A		A	
d_I, Intersection Delay [s/veh]	2.28					
Intersection LOS	A					

**Intersection Level Of Service Report
Intersection 9: Skyline & 2nd**

Control Type: Two-way stop
 Analysis Method: HCM 6th Edition
 Analysis Period: 15 minutes

Delay (sec / veh): 11.8
 Level Of Service: B
 Volume to Capacity (v/c): 0.020

Intersection Setup

Name	2nd St NE			2nd St NE			Skyline Dr NE			Skyline Dr NE		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration	+			+			+			+		
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	No			No			No			No		

Volumes

Name	2nd St NE			2nd St NE			Skyline Dr NE			Skyline Dr NE		
Base Volume Input [veh/h]	5	80	5	5	235	15	10	10	5	5	10	10
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	4.60	0.00	0.00	2.10	1.80	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	5	80	5	5	235	15	10	10	5	5	10	10
Peak Hour Factor	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	1	22	1	1	64	4	3	3	1	1	3	3
Total Analysis Volume [veh/h]	5	87	5	5	255	16	11	11	5	5	11	11
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Priority Scheme	Free	Free	Stop	Stop
Flared Lane			No	No
Storage Area [veh]	0	0	0	0
Two-Stage Gap Acceptance			No	No
Number of Storage Spaces in Median	0	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.00	0.00	0.00	0.00	0.00	0.02	0.02	0.01	0.01	0.02	0.01
d_M, Delay for Movement [s/veh]	7.77	0.00	0.00	7.38	0.00	0.00	11.73	11.78	9.91	11.59	11.76	8.92
Movement LOS	A	A	A	A	A	A	B	B	A	B	B	A
95th-Percentile Queue Length [veh/ln]	0.01	0.01	0.01	0.01	0.01	0.01	0.14	0.14	0.14	0.13	0.13	0.13
95th-Percentile Queue Length [ft/ln]	0.29	0.29	0.29	0.25	0.25	0.25	3.60	3.60	3.60	3.13	3.13	3.13
d_A, Approach Delay [s/veh]	0.40			0.13			11.41			10.57		
Approach LOS	A			A			B			B		
d_I, Intersection Delay [s/veh]	1.57											
Intersection LOS	B											

**Intersection Level Of Service Report
Intersection 10: Skyline & 5th**

Control Type: Two-way stop
 Analysis Method: HCM 6th Edition
 Analysis Period: 15 minutes

Delay (sec / veh): 9.9
 Level Of Service: A
 Volume to Capacity (v/c): 0.015

Intersection Setup

Name	5th St NE			5th St NE			Skyline Dr NE			Skyline Dr NE		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration	+			+			+			+		
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	No			No			No			No		

Volumes

Name	5th St NE			5th St NE			Skyline Dr NE			Skyline Dr NE		
Base Volume Input [veh/h]	5	30	5	5	65	5	5	10	5	10	10	5
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	9.50	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	5	30	5	5	65	5	5	10	5	10	10	5
Peak Hour Factor	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	1	8	1	1	18	1	1	3	1	3	3	1
Total Analysis Volume [veh/h]	5	33	5	5	71	5	5	11	5	11	11	5
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Priority Scheme	Free	Free	Stop	Stop
Flared Lane			No	No
Storage Area [veh]	0	0	0	0
Two-Stage Gap Acceptance			No	No
Number of Storage Spaces in Median	0	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.01	0.01	0.01	0.01	0.00
d_M, Delay for Movement [s/veh]	7.35	0.00	0.00	7.28	0.00	0.00	9.50	9.87	8.74	9.53	9.90	8.60
Movement LOS	A	A	A	A	A	A	A	A	A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.01	0.01	0.01	0.01	0.01	0.01	0.08	0.08	0.08	0.10	0.10	0.10
95th-Percentile Queue Length [ft/ln]	0.24	0.24	0.24	0.24	0.24	0.24	1.97	1.97	1.97	2.53	2.53	2.53
d_A, Approach Delay [s/veh]	0.85			0.45			9.51			9.51		
Approach LOS	A			A			A			A		
d_I, Intersection Delay [s/veh]	3.08											
Intersection LOS	A											

**Intersection Level Of Service Report
Intersection 11: 8th & Sacajawea**

Control Type: Two-way stop
 Analysis Method: HCM 6th Edition
 Analysis Period: 15 minutes

Delay (sec / veh): 14.5
 Level Of Service: B
 Volume to Capacity (v/c): 0.011

Intersection Setup

Name	8th St NE			8th St NE			Sacajawea Dr			Sacajawea Dr		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration	+			+			+			+		
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	No			Yes			No			Yes		

Volumes

Name	8th St NE			8th St NE			Sacajawea Dr			Sacajawea Dr		
Base Volume Input [veh/h]	20	110	5	5	265	65	45	5	70	5	5	5
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	4.80	0.00	0.00	2.60	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	20	110	5	5	265	65	45	5	70	5	5	5
Peak Hour Factor	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	5	30	1	1	72	18	12	1	19	1	1	1
Total Analysis Volume [veh/h]	22	120	5	5	288	71	49	5	76	5	5	5
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Priority Scheme	Free	Free	Stop	Stop
Flared Lane			No	No
Storage Area [veh]	0	0	0	0
Two-Stage Gap Acceptance			No	No
Number of Storage Spaces in Median	0	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.02	0.00	0.00	0.00	0.00	0.00	0.11	0.01	0.11	0.01	0.01	0.01
d_M, Delay for Movement [s/veh]	8.03	0.00	0.00	7.45	0.00	0.00	14.47	14.51	11.72	14.28	13.33	9.07
Movement LOS	A	A	A	A	A	A	B	B	B	B	B	A
95th-Percentile Queue Length [veh/ln]	0.06	0.06	0.06	0.01	0.01	0.01	0.84	0.84	0.84	0.09	0.09	0.09
95th-Percentile Queue Length [ft/ln]	1.39	1.39	1.39	0.26	0.26	0.26	21.01	21.01	21.01	2.26	2.26	2.26
d_A, Approach Delay [s/veh]	1.20			0.10			12.86			12.23		
Approach LOS	A			A			B			B		
d_I, Intersection Delay [s/veh]	3.15											
Intersection LOS	B											

**Intersection Level Of Service Report
Intersection 12: 9th & 32nd**

Control Type: Two-way stop
 Analysis Method: HCM 6th Edition
 Analysis Period: 15 minutes

Delay (sec / veh): 11.4
 Level Of Service: B
 Volume to Capacity (v/c): 0.009

Intersection Setup

Name	9th St NE		9th St NE		32nd Ave NE	
Approach	Northbound		Southbound		Eastbound	
Lane Configuration	↶		↷		↷	
Turning Movement	Left	Thru	Thru	Right	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		No	

Volumes

Name	9th St NE		9th St NE		32nd Ave NE	
Base Volume Input [veh/h]	5	125	265	5	5	15
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	4.10	2.90	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	5	125	265	5	5	15
Peak Hour Factor	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	1	34	72	1	1	4
Total Analysis Volume [veh/h]	5	136	288	5	5	16
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Free	Free	Stop
Flared Lane			No
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance			No
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.00	0.00	0.00	0.01	0.02
d_M, Delay for Movement [s/veh]	7.82	0.00	0.00	0.00	11.38	9.94
Movement LOS	A	A	A	A	B	A
95th-Percentile Queue Length [veh/ln]	0.01	0.01	0.00	0.00	0.09	0.09
95th-Percentile Queue Length [ft/ln]	0.29	0.29	0.00	0.00	2.31	2.31
d_A, Approach Delay [s/veh]	0.28		0.00		10.28	
Approach LOS	A		A		B	
d_I, Intersection Delay [s/veh]	0.56					
Intersection LOS	B					

**Intersection Level Of Service Report
Intersection 13: 9th & Skyline**

Control Type:	Two-way stop	Delay (sec / veh):	9.5
Analysis Method:	HCM 6th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.006

Intersection Setup

Name	9th St NE			9th St NE			Skyline Dr NE			Skyline Dr NE		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration	+			+			+			+		
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	No			No			No			No		

Volumes

Name	9th St NE			9th St NE			Skyline Dr NE			Skyline Dr NE		
Base Volume Input [veh/h]	5	5	5	5	5	0	0	20	5	5	30	5
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	5	5	5	5	5	0	0	20	5	5	30	5
Peak Hour Factor	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	1	1	1	1	1	0	0	5	1	1	8	1
Total Analysis Volume [veh/h]	5	5	5	5	5	0	0	22	5	5	33	5
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Priority Scheme	Stop	Stop	Free	Free
Flared Lane	No	No		
Storage Area [veh]	0	0	0	0
Two-Stage Gap Acceptance	No	No		
Number of Storage Spaces in Median	0	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.01	0.01	0.00	0.01	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00
d_M, Delay for Movement [s/veh]	8.99	9.46	8.47	9.01	9.44	8.50	7.27	0.00	0.00	7.26	0.00	0.00
Movement LOS	A	A	A	A	A	A	A	A	A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.05	0.05	0.05	0.04	0.04	0.04	0.00	0.00	0.00	0.01	0.01	0.01
95th-Percentile Queue Length [ft/ln]	1.24	1.24	1.24	0.88	0.88	0.88	0.00	0.00	0.00	0.24	0.24	0.24
d_A, Approach Delay [s/veh]	8.97			9.23			0.00			0.84		
Approach LOS	A			A			A			A		
d_I, Intersection Delay [s/veh]	2.77											
Intersection LOS	A											

North Great Falls Transportation Study

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Scenario 20 2040 PM Scenario 7

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10/7/2020

Intersection Analysis Summary

ID	Intersection Name	Control Type	Method	Worst Mvmt	V/C	Delay (s/veh)	LOS
1	6th & Vinyard	Two-way stop	HCM 6th Edition	EB Left	0.005	8.8	A
2	Bootlegger & 46th	Two-way stop	HCM 6th Edition	EB Left	0.007	10.2	B
3	36th & 2nd	Two-way stop	HCM 6th Edition	WB Left	0.096	12.9	B
4	36th & 5th	Two-way stop	HCM 6th Edition	NB Left	0.037	11.5	B
5	36th & 9th	Two-way stop	HCM 6th Edition	NB Left	0.115	21.4	C
6	Bootlegger & 36th	Two-way stop	HCM 6th Edition	EB Left	0.107	31.8	D
7	Skyline & 6th	Two-way stop	HCM 6th Edition	WB Left	0.029	9.8	A
8	Skyline & Division	Two-way stop	HCM 6th Edition	NB Left	0.028	8.9	A
9	Skyline & 2nd	Two-way stop	HCM 6th Edition	WB Thru	0.020	11.9	B
10	Skyline & 5th	Two-way stop	HCM 6th Edition	WB Thru	0.021	10.0	B
11	8th & Sacajawea	Two-way stop	HCM 6th Edition	EB Thru	0.011	14.1	B
12	9th & 32nd	Two-way stop	HCM 6th Edition	EB Left	0.008	11.0	B
13	9th & Skyline	Two-way stop	HCM 6th Edition	NB Thru	0.006	9.3	A

V/C, Delay, LOS: For two-way stop, these values are taken from the movement with the worst (highest) delay value. For all other control types, they are taken for the whole intersection.

**Intersection Level Of Service Report
Intersection 1: 6th & Vinyard**

Control Type:	Two-way stop	Delay (sec / veh):	8.8
Analysis Method:	HCM 6th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.005

Intersection Setup

Name	6th St NW		Vinyard Rd		Vinyard Rd	
Approach	Northbound		Southbound		Eastbound	
Lane Configuration	↶		↷		↷	
Turning Movement	Left	Thru	Thru	Right	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		No	

Volumes

Name	6th St NW		Vinyard Rd		Vinyard Rd	
Base Volume Input [veh/h]	10	10	10	5	5	20
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	10	10	10	5	5	20
Peak Hour Factor	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	3	3	3	1	1	5
Total Analysis Volume [veh/h]	11	11	11	5	5	22
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Free	Free	Stop
Flared Lane			No
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance			No
Number of Storage Spaces in Median	0	0	0




Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.01	0.00	0.00	0.00	0.01	0.02
d_M, Delay for Movement [s/veh]	7.24	0.00	0.00	0.00	8.83	8.45
Movement LOS	A	A	A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.02	0.02	0.00	0.00	0.08	0.08
95th-Percentile Queue Length [ft/ln]	0.51	0.51	0.00	0.00	1.98	1.98
d_A, Approach Delay [s/veh]	3.62		0.00		8.52	
Approach LOS	A		A		A	
d_I, Intersection Delay [s/veh]	4.76					
Intersection LOS	A					

**Intersection Level Of Service Report
Intersection 2: Bootlegger & 46th**

Control Type:	Two-way stop	Delay (sec / veh):	10.2
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.007

Intersection Setup

Name	Bootlegger Trail		Bootlegger Trail		46th Ave NE	
Approach	Northbound		Southbound		Eastbound	
Lane Configuration						
Turning Movement	Left	Thru	Thru	Right	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	1	0	0	0	0
Entry Pocket Length [ft]	100.00	600.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	70.00		70.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		No	

Volumes

Name	Bootlegger Trail		Bootlegger Trail		46th Ave NE	
Base Volume Input [veh/h]	30	120	55	5	5	30
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	30	120	55	5	5	30
Peak Hour Factor	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	8	33	15	1	1	8
Total Analysis Volume [veh/h]	33	130	60	5	5	33
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Free	Free	Stop
Flared Lane			No
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance			No
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.02	0.00	0.00	0.00	0.01	0.03
d_M, Delay for Movement [s/veh]	7.37	0.00	0.00	0.00	10.16	8.73
Movement LOS	A	A	A	A	B	A
95th-Percentile Queue Length [veh/ln]	0.07	0.00	0.00	0.00	0.12	0.12
95th-Percentile Queue Length [ft/ln]	1.63	0.00	0.00	0.00	3.10	3.10
d_A, Approach Delay [s/veh]	1.49		0.00		8.92	
Approach LOS	A		A		A	
d_I, Intersection Delay [s/veh]	2.19					
Intersection LOS	B					

**Intersection Level Of Service Report
Intersection 3: 36th & 2nd**

Control Type: Two-way stop
 Analysis Method: HCM 6th Edition
 Analysis Period: 15 minutes

Delay (sec / veh): 12.9
 Level Of Service: B
 Volume to Capacity (v/c): 0.096

Intersection Setup

Name	2nd St NE			2nd St NE			36th Ave NE			36th Ave NE		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration	+			+			+			+		
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	2nd St NE			2nd St NE			36th Ave NE			36th Ave NE		
Base Volume Input [veh/h]	20	140	25	20	75	5	5	25	5	50	40	35
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	1.00	0.00	0.00	0.00	100.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	20	140	25	20	75	5	5	25	5	50	40	35
Peak Hour Factor	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	5	38	7	5	20	1	1	7	1	14	11	10
Total Analysis Volume [veh/h]	22	152	27	22	82	5	5	27	5	54	43	38
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Priority Scheme	Free	Free	Stop	Stop
Flared Lane			No	No
Storage Area [veh]	0	0	0	0
Two-Stage Gap Acceptance			No	No
Number of Storage Spaces in Median	0	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.01	0.00	0.00	0.02	0.00	0.00	0.01	0.05	0.01	0.10	0.08	0.04
d_M, Delay for Movement [s/veh]	7.40	0.00	0.00	7.60	0.00	0.00	12.44	11.87	9.09	12.92	12.92	10.63
Movement LOS	A	A	A	A	A	A	B	B	A	B	B	B
95th-Percentile Queue Length [veh/ln]	0.04	0.04	0.04	0.05	0.05	0.05	0.20	0.20	0.20	0.81	0.81	0.81
95th-Percentile Queue Length [ft/ln]	1.10	1.10	1.10	1.19	1.19	1.19	5.05	5.05	5.05	20.22	20.22	20.22
d_A, Approach Delay [s/veh]	0.81			1.53			11.57			12.28		
Approach LOS	A			A			B			B		
d_I, Intersection Delay [s/veh]	5.01											
Intersection LOS	B											

**Intersection Level Of Service Report
Intersection 4: 36th & 5th**

Control Type: Two-way stop
 Analysis Method: HCM 6th Edition
 Analysis Period: 15 minutes

Delay (sec / veh): 11.5
 Level Of Service: B
 Volume to Capacity (v/c): 0.037

Intersection Setup

Name	5th St NE		36th Ave NE		36th Ave NE	
Approach	Northbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Left	Right	Thru	Right	Left	Thru
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		No	

Volumes

Name	5th St NE		36th Ave NE		36th Ave NE	
Base Volume Input [veh/h]	20	30	100	10	30	210
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	20	30	100	10	30	210
Peak Hour Factor	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	5	8	27	3	8	57
Total Analysis Volume [veh/h]	22	33	109	11	33	228
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Stop	Free	Free
Flared Lane	No		
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance	No		
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.04	0.03	0.00	0.00	0.02	0.00
d_M, Delay for Movement [s/veh]	11.50	9.19	0.00	0.00	7.49	0.00
Movement LOS	B	A	A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.23	0.23	0.00	0.00	0.07	0.07
95th-Percentile Queue Length [ft/ln]	5.84	5.84	0.00	0.00	1.71	1.71
d_A, Approach Delay [s/veh]	10.11		0.00		0.95	
Approach LOS	B		A		A	
d_I, Intersection Delay [s/veh]	1.84					
Intersection LOS	B					

**Intersection Level Of Service Report
Intersection 5: 36th & 9th**

Control Type: Two-way stop
 Analysis Method: HCM 6th Edition
 Analysis Period: 15 minutes

Delay (sec / veh): 21.4
 Level Of Service: C
 Volume to Capacity (v/c): 0.115

Intersection Setup

Name	9th St NE			9th St NE			36th Ave NE			36th Ave NE		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration	+			+			+			+		
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	No			No			No			No		

Volumes

Name	9th St NE			9th St NE			36th Ave NE			36th Ave NE		
Base Volume Input [veh/h]	35	95	15	5	55	20	45	105	15	35	240	10
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	6.30	0.00	0.00	0.00	4.20	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	35	95	15	5	55	20	45	105	15	35	240	10
Peak Hour Factor	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	10	26	4	1	15	5	12	29	4	10	65	3
Total Analysis Volume [veh/h]	38	103	16	5	60	22	49	114	16	38	261	11
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Priority Scheme	Stop	Stop	Free	Free
Flared Lane	No	No		
Storage Area [veh]	0	0	0	0
Two-Stage Gap Acceptance	No	No		
Number of Storage Spaces in Median	0	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.12	0.25	0.02	0.02	0.15	0.03	0.04	0.00	0.00	0.03	0.00	0.00
d_M, Delay for Movement [s/veh]	21.42	19.38	14.34	18.91	16.00	11.59	7.87	0.00	0.00	7.52	0.00	0.00
Movement LOS	C	C	B	C	C	B	A	A	A	A	A	A
95th-Percentile Queue Length [veh/ln]	1.79	1.79	1.79	0.72	0.72	0.72	0.12	0.12	0.12	0.08	0.08	0.08
95th-Percentile Queue Length [ft/ln]	44.76	44.76	44.76	17.95	17.95	17.95	2.93	2.93	2.93	1.99	1.99	1.99
d_A, Approach Delay [s/veh]	19.36			15.05			2.15			0.92		
Approach LOS	C			C			A			A		
d_I, Intersection Delay [s/veh]	6.85											
Intersection LOS	C											

**Intersection Level Of Service Report
Intersection 6: Bootlegger & 36th**

Control Type:	Two-way stop	Delay (sec / veh):	31.8
Analysis Method:	HCM 6th Edition	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.107

Intersection Setup

Name	Bootlegger Trail		Bootlegger Trail		36th Ave NE	
Approach	Northbound		Southbound		Eastbound	
Lane Configuration	↵		↵		↵↶	
Turning Movement	Left	Thru	Thru	Right	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	1	0	0	0	1
Entry Pocket Length [ft]	100.00	250.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	45.00		45.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		No	

Volumes

Name	Bootlegger Trail		Bootlegger Trail		36th Ave NE	
Base Volume Input [veh/h]	365	235	125	20	15	135
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.80
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	365	235	125	20	15	135
Peak Hour Factor	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	99	64	34	5	4	37
Total Analysis Volume [veh/h]	397	255	136	22	16	147
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Free	Free	Stop
Flared Lane			
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance			No
Number of Storage Spaces in Median	0	0	1

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.28	0.00	0.00	0.00	0.11	0.16
d_M, Delay for Movement [s/veh]	8.47	0.00	0.00	0.00	31.83	9.76
Movement LOS	A	A	A	A	D	A
95th-Percentile Queue Length [veh/ln]	1.14	0.00	0.00	0.00	0.35	0.58
95th-Percentile Queue Length [ft/ln]	28.46	0.00	0.00	0.00	8.77	14.49
d_A, Approach Delay [s/veh]	5.16		0.00		11.93	
Approach LOS	A		A		B	
d_I, Intersection Delay [s/veh]	5.45					
Intersection LOS	D					

**Intersection Level Of Service Report
Intersection 7: Skyline & 6th**

Control Type:	Two-way stop	Delay (sec / veh):	9.8
Analysis Method:	HCM 6th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.029

Intersection Setup

Name	6th St NW		6th St NW		Skyline Dr NW	
Approach	Northbound		Southbound		Westbound	
Lane Configuration	↩		↪		↔	
Turning Movement	Thru	Right	Left	Thru	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		No	

Volumes

Name	6th St NW		6th St NW		Skyline Dr NW	
Base Volume Input [veh/h]	105	30	5	70	20	5
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	1.90	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	105	30	5	70	20	5
Peak Hour Factor	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	29	8	1	19	5	1
Total Analysis Volume [veh/h]	114	33	5	76	22	5
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Free	Free	Stop
Flared Lane			No
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance			No
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.00	0.00	0.00	0.03	0.01
d_M, Delay for Movement [s/veh]	0.00	0.00	7.50	0.00	9.84	9.05
Movement LOS	A	A	A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.00	0.00	0.01	0.01	0.11	0.11
95th-Percentile Queue Length [ft/ln]	0.00	0.00	0.26	0.26	2.64	2.64
d_A, Approach Delay [s/veh]	0.00		0.46		9.69	
Approach LOS	A		A		A	
d_I, Intersection Delay [s/veh]	1.17					
Intersection LOS	A					

**Intersection Level Of Service Report
Intersection 8: Skyline & Division**

Control Type:	Two-way stop	Delay (sec / veh):	8.9
Analysis Method:	HCM 6th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.028

Intersection Setup

Name	Division Rd		Skyline Dr NW		Skyline Dr NE	
Approach	Northbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Left	Right	Thru	Right	Left	Thru
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		No	

Volumes

Name	Division Rd		Skyline Dr NW		Skyline Dr NE	
Base Volume Input [veh/h]	25	10	10	20	5	20
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	1.80
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	25	10	10	20	5	20
Peak Hour Factor	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	7	3	3	5	1	5
Total Analysis Volume [veh/h]	27	11	11	22	5	22
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Stop	Free	Free
Flared Lane	No		
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance	No		
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.03	0.01	0.00	0.00	0.00	0.00
d_M, Delay for Movement [s/veh]	8.91	8.54	0.00	0.00	7.27	0.00
Movement LOS	A	A	A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.12	0.12	0.00	0.00	0.01	0.01
95th-Percentile Queue Length [ft/ln]	3.01	3.01	0.00	0.00	0.24	0.24
d_A, Approach Delay [s/veh]	8.80		0.00		1.35	
Approach LOS	A		A		A	
d_I, Intersection Delay [s/veh]	3.78					
Intersection LOS	A					

**Intersection Level Of Service Report
Intersection 9: Skyline & 2nd**

Control Type:	Two-way stop	Delay (sec / veh):	11.9
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.020

Intersection Setup

Name	2nd St NE			2nd St NE			Skyline Dr NE			Skyline Dr NE		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration	+			+			+			+		
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	No			No			No			No		

Volumes

Name	2nd St NE			2nd St NE			Skyline Dr NE			Skyline Dr NE		
Base Volume Input [veh/h]	5	200	10	5	120	15	5	15	5	5	10	15
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	1.90	0.00	0.00	2.10	2.10	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	5	200	10	5	120	15	5	15	5	5	10	15
Peak Hour Factor	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	1	54	3	1	33	4	1	4	1	1	3	4
Total Analysis Volume [veh/h]	5	217	11	5	130	16	5	16	5	5	11	16
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Priority Scheme	Free	Free	Stop	Stop
Flared Lane			No	No
Storage Area [veh]	0	0	0	0
Two-Stage Gap Acceptance			No	No
Number of Storage Spaces in Median	0	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.03	0.01	0.01	0.02	0.02
d_M, Delay for Movement [s/veh]	7.49	0.00	0.00	7.67	0.00	0.00	11.87	11.86	9.21	11.79	11.88	9.66
Movement LOS	A	A	A	A	A	A	B	B	A	B	B	A
95th-Percentile Queue Length [veh/ln]	0.01	0.01	0.01	0.01	0.01	0.01	0.14	0.14	0.14	0.15	0.15	0.15
95th-Percentile Queue Length [ft/ln]	0.26	0.26	0.26	0.28	0.28	0.28	3.43	3.43	3.43	3.83	3.83	3.83
d_A, Approach Delay [s/veh]	0.16			0.25			11.35			10.76		
Approach LOS	A			A			B			B		
d_I, Intersection Delay [s/veh]	1.62											
Intersection LOS	B											

**Intersection Level Of Service Report
Intersection 10: Skyline & 5th**

Control Type: Two-way stop
 Analysis Method: HCM 6th Edition
 Analysis Period: 15 minutes

Delay (sec / veh): 10.0
 Level Of Service: B
 Volume to Capacity (v/c): 0.021

Intersection Setup

Name	5th St NE			5th St NE			Skyline Dr NE			Skyline Dr NE		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration	+			+			+			+		
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	No			No			No			No		

Volumes

Name	5th St NE			5th St NE			Skyline Dr NE			Skyline Dr NE		
Base Volume Input [veh/h]	5	75	10	5	30	5	5	10	5	10	15	10
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	5	75	10	5	30	5	5	10	5	10	15	10
Peak Hour Factor	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	1	20	3	1	8	1	1	3	1	3	4	3
Total Analysis Volume [veh/h]	5	82	11	5	33	5	5	11	5	11	16	11
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Priority Scheme	Free	Free	Stop	Stop
Flared Lane			No	No
Storage Area [veh]	0	0	0	0
Two-Stage Gap Acceptance			No	No
Number of Storage Spaces in Median	0	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.01	0.00	0.01	0.02	0.01
d_M, Delay for Movement [s/veh]	7.28	0.00	0.00	7.39	0.00	0.00	9.69	9.97	8.57	9.69	10.05	8.90
Movement LOS	A	A	A	A	A	A	A	A	A	A	B	A
95th-Percentile Queue Length [veh/ln]	0.01	0.01	0.01	0.01	0.01	0.01	0.08	0.08	0.08	0.15	0.15	0.15
95th-Percentile Queue Length [ft/ln]	0.24	0.24	0.24	0.25	0.25	0.25	2.00	2.00	2.00	3.65	3.65	3.65
d_A, Approach Delay [s/veh]	0.37			0.86			9.57			9.61		
Approach LOS	A			A			A			A		
d_I, Intersection Delay [s/veh]	3.20											
Intersection LOS	B											

**Intersection Level Of Service Report
Intersection 11: 8th & Sacajawea**

Control Type:	Two-way stop	Delay (sec / veh):	14.1
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.011

Intersection Setup

Name	8th St NE			8th St NE			Sacajawea Dr			Sacajawea Dr		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration	+			+			+			+		
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	No			Yes			No			Yes		

Volumes

Name	8th St NE			8th St NE			Sacajawea Dr			Sacajawea Dr		
Base Volume Input [veh/h]	30	275	10	5	130	25	30	5	15	5	5	5
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	1.00	0.00	0.00	3.20	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	30	275	10	5	130	25	30	5	15	5	5	5
Peak Hour Factor	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	8	75	3	1	35	7	8	1	4	1	1	1
Total Analysis Volume [veh/h]	33	299	11	5	141	27	33	5	16	5	5	5
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Priority Scheme	Free	Free	Stop	Stop
Flared Lane			No	No
Storage Area [veh]	0	0	0	0
Two-Stage Gap Acceptance			No	No
Number of Storage Spaces in Median	0	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.02	0.00	0.00	0.00	0.00	0.00	0.08	0.01	0.02	0.01	0.01	0.01
d_M, Delay for Movement [s/veh]	7.59	0.00	0.00	7.86	0.00	0.00	14.04	14.06	9.83	13.61	13.56	10.09
Movement LOS	A	A	A	A	A	A	B	B	A	B	B	B
95th-Percentile Queue Length [veh/ln]	0.07	0.07	0.07	0.01	0.01	0.01	0.35	0.35	0.35	0.09	0.09	0.09
95th-Percentile Queue Length [ft/ln]	1.78	1.78	1.78	0.30	0.30	0.30	8.72	8.72	8.72	2.31	2.31	2.31
d_A, Approach Delay [s/veh]	0.73			0.23			12.79			12.42		
Approach LOS	A			A			B			B		
d_I, Intersection Delay [s/veh]	1.99											
Intersection LOS	B											

**Intersection Level Of Service Report
Intersection 12: 9th & 32nd**

Control Type:	Two-way stop	Delay (sec / veh):	11.0
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.008

Intersection Setup

Name	9th St NE		9th St NE		32nd Ave NE	
Approach	Northbound		Southbound		Eastbound	
Lane Configuration	↶		↷		↷	
Turning Movement	Left	Thru	Thru	Right	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		No	

Volumes

Name	9th St NE		9th St NE		32nd Ave NE	
Base Volume Input [veh/h]	15	215	115	5	5	10
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	1.30	3.70	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	15	215	115	5	5	10
Peak Hour Factor	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	4	58	31	1	1	3
Total Analysis Volume [veh/h]	16	234	125	5	5	11
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Free	Free	Stop
Flared Lane			No
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance			No
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.01	0.00	0.00	0.00	0.01	0.01
d_M, Delay for Movement [s/veh]	7.48	0.00	0.00	0.00	11.02	8.97
Movement LOS	A	A	A	A	B	A
95th-Percentile Queue Length [veh/ln]	0.03	0.03	0.00	0.00	0.06	0.06
95th-Percentile Queue Length [ft/ln]	0.83	0.83	0.00	0.00	1.54	1.54
d_A, Approach Delay [s/veh]	0.48		0.00		9.61	
Approach LOS	A		A		A	
d_I, Intersection Delay [s/veh]	0.69					
Intersection LOS	B					

**Intersection Level Of Service Report
Intersection 13: 9th & Skyline**

Control Type: Two-way stop
 Analysis Method: HCM 6th Edition
 Analysis Period: 15 minutes

Delay (sec / veh): 9.3
 Level Of Service: A
 Volume to Capacity (v/c): 0.006

Intersection Setup

Name	9th St NE			9th St NE			Skyline Dr NE			Skyline Dr NE		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration	+			+			+			+		
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	No			No			No			No		

Volumes

Name	9th St NE			9th St NE			Skyline Dr NE			Skyline Dr NE		
Base Volume Input [veh/h]	5	5	5	5	5	0	0	25	5	5	5	5
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	5	5	5	5	5	0	0	25	5	5	5	5
Peak Hour Factor	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	1	1	1	1	1	0	0	7	1	1	1	1
Total Analysis Volume [veh/h]	5	5	5	5	5	0	0	27	5	5	5	5
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Priority Scheme	Stop	Stop	Free	Free
Flared Lane	No	No		
Storage Area [veh]	0	0	0	0
Two-Stage Gap Acceptance	No	No		
Number of Storage Spaces in Median	0	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.01	0.01	0.00	0.01	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00
d_M, Delay for Movement [s/veh]	8.86	9.33	8.49	8.87	9.32	8.38	7.22	0.00	0.00	7.27	0.00	0.00
Movement LOS	A	A	A	A	A	A	A	A	A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.05	0.05	0.05	0.03	0.03	0.03	0.00	0.00	0.00	0.01	0.01	0.01
95th-Percentile Queue Length [ft/ln]	1.22	1.22	1.22	0.85	0.85	0.85	0.00	0.00	0.00	0.24	0.24	0.24
d_A, Approach Delay [s/veh]	8.89			9.09			0.00			2.42		
Approach LOS	A			A			A			A		
d_I, Intersection Delay [s/veh]	3.62											
Intersection LOS	A											

North Great Falls Transportation Study

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Scenario 21 2040 AM Scenario 8

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10/7/2020

Intersection Analysis Summary

ID	Intersection Name	Control Type	Method	Worst Mvmt	V/C	Delay (s/veh)	LOS
1	6th & Vinyard	Two-way stop	HCM 6th Edition	EB Left	0.005	8.8	A
2	Bootlegger & 46th	Two-way stop	HCM 6th Edition	EB Left	0.007	10.3	B
3	36th & 2nd	Two-way stop	HCM 6th Edition	WB Left	0.080	12.6	B
4	36th & 5th	Two-way stop	HCM 6th Edition	NB Left	0.008	10.6	B
5	36th & 9th	Two-way stop	HCM 6th Edition	NB Left	0.048	17.4	C
6	Bootlegger & 36th	Two-way stop	HCM 6th Edition	EB Left	0.049	13.5	B
7	Skyline & 6th	Two-way stop	HCM 6th Edition	WB Left	0.032	9.5	A
8	Skyline & Division	Two-way stop	HCM 6th Edition	NB Left	0.012	8.9	A
9	Skyline & 2nd	Two-way stop	HCM 6th Edition	EB Thru	0.020	11.8	B
10	Skyline & 5th	Two-way stop	HCM 6th Edition	WB Thru	0.015	9.9	A
11	8th & Sacajawea	Two-way stop	HCM 6th Edition	EB Thru	0.011	14.5	B
12	9th & 32nd	Two-way stop	HCM 6th Edition	EB Left	0.009	11.3	B
13	9th & Skyline	Two-way stop	HCM 6th Edition	NB Thru	0.006	9.5	A

V/C, Delay, LOS: For two-way stop, these values are taken from the movement with the worst (highest) delay value. For all other control types, they are taken for the whole intersection.

Intersection Level Of Service Report
Intersection 1: 6th & Vinyard

Control Type:	Two-way stop	Delay (sec / veh):	8.8
Analysis Method:	HCM 6th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.005

Intersection Setup

Name	6th St NW		Vinyard Rd		Vinyard Rd	
Approach	Northbound		Southbound		Eastbound	
Lane Configuration	↰		↱		↻	
Turning Movement	Left	Thru	Thru	Right	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		No	

Volumes

Name	6th St NW		Vinyard Rd		Vinyard Rd	
Base Volume Input [veh/h]	10	10	15	5	5	15
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	50.00	0.00	20.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	10	10	15	5	5	15
Peak Hour Factor	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	3	3	4	1	1	4
Total Analysis Volume [veh/h]	11	11	16	5	5	16
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Free	Free	Stop
Flared Lane			No
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance			No
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.01	0.00	0.00	0.00	0.01	0.02
d_M, Delay for Movement [s/veh]	7.25	0.00	0.00	0.00	8.84	8.64
Movement LOS	A	A	A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.02	0.02	0.00	0.00	0.06	0.06
95th-Percentile Queue Length [ft/ln]	0.52	0.52	0.00	0.00	1.61	1.61
d_A, Approach Delay [s/veh]	3.63		0.00		8.69	
Approach LOS	A		A		A	
d_I, Intersection Delay [s/veh]	4.10					
Intersection LOS	A					

**Intersection Level Of Service Report
Intersection 2: Bootlegger & 46th**

Control Type:	Two-way stop	Delay (sec / veh):	10.3
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.007

Intersection Setup

Name	Bootlegger Trail		Bootlegger Trail		46th Ave NE	
Approach	Northbound		Southbound		Eastbound	
Lane Configuration						
Turning Movement	Left	Thru	Thru	Right	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	1	0	0	0	0
Entry Pocket Length [ft]	100.00	600.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	70.00		70.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		No	

Volumes

Name	Bootlegger Trail		Bootlegger Trail		46th Ave NE	
Base Volume Input [veh/h]	25	55	135	5	5	45
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	4.30	9.10	1.70	0.00	0.00	1.60
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	25	55	135	5	5	45
Peak Hour Factor	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	7	15	37	1	1	12
Total Analysis Volume [veh/h]	27	60	147	5	5	49
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Free	Free	Stop
Flared Lane			No
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance			No
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.02	0.00	0.00	0.00	0.01	0.05
d_M, Delay for Movement [s/veh]	7.59	0.00	0.00	0.00	10.30	9.28
Movement LOS	A	A	A	A	B	A
95th-Percentile Queue Length [veh/ln]	0.06	0.00	0.00	0.00	0.20	0.20
95th-Percentile Queue Length [ft/ln]	1.46	0.00	0.00	0.00	4.91	4.91
d_A, Approach Delay [s/veh]	2.36		0.00		9.37	
Approach LOS	A		A		A	
d_I, Intersection Delay [s/veh]	2.43					
Intersection LOS	B					

**Intersection Level Of Service Report
Intersection 3: 36th & 2nd**

Control Type: Two-way stop
 Analysis Method: HCM 6th Edition
 Analysis Period: 15 minutes

Delay (sec / veh): 12.6
 Level Of Service: B
 Volume to Capacity (v/c): 0.080

Intersection Setup

Name	2nd St NE			2nd St NE			36th Ave NE			36th Ave NE		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration	+			+			+			+		
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	2nd St NE			2nd St NE			36th Ave NE			36th Ave NE		
Base Volume Input [veh/h]	5	45	35	45	155	15	5	25	15	40	15	15
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	2.90	0.00	1.90	0.00	0.00	0.00	0.00	1.80	0.00	25.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	5	45	35	45	155	15	5	25	15	40	15	15
Peak Hour Factor	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	1	12	10	12	42	4	1	7	4	11	4	4
Total Analysis Volume [veh/h]	5	49	38	49	168	16	5	27	16	43	16	16
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Priority Scheme	Free	Free	Stop	Stop
Flared Lane			No	No
Storage Area [veh]	0	0	0	0
Two-Stage Gap Acceptance			No	No
Number of Storage Spaces in Median	0	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.00	0.00	0.03	0.00	0.00	0.01	0.05	0.02	0.08	0.03	0.02
d_M, Delay for Movement [s/veh]	7.58	0.00	0.00	7.44	0.00	0.00	12.01	12.16	9.61	12.61	12.46	9.73
Movement LOS	A	A	A	A	A	A	B	B	A	B	B	A
95th-Percentile Queue Length [veh/ln]	0.01	0.01	0.01	0.10	0.10	0.10	0.25	0.25	0.25	0.43	0.43	0.43
95th-Percentile Queue Length [ft/ln]	0.27	0.27	0.27	2.49	2.49	2.49	6.27	6.27	6.27	10.81	10.81	10.81
d_A, Approach Delay [s/veh]	0.41			1.57			11.29			11.97		
Approach LOS	A			A			B			B		
d_I, Intersection Delay [s/veh]	4.11											
Intersection LOS	B											

**Intersection Level Of Service Report
Intersection 4: 36th & 5th**

Control Type:	Two-way stop	Delay (sec / veh):	10.6
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.008

Intersection Setup

Name	5th St NE		36th Ave NE		36th Ave NE	
Approach	Northbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Left	Right	Thru	Right	Left	Thru
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		No	

Volumes

Name	5th St NE		36th Ave NE		36th Ave NE	
Base Volume Input [veh/h]	5	25	160	30	20	80
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	5.00	0.70	0.00	0.00	7.30
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	5	25	160	30	20	80
Peak Hour Factor	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	1	7	43	8	5	22
Total Analysis Volume [veh/h]	5	27	174	33	22	87
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Stop	Free	Free
Flared Lane	No		
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance	No		
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.01	0.03	0.00	0.00	0.02	0.00
d_M, Delay for Movement [s/veh]	10.60	9.45	0.00	0.00	7.66	0.00
Movement LOS	B	A	A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.12	0.12	0.00	0.00	0.05	0.05
95th-Percentile Queue Length [ft/ln]	3.08	3.08	0.00	0.00	1.22	1.22
d_A, Approach Delay [s/veh]	9.63		0.00		1.55	
Approach LOS	A		A		A	
d_I, Intersection Delay [s/veh]	1.37					
Intersection LOS	B					

**Intersection Level Of Service Report
Intersection 5: 36th & 9th**

Control Type:	Two-way stop	Delay (sec / veh):	17.4
Analysis Method:	HCM 6th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.048

Intersection Setup

Name	9th St NE			9th St NE			36th Ave NE			36th Ave NE		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration	+			+			+			+		
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	No			No			No			No		

Volumes

Name	9th St NE			9th St NE			36th Ave NE			36th Ave NE		
Base Volume Input [veh/h]	15	40	40	10	100	15	10	205	35	50	85	5
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	20.00	0.00	0.00	0.00	2.70	11.00	0.00	0.50	7.10	4.40	7.10	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	15	40	40	10	100	15	10	205	35	50	85	5
Peak Hour Factor	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	4	11	11	3	27	4	3	56	10	14	23	1
Total Analysis Volume [veh/h]	16	43	43	11	109	16	11	223	38	54	92	5
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Priority Scheme	Stop	Stop	Free	Free
Flared Lane	No	No		
Storage Area [veh]	0	0	0	0
Two-Stage Gap Acceptance	No	No		
Number of Storage Spaces in Median	0	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.05	0.09	0.05	0.03	0.24	0.02	0.01	0.00	0.00	0.04	0.00	0.00
d_M, Delay for Movement [s/veh]	17.41	14.30	11.12	16.87	15.85	11.78	7.40	0.00	0.00	7.91	0.00	0.00
Movement LOS	C	B	B	C	C	B	A	A	A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.71	0.71	0.71	1.16	1.16	1.16	0.02	0.02	0.02	0.13	0.13	0.13
95th-Percentile Queue Length [ft/ln]	17.72	17.72	17.72	28.92	28.92	28.92	0.55	0.55	0.55	3.28	3.28	3.28
d_A, Approach Delay [s/veh]	13.44			15.45			0.30			2.83		
Approach LOS	B			C			A			A		
d_I, Intersection Delay [s/veh]	6.02											
Intersection LOS	C											

**Intersection Level Of Service Report
Intersection 6: Bootlegger & 36th**

Control Type:	Two-way stop	Delay (sec / veh):	13.5
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.049

Intersection Setup

Name	Bootlegger Trail		Bootlegger Trail		36th Ave NE	
Approach	Northbound		Southbound		Eastbound	
Lane Configuration	↵		↵		↵↵	
Turning Movement	Left	Thru	Thru	Right	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	1	0	0	0	1
Entry Pocket Length [ft]	100.00	250.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	45.00		45.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		No	

Volumes

Name	Bootlegger Trail		Bootlegger Trail		36th Ave NE	
Base Volume Input [veh/h]	90	65	245	50	20	280
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	11.60	6.70	0.00	6.50	3.60	0.70
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	90	65	245	50	20	280
Peak Hour Factor	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	24	18	67	14	5	76
Total Analysis Volume [veh/h]	98	71	266	54	22	304
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Free	Free	Stop
Flared Lane			
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance			No
Number of Storage Spaces in Median	0	0	1




Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.08	0.00	0.00	0.00	0.05	0.41
d_M, Delay for Movement [s/veh]	8.30	0.00	0.00	0.00	13.48	13.04
Movement LOS	A	A	A	A	B	B
95th-Percentile Queue Length [veh/ln]	0.27	0.00	0.00	0.00	0.15	1.98
95th-Percentile Queue Length [ft/ln]	6.73	0.00	0.00	0.00	3.87	49.44
d_A, Approach Delay [s/veh]	4.82		0.00		13.07	
Approach LOS	A		A		B	
d_I, Intersection Delay [s/veh]	6.23					
Intersection LOS	B					

**Intersection Level Of Service Report
Intersection 7: Skyline & 6th**

Control Type:	Two-way stop	Delay (sec / veh):	9.5
Analysis Method:	HCM 6th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.032

Intersection Setup

Name	6th St NW		6th St NW		Skyline Dr NW	
Approach	Northbound		Southbound		Westbound	
Lane Configuration						
Turning Movement	Thru	Right	Left	Thru	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		No	

Volumes

Name	6th St NW		6th St NW		Skyline Dr NW	
Base Volume Input [veh/h]	45	20	5	80	25	5
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	4.50	1.70	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	45	20	5	80	25	5
Peak Hour Factor	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	12	5	1	22	7	1
Total Analysis Volume [veh/h]	49	22	5	87	27	5
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Free	Free	Stop
Flared Lane			No
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance			No
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.00	0.00	0.00	0.03	0.00
d_M, Delay for Movement [s/veh]	0.00	0.00	7.34	0.00	9.49	8.72
Movement LOS	A	A	A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.00	0.00	0.01	0.01	0.12	0.12
95th-Percentile Queue Length [ft/ln]	0.00	0.00	0.24	0.24	2.91	2.91
d_A, Approach Delay [s/veh]	0.00		0.40		9.37	
Approach LOS	A		A		A	
d_I, Intersection Delay [s/veh]	1.73					
Intersection LOS	A					

**Intersection Level Of Service Report
Intersection 8: Skyline & Division**

Control Type:	Two-way stop	Delay (sec / veh):	8.9
Analysis Method:	HCM 6th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.012

Intersection Setup

Name	Division Rd		Skyline Dr NW		Skyline Dr NE	
Approach	Northbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Left	Right	Thru	Right	Left	Thru
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		No	

Volumes

Name	Division Rd		Skyline Dr NW		Skyline Dr NE	
Base Volume Input [veh/h]	10	5	15	35	10	15
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	2.80	0.00	0.00	1.60
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	10	5	15	35	10	15
Peak Hour Factor	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	3	1	4	10	3	4
Total Analysis Volume [veh/h]	11	5	16	38	11	16
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Stop	Free	Free
Flared Lane	No		
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance	No		
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.01	0.00	0.00	0.00	0.01	0.00
d_M, Delay for Movement [s/veh]	8.94	8.51	0.00	0.00	7.32	0.00
Movement LOS	A	A	A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.05	0.05	0.00	0.00	0.02	0.02
95th-Percentile Queue Length [ft/ln]	1.27	1.27	0.00	0.00	0.53	0.53
d_A, Approach Delay [s/veh]	8.80		0.00		2.98	
Approach LOS	A		A		A	
d_I, Intersection Delay [s/veh]	2.28					
Intersection LOS	A					

**Intersection Level Of Service Report
Intersection 9: Skyline & 2nd**

Control Type: Two-way stop
 Analysis Method: HCM 6th Edition
 Analysis Period: 15 minutes

Delay (sec / veh): 11.8
 Level Of Service: B
 Volume to Capacity (v/c): 0.020

Intersection Setup

Name	2nd St NE			2nd St NE			Skyline Dr NE			Skyline Dr NE		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration	+			+			+			+		
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	No			No			No			No		

Volumes

Name	2nd St NE			2nd St NE			Skyline Dr NE			Skyline Dr NE		
Base Volume Input [veh/h]	5	80	5	5	235	15	10	10	5	5	10	10
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	4.60	0.00	0.00	2.10	1.80	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	5	80	5	5	235	15	10	10	5	5	10	10
Peak Hour Factor	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	1	22	1	1	64	4	3	3	1	1	3	3
Total Analysis Volume [veh/h]	5	87	5	5	255	16	11	11	5	5	11	11
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Priority Scheme	Free	Free	Stop	Stop
Flared Lane			No	No
Storage Area [veh]	0	0	0	0
Two-Stage Gap Acceptance			No	No
Number of Storage Spaces in Median	0	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.00	0.00	0.00	0.00	0.00	0.02	0.02	0.01	0.01	0.02	0.01
d_M, Delay for Movement [s/veh]	7.77	0.00	0.00	7.38	0.00	0.00	11.73	11.78	9.91	11.59	11.76	8.92
Movement LOS	A	A	A	A	A	A	B	B	A	B	B	A
95th-Percentile Queue Length [veh/ln]	0.01	0.01	0.01	0.01	0.01	0.01	0.14	0.14	0.14	0.13	0.13	0.13
95th-Percentile Queue Length [ft/ln]	0.29	0.29	0.29	0.25	0.25	0.25	3.60	3.60	3.60	3.13	3.13	3.13
d_A, Approach Delay [s/veh]	0.40			0.13			11.41			10.57		
Approach LOS	A			A			B			B		
d_I, Intersection Delay [s/veh]	1.57											
Intersection LOS	B											

**Intersection Level Of Service Report
Intersection 10: Skyline & 5th**

Control Type: Two-way stop
 Analysis Method: HCM 6th Edition
 Analysis Period: 15 minutes

Delay (sec / veh): 9.9
 Level Of Service: A
 Volume to Capacity (v/c): 0.015

Intersection Setup

Name	5th St NE			5th St NE			Skyline Dr NE			Skyline Dr NE		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration	+			+			+			+		
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	No			No			No			No		

Volumes

Name	5th St NE			5th St NE			Skyline Dr NE			Skyline Dr NE		
Base Volume Input [veh/h]	5	30	5	5	65	5	5	10	5	10	10	5
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	9.50	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	5	30	5	5	65	5	5	10	5	10	10	5
Peak Hour Factor	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	1	8	1	1	18	1	1	3	1	3	3	1
Total Analysis Volume [veh/h]	5	33	5	5	71	5	5	11	5	11	11	5
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Priority Scheme	Free	Free	Stop	Stop
Flared Lane			No	No
Storage Area [veh]	0	0	0	0
Two-Stage Gap Acceptance			No	No
Number of Storage Spaces in Median	0	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.01	0.01	0.01	0.01	0.00
d_M, Delay for Movement [s/veh]	7.35	0.00	0.00	7.28	0.00	0.00	9.50	9.87	8.74	9.53	9.90	8.60
Movement LOS	A	A	A	A	A	A	A	A	A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.01	0.01	0.01	0.01	0.01	0.01	0.08	0.08	0.08	0.10	0.10	0.10
95th-Percentile Queue Length [ft/ln]	0.24	0.24	0.24	0.24	0.24	0.24	1.97	1.97	1.97	2.53	2.53	2.53
d_A, Approach Delay [s/veh]	0.85			0.45			9.51			9.51		
Approach LOS	A			A			A			A		
d_I, Intersection Delay [s/veh]	3.08											
Intersection LOS	A											

**Intersection Level Of Service Report
Intersection 11: 8th & Sacajawea**

Control Type: Two-way stop
 Analysis Method: HCM 6th Edition
 Analysis Period: 15 minutes

Delay (sec / veh): 14.5
 Level Of Service: B
 Volume to Capacity (v/c): 0.011

Intersection Setup

Name	8th St NE			8th St NE			Sacajawea Dr			Sacajawea Dr		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration	+			+			+			+		
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	No			Yes			No			Yes		

Volumes

Name	8th St NE			8th St NE			Sacajawea Dr			Sacajawea Dr		
Base Volume Input [veh/h]	20	110	5	5	265	65	45	5	70	5	5	5
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	4.80	0.00	0.00	2.60	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	20	110	5	5	265	65	45	5	70	5	5	5
Peak Hour Factor	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	5	30	1	1	72	18	12	1	19	1	1	1
Total Analysis Volume [veh/h]	22	120	5	5	288	71	49	5	76	5	5	5
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Priority Scheme	Free	Free	Stop	Stop
Flared Lane			No	No
Storage Area [veh]	0	0	0	0
Two-Stage Gap Acceptance			No	No
Number of Storage Spaces in Median	0	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.02	0.00	0.00	0.00	0.00	0.00	0.11	0.01	0.11	0.01	0.01	0.01
d_M, Delay for Movement [s/veh]	8.03	0.00	0.00	7.45	0.00	0.00	14.47	14.51	11.72	14.28	13.33	9.07
Movement LOS	A	A	A	A	A	A	B	B	B	B	B	A
95th-Percentile Queue Length [veh/ln]	0.06	0.06	0.06	0.01	0.01	0.01	0.84	0.84	0.84	0.09	0.09	0.09
95th-Percentile Queue Length [ft/ln]	1.39	1.39	1.39	0.26	0.26	0.26	21.01	21.01	21.01	2.26	2.26	2.26
d_A, Approach Delay [s/veh]	1.20			0.10			12.86			12.23		
Approach LOS	A			A			B			B		
d_I, Intersection Delay [s/veh]	3.15											
Intersection LOS	B											

**Intersection Level Of Service Report
Intersection 12: 9th & 32nd**

Control Type: Two-way stop
 Analysis Method: HCM 6th Edition
 Analysis Period: 15 minutes

Delay (sec / veh): 11.3
 Level Of Service: B
 Volume to Capacity (v/c): 0.009

Intersection Setup

Name	9th St NE		9th St NE		32nd Ave NE	
Approach	Northbound		Southbound		Eastbound	
Lane Configuration	↶		↷		↷	
Turning Movement	Left	Thru	Thru	Right	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		No	

Volumes

Name	9th St NE		9th St NE		32nd Ave NE	
Base Volume Input [veh/h]	5	125	255	5	5	15
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	4.10	2.90	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	5	125	255	5	5	15
Peak Hour Factor	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	1	34	69	1	1	4
Total Analysis Volume [veh/h]	5	136	277	5	5	16
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Free	Free	Stop
Flared Lane			No
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance			No
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.00	0.00	0.00	0.01	0.02
d_M, Delay for Movement [s/veh]	7.80	0.00	0.00	0.00	11.29	9.86
Movement LOS	A	A	A	A	B	A
95th-Percentile Queue Length [veh/ln]	0.01	0.01	0.00	0.00	0.09	0.09
95th-Percentile Queue Length [ft/ln]	0.29	0.29	0.00	0.00	2.27	2.27
d_A, Approach Delay [s/veh]	0.28		0.00		10.20	
Approach LOS	A		A		B	
d_I, Intersection Delay [s/veh]	0.57					
Intersection LOS	B					

**Intersection Level Of Service Report
Intersection 13: 9th & Skyline**

Control Type: Two-way stop
 Analysis Method: HCM 6th Edition
 Analysis Period: 15 minutes

Delay (sec / veh): 9.5
 Level Of Service: A
 Volume to Capacity (v/c): 0.006

Intersection Setup

Name	9th St NE			9th St NE			Skyline Dr NE			Skyline Dr NE		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration	+			+			+			+		
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	No			No			No			No		

Volumes

Name	9th St NE			9th St NE			Skyline Dr NE			Skyline Dr NE		
Base Volume Input [veh/h]	5	5	5	5	5	0	0	20	5	5	30	5
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	5	5	5	5	5	0	0	20	5	5	30	5
Peak Hour Factor	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	1	1	1	1	1	0	0	5	1	1	8	1
Total Analysis Volume [veh/h]	5	5	5	5	5	0	0	22	5	5	33	5
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Priority Scheme	Stop	Stop	Free	Free
Flared Lane	No	No		
Storage Area [veh]	0	0	0	0
Two-Stage Gap Acceptance	No	No		
Number of Storage Spaces in Median	0	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.01	0.01	0.00	0.01	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00
d_M, Delay for Movement [s/veh]	8.99	9.46	8.47	9.01	9.44	8.50	7.27	0.00	0.00	7.26	0.00	0.00
Movement LOS	A	A	A	A	A	A	A	A	A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.05	0.05	0.05	0.04	0.04	0.04	0.00	0.00	0.00	0.01	0.01	0.01
95th-Percentile Queue Length [ft/ln]	1.24	1.24	1.24	0.88	0.88	0.88	0.00	0.00	0.00	0.24	0.24	0.24
d_A, Approach Delay [s/veh]	8.97			9.23			0.00			0.84		
Approach LOS	A			A			A			A		
d_I, Intersection Delay [s/veh]	2.77											
Intersection LOS	A											

North Great Falls Transportation Study

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10/7/2020

Intersection Analysis Summary




ID	Intersection Name	Control Type	Method	Worst Mvmt	V/C	Delay (s/veh)	LOS
1	6th & Vinyard	Two-way stop	HCM 6th Edition	EB Left	0.005	8.8	A
2	Bootlegger & 46th	Two-way stop	HCM 6th Edition	EB Left	0.007	10.2	B
3	36th & 2nd	Two-way stop	HCM 6th Edition	WB Left	0.096	12.9	B
4	36th & 5th	Two-way stop	HCM 6th Edition	NB Left	0.037	11.5	B
5	36th & 9th	Two-way stop	HCM 6th Edition	NB Left	0.117	21.3	C
6	Bootlegger & 36th	Two-way stop	HCM 6th Edition	EB Left	0.107	31.8	D
7	Skyline & 6th	Two-way stop	HCM 6th Edition	WB Left	0.029	9.8	A
8	Skyline & Division	Two-way stop	HCM 6th Edition	NB Left	0.028	8.9	A
9	Skyline & 2nd	Two-way stop	HCM 6th Edition	WB Thru	0.020	11.9	B
10	Skyline & 5th	Two-way stop	HCM 6th Edition	WB Thru	0.021	10.0	B
11	8th & Sacajawea	Two-way stop	HCM 6th Edition	EB Thru	0.011	14.1	B
12	9th & 32nd	Two-way stop	HCM 6th Edition	EB Left	0.008	11.0	B
13	9th & Skyline	Two-way stop	HCM 6th Edition	NB Thru	0.006	9.3	A

V/C, Delay, LOS: For two-way stop, these values are taken from the movement with the worst (highest) delay value. For all other control types, they are taken for the whole intersection.

**Intersection Level Of Service Report
Intersection 1: 6th & Vinyard**

Control Type:	Two-way stop	Delay (sec / veh):	8.8
Analysis Method:	HCM 6th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.005

Intersection Setup

Name	6th St NW		Vinyard Rd		Vinyard Rd	
Approach	Northbound		Southbound		Eastbound	
Lane Configuration						
Turning Movement	Left	Thru	Thru	Right	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		No	

Volumes

Name	6th St NW		Vinyard Rd		Vinyard Rd	
Base Volume Input [veh/h]	10	10	10	5	5	20
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	10	10	10	5	5	20
Peak Hour Factor	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	3	3	3	1	1	5
Total Analysis Volume [veh/h]	11	11	11	5	5	22
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Free	Free	Stop
Flared Lane			No
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance			No
Number of Storage Spaces in Median	0	0	0




Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.01	0.00	0.00	0.00	0.01	0.02
d_M, Delay for Movement [s/veh]	7.24	0.00	0.00	0.00	8.83	8.45
Movement LOS	A	A	A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.02	0.02	0.00	0.00	0.08	0.08
95th-Percentile Queue Length [ft/ln]	0.51	0.51	0.00	0.00	1.98	1.98
d_A, Approach Delay [s/veh]	3.62		0.00		8.52	
Approach LOS	A		A		A	
d_I, Intersection Delay [s/veh]	4.76					
Intersection LOS	A					

**Intersection Level Of Service Report
Intersection 2: Bootlegger & 46th**

Control Type:	Two-way stop	Delay (sec / veh):	10.2
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.007

Intersection Setup

Name	Bootlegger Trail		Bootlegger Trail		46th Ave NE	
Approach	Northbound		Southbound		Eastbound	
Lane Configuration						
Turning Movement	Left	Thru	Thru	Right	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	1	0	0	0	0
Entry Pocket Length [ft]	100.00	600.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	70.00		70.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		No	

Volumes

Name	Bootlegger Trail		Bootlegger Trail		46th Ave NE	
Base Volume Input [veh/h]	30	120	55	5	5	30
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	30	120	55	5	5	30
Peak Hour Factor	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	8	33	15	1	1	8
Total Analysis Volume [veh/h]	33	130	60	5	5	33
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Free	Free	Stop
Flared Lane			No
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance			No
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.02	0.00	0.00	0.00	0.01	0.03
d_M, Delay for Movement [s/veh]	7.37	0.00	0.00	0.00	10.16	8.73
Movement LOS	A	A	A	A	B	A
95th-Percentile Queue Length [veh/ln]	0.07	0.00	0.00	0.00	0.12	0.12
95th-Percentile Queue Length [ft/ln]	1.63	0.00	0.00	0.00	3.10	3.10
d_A, Approach Delay [s/veh]	1.49		0.00		8.92	
Approach LOS	A		A		A	
d_I, Intersection Delay [s/veh]	2.19					
Intersection LOS	B					

**Intersection Level Of Service Report
Intersection 3: 36th & 2nd**

Control Type: Two-way stop
 Analysis Method: HCM 6th Edition
 Analysis Period: 15 minutes

Delay (sec / veh): 12.9
 Level Of Service: B
 Volume to Capacity (v/c): 0.096

Intersection Setup

Name	2nd St NE			2nd St NE			36th Ave NE			36th Ave NE		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration	+			+			+			+		
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	2nd St NE			2nd St NE			36th Ave NE			36th Ave NE		
Base Volume Input [veh/h]	20	140	25	20	75	5	5	25	5	50	40	35
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	1.00	0.00	0.00	0.00	100.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	20	140	25	20	75	5	5	25	5	50	40	35
Peak Hour Factor	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	5	38	7	5	20	1	1	7	1	14	11	10
Total Analysis Volume [veh/h]	22	152	27	22	82	5	5	27	5	54	43	38
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Priority Scheme	Free	Free	Stop	Stop
Flared Lane			No	No
Storage Area [veh]	0	0	0	0
Two-Stage Gap Acceptance			No	No
Number of Storage Spaces in Median	0	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.01	0.00	0.00	0.02	0.00	0.00	0.01	0.05	0.01	0.10	0.08	0.04
d_M, Delay for Movement [s/veh]	7.40	0.00	0.00	7.60	0.00	0.00	12.44	11.87	9.09	12.92	12.92	10.63
Movement LOS	A	A	A	A	A	A	B	B	A	B	B	B
95th-Percentile Queue Length [veh/ln]	0.04	0.04	0.04	0.05	0.05	0.05	0.20	0.20	0.20	0.81	0.81	0.81
95th-Percentile Queue Length [ft/ln]	1.10	1.10	1.10	1.19	1.19	1.19	5.05	5.05	5.05	20.22	20.22	20.22
d_A, Approach Delay [s/veh]	0.81			1.53			11.57			12.28		
Approach LOS	A			A			B			B		
d_I, Intersection Delay [s/veh]	5.01											
Intersection LOS	B											

**Intersection Level Of Service Report
Intersection 4: 36th & 5th**

Control Type: Two-way stop
 Analysis Method: HCM 6th Edition
 Analysis Period: 15 minutes

Delay (sec / veh): 11.5
 Level Of Service: B
 Volume to Capacity (v/c): 0.037

Intersection Setup

Name	5th St NE		36th Ave NE		36th Ave NE	
Approach	Northbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Left	Right	Thru	Right	Left	Thru
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		No	

Volumes

Name	5th St NE		36th Ave NE		36th Ave NE	
Base Volume Input [veh/h]	20	30	100	10	30	210
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	20	30	100	10	30	210
Peak Hour Factor	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	5	8	27	3	8	57
Total Analysis Volume [veh/h]	22	33	109	11	33	228
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Stop	Free	Free
Flared Lane	No		
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance	No		
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.04	0.03	0.00	0.00	0.02	0.00
d_M, Delay for Movement [s/veh]	11.50	9.19	0.00	0.00	7.49	0.00
Movement LOS	B	A	A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.23	0.23	0.00	0.00	0.07	0.07
95th-Percentile Queue Length [ft/ln]	5.84	5.84	0.00	0.00	1.71	1.71
d_A, Approach Delay [s/veh]	10.11		0.00		0.95	
Approach LOS	B		A		A	
d_I, Intersection Delay [s/veh]	1.84					
Intersection LOS	B					

**Intersection Level Of Service Report
Intersection 5: 36th & 9th**

Control Type:	Two-way stop	Delay (sec / veh):	21.3
Analysis Method:	HCM 6th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.117

Intersection Setup

Name	9th St NE			9th St NE			36th Ave NE			36th Ave NE		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration	+			+			+			+		
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	No			No			No			No		

Volumes

Name	9th St NE			9th St NE			36th Ave NE			36th Ave NE		
Base Volume Input [veh/h]	35	90	15	5	55	25	45	105	15	35	240	10
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	6.30	0.00	0.00	0.00	4.20	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	35	90	15	5	55	25	45	105	15	35	240	10
Peak Hour Factor	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	10	24	4	1	15	7	12	29	4	10	65	3
Total Analysis Volume [veh/h]	38	98	16	5	60	27	49	114	16	38	261	11
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Priority Scheme	Stop	Stop	Free	Free
Flared Lane	No	No		
Storage Area [veh]	0	0	0	0
Two-Stage Gap Acceptance	No	No		
Number of Storage Spaces in Median	0	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.12	0.24	0.02	0.02	0.15	0.03	0.04	0.00	0.00	0.03	0.00	0.00
d_M, Delay for Movement [s/veh]	21.30	19.15	14.11	18.75	16.03	11.62	7.87	0.00	0.00	7.52	0.00	0.00
Movement LOS	C	C	B	C	C	B	A	A	A	A	A	A
95th-Percentile Queue Length [veh/ln]	1.71	1.71	1.71	0.75	0.75	0.75	0.12	0.12	0.12	0.08	0.08	0.08
95th-Percentile Queue Length [ft/ln]	42.83	42.83	42.83	18.66	18.66	18.66	2.93	2.93	2.93	1.99	1.99	1.99
d_A, Approach Delay [s/veh]	19.16			14.88			2.15			0.92		
Approach LOS	C			B			A			A		
d_I, Intersection Delay [s/veh]	6.76											
Intersection LOS	C											

**Intersection Level Of Service Report
Intersection 6: Bootlegger & 36th**

Control Type:	Two-way stop	Delay (sec / veh):	31.8
Analysis Method:	HCM 6th Edition	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.107

Intersection Setup

Name	Bootlegger Trail		Bootlegger Trail		36th Ave NE	
Approach	Northbound		Southbound		Eastbound	
Lane Configuration	↵		↵		↵↶	
Turning Movement	Left	Thru	Thru	Right	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	1	0	0	0	1
Entry Pocket Length [ft]	100.00	250.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	45.00		45.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		No	

Volumes

Name	Bootlegger Trail		Bootlegger Trail		36th Ave NE	
Base Volume Input [veh/h]	365	235	125	20	15	135
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.80
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	365	235	125	20	15	135
Peak Hour Factor	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	99	64	34	5	4	37
Total Analysis Volume [veh/h]	397	255	136	22	16	147
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Free	Free	Stop
Flared Lane			
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance			No
Number of Storage Spaces in Median	0	0	1

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.28	0.00	0.00	0.00	0.11	0.16
d_M, Delay for Movement [s/veh]	8.47	0.00	0.00	0.00	31.83	9.76
Movement LOS	A	A	A	A	D	A
95th-Percentile Queue Length [veh/ln]	1.14	0.00	0.00	0.00	0.35	0.58
95th-Percentile Queue Length [ft/ln]	28.46	0.00	0.00	0.00	8.77	14.49
d_A, Approach Delay [s/veh]	5.16		0.00		11.93	
Approach LOS	A		A		B	
d_I, Intersection Delay [s/veh]	5.45					
Intersection LOS	D					

**Intersection Level Of Service Report
Intersection 7: Skyline & 6th**

Control Type:	Two-way stop	Delay (sec / veh):	9.8
Analysis Method:	HCM 6th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.029

Intersection Setup

Name	6th St NW		6th St NW		Skyline Dr NW	
Approach	Northbound		Southbound		Westbound	
Lane Configuration	↩		↪		↩	
Turning Movement	Thru	Right	Left	Thru	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		No	

Volumes

Name	6th St NW		6th St NW		Skyline Dr NW	
Base Volume Input [veh/h]	105	30	5	70	20	5
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	1.90	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	105	30	5	70	20	5
Peak Hour Factor	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	29	8	1	19	5	1
Total Analysis Volume [veh/h]	114	33	5	76	22	5
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Free	Free	Stop
Flared Lane			No
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance			No
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.00	0.00	0.00	0.03	0.01
d_M, Delay for Movement [s/veh]	0.00	0.00	7.50	0.00	9.84	9.05
Movement LOS	A	A	A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.00	0.00	0.01	0.01	0.11	0.11
95th-Percentile Queue Length [ft/ln]	0.00	0.00	0.26	0.26	2.64	2.64
d_A, Approach Delay [s/veh]	0.00		0.46		9.69	
Approach LOS	A		A		A	
d_I, Intersection Delay [s/veh]	1.17					
Intersection LOS	A					

**Intersection Level Of Service Report
Intersection 8: Skyline & Division**

Control Type:	Two-way stop	Delay (sec / veh):	8.9
Analysis Method:	HCM 6th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.028

Intersection Setup

Name	Division Rd		Skyline Dr NW		Skyline Dr NE	
Approach	Northbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Left	Right	Thru	Right	Left	Thru
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		No	

Volumes

Name	Division Rd		Skyline Dr NW		Skyline Dr NE	
Base Volume Input [veh/h]	25	10	10	20	5	20
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	1.80
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	25	10	10	20	5	20
Peak Hour Factor	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	7	3	3	5	1	5
Total Analysis Volume [veh/h]	27	11	11	22	5	22
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Stop	Free	Free
Flared Lane	No		
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance	No		
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.03	0.01	0.00	0.00	0.00	0.00
d_M, Delay for Movement [s/veh]	8.91	8.54	0.00	0.00	7.27	0.00
Movement LOS	A	A	A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.12	0.12	0.00	0.00	0.01	0.01
95th-Percentile Queue Length [ft/ln]	3.01	3.01	0.00	0.00	0.24	0.24
d_A, Approach Delay [s/veh]	8.80		0.00		1.35	
Approach LOS	A		A		A	
d_I, Intersection Delay [s/veh]	3.78					
Intersection LOS	A					

**Intersection Level Of Service Report
Intersection 9: Skyline & 2nd**

Control Type: Two-way stop
 Analysis Method: HCM 6th Edition
 Analysis Period: 15 minutes

Delay (sec / veh): 11.9
 Level Of Service: B
 Volume to Capacity (v/c): 0.020

Intersection Setup

Name	2nd St NE			2nd St NE			Skyline Dr NE			Skyline Dr NE		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration	+			+			+			+		
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	No			No			No			No		

Volumes

Name	2nd St NE			2nd St NE			Skyline Dr NE			Skyline Dr NE		
Base Volume Input [veh/h]	5	200	10	5	120	15	5	15	5	5	10	15
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	1.90	0.00	0.00	2.10	2.10	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	5	200	10	5	120	15	5	15	5	5	10	15
Peak Hour Factor	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	1	54	3	1	33	4	1	4	1	1	3	4
Total Analysis Volume [veh/h]	5	217	11	5	130	16	5	16	5	5	11	16
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Priority Scheme	Free	Free	Stop	Stop
Flared Lane			No	No
Storage Area [veh]	0	0	0	0
Two-Stage Gap Acceptance			No	No
Number of Storage Spaces in Median	0	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.03	0.01	0.01	0.02	0.02
d_M, Delay for Movement [s/veh]	7.49	0.00	0.00	7.67	0.00	0.00	11.87	11.86	9.21	11.79	11.88	9.66
Movement LOS	A	A	A	A	A	A	B	B	A	B	B	A
95th-Percentile Queue Length [veh/ln]	0.01	0.01	0.01	0.01	0.01	0.01	0.14	0.14	0.14	0.15	0.15	0.15
95th-Percentile Queue Length [ft/ln]	0.26	0.26	0.26	0.28	0.28	0.28	3.43	3.43	3.43	3.83	3.83	3.83
d_A, Approach Delay [s/veh]	0.16			0.25			11.35			10.76		
Approach LOS	A			A			B			B		
d_I, Intersection Delay [s/veh]	1.62											
Intersection LOS	B											

**Intersection Level Of Service Report
Intersection 10: Skyline & 5th**

Control Type: Two-way stop
 Analysis Method: HCM 6th Edition
 Analysis Period: 15 minutes

Delay (sec / veh): 10.0
 Level Of Service: B
 Volume to Capacity (v/c): 0.021

Intersection Setup

Name	5th St NE			5th St NE			Skyline Dr NE			Skyline Dr NE		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration	+			+			+			+		
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	No			No			No			No		

Volumes

Name	5th St NE			5th St NE			Skyline Dr NE			Skyline Dr NE		
Base Volume Input [veh/h]	5	75	10	5	30	5	5	10	5	10	15	10
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	5	75	10	5	30	5	5	10	5	10	15	10
Peak Hour Factor	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	1	20	3	1	8	1	1	3	1	3	4	3
Total Analysis Volume [veh/h]	5	82	11	5	33	5	5	11	5	11	16	11
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Priority Scheme	Free	Free	Stop	Stop
Flared Lane			No	No
Storage Area [veh]	0	0	0	0
Two-Stage Gap Acceptance			No	No
Number of Storage Spaces in Median	0	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.01	0.00	0.01	0.02	0.01
d_M, Delay for Movement [s/veh]	7.28	0.00	0.00	7.39	0.00	0.00	9.69	9.97	8.57	9.69	10.05	8.90
Movement LOS	A	A	A	A	A	A	A	A	A	A	B	A
95th-Percentile Queue Length [veh/ln]	0.01	0.01	0.01	0.01	0.01	0.01	0.08	0.08	0.08	0.15	0.15	0.15
95th-Percentile Queue Length [ft/ln]	0.24	0.24	0.24	0.25	0.25	0.25	2.00	2.00	2.00	3.65	3.65	3.65
d_A, Approach Delay [s/veh]	0.37			0.86			9.57			9.61		
Approach LOS	A			A			A			A		
d_I, Intersection Delay [s/veh]	3.20											
Intersection LOS	B											

**Intersection Level Of Service Report
Intersection 11: 8th & Sacajawea**

Control Type:	Two-way stop	Delay (sec / veh):	14.1
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.011

Intersection Setup

Name	8th St NE			8th St NE			Sacajawea Dr			Sacajawea Dr		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration	+			+			+			+		
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	No			Yes			No			Yes		

Volumes

Name	8th St NE			8th St NE			Sacajawea Dr			Sacajawea Dr		
Base Volume Input [veh/h]	30	275	10	5	130	25	30	5	15	5	5	5
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	1.00	0.00	0.00	3.20	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	30	275	10	5	130	25	30	5	15	5	5	5
Peak Hour Factor	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	8	75	3	1	35	7	8	1	4	1	1	1
Total Analysis Volume [veh/h]	33	299	11	5	141	27	33	5	16	5	5	5
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Priority Scheme	Free	Free	Stop	Stop
Flared Lane			No	No
Storage Area [veh]	0	0	0	0
Two-Stage Gap Acceptance			No	No
Number of Storage Spaces in Median	0	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.02	0.00	0.00	0.00	0.00	0.00	0.08	0.01	0.02	0.01	0.01	0.01
d_M, Delay for Movement [s/veh]	7.59	0.00	0.00	7.86	0.00	0.00	14.04	14.06	9.83	13.61	13.56	10.09
Movement LOS	A	A	A	A	A	A	B	B	A	B	B	B
95th-Percentile Queue Length [veh/ln]	0.07	0.07	0.07	0.01	0.01	0.01	0.35	0.35	0.35	0.09	0.09	0.09
95th-Percentile Queue Length [ft/ln]	1.78	1.78	1.78	0.30	0.30	0.30	8.72	8.72	8.72	2.31	2.31	2.31
d_A, Approach Delay [s/veh]	0.73			0.23			12.79			12.42		
Approach LOS	A			A			B			B		
d_I, Intersection Delay [s/veh]	1.99											
Intersection LOS	B											

**Intersection Level Of Service Report
Intersection 12: 9th & 32nd**

Control Type:	Two-way stop	Delay (sec / veh):	11.0
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.008

Intersection Setup

Name	9th St NE		9th St NE		32nd Ave NE	
Approach	Northbound		Southbound		Eastbound	
Lane Configuration	↶		↷		↷	
Turning Movement	Left	Thru	Thru	Right	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		No	

Volumes

Name	9th St NE		9th St NE		32nd Ave NE	
Base Volume Input [veh/h]	15	215	110	5	5	10
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	1.30	3.70	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	15	215	110	5	5	10
Peak Hour Factor	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	4	58	30	1	1	3
Total Analysis Volume [veh/h]	16	234	120	5	5	11
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Free	Free	Stop
Flared Lane			No
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance			No
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.01	0.00	0.00	0.00	0.01	0.01
d_M, Delay for Movement [s/veh]	7.47	0.00	0.00	0.00	10.98	8.95
Movement LOS	A	A	A	A	B	A
95th-Percentile Queue Length [veh/ln]	0.03	0.03	0.00	0.00	0.06	0.06
95th-Percentile Queue Length [ft/ln]	0.82	0.82	0.00	0.00	1.53	1.53
d_A, Approach Delay [s/veh]	0.48		0.00		9.58	
Approach LOS	A		A		A	
d_I, Intersection Delay [s/veh]	0.70					
Intersection LOS	B					

**Intersection Level Of Service Report
Intersection 13: 9th & Skyline**

Control Type: Two-way stop
 Analysis Method: HCM 6th Edition
 Analysis Period: 15 minutes

Delay (sec / veh): 9.3
 Level Of Service: A
 Volume to Capacity (v/c): 0.006

Intersection Setup

Name	9th St NE			9th St NE			Skyline Dr NE			Skyline Dr NE		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration	+			+			+			+		
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	No			No			No			No		

Volumes

Name	9th St NE			9th St NE			Skyline Dr NE			Skyline Dr NE		
Base Volume Input [veh/h]	5	5	5	5	5	0	0	25	5	5	5	5
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	5	5	5	5	5	0	0	25	5	5	5	5
Peak Hour Factor	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	1	1	1	1	1	0	0	7	1	1	1	1
Total Analysis Volume [veh/h]	5	5	5	5	5	0	0	27	5	5	5	5
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Priority Scheme	Stop	Stop	Free	Free
Flared Lane	No	No		
Storage Area [veh]	0	0	0	0
Two-Stage Gap Acceptance	No	No		
Number of Storage Spaces in Median	0	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.01	0.01	0.00	0.01	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00
d_M, Delay for Movement [s/veh]	8.86	9.33	8.49	8.87	9.32	8.38	7.22	0.00	0.00	7.27	0.00	0.00
Movement LOS	A	A	A	A	A	A	A	A	A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.05	0.05	0.05	0.03	0.03	0.03	0.00	0.00	0.00	0.01	0.01	0.01
95th-Percentile Queue Length [ft/ln]	1.22	1.22	1.22	0.85	0.85	0.85	0.00	0.00	0.00	0.24	0.24	0.24
d_A, Approach Delay [s/veh]	8.89			9.09			0.00			2.42		
Approach LOS	A			A			A			A		
d_I, Intersection Delay [s/veh]	3.62											
Intersection LOS	A											

North Great Falls Transportation Study

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Scenario 23 2040 AM Scenario 9

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10/7/2020

Intersection Analysis Summary

ID	Intersection Name	Control Type	Method	Worst Mvmt	V/C	Delay (s/veh)	LOS
1	6th & Vinyard	Two-way stop	HCM 6th Edition	EB Left	0.005	8.8	A
2	Bootlegger & 46th	Two-way stop	HCM 6th Edition	EB Left	0.007	10.3	B
3	36th & 2nd	Two-way stop	HCM 6th Edition	WB Left	0.089	12.3	B
4	36th & 5th	Two-way stop	HCM 6th Edition	NB Left	0.008	10.9	B
5	36th & 9th	Two-way stop	HCM 6th Edition	NB Left	0.055	19.5	C
6	Bootlegger & 36th	Two-way stop	HCM 6th Edition	EB Left	0.048	13.3	B
7	Skyline & 6th	Two-way stop	HCM 6th Edition	WB Left	0.005	9.0	A
8	Skyline & Division	Two-way stop	HCM 6th Edition	NB Left	0.012	8.9	A
9	Skyline & 2nd	Two-way stop	HCM 6th Edition	WB Thru	0.020	11.9	B
10	Skyline & 5th	Two-way stop	HCM 6th Edition	WB Thru	0.015	9.9	A
11	8th & Sacajawea	Two-way stop	HCM 6th Edition	EB Thru	0.011	14.6	B
12	9th & 32nd	Two-way stop	HCM 6th Edition	EB Left	0.009	11.4	B
13	9th & Skyline	Two-way stop	HCM 6th Edition	NB Thru	0.006	9.5	A

V/C, Delay, LOS: For two-way stop, these values are taken from the movement with the worst (highest) delay value. For all other control types, they are taken for the whole intersection.

Intersection Level Of Service Report
Intersection 1: 6th & Vinyard

Control Type:	Two-way stop	Delay (sec / veh):	8.8
Analysis Method:	HCM 6th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.005

Intersection Setup

Name	6th St NW		Vinyard Rd		Vinyard Rd	
Approach	Northbound		Southbound		Eastbound	
Lane Configuration	↶		↷		↷	
Turning Movement	Left	Thru	Thru	Right	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		No	

Volumes

Name	6th St NW		Vinyard Rd		Vinyard Rd	
Base Volume Input [veh/h]	10	10	15	5	5	15
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	50.00	0.00	20.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	10	10	15	5	5	15
Peak Hour Factor	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	3	3	4	1	1	4
Total Analysis Volume [veh/h]	11	11	16	5	5	16
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Free	Free	Stop
Flared Lane			No
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance			No
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.01	0.00	0.00	0.00	0.01	0.02
d_M, Delay for Movement [s/veh]	7.25	0.00	0.00	0.00	8.84	8.64
Movement LOS	A	A	A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.02	0.02	0.00	0.00	0.06	0.06
95th-Percentile Queue Length [ft/ln]	0.52	0.52	0.00	0.00	1.61	1.61
d_A, Approach Delay [s/veh]	3.63		0.00		8.69	
Approach LOS	A		A		A	
d_I, Intersection Delay [s/veh]	4.10					
Intersection LOS	A					

**Intersection Level Of Service Report
Intersection 2: Bootlegger & 46th**

Control Type:	Two-way stop	Delay (sec / veh):	10.3
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.007

Intersection Setup

Name	Bootlegger Trail		Bootlegger Trail		46th Ave NE	
Approach	Northbound		Southbound		Eastbound	
Lane Configuration						
Turning Movement	Left	Thru	Thru	Right	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	1	0	0	0	0
Entry Pocket Length [ft]	100.00	600.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	70.00		70.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		No	

Volumes

Name	Bootlegger Trail		Bootlegger Trail		46th Ave NE	
Base Volume Input [veh/h]	25	55	135	5	5	45
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	4.30	9.10	1.70	0.00	0.00	1.60
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	25	55	135	5	5	45
Peak Hour Factor	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	7	15	37	1	1	12
Total Analysis Volume [veh/h]	27	60	147	5	5	49
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Free	Free	Stop
Flared Lane			No
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance			No
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.02	0.00	0.00	0.00	0.01	0.05
d_M, Delay for Movement [s/veh]	7.59	0.00	0.00	0.00	10.30	9.28
Movement LOS	A	A	A	A	B	A
95th-Percentile Queue Length [veh/ln]	0.06	0.00	0.00	0.00	0.20	0.20
95th-Percentile Queue Length [ft/ln]	1.46	0.00	0.00	0.00	4.91	4.91
d_A, Approach Delay [s/veh]	2.36		0.00		9.37	
Approach LOS	A		A		A	
d_I, Intersection Delay [s/veh]	2.43					
Intersection LOS	B					

**Intersection Level Of Service Report
Intersection 3: 36th & 2nd**

Control Type: Two-way stop
 Analysis Method: HCM 6th Edition
 Analysis Period: 15 minutes

Delay (sec / veh): 12.3
 Level Of Service: B
 Volume to Capacity (v/c): 0.089

Intersection Setup

Name	2nd St NE			2nd St NE			36th Ave NE			36th Ave NE		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration	+			+			+			+		
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	2nd St NE			2nd St NE			36th Ave NE			36th Ave NE		
Base Volume Input [veh/h]	0	45	45	45	155	5	5	20	15	45	5	15
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	2.90	0.00	1.90	0.00	0.00	0.00	0.00	1.80	0.00	25.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	45	45	45	155	5	5	20	15	45	5	15
Peak Hour Factor	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	12	12	12	42	1	1	5	4	12	1	4
Total Analysis Volume [veh/h]	0	49	49	49	168	5	5	22	16	49	5	16
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Priority Scheme	Free	Free	Stop	Stop
Flared Lane			No	No
Storage Area [veh]	0	0	0	0
Two-Stage Gap Acceptance			No	No
Number of Storage Spaces in Median	0	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.00	0.00	0.03	0.00	0.00	0.01	0.04	0.02	0.09	0.01	0.02
d_M, Delay for Movement [s/veh]	7.54	0.00	0.00	7.47	0.00	0.00	11.66	12.01	9.50	12.31	12.19	9.65
Movement LOS	A	A	A	A	A	A	B	B	A	B	B	A
95th-Percentile Queue Length [veh/ln]	0.00	0.00	0.00	0.10	0.10	0.10	0.22	0.22	0.22	0.39	0.39	0.39
95th-Percentile Queue Length [ft/ln]	0.00	0.00	0.00	2.52	2.52	2.52	5.39	5.39	5.39	9.70	9.70	9.70
d_A, Approach Delay [s/veh]	0.00			1.65			11.04			11.69		
Approach LOS	A			A			B			B		
d_I, Intersection Delay [s/veh]	3.83											
Intersection LOS	B											

**Intersection Level Of Service Report
Intersection 4: 36th & 5th**

Control Type:	Two-way stop	Delay (sec / veh):	10.9
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.008

Intersection Setup

Name	5th St NE		36th Ave NE		36th Ave NE	
Approach	Northbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Left	Right	Thru	Right	Left	Thru
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		No	

Volumes

Name	5th St NE		36th Ave NE		36th Ave NE	
Base Volume Input [veh/h]	5	25	190	30	20	90
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	5.00	0.70	0.00	0.00	7.30
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	5	25	190	30	20	90
Peak Hour Factor	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	1	7	52	8	5	24
Total Analysis Volume [veh/h]	5	27	207	33	22	98
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Stop	Free	Free
Flared Lane	No		
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance	No		
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.01	0.03	0.00	0.00	0.02	0.00
d_M, Delay for Movement [s/veh]	10.94	9.65	0.00	0.00	7.73	0.00
Movement LOS	B	A	A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.13	0.13	0.00	0.00	0.05	0.05
95th-Percentile Queue Length [ft/ln]	3.23	3.23	0.00	0.00	1.25	1.25
d_A, Approach Delay [s/veh]	9.85		0.00		1.42	
Approach LOS	A		A		A	
d_I, Intersection Delay [s/veh]	1.24					
Intersection LOS	B					

**Intersection Level Of Service Report
Intersection 5: 36th & 9th**

Control Type: Two-way stop
 Analysis Method: HCM 6th Edition
 Analysis Period: 15 minutes

Delay (sec / veh): 19.5
 Level Of Service: C
 Volume to Capacity (v/c): 0.055

Intersection Setup

Name	9th St NE			9th St NE			36th Ave NE			36th Ave NE		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration	+			+			+			+		
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	No			No			No			No		

Volumes

Name	9th St NE			9th St NE			36th Ave NE			36th Ave NE		
Base Volume Input [veh/h]	15	45	40	10	110	25	15	225	35	50	95	5
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	20.00	0.00	0.00	0.00	2.70	11.00	0.00	0.50	7.10	4.40	7.10	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	15	45	40	10	110	25	15	225	35	50	95	5
Peak Hour Factor	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	4	12	11	3	30	7	4	61	10	14	26	1
Total Analysis Volume [veh/h]	16	49	43	11	120	27	16	245	38	54	103	5
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Priority Scheme	Stop	Stop	Free	Free
Flared Lane	No	No		
Storage Area [veh]	0	0	0	0
Two-Stage Gap Acceptance	No	No		
Number of Storage Spaces in Median	0	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.06	0.11	0.06	0.03	0.28	0.03	0.01	0.00	0.00	0.04	0.00	0.00
d_M, Delay for Movement [s/veh]	19.49	15.24	11.70	18.70	17.32	12.81	7.43	0.00	0.00	7.97	0.00	0.00
Movement LOS	C	C	B	C	C	B	A	A	A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.84	0.84	0.84	1.48	1.48	1.48	0.03	0.03	0.03	0.13	0.13	0.13
95th-Percentile Queue Length [ft/ln]	20.95	20.95	20.95	37.08	37.08	37.08	0.81	0.81	0.81	3.34	3.34	3.34
d_A, Approach Delay [s/veh]	14.46			16.65			0.40			2.66		
Approach LOS	B			C			A			A		
d_I, Intersection Delay [s/veh]	6.52											
Intersection LOS	C											

**Intersection Level Of Service Report
Intersection 6: Bootlegger & 36th**

Control Type:	Two-way stop	Delay (sec / veh):	13.3
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.048

Intersection Setup

Name	Bootlegger Trail		Bootlegger Trail		36th Ave NE	
Approach	Northbound		Southbound		Eastbound	
Lane Configuration	↙		↘		↙ ↘	
Turning Movement	Left	Thru	Thru	Right	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	1	0	0	0	1
Entry Pocket Length [ft]	100.00	250.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	45.00		45.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		No	

Volumes

Name	Bootlegger Trail		Bootlegger Trail		36th Ave NE	
Base Volume Input [veh/h]	95	60	225	50	20	300
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	11.60	6.70	0.00	6.50	3.60	0.70
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	95	60	225	50	20	300
Peak Hour Factor	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	26	16	61	14	5	82
Total Analysis Volume [veh/h]	103	65	245	54	22	326
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Free	Free	Stop
Flared Lane			
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance			No
Number of Storage Spaces in Median	0	0	1

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.09	0.00	0.00	0.00	0.05	0.42
d_M, Delay for Movement [s/veh]	8.25	0.00	0.00	0.00	13.30	13.07
Movement LOS	A	A	A	A	B	B
95th-Percentile Queue Length [veh/ln]	0.28	0.00	0.00	0.00	0.15	2.12
95th-Percentile Queue Length [ft/ln]	6.97	0.00	0.00	0.00	3.80	53.06
d_A, Approach Delay [s/veh]	5.06		0.00		13.08	
Approach LOS	A		A		B	
d_I, Intersection Delay [s/veh]	6.63					
Intersection LOS	B					

**Intersection Level Of Service Report
Intersection 7: Skyline & 6th**

Control Type:	Two-way stop	Delay (sec / veh):	9.0
Analysis Method:	HCM 6th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.005

Intersection Setup

Name	6th St NW		6th St NW		Skyline Dr NW	
Approach	Northbound		Southbound		Westbound	
Lane Configuration	↩		↪		↩	
Turning Movement	Thru	Right	Left	Thru	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		No	

Volumes

Name	6th St NW		6th St NW		Skyline Dr NW	
Base Volume Input [veh/h]	5	5	25	5	5	15
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	4.50	1.70	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	5	5	25	5	5	15
Peak Hour Factor	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	1	1	7	1	1	4
Total Analysis Volume [veh/h]	5	5	27	5	5	16
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Free	Free	Stop
Flared Lane			No
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance			No
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.00	0.02	0.00	0.01	0.01
d_M, Delay for Movement [s/veh]	0.00	0.00	7.26	0.00	8.97	8.40
Movement LOS	A	A	A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.00	0.00	0.05	0.05	0.06	0.06
95th-Percentile Queue Length [ft/ln]	0.00	0.00	1.27	1.27	1.55	1.55
d_A, Approach Delay [s/veh]	0.00		6.12		8.54	
Approach LOS	A		A		A	
d_I, Intersection Delay [s/veh]	5.96					
Intersection LOS	A					

**Intersection Level Of Service Report
Intersection 8: Skyline & Division**

Control Type:	Two-way stop	Delay (sec / veh):	8.9
Analysis Method:	HCM 6th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.012

Intersection Setup

Name	Division Rd		Skyline Dr NW		Skyline Dr NE	
Approach	Northbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Left	Right	Thru	Right	Left	Thru
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		No	

Volumes

Name	Division Rd		Skyline Dr NW		Skyline Dr NE	
Base Volume Input [veh/h]	10	5	5	35	10	25
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	2.80	0.00	0.00	1.60
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	10	5	5	35	10	25
Peak Hour Factor	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	3	1	1	10	3	7
Total Analysis Volume [veh/h]	11	5	5	38	11	27
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Stop	Free	Free
Flared Lane	No		
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance	No		
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.01	0.00	0.00	0.00	0.01	0.00
d_M, Delay for Movement [s/veh]	8.94	8.46	0.00	0.00	7.30	0.00
Movement LOS	A	A	A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.05	0.05	0.00	0.00	0.02	0.02
95th-Percentile Queue Length [ft/ln]	1.26	1.26	0.00	0.00	0.53	0.53
d_A, Approach Delay [s/veh]	8.79		0.00		2.11	
Approach LOS	A		A		A	
d_I, Intersection Delay [s/veh]	2.28					
Intersection LOS	A					

**Intersection Level Of Service Report
Intersection 9: Skyline & 2nd**

Control Type: Two-way stop
 Analysis Method: HCM 6th Edition
 Analysis Period: 15 minutes

Delay (sec / veh): 11.9
 Level Of Service: B
 Volume to Capacity (v/c): 0.020

Intersection Setup

Name	2nd St NE			2nd St NE			Skyline Dr NE			Skyline Dr NE		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration	+			+			+			+		
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	No			No			No			No		

Volumes

Name	2nd St NE			2nd St NE			Skyline Dr NE			Skyline Dr NE		
Base Volume Input [veh/h]	5	95	5	5	225	25	0	10	5	5	10	10
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	4.60	0.00	0.00	2.10	1.80	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	5	95	5	5	225	25	0	10	5	5	10	10
Peak Hour Factor	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	1	26	1	1	61	7	0	3	1	1	3	3
Total Analysis Volume [veh/h]	5	103	5	5	245	27	0	11	5	5	11	11
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Priority Scheme	Free	Free	Stop	Stop
Flared Lane			No	No
Storage Area [veh]	0	0	0	0
Two-Stage Gap Acceptance			No	No
Number of Storage Spaces in Median	0	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.02	0.01	0.01	0.02	0.01
d_M, Delay for Movement [s/veh]	7.77	0.00	0.00	7.42	0.00	0.00	11.71	11.75	9.75	11.72	11.91	9.01
Movement LOS	A	A	A	A	A	A	B	B	A	B	B	A
95th-Percentile Queue Length [veh/ln]	0.01	0.01	0.01	0.01	0.01	0.01	0.08	0.08	0.08	0.13	0.13	0.13
95th-Percentile Queue Length [ft/ln]	0.29	0.29	0.29	0.25	0.25	0.25	2.04	2.04	2.04	3.20	3.20	3.20
d_A, Approach Delay [s/veh]	0.34			0.13			11.12			10.69		
Approach LOS	A			A			B			B		
d_I, Intersection Delay [s/veh]	1.25											
Intersection LOS	B											

**Intersection Level Of Service Report
Intersection 10: Skyline & 5th**

Control Type: Two-way stop
 Analysis Method: HCM 6th Edition
 Analysis Period: 15 minutes

Delay (sec / veh): 9.9
 Level Of Service: A
 Volume to Capacity (v/c): 0.015

Intersection Setup

Name	5th St NE			5th St NE			Skyline Dr NE			Skyline Dr NE		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration	+			+			+			+		
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	No			No			No			No		

Volumes

Name	5th St NE			5th St NE			Skyline Dr NE			Skyline Dr NE		
Base Volume Input [veh/h]	5	30	5	5	65	5	5	10	5	10	10	5
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	9.50	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	5	30	5	5	65	5	5	10	5	10	10	5
Peak Hour Factor	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	1	8	1	1	18	1	1	3	1	3	3	1
Total Analysis Volume [veh/h]	5	33	5	5	71	5	5	11	5	11	11	5
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Priority Scheme	Free	Free	Stop	Stop
Flared Lane			No	No
Storage Area [veh]	0	0	0	0
Two-Stage Gap Acceptance			No	No
Number of Storage Spaces in Median	0	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.01	0.01	0.01	0.01	0.00
d_M, Delay for Movement [s/veh]	7.35	0.00	0.00	7.28	0.00	0.00	9.50	9.87	8.74	9.53	9.90	8.60
Movement LOS	A	A	A	A	A	A	A	A	A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.01	0.01	0.01	0.01	0.01	0.01	0.08	0.08	0.08	0.10	0.10	0.10
95th-Percentile Queue Length [ft/ln]	0.24	0.24	0.24	0.24	0.24	0.24	1.97	1.97	1.97	2.53	2.53	2.53
d_A, Approach Delay [s/veh]	0.85			0.45			9.51			9.51		
Approach LOS	A			A			A			A		
d_I, Intersection Delay [s/veh]	3.08											
Intersection LOS	A											

**Intersection Level Of Service Report
Intersection 11: 8th & Sacajawea**

Control Type:	Two-way stop	Delay (sec / veh):	14.6
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.011

Intersection Setup

Name	8th St NE			8th St NE			Sacajawea Dr			Sacajawea Dr		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration	+			+			+			+		
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	No			Yes			No			Yes		

Volumes

Name	8th St NE			8th St NE			Sacajawea Dr			Sacajawea Dr		
Base Volume Input [veh/h]	20	110	5	5	265	80	45	5	70	5	5	5
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	4.80	0.00	0.00	2.60	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	20	110	5	5	265	80	45	5	70	5	5	5
Peak Hour Factor	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	5	30	1	1	72	22	12	1	19	1	1	1
Total Analysis Volume [veh/h]	22	120	5	5	288	87	49	5	76	5	5	5
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Priority Scheme	Free	Free	Stop	Stop
Flared Lane			No	No
Storage Area [veh]	0	0	0	0
Two-Stage Gap Acceptance			No	No
Number of Storage Spaces in Median	0	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.02	0.00	0.00	0.00	0.00	0.00	0.11	0.01	0.11	0.01	0.01	0.01
d_M, Delay for Movement [s/veh]	8.07	0.00	0.00	7.45	0.00	0.00	14.61	14.64	11.82	14.42	13.51	9.07
Movement LOS	A	A	A	A	A	A	B	B	B	B	B	A
95th-Percentile Queue Length [veh/ln]	0.06	0.06	0.06	0.01	0.01	0.01	0.85	0.85	0.85	0.09	0.09	0.09
95th-Percentile Queue Length [ft/ln]	1.41	1.41	1.41	0.26	0.26	0.26	21.31	21.31	21.31	2.29	2.29	2.29
d_A, Approach Delay [s/veh]	1.21			0.10			12.98			12.33		
Approach LOS	A			A			B			B		
d_I, Intersection Delay [s/veh]	3.11											
Intersection LOS	B											

**Intersection Level Of Service Report
Intersection 12: 9th & 32nd**

Control Type:	Two-way stop	Delay (sec / veh):	11.4
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.009

Intersection Setup

Name	9th St NE		9th St NE		32nd Ave NE	
Approach	Northbound		Southbound		Eastbound	
Lane Configuration	↶		↷		↷	
Turning Movement	Left	Thru	Thru	Right	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		No	

Volumes

Name	9th St NE		9th St NE		32nd Ave NE	
Base Volume Input [veh/h]	5	125	270	5	5	15
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	4.10	2.90	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	5	125	270	5	5	15
Peak Hour Factor	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	1	34	73	1	1	4
Total Analysis Volume [veh/h]	5	136	293	5	5	16
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Free	Free	Stop
Flared Lane			No
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance			No
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.00	0.00	0.00	0.01	0.02
d_M, Delay for Movement [s/veh]	7.84	0.00	0.00	0.00	11.42	9.97
Movement LOS	A	A	A	A	B	A
95th-Percentile Queue Length [veh/ln]	0.01	0.01	0.00	0.00	0.09	0.09
95th-Percentile Queue Length [ft/ln]	0.30	0.30	0.00	0.00	2.32	2.32
d_A, Approach Delay [s/veh]	0.28		0.00		10.32	
Approach LOS	A		A		B	
d_I, Intersection Delay [s/veh]	0.56					
Intersection LOS	B					

**Intersection Level Of Service Report
Intersection 13: 9th & Skyline**

Control Type:	Two-way stop	Delay (sec / veh):	9.5
Analysis Method:	HCM 6th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.006

Intersection Setup

Name	9th St NE			9th St NE			Skyline Dr NE			Skyline Dr NE		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration	+			+			+			+		
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	No			No			No			No		

Volumes

Name	9th St NE			9th St NE			Skyline Dr NE			Skyline Dr NE		
Base Volume Input [veh/h]	5	5	5	5	5	0	0	20	5	5	30	5
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	5	5	5	5	5	0	0	20	5	5	30	5
Peak Hour Factor	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	1	1	1	1	1	0	0	5	1	1	8	1
Total Analysis Volume [veh/h]	5	5	5	5	5	0	0	22	5	5	33	5
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Priority Scheme	Stop	Stop	Free	Free
Flared Lane	No	No		
Storage Area [veh]	0	0	0	0
Two-Stage Gap Acceptance	No	No		
Number of Storage Spaces in Median	0	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.01	0.01	0.00	0.01	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00
d_M, Delay for Movement [s/veh]	8.99	9.46	8.47	9.01	9.44	8.50	7.27	0.00	0.00	7.26	0.00	0.00
Movement LOS	A	A	A	A	A	A	A	A	A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.05	0.05	0.05	0.04	0.04	0.04	0.00	0.00	0.00	0.01	0.01	0.01
95th-Percentile Queue Length [ft/ln]	1.24	1.24	1.24	0.88	0.88	0.88	0.00	0.00	0.00	0.24	0.24	0.24
d_A, Approach Delay [s/veh]	8.97			9.23			0.00			0.84		
Approach LOS	A			A			A			A		
d_I, Intersection Delay [s/veh]	2.77											
Intersection LOS	A											

North Great Falls Transportation Study

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Scenario 24 2040 PM Scenario 9

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10/7/2020

Intersection Analysis Summary

ID	Intersection Name	Control Type	Method	Worst Mvmt	V/C	Delay (s/veh)	LOS
1	6th & Vinyard	Two-way stop	HCM 6th Edition	EB Left	0.005	8.8	A
2	Bootlegger & 46th	Two-way stop	HCM 6th Edition	EB Left	0.007	10.2	B
3	36th & 2nd	Two-way stop	HCM 6th Edition	WB Thru	0.060	13.1	B
4	36th & 5th	Two-way stop	HCM 6th Edition	NB Left	0.040	11.9	B
5	36th & 9th	Two-way stop	HCM 6th Edition	NB Left	0.143	25.2	D
6	Bootlegger & 36th	Two-way stop	HCM 6th Edition	EB Left	0.112	33.3	D
7	Skyline & 6th	Two-way stop	HCM 6th Edition	WB Left	0.006	9.4	A
8	Skyline & Division	Two-way stop	HCM 6th Edition	NB Left	0.028	8.9	A
9	Skyline & 2nd	Two-way stop	HCM 6th Edition	EB Left	0.031	12.5	B
10	Skyline & 5th	Two-way stop	HCM 6th Edition	WB Thru	0.021	10.0	B
11	8th & Sacajawea	Two-way stop	HCM 6th Edition	EB Thru	0.012	14.1	B
12	9th & 32nd	Two-way stop	HCM 6th Edition	EB Left	0.008	11.1	B
13	9th & Skyline	Two-way stop	HCM 6th Edition	NB Thru	0.006	9.3	A

V/C, Delay, LOS: For two-way stop, these values are taken from the movement with the worst (highest) delay value. For all other control types, they are taken for the whole intersection.

**Intersection Level Of Service Report
Intersection 1: 6th & Vinyard**

Control Type:	Two-way stop	Delay (sec / veh):	8.8
Analysis Method:	HCM 6th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.005

Intersection Setup

Name	6th St NW		Vinyard Rd		Vinyard Rd	
Approach	Northbound		Southbound		Eastbound	
Lane Configuration	↶		↷		↷	
Turning Movement	Left	Thru	Thru	Right	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		No	

Volumes

Name	6th St NW		Vinyard Rd		Vinyard Rd	
Base Volume Input [veh/h]	10	10	10	5	5	20
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	10	10	10	5	5	20
Peak Hour Factor	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	3	3	3	1	1	5
Total Analysis Volume [veh/h]	11	11	11	5	5	22
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Free	Free	Stop
Flared Lane			No
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance			No
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.01	0.00	0.00	0.00	0.01	0.02
d_M, Delay for Movement [s/veh]	7.24	0.00	0.00	0.00	8.83	8.45
Movement LOS	A	A	A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.02	0.02	0.00	0.00	0.08	0.08
95th-Percentile Queue Length [ft/ln]	0.51	0.51	0.00	0.00	1.98	1.98
d_A, Approach Delay [s/veh]	3.62		0.00		8.52	
Approach LOS	A		A		A	
d_I, Intersection Delay [s/veh]	4.76					
Intersection LOS	A					

**Intersection Level Of Service Report
Intersection 2: Bootlegger & 46th**

Control Type:	Two-way stop	Delay (sec / veh):	10.2
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.007

Intersection Setup

Name	Bootlegger Trail		Bootlegger Trail		46th Ave NE	
Approach	Northbound		Southbound		Eastbound	
Lane Configuration						
Turning Movement	Left	Thru	Thru	Right	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	1	0	0	0	0
Entry Pocket Length [ft]	100.00	600.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	70.00		70.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		No	

Volumes

Name	Bootlegger Trail		Bootlegger Trail		46th Ave NE	
Base Volume Input [veh/h]	30	120	55	5	5	30
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	30	120	55	5	5	30
Peak Hour Factor	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	8	33	15	1	1	8
Total Analysis Volume [veh/h]	33	130	60	5	5	33
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Free	Free	Stop
Flared Lane			No
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance			No
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.02	0.00	0.00	0.00	0.01	0.03
d_M, Delay for Movement [s/veh]	7.37	0.00	0.00	0.00	10.16	8.73
Movement LOS	A	A	A	A	B	A
95th-Percentile Queue Length [veh/ln]	0.07	0.00	0.00	0.00	0.12	0.12
95th-Percentile Queue Length [ft/ln]	1.63	0.00	0.00	0.00	3.10	3.10
d_A, Approach Delay [s/veh]	1.49		0.00		8.92	
Approach LOS	A		A		A	
d_I, Intersection Delay [s/veh]	2.19					
Intersection LOS	B					

**Intersection Level Of Service Report
Intersection 3: 36th & 2nd**

Control Type: Two-way stop
 Analysis Method: HCM 6th Edition
 Analysis Period: 15 minutes

Delay (sec / veh): 13.1
 Level Of Service: B
 Volume to Capacity (v/c): 0.060

Intersection Setup

Name	2nd St NE			2nd St NE			36th Ave NE			36th Ave NE		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration	+			+			+			+		
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	2nd St NE			2nd St NE			36th Ave NE			36th Ave NE		
Base Volume Input [veh/h]	20	140	50	20	80	5	5	10	5	60	30	35
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	1.00	0.00	0.00	0.00	100.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	20	140	50	20	80	5	5	10	5	60	30	35
Peak Hour Factor	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	5	38	14	5	22	1	1	3	1	16	8	10
Total Analysis Volume [veh/h]	22	152	54	22	87	5	5	11	5	65	33	38
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Priority Scheme	Free	Free	Stop	Stop
Flared Lane			No	No
Storage Area [veh]	0	0	0	0
Two-Stage Gap Acceptance			No	No
Number of Storage Spaces in Median	0	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.01	0.00	0.00	0.02	0.00	0.00	0.01	0.02	0.01	0.11	0.06	0.04
d_M, Delay for Movement [s/veh]	7.41	0.00	0.00	7.66	0.00	0.00	12.31	11.96	8.92	12.94	13.12	10.74
Movement LOS	A	A	A	A	A	A	B	B	A	B	B	B
95th-Percentile Queue Length [veh/ln]	0.04	0.04	0.04	0.05	0.05	0.05	0.11	0.11	0.11	0.82	0.82	0.82
95th-Percentile Queue Length [ft/ln]	1.10	1.10	1.10	1.22	1.22	1.22	2.76	2.76	2.76	20.62	20.62	20.62
d_A, Approach Delay [s/veh]	0.72			1.48			11.32			12.37		
Approach LOS	A			A			B			B		
d_I, Intersection Delay [s/veh]	4.51											
Intersection LOS	B											

**Intersection Level Of Service Report
Intersection 4: 36th & 5th**

Control Type: Two-way stop
 Analysis Method: HCM 6th Edition
 Analysis Period: 15 minutes

Delay (sec / veh): 11.9
 Level Of Service: B
 Volume to Capacity (v/c): 0.040

Intersection Setup

Name	5th St NE		36th Ave NE		36th Ave NE	
Approach	Northbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Left	Right	Thru	Right	Left	Thru
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		No	

Volumes

Name	5th St NE		36th Ave NE		36th Ave NE	
Base Volume Input [veh/h]	20	25	125	10	25	245
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	20	25	125	10	25	245
Peak Hour Factor	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	5	7	34	3	7	67
Total Analysis Volume [veh/h]	22	27	136	11	27	266
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Stop	Free	Free
Flared Lane	No		
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance	No		
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.04	0.03	0.00	0.00	0.02	0.00
d_M, Delay for Movement [s/veh]	11.93	9.33	0.00	0.00	7.53	0.00
Movement LOS	B	A	A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.22	0.22	0.00	0.00	0.06	0.06
95th-Percentile Queue Length [ft/ln]	5.60	5.60	0.00	0.00	1.43	1.43
d_A, Approach Delay [s/veh]	10.50		0.00		0.69	
Approach LOS	B		A		A	
d_I, Intersection Delay [s/veh]	1.47					
Intersection LOS	B					

**Intersection Level Of Service Report
Intersection 5: 36th & 9th**

Control Type: Two-way stop
 Analysis Method: HCM 6th Edition
 Analysis Period: 15 minutes

Delay (sec / veh): 25.2
 Level Of Service: D
 Volume to Capacity (v/c): 0.143

Intersection Setup

Name	9th St NE			9th St NE			36th Ave NE			36th Ave NE		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration	+			+			+			+		
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	No			No			No			No		

Volumes

Name	9th St NE			9th St NE			36th Ave NE			36th Ave NE		
Base Volume Input [veh/h]	35	70	15	5	50	25	65	120	15	45	270	10
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	6.30	0.00	0.00	0.00	4.20	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	35	70	15	5	50	25	65	120	15	45	270	10
Peak Hour Factor	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	10	19	4	1	14	7	18	33	4	12	73	3
Total Analysis Volume [veh/h]	38	76	16	5	54	27	71	130	16	49	293	11
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Priority Scheme	Stop	Stop	Free	Free
Flared Lane	No	No		
Storage Area [veh]	0	0	0	0
Two-Stage Gap Acceptance	No	No		
Number of Storage Spaces in Median	0	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.14	0.23	0.02	0.02	0.16	0.04	0.06	0.00	0.00	0.03	0.00	0.00
d_M, Delay for Movement [s/veh]	25.16	22.24	15.50	21.42	18.39	12.36	8.01	0.00	0.00	7.57	0.00	0.00
Movement LOS	D	C	C	C	C	B	A	A	A	A	A	A
95th-Percentile Queue Length [veh/ln]	1.77	1.77	1.77	0.82	0.82	0.82	0.18	0.18	0.18	0.10	0.10	0.10
95th-Percentile Queue Length [ft/ln]	44.16	44.16	44.16	20.51	20.51	20.51	4.44	4.44	4.44	2.62	2.62	2.62
d_A, Approach Delay [s/veh]	22.26			16.67			2.62			1.05		
Approach LOS	C			C			A			A		
d_I, Intersection Delay [s/veh]	6.70											
Intersection LOS	D											

**Intersection Level Of Service Report
Intersection 6: Bootlegger & 36th**

Control Type:	Two-way stop	Delay (sec / veh):	33.3
Analysis Method:	HCM 6th Edition	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.112

Intersection Setup

Name	Bootlegger Trail		Bootlegger Trail		36th Ave NE	
Approach	Northbound		Southbound		Eastbound	
Lane Configuration	↵		↳		↵↻	
Turning Movement	Left	Thru	Thru	Right	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	1	0	0	0	1
Entry Pocket Length [ft]	100.00	250.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	45.00		45.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		No	

Volumes

Name	Bootlegger Trail		Bootlegger Trail		36th Ave NE	
Base Volume Input [veh/h]	395	205	110	20	15	150
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.80
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	395	205	110	20	15	150
Peak Hour Factor	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	107	56	30	5	4	41
Total Analysis Volume [veh/h]	429	223	120	22	16	163
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Free	Free	Stop
Flared Lane			
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance			No
Number of Storage Spaces in Median	0	0	1

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.30	0.00	0.00	0.00	0.11	0.18
d_M, Delay for Movement [s/veh]	8.51	0.00	0.00	0.00	33.30	9.74
Movement LOS	A	A	A	A	D	A
95th-Percentile Queue Length [veh/ln]	1.24	0.00	0.00	0.00	0.37	0.64
95th-Percentile Queue Length [ft/ln]	31.11	0.00	0.00	0.00	9.23	16.00
d_A, Approach Delay [s/veh]	5.60		0.00		11.85	
Approach LOS	A		A		B	
d_I, Intersection Delay [s/veh]	5.93					
Intersection LOS	D					

**Intersection Level Of Service Report
Intersection 7: Skyline & 6th**

Control Type:	Two-way stop	Delay (sec / veh):	9.4
Analysis Method:	HCM 6th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.006

Intersection Setup

Name	6th St NW		6th St NW		Skyline Dr NW	
Approach	Northbound		Southbound		Westbound	
Lane Configuration	↩		↪		↩	
Turning Movement	Thru	Right	Left	Thru	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		No	

Volumes

Name	6th St NW		6th St NW		Skyline Dr NW	
Base Volume Input [veh/h]	105	5	10	5	5	15
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	1.90	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	105	5	10	5	5	15
Peak Hour Factor	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	29	1	3	1	1	4
Total Analysis Volume [veh/h]	114	5	11	5	5	16
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Free	Free	Stop
Flared Lane			No
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance			No
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.00	0.01	0.00	0.01	0.02
d_M, Delay for Movement [s/veh]	0.00	0.00	7.45	0.00	9.36	8.92
Movement LOS	A	A	A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.00	0.00	0.02	0.02	0.07	0.07
95th-Percentile Queue Length [ft/ln]	0.00	0.00	0.56	0.56	1.76	1.76
d_A, Approach Delay [s/veh]	0.00		5.12		9.02	
Approach LOS	A		A		A	
d_I, Intersection Delay [s/veh]	1.74					
Intersection LOS	A					

**Intersection Level Of Service Report
Intersection 8: Skyline & Division**

Control Type:	Two-way stop	Delay (sec / veh):	8.9
Analysis Method:	HCM 6th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.028

Intersection Setup

Name	Division Rd		Skyline Dr NW		Skyline Dr NE	
Approach	Northbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Left	Right	Thru	Right	Left	Thru
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		No	

Volumes

Name	Division Rd		Skyline Dr NW		Skyline Dr NE	
Base Volume Input [veh/h]	25	10	10	20	5	20
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	1.80
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	25	10	10	20	5	20
Peak Hour Factor	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	7	3	3	5	1	5
Total Analysis Volume [veh/h]	27	11	11	22	5	22
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Stop	Free	Free
Flared Lane	No		
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance	No		
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.03	0.01	0.00	0.00	0.00	0.00
d_M, Delay for Movement [s/veh]	8.91	8.54	0.00	0.00	7.27	0.00
Movement LOS	A	A	A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.12	0.12	0.00	0.00	0.01	0.01
95th-Percentile Queue Length [ft/ln]	3.01	3.01	0.00	0.00	0.24	0.24
d_A, Approach Delay [s/veh]	8.80		0.00		1.35	
Approach LOS	A		A		A	
d_I, Intersection Delay [s/veh]	3.78					
Intersection LOS	A					

**Intersection Level Of Service Report
Intersection 9: Skyline & 2nd**

Control Type: Two-way stop
 Analysis Method: HCM 6th Edition
 Analysis Period: 15 minutes

Delay (sec / veh): 12.5
 Level Of Service: B
 Volume to Capacity (v/c): 0.031

Intersection Setup

Name	2nd St NE			2nd St NE			Skyline Dr NE			Skyline Dr NE		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration	+			+			+			+		
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	No			No			No			No		

Volumes

Name	2nd St NE			2nd St NE			Skyline Dr NE			Skyline Dr NE		
Base Volume Input [veh/h]	5	235	10	5	115	35	15	15	5	5	10	15
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	1.90	0.00	0.00	2.10	2.10	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	5	235	10	5	115	35	15	15	5	5	10	15
Peak Hour Factor	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	1	64	3	1	31	10	4	4	1	1	3	4
Total Analysis Volume [veh/h]	5	255	11	5	125	38	16	16	5	5	11	16
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Priority Scheme	Free	Free	Stop	Stop
Flared Lane			No	No
Storage Area [veh]	0	0	0	0
Two-Stage Gap Acceptance			No	No
Number of Storage Spaces in Median	0	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.00	0.00	0.00	0.00	0.00	0.03	0.03	0.01	0.01	0.02	0.02
d_M, Delay for Movement [s/veh]	7.53	0.00	0.00	7.76	0.00	0.00	12.54	12.45	9.44	12.29	12.41	9.92
Movement LOS	A	A	A	A	A	A	B	B	A	B	B	A
95th-Percentile Queue Length [veh/ln]	0.01	0.01	0.01	0.01	0.01	0.01	0.22	0.22	0.22	0.16	0.16	0.16
95th-Percentile Queue Length [ft/ln]	0.26	0.26	0.26	0.29	0.29	0.29	5.44	5.44	5.44	4.09	4.09	4.09
d_A, Approach Delay [s/veh]	0.14			0.23			12.08			11.15		
Approach LOS	A			A			B			B		
d_I, Intersection Delay [s/veh]	1.73											
Intersection LOS	B											

**Intersection Level Of Service Report
Intersection 10: Skyline & 5th**

Control Type: Two-way stop
 Analysis Method: HCM 6th Edition
 Analysis Period: 15 minutes

Delay (sec / veh): 10.0
 Level Of Service: B
 Volume to Capacity (v/c): 0.021

Intersection Setup

Name	5th St NE			5th St NE			Skyline Dr NE			Skyline Dr NE		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration	+			+			+			+		
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	No			No			No			No		

Volumes

Name	5th St NE			5th St NE			Skyline Dr NE			Skyline Dr NE		
Base Volume Input [veh/h]	5	75	10	5	30	5	5	10	5	10	15	10
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	5	75	10	5	30	5	5	10	5	10	15	10
Peak Hour Factor	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	1	20	3	1	8	1	1	3	1	3	4	3
Total Analysis Volume [veh/h]	5	82	11	5	33	5	5	11	5	11	16	11
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Priority Scheme	Free	Free	Stop	Stop
Flared Lane			No	No
Storage Area [veh]	0	0	0	0
Two-Stage Gap Acceptance			No	No
Number of Storage Spaces in Median	0	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.01	0.00	0.01	0.02	0.01
d_M, Delay for Movement [s/veh]	7.28	0.00	0.00	7.39	0.00	0.00	9.69	9.97	8.57	9.69	10.05	8.90
Movement LOS	A	A	A	A	A	A	A	A	A	A	B	A
95th-Percentile Queue Length [veh/ln]	0.01	0.01	0.01	0.01	0.01	0.01	0.08	0.08	0.08	0.15	0.15	0.15
95th-Percentile Queue Length [ft/ln]	0.24	0.24	0.24	0.25	0.25	0.25	2.00	2.00	2.00	3.65	3.65	3.65
d_A, Approach Delay [s/veh]	0.37			0.86			9.57			9.61		
Approach LOS	A			A			A			A		
d_I, Intersection Delay [s/veh]	3.20											
Intersection LOS	B											

**Intersection Level Of Service Report
Intersection 11: 8th & Sacajawea**

Control Type:	Two-way stop	Delay (sec / veh):	14.1
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.012

Intersection Setup

Name	8th St NE			8th St NE			Sacajawea Dr			Sacajawea Dr		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration	+			+			+			+		
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	No			Yes			No			Yes		

Volumes

Name	8th St NE			8th St NE			Sacajawea Dr			Sacajawea Dr		
Base Volume Input [veh/h]	30	275	10	5	130	30	30	5	15	5	5	5
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	1.00	0.00	0.00	3.20	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	30	275	10	5	130	30	30	5	15	5	5	5
Peak Hour Factor	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	8	75	3	1	35	8	8	1	4	1	1	1
Total Analysis Volume [veh/h]	33	299	11	5	141	33	33	5	16	5	5	5
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Priority Scheme	Free	Free	Stop	Stop
Flared Lane			No	No
Storage Area [veh]	0	0	0	0
Two-Stage Gap Acceptance			No	No
Number of Storage Spaces in Median	0	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.02	0.00	0.00	0.00	0.00	0.00	0.08	0.01	0.02	0.01	0.01	0.01
d_M, Delay for Movement [s/veh]	7.61	0.00	0.00	7.86	0.00	0.00	14.09	14.10	9.85	13.65	13.62	10.09
Movement LOS	A	A	A	A	A	A	B	B	A	B	B	B
95th-Percentile Queue Length [veh/ln]	0.07	0.07	0.07	0.01	0.01	0.01	0.35	0.35	0.35	0.09	0.09	0.09
95th-Percentile Queue Length [ft/ln]	1.79	1.79	1.79	0.30	0.30	0.30	8.76	8.76	8.76	2.33	2.33	2.33
d_A, Approach Delay [s/veh]	0.73			0.22			12.83			12.46		
Approach LOS	A			A			B			B		
d_I, Intersection Delay [s/veh]	1.98											
Intersection LOS	B											

**Intersection Level Of Service Report
Intersection 12: 9th & 32nd**

Control Type: Two-way stop
 Analysis Method: HCM 6th Edition
 Analysis Period: 15 minutes

Delay (sec / veh): 11.1
 Level Of Service: B
 Volume to Capacity (v/c): 0.008

Intersection Setup

Name	9th St NE		9th St NE		32nd Ave NE	
Approach	Northbound		Southbound		Eastbound	
Lane Configuration	↶		↷		↷	
Turning Movement	Left	Thru	Thru	Right	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		No	

Volumes

Name	9th St NE		9th St NE		32nd Ave NE	
Base Volume Input [veh/h]	15	215	120	5	5	10
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	1.30	3.70	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	15	215	120	5	5	10
Peak Hour Factor	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	4	58	33	1	1	3
Total Analysis Volume [veh/h]	16	234	130	5	5	11
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Free	Free	Stop
Flared Lane			No
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance			No
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.01	0.00	0.00	0.00	0.01	0.01
d_M, Delay for Movement [s/veh]	7.49	0.00	0.00	0.00	11.06	9.00
Movement LOS	A	A	A	A	B	A
95th-Percentile Queue Length [veh/ln]	0.03	0.03	0.00	0.00	0.06	0.06
95th-Percentile Queue Length [ft/ln]	0.83	0.83	0.00	0.00	1.55	1.55
d_A, Approach Delay [s/veh]	0.48		0.00		9.64	
Approach LOS	A		A		A	
d_I, Intersection Delay [s/veh]	0.68					
Intersection LOS	B					

**Intersection Level Of Service Report
Intersection 13: 9th & Skyline**

Control Type: Two-way stop
 Analysis Method: HCM 6th Edition
 Analysis Period: 15 minutes

Delay (sec / veh): 9.3
 Level Of Service: A
 Volume to Capacity (v/c): 0.006

Intersection Setup

Name	9th St NE			9th St NE			Skyline Dr NE			Skyline Dr NE		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration	+			+			+			+		
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	No			No			No			No		

Volumes

Name	9th St NE			9th St NE			Skyline Dr NE			Skyline Dr NE		
Base Volume Input [veh/h]	5	5	5	5	5	0	0	25	5	5	5	5
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	5	5	5	5	5	0	0	25	5	5	5	5
Peak Hour Factor	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	1	1	1	1	1	0	0	7	1	1	1	1
Total Analysis Volume [veh/h]	5	5	5	5	5	0	0	27	5	5	5	5
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Priority Scheme	Stop	Stop	Free	Free
Flared Lane	No	No		
Storage Area [veh]	0	0	0	0
Two-Stage Gap Acceptance	No	No		
Number of Storage Spaces in Median	0	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.01	0.01	0.00	0.01	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00
d_M, Delay for Movement [s/veh]	8.86	9.33	8.49	8.87	9.32	8.38	7.22	0.00	0.00	7.27	0.00	0.00
Movement LOS	A	A	A	A	A	A	A	A	A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.05	0.05	0.05	0.03	0.03	0.03	0.00	0.00	0.00	0.01	0.01	0.01
95th-Percentile Queue Length [ft/ln]	1.22	1.22	1.22	0.85	0.85	0.85	0.00	0.00	0.00	0.24	0.24	0.24
d_A, Approach Delay [s/veh]	8.89			9.09			0.00			2.42		
Approach LOS	A			A			A			A		
d_I, Intersection Delay [s/veh]	3.62											
Intersection LOS	A											