



Shop House Acres Major Subdivision Traffic Impact Study

Yellowstone Contractors

IMEG #25006765.00



March 17, 2026

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Traffic Impact Study

For the Shop House Acres Major Subdivision

Prepared for:
Yellowstone Contractors & Yellowstone County

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1 EXECUTIVE SUMMARY and INTRODUCTION

1.1 Executive Summary

The Shop House Acres development involves the construction of 55 individual lots for the building of private use shop buildings with a residential living quarter on each lot, which are intended to be serviced by individual cisterns and septic systems. This development will be traversed through construction of a private roadway throughout the development that will provide circular movement and two access locations to South 80th Street West. The proposed development is estimated to generate a total of 108 Peak Hour Trips, 48 AM trips and 60 PM trips. Through the analysis of these additional trips on the surrounding intersections, it has been concluded that negligible impacts will be made to King Avenue West & South 80th Street West and Hesper Road & South 80th Street West.

1.2 Purpose

The purpose of this Traffic Impact Study (TIS) is to determine the operational impact that the proposed Shop House Acres development traffic will have on the surrounding major intersections and to recommend modifications, if required, that will allow the major intersections and access drives to function adequately as the population grows. The proposed development will have two (2) access locations to South 80th Street West, which will have impacts to King Avenue West, to the north, and Hesper Road, to the south.

This TIS focuses solely on Shop House Acres development. This TIS does not take into consideration any other proposed or future residential, commercial, or industrial developments in the surrounding area. Future developments will need to prepare a separate traffic study. At the time of this study, there are no known developments in the vicinity to be considered as part of this study.

1.3 Objective

To evaluate the necessary intersections identified by Yellowstone County Public Works and the development impacts, IMEG performed the following initial tasks:

- Evaluated current traffic volumes, collected for 24 hours in 15-minute intervals and 1-hour intervals at the following intersections:
 - King Avenue West & South 80th Street West (Intersection 1)

- Hesper Road & South 80th Street West (Intersection 2)
- Reviewed the proposed Shop House Acres Major Subdivision site development plan, see **Appendix A**.
- Utilized the ITE Trip Generation Manual, 12th Edition, see **Appendix D**, to determine the number of AM and PM trips generated by the proposed development.
- Assigned trip distribution to the development traffic to determine entering and existing volume. Generated trips will not increase by the growth factor. Refer to **Appendix B** for a summary of those traffic movements.
- Researched and collected traffic data and other background information from Montana Department of Transportation (MDT).
- Seasonally adjusted and calculated traffic data using the Highway Capacity Software (HCS), Version 2026 for the following scenarios:
 - Existing 2026 AM and PM peak hour traffic using the existing lane geometry at the studied intersections. See **Appendix C**.
 - Projected 2031 AM and PM peak hour background traffic operational capacity, see **Appendix C**, using existing lane geometry at the studied intersections.
 - Projected 2031 AM and PM peak hour total traffic operational capacity, see **Appendix C**, using existing lane geometry.

2 EXISTING CONDITIONS

2.1 Study Roadway(s)

The following roadways describe the intersections that are to be analyzed as part of this study. See **Figure 1** for the intersection study areas and **Figure 2** for the Montana Department of Transportation roadway classifications.

2.1.1 King Avenue West

King Avenue West is classified by Montana Department of Transportation (MDT) as a “Major Collector” roadway with no additional classification set by either the City of Billings or Yellowstone County. King Avenue West is a paved rural county roadway consisting of one (1) 12-foot lane for each travel direction (east/west), followed by a 2-foot gravel shoulder. This configuration is consistent with the Yellowstone County Standard Drawing #100 for a typical paved road. In the reasonable vicinity of the study area along King Avenue West, there are no crosswalks, sidewalks, bike lanes, curbs, or street illuminations. The posted speed for King Avenue West is 60 mph in this area.

2.1.2 Hesper Road

Hesper Road is classified by Montana Department of Transportation (MDT) as a “Local” roadway with no additional classification set by either the City of Billings or Yellowstone County. Hesper Road is a paved rural county roadway consisting of one (1) 12-foot lane for each travel direction (east/west), followed by a 2-foot gravel shoulder. This configuration is consistent with the Yellowstone County Standard Drawing #100 for a

typical paved road. In the reasonable vicinity of the study area along Hesper Road, there are no crosswalks, sidewalks, bike lanes, curbs, or street illuminations. The posted speed for Hesper Road is 45 mph in this area.

2.1.3 South 80th Street West

South 80th Street West (80th Street) is classified by Montana Department of Transportation (MDT) as a "Local" roadway with no additional classification set by either the City of Billings or Yellowstone County. 80th Street is a paved rural county roadway consisting of one (1) 12-foot lane for each travel direction (east/west), followed by a 2-foot gravel shoulder. This configuration is consistent with the Yellowstone County Standard Drawing #100 for a typical paved road. In the reasonable vicinity of the study area along 80th Street, there are no crosswalks, sidewalks, bike lanes, curbs, or street illuminations. It should be noted that in the proposed development vicinity there is a vertical grade change worth of vertical sight evaluation, which is discussed later in this report. The posted speed for 80th Street is 50 mph in this area.

2.2 Study Intersection(s)

The following describes the intersections that are analyzed as part of this study. The intersection study areas are shown in **Figure 1**.

2.2.1 Intersection 1 – King Avenue West & South 80th Street West

The intersection has four approach legs and is stop-controlled in the north and south directions. Being a rural county road, there are no crosswalks, sidewalks, bike lanes, or intersection illuminations.

Traffic data for this intersection was collected on February 12th, 2026. From the collected traffic data, it was determined that the AM peak hour for the intersection was between 7:15 and 8:15, while the PM peak hour was between 4:15 and 5:15.

2.2.2 Intersection 2 – Hesper Road & South 80th Street West

The intersection has four approach legs and is stop-controlled in the north and south directions. Being a rural county road, there are no crosswalks, sidewalks, bike lanes, or intersection illuminations.

Traffic data for this intersection was collected on February 12th, 2026. From the collected traffic data, it was determined that the AM peak hour for the intersection was between 7:00 and 8:00, while the PM peak hour was between 4:45 and 5:45.

2.3 Study Area Land Uses

The proposed development is currently surrounded by single-family residential neighborhoods to the north and west. Immediately to the east and south is agricultural farmland.

2.4 2026 Existing Site Conditions

The existing lane configurations and Peak Hour turning movement volumes are shown in **Figure 3**. IMEG collected the existing traffic data using Miovision cameras on Thursday, February 12 for 24 hours beginning at 12:00am. MDT seasonal adjustment

factors were applied to the recorded traffic counts, to which were then entered into Highway Capacity Software (HCS), Version 2026, to evaluate the current level of service. The Two-Way Stop Control (TWSC) module was used to determine the operational capacity of each leg and the intersections studied. A summary of the results for each intersection can be seen in **Table 1** as well as **Appendix C**. The 2024 MDT seasonal adjustment factors can also be found in **Appendix G** with the collected Miovision data found in **Appendix H**.

2.5 Pedestrian and Bicycle Considerations

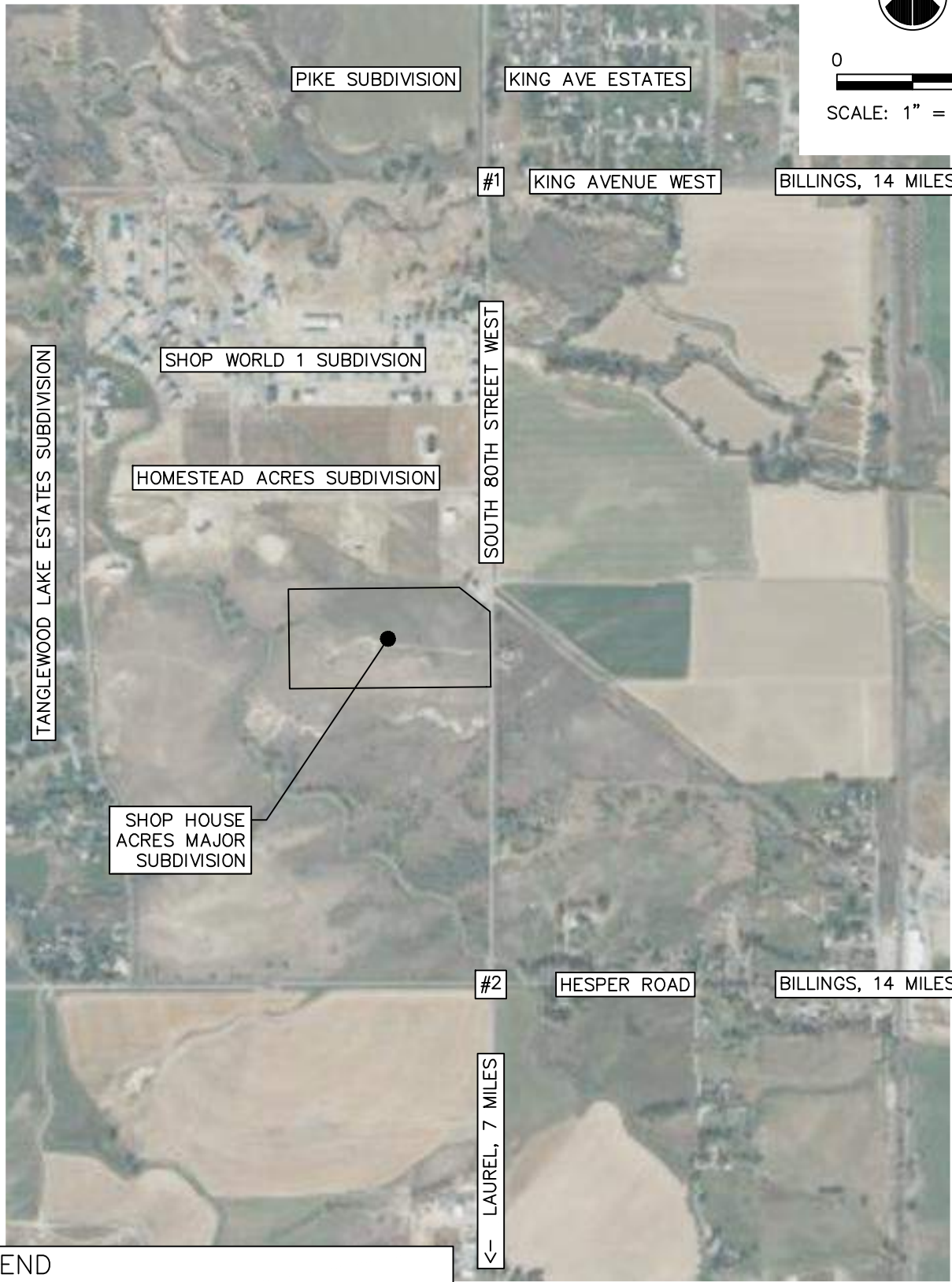
There are currently no bicycle or pedestrian considerations as the study performed is located within a rural county setting with no sidewalks or bike lanes provided along the various segments of the roads studied.

Table 1: 2026 Existing Traffic Peak Hour Capacity Analysis Summary

2026 Existing Traffic Peak Hour Capacity Analysis Summary								
No.	Intersection	Approach	AM PEAK HOUR			PM PEAK HOUR		
			Approach Delay (sec/veh)	Approach LOS	95 th % Queue (veh)	Approach Delay (sec/veh)	Approach LOS	95 th % Queue (veh)
<i>Intersection Control</i>			<i>Two-Way Stop Control (NB/SB)</i>					
1	King Avenue West & South 80 th Street West	EB	0.3	A	0.0	0.8	A	0.0
		WB	1.7	A	0.0	1.6	A	0.1
		NB	9.4	A	0.2	10.2	B	0.2
		SB	11.5	B	0.8	11.4	B	0.4
<i>Intersection Control</i>			<i>Two-Way Stop Control (NB/SB)</i>					
2	Hesper Road & South 80 th Street West	EB	2.0	A	0.1	2.3	A	0.0
		WB	0.9	A	0.0	0.9	A	0.0
		NB	9.7	A	0.1	9.7	A	0.2
		SB	9.5	A	0.1	9.5	A	0.3



0 1000
SCALE: 1" = 1000'



LEGEND
INTERSECTION ANALYSIS LOCATION

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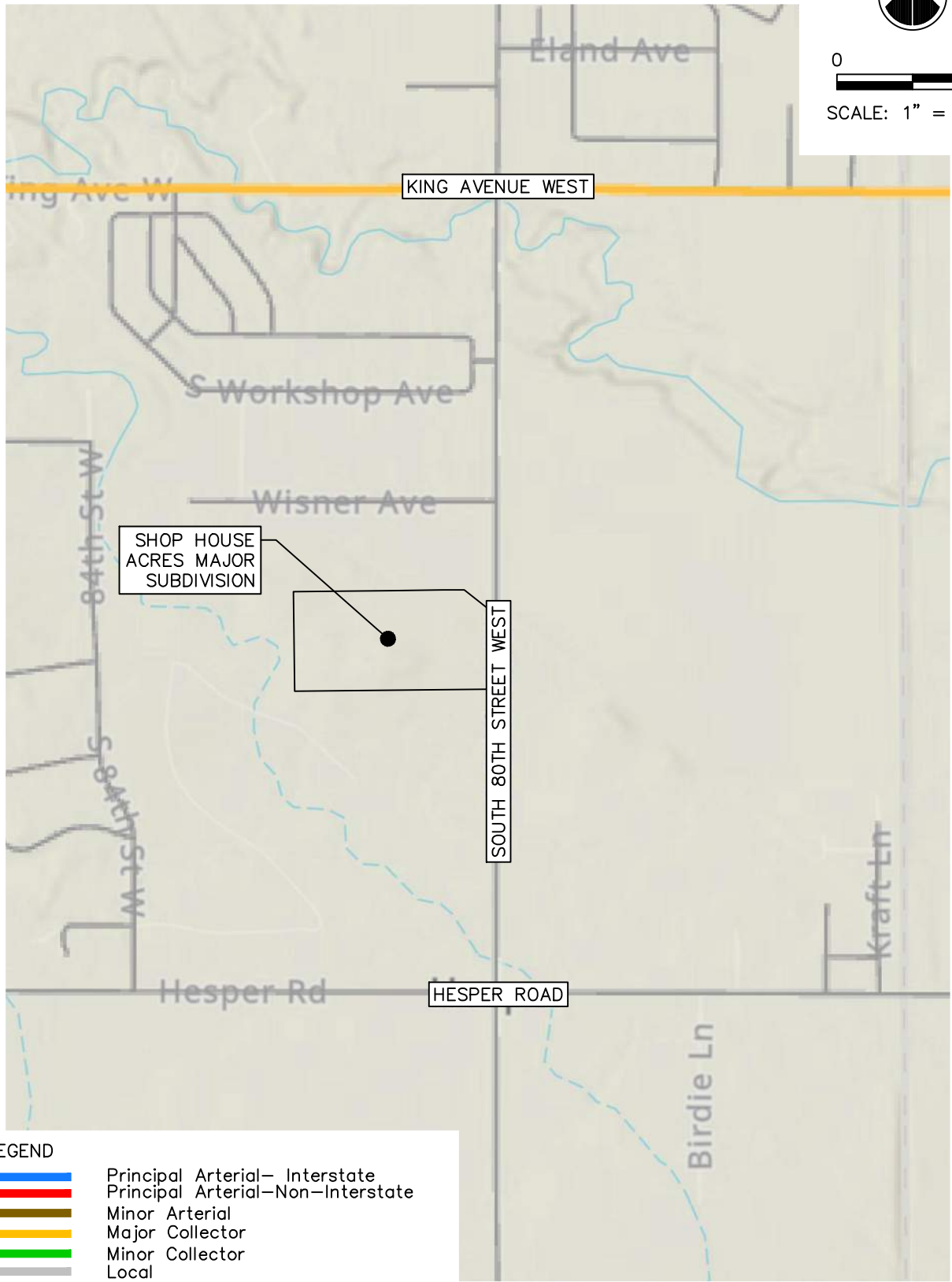
TRAFFIC IMPACT STUDY INTERSECTION LOCATION OVERVIEW

EXHIBIT

FIG - 1



0 1000
SCALE: 1" = 1000'



SHOP HOUSE
ACRES MAJOR
SUBDIVISION

LEGEND

- █ Principal Arterial- Interstate
- █ Principal Arterial-Non-Interstate
- █ Minor Arterial
- █ Major Collector
- █ Minor Collector
- █ Local

Source: Montana Department of Transportation

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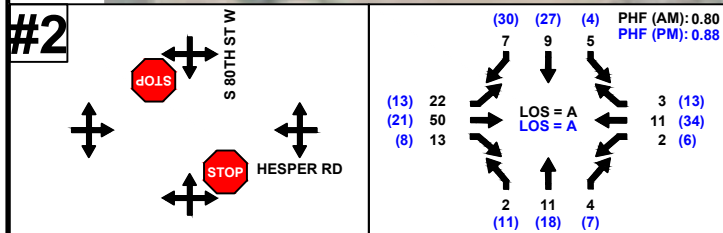
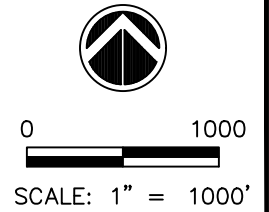
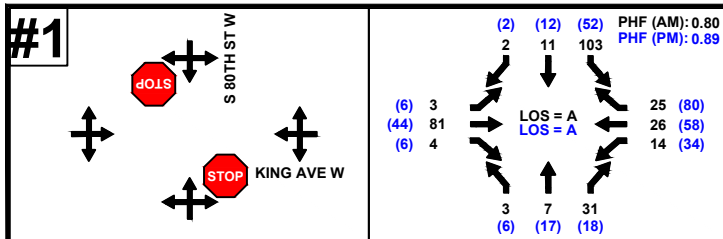
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ROADWAY FUNCTIONAL CLASSIFICATION
MONTANA DEPARTMENT OF TRANSPORTATION

EXHIBIT

FIG - 2

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LEGEND

INTERSECTION ANALYSIS LOCATION



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2026 BACKGROUND TURNING MOVEMENTS

EXHIBIT

FIG - 3

2.6 Development Considerations

2.6.1 Crash Data

IMEG reached out to MDT on February 16, 2026 requesting additional information for historical crash data in the vicinity of the study area. MDT provided historical crash data for the two (2) existing intersections within this study for the years between 2020-2024.

The purpose of this section is to document the number of crashes, rank the severity of crashes, and quantify the overall intersection crash rates of studied intersections that have data available. The crash information provided herein is intended to identify intersections with crash characteristics that may warrant further studies. General crash characteristics were evaluated along with potential causes based on the information provided by MDT. This information covers the minimum five-year time period from 2020 to 2024 as stated in the Yellowstone County Subdivision Regulations, Section 4.6.C.4.B.2 adopted February 5, 2019. **Appendix I** contains the crash records provided by the Montana Department of Transportation. **Table 2** shows the total number of crashes at each intersection.

To calculate the crash rate for the intersections described above, the commonly accepted crash rate equation from *Intersection Safety – A Manual for Local Rural Road Owners* produced by the U.S. Department of Transportation Federal Highway Administration was used to quantify each intersections safety on a proportional basis. This method used is due to the varying volume of traffic each intersection experiences. The following equation expresses an intersections number of crashes per every million vehicles:

$$\begin{aligned} \textbf{Intersection Crash Rate} \\ = \frac{(Total \# \textit{ of Crashes})(1,000,000 \textit{ Vehicles})}{(AADT \textit{ Entering the Intersection})(Analysis \textit{ Time Period})(365)} \end{aligned}$$

To calculate the severity index and rate for each of the studied intersections, the following Montana Department of Transportation equations were used:

$$\begin{aligned} \textbf{MDT Severity Index} &= \frac{(8 * \textit{ Incap. \& F}) + (3 * \textit{ Non - Incap. \& PI}) + (1 * \textit{ PDO \& U})}{\textit{ Total Crashes}} \\ \textbf{Severity Rate} &= (\textit{ Crash Rate})(\textit{ MDT Severity Index}) \end{aligned}$$

Where:

F = Fatal

PI = Possible Injury

Incap. = Incapacitated

PDO = Property Damage Only

U = Unknown

Table 2: Intersection Crashes in the Five-Year Period

INTERSECTION		# CRASHES
King Avenue West & South 80th Street West	U-2W	1
Hesper Road & South 80th Street West	U-2W	2
U-2W=Unsignalized Intersection Two-Way Stop Controlled		

Table 3 ranks the number of crashes against the annual average daily traffic (AADT) (provided by MDT’s “MS2” traffic count software) entering each intersection, expressed as crashes per million entering vehicles (MEV). The Intersection Crash Rate formula was used to determine the intersection rate, expressed in MEV. It is to note that the AADT utilized for each intersection was calculated by adding up the total AADT from 2021 to 2025 and dividing by five. Since each roadway is a “2-way” road, the final AADT was then divided by two to determine a 50/50 split for AADT entering the intersection. For the data obtained at the intersection of King Ave. West & South 80th Street West, MDT Traffic Count Station 56-4-015 was used to determine AADT. For the data obtained at the intersection of Hesper Road & South 80th Street West, MDT Traffic Count Station 088451Y was used to determine AADT.

Table 4 illustrates a detailed look at the crashes to determine the MDT “severity index rating.” The severity index is a ratio that shows where the most sever types of crashes occur. Crashes were put into five categories of severity: property damage, possible injury crash, minor injury crash, serious injury crash, and fatal injury crash. The severity index rating is then determined using the MDT Severity Index equation. Also shown is the severity rate, which uses the Severity Rate equation by multiplying the Crash Rate by the MDT Severity Index.

Table 3: Intersection Crash Rate

INTERSECTION		# CRASHES	VOLUME*	CRASH RATE
King Avenue West & South 80th Street West	U-2W	1	1,914	0.29
Hesper Road & South 80th Street West	U-2W	2	579	1.89
U-2W=Unsignalized Intersection Two-Way Stop Controlled				

Table 4: MDT Severity Index and Rate

INTERSECTION	PROPERTY DAMAGE ONLY OR UNKNOWN	POSSIBLE INJURY	MINOR INJURY	SERIOUS INJURY	FATAL INJURY	SEVERITY INDEX	SEVERITY RATE
King Avenue West & South 80th Street West	0	0	1	0	0	3.00	0.86
Hesper Road & South 80th Street West	1	1	0	0	0	2.00	3.79

2.6.2 Approach Site Triangles

To determine sufficient driver clear vision for the development approaches, the proposed site conditions, features, and structures were evaluated using the following sight distance equation:

$$b = 1.47V_{major}t_g$$

Where:

b = length of leg of sight triangle along the major road (ft)

V_{major} = design speed of major road (mph)

t_g = travel time to reach and clear the major road (sec)

The following intersections were evaluated as follows:

1. King Avenue West & South 80th Street West
 - a. Greenbook Case B – Section 9.5.3.1 (Stop control on Minor Road)
2. Hesper Road & South 80th Street West
 - a. Greenbook Case B – Section 9.5.3.1 (Stop control on Minor Road)
3. Development North Access “N”
 - a. Greenbook Case B – Section 9.5.3.1 (Stop control on Minor Road)
4. Development South Access “S”
 - a. Greenbook Case B – Section 9.5.3.1 (Stop control on Minor Road)

The time gap chosen for these intersections were both, “Passenger Car” & “Single-Unit Truck” as vertical sight clearance was a concern for the North Access. The determination was made for a “Single-Unit Truck” in lieu of a “Combination Truck” was based on the understanding of intended development use and anticipated traffic. Additionally, the decision point for each case was based on the conservative assumption that vehicles typically stop 18-feet back from the edge of the major travel lane, as recommended in *AASHTO A Policy on Highway Geometric Design and Streets (2018), 7th Edition “The Greenbook”*. Furthermore, vertical sight clearance was considered for both a passenger car line of sight, 3.50’, as well as a truck’s line of sight, 7.60’, for the development approaches following the assumed approaching object height of 3.50’ along the sight triangle alignment. Figures for these calculations can be found in **Appendix J**. During this analysis, it was identified that a vehicle, truck and car, making a left turn from the North Approach will experience a visual impairment due to the hill crest of South 80th Street West located immediately to the south of the approach. No other development movements were identified as being impaired through this analysis.

3 PROJECTED TRAFFIC – TRIP GENERATION AND DISTRIBUTION

3.1 Roadway Traffic Forecast

A 0.84% and 4.51% growth factor was utilized for the traffic calculations at King Avenue West and Hesper Road, respectively. These growth rates are based on current demographic trends and MDT Historical count data for adjacent roadways. Beginning with the opening year of 2031 this growth factor will be used to project the peak hour turning movement volumes.

The annualized growth factor was determined using the equation:

$$Growth\ Rate = \left(\frac{P_{final}}{P_{initial}} \right)^{\frac{1}{n}} - 1$$

Where:

P = Population final/initial
n = Number of Years

Using the annualized growth rate equation above as well as the population data provided by Montana’s Department of Transportation AADT counts, the following information was used to identify the growth rates used:

King Avenue West			Hesper Road		
MDT Rout:	S-532		MDT Rout:	L-56-526	
MDT Classification:	RMA_RMC_345		MDT Classification:	RMA_RMC_345	
MDT Functional Class:	Major Collector		MDT Functional Class:	Local	
Traffic Count Site:	56-4-015		Traffic Count Site:	088451Y	
AADT Year	AADT Count	AADT Annual Growth	AADT Year	AADT Count	AADT Annual Growth
2025	1956	-6%	2025	667	1%
2024	2082	14%	2024	651	25%
2023	1833	1%	2023	522	1%
2022	1822	-3%	2022	519	-3%
2021	1876	197%	2021	535	9%
Annualized Growth Rate:		0.84%	Annualized Growth Rate:		4.51%

3.1.1 Proposed Development Site

Shop House Acres development is currently addressed as 1248 South 80th Street West, Billings, MT and is located in Section 14, Township 01 North, Range 24 East, Yellowstone County, Montana. There is currently no zoning in this area. If the land use changes in the future, a new traffic impact study will be required by the future developer. The development is bound by the existing Home Stead Acres Subdivision and Shop World Subdivision to the north, Tanglewood Estates Subdivision to the west, and agricultural farmland to the south and east.

To estimate trip generation for the development, land use codes from the Institute of Transportation Engineers (ITE) were applied. Specifically, ITE Code 210 – Single-Family Detached Housing as this seems the most relevant and applicable code to use during IMEG’s meeting with the County Public Works department on February 11th, 2026. The site plan, provided in **Appendix A**, illustrates the proposed 55-lot development area and **Figure 4** illustrating access to the site.

3.2 2031 Trip Distribution

There are two (2) proposed access locations for the development that will both be accessed of South 80th Street West. It is assumed that the development’s trips will utilize existing patterns that were recorded with the 2026 background traffic data. The existing traffic movements indicate the following distribution at the developments access locations:

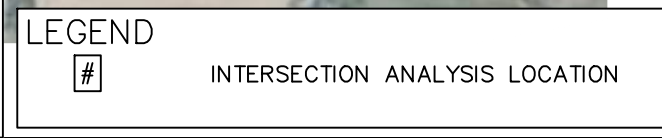
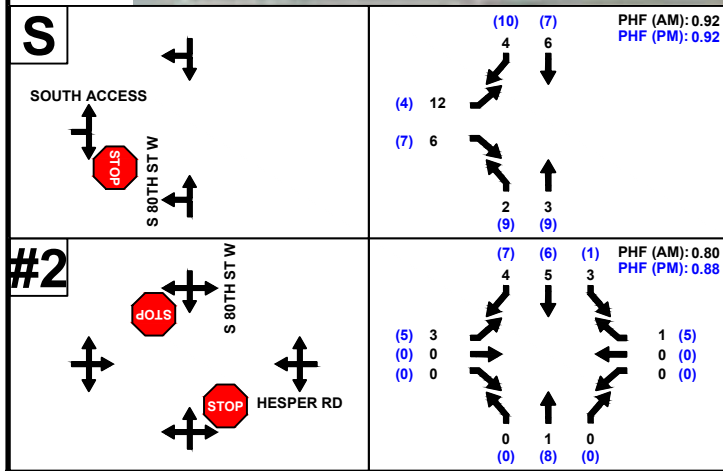
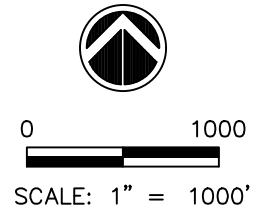
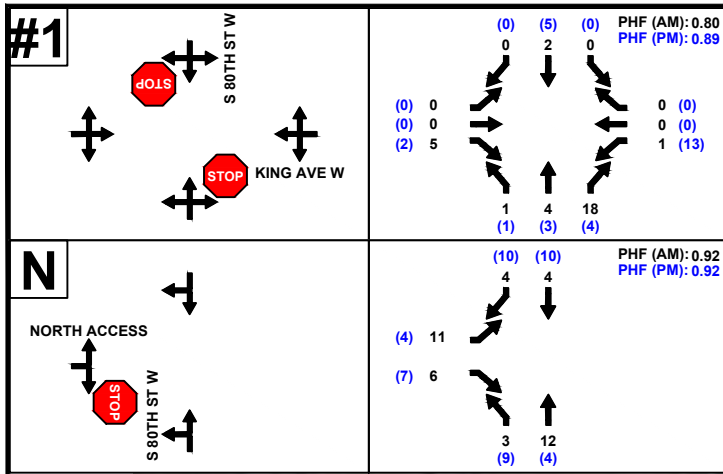
AM Distribution		PM Distribution	
Right-Turn _{Entry}	52%	Right-Turn _{Entry}	54%
Right-Turn _{Exit}	34%	Right-Turn _{Exit}	60%
Left-Turn _{Entry}	48%	Left-Turn _{Entry}	46%
Left-Turn _{Exit}	66%	Left-Turn _{Exit}	40%

This assumption is believed to be reasonable as the proposed development is assumed to follow existing traffic and driver’s habits. **Figure 4** shows the generated trip assignments for both the AM and PM peak hours. A summary of the trips generated can be found in **Table 5**. ITE Trip Generation Worksheets are shown in **Appendix E**.

Table 5: 2024 Trip Movement Summary

2031 Trip Generation – Shop House Acres										
Time Period	Land Use	ITE Code	Variable	Quantity	Avg Rate	Fitted Curve	Trips In	Trips Out	% Enter	% Exit
AM	Single-Family Detached Housing	210	Dwelling Units	55	41	48	13	35	27	73
PM	Single-Family Detached Housing	210	Dwelling Units	55	53	60	38	22	63	37
Totals						108	51	57		

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SHOP HOUSE ACRES MAJOR SUBDIVISION

BILLINGS, MONTANA

2031 DEVELOPMENT TURNING MOVEMENTS

EXHIBIT

FIG - 4

4 TRAFFIC OPERATIONAL ANALYSIS

4.1 Analysis Description

Traffic volumes provide a general view of where the traffic is coming and going through the intersection. The concept of Level of Service (LOS) is to take the traffic volumes and then provide an overall operational analysis of the intersection or each leg of the intersection based on travel delay.

For unsignalized intersections, the LOS is expressed in terms of the weighted average control delay of the overall intersection or by approach. LOS has a range of LOS "A" (best) to LOS "F" (worst). **Table 6** shows the Level of Service definitions and delay for both signalized and unsignalized intersections.

Table 6: Level of Service Definitions

Level of Service	Signalized Intersection Control Delay (sec/veh)	All-way Stop, Two-Way Stop, and Roundabout Intersection Control Delay (sec/veh)
A	≤ 10	≤ 10
B	> 10 - 20	> 10 - 15
C	> 20 - 35	> 15 - 25
D	> 35 - 55	> 25 - 35
E	> 55-80	> 35 - 50
F	> 80; Volume Exceeds Capacity	> 50; Volume Exceeds Capacity
Source: Highway Capacity Manual 7th Edition		

LOS "C" is typically considered an acceptable level of service, although exceptions could be made in specific cases. In *Appendix E* of the Road Design Manual produced by the Montana Department of Transportation the minimum LOS for an Urban Collector Road is a grade "D", with no specified minimum grade for Local Roads.

If the intersection LOS exceeds (worse) these study goals, it demonstrates operational or capacity related needs to be addressed for any potential improvements

4.2 2031 Capacity and Level of Service

A capacity analysis was performed for the projected 2031 background traffic volumes based on the respective growth rates as discussed in section 3.1 for the same lane configuration used for the existing 2026 capacity analysis. See **Figure 5** for 2031 background movements. **Table 7** summarizes the Highway Capacity Software (HCS) results, which can also be found in **Appendix C**.

4.3 2031 Projected Traffic Capacity plus Development Traffic

A capacity analysis was performed for the 2031 total traffic volumes using the existing lane configurations for the intersection study locations. 2031 is the anticipated year that the development will be fully built and occupied. The 2026 traffic volumes were increased by the previously mentioned growth factors discussed in section 3.1 with the additional development traffic identified in section 3.2. See **Figure 6** below for 2031 total movements. **Table 8** summarizes the Highway Capacity Software (HCS) results, which can also be found in **Appendix C**.

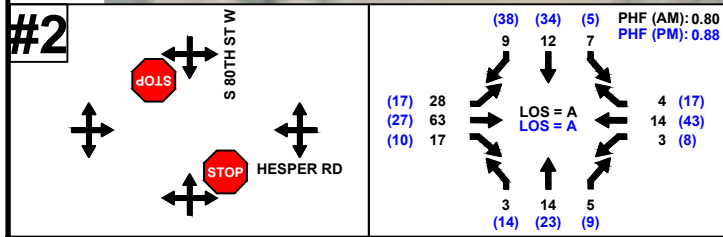
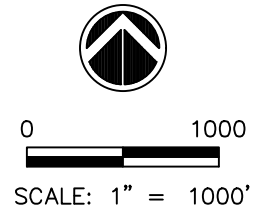
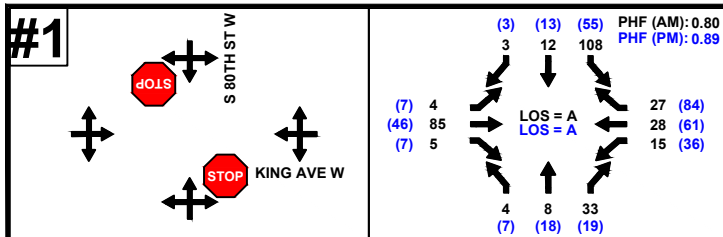
Table 7: 2031 Background Traffic Peak Hour Capacity Analysis Summary

2031 Background Traffic Peak Hour Capacity Analysis Summary								
No.	Intersection	Approach	AM PEAK HOUR			PM PEAK HOUR		
			Approach Delay (sec/veh)	Approach LOS	95th % Queue (veh)	Approach Delay (sec/veh)	Approach LOS	95th % Queue (veh)
Intersection Control			<i>Two-Way Stop Control (NB/SB)</i>					
1	King Avenue West & South 80 th Street West	EB	0.3	A	0.0	0.9	A	0.0
		WB	1.7	A	0.0	1.6	A	0.1
		NB	9.5	A	0.2	10.3	B	0.2
		SB	11.9	B	0.9	11.7	B	0.4
Intersection Control			<i>Two-Way Stop Control (NB/SB)</i>					
2	Hesper Road & South 80 th Street West	EB	2.0	A	0.1	2.4	A	0.0
		WB	1.1	A	0.0	0.9	A	0.0
		NB	10.0	B	0.1	10.1	B	0.2
		SB	9.8	A	0.1	9.8	A	0.3

Table 8: 2031 Future Capacity Analysis Summary Plus Development Traffic

2031 Future Capacity Analysis Summary Plus Development Traffic								
No.	Intersection	Approach	AM PEAK HOUR			PM PEAK HOUR		
			Approach Delay (sec/veh)	Approach LOS	95th % Queue (veh)	Approach Delay (sec/veh)	Approach LOS	95th % Queue (veh)
Intersection Control			<i>Two-Way Stop Control (NB/SB)</i>					
1	King Avenue West & South 80 th Street West	EB	0.3	A	0.0	0.9	A	0.0
		WB	1.8	A	0.0	2.1	A	0.1
		NB	9.7	A	0.3	10.6	B	0.3
		SB	12.4	B	0.9	12.3	B	0.5
Intersection Control			<i>Two-Way Stop Control (NB/SB)</i>					
2	Hesper Road & South 80 th Street West	EB	2.2	A	0.1	2.8	A	0.0
		WB	1.0	A	0.0	0.8	A	0.0
		NB	10.1	B	0.1	10.4	B	0.3
		SB	10.0	B	0.2	9.9	A	0.4
Intersection Control			<i>One-Way Stop Control (EB)</i>					
3	Development North Approach	EB	8.9	A	0.1	9.1	A	0.0
		WB	-	-	-	-	-	-
		NB	0.4	A	0.0	1.0	A	0.0
		SB	-	-	-	-	-	-
Intersection Control			<i>One-Way Stop Control (EB)</i>					
4	Development South Approach	EB	8.9	A	0.1	9.1	A	0.0
		WB	-	-	-	-	-	-
		NB	0.3	A	0.0	0.9	A	0.0
		SB	-	-	-	-	-	-

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LEGEND

INTERSECTION ANALYSIS LOCATION



550 NORTH 31ST STREET
SUITE 111
BILLINGS, MT 59101

PH: 406.248.9000
www.imegcorp.com

SHOP HOUSE ACRES MAJOR SUBDIVISION

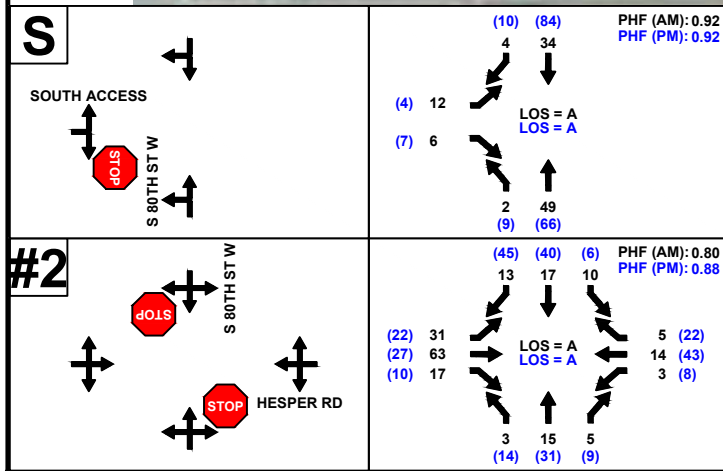
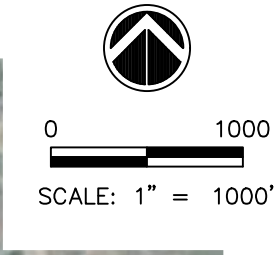
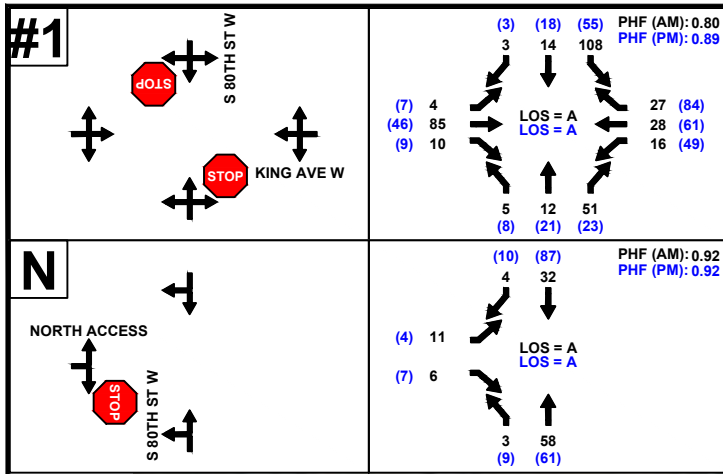
BILLINGS, MONTANA

2031 BACKGROUND TURNING MOVEMENTS

EXHIBIT

FIG - 5

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IMEG

550 NORTH 31ST STREET
SUITE 111
BILLINGS, MT 59101

PH: 406.248.9000
www.imegcorp.com

SHOP HOUSE ACRES MAJOR SUBDIVISION

BILLINGS, MONTANA

2031 TOTAL TURNING MOVEMENTS

EXHIBIT

FIG - 6

5 ADDITIONAL TRAFFIC OPERATIONAL ANALYSIS

5.1.1 Traffic Signal Warrant Analysis

A traffic signal warrant analysis was performed by using the Highway Capacity Software (HCS) MUTCD Warrants function. Meeting a signal warrant is an indication that the intersection could be considered for the installation of traffic signals. **Table 9** below summarizes the signal warrant calculations, taking into account seasonally adjusted traffic counts, pedestrian movements, and articulated trucks for each hour between 7:00 am and 6:00pm for both the existing 2026 traffic and the 2031 total traffic. Additional signal warrant analysis information can be found in **Appendix E**.

Table 9: Signal Warrant Analysis Summary

Traffic Signal Warrants			Warrant 1, Eight-Hour Vehicular Volume	Warrant 2, Four-Hour Vehicular Volume	Warrant 3, Peak Hour	Warrant 4, Pedestrian Volume	Warrant 5, School Crossing	Warrant 6, Coordinated Signal System	Warrant 7, Crash History	Warrant 8, Roadway Network	Warrant 9, Intersection Near a Grade Crossing
2026	Intersection 1	King Avenue West & South 80 th St. West	No	No	No	No	No	No	No	No	No
2031			No	No	No	No	No	No	No	No	No
2026	Intersection 2	Hesper Road & South 80 th St. West	No	No	No	No	No	No	No	No	No
2031			No	No	No	No	No	No	No	No	No

5.1.2 Right-Turn Lane Analysis

For this analysis, the existing two (2) Intersections, #1 & #2, as well as the proposed two (2) development access locations, "N" & "S", were considered for the need for an auxiliary right-turn lane for the free-flowing legs of the intersection based on the criteria outlined in Chapter 28.4 of the Engineering Traffic Manual (2007), which can be found in **Appendix F**. Although neither of the existing intersections nor the proposed access locations warrant the need for any further considerations, **Table 10** summarizes each of the TWSC intersections and the decisions warranting further design considerations for an auxiliary right-turn.

5.1.3 Left-Turn Lane Analysis

For this analysis, the existing two (2) Intersections, #1 & #2, as well as the proposed two (2) development access locations, "N" & "S", were considered for the need for an auxiliary left-turn lane for the free-flowing legs of the intersection based on the criteria outlined in Chapter 28.4 of the Engineering Traffic Manual (2007), which can be found in **Appendix F**. Although neither of the existing intersections nor the proposed access locations warrant the need for any further considerations, **Table 10** summarizes each of the TWSC intersections and the decisions warranting further design considerations for an auxiliary left-turn lane.

Table 10: Auxiliary Turn-Lane Summary

Auxiliary Turn-Lane Warrants			Northbound Left		Northbound Right		Southbound Left		Southbound Right		Eastbound Left		Eastbound Right		Westbound Left		Westbound Right	
			AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM
2026 ^{Existing}	Intersection 1	King Avenue West & South 80 th St. West	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
2031 ^{Existing}			NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
2031 ^{Total}			NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
2026 ^{Existing}	Intersection 2	Hesper Road & South 80 th St. West	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
2031 ^{Existing}			NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
2031 ^{Total}			NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
2026 ^{Existing}	Intersection N	Development North Access & South 80 th St. West	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
2031 ^{Existing}			NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
2031 ^{Total}			NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
2026 ^{Existing}	Intersection S	Development South Access & South 80 th St. West	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
2031 ^{Existing}			NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
2031 ^{Total}			NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO

6 IMPACT MITIGATION FINANCIAL CONTRIBUTION ANALYSIS

This analysis follows the requirements outlined in the Yellowstone County Subdivision Regulations, Section 4.6.C.4.B.8. Following the “Vegas Method” it was concluded that King Avenue West at South 80th Street West is projected to increase by 1.58% and Hesper Road at South 80th Street West is projected to increase by 1.17%. With both intersections not meeting or exceeding the minimum contribution threshold of 2.00% in growth, the developer for Shop House Acres is not required to participate in the financial cost share for either intersection. A detailed calculation and summary of this data is presented in **Appendix K**.

7 CONCLUSION

Analysis of the existing traffic volumes, lane configurations, and the impacts due to the projected traffic growth and proposed development result in the following general conclusions:

- The preceding analysis demonstrates that the Shop House Acres development will not generate significant nor impactful volume of new trips at the intersections studied.
- The studied existing intersections and proposed access locations will operate at or above an LOS of “B”, exceeding any minimum requirement of an LOS specified in the *Appendix E* of the Road Design Manual produced by the Montana Department of Transportation.
- No auxiliary turn lanes are warranted for the intersections and access locations discussed in this report.

- Vertical sight obstruction is present for traffic performing left-turn movements onto South 80th Street West from the North Access location of the development.
- The existing intersections do not warrant any further analysis for signal considerations as no considerations warrants are met.

8 RECOMMENDATIONS

Based on the data presented during this study, it is recommended that:

- Due to the vertical sight obstruction of the hill on South 80th Street West, it is recommended that a “Hill Blocks View” and an advisory speed sign of 30mph be placed along South 80th Street West for the north-bound traffic as identified by the intersection sight distance (ISD) limitations shown Figures J-3 & J-4 in **Appendix J**.
 - “Hill Block View” - Reference figure 2C-5, sign W7-6 from the Manual of Uniform Traffic Control Devices, 11th edition.
 - Advisory Speed Sign - Reference figure 2C-1, sign W13-1P from the Manual of Uniform Traffic Control Devices, 11th edition.
- Any additional improvements shall be designed in accordance with MTD and Yellowstone County standards and comply with the latest edition of the Manual of Uniform Traffic Control Devices (MUTCD).
- Any future development(s) of the current property or surrounding properties shall perform a new traffic impact study.

9 REFERENCES

- *Montana Department of Transportation (MDT)*
- *Manual on Uniform Traffic Control Devices, 11th edition*
- *ITE Trip Generation Manual, 12th edition*
- *Highway Capacity Software (HCS), Version 2026*
- *AASHTO A Policy on Highway Geometric Design and Streets (2018), 7th Edition*
- *Intersection Safety – A Manual for Local Rural Road Owners*



Shop House Acres Major Subdivision Traffic Impact Study

APPENDIX A
Site Plan

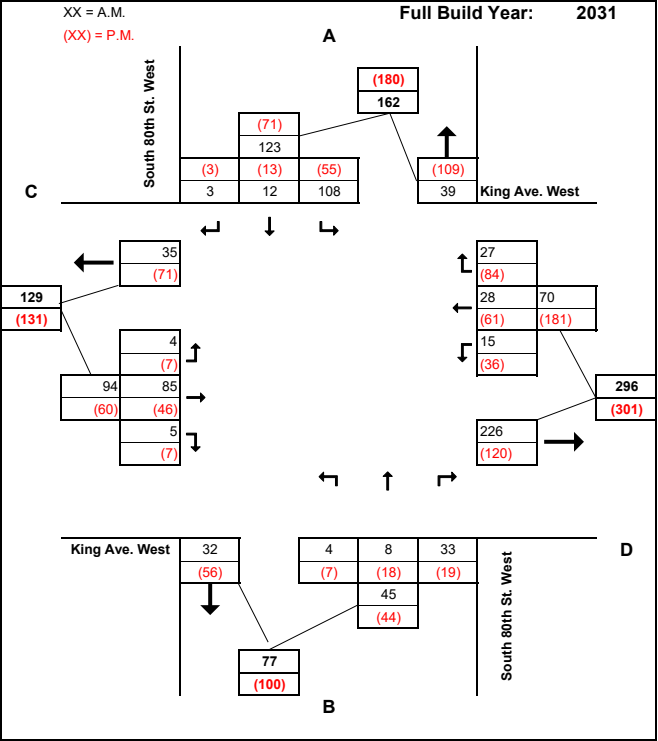
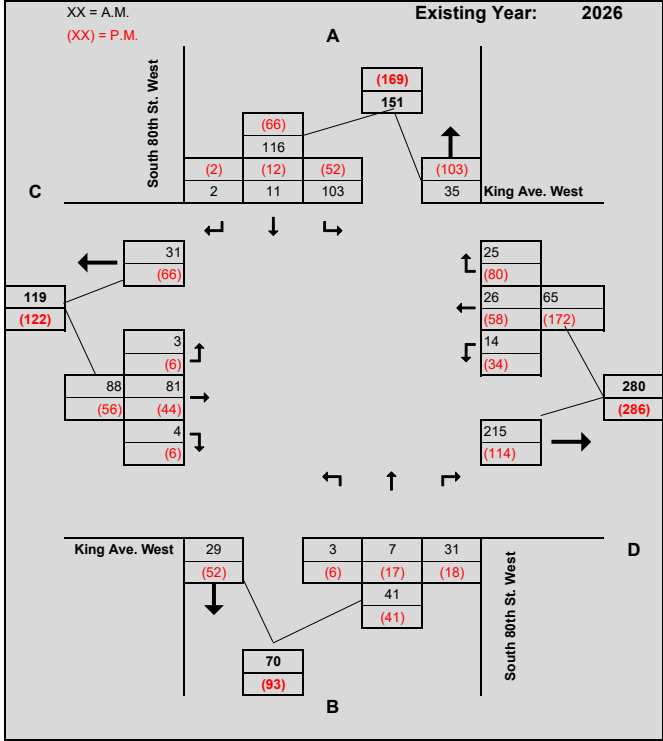


Shop House Acres Major Subdivision Traffic Impact Study

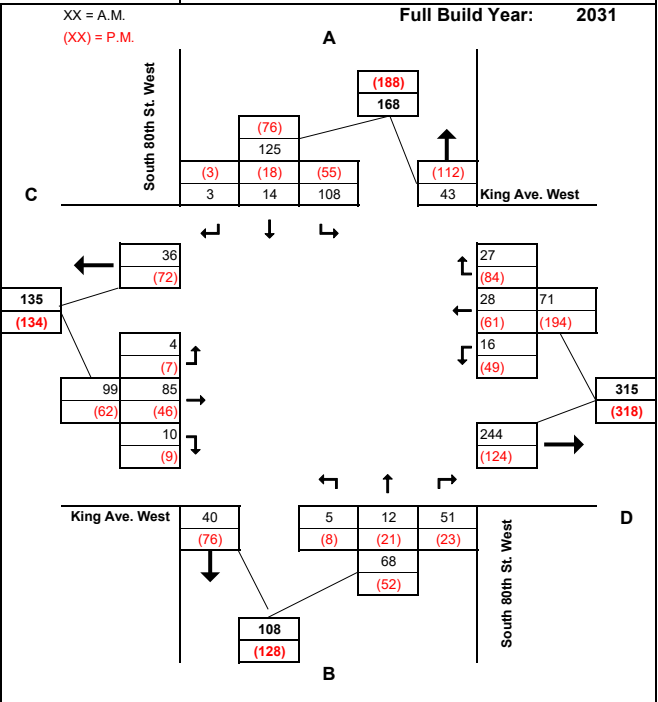
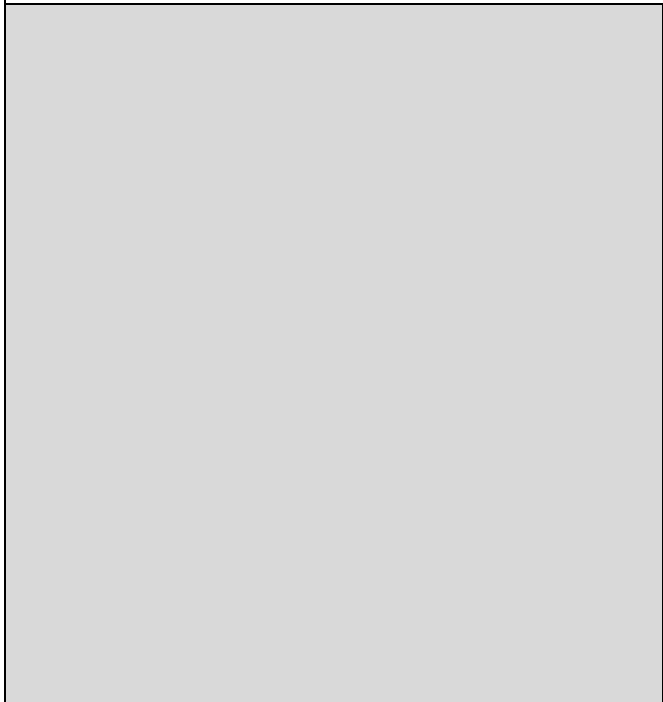
APPENDIX B

Traffic Volume Data and Lane Assignment Volumes

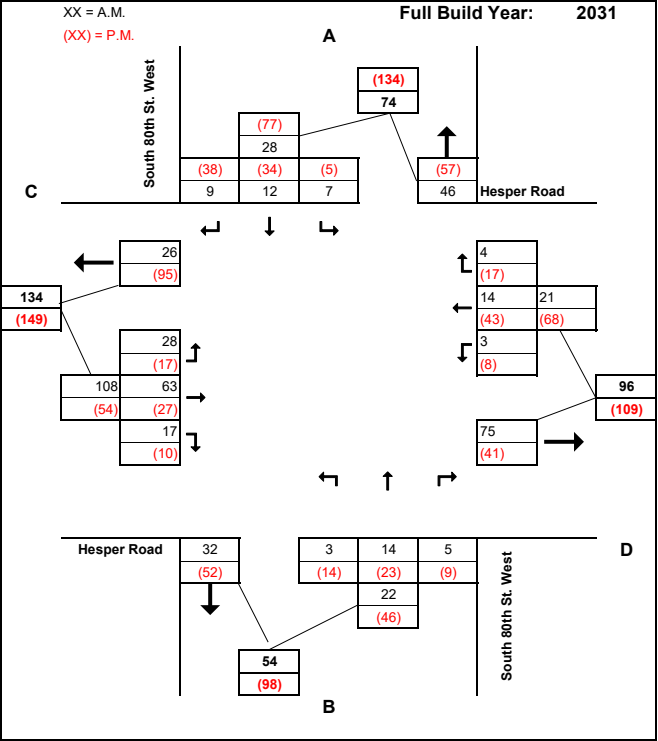
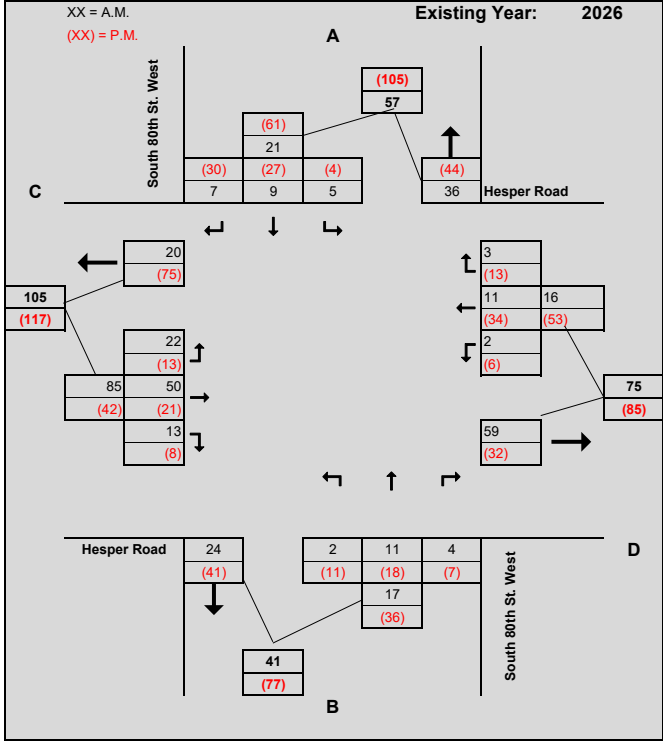
Background AM & PM Peak Hour Traffic Volumes			Shop House Acres Major Subdivision		
Forecasted by: IMEG Phone: 406-248-9000	AM Peak Hour: 7:15 AM PM Peak Hour: 4:15 PM Date Traffic Collected: 2/12/2026 Date Calculated: 2/20/2026	AM PHF: 0.80 PM PHF: 0.89	Project No: 25006765.00	Route: King Ave. West & South 80th St. West	County: Yellowstone State: Montana City of Billings



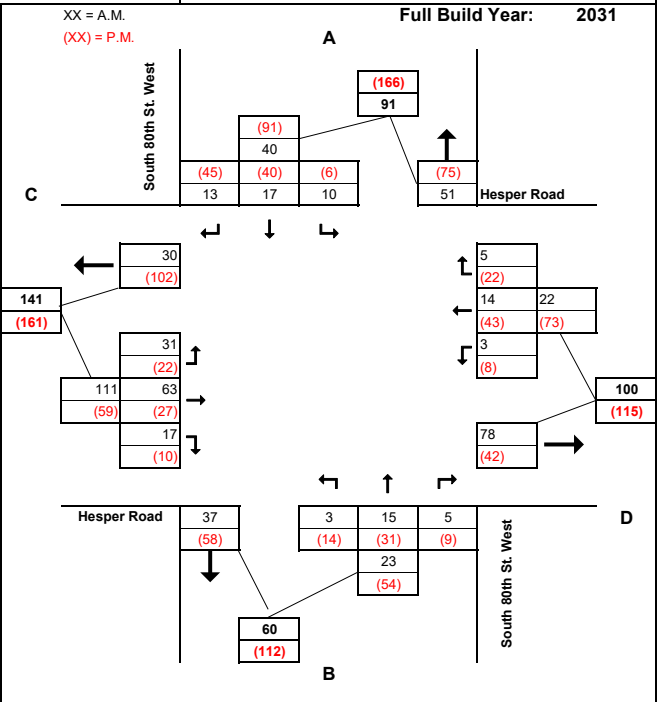
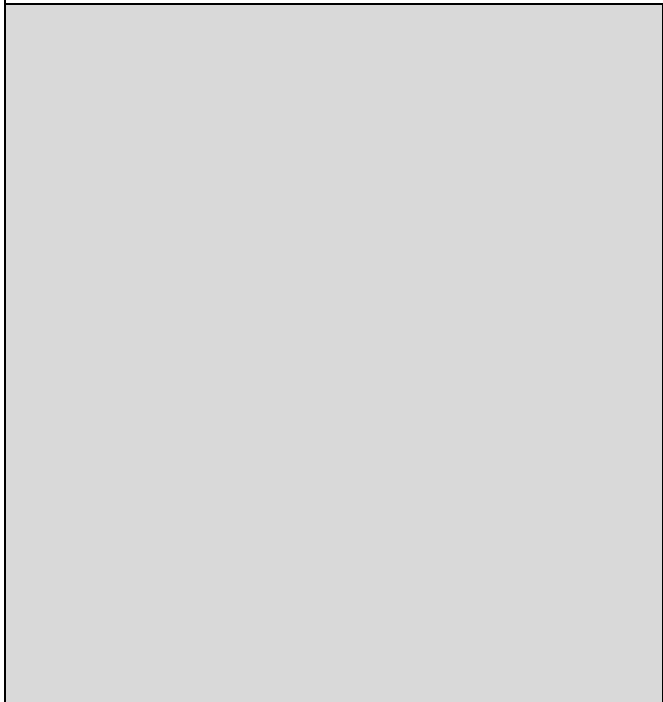
Total AM & PM Peak Hour Traffic Volumes			Shop House Acres Major Subdivision		
Forecasted by: IMEG Phone: 406-248-9000	AM Peak Hour: 7:15 AM PM Peak Hour: 4:15 PM	AM PHF: 0.80 PM PHF: 0.89	Project No: 25006765.00	Route: King Ave. West & South 80th St. West	County: Yellowstone State: Montana City of Billings

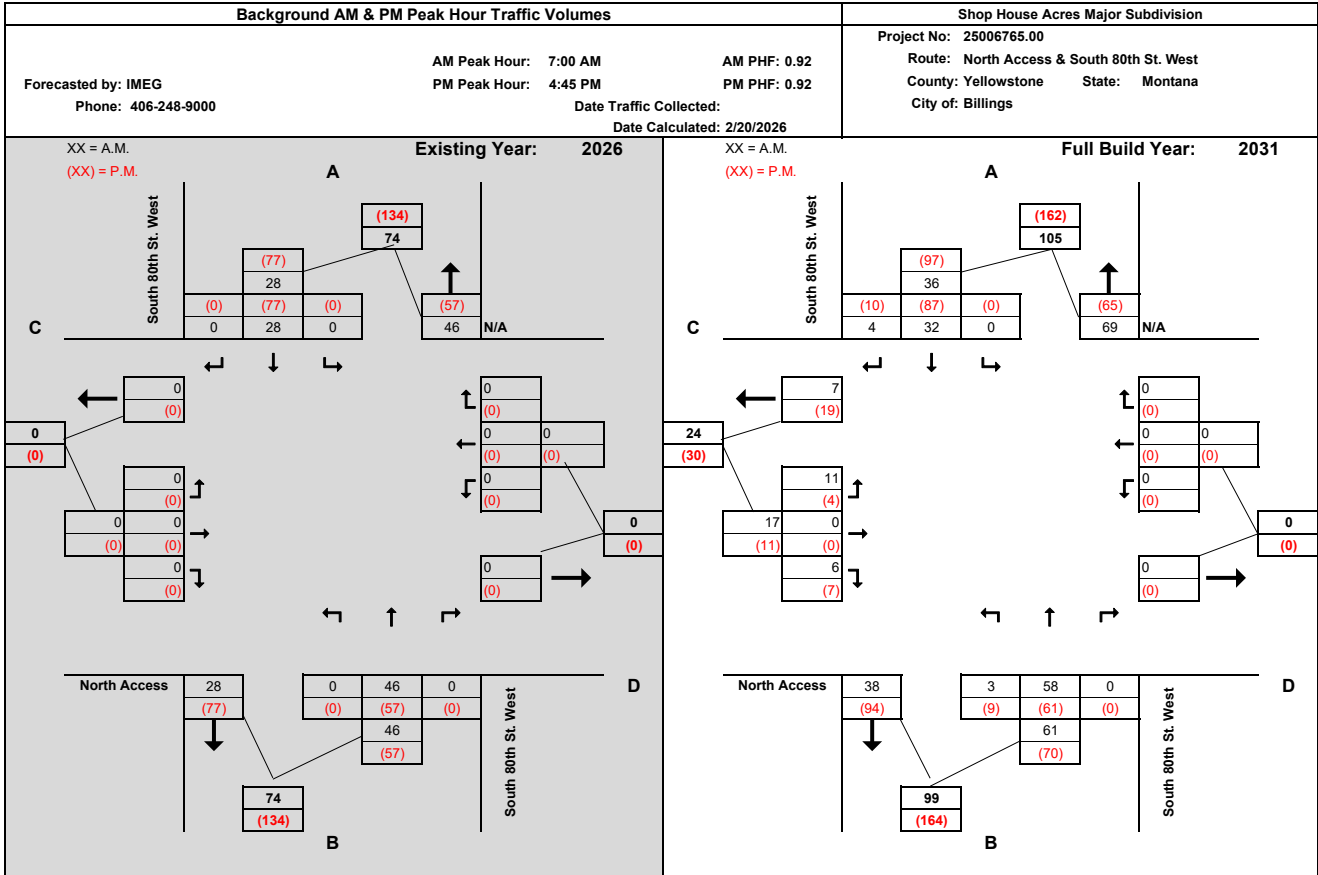


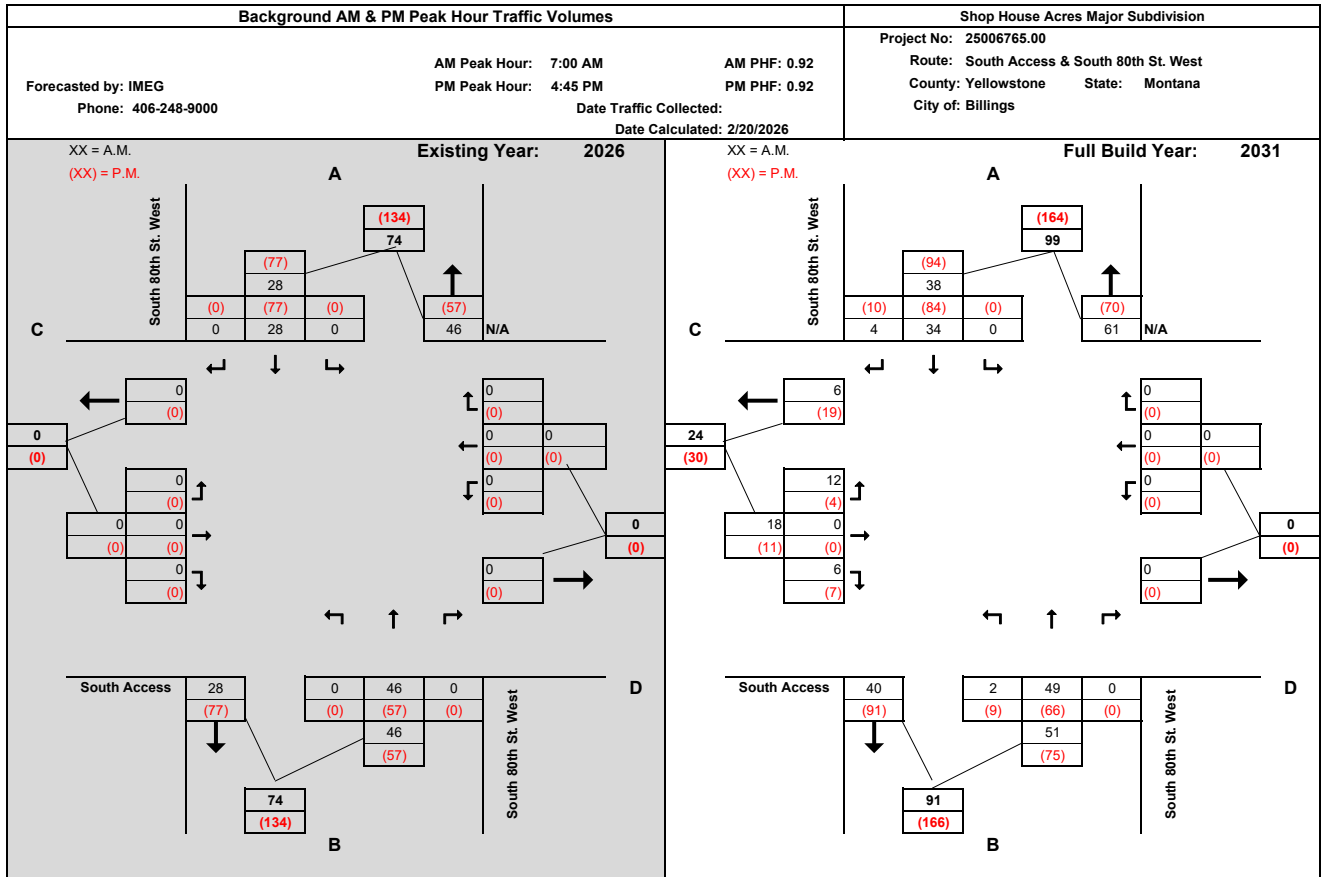
Background AM & PM Peak Hour Traffic Volumes			Shop House Acres Major Subdivision		
Forecasted by: IMEG Phone: 406-248-9000	AM Peak Hour: 7:00 AM	AM PHF: 0.80	Project No: 25006765.00		
	PM Peak Hour: 4:45 PM	PM PHF: 0.88	Route: Hesper Road & South 80th St. West		
	Date Traffic Collected: 2/12/2026		County: Yellowstone State: Montana		
		Date Calculated: 2/20/2026	City of Billings		



Total AM & PM Peak Hour Traffic Volumes			Shop House Acres Major Subdivision		
Forecasted by: IMEG Phone: 406-248-9000	AM Peak Hour: 7:00 AM	AM PHF: 0.80	Project No: 25006765.00		
	PM Peak Hour: 4:45 PM	PM PHF: 0.88	Route: Hesper Road & South 80th St. West		
	Date Traffic Collected: 2/12/2026		County: Yellowstone State: Montana		
		Date Calculated: 2/20/2026	City of Billings		









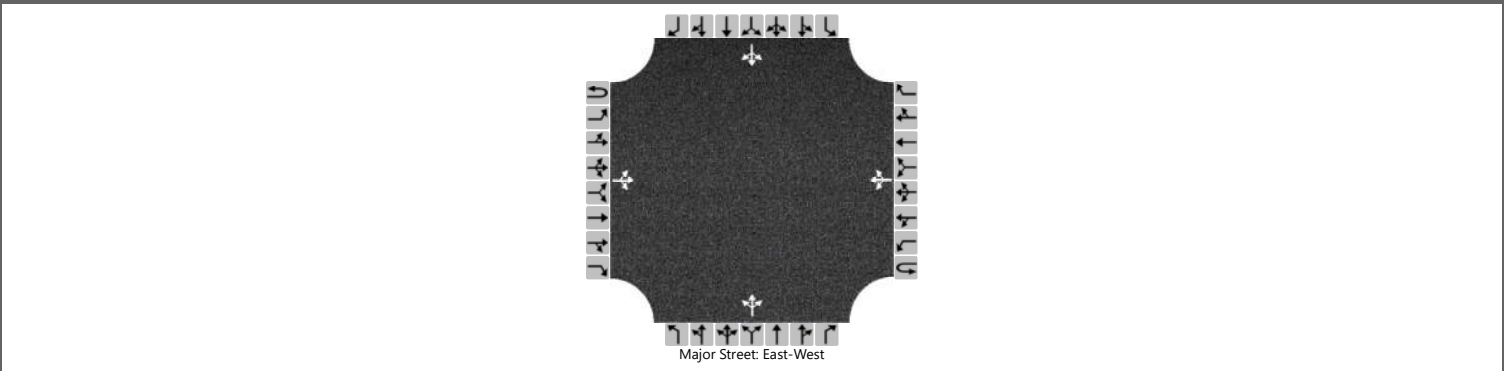
Shop House Acres Major Subdivision Traffic Impact Study

APPENDIX C
Intersection Capacity Analysis
for
2026 Background Traffic
&
2031 Population Growth of Background Traffic
&
2031 Total Traffic

HCS Two-Way Stop-Control Report

General Information				Site Information			
Analyst	MJH	Intersection	King Ave West & South 80th St West				
Agency/Co.	IMEG	Jurisdiction	Yellowstone County				
Date Performed	2/23/2026	East/West Street	King Ave West				
Analysis Year	2026	North/South Street	South 80th St West				
Time Analyzed	2026 Background_AM	Peak Hour Factor	0.80				
Intersection Orientation	East-West	Analysis Time Period (hrs)	0.25				
Project Description	Shop House Acres Major Subd.						

Lanes



Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound				
	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R	
Movement	1U	1	2	3	4U	4	5	6		7	8	9		10	11	12	
Priority																	
Number of Lanes	0	0	1	0	0	0	1	0		0	1	0		0	1	0	
Configuration			LTR				LTR				LTR				LTR		
Volume (veh/h)		3	81	4		14	26	25		3	7	31		103	11	2	
Percent Heavy Vehicles (%)		0				0				0	0	0		0	0	0	
Proportion Time Blocked																	
Percent Grade (%)										0				0			
Right Turn Channelized																	
Median Type Storage	Undivided																

Critical and Follow-up Headways

Base Critical Headway (sec)		4.1				4.1				7.1	6.5	6.2		7.1	6.5	6.2
Critical Headway (sec)		4.10				4.10				7.10	6.50	6.20		7.10	6.50	6.20
Base Follow-Up Headway (sec)		2.2				2.2				3.5	4.0	3.3		3.5	4.0	3.3
Follow-Up Headway (sec)		2.20				2.20				3.50	4.00	3.30		3.50	4.00	3.30

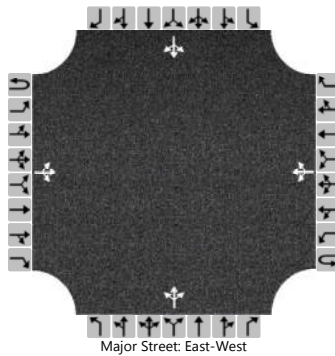
Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)		4				18					51				145	
Capacity, c (veh/h)		1552				1497					876				697	
v/c Ratio		0.00				0.01					0.06				0.21	
95% Queue Length, Q ₉₅ (veh)		0.0				0.0					0.2				0.8	
95% Queue Length, Q ₉₅ (ft)		0.0				0.0					5.0				20.0	
Control Delay (s/veh)		7.3	0.0	0.0		7.4	0.1	0.1			9.4				11.5	
Level of Service (LOS)		A	A	A		A	A	A			A				B	
Approach Delay (s/veh)		0.3			1.7					9.4			11.5			
Approach LOS		A			A					A			B			

HCS Two-Way Stop-Control Report

General Information				Site Information			
Analyst	MJH	Intersection	King Ave West & South 80th St West				
Agency/Co.	IMEG	Jurisdiction	Yellowstone County				
Date Performed	2/23/2026	East/West Street	King Ave West				
Analysis Year	2026	North/South Street	South 80th St West				
Time Analyzed	2026 Background_PM	Peak Hour Factor	0.89				
Intersection Orientation	East-West	Analysis Time Period (hrs)	0.25				
Project Description	Shop House Acres Major Subd.						

Lanes



Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound				
	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R	
Movement	1U	1	2	3	4U	4	5	6		7	8	9		10	11	12	
Priority																	
Number of Lanes	0	0	1	0	0	0	1	0		0	1	0		0	1	0	
Configuration			LTR				LTR				LTR				LTR		
Volume (veh/h)		6	44	6		34	58	80		6	17	18		52	12	2	
Percent Heavy Vehicles (%)		0				0				0	0	0		0	0	0	
Proportion Time Blocked																	
Percent Grade (%)										0				0			
Right Turn Channelized																	
Median Type Storage	Undivided																

Critical and Follow-up Headways

Base Critical Headway (sec)		4.1				4.1				7.1	6.5	6.2		7.1	6.5	6.2
Critical Headway (sec)		4.10				4.10				7.10	6.50	6.20		7.10	6.50	6.20
Base Follow-Up Headway (sec)		2.2				2.2				3.5	4.0	3.3		3.5	4.0	3.3
Follow-Up Headway (sec)		2.20				2.20				3.50	4.00	3.30		3.50	4.00	3.30

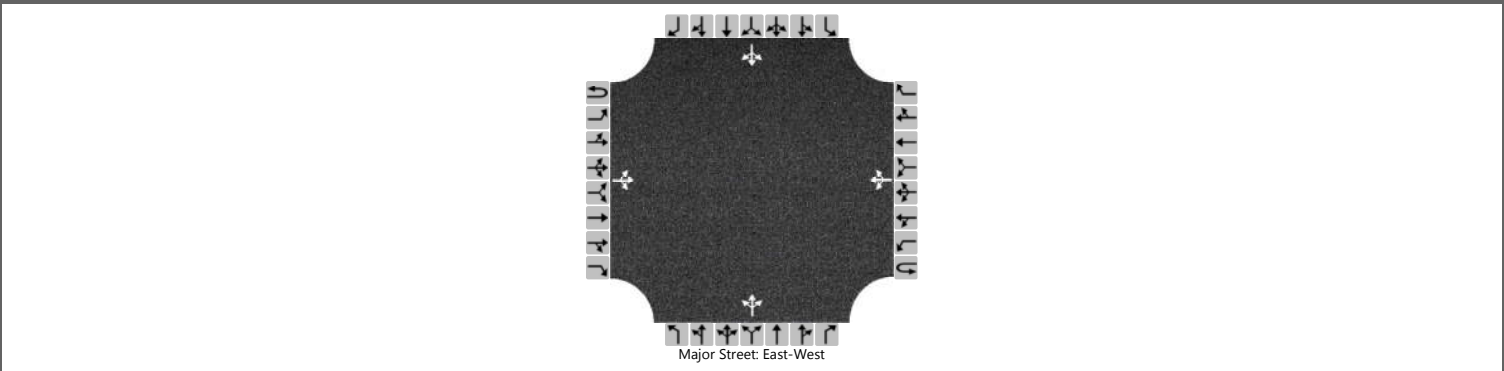
Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)		7				38					46				74	
Capacity, c (veh/h)		1437				1561					743				636	
v/c Ratio		0.00				0.02					0.06				0.12	
95% Queue Length, Q ₉₅ (veh)		0.0				0.1					0.2				0.4	
95% Queue Length, Q ₉₅ (ft)		0.0				2.5					5.0				10.0	
Control Delay (s/veh)		7.5	0.0	0.0		7.4	0.2	0.2			10.2				11.4	
Level of Service (LOS)		A	A	A		A	A	A			B				B	
Approach Delay (s/veh)		0.8			1.6					10.2			11.4			
Approach LOS		A			A					B			B			

HCS Two-Way Stop-Control Report

General Information				Site Information			
Analyst	MJH			Intersection	Hesper Road & South 80th St West		
Agency/Co.	IMEG			Jurisdiction	Yellowstone County		
Date Performed	2/23/2026			East/West Street	Hesper Road		
Analysis Year	2026			North/South Street	South 80th St West		
Time Analyzed	2026 Background_AM			Peak Hour Factor	0.80		
Intersection Orientation	East-West			Analysis Time Period (hrs)	0.25		
Project Description	Shop House Acres Major Subd.						

Lanes



Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Movement	1U	1	2	3	4U	4	5	6	7	8	9		10	11	12	
Priority																
Number of Lanes	0	0	1	0	0	0	1	0	0	1	0		0	1	0	
Configuration			LTR				LTR				LTR				LTR	
Volume (veh/h)		22	50	13		2	11	3		2	11	4		5	9	7
Percent Heavy Vehicles (%)		0				0				0	0	0		0	0	0
Proportion Time Blocked																
Percent Grade (%)										0				0		
Right Turn Channelized																
Median Type Storage	Undivided															

Critical and Follow-up Headways

Base Critical Headway (sec)		4.1				4.1				7.1	6.5	6.2		7.1	6.5	6.2
Critical Headway (sec)		4.10				4.10				7.10	6.50	6.20		7.10	6.50	6.20
Base Follow-Up Headway (sec)		2.2				2.2				3.5	4.0	3.3		3.5	4.0	3.3
Follow-Up Headway (sec)		2.20				2.20				3.50	4.00	3.30		3.50	4.00	3.30

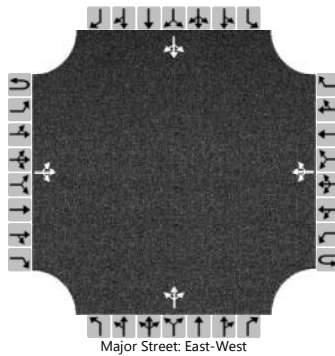
Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)		28				3				21				26		
Capacity, c (veh/h)		1613				1532				787				829		
v/c Ratio		0.02				0.00				0.03				0.03		
95% Queue Length, Q ₉₅ (veh)		0.1				0.0				0.1				0.1		
95% Queue Length, Q ₉₅ (ft)		2.5				0.0				2.5				2.5		
Control Delay (s/veh)		7.3	0.1	0.1		7.4	0.0	0.0		9.7				9.5		
Level of Service (LOS)		A	A	A		A	A	A		A				A		
Approach Delay (s/veh)		2.0				0.9				9.7				9.5		
Approach LOS		A				A				A				A		

HCS Two-Way Stop-Control Report

General Information				Site Information			
Analyst	MJH	Intersection	Hesper Road & South 80th St West				
Agency/Co.	IMEG	Jurisdiction	Yellowstone County				
Date Performed	2/23/2026	East/West Street	Hesper Road				
Analysis Year	2026	North/South Street	South 80th St West				
Time Analyzed	2026 Background_PM	Peak Hour Factor	0.88				
Intersection Orientation	East-West	Analysis Time Period (hrs)	0.25				
Project Description	Shop House Acres Major Subd.						

Lanes



Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound				
	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R	
Movement	1U	1	2	3	4U	4	5	6		7	8	9		10	11	12	
Priority																	
Number of Lanes	0	0	1	0	0	0	1	0		0	1	0		0	1	0	
Configuration			LTR				LTR				LTR				LTR		
Volume (veh/h)		13	21	8		6	34	13		11	18	7		4	27	30	
Percent Heavy Vehicles (%)		0				0				0	0	0		0	0	0	
Proportion Time Blocked																	
Percent Grade (%)										0				0			
Right Turn Channelized																	
Median Type Storage	Undivided																

Critical and Follow-up Headways

Base Critical Headway (sec)		4.1				4.1				7.1	6.5	6.2		7.1	6.5	6.2
Critical Headway (sec)		4.10				4.10				7.10	6.50	6.20		7.10	6.50	6.20
Base Follow-Up Headway (sec)		2.2				2.2				3.5	4.0	3.3		3.5	4.0	3.3
Follow-Up Headway (sec)		2.20				2.20				3.50	4.00	3.30		3.50	4.00	3.30

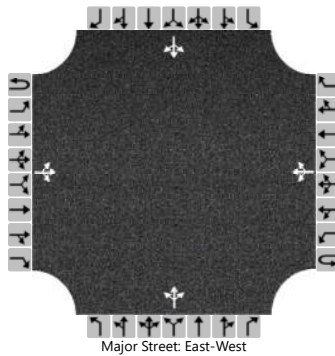
Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)		15				7					41					69
Capacity, c (veh/h)		1565				1592					800					877
v/c Ratio		0.01				0.00					0.05					0.08
95% Queue Length, Q ₉₅ (veh)		0.0				0.0					0.2					0.3
95% Queue Length, Q ₉₅ (ft)		0.0				0.0					5.0					7.5
Control Delay (s/veh)		7.3	0.1	0.1		7.3	0.0	0.0			9.7					9.5
Level of Service (LOS)		A	A	A		A	A	A			A					A
Approach Delay (s/veh)		2.3				0.9				9.7				9.5		
Approach LOS		A				A				A				A		

HCS Two-Way Stop-Control Report

General Information				Site Information			
Analyst	MJH	Intersection	King Ave West & South 80th St West				
Agency/Co.	IMEG	Jurisdiction	Yellowstone County				
Date Performed	2/23/2026	East/West Street	King Ave West				
Analysis Year	2026	North/South Street	South 80th St West				
Time Analyzed	2031 Background_AM	Peak Hour Factor	0.80				
Intersection Orientation	East-West	Analysis Time Period (hrs)	0.25				
Project Description	Shop House Acres Major Subd.						

Lanes



Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound				
	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R	
Movement	1U	1	2	3	4U	4	5	6		7	8	9		10	11	12	
Priority																	
Number of Lanes	0	0	1	0	0	0	1	0		0	1	0		0	1	0	
Configuration			LTR				LTR				LTR				LTR		
Volume (veh/h)		4	85	5		15	28	27		4	8	33		108	12	3	
Percent Heavy Vehicles (%)		0				0				0	0	0		0	0	0	
Proportion Time Blocked																	
Percent Grade (%)										0				0			
Right Turn Channelized																	
Median Type Storage	Undivided																

Critical and Follow-up Headways

Base Critical Headway (sec)		4.1				4.1				7.1	6.5	6.2		7.1	6.5	6.2
Critical Headway (sec)		4.10				4.10				7.10	6.50	6.20		7.10	6.50	6.20
Base Follow-Up Headway (sec)		2.2				2.2				3.5	4.0	3.3		3.5	4.0	3.3
Follow-Up Headway (sec)		2.20				2.20				3.50	4.00	3.30		3.50	4.00	3.30

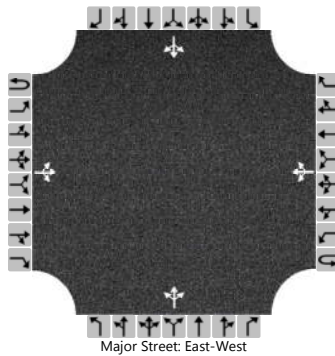
Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)		5				19					56				154	
Capacity, c (veh/h)		1545				1490					859				678	
v/c Ratio		0.00				0.01					0.07				0.23	
95% Queue Length, Q ₉₅ (veh)		0.0				0.0					0.2				0.9	
95% Queue Length, Q ₉₅ (ft)		0.0				0.0					5.0				22.5	
Control Delay (s/veh)		7.3	0.0	0.0		7.4	0.1	0.1			9.5				11.9	
Level of Service (LOS)		A	A	A		A	A	A			A				B	
Approach Delay (s/veh)		0.3				1.7				9.5				11.9		
Approach LOS		A				A				A				B		

HCS Two-Way Stop-Control Report

General Information				Site Information			
Analyst	MJH	Intersection	King Ave West & South 80th St West				
Agency/Co.	IMEG	Jurisdiction	Yellowstone County				
Date Performed	2/23/2026	East/West Street	King Ave West				
Analysis Year	2026	North/South Street	South 80th St West				
Time Analyzed	2031 Background_PM	Peak Hour Factor	0.89				
Intersection Orientation	East-West	Analysis Time Period (hrs)	0.25				
Project Description	Shop House Acres Major Subd.						

Lanes



Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound				
	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R	
Movement	1U	1	2	3	4U	4	5	6		7	8	9		10	11	12	
Priority																	
Number of Lanes	0	0	1	0	0	0	1	0		0	1	0		0	1	0	
Configuration			LTR				LTR				LTR				LTR		
Volume (veh/h)		7	46	7		36	61	84		7	18	19		55	13	3	
Percent Heavy Vehicles (%)		0				0				0	0	0		0	0	0	
Proportion Time Blocked																	
Percent Grade (%)										0				0			
Right Turn Channelized																	
Median Type Storage	Undivided																

Critical and Follow-up Headways

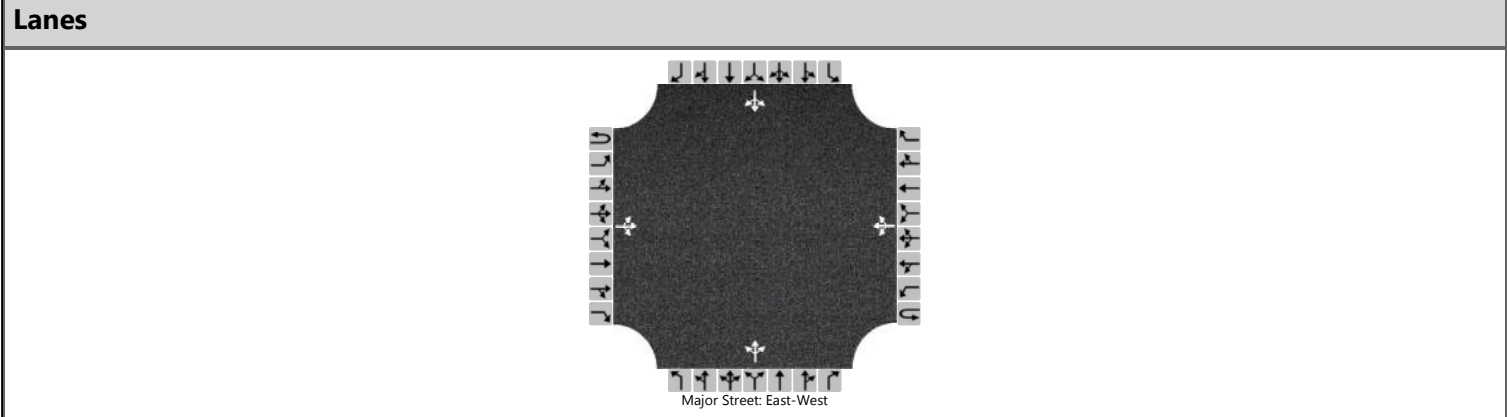
Base Critical Headway (sec)		4.1				4.1				7.1	6.5	6.2		7.1	6.5	6.2
Critical Headway (sec)		4.10				4.10				7.10	6.50	6.20		7.10	6.50	6.20
Base Follow-Up Headway (sec)		2.2				2.2				3.5	4.0	3.3		3.5	4.0	3.3
Follow-Up Headway (sec)		2.20				2.20				3.50	4.00	3.30		3.50	4.00	3.30

Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)		8				40					49				80	
Capacity, c (veh/h)		1428				1557					727				620	
v/c Ratio		0.01				0.03					0.07				0.13	
95% Queue Length, Q ₉₅ (veh)		0.0				0.1					0.2				0.4	
95% Queue Length, Q ₉₅ (ft)		0.0				2.5					5.0				10.0	
Control Delay (s/veh)		7.5	0.0	0.0		7.4	0.2	0.2			10.3				11.7	
Level of Service (LOS)		A	A	A		A	A	A			B				B	
Approach Delay (s/veh)		0.9			1.6					10.3			11.7			
Approach LOS		A			A					B			B			

HCS Two-Way Stop-Control Report

General Information				Site Information			
Analyst	MJH	Intersection	Hesper Road & South 80th St West				
Agency/Co.	IMEG	Jurisdiction	Yellowstone County				
Date Performed	2/23/2026	East/West Street	Hesper Road				
Analysis Year	2026	North/South Street	South 80th St West				
Time Analyzed	2031 Background_AM	Peak Hour Factor	0.80				
Intersection Orientation	East-West	Analysis Time Period (hrs)	0.25				
Project Description	Shop House Acres Major Subd.						



Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound				
	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R	
Movement	1U	1	2	3	4U	4	5	6		7	8	9		10	11	12	
Priority																	
Number of Lanes	0	0	1	0	0	0	1	0		0	1	0		0	1	0	
Configuration			LTR				LTR				LTR				LTR		
Volume (veh/h)		28	63	17		3	14	4		3	14	5		7	12	9	
Percent Heavy Vehicles (%)		0				0				0	0	0		0	0	0	
Proportion Time Blocked																	
Percent Grade (%)										0				0			
Right Turn Channelized																	
Median Type Storage	Undivided																

Critical and Follow-up Headways

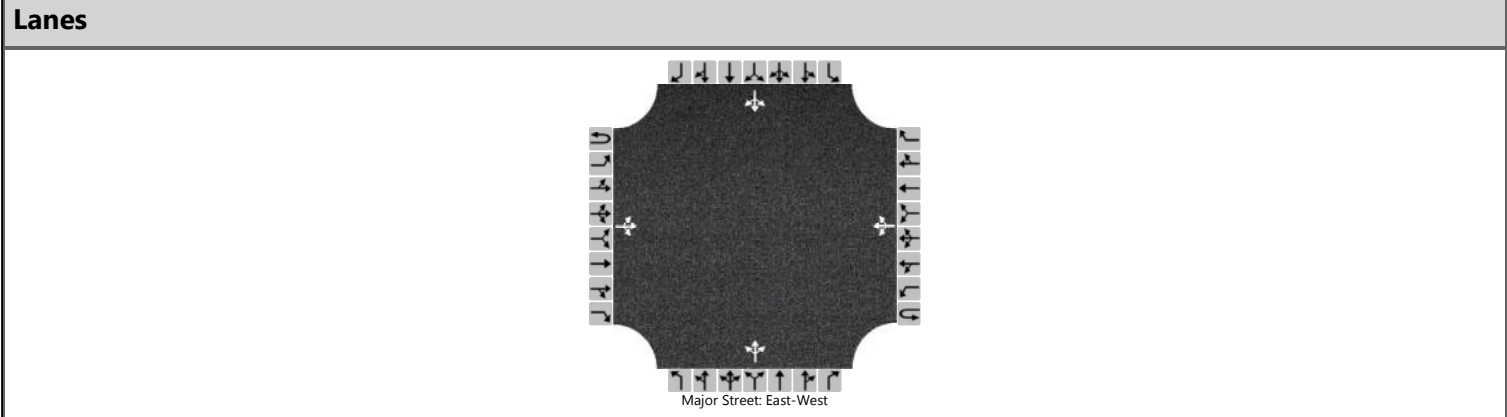
Base Critical Headway (sec)		4.1				4.1				7.1	6.5	6.2		7.1	6.5	6.2
Critical Headway (sec)		4.10				4.10				7.10	6.50	6.20		7.10	6.50	6.20
Base Follow-Up Headway (sec)		2.2				2.2				3.5	4.0	3.3		3.5	4.0	3.3
Follow-Up Headway (sec)		2.20				2.20				3.50	4.00	3.30		3.50	4.00	3.30

Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)		35				4					28					35
Capacity, c (veh/h)		1606				1505					744					784
v/c Ratio		0.02				0.00					0.04					0.04
95% Queue Length, Q ₉₅ (veh)		0.1				0.0					0.1					0.1
95% Queue Length, Q ₉₅ (ft)		2.5				0.0					2.5					2.5
Control Delay (s/veh)		7.3	0.2	0.2		7.4	0.0	0.0			10.0					9.8
Level of Service (LOS)		A	A	A		A	A	A			B					A
Approach Delay (s/veh)		2.0				1.1				10.0				9.8		
Approach LOS		A				A				B				A		

HCS Two-Way Stop-Control Report

General Information				Site Information			
Analyst	MJH	Intersection	Hesper Road & South 80th St West				
Agency/Co.	IMEG	Jurisdiction	Yellowstone County				
Date Performed	2/23/2026	East/West Street	Hesper Road				
Analysis Year	2026	North/South Street	South 80th St West				
Time Analyzed	2031 Background_PM	Peak Hour Factor	0.88				
Intersection Orientation	East-West	Analysis Time Period (hrs)	0.25				
Project Description	Shop House Acres Major Subd.						



Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound				
	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R	
Movement	1U	1	2	3	4U	4	5	6		7	8	9		10	11	12	
Priority																	
Number of Lanes	0	0	1	0	0	0	1	0		0	1	0		0	1	0	
Configuration			LTR				LTR				LTR				LTR		
Volume (veh/h)		17	27	10		8	43	17		14	23	9		5	34	38	
Percent Heavy Vehicles (%)		0				0				0	0	0		0	0	0	
Proportion Time Blocked																	
Percent Grade (%)										0				0			
Right Turn Channelized																	
Median Type Storage	Undivided																

Critical and Follow-up Headways

Base Critical Headway (sec)		4.1				4.1				7.1	6.5	6.2		7.1	6.5	6.2
Critical Headway (sec)		4.10				4.10				7.10	6.50	6.20		7.10	6.50	6.20
Base Follow-Up Headway (sec)		2.2				2.2				3.5	4.0	3.3		3.5	4.0	3.3
Follow-Up Headway (sec)		2.20				2.20				3.50	4.00	3.30		3.50	4.00	3.30

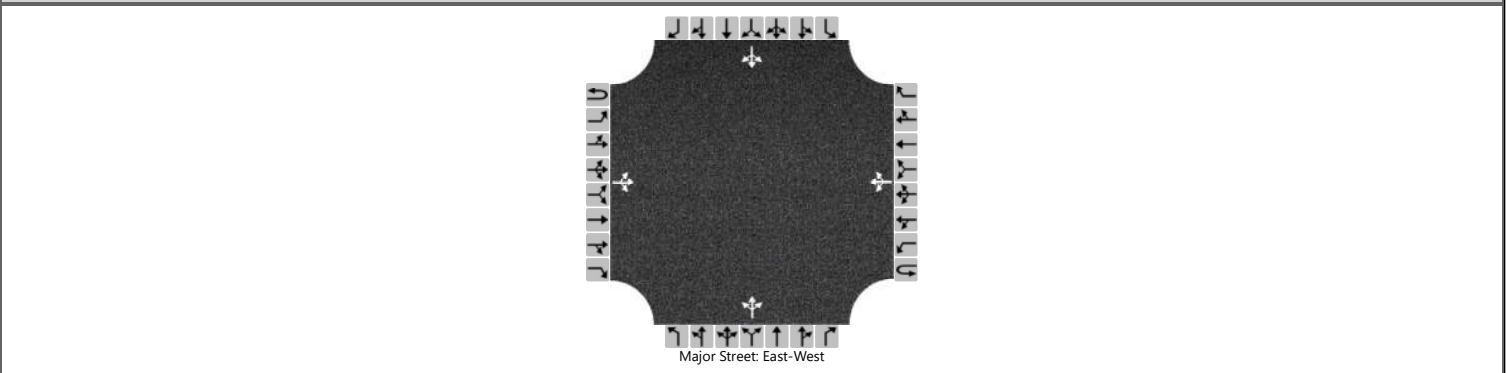
Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)		19				9					52					88
Capacity, c (veh/h)		1546				1580					755					845
v/c Ratio		0.01				0.01					0.07					0.10
95% Queue Length, Q ₉₅ (veh)		0.0				0.0					0.2					0.3
95% Queue Length, Q ₉₅ (ft)		0.0				0.0					5.0					7.5
Control Delay (s/veh)		7.4	0.1	0.1		7.3	0.0	0.0			10.1					9.8
Level of Service (LOS)		A	A	A		A	A	A			B					A
Approach Delay (s/veh)		2.4				0.9				10.1				9.8		
Approach LOS		A				A				B				A		

HCS Two-Way Stop-Control Report

General Information				Site Information			
Analyst	MJH	Intersection	King Ave West & South 80th St West				
Agency/Co.	IMEG	Jurisdiction	Yellowstone County				
Date Performed	2/23/2026	East/West Street	King Ave West				
Analysis Year	2026	North/South Street	South 80th St West				
Time Analyzed	2031 Total_AM	Peak Hour Factor	0.80				
Intersection Orientation	East-West	Analysis Time Period (hrs)	0.25				
Project Description	Shop House Acres Major Subd.						

Lanes



Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound				
	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R	
Movement	1U	1	2	3	4U	4	5	6		7	8	9		10	11	12	
Priority																	
Number of Lanes	0	0	1	0	0	0	1	0		0	1	0		0	1	0	
Configuration			LTR				LTR				LTR				LTR		
Volume (veh/h)		4	85	10		16	28	27		5	12	51		108	14	3	
Percent Heavy Vehicles (%)		0				0				0	0	0		0	0	0	
Proportion Time Blocked																	
Percent Grade (%)										0				0			
Right Turn Channelized																	
Median Type Storage	Undivided																

Critical and Follow-up Headways

Base Critical Headway (sec)		4.1				4.1				7.1	6.5	6.2		7.1	6.5	6.2
Critical Headway (sec)		4.10				4.10				7.10	6.50	6.20		7.10	6.50	6.20
Base Follow-Up Headway (sec)		2.2				2.2				3.5	4.0	3.3		3.5	4.0	3.3
Follow-Up Headway (sec)		2.20				2.20				3.50	4.00	3.30		3.50	4.00	3.30

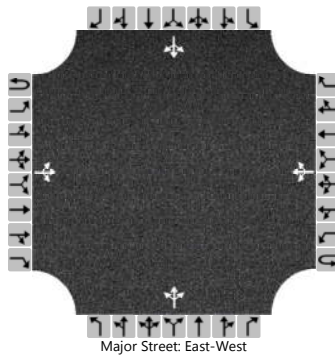
Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)		5				20					85					156
Capacity, c (veh/h)		1545				1482					858					640
v/c Ratio		0.00				0.01					0.10					0.24
95% Queue Length, Q ₉₅ (veh)		0.0				0.0					0.3					1.0
95% Queue Length, Q ₉₅ (ft)		0.0				0.0					7.5					25.0
Control Delay (s/veh)		7.3	0.0	0.0		7.5	0.1	0.1			9.7					12.4
Level of Service (LOS)		A	A	A		A	A	A			A					B
Approach Delay (s/veh)		0.3			1.8			9.7			12.4					
Approach LOS		A			A			A			B					

HCS Two-Way Stop-Control Report

General Information				Site Information			
Analyst	MJH	Intersection	King Ave West & South 80th St West				
Agency/Co.	IMEG	Jurisdiction	Yellowstone County				
Date Performed	2/23/2026	East/West Street	King Ave West				
Analysis Year	2026	North/South Street	South 80th St West				
Time Analyzed	2031 Total_PM	Peak Hour Factor	0.89				
Intersection Orientation	East-West	Analysis Time Period (hrs)	0.25				
Project Description	Shop House Acres Major Subd.						

Lanes



Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound				
	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R	
Movement	1U	1	2	3	4U	4	5	6		7	8	9		10	11	12	
Priority																	
Number of Lanes	0	0	1	0	0	0	1	0		0	1	0		0	1	0	
Configuration			LTR				LTR				LTR				LTR		
Volume (veh/h)		7	46	9		49	61	84		8	21	23		55	18	3	
Percent Heavy Vehicles (%)		0				0				0	0	0		0	0	0	
Proportion Time Blocked																	
Percent Grade (%)										0				0			
Right Turn Channelized																	
Median Type Storage	Undivided																

Critical and Follow-up Headways

Base Critical Headway (sec)		4.1				4.1				7.1	6.5	6.2		7.1	6.5	6.2
Critical Headway (sec)		4.10				4.10				7.10	6.50	6.20		7.10	6.50	6.20
Base Follow-Up Headway (sec)		2.2				2.2				3.5	4.0	3.3		3.5	4.0	3.3
Follow-Up Headway (sec)		2.20				2.20				3.50	4.00	3.30		3.50	4.00	3.30

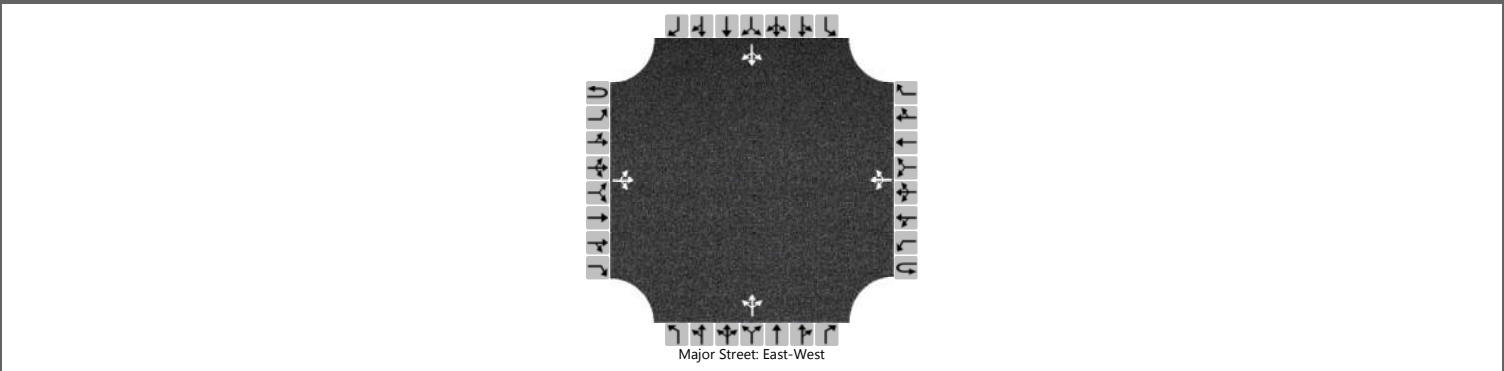
Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)		8				55					58				85	
Capacity, c (veh/h)		1428				1554					703				580	
v/c Ratio		0.01				0.04					0.08				0.15	
95% Queue Length, Q ₉₅ (veh)		0.0				0.1					0.3				0.5	
95% Queue Length, Q ₉₅ (ft)		0.0				2.5					7.5				12.5	
Control Delay (s/veh)		7.5	0.0	0.0		7.4	0.3	0.3			10.6				12.3	
Level of Service (LOS)		A	A	A		A	A	A			B				B	
Approach Delay (s/veh)		0.9				2.1				10.6				12.3		
Approach LOS		A				A				B				B		

HCS Two-Way Stop-Control Report

General Information				Site Information			
Analyst	MJH	Intersection	Hesper Road & South 80th St West				
Agency/Co.	IMEG	Jurisdiction	Yellowstone County				
Date Performed	2/23/2026	East/West Street	Hesper Road				
Analysis Year	2026	North/South Street	South 80th St West				
Time Analyzed	2031 Total_AM	Peak Hour Factor	0.80				
Intersection Orientation	East-West	Analysis Time Period (hrs)	0.25				
Project Description	Shop House Acres Major Subd.						

Lanes



Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound				
	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R	
Movement	1U	1	2	3	4U	4	5	6		7	8	9		10	11	12	
Priority																	
Number of Lanes	0	0	1	0	0	0	1	0		0	1	0		0	1	0	
Configuration			LTR				LTR				LTR				LTR		
Volume (veh/h)		31	63	17		3	14	5		3	15	5		10	17	13	
Percent Heavy Vehicles (%)		0				0				0	0	0		0	0	0	
Proportion Time Blocked																	
Percent Grade (%)										0				0			
Right Turn Channelized																	
Median Type Storage	Undivided																

Critical and Follow-up Headways

Base Critical Headway (sec)		4.1				4.1				7.1	6.5	6.2		7.1	6.5	6.2
Critical Headway (sec)		4.10				4.10				7.10	6.50	6.20		7.10	6.50	6.20
Base Follow-Up Headway (sec)		2.2				2.2				3.5	4.0	3.3		3.5	4.0	3.3
Follow-Up Headway (sec)		2.20				2.20				3.50	4.00	3.30		3.50	4.00	3.30

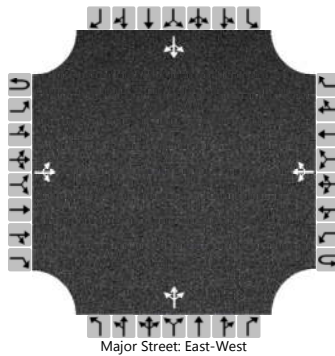
Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)		39				4					29					50
Capacity, c (veh/h)		1604				1505					731					776
v/c Ratio		0.02				0.00					0.04					0.06
95% Queue Length, Q ₉₅ (veh)		0.1				0.0					0.1					0.2
95% Queue Length, Q ₉₅ (ft)		2.5				0.0					2.5					5.0
Control Delay (s/veh)		7.3	0.2	0.2		7.4	0.0	0.0			10.1					10.0
Level of Service (LOS)		A	A	A		A	A	A			B					A
Approach Delay (s/veh)		2.2				1.0				10.1				10.0		
Approach LOS		A				A				B				A		

HCS Two-Way Stop-Control Report

General Information				Site Information			
Analyst	MJH			Intersection	Hesper Road & South 80th St West		
Agency/Co.	IMEG			Jurisdiction	Yellowstone County		
Date Performed	2/23/2026			East/West Street	Hesper Road		
Analysis Year	2026			North/South Street	South 80th St West		
Time Analyzed	2031 Total_PM			Peak Hour Factor	0.88		
Intersection Orientation	East-West			Analysis Time Period (hrs)	0.25		
Project Description	Shop House Acres Major Subd.						

Lanes



Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound				
	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R	
Movement	1U	1	2	3	4U	4	5	6		7	8	9		10	11	12	
Priority																	
Number of Lanes	0	0	1	0	0	0	1	0		0	1	0		0	1	0	
Configuration			LTR				LTR				LTR				LTR		
Volume (veh/h)		22	27	10		8	43	22		14	31	9		6	40	45	
Percent Heavy Vehicles (%)		0				0				0	0	0		0	0	0	
Proportion Time Blocked																	
Percent Grade (%)										0				0			
Right Turn Channelized																	
Median Type Storage	Undivided																

Critical and Follow-up Headways

Base Critical Headway (sec)		4.1				4.1				7.1	6.5	6.2		7.1	6.5	6.2
Critical Headway (sec)		4.10				4.10				7.10	6.50	6.20		7.10	6.50	6.20
Base Follow-Up Headway (sec)		2.2				2.2				3.5	4.0	3.3		3.5	4.0	3.3
Follow-Up Headway (sec)		2.20				2.20				3.50	4.00	3.30		3.50	4.00	3.30

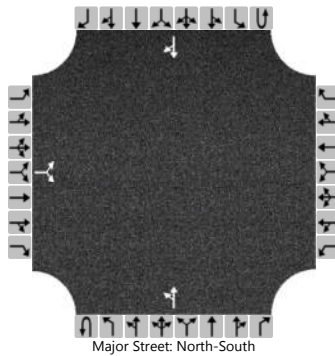
Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)		25				9					61					103	
Capacity, c (veh/h)		1539				1580					727					832	
v/c Ratio		0.02				0.01					0.08					0.12	
95% Queue Length, Q ₉₅ (veh)		0.0				0.0					0.3					0.4	
95% Queue Length, Q ₉₅ (ft)		0.0				0.0					7.5					10.0	
Control Delay (s/veh)		7.4	0.1	0.1		7.3	0.0	0.0			10.4					9.9	
Level of Service (LOS)		A	A	A		A	A	A			B					A	
Approach Delay (s/veh)		2.8				0.8				10.4					9.9		
Approach LOS		A				A				B					A		

HCS Two-Way Stop-Control Report

General Information				Site Information			
Analyst	MJH	Intersection	North Access & South 80th St West				
Agency/Co.	IMEG	Jurisdiction	Yellowstone County				
Date Performed	2/23/2026	East/West Street	North Access				
Analysis Year	2026	North/South Street	South 80th St West				
Time Analyzed	2031 Total_AM	Peak Hour Factor	0.92				
Intersection Orientation	North-South	Analysis Time Period (hrs)	0.25				
Project Description	Shop House Acres Major Subd.						

Lanes



Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Movement																
Priority		10	11	12		7	8	9	1U	1	2	3	4U	4	5	6
Number of Lanes		0	1	0		0	0	0		0	1	0		0	1	0
Configuration			LR							LT						TR
Volume (veh/h)		11		6						3	58				32	4
Percent Heavy Vehicles (%)		0		0						0						
Proportion Time Blocked																
Percent Grade (%)	0															
Right Turn Channelized																
Median Type Storage	Undivided															

Critical and Follow-up Headways

Base Critical Headway (sec)		7.1		6.2						4.1						
Critical Headway (sec)		6.40		6.20						4.10						
Base Follow-Up Headway (sec)		3.5		3.3						2.2						
Follow-Up Headway (sec)		3.50		3.30						2.20						

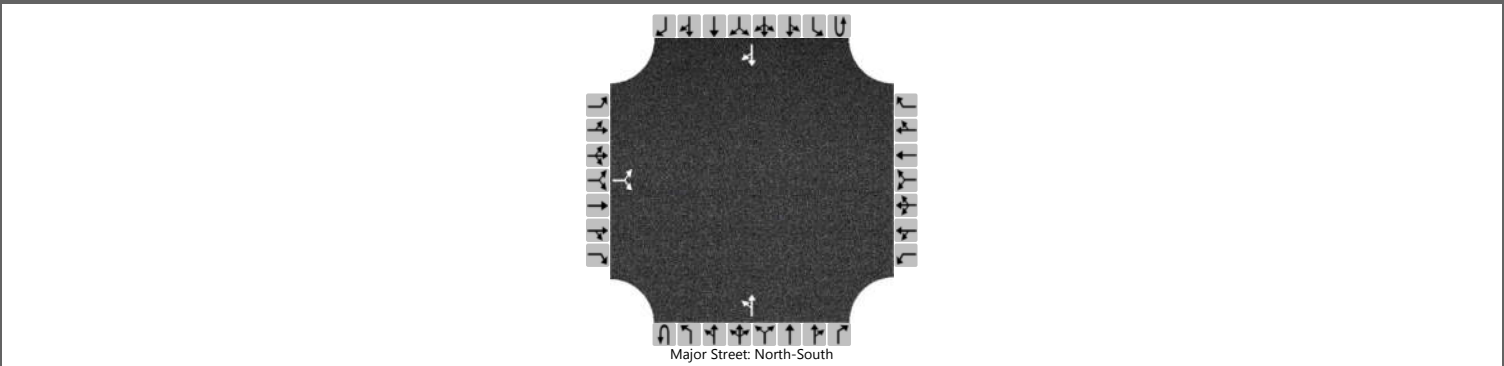
Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)			18							3						
Capacity, c (veh/h)			941							1584						
v/c Ratio			0.02							0.00						
95% Queue Length, Q ₉₅ (veh)			0.1							0.0						
95% Queue Length, Q ₉₅ (ft)			2.5							0.0						
Control Delay (s/veh)			8.9							7.3	0.0					
Level of Service (LOS)			A							A	A					
Approach Delay (s/veh)	8.9								0.4							
Approach LOS	A								A							

HCS Two-Way Stop-Control Report

General Information				Site Information			
Analyst	MJH	Intersection	North Access & South 80th St West				
Agency/Co.	IMEG	Jurisdiction	Yellowstone County				
Date Performed	2/23/2026	East/West Street	North Access				
Analysis Year	2026	North/South Street	South 80th St West				
Time Analyzed	2031 Total_PM	Peak Hour Factor	0.92				
Intersection Orientation	North-South	Analysis Time Period (hrs)	0.25				
Project Description	Shop House Acres Major Subd.						

Lanes



Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Movement																
Priority		10	11	12		7	8	9	1U	1	2	3	4U	4	5	6
Number of Lanes		0	1	0		0	0	0		0	1	0		0	1	0
Configuration			LR							LT						TR
Volume (veh/h)		4		7						9	61				87	10
Percent Heavy Vehicles (%)		0		0						0						
Proportion Time Blocked																
Percent Grade (%)	0															
Right Turn Channelized																
Median Type Storage	Undivided															

Critical and Follow-up Headways

Base Critical Headway (sec)		7.1		6.2						4.1						
Critical Headway (sec)		6.40		6.20						4.10						
Base Follow-Up Headway (sec)		3.5		3.3						2.2						
Follow-Up Headway (sec)		3.50		3.30						2.20						

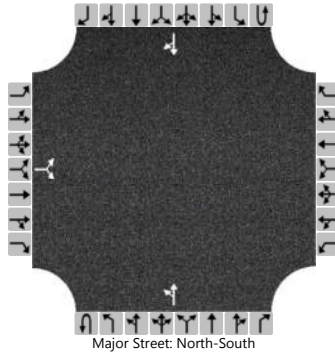
Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)			12							10						
Capacity, c (veh/h)			897							1498						
v/c Ratio			0.01							0.01						
95% Queue Length, Q ₉₅ (veh)			0.0							0.0						
95% Queue Length, Q ₉₅ (ft)			0.0							0.0						
Control Delay (s/veh)			9.1							7.4	0.1					
Level of Service (LOS)			A							A	A					
Approach Delay (s/veh)	9.1								1.0							
Approach LOS	A								A							

HCS Two-Way Stop-Control Report

General Information				Site Information			
Analyst	MJH	Intersection	South Access & South 80th St West				
Agency/Co.	IMEG	Jurisdiction	Yellowstone County				
Date Performed	2/23/2026	East/West Street	South Access				
Analysis Year	2026	North/South Street	South 80th St West				
Time Analyzed	2031 Total_AM	Peak Hour Factor	0.92				
Intersection Orientation	North-South	Analysis Time Period (hrs)	0.25				
Project Description	Shop House Acres Major Subd.						

Lanes



Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Priority		10	11	12		7	8	9	1U	1	2	3	4U	4	5	6
Number of Lanes		0	1	0		0	0	0	0	0	1	0	0	0	1	0
Configuration			LR							LT						TR
Volume (veh/h)		12		6						2	49				34	4
Percent Heavy Vehicles (%)		0		0						0						
Proportion Time Blocked																
Percent Grade (%)		0														
Right Turn Channelized																
Median Type Storage		Undivided														

Critical and Follow-up Headways

Base Critical Headway (sec)		7.1		6.2						4.1						
Critical Headway (sec)		6.40		6.20						4.10						
Base Follow-Up Headway (sec)		3.5		3.3						2.2						
Follow-Up Headway (sec)		3.50		3.30						2.20						

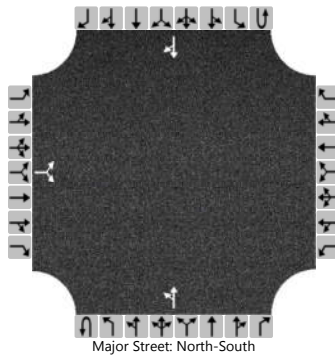
Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)			20							2						
Capacity, c (veh/h)			946							1581						
v/c Ratio			0.02							0.00						
95% Queue Length, Q ₉₅ (veh)			0.1							0.0						
95% Queue Length, Q ₉₅ (ft)			2.5							0.0						
Control Delay (s/veh)			8.9							7.3	0.0					
Level of Service (LOS)			A							A	A					
Approach Delay (s/veh)		8.9								0.3						
Approach LOS		A								A						

HCS Two-Way Stop-Control Report

General Information				Site Information			
Analyst	MJH	Intersection	South Access & South 80th St West				
Agency/Co.	IMEG	Jurisdiction	Yellowstone County				
Date Performed	2/23/2026	East/West Street	South Access				
Analysis Year	2026	North/South Street	South 80th St West				
Time Analyzed	2031 Total_PM	Peak Hour Factor	0.92				
Intersection Orientation	North-South	Analysis Time Period (hrs)	0.25				
Project Description	Shop House Acres Major Subd.						

Lanes



Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound				
	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R	
Priority		10	11	12		7	8	9	1U	1	2	3	4U	4	5	6	
Number of Lanes		0	1	0		0	0	0	0	0	1	0	0	0	1	0	
Configuration			LR							LT						TR	
Volume (veh/h)		4		7						9	66				84	10	
Percent Heavy Vehicles (%)		0		0						0							
Proportion Time Blocked																	
Percent Grade (%)		0															
Right Turn Channelized																	
Median Type Storage		Undivided															

Critical and Follow-up Headways

Base Critical Headway (sec)		7.1		6.2						4.1						
Critical Headway (sec)		6.40		6.20						4.10						
Base Follow-Up Headway (sec)		3.5		3.3						2.2						
Follow-Up Headway (sec)		3.50		3.30						2.20						

Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)			12							10							
Capacity, c (veh/h)			898							1503							
v/c Ratio			0.01							0.01							
95% Queue Length, Q ₉₅ (veh)			0.0							0.0							
95% Queue Length, Q ₉₅ (ft)			0.0							0.0							
Control Delay (s/veh)			9.1							7.4	0.1						
Level of Service (LOS)			A							A	A						
Approach Delay (s/veh)		9.1								0.9							
Approach LOS		A								A							



Shop House Acres Major Subdivision Traffic Impact Study

APPENDIX D

ITE Trip Generation Worksheets, 12th Edition

Single-Family Detached Housing (210)

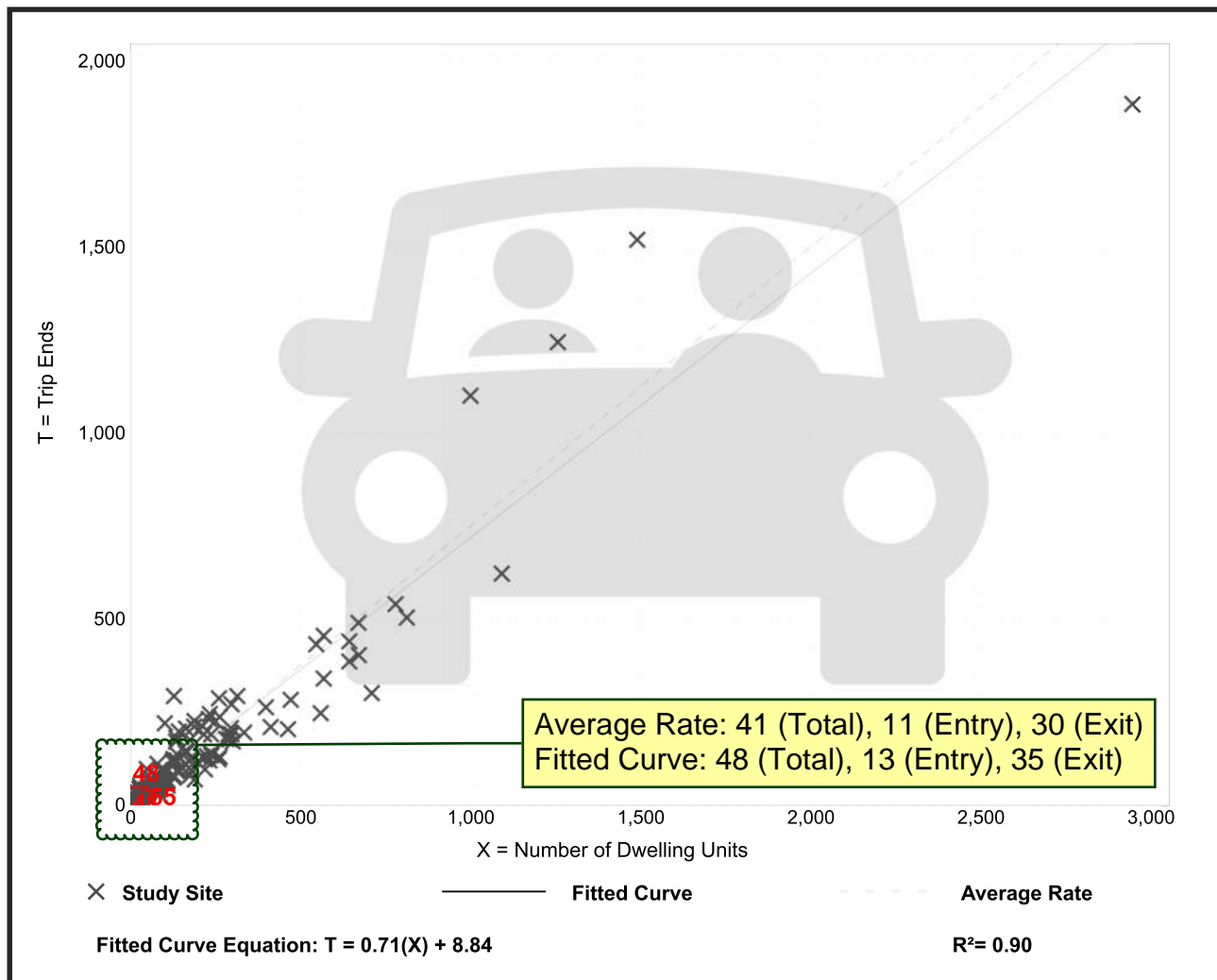
Vehicle Trip Ends vs: Dwelling Units
On a: Weekday,
AM Peak Hour of Generator

Setting/Location: General Urban/Suburban
Number of Studies: 132
Avg. Num. of Dwelling Units: 232
Directional Distribution: 27% entering, 73% exiting

Vehicle Trip Generation per Dwelling Unit

Average Rate	Range of Rates	Standard Deviation
0.75	0.32 - 2.27	0.26

Data Plot and Equation



Single-Family Detached Housing (210)

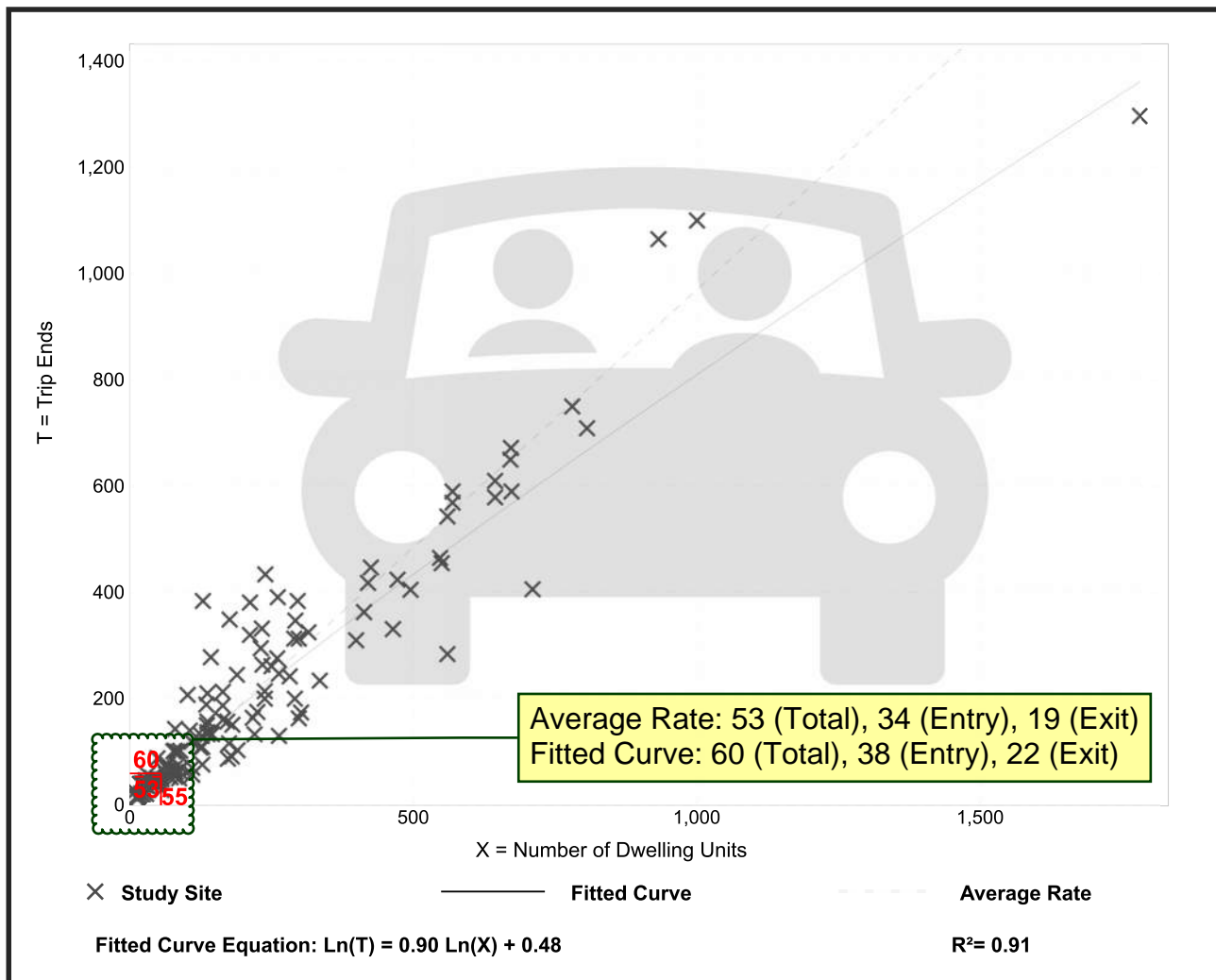
Vehicle Trip Ends vs: Dwelling Units
On a: Weekday,
PM Peak Hour of Generator

Setting/Location: General Urban/Suburban
Number of Studies: 138
Avg. Num. of Dwelling Units: 214
Directional Distribution: 63% entering, 37% exiting

Vehicle Trip Generation per Dwelling Unit

Average Rate	Range of Rates	Standard Deviation
0.97	0.49 - 2.98	0.32

Data Plot and Equation



Land Use: 210

Single-Family Detached Housing

Description

A single-family detached housing site includes any single-family detached home on an individual lot. A typical site surveyed is a suburban subdivision.

Specialized Land Use

Data have been submitted for several single-family detached housing developments with homes that are commonly referred to as patio homes. A patio home is a detached housing unit that is located on a small lot with little (or no) front or back yard. In some subdivisions, communal maintenance of outside grounds is provided for the patio homes. The three patio home sites total 299 dwelling units with overall weighted average trip generation rates of 5.35 vehicle trips per dwelling unit for weekday, 0.26 for the AM adjacent street peak hour, and 0.47 for the PM adjacent street peak hour. These patio home rates, based on a small sample of sites, are lower than those for single-family detached housing (Land Use 210), lower than those for single-family attached housing (Land Use 215), and higher than those for senior adult housing—single-family (Land Use 251). (Source 1008)

Additional Data

The sites were surveyed in the 1990s, the 2000s, the 2010s, and the 2020s in Alabama, Arizona, British Columbia (CAN), California, Delaware, Illinois, Kentucky, Massachusetts, Minnesota, Montana, New Jersey, New York, North Carolina, Ontario (CAN), Oregon, Pennsylvania, South Carolina, South Dakota, Vermont, and West Virginia.

Source Numbers

356, 357, 367, 384, 387, 407, 435, 522, 550, 552, 579, 598, 601, 603, 614, 637, 711, 716, 720, 728, 735, 868, 869, 903, 925, 936, 1005, 1007, 1008, 1010, 1033, 1066, 1077, 1078, 1079, 1204, 1221, 1225, 1236, 1251, 1265, 1267



Shop House Acres Major Subdivision Traffic Impact Study

APPENDIX E Traffic Signal Warrant Analysis

HCS Warrants Report

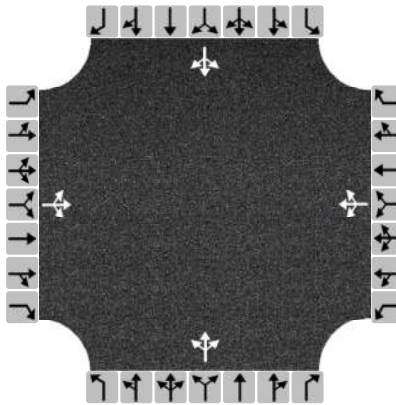
Project Information

Analyst	MJH	Date	2/24/2026
Agency	IMEG	Analysis Year	2026
Jurisdiction	Yellowstone County	Time Period Analyzed	2026 Background
Units	U.S. Customary	MUTCD Method	MUTCD 11 (2023)
Project Description	Shop House Acres Major Subd. - Intersection #1) King Ave. West & South 80th St. West		

General

Major Street Direction	East-West	Population < 10,000	No
Starting Time Interval	7:00	Coordinated Signal System	No
Major Street Speed (mi/h)	0	Nearest Signal (ft)	0
Adequate Trials of Crash Exp. Alt.	No		

Geometry and Traffic



Approach	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
Movement												
Number of Lanes, N	0	1	0	0	1	0	0	1	0	0	1	0
Lane Usage		LTR			LTR			LTR			LTR	
Vehicle Volumes Averages (veh/h)	2	42	3	19	38	43	4	7	18	44	7	2
Pedestrian median refuge available	No			No			No			No		
Pedestrian Averages (peds/h)	0			0			0			0		
Gap Averages (gaps/h)	0			0			0			0		
Delay Averages (s/veh)	0.5			1.6			9.3			10.4		
Delay Averages (veh-hrs)	0.0			0.0			0.1			0.2		

School Crossing and Roadway Network

Number of Students in Highest Hour	0	Two or More Major Routes	No
Number of Adequate Gaps in Period	0	Weekend Counts	No
Number of Minutes in Period	0	5-year Growth Factor (%)	1

Railroad Crossing

Grade Crossing Approach	None	Rail Traffic (trains/day)	0
Highest Volume Hour with Trains	Unknown	High Occupancy Buses (%)	0
Distance to Stop Line (ft)	-	Tractor-Trailer Trucks (%)	0

Volume Summary														
Hours	Major Volume (veh/h)	Minor Volume (veh/h)	Total Volume (veh/h)	Peds/h	Gaps/h	1A (100%)	1A (80%)	1B (100%)	1B (80%)	2 (100%)	3A (100%)	3B (80%)	4A ** (100%)	4B ** (100%)
7:00 - 8:00	141	111	288	0	0	No	No	No	No	No	No	No	No	No
8:00 - 9:00	126	45	201	0	0	No	No	No	No	No	No	No	No	No
9:00 - 10:00	117	43	181	0	0	No	No	No	No	No	No	No	No	No
10:00 - 11:00	109	56	195	0	0	No	No	No	No	No	No	No	No	No
11:00 - 12:00	152	44	233	0	0	No	No	No	No	No	No	No	No	No
12:00 - 13:00	149	50	218	0	0	No	No	No	No	No	No	No	No	No
13:00 - 14:00	149	50	218	0	0	No	No	No	No	No	No	No	No	No
14:00 - 15:00	142	56	230	0	0	No	No	No	No	No	No	No	No	No
15:00 - 16:00	196	50	280	0	0	No	No	No	No	No	No	No	No	No
16:00 - 17:00	214	57	306	0	0	No	No	No	No	No	No	No	No	No
17:00 - 18:00	191	58	295	0	0	No	No	No	No	No	No	No	No	No
18:00 - 19:00	115	23	156	0	0	No	No	No	No	No	No	No	No	No
Total	1801	643	2801	0	0	0	0	0	0	0	0	0	0	0

** Warrant 4 should not be applied where the nearest traffic signal or stop-sign control is < 300 ft, unless the proposed traffic control signal will not restrict the progressive movement of traffic.

Pedestrian Volume									
15th % pedestrian speed < 3.5 ft/s				Pedestrian refuge present?			EB	WB	
Hours	Major Street Vehicular Volume (veh/h)			Major Street Pedestrian Volume (ped/h)			4A ** (100%)	4B ** (100%)	
	EB	WB	Total	EB	WB	Total			
7:00 - 8:00	92	49	141	0	0	0	No	No	
8:00 - 9:00	57	69	126	0	0	0	No	No	
9:00 - 10:00	44	73	117	0	0	0	No	No	
10:00 - 11:00	39	70	109	0	0	0	No	No	
11:00 - 12:00	52	100	152	0	0	0	No	No	
12:00 - 13:00	47	102	149	0	0	0	No	No	
13:00 - 14:00	47	102	149	0	0	0	No	No	
14:00 - 15:00	42	100	142	0	0	0	No	No	
15:00 - 16:00	51	145	196	0	0	0	No	No	
16:00 - 17:00	63	151	214	0	0	0	No	No	
17:00 - 18:00	26	165	191	0	0	0	No	No	
18:00 - 19:00	21	94	115	0	0	0	No	No	
Totals	581	1220	1801	0	0	0	0	0	

** Warrant 4 should not be applied where the nearest traffic signal or stop-sign control is < 300 ft, unless the proposed traffic control signal will not restrict the progressive movement of traffic.

Warrants	
Warrant 1: Eight-Hour Vehicular Volume	
A. Minimum Vehicular Volumes (Both major approaches --and-- more critical minor approach) --or--	
B. Interruption of Continuous Traffic (Both major approaches --and-- more critical minor approach) --or--	
80% Vehicular --and-- Interruption Volumes (Both major approaches --and-- more critical minor approach)	
Warrant 2: Four-Hour Vehicular Volume	

Four-Hour Vehicular Volume (Both major approaches --and-- more critical minor approach)	
Warrant 3: Peak Hour	
A. Peak-Hour Conditions (Minor delay -- and-- minor volume --and-- total volume) --or--	
B. Peak-Hour Vehicular Volumes (Both major approaches --and-- more critical minor approach)	
Warrant 4: Pedestrian Volume	
A. Four Hour Volumes --or--	
B. Peak-Hour Volumes	
Warrant 5: School Crossing	
Gaps Same Period --and--	
Student Volumes	
Nearest Traffic Control Signal (optional)	
Warrant 6: Coordinated Signal System	
Degree of Platooning (Predominant direction or both directions)	
Warrant 7: Crash Experience	
A. Adequate trials of alternatives, observance and enforcement failed --and--	
B. Reported Crash History --and--	
B1. Angle Crashes and Pedestrian Crashes within a 1-year Period (All Severities)	
B2. Angle Crashes and Pedestrian Crashes within a 1-year Period (Fatal-and-Injury)	
B3. Angle Crashes and Pedestrian Crashes within a 3-year Period (All Severities)	
B4. Angle Crashes and Pedestrian Crashes within a 3-year Period (Fatal-and-Injury)	
C. 80% Volumes for Warrants 1A, 1B, --or-- 4 are satisfied	
Warrant 8: Roadway Network	
A. Weekday Volume (Peak hour total --and-- projected warrants 1, 2, or 3) --or--	
B. Weekend Volume (Five hours total)	
Warrant 9: Grade Crossing	
A. Grade Crossing within 140 ft --and--	
B. Peak-Hour Vehicular Volumes	

HCS Warrants Report

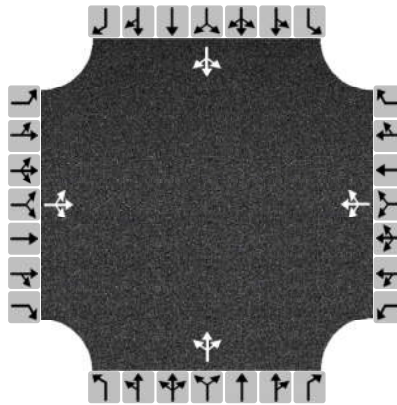
Project Information

Analyst	MJH	Date	2/24/2026
Agency	IMEG	Analysis Year	2026
Jurisdiction	Yellowstone County	Time Period Analyzed	2031 Background
Units	U.S. Customary	MUTCD Method	MUTCD 11 (2023)
Project Description	Shop House Acres Major Subd. - Intersection #1) King Ave. West & South 80th St. West		

General

Major Street Direction	East-West	Population < 10,000	No
Starting Time Interval	7:00	Coordinated Signal System	No
Major Street Speed (mi/h)	0	Nearest Signal (ft)	0
Adequate Trials of Crash Exp. Alt.	No		

Geometry and Traffic



Approach	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
Movement												
Number of Lanes, N	0	1	0	0	1	0	0	1	0	0	1	0
Lane Usage		LTR			LTR			LTR			LTR	
Vehicle Volumes Averages (veh/h)	2	43	3	21	40	45	4	8	19	45	7	2
Pedestrian median refuge available	No			No			No			No		
Pedestrian Averages (peds/h)	0			0			0			0		
Gap Averages (gaps/h)	0			0			0			0		
Delay Averages (s/veh)	0.5			1.6			9.3			10.5		
Delay Averages (veh-hrs)	0.0			0.0			0.1			0.2		

School Crossing and Roadway Network

Number of Students in Highest Hour	0	Two or More Major Routes	No
Number of Adequate Gaps in Period	0	Weekend Counts	No
Number of Minutes in Period	0	5-year Growth Factor (%)	1

Railroad Crossing

Grade Crossing Approach	None	Rail Traffic (trains/day)	0
Highest Volume Hour with Trains	Unknown	High Occupancy Buses (%)	0
Distance to Stop Line (ft)	-	Tractor-Trailer Trucks (%)	0

Volume Summary														
Hours	Major Volume (veh/h)	Minor Volume (veh/h)	Total Volume (veh/h)	Peds/h	Gaps/h	1A (100%)	1A (80%)	1B (100%)	1B (80%)	2 (100%)	3A (100%)	3B (80%)	4A ** (100%)	4B ** (100%)
7:00 - 8:00	147	115	299	0	0	No	No	No	No	No	No	No	No	No
8:00 - 9:00	131	47	209	0	0	No	No	No	No	No	No	No	No	No
9:00 - 10:00	121	45	188	0	0	No	No	No	No	No	No	No	No	No
10:00 - 11:00	113	58	202	0	0	No	No	No	No	No	No	No	No	No
11:00 - 12:00	159	46	243	0	0	No	No	No	No	No	No	No	No	No
12:00 - 13:00	162	44	240	0	0	No	No	No	No	No	No	No	No	No
13:00 - 14:00	156	52	228	0	0	No	No	No	No	No	No	No	No	No
14:00 - 15:00	147	58	238	0	0	No	No	No	No	No	No	No	No	No
15:00 - 16:00	204	52	292	0	0	No	No	No	No	No	No	No	No	No
16:00 - 17:00	223	59	318	0	0	No	No	No	No	No	No	No	No	No
17:00 - 18:00	199	60	307	0	0	No	No	No	No	No	No	No	No	No
18:00 - 19:00	120	24	163	0	0	No	No	No	No	No	No	No	No	No
Total	1882	660	2927	0	0	0	0	0	0	0	0	0	0	0

** Warrant 4 should not be applied where the nearest traffic signal or stop-sign control is < 300 ft, unless the proposed traffic control signal will not restrict the progressive movement of traffic.

Pedestrian Volume								
15th % pedestrian speed < 3.5 ft/s				Pedestrian refuge present?			EB	WB
Hours	Major Street Vehicular Volume (veh/h)			Major Street Pedestrian Volume (ped/h)			4A ** (100%)	4B ** (100%)
	EB	WB	Total	EB	WB	Total		
7:00 - 8:00	96	51	147	0	0	0	No	No
8:00 - 9:00	59	72	131	0	0	0	No	No
9:00 - 10:00	45	76	121	0	0	0	No	No
10:00 - 11:00	40	73	113	0	0	0	No	No
11:00 - 12:00	54	105	159	0	0	0	No	No
12:00 - 13:00	42	120	162	0	0	0	No	No
13:00 - 14:00	49	107	156	0	0	0	No	No
14:00 - 15:00	43	104	147	0	0	0	No	No
15:00 - 16:00	53	151	204	0	0	0	No	No
16:00 - 17:00	65	158	223	0	0	0	No	No
17:00 - 18:00	27	172	199	0	0	0	No	No
18:00 - 19:00	22	98	120	0	0	0	No	No
Totals	595	1287	1882	0	0	0	0	0

** Warrant 4 should not be applied where the nearest traffic signal or stop-sign control is < 300 ft, unless the proposed traffic control signal will not restrict the progressive movement of traffic.

Warrants	
Warrant 1: Eight-Hour Vehicular Volume	
A. Minimum Vehicular Volumes (Both major approaches --and-- more critical minor approach) --or--	
B. Interruption of Continuous Traffic (Both major approaches --and-- more critical minor approach) --or--	
80% Vehicular --and-- Interruption Volumes (Both major approaches --and-- more critical minor approach)	
Warrant 2: Four-Hour Vehicular Volume	

Four-Hour Vehicular Volume (Both major approaches --and-- more critical minor approach)	
Warrant 3: Peak Hour	
A. Peak-Hour Conditions (Minor delay -- and-- minor volume --and-- total volume) --or--	
B. Peak-Hour Vehicular Volumes (Both major approaches --and-- more critical minor approach)	
Warrant 4: Pedestrian Volume	
A. Four Hour Volumes --or--	
B. Peak-Hour Volumes	
Warrant 5: School Crossing	
Gaps Same Period --and--	
Student Volumes	
Nearest Traffic Control Signal (optional)	
Warrant 6: Coordinated Signal System	
Degree of Platooning (Predominant direction or both directions)	
Warrant 7: Crash Experience	
A. Adequate trials of alternatives, observance and enforcement failed --and--	
B. Reported Crash History --and--	
B1. Angle Crashes and Pedestrian Crashes within a 1-year Period (All Severities)	
B2. Angle Crashes and Pedestrian Crashes within a 1-year Period (Fatal-and-Injury)	
B3. Angle Crashes and Pedestrian Crashes within a 3-year Period (All Severities)	
B4. Angle Crashes and Pedestrian Crashes within a 3-year Period (Fatal-and-Injury)	
C. 80% Volumes for Warrants 1A, 1B, --or-- 4 are satisfied	
Warrant 8: Roadway Network	
A. Weekday Volume (Peak hour total --and-- projected warrants 1, 2, or 3) --or--	
B. Weekend Volume (Five hours total)	
Warrant 9: Grade Crossing	
A. Grade Crossing within 140 ft --and--	
B. Peak-Hour Vehicular Volumes	

HCS Warrants Report

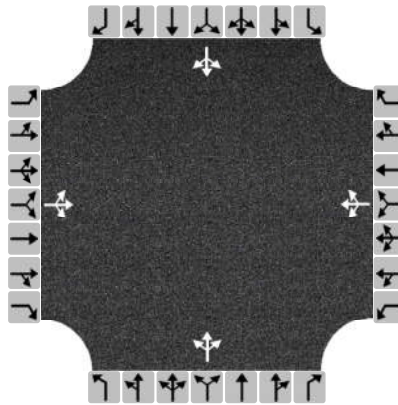
Project Information

Analyst	MJH	Date	2/24/2026
Agency	IMEG	Analysis Year	2026
Jurisdiction	Yellowstone County	Time Period Analyzed	2026 Background
Units	U.S. Customary	MUTCD Method	MUTCD 11 (2023)
Project Description	Shop House Acres Major Subd. - Intersection #2) Hesper Rd. & South 80th St. West		

General

Major Street Direction	East-West	Population < 10,000	No
Starting Time Interval	7:00	Coordinated Signal System	No
Major Street Speed (mi/h)	45	Nearest Signal (ft)	0
Adequate Trials of Crash Exp. Alt.	No		

Geometry and Traffic



Approach	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
Movement												
Number of Lanes, N	0	1	0	0	1	0	0	1	0	0	1	0
Lane Usage		LTR			LTR			LTR			LTR	
Vehicle Volumes Averages (veh/h)	8	18	10	2	15	6	4	14	3	3	14	11
Pedestrian median refuge available	No			No			No			No		
Pedestrian Averages (peds/h)	0			0			0			0		
Gap Averages (gaps/h)	0			0			0			0		
Delay Averages (s/veh)	1.9			0.8			9.4			9.2		
Delay Averages (veh-hrs)	0.0			0.0			0.1			0.1		

School Crossing and Roadway Network

Number of Students in Highest Hour	0	Two or More Major Routes	No
Number of Adequate Gaps in Period	0	Weekend Counts	No
Number of Minutes in Period	0	5-year Growth Factor (%)	5

Railroad Crossing

Grade Crossing Approach	None	Rail Traffic (trains/day)	0
Highest Volume Hour with Trains	Unknown	High Occupancy Buses (%)	0
Distance to Stop Line (ft)	-	Tractor-Trailer Trucks (%)	0

Volume Summary														
Hours	Major Volume (veh/h)	Minor Volume (veh/h)	Total Volume (veh/h)	Peds/h	Gaps/h	1A (70%)	1A (56%)	1B (70%)	1B (56%)	2 (70%)	3A (70%)	3B (56%)	4A ** (70%)	4B ** (70%)
7:00 - 8:00	95	20	129	0	0	No	No	No	No	No	No	No	No	No
8:00 - 9:00	57	26	101	0	0	No	No	No	No	No	No	No	No	No
9:00 - 10:00	36	22	78	0	0	No	No	No	No	No	No	No	No	No
10:00 - 11:00	98	29	148	0	0	No	No	No	No	No	No	No	No	No
11:00 - 12:00	44	28	99	0	0	No	No	No	No	No	No	No	No	No
12:00 - 13:00	43	32	95	0	0	No	No	No	No	No	No	No	No	No
13:00 - 14:00	42	24	81	0	0	No	No	No	No	No	No	No	No	No
14:00 - 15:00	46	29	97	0	0	No	No	No	No	No	No	No	No	No
15:00 - 16:00	61	36	124	0	0	No	No	No	No	No	No	No	No	No
16:00 - 17:00	74	43	149	0	0	No	No	No	No	No	No	No	No	No
17:00 - 18:00	97	54	182	0	0	No	No	No	No	No	No	No	No	No
18:00 - 19:00	29	25	70	0	0	No	No	No	No	No	No	No	No	No
Total	722	368	1353	0	0	0	0	0	0	0	0	0	0	0

** Warrant 4 should not be applied where the nearest traffic signal or stop-sign control is < 300 ft, unless the proposed traffic control signal will not restrict the progressive movement of traffic.

Pedestrian Volume									
15th % pedestrian speed < 3.5 ft/s				Pedestrian refuge present?			EB	WB	
Hours	Major Street Vehicular Volume (veh/h)			Major Street Pedestrian Volume (ped/h)			4A ** (70%)	4B ** (70%)	
	EB	WB	Total	EB	WB	Total			
7:00 - 8:00	82	13	95	0	0	0	No	No	
8:00 - 9:00	38	19	57	0	0	0	No	No	
9:00 - 10:00	22	14	36	0	0	0	No	No	
10:00 - 11:00	84	14	98	0	0	0	No	No	
11:00 - 12:00	21	23	44	0	0	0	No	No	
12:00 - 13:00	21	22	43	0	0	0	No	No	
13:00 - 14:00	21	21	42	0	0	0	No	No	
14:00 - 15:00	28	18	46	0	0	0	No	No	
15:00 - 16:00	28	33	61	0	0	0	No	No	
16:00 - 17:00	33	41	74	0	0	0	No	No	
17:00 - 18:00	44	53	97	0	0	0	No	No	
18:00 - 19:00	16	13	29	0	0	0	No	No	
Totals	438	284	722	0	0	0	0	0	

** Warrant 4 should not be applied where the nearest traffic signal or stop-sign control is < 300 ft, unless the proposed traffic control signal will not restrict the progressive movement of traffic.

Warrants	
Warrant 1: Eight-Hour Vehicular Volume	
A. Minimum Vehicular Volumes (Both major approaches --and-- more critical minor approach) --or--	
B. Interruption of Continuous Traffic (Both major approaches --and-- more critical minor approach) --or--	
56% Vehicular --and-- Interruption Volumes (Both major approaches --and-- more critical minor approach)	
Warrant 2: Four-Hour Vehicular Volume	

Four-Hour Vehicular Volume (Both major approaches --and-- more critical minor approach)	
Warrant 3: Peak Hour	
A. Peak-Hour Conditions (Minor delay -- and-- minor volume --and-- total volume) --or--	
B. Peak-Hour Vehicular Volumes (Both major approaches --and-- more critical minor approach)	
Warrant 4: Pedestrian Volume	
A. Four Hour Volumes --or--	
B. Peak-Hour Volumes	
Warrant 5: School Crossing	
Gaps Same Period --and--	
Student Volumes	
Nearest Traffic Control Signal (optional)	
Warrant 6: Coordinated Signal System	
Degree of Platooning (Predominant direction or both directions)	
Warrant 7: Crash Experience	
A. Adequate trials of alternatives, observance and enforcement failed --and--	
B. Reported Crash History --and--	
B1. Angle Crashes and Pedestrian Crashes within a 1-year Period (All Severities)	
B2. Angle Crashes and Pedestrian Crashes within a 1-year Period (Fatal-and-Injury)	
B3. Angle Crashes and Pedestrian Crashes within a 3-year Period (All Severities)	
B4. Angle Crashes and Pedestrian Crashes within a 3-year Period (Fatal-and-Injury)	
C. 56% Volumes for Warrants 1A, 1B, --or-- 4 are satisfied	
Warrant 8: Roadway Network	
A. Weekday Volume (Peak hour total --and-- projected warrants 1, 2, or 3) --or--	
B. Weekend Volume (Five hours total)	
Warrant 9: Grade Crossing	
A. Grade Crossing within 140 ft --and--	
B. Peak-Hour Vehicular Volumes	

HCS Warrants Report

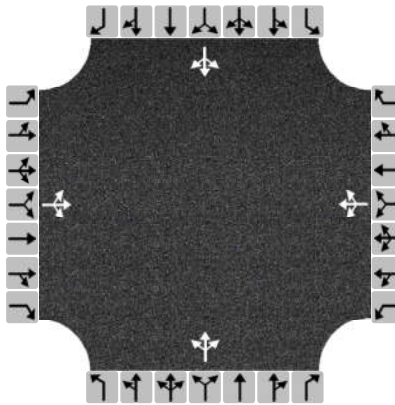
Project Information

Analyst	MJH	Date	2/24/2026
Agency	IMEG	Analysis Year	2026
Jurisdiction	Yellowstone County	Time Period Analyzed	2031 Background
Units	U.S. Customary	MUTCD Method	MUTCD 11 (2023)
Project Description	Shop House Acres Major Subd. - Intersection #2) Hesper Rd. & South 80th St. West		

General

Major Street Direction	East-West	Population < 10,000	No
Starting Time Interval	7:00	Coordinated Signal System	No
Major Street Speed (mi/h)	45	Nearest Signal (ft)	0
Adequate Trials of Crash Exp. Alt.	No		

Geometry and Traffic



Approach	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
Movement												
Number of Lanes, N	0	1	0	0	1	0	0	1	0	0	1	0
Lane Usage		LTR			LTR			LTR			LTR	
Vehicle Volumes Averages (veh/h)	10	22	6	2	18	7	5	17	4	4	18	14
Pedestrian median refuge available	No			No			No			No		
Pedestrian Averages (peds/h)	0			0			0			0		
Gap Averages (gaps/h)	0			0			0			0		
Delay Averages (s/veh)	1.9			0.8			9.5			9.3		
Delay Averages (veh-hrs)	0.0			0.0			0.1			0.1		

School Crossing and Roadway Network

Number of Students in Highest Hour	0	Two or More Major Routes	No
Number of Adequate Gaps in Period	0	Weekend Counts	No
Number of Minutes in Period	0	5-year Growth Factor (%)	5

Railroad Crossing

Grade Crossing Approach	None	Rail Traffic (trains/day)	0
Highest Volume Hour with Trains	Unknown	High Occupancy Buses (%)	0
Distance to Stop Line (ft)	-	Tractor-Trailer Trucks (%)	0

Volume Summary														
Hours	Major Volume (veh/h)	Minor Volume (veh/h)	Total Volume (veh/h)	Peds/h	Gaps/h	1A (70%)	1A (56%)	1B (70%)	1B (56%)	2 (70%)	3A (70%)	3B (56%)	4A ** (70%)	4B ** (70%)
7:00 - 8:00	117	25	159	0	0	No	No	No	No	No	No	No	No	No
8:00 - 9:00	70	32	124	0	0	No	No	No	No	No	No	No	No	No
9:00 - 10:00	44	28	97	0	0	No	No	No	No	No	No	No	No	No
10:00 - 11:00	46	36	108	0	0	No	No	No	No	No	No	No	No	No
11:00 - 12:00	55	35	124	0	0	No	No	No	No	No	No	No	No	No
12:00 - 13:00	53	40	117	0	0	No	No	No	No	No	No	No	No	No
13:00 - 14:00	52	30	100	0	0	No	No	No	No	No	No	No	No	No
14:00 - 15:00	56	36	120	0	0	No	No	No	No	No	No	No	No	No
15:00 - 16:00	76	45	155	0	0	No	No	No	No	No	No	No	No	No
16:00 - 17:00	92	54	185	0	0	No	No	No	No	No	No	No	No	No
17:00 - 18:00	121	67	227	0	0	No	No	No	No	No	No	No	No	No
18:00 - 19:00	34	31	85	0	0	No	No	No	No	No	No	No	No	No
Total	816	459	1601	0	0	0	0	0	0	0	0	0	0	0

** Warrant 4 should not be applied where the nearest traffic signal or stop-sign control is < 300 ft, unless the proposed traffic control signal will not restrict the progressive movement of traffic.

Pedestrian Volume									
15th % pedestrian speed < 3.5 ft/s				Pedestrian refuge present?			EB	WB	
Hours	Major Street Vehicular Volume (veh/h)			Major Street Pedestrian Volume (ped/h)			4A ** (70%)	4B ** (70%)	
	EB	WB	Total	EB	WB	Total			
7:00 - 8:00	102	15	117	0	0	0	No	No	
8:00 - 9:00	47	23	70	0	0	0	No	No	
9:00 - 10:00	27	17	44	0	0	0	No	No	
10:00 - 11:00	29	17	46	0	0	0	No	No	
11:00 - 12:00	27	28	55	0	0	0	No	No	
12:00 - 13:00	26	27	53	0	0	0	No	No	
13:00 - 14:00	26	26	52	0	0	0	No	No	
14:00 - 15:00	34	22	56	0	0	0	No	No	
15:00 - 16:00	35	41	76	0	0	0	No	No	
16:00 - 17:00	41	51	92	0	0	0	No	No	
17:00 - 18:00	55	66	121	0	0	0	No	No	
18:00 - 19:00	19	15	34	0	0	0	No	No	
Totals	468	348	816	0	0	0	0	0	

** Warrant 4 should not be applied where the nearest traffic signal or stop-sign control is < 300 ft, unless the proposed traffic control signal will not restrict the progressive movement of traffic.

Warrants	
Warrant 1: Eight-Hour Vehicular Volume	
A. Minimum Vehicular Volumes (Both major approaches --and-- more critical minor approach) --or--	
B. Interruption of Continuous Traffic (Both major approaches --and-- more critical minor approach) --or--	
56% Vehicular --and-- Interruption Volumes (Both major approaches --and-- more critical minor approach)	
Warrant 2: Four-Hour Vehicular Volume	

Four-Hour Vehicular Volume (Both major approaches --and-- more critical minor approach)	
Warrant 3: Peak Hour	
A. Peak-Hour Conditions (Minor delay -- and-- minor volume --and-- total volume) --or--	
B. Peak-Hour Vehicular Volumes (Both major approaches --and-- more critical minor approach)	
Warrant 4: Pedestrian Volume	
A. Four Hour Volumes --or--	
B. Peak-Hour Volumes	
Warrant 5: School Crossing	
Gaps Same Period --and--	
Student Volumes	
Nearest Traffic Control Signal (optional)	
Warrant 6: Coordinated Signal System	
Degree of Platooning (Predominant direction or both directions)	
Warrant 7: Crash Experience	
A. Adequate trials of alternatives, observance and enforcement failed --and--	
B. Reported Crash History --and--	
B1. Angle Crashes and Pedestrian Crashes within a 1-year Period (All Severities)	
B2. Angle Crashes and Pedestrian Crashes within a 1-year Period (Fatal-and-Injury)	
B3. Angle Crashes and Pedestrian Crashes within a 3-year Period (All Severities)	
B4. Angle Crashes and Pedestrian Crashes within a 3-year Period (Fatal-and-Injury)	
C. 56% Volumes for Warrants 1A, 1B, --or-- 4 are satisfied	
Warrant 8: Roadway Network	
A. Weekday Volume (Peak hour total --and-- projected warrants 1, 2, or 3) --or--	
B. Weekend Volume (Five hours total)	
Warrant 9: Grade Crossing	
A. Grade Crossing within 140 ft --and--	
B. Peak-Hour Vehicular Volumes	



Shop House Acres Major Subdivision Traffic Impact Study

APPENDIX F Turn-Lane Warrant Analysis

2026 Existing Traffic Volumes - Right Turn Lanes at Unsignalized Intersections on 2-Lane Highways Summary									
Intersection	Approach	AM				PM			
		Total DHV	RT Vol During DHV	Required RT Vol for Warranted Lane	Warranted RT Lane (Y/N)	Total DHV	RT Vol During DHV	Required RT Vol for Warranted Lane	Warranted RT Lane (Y/N)
King Ave. West & South 80th St. West	WB	65	25	90	N	172	80	90	N
	EB	88	4	90	N	56	6	90	N

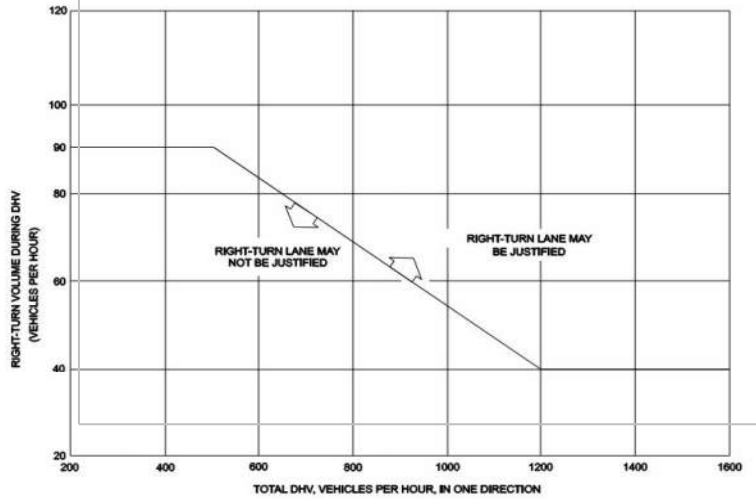
2026 Existing Traffic Volumes - Left Turn Lanes at Unsignalized Intersections on 2-Lane Highways Summary											
Intersection	Approach	AM					PM				
		Va = Tot Advancing Traffic Vol	Va(L) = Tot LT vol in advancing traffic	% LT in Va	Vo = Tot opposing traffic Vol	Warranted LT Lane (Y/N)	Va = Tot Advancing Traffic Vol	Va(L) = Tot LT vol in advancing traffic	% LT in Va	Vo = Tot opposing traffic Vol	Warranted LT Lane (Y/N)
King Ave. West & South 80th St. West	WB	65	14	21.5%	88	N	172	34	19.8%	56	N
	EB	88	3	3.4%	65	N	56	6	10.7%	172	N

2031 Existing Traffic Volumes - Right Turn Lanes at Unsignalized Intersections on 2-Lane Highways Summary									
Intersection	Approach	AM				PM			
		Total DHV	RT Vol During DHV	Required RT Vol for Warranted Lane	Warranted RT Lane (Y/N)	Total DHV	RT Vol During DHV	Required RT Vol for Warranted Lane	Warranted RT Lane (Y/N)
King Ave. West & South 80th St. West	WB	70	27	90	N	181	84	90	N
	EB	94	5	90	N	60	7	90	N

2031 Existing Traffic Volumes - Left Turn Lanes at Unsignalized Intersections on 2-Lane Highways Summary											
Intersection	Approach	AM					PM				
		Va = Tot Advancing Traffic Vol	Va(L) = Tot LT vol in advancing traffic	% LT in Va	Vo = Tot opposing traffic Vol	Warranted LT Lane (Y/N)	Va = Tot Advancing Traffic Vol	Va(L) = Tot LT vol in advancing traffic	% LT in Va	Vo = Tot opposing traffic Vol	Warranted LT Lane (Y/N)
King Ave. West & South 80th St. West	WB	70	15	21.4%	94	N	181	36	19.9%	60	N
	EB	94	4	4.3%	70	N	60	7	11.7%	181	N

2031 Total Traffic Volumes - Right Turn Lanes at Unsignalized Intersections on 2-Lane Highways Summary									
Intersection	Approach	AM				PM			
		Total DHV	RT Vol During DHV	Required RT Vol for Warranted Lane	Warranted RT Lane (Y/N)	Total DHV	RT Vol During DHV	Required RT Vol for Warranted Lane	Warranted RT Lane (Y/N)
King Ave. West & South 80th St. West	WB	71	27	90	N	194	84	90	N
	EB	99	10	90	N	62	9	90	N

2031 Total Traffic Volumes - Left Turn Lanes at Unsignalized Intersections on 2-Lane Highways Summary											
Intersection	Approach	AM					PM				
		Va = Tot Advancing Traffic Vol	Va(L) = Tot LT vol in advancing traffic	% LT in Va	Vo = Tot opposing traffic Vol	Warranted LT Lane (Y/N)	Va = Tot Advancing Traffic Vol	Va(L) = Tot LT vol in advancing traffic	% LT in Va	Vo = Tot opposing traffic Vol	Warranted LT Lane (Y/N)
King Ave. West & South 80th St. West	WB	71	16	22.5%	99	N	194	49	25.3%	62	N
	EB	99	4	4.0%	71	N	62	7	11.3%	194	N



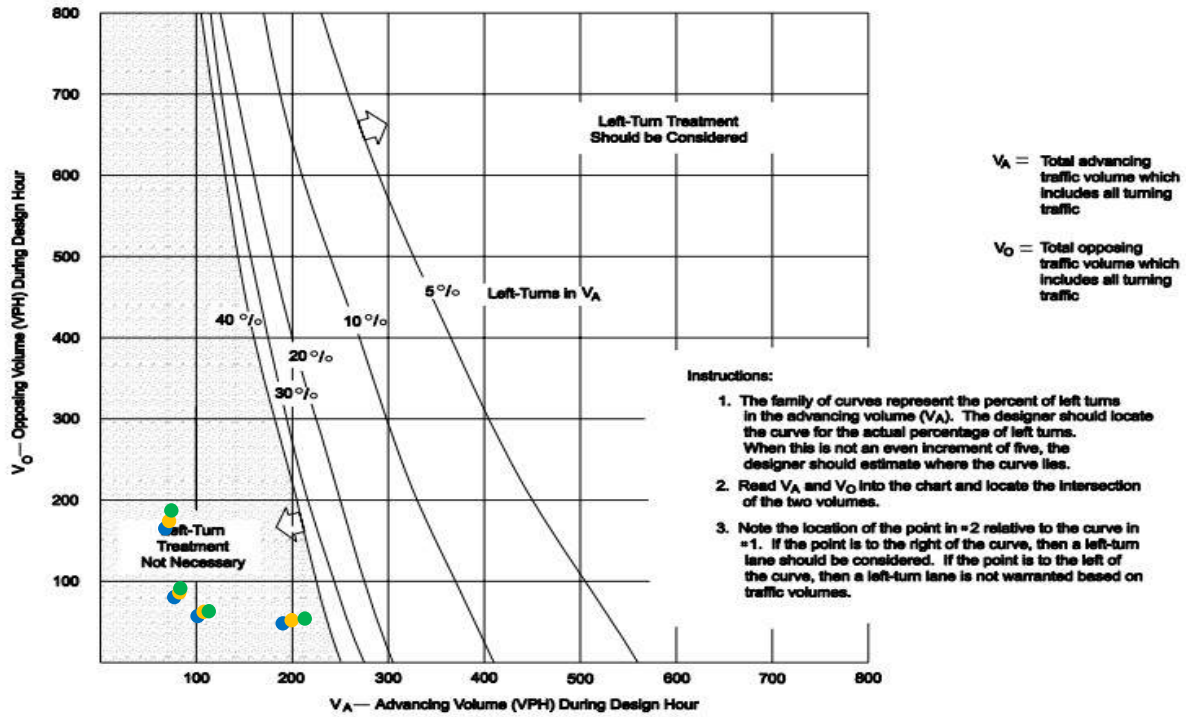
Note: Figure is only applicable on highways with a design speed of 50 mph (80 km/h) or greater.

GUIDELINES FOR RIGHT-TURN LANES AT UNSIGNALIZED INTERSECTIONS ON 4-LANE HIGHWAYS

Figure 28.4B

King Ave. West & South 80th St. West

2026 BACKGROUND TRAFFIC		Note: Points outside the limits of the chart are not plotted and need to be verified if a right-turn may be needed
2031 BACKGROUND TRAFFIC		
2031 TOTAL TRAFFIC		



VOLUME GUIDELINES FOR LEFT-TURN LANES AT UNSIGNALIZED INTERSECTIONS ON 2-LANE HIGHWAYS (60 MPH) (US Customary)

Figure 28.4C

King Ave. West & South 80th St. West

2026 BACKGROUND TRAFFIC

2031 BACKGROUND TRAFFIC

2031 TOTAL TRAFFIC

Note: Points outside the limits of the chart are not plotted and are assumed to indicate a left-turn may be needed

2026 Existing Traffic Volumes - Right Turn Lanes at Unsignalized Intersections on 2-Lane Highways Summary									
Intersection	Approach	AM				PM			
		Total DHV	RT Vol During DHV	Required RT Vol for Warranted Lane	Warranted RT Lane (Y/N)	Total DHV	RT Vol During DHV	Required RT Vol for Warranted Lane	Warranted RT Lane (Y/N)
Hesper Road & South 80th St. West	WB	16	3	118	N	53	13	113	N
	EB	85	13	109	N	42	8	114	N

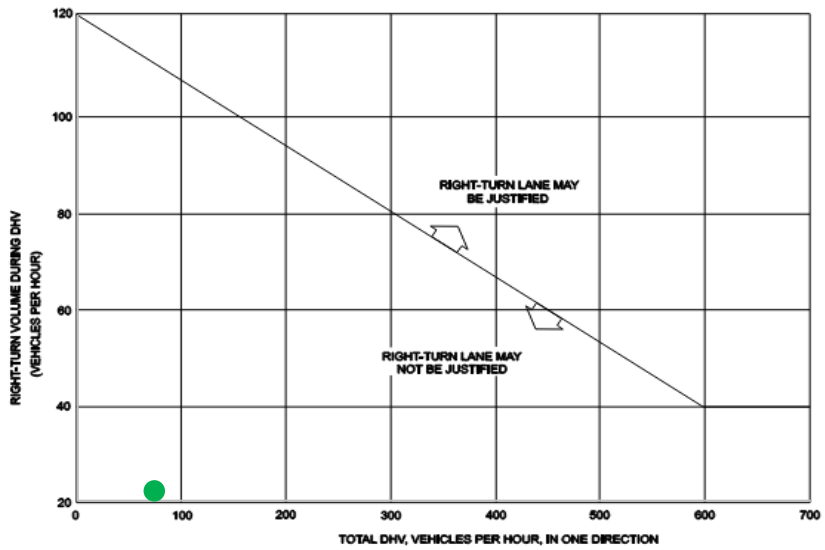
2026 Existing Traffic Volumes - Left Turn Lanes at Unsignalized Intersections on 2-Lane Highways Summary											
Intersection	Approach	AM					PM				
		Va = Tot Advancing Traffic Vol	Va(L) = Tot LT vol in advancing traffic	% LT in Va	Vo = Tot opposing traffic Vol	Warranted LT Lane (Y/N)	Va = Tot Advancing Traffic Vol	Va(L) = Tot LT vol in advancing traffic	% LT in Va	Vo = Tot opposing traffic Vol	Warranted LT Lane (Y/N)
Hesper Road & South 80th St. West	WB	16	2	12.5%	85	N	53	6	11.3%	42	N
	EB	85	22	25.9%	16	N	42	13	31.0%	53	N

2031 Existing Traffic Volumes - Right Turn Lanes at Unsignalized Intersections on 2-Lane Highways Summary									
Intersection	Approach	AM				PM			
		Total DHV	RT Vol During DHV	Required RT Vol for Warranted Lane	Warranted RT Lane (Y/N)	Total DHV	RT Vol During DHV	Required RT Vol for Warranted Lane	Warranted RT Lane (Y/N)
Hesper Road & South 80th St. West	WB	21	4	117	N	68	17	111	N
	EB	108	17	106	N	54	10	113	N

2031 Existing Traffic Volumes - Left Turn Lanes at Unsignalized Intersections on 2-Lane Highways Summary											
Intersection	Approach	AM					PM				
		Va = Tot Advancing Traffic Vol	Va(L) = Tot LT vol in advancing traffic	% LT in Va	Vo = Tot opposing traffic Vol	Warranted LT Lane (Y/N)	Va = Tot Advancing Traffic Vol	Va(L) = Tot LT vol in advancing traffic	% LT in Va	Vo = Tot opposing traffic Vol	Warranted LT Lane (Y/N)
Hesper Road & South 80th St. West	WB	21	3	14.3%	108	N	68	8	11.8%	54	N
	EB	108	28	25.9%	21	N	54	17	31.5%	68	N

2031 Total Traffic Volumes - Right Turn Lanes at Unsignalized Intersections on 2-Lane Highways Summary									
Intersection	Approach	AM				PM			
		Total DHV	RT Vol During DHV	Required RT Vol for Warranted Lane	Warranted RT Lane (Y/N)	Total DHV	RT Vol During DHV	Required RT Vol for Warranted Lane	Warranted RT Lane (Y/N)
Hesper Road & South 80th St. West	WB	22	5	117	N	73	22	110	N
	EB	111	17	105	N	59	10	112	N

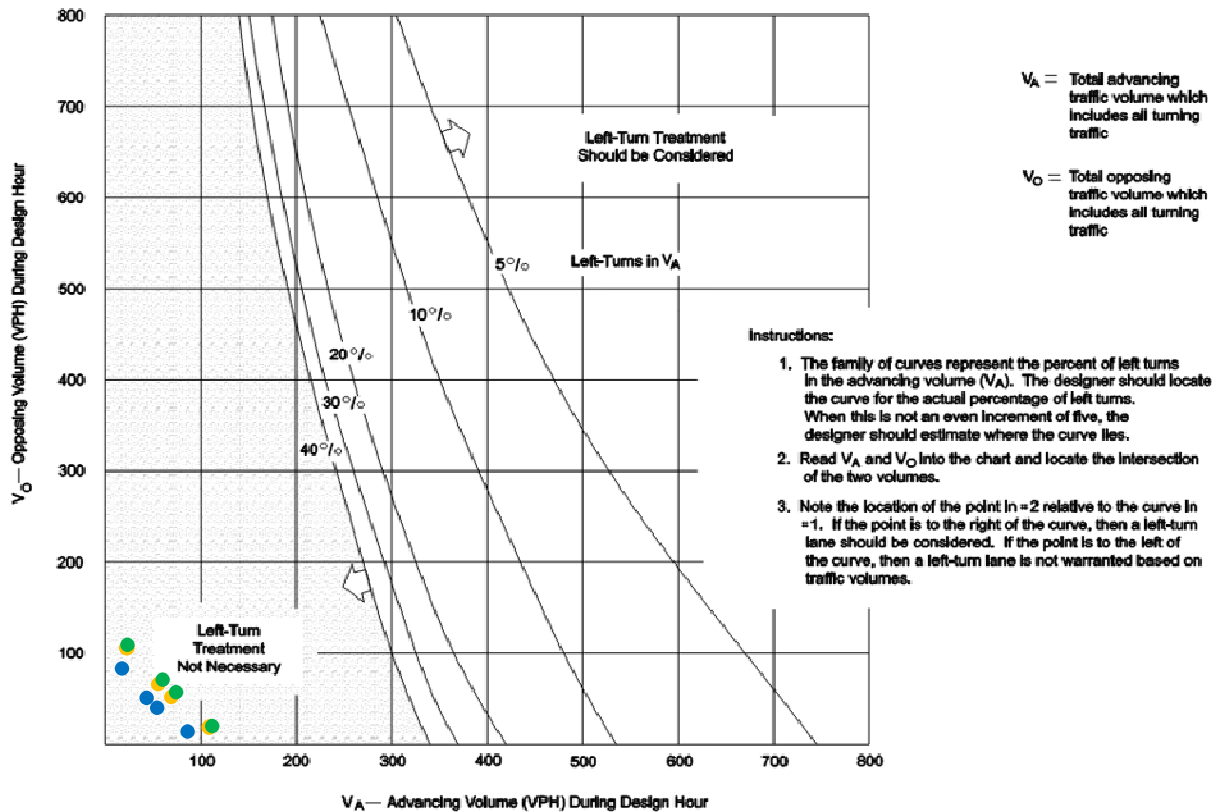
2031 Total Traffic Volumes - Left Turn Lanes at Unsignalized Intersections on 2-Lane Highways Summary											
Intersection	Approach	AM					PM				
		Va = Tot Advancing Traffic Vol	Va(L) = Tot LT vol in advancing traffic	% LT in Va	Vo = Tot opposing traffic Vol	Warranted LT Lane (Y/N)	Va = Tot Advancing Traffic Vol	Va(L) = Tot LT vol in advancing traffic	% LT in Va	Vo = Tot opposing traffic Vol	Warranted LT Lane (Y/N)
Hesper Road & South 80th St. West	WB	22	3	13.6%	111	N	73	8	11.0%	59	N
	EB	111	31	27.9%	22	N	59	22	37.3%	73	N



Note: For highways with a design speed below 50 mph (80 km/h) with a DHV < 300 and where right turns are > 40, an adjustment should be used. To read the vertical axis of the chart, subtract 20 from the actual number of right turns.

Hesper Road & South 80th St. West

2026 BACKGROUND TRAFFIC		Note: Points outside the limits of the chart are not plotted and need to be verified if a right-turn may be needed
2031 BACKGROUND TRAFFIC		
2031 TOTAL TRAFFIC		



VOLUME GUIDELINES FOR LEFT-TURN LANES AT UNSIGNALIZED INTERSECTIONS ON 2-LANE HIGHWAYS (45 MPH) (US Customary)

Figure 28.4F

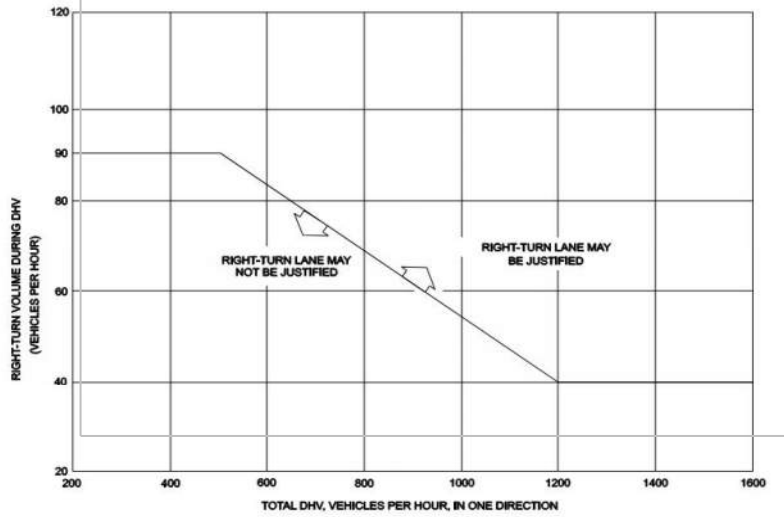
Hesper Road & South 80th St. West

2026 BACKGROUND TRAFFIC
 2031 BACKGROUND TRAFFIC
 2031 TOTAL TRAFFIC

Note: Points outside the limits of the chart are not plotted and are assumed to indicate a left-turn may be needed

2031 Total Traffic Volumes - Right Turn Lanes at Unsignalized Intersections on 2-Lane Highways Summary									
Intersection	Approach	AM				PM			
		Total DHV	RT Vol During DHV	Required RT Vol for Warranted Lane	Warranted RT Lane (Y/N)	Total DHV	RT Vol During DHV	Required RT Vol for Warranted Lane	Warranted RT Lane (Y/N)
North Access & South 80th St. West	NB	61	0	90	N	70	0	90	N
	SB	36	4	90	N	97	10	90	N

2031 Total Traffic Volumes - Left Turn Lanes at Unsignalized Intersections on 2-Lane Highways Summary											
Intersection	Approach	AM					PM				
		Va = Tot Advancing Traffic Vol	Va(L) = Tot LT vol in advancing traffic	% LT in Va	Vo = Tot opposing traffic Vol	Warranted LT Lane (Y/N)	Va = Tot Advancing Traffic Vol	Va(L) = Tot LT vol in advancing traffic	% LT in Va	Vo = Tot opposing traffic Vol	Warranted LT Lane (Y/N)
North Access & South 80th St. West	NB	61	3	4.9%	36	N	70	9	12.9%	97	N
	SB	36	0	0.0%	61	N	97	0	0.0%	70	N



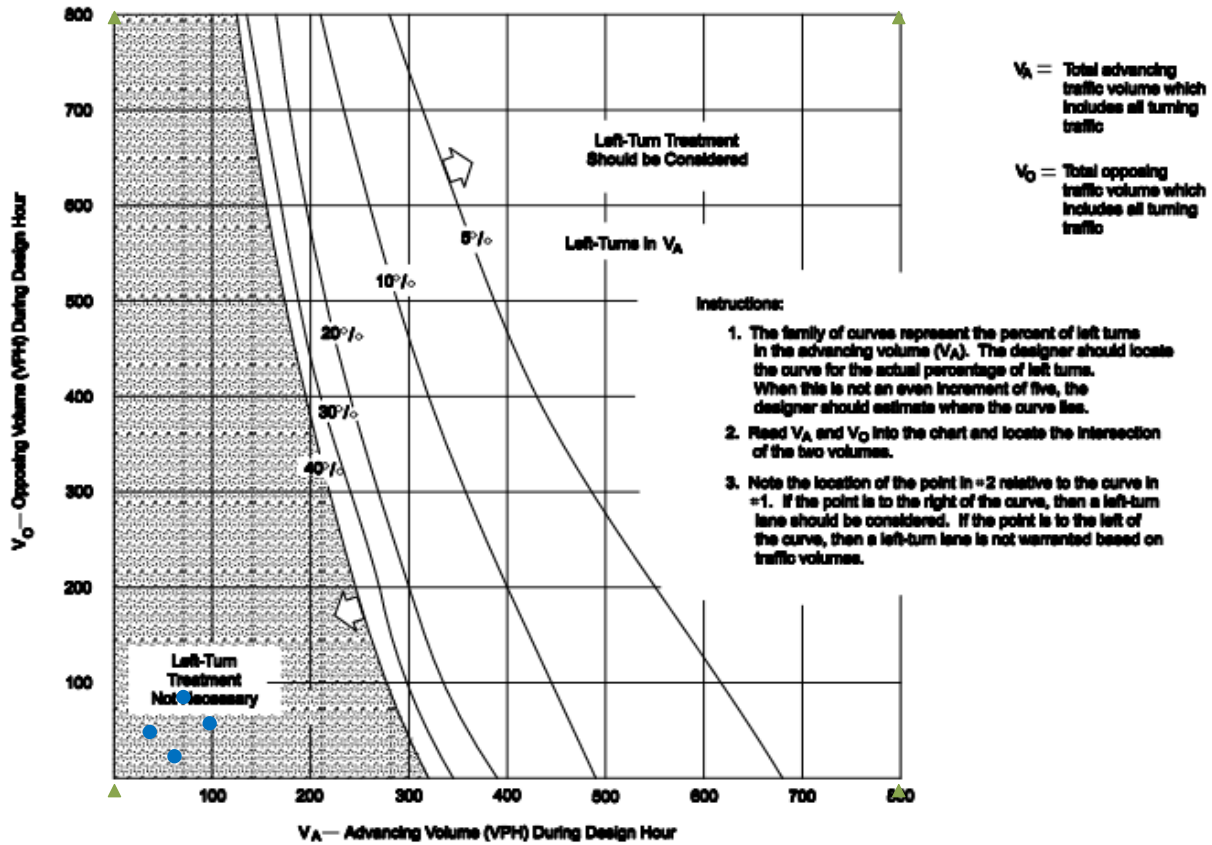
Note: Figure is only applicable on highways with a design speed of 50 mph (80 km/h) or greater.

GUIDELINES FOR RIGHT-TURN LANES AT UNSIGNALIZED INTERSECTIONS ON 4-LANE HIGHWAYS

Figure 28.4B

North Access & South 80th St. West

2031 TOTAL TRAFFIC [redacted] Note: Points outside the limits of the chart are not plotted and need to be verified if a right-turn may be needed



VOLUME GUIDELINES FOR LEFT-TURN LANES AT UNSIGNALIZED INTERSECTIONS ON 2-LANE HIGHWAYS (50 MPH) (US Customary)

Figure 28.4E

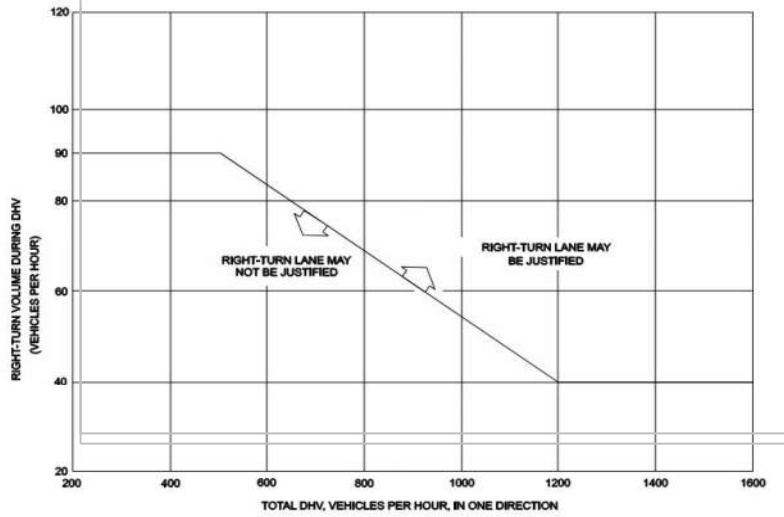
North Access & South 80th St. West

Note: Points outside the limits of the chart are not plotted and are assumed to indicate a left-turn may be needed

2031 TOTAL TRAFFIC

2031 Total Traffic Volumes - Right Turn Lanes at Unsignalized Intersections on 2-Lane Highways Summary									
Intersection	Approach	AM				PM			
		Total DHV	RT Vol During DHV	Required RT Vol for Warranted Lane	Warranted RT Lane (Y/N)	Total DHV	RT Vol During DHV	Required RT Vol for Warranted Lane	Warranted RT Lane (Y/N)
South Access & South 80th St. West	NB	51	0	90	N	75	0	90	N
	SB	38	4	90	N	94	10	90	N

2031 Total Traffic Volumes - Left Turn Lanes at Unsignalized Intersections on 2-Lane Highways Summary											
Intersection	Approach	AM					PM				
		Va = Tot Advancing Traffic Vol	Va(L) = Tot LT vol in advancing traffic	% LT in Va	Vo = Tot opposing traffic Vol	Warranted LT Lane (Y/N)	Va = Tot Advancing Traffic Vol	Va(L) = Tot LT vol in advancing traffic	% LT in Va	Vo = Tot opposing traffic Vol	Warranted LT Lane (Y/N)
South Access & South 80th St. West	NB	51	2	3.9%	38	N	75	9	12.0%	94	N
	SB	38	0	0.0%	51	N	94	0	0.0%	75	N



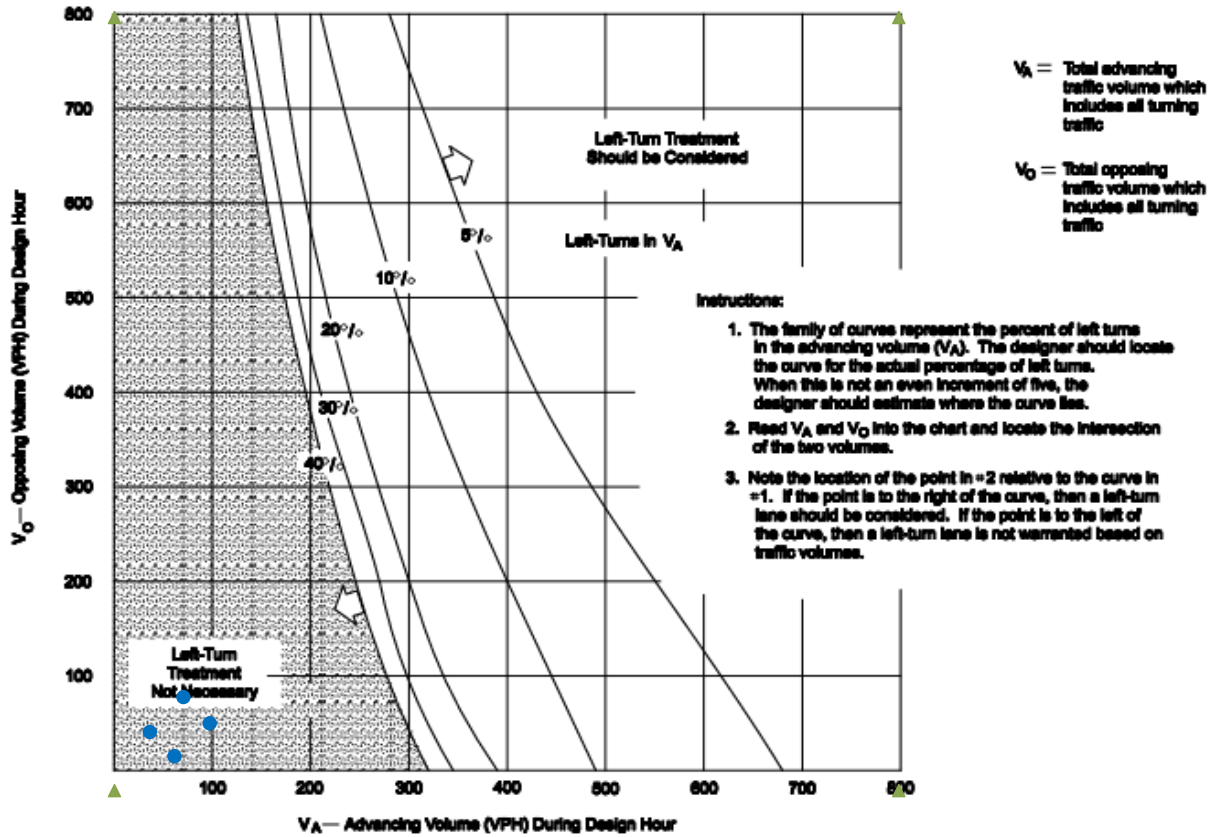
Note: Figure is only applicable on highways with a design speed of 50 mph (80 km/h) or greater.

GUIDELINES FOR RIGHT-TURN LANES AT UNSIGNALIZED INTERSECTIONS ON 4-LANE HIGHWAYS

Figure 28.4B

South Access & South 80th St. West

2031 TOTAL TRAFFIC [redacted] Note: Points outside the limits of the chart are not plotted and need to be verified if a right-turn may be needed



VOLUME GUIDELINES FOR LEFT-TURN LANES AT UNSIGNALIZED INTERSECTIONS ON 2-LANE HIGHWAYS (50 MPH) (US Customary)

Figure 28.4E

South Access & South 80th St. West

Note: Points outside the limits of the chart are not plotted and are assumed to indicate a left-turn may be needed

2031 TOTAL TRAFFIC



Shop House Acres Major Subdivision Traffic Impact Study

APPENDIX G

2024 Montana Department of Transportation

Seasonal Adjustment Factors

&

Appendix E of the Road Design Manual Produced by MDT



Seasonal Factors By Day and Month for 1/1/2024 - 12/31/2024

Seasonal Factors								
Group	Month	Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
REC_MA	Jan	2.436	2.279	2.183	2.374	2.395	2.105	2.203
	Feb	2.307	2.139	2.327	2.363	1.973	1.77	1.911
	Mar	1.847	1.852	1.818	1.708	1.664	1.499	1.741
	Apr	1.298	1.429	1.425	1.433	1.338	1.107	1.34
	May	0.917	0.923	1.036	1.102	1.01	0.822	0.919
	Jun	0.568	0.768	0.766	0.7	0.64	0.551	0.607
	Jul	0.452	0.589	0.612	0.573	0.552	0.471	0.477
	Aug	0.538	0.695	0.751	0.722	0.643	0.55	0.552
	Sep	0.646	0.726	0.813	0.807	0.774	0.665	0.672
	Oct	0.935	1.146	1.125	1.064	1.031	0.887	1.022
	Nov	1.694	1.704	1.694	1.601	1.647	1.419	1.56
	Dec	2.021	2.154	2.156	2.179	1.862	1.702	1.832

Seasonal Factors								
Group	Month	Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
REC_PA	Jan	2.574	2.17	2.187	2.204	2.226	2.081	2.312
	Feb	2.047	2.052	2.159	1.995	1.867	1.641	1.816
	Mar	1.917	1.964	2.084	1.907	1.835	1.621	1.836
	Apr	1.482	1.566	1.595	1.633	1.554	1.413	1.441
	May	0.881	0.923	0.974	1.066	0.949	0.809	0.859
	Jun	0.622	0.684	0.676	0.636	0.605	0.558	0.632
	Jul	0.522	0.559	0.573	0.55	0.543	0.501	0.521
	Aug	0.58	0.616	0.652	0.645	0.598	0.555	0.567
	Sep	0.658	0.682	0.7	0.711	0.68	0.619	0.661
	Oct	1.003	1.138	1.119	1.109	1.081	0.9	0.969
	Nov	2.084	1.961	2.105	1.869	2.049	1.653	1.926
	Dec	2.165	2.105	2.151	2.383	2.011	1.809	2.004

Seasonal Factors								
Group	Month	Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
RMA_RMC_12	Jan	1.841	1.546	1.474	1.442	1.492	1.436	1.606
	Feb	1.624	1.46	1.48	1.459	1.319	1.186	1.341
	Mar	1.396	1.269	1.269	1.202	1.155	1.05	1.256
	Apr	1.203	1.121	1.123	1.13	1.056	0.963	1.124
	May	1.001	0.968	0.993	1.008	0.939	0.819	0.927
	Jun	0.802	0.876	0.888	0.834	0.802	0.708	0.809
	Jul	0.713	0.771	0.803	0.745	0.722	0.683	0.711
	Aug	0.79	0.851	0.871	0.838	0.78	0.69	0.759
	Sep	0.862	0.857	0.898	0.887	0.826	0.739	0.837
	Oct	1.015	1.02	0.999	0.979	0.938	0.827	0.98
	Nov	1.277	1.15	1.128	1.066	1.137	0.973	1.156
	Dec	1.454	1.336	1.357	1.412	1.236	1.127	1.337

Seasonal Factors								
Group	Month	Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
RMA_RMC_345	Jan	2.107	1.429	1.165	1.188	1.183	1.23	1.74
	Feb	1.0	1.212	1.19	1.187	1.123	1.144	1.483
	Mar	1.981	1.211	1.082	1.057	1.062	1.104	1.511
	Apr	1.437	1.008	0.965	0.98	0.933	0.926	1.209
	May	1.226	0.916	0.859	0.84	0.849	0.812	0.991
	Jun	1.173	0.785	0.852	0.772	0.744	0.773	1.029
	Jul	1.198	0.804	0.791	0.796	0.824	0.812	1.056
	Aug	1.185	0.852	0.829	0.792	0.786	0.774	1.043
	Sep	1.321	0.941	0.857	0.869	0.836	0.824	1.094
	Oct	1.291	0.853	0.868	0.848	0.834	0.814	1.08
	Nov	1.473	0.946	0.95	0.943	0.967	0.907	1.249
	Dec	1.738	1.117	1.193	1.214	1.087	1.021	1.319



Seasonal Factors By Day and Month for 1/1/2024 - 12/31/2024

Seasonal Factors								
Group	Month	Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
RPA_1	Jan	2.093	1.571	1.428	1.47	1.564	1.462	1.822
	Feb	1.747	1.4	1.367	1.351	1.267	1.15	1.443
	Mar	1.496	1.281	1.244	1.183	1.151	1.065	1.34
	Apr	1.241	1.134	1.123	1.125	1.059	0.944	1.119
	May	1.029	0.978	0.98	1.004	0.923	0.775	0.946
	Jun	0.808	0.867	0.873	0.827	0.776	0.684	0.825
	Jul	0.67	0.723	0.763	0.71	0.692	0.619	0.688
	Aug	0.769	0.786	0.834	0.786	0.726	0.657	0.764
	Sep	0.889	0.879	0.89	0.882	0.833	0.729	0.843
	Oct	1.091	1.039	1.016	0.994	0.932	0.835	1.027
	Nov	1.436	1.177	1.162	1.087	1.205	1.035	1.27
	Dec	1.536	1.277	1.302	1.405	1.208	1.108	1.422

Seasonal Factors								
Group	Month	Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
RPA_2	Jan	1.677	1.412	1.266	1.26	1.263	1.261	1.445
	Feb	1.537	1.285	1.31	1.29	1.191	1.113	1.355
	Mar	1.275	1.193	1.153	1.085	1.05	0.973	1.148
	Apr	1.139	1.099	1.11	1.109	1.046	0.95	1.082
	May	1.029	0.986	1.002	1.011	0.937	0.82	0.944
	Jun	0.862	0.926	0.907	0.846	0.822	0.741	0.847
	Jul	0.829	0.861	0.867	0.821	0.836	0.769	0.842
	Aug	0.859	0.901	0.905	0.879	0.832	0.731	0.842
	Sep	0.928	0.911	0.937	0.919	0.858	0.752	0.837
	Oct	0.938	1.003	1.002	0.934	0.913	0.784	0.876
	Nov	1.172	1.101	1.068	0.992	1.059	0.932	1.08
	Dec	1.297	1.226	1.27	1.287	1.145	1.047	1.139

Seasonal Factors								
Group	Month	Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
RPA_3	Jan	2.024	1.567	1.385	1.717	1.573	1.462	1.729
	Feb	1.777	1.445	1.537	1.573	1.323	1.174	1.431
	Mar	1.46	1.258	1.256	1.154	1.102	1.055	1.363
	Apr	1.165	1.054	1.101	1.19	1.011	0.881	1.104
	May	1.009	0.925	1.015	1.029	0.911	0.783	0.94
	Jun	0.804	0.845	0.887	0.822	0.749	0.705	0.859
	Jul	0.729	0.746	0.786	0.742	0.78	0.701	0.82
	Aug	0.794	0.786	0.856	0.844	0.748	0.685	0.828
	Sep	0.932	0.879	0.908	0.924	0.84	0.752	0.884
	Oct	1.031	0.96	0.998	0.96	0.88	0.795	0.976
	Nov	1.219	1.076	1.145	1.012	1.102	0.966	1.179
	Dec	1.354	1.283	1.345	1.415	1.16	1.037	1.244

Seasonal Factors								
Group	Month	Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
RPA_45	Jan	1.825	1.565	1.335	1.385	1.438	1.394	1.719
	Feb	1.604	1.369	1.377	1.366	1.28	1.204	1.456
	Mar	1.535	1.307	1.185	1.112	1.091	1.047	1.378
	Apr	1.261	1.097	1.066	3.263	0.994	0.924	1.234
	May	1.008	0.937	0.955	0.967	0.883	0.812	0.956
	Jun	0.86	0.875	0.905	0.858	0.801	0.781	0.913
	Jul	0.808	0.814	0.831	0.792	0.81	0.755	0.867
	Aug	0.865	0.845	0.864	0.842	0.801	0.729	0.881
	Sep	0.935	0.875	0.871	0.877	0.826	0.744	0.892
	Oct	0.969	0.918	0.911	0.896	0.85	0.756	0.964
	Nov	1.18	1.059	1.082	0.982	1.074	0.925	1.122
	Dec	1.378	1.323	1.31	1.361	1.161	1.046	1.222



Seasonal Factors By Day and Month for 1/1/2024 - 12/31/2024

Seasonal Factors								
Group	Month	Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
RURAL INNER INTERSTATE	Jan	1.643	1.477	1.38	1.381	1.379	1.336	1.496
	Feb	1.385	1.383	1.388	1.368	1.251	1.143	1.319
	Mar	1.145	1.243	1.208	1.146	1.059	0.984	1.105
	Apr	1.034	1.434	1.086	1.106	1	0.904	0.984
	May	0.965	0.992	1.032	1.032	0.927	0.799	0.889
	Jun	0.796	0.927	0.927	0.864	0.795	0.716	0.84
	Jul	0.716	1.025	0.832	0.843	0.781	0.712	0.767
	Aug	0.759	0.869	0.887	0.841	0.78	0.702	0.78
	Sep	0.861	0.896	0.938	0.912	0.852	0.736	0.807
	Oct	0.906	1.019	1.019	0.964	0.918	0.786	0.908
	Nov	1.135	1.224	1.17	0.995	1.23	0.986	1.052
	Dec	1.226	1.307	1.328	1.344	1.164	1.033	1.07

Seasonal Factors								
Group	Month	Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
RURAL OUTER INTERSTATE	Jan	1.63	1.514	1.413	1.422	1.48	1.418	1.558
	Feb	1.438	1.405	1.418	1.338	1.251	1.199	1.348
	Mar	1.229	1.26	1.216	1.138	1.052	1.004	1.166
	Apr	1.08	1.081	1.088	1.075	1.011	0.936	1.092
	May	0.961	0.953	1.019	0.995	0.909	0.824	0.994
	Jun	0.825	0.874	0.917	0.849	0.795	0.745	0.854
	Jul	0.721	0.769	0.821	0.761	0.792	0.732	0.78
	Aug	0.77	0.823	0.861	0.819	0.755	0.717	0.803
	Sep	0.895	0.898	0.935	0.918	0.857	0.8	0.921
	Oct	0.954	1.006	1.026	0.982	0.914	0.84	1.019
	Nov	1.193	1.218	1.188	1.096	1.222	1.033	1.134
	Dec	1.213	1.357	1.413	1.499	1.222	1.116	1.202

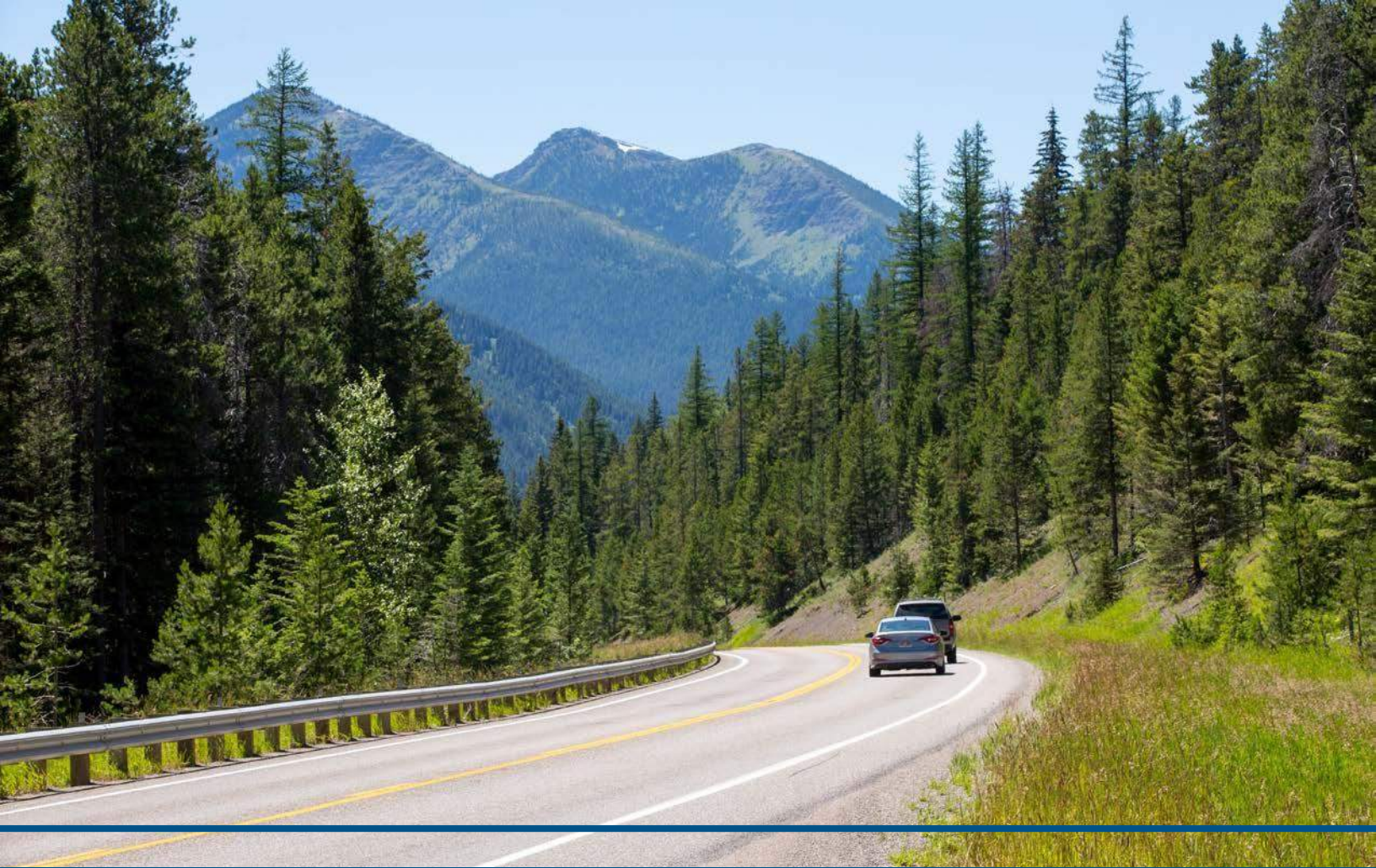
Seasonal Factors								
Group	Month	Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
UI	Jan	1.777	1.344	1.146	1.155	1.192	1.191	1.457
	Feb	1.581	1.207	1.179	1.176	1.107	1.074	1.291
	Mar	1.456	1.124	1.067	1.01	0.994	0.945	1.175
	Apr	1.256	1.011	0.975	0.971	0.935	0.888	1.093
	May	1.17	1.004	0.976	0.958	0.922	0.841	1.031
	Jun	1.03	0.908	0.889	0.842	0.822	0.801	0.963
	Jul	0.974	0.825	0.824	0.794	0.859	0.804	0.943
	Aug	1.015	0.861	0.858	0.836	0.847	0.777	0.95
	Sep	1.124	0.93	0.894	0.889	0.847	0.802	0.963
	Oct	1.158	0.954	0.925	0.898	0.882	0.824	1.03
	Nov	1.368	1.045	1.009	0.973	1.067	0.961	1.173
	Dec	1.381	1.101	1.112	1.177	1.023	0.953	1.139

Seasonal Factors								
Group	Month	Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
UPA	Jan	1.801	1.213	1.037	1.037	1.083	1.086	1.431
	Feb	1.62	1.079	1.016	1.01	1.006	0.962	1.241
	Mar	1.534	1.021	0.976	0.949	0.946	0.916	1.204
	Apr	1.388	0.95	0.915	0.912	0.893	0.871	1.098
	May	1.307	0.997	0.896	0.893	0.876	0.831	1.065
	Jun	1.217	0.896	0.863	0.847	0.837	0.822	1.039
	Jul	1.204	0.861	0.841	0.827	0.908	0.856	1.064
	Aug	1.223	0.889	0.867	0.85	0.836	0.824	1.055
	Sep	1.298	0.98	0.886	0.88	0.864	0.837	1.067
	Oct	1.348	0.953	0.905	0.896	0.888	0.858	1.096
	Nov	1.485	0.986	0.943	0.94	1.063	0.949	1.235
	Dec	1.529	1.002	1.013	1.111	0.979	0.933	1.217



Seasonal Factors By Day and Month for 1/1/2024 - 12/31/2024

Seasonal Factors								
Group	Month	Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
UMA_UC	Jan	1.765	1.187	1.005	1.005	1.03	1.057	1.47
	Feb	1.677	1.112	1.031	1.02	0.998	0.994	1.368
	Mar	1.594	1.02	0.969	0.957	0.969	0.966	1.299
	Apr	1.356	0.915	0.874	0.882	0.869	0.878	1.146
	May	1.241	0.922	0.847	0.841	0.839	0.813	1.048
	Jun	1.219	0.895	0.847	0.819	0.818	0.848	1.069
	Jul	1.256	0.877	0.845	0.842	0.917	0.898	1.148
	Aug	1.257	0.905	0.874	0.861	0.851	0.866	1.132
	Sep	1.321	0.947	0.861	0.855	0.845	0.842	1.11
	Oct	1.321	0.917	0.88	0.872	0.87	0.872	1.16
	Nov	1.51	0.969	0.933	0.934	1.034	0.98	1.315
	Dec	1.552	1.022	1.03	1.109	0.998	0.962	1.293



ROAD DESIGN MANUAL

September 2016



Appendix E

Level of Service Criteria

The design team should coordinate with the Traffic and Safety Bureau for all traffic operational analyses conducted for the project and additional traffic operational information that may be needed for the design. The objective of conducting traffic operations analyses is to design the highway mainline and intersections to accommodate the selected design hourly volume (DHV) at the selected level of service (LOS). Appendix E provides the minimum LOS Criteria for various types of facilities. The detailed calculations, highway factors and methodologies are presented in the *Highway Capacity Manual (HCM)*. During the analysis, the design service volume (or flow rate) of the facility is calculated. For various types of highway facilities, the *HCM* documents the measures of effectiveness that should be used in capacity analyses to determine level of service. For each facility type, the *HCM* provides the analytical tools necessary to calculate the numerical value of its respective measure of effectiveness. Additional design criteria for each facility type are presented in the *MDT Geometric Design Standards*.

Type of Facility	Level of Service Targets
Rural	
Freeways (NHS — Interstate)	B
Principal Arterials (NHS — Non-Interstate)	Level/Rolling: B; Mountainous: C
Minor Arterials	Level/Rolling: B; Mountainous: C
Collector Roads	C
Urban	
Freeways (NHS — Interstate)	B
Principal Arterials (NHS — Non-Interstate)	C
Minor Arterials	C
Collector Roads	D



Shop House Acres Major Subdivision Traffic Impact Study

APPENDIX H
Miovision Data – Peak Hour Movement
&
Miovision Data – Hourly Counts

King Ave & 80th St W - TMC

Thu Feb 12, 2026

Full Length (12 AM-12 AM (+1))

All Classes (Motorcycles, Lights, Single-Unit Trucks, Articulated Trucks, Buses, Pedestrians, Bicycles on Road, Bicycles on Crosswalk)

All Movements

ID: 1377917, Location: 45.755208, -108.720208



Provided by: IMEG Corp.
401 E. State Street, 4th Floor,
Rockford, IL, 61104, US

Leg Direction	80th St W Southbound						King Ave Westbound						80th St W Northbound						King Ave Eastbound						Int						
Time	R	T	L	U	App	Ped*	R	T	L	U	App	Ped*	R	T	L	U	App	Ped*	R	T	L	U	App	Ped*	R	T	L	U	App	Ped*	Int
2026-02-12 12:00AM	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
12:15AM	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	0	2
12:30AM	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
12:45AM	0	0	0	0	0	0	1	1	0	0	2	0	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	3
Hourly Total	0	0	0	0	0	0	1	2	2	0	5	0	0	1	0	0	1	0	0	1	0	0	1	0	0	1	0	0	1	0	7
1:00AM	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
1:15AM	0	0	0	0	0	0	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
1:30AM	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
1:45AM	0	0	0	0	0	0	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
Hourly Total	0	0	0	0	0	0	2	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2
2:00AM	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	0	2
2:15AM	0	0	0	0	0	0	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
2:30AM	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	0	2
2:45AM	0	0	0	0	0	0	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
Hourly Total	0	0	0	0	0	0	2	1	1	0	4	0	0	0	0	0	0	0	0	2	0	0	2	0	0	0	0	0	0	0	6
3:00AM	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
3:15AM	0	0	1	0	1	0	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2
3:30AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	0	1
3:45AM	0	0	2	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	4	0	0	4	0	0	0	0	0	0	0	6
Hourly Total	0	0	3	0	3	0	0	1	0	0	1	0	0	0	0	0	0	0	0	5	0	0	5	0	0	0	0	0	0	0	9
4:00AM	0	0	3	0	3	0	1	0	0	0	1	0	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	0	5
4:15AM	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1	0	0	1	0	0	1	0	0	0	0	0	0	0	2
4:30AM	0	1	1	0	2	0	0	0	0	0	0	0	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	3
4:45AM	0	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3	0	0	3	0	0	0	0	0	0	0	4
Hourly Total	0	1	5	0	6	0	1	0	0	0	1	0	2	0	0	0	2	0	0	5	0	0	5	0	0	0	0	0	0	0	14
5:00AM	0	0	3	0	3	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	3
5:15AM	0	0	4	0	4	0	0	2	0	0	2	0	0	0	0	0	0	0	0	4	0	0	4	0	0	0	0	0	0	0	10
5:30AM	0	0	4	0	4	0	1	0	0	0	1	0	1	0	0	0	1	0	0	2	0	0	2	0	0	0	0	0	0	0	8
5:45AM	0	0	10	0	10	0	3	0	1	0	4	0	1	1	0	0	2	0	0	3	0	0	3	0	0	0	0	0	0	0	19
Hourly Total	0	0	21	0	21	0	4	2	1	0	7	0	2	1	0	0	3	0	0	9	0	0	9	0	0	0	0	0	0	0	40
6:00AM	0	2	14	0	16	0	3	2	1	0	6	0	0	1	0	0	1	0	0	8	0	0	8	0	0	0	0	0	0	0	31
6:15AM	0	1	6	1	8	0	4	3	1	0	8	0	0	0	1	0	1	0	1	8	0	0	9	0	0	0	0	0	0	0	26
6:30AM	0	2	10	0	12	0	1	3	2	0	6	0	7	1	0	0	8	0	0	12	0	0	12	0	0	0	0	0	0	0	38
6:45AM	0	1	10	0	11	0	5	3	3	0	11	0	2	1	0	0	3	0	1	15	0	0	16	0	0	0	0	0	0	0	41
Hourly Total	0	6	40	1	47	0	13	11	7	0	31	0	9	3	1	0	13	0	2	43	0	0	45	0	0	0	0	0	0	0	136
7:00AM	0	1	12	0	13	0	4	3	4	0	11	0	4	1	1	0	6	0	0	20	0	0	20	0	0	0	0	0	0	0	50
7:15AM	0	1	28	0	29	0	3	1	3	0	7	0	8	2	0	0	10	0	1	23	0	0	24	0	0	0	0	0	0	0	70
7:30AM	0	4	36	0	40	0	4	5	1	0	10	0	10	1	1	0	12	0	1	20	1	0	22	0	0	0	0	0	0	0	84
7:45AM	0	3	14	0	17	0	7	7	2	0	16	0	2	1	1	0	4	0	0	16	0	0	16	0	0	0	0	0	0	0	53
Hourly Total	0	9	90	0	99	0	18	16	10	0	44	0	24	5	3	0	32	0	2	79	1	0	82	0	0	0	0	0	0	0	257
8:00AM	0	1	13	0	14	0	8	10	6	0	24	0	7	2	0	0	9	0	1	13	1	0	15	0	0	0	0	0	0	0	62
8:15AM	0	3	7	0	10	0	7	4	2	0	13	0	1	2	0	0	3	0	1	17	0	0	18	0	0	0	0	0	0	0	44
8:30AM	0	4	6	0	10	0	3	4	0	0	7	0	9	0	1	0	10	0	0	16	0	0	16	0	0	0	0	0	0	0	43
8:45AM	0	0	6	0	6	0	7	8	3	0	18	0	3	1	1	0	5	0	0	1	1	0	2	0	0	0	0	0	0	0	31
Hourly Total	0	8	32	0	40	0	25	26	11	0	62	0	20	5	2	0	27	0	2	47	2	0	51	0	0	0	0	0	0	0	180
9:00AM	2	0	8	0	10	0	5	7	4	0	16	0	2	2	0	0	4	0	0	12	1	0	13	0	0	0	0	0	0	0	43
9:15AM	0	0	9	0	9	0	3	7	1	0	11	0	1	0	0	0	1	0	2	5	2	0	9	0	0	0	0	0	0	0	30
9:30AM	2	1	6	0	9	0	7	11	4	0	22	0	8	1	0	0	9	0	1	6	1	0	8	0	0	0	0	0	0	0	48
9:45AM	0	2	9	0	11	0	9	5	2	0	16	0	4	1	0	0	5	0	1	7	1	0	9	0	0	0	0	0	0	0	41
Hourly Total	4	3	32	0	39	0	24	30	11	0	65	0	15	4	0	0	19	0	4	30	5	0	39	0	0	0	0	0	0	0	162
10:00AM	2	0	12	0	14	0	6	4	3	0	13	0	1	0	2	0	3	0	1	9	0	0	10	0	0	0	0	0	0	0	40
10:15AM	1	1	10	0	12	0	4	4	5	0	13	0	6	1	2	0	9	0	1	4	0	0	5	0	0	0	0	0	0	0	39
10:30AM	0	2	6	0	8	0	7	5	7	0	19	0	6	1	1	0	8	0	1	12	0	0	13	0	0	0	0	0	0	0	48
10:45AM	0	3	13	0	16	0	4	4	9	0	17	0	4	2	1	0	7	0	0	6	1	0	7	0	0	0	0	0	0	0	47
Hourly Total	3	6	41	0	50	0	21	17	24	0	62	0	17	4	6	0	27	0	3	31	1	0	35	0	0	0	0	0	0	0	

Leg Direction	80th St W Southbound						King Ave Westbound						80th St W Northbound						King Ave Eastbound						Int
Time	R	T	L	U	App	Ped*	R	T	L	U	App	Ped*	R	T	L	U	App	Ped*	R	T	L	U	App	Ped*	Int
11:45AM	1	1	6	0	8	0	8	7	5	0	20	0	8	1	0	0	9	0	2	7	1	0	10	0	47
Hourly Total	3	4	33	0	40	0	32	41	16	0	89	0	21	5	6	0	32	0	5	37	4	0	46	0	207
12:00PM	1	4	6	0	11	0	8	11	9	0	28	0	5	2	0	0	7	0	0	9	0	0	9	0	55
12:15PM	0	1	11	0	12	0	12	11	3	0	26	0	2	5	0	0	7	0	0	9	0	0	9	0	54
12:30PM	1	1	3	0	5	0	7	5	6	0	18	0	5	3	0	0	8	0	1	6	0	0	7	0	38
12:45PM	2	2	7	0	11	0	13	13	4	0	30	0	2	2	3	0	7	0	1	8	2	0	11	0	59
Hourly Total	4	8	27	0	39	0	40	40	22	0	102	0	14	12	3	0	29	0	2	32	2	0	36	0	206
1:00PM	1	1	9	0	11	0	6	7	4	0	17	0	6	0	0	0	6	0	1	7	1	0	9	0	43
1:15PM	1	4	8	0	13	0	8	9	5	0	22	0	1	1	1	0	3	0	1	12	1	0	14	0	52
1:30PM	0	2	9	0	11	0	12	7	3	0	22	0	2	2	2	0	6	0	0	11	0	0	11	0	50
1:45PM	2	0	8	0	10	0	16	10	4	0	30	0	3	0	0	0	3	0	0	8	0	0	8	0	51
Hourly Total	4	7	34	0	45	0	42	33	16	0	91	0	12	3	3	0	18	0	2	38	2	0	42	0	196
2:00PM	0	1	9	0	10	0	8	7	7	0	22	0	4	2	2	0	8	0	0	4	2	0	6	0	46
2:15PM	0	4	9	0	13	0	11	9	3	0	23	0	6	7	1	0	14	0	0	10	1	0	11	0	61
2:30PM	0	4	9	0	13	0	14	6	1	0	21	0	2	0	3	0	5	0	1	10	0	0	11	0	50
2:45PM	0	1	13	0	14	0	13	4	6	0	23	0	1	0	0	0	1	0	2	7	1	0	10	0	48
Hourly Total	0	10	40	0	50	0	46	26	17	0	89	0	13	9	6	0	28	0	3	31	4	0	38	0	205
3:00PM	0	1	9	0	10	0	10	7	6	0	23	0	5	4	0	0	9	0	0	15	1	0	16	0	58
3:15PM	0	4	8	0	12	0	10	11	5	0	26	0	3	2	3	0	8	0	1	8	0	0	9	0	55
3:30PM	0	2	8	0	10	0	23	20	6	0	49	0	4	1	1	0	6	0	0	6	0	0	6	0	71
3:45PM	3	3	7	0	13	1	10	12	9	0	31	0	4	4	0	0	8	0	0	13	2	0	15	0	67
Hourly Total	3	10	32	0	45	1	53	50	26	0	129	0	16	11	4	0	31	0	1	42	3	0	46	0	251
4:00PM	0	1	8	0	9	0	11	14	5	0	30	0	6	3	0	0	9	0	2	9	2	0	13	0	61
4:15PM	1	0	9	0	10	0	22	15	4	0	41	0	4	4	0	0	8	0	1	12	2	0	15	0	74
4:30PM	0	3	14	0	17	0	14	12	6	0	32	0	7	2	2	0	11	0	1	11	2	0	14	0	74
4:45PM	0	4	11	0	15	0	13	12	6	0	31	0	3	1	0	0	4	0	2	11	1	0	14	0	64
Hourly Total	1	8	42	0	51	0	60	53	21	0	134	0	20	10	2	0	32	0	6	43	7	0	56	0	273
5:00PM	0	3	12	0	15	0	22	12	14	0	48	0	2	8	3	0	13	0	1	5	0	0	6	0	82
5:15PM	0	4	14	0	18	0	11	15	6	0	32	0	6	3	2	0	11	0	2	5	0	0	7	0	68
5:30PM	0	0	11	0	11	0	19	14	10	0	43	0	8	3	0	0	11	0	3	4	0	0	7	0	72
5:45PM	2	1	5	1	9	0	12	7	5	0	24	0	3	1	2	0	6	0	1	2	0	0	3	0	42
Hourly Total	2	8	42	1	53	0	64	48	35	0	147	0	19	15	7	0	41	0	7	16	0	0	23	0	264
6:00PM	0	0	4	0	4	0	12	9	1	0	22	0	2	0	0	0	2	0	0	5	1	0	6	0	34
6:15PM	0	1	6	0	7	0	9	9	2	0	20	0	3	1	2	0	6	0	1	0	0	0	1	0	34
6:30PM	0	1	4	0	5	0	6	12	3	0	21	0	2	2	0	0	4	0	1	8	0	0	9	0	39
6:45PM	0	0	5	0	5	0	9	9	3	0	21	0	5	0	0	0	5	0	0	2	1	0	3	0	34
Hourly Total	0	2	19	0	21	0	36	39	9	0	84	0	12	3	2	0	17	0	2	15	2	0	19	0	141
7:00PM	1	1	3	0	5	0	11	8	3	0	22	0	0	1	1	0	2	0	0	3	0	0	3	0	32
7:15PM	0	0	3	0	3	0	6	6	5	0	17	0	1	2	1	0	4	0	0	6	0	0	6	0	30
7:30PM	0	0	3	0	3	0	10	6	0	0	16	0	0	0	0	0	0	0	1	1	1	0	3	0	22
7:45PM	0	2	4	0	6	0	4	4	4	0	12	0	0	2	0	0	2	0	0	0	0	0	0	0	20
Hourly Total	1	3	13	0	17	0	31	24	12	0	67	0	1	5	2	0	8	0	1	10	1	0	12	0	104
8:00PM	0	1	4	0	5	0	2	2	3	0	7	0	0	1	0	0	1	0	1	2	0	0	3	0	16
8:15PM	0	0	2	0	2	0	7	4	4	0	15	0	0	1	0	0	1	0	0	3	0	0	3	0	21
8:30PM	0	0	0	0	0	0	3	3	5	0	11	0	0	1	0	0	1	0	1	2	0	0	3	0	15
8:45PM	1	0	0	0	1	0	4	2	1	0	7	0	0	3	0	0	3	0	0	0	0	0	0	0	11
Hourly Total	1	1	6	0	8	0	16	11	13	0	40	0	0	6	0	0	6	0	2	7	0	0	9	0	63
9:00PM	0	0	1	0	1	0	4	2	2	0	8	0	1	0	0	0	1	0	0	1	0	0	1	0	11
9:15PM	0	0	4	0	4	0	3	5	4	0	12	0	0	0	1	0	1	0	0	0	1	0	1	0	18
9:30PM	0	0	2	0	2	0	4	1	3	0	8	0	0	0	0	0	0	0	0	1	0	0	1	0	11
9:45PM	0	1	1	0	2	0	3	2	2	0	7	0	0	0	0	0	0	0	0	0	0	0	0	0	9
Hourly Total	0	1	8	0	9	0	14	10	11	0	35	0	1	0	1	0	2	0	0	2	1	0	3	0	49
10:00PM	0	0	2	0	2	0	2	3	0	0	5	0	1	0	0	0	1	0	1	1	1	0	3	0	11
10:15PM	0	0	2	0	2	0	1	0	2	0	3	0	0	0	0	0	0	0	0	0	0	0	0	0	5
10:30PM	0	0	0	0	0	0	2	0	1	0	3	0	0	0	0	0	0	0	1	1	0	0	2	0	5
10:45PM	0	0	0	0	0	0	2	1	1	0	4	0	0	0	0	0	0	0	0	0	0	0	0	0	4
Hourly Total	0	0	4	0	4	0	7	4	4	0	15	0	1	0	0	0	1	0	2	2	1	0	5	0	25
11:00PM	1	0	1	0	2	0	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	3
11:15PM	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1
11:30PM	0	0	1	0	1	0	0	2	1	0	3	0	0	0	0	0	0	0	0	0	0	0	0	0	4
11:45PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	0	1
Hourly Total	1	0	2	0	3	0	0	4	1	0	5	0	0	0	0	0	0	0	0	1	0	0	1	0	9
Total	27	95	566	2	690	1	552	489	270	0	1311	0	219	102	48	0	369	0	46	528	36	0	610	0	2980
% Approach	3.9%	13.8%	82.0%	0.3%	-	-	42.1%	37.3%	20.6%	0%	-	-	59.3%	27.6%	13.0%	0%	-	-	7.5%	86.6%	5.9%	0%	-	-	-
% Total	0.9%	3.2%	19.0%	0.1%	23.2%	-	18.5%	16.4%	9.1%	0%	44.0%	-	7.3%	3.4%	1.6%	0%	12.4%	-	1.5%	17.7%	1.2%	0%	20.5%	-	-
Motorcycles	0	0	1	0	1	-	0	4	0	0	4	-	0	1	1	0	2	-	0	2	0	0	2	-	9

Leg Direction	80th St W Southbound						King Ave Westbound						80th St W Northbound						King Ave Eastbound						
Time	R	T	L	U	App	Ped*	R	T	L	U	App	Ped*	R	T	L	U	App	Ped*	R	T	L	U	App	Ped*	Int
% Motorcycles	0%	0%	0.2%	0%	0.1%	-	0%	0.8%	0%	0%	0.3%	-	0%	1.0%	2.1%	0%	0.5%	-	0%	0.4%	0%	0%	0.3%	-	0.3%
Lights	23	91	543	2	659	-	526	451	259	0	1236	-	212	100	46	0	358	-	44	498	34	0	576	-	2829
% Lights	85.2%	95.8%	95.9%	100%	95.5%	-	95.3%	92.2%	95.9%	0%	94.3%	-	96.8%	98.0%	95.8%	0%	97.0%	-	95.7%	94.3%	94.4%	0%	94.4%	-	94.9%
Single-Unit Trucks	3	2	14	0	19	-	14	21	6	0	41	-	5	1	1	0	7	-	2	15	2	0	19	-	86
% Single-Unit Trucks	11.1%	2.1%	2.5%	0%	2.8%	-	2.5%	4.3%	2.2%	0%	3.1%	-	2.3%	1.0%	2.1%	0%	1.9%	-	4.3%	2.8%	5.6%	0%	3.1%	-	2.9%
Articulated Trucks	0	0	2	0	2	-	3	8	1	0	12	-	2	0	0	0	2	-	0	8	0	0	8	-	24
% Articulated Trucks	0%	0%	0.4%	0%	0.3%	-	0.5%	1.6%	0.4%	0%	0.9%	-	0.9%	0%	0%	0%	0.5%	-	0%	1.5%	0%	0%	1.3%	-	0.8%
Buses	1	1	2	0	4	-	5	5	4	0	14	-	0	0	0	0	0	-	0	5	0	0	5	-	23
% Buses	3.7%	1.1%	0.4%	0%	0.6%	-	0.9%	1.0%	1.5%	0%	1.1%	-	0%	0%	0%	0%	0%	-	0%	0.9%	0%	0%	0.8%	-	0.8%
Bicycles on Road	0	1	4	0	5	-	4	0	0	0	4	-	0	0	0	0	0	-	0	0	0	0	0	-	9
% Bicycles on Road	0%	1.1%	0.7%	0%	0.7%	-	0.7%	0%	0%	0%	0.3%	-	0%	0%	0%	0%	0%	-	0%	0%	0%	0%	0%	-	0.3%
Pedestrians	-	-	-	-	-	1	-	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	-	0
% Pedestrians	-	-	-	-	-	-100%	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Bicycles on Crosswalk	-	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	-	0
% Bicycles on Crosswalk	-	-	-	-	-	0%	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

*Pedestrians and Bicycles on Crosswalk. L: Left, R: Right, T: Thru, U: U-Turn

King Ave & 80th St W - TMC

Thu Feb 12, 2026

Full Length (12 AM-12 AM (+1))

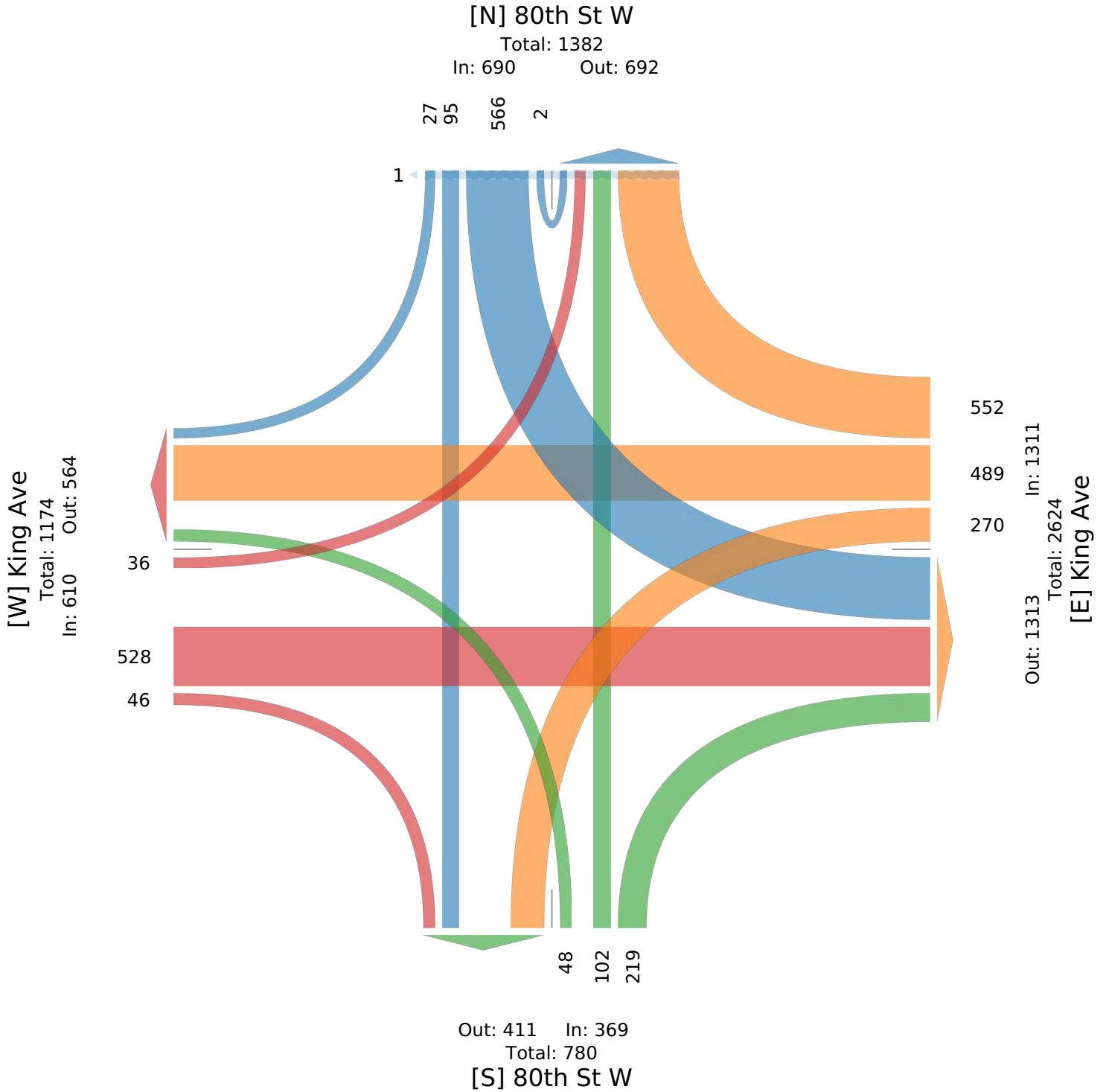
All Classes (Motorcycles, Lights, Single-Unit Trucks, Articulated Trucks, Buses, Pedestrians, Bicycles on Road, Bicycles on Crosswalk)

All Movements

ID: 1377917, Location: 45.755208, -108.720208



Provided by: IMEG Corp.
401 E. State Street, 4th Floor,
Rockford, IL, 61104, US



King Ave & 80th St W - TMC

Thu Feb 12, 2026

Full Length (12 AM-12 AM (+1))

All Classes (Motorcycles, Lights, Single-Unit Trucks, Articulated Trucks, Buses, Pedestrians, Bicycles on Road, Bicycles on Crosswalk)

All Movements

ID: 1377917, Location: 45.755208, -108.720208



Provided by: IMEG Corp.
401 E. State Street, 4th Floor,
Rockford, IL, 61104, US

Leg Direction	80th St W Southbound						King Ave Westbound						80th St W Northbound						King Ave Eastbound						Int
Time	R	T	L	U	App	Ped*	R	T	L	U	App	Ped*	R	T	L	U	App	Ped*	R	T	L	U	App	Ped*	
2026-02-12 12:00AM	0	0	0	0	0	0	1	2	2	0	5	0	0	1	0	0	1	0	0	1	0	0	1	0	7
1:00AM	0	0	0	0	0	0	2	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	2
2:00AM	0	0	0	0	0	0	2	1	1	0	4	0	0	0	0	0	0	0	0	2	0	0	2	0	6
3:00AM	0	0	3	0	3	0	0	1	0	0	1	0	0	0	0	0	0	0	0	5	0	0	5	0	9
4:00AM	0	1	5	0	6	0	1	0	0	0	1	0	2	0	0	0	2	0	0	5	0	0	5	0	14
5:00AM	0	0	21	0	21	0	4	2	1	0	7	0	2	1	0	0	3	0	0	9	0	0	9	0	40
6:00AM	0	6	40	1	47	0	13	11	7	0	31	0	9	3	1	0	13	0	2	43	0	0	45	0	136
7:00AM	0	9	90	0	99	0	18	16	10	0	44	0	24	5	3	0	32	0	2	79	1	0	82	0	257
8:00AM	0	8	32	0	40	0	25	26	11	0	62	0	20	5	2	0	27	0	2	47	2	0	51	0	180
9:00AM	4	3	32	0	39	0	24	30	11	0	65	0	15	4	0	0	19	0	4	30	5	0	39	0	162
10:00AM	3	6	41	0	50	0	21	17	24	0	62	0	17	4	6	0	27	0	3	31	1	0	35	0	174
11:00AM	3	4	33	0	40	0	32	41	16	0	89	0	21	5	6	0	32	0	5	37	4	0	46	0	207
12:00PM	4	8	27	0	39	0	40	40	22	0	102	0	14	12	3	0	29	0	2	32	2	0	36	0	206
1:00PM	4	7	34	0	45	0	42	33	16	0	91	0	12	3	3	0	18	0	2	38	2	0	42	0	196
2:00PM	0	10	40	0	50	0	46	26	17	0	89	0	13	9	6	0	28	0	3	31	4	0	38	0	205
3:00PM	3	10	32	0	45	1	53	50	26	0	129	0	16	11	4	0	31	0	1	42	3	0	46	0	251
4:00PM	1	8	42	0	51	0	60	53	21	0	134	0	20	10	2	0	32	0	6	43	7	0	56	0	273
5:00PM	2	8	42	1	53	0	64	48	35	0	147	0	19	15	7	0	41	0	7	16	0	0	23	0	264
6:00PM	0	2	19	0	21	0	36	39	9	0	84	0	12	3	2	0	17	0	2	15	2	0	19	0	141
7:00PM	1	3	13	0	17	0	31	24	12	0	67	0	1	5	2	0	8	0	1	10	1	0	12	0	104
8:00PM	1	1	6	0	8	0	16	11	13	0	40	0	0	6	0	0	6	0	2	7	0	0	9	0	63
9:00PM	0	1	8	0	9	0	14	10	11	0	35	0	1	0	1	0	2	0	0	2	1	0	3	0	49
10:00PM	0	0	4	0	4	0	7	4	4	0	15	0	1	0	0	0	1	0	2	2	1	0	5	0	25
11:00PM	1	0	2	0	3	0	0	4	1	0	5	0	0	0	0	0	0	0	0	1	0	0	1	0	9
Total	27	95	566	2	690	1	552	489	270	0	1311	0	219	102	48	0	369	0	46	528	36	0	610	0	2980
% Approach	3.9%	13.8%	82.0%	0.3%	-	-	42.1%	37.3%	20.6%	0%	-	-	59.3%	27.6%	13.0%	0%	-	-	7.5%	86.6%	5.9%	0%	-	-	-
% Total	0.9%	3.2%	19.0%	0.1%	23.2%	-	18.5%	16.4%	9.1%	0%	44.0%	-	7.3%	3.4%	1.6%	0%	12.4%	-	1.5%	17.7%	1.2%	0%	20.5%	-	-
Motorcycles	0	0	1	0	1	-	0	4	0	0	4	-	0	1	1	0	2	-	0	2	0	0	2	-	9
% Motorcycles	0%	0%	0.2%	0%	0.1%	-	0%	0.8%	0%	0%	0.3%	-	0%	1.0%	2.1%	0%	0.5%	-	0%	0.4%	0%	0%	0.3%	-	0.3%
Lights	23	91	543	2	659	-	526	451	259	0	1236	-	212	100	46	0	358	-	44	498	34	0	576	-	2829
% Lights	85.2%	95.8%	95.9%	100%	95.5%	-	95.3%	92.2%	95.9%	0%	94.3%	-	96.8%	98.0%	95.8%	0%	97.0%	-	95.7%	94.3%	94.4%	0%	94.4%	-	94.9%
Single-Unit Trucks	3	2	14	0	19	-	14	21	6	0	41	-	5	1	1	0	7	-	2	15	2	0	19	-	86
% Single-Unit Trucks	11.1%	2.1%	2.5%	0%	2.8%	-	2.5%	4.3%	2.2%	0%	3.1%	-	2.3%	1.0%	2.1%	0%	1.9%	-	4.3%	2.8%	5.6%	0%	3.1%	-	2.9%
Articulated Trucks	0	0	2	0	2	-	3	8	1	0	12	-	2	0	0	0	2	-	0	8	0	0	8	-	24
% Articulated Trucks	0%	0%	0.4%	0%	0.3%	-	0.5%	1.6%	0.4%	0%	0.9%	-	0.9%	0%	0%	0%	0.5%	-	0%	1.5%	0%	0%	1.3%	-	0.8%
Buses	1	1	2	0	4	-	5	5	4	0	14	-	0	0	0	0	0	-	0	5	0	0	5	-	23
% Buses	3.7%	1.1%	0.4%	0%	0.6%	-	0.9%	1.0%	1.5%	0%	1.1%	-	0%	0%	0%	0%	0%	-	0%	0.9%	0%	0%	0.8%	-	0.8%
Bicycles on Road	0	1	4	0	5	-	4	0	0	0	4	-	0	0	0	0	0	-	0	0	0	0	0	-	9
% Bicycles on Road	0%	1.1%	0.7%	0%	0.7%	-	0.7%	0%	0%	0%	0.3%	-	0%	0%	0%	0%	0%	-	0%	0%	0%	0%	0%	-	0.3%
Pedestrians	-	-	-	-	-	1	-	-	-	-	0	-	-	-	-	0	-	-	-	-	-	0	-		
% Pedestrians	-	-	-	-	-	100%	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
Bicycles on Crosswalk	-	-	-	-	-	0	-	-	-	-	0	-	-	-	-	0	-	-	-	-	-	0	-		
% Bicycles on Crosswalk	-	-	-	-	-	0%	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		

* Pedestrians and Bicycles on Crosswalk. L: Left, R: Right, T: Thru, U: U-Turn

King Ave & 80th St W - TMC

Thu Feb 12, 2026

Full Length (12 AM-12 AM (+1))

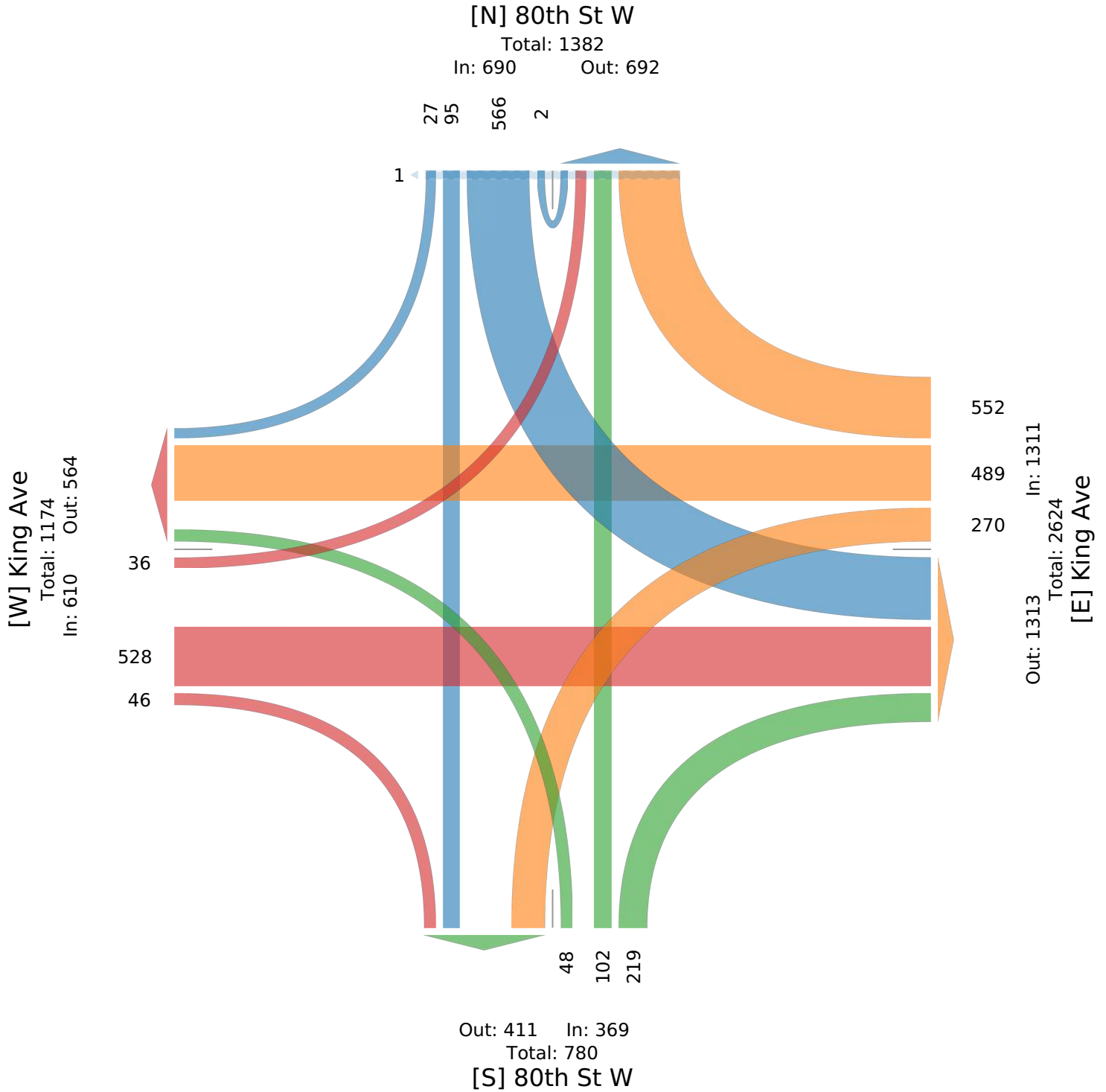
All Classes (Motorcycles, Lights, Single-Unit Trucks, Articulated Trucks, Buses, Pedestrians, Bicycles on Road, Bicycles on Crosswalk)

All Movements

ID: 1377917, Location: 45.755208, -108.720208



Provided by: IMEG Corp.
401 E. State Street, 4th Floor,
Rockford, IL, 61104, US



King Ave & 80th St W - TMC

Thu Feb 12, 2026

AM Peak (7:15 AM - 8:15 AM)

All Classes (Motorcycles, Lights, Single-Unit Trucks, Articulated Trucks, Buses, Pedestrians, Bicycles on Road, Bicycles on Crosswalk)

All Movements

ID: 1377917, Location: 45.755208, -108.720208



Provided by: IMEG Corp.
401 E. State Street, 4th Floor,
Rockford, IL, 61104, US

Leg Direction	80th St W Southbound						King Ave Westbound						80th St W Northbound						King Ave Eastbound						
Time	R	T	L	U	App	Ped*	R	T	L	U	App	Ped*	R	T	L	U	App	Ped*	R	T	L	U	App	Ped*	Int
2026-02-12 7:15AM	0	1	28	0	29	0	3	1	3	0	7	0	8	2	0	0	10	0	1	23	0	0	24	0	70
7:30AM	0	4	36	0	40	0	4	5	1	0	10	0	10	1	1	0	12	0	1	20	1	0	22	0	84
7:45AM	0	3	14	0	17	0	7	7	2	0	16	0	2	1	1	0	4	0	0	16	0	0	16	0	53
8:00AM	0	1	13	0	14	0	8	10	6	0	24	0	7	2	0	0	9	0	1	13	1	0	15	0	62
Total	0	9	91	0	100	0	22	23	12	0	57	0	27	6	2	0	35	0	3	72	2	0	77	0	269
% Approach	0%	9.0%	91.0%	0%	-	-	38.6%	40.4%	21.1%	0%	-	-	77.1%	17.1%	5.7%	0%	-	-	3.9%	93.5%	2.6%	0%	-	-	-
% Total	0%	3.3%	33.8%	0%	37.2%	-	8.2%	8.6%	4.5%	0%	21.2%	-	10.0%	2.2%	0.7%	0%	13.0%	-	1.1%	26.8%	0.7%	0%	28.6%	-	-
PHF	-	0.563	0.632	-	0.625	-	0.688	0.575	0.500	-	0.594	-	0.675	0.750	0.500	-	0.729	-	0.750	0.783	0.500	-	0.802	-	0.801
Motorcycles	0	0	0	0	0	-	0	0	0	0	0	-	0	0	0	0	0	-	0	0	0	0	0	-	0
% Motorcycles	0%	0%	0%	0%	0%	-	0%	0%	0%	0%	0%	-	0%	0%	0%	0%	0%	-	0%	0%	0%	0%	0%	-	0%
Lights	0	8	90	0	98	-	21	22	12	0	55	-	27	6	2	0	35	-	3	66	2	0	71	-	259
% Lights	0%	88.9%	98.9%	0%	98.0%	-	95.5%	95.7%	100%	0%	96.5%	-	100%	100%	100%	0%	100%	-	100%	91.7%	100%	0%	92.2%	-	96.3%
Single-Unit Trucks	0	0	0	0	0	-	0	1	0	0	1	-	0	0	0	0	0	-	0	3	0	0	3	-	4
% Single-Unit Trucks	0%	0%	0%	0%	0%	-	0%	4.3%	0%	0%	1.8%	-	0%	0%	0%	0%	0%	-	0%	4.2%	0%	0%	3.9%	-	1.5%
Articulated Trucks	0	0	0	0	0	-	0	0	0	0	0	-	0	0	0	0	0	-	0	1	0	0	1	-	1
% Articulated Trucks	0%	0%	0%	0%	0%	-	0%	0%	0%	0%	0%	-	0%	0%	0%	0%	0%	-	0%	1.4%	0%	0%	1.3%	-	0.4%
Buses	0	1	1	0	2	-	1	0	0	0	1	-	0	0	0	0	0	-	0	2	0	0	2	-	5
% Buses	0%	11.1%	1.1%	0%	2.0%	-	4.5%	0%	0%	0%	1.8%	-	0%	0%	0%	0%	0%	-	0%	2.8%	0%	0%	2.6%	-	1.9%
Bicycles on Road	0	0	0	0	0	-	0	0	0	0	0	-	0	0	0	0	0	-	0	0	0	0	0	-	0
% Bicycles on Road	0%	0%	0%	0%	0%	-	0%	0%	0%	0%	0%	-	0%	0%	0%	0%	0%	-	0%	0%	0%	0%	0%	-	0%
Pedestrians	-	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	0	-
% Pedestrians	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Bicycles on Crosswalk	-	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	0	-
% Bicycles on Crosswalk	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

*Pedestrians and Bicycles on Crosswalk. L: Left, R: Right, T: Thru, U: U-Turn

King Ave & 80th St W - TMC

Thu Feb 12, 2026

AM Peak (7:15 AM - 8:15 AM)

All Classes (Motorcycles, Lights, Single-Unit Trucks, Articulated Trucks, Buses, Pedestrians, Bicycles on Road, Bicycles on Crosswalk)

All Movements

ID: 1377917, Location: 45.755208, -108.720208



Provided by: IMEG Corp.
401 E. State Street, 4th Floor,
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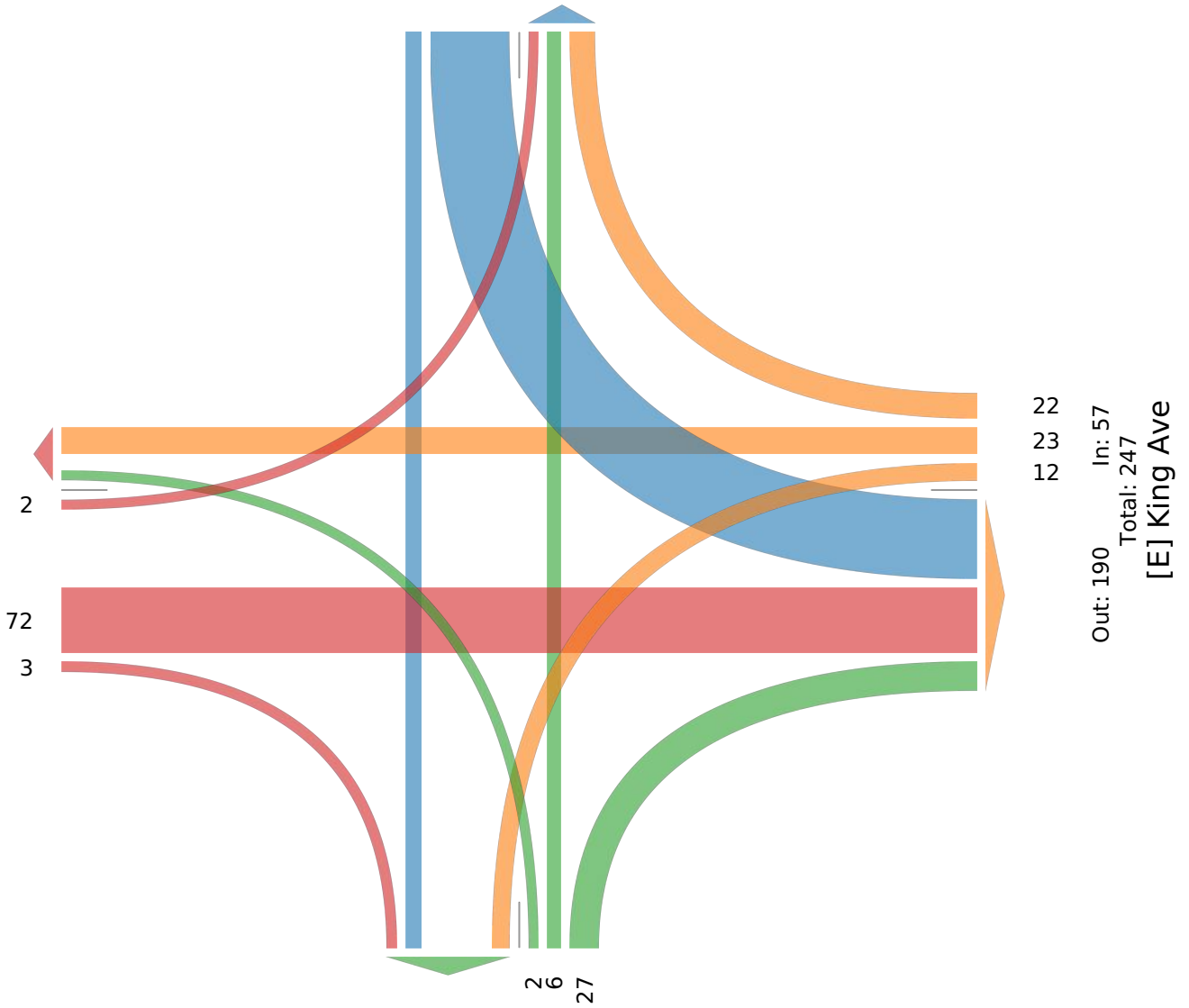
[N] 80th St W

Total: 130

In: 100 Out: 30

9 91

[W] King Ave
Total: 102
In: 77 Out: 25



22 In: 57
23 Total: 247
12 [E] King Ave
Out: 190

Out: 24 In: 35
Total: 59
[S] 80th St W

King Ave & 80th St W - TMC

Thu Feb 12, 2026

Midday Peak (11:30 AM - 12:30 PM)

All Classes (Motorcycles, Lights, Single-Unit Trucks, Articulated Trucks, Buses, Pedestrians, Bicycles on Road, Bicycles on Crosswalk)

All Movements

ID: 1377917, Location: 45.755208, -108.720208



Provided by: IMEG Corp.
401 E. State Street, 4th Floor,
Rockford, IL, 61104, US

Leg Direction	80th St W Southbound					King Ave Westbound					80th St W Northbound					King Ave Eastbound									
Time	R	T	L	U	App Ped*	R	T	L	U	App Ped*	R	T	L	U	App Ped*	R	T	L	U	App Ped*	Int				
2026-02-12 11:30AM	0	3	6	0	9	0	10	13	5	0	28	0	4	0	2	0	6	0	1	12	1	0	14	0	57
11:45AM	1	1	6	0	8	0	8	7	5	0	20	0	8	1	0	0	9	0	2	7	1	0	10	0	47
12:00PM	1	4	6	0	11	0	8	11	9	0	28	0	5	2	0	0	7	0	0	9	0	0	9	0	55
12:15PM	0	1	11	0	12	0	12	11	3	0	26	0	2	5	0	0	7	0	0	9	0	0	9	0	54
Total	2	9	29	0	40	0	38	42	22	0	102	0	19	8	2	0	29	0	3	37	2	0	42	0	213
% Approach	5.0%	22.5%	72.5%	0%	-	-	37.3%	41.2%	21.6%	0%	-	-	65.5%	27.6%	6.9%	0%	-	-	7.1%	88.1%	4.8%	0%	-	-	-
% Total	0.9%	4.2%	13.6%	0%	18.8%	-	17.8%	19.7%	10.3%	0%	47.9%	-	8.9%	3.8%	0.9%	0%	13.6%	-	1.4%	17.4%	0.9%	0%	19.7%	-	-
PHF	0.500	0.563	0.659	-	0.833	-	0.792	0.808	0.611	-	0.911	-	0.594	0.400	0.250	-	0.806	-	0.375	0.771	0.500	-	0.750	-	0.934
Motorcycles	0	0	0	0	0	-	0	0	0	0	0	-	0	0	0	0	0	-	0	0	0	0	0	-	0
% Motorcycles	0%	0%	0%	0%	0%	-	0%	0%	0%	0%	0%	-	0%	0%	0%	0%	0%	-	0%	0%	0%	0%	0%	-	0%
Lights	0	9	27	0	36	-	36	38	21	0	95	-	19	8	2	0	29	-	3	34	2	0	39	-	199
% Lights	0%	100%	93.1%	0%	90.0%	-	94.7%	90.5%	95.5%	0%	93.1%	-	100%	100%	100%	0%	100%	-	100%	91.9%	100%	0%	92.9%	-	93.4%
Single-Unit Trucks	2	0	1	0	3	-	2	2	1	0	5	-	0	0	0	0	0	-	0	1	0	0	1	-	9
% Single-Unit Trucks	100%	0%	3.4%	0%	7.5%	-	5.3%	4.8%	4.5%	0%	4.9%	-	0%	0%	0%	0%	0%	-	0%	2.7%	0%	0%	2.4%	-	4.2%
Articulated Trucks	0	0	1	0	1	-	0	1	0	0	1	-	0	0	0	0	0	-	0	2	0	0	2	-	4
% Articulated Trucks	0%	0%	3.4%	0%	2.5%	-	0%	2.4%	0%	0%	1.0%	-	0%	0%	0%	0%	0%	-	0%	5.4%	0%	0%	4.8%	-	1.9%
Buses	0	0	0	0	0	-	0	1	0	0	1	-	0	0	0	0	0	-	0	0	0	0	0	-	1
% Buses	0%	0%	0%	0%	0%	-	0%	2.4%	0%	0%	1.0%	-	0%	0%	0%	0%	0%	-	0%	0%	0%	0%	0%	-	0.5%
Bicycles on Road	0	0	0	0	0	-	0	0	0	0	0	-	0	0	0	0	0	-	0	0	0	0	0	-	0
% Bicycles on Road	0%	0%	0%	0%	0%	-	0%	0%	0%	0%	0%	-	0%	0%	0%	0%	0%	-	0%	0%	0%	0%	0%	-	0%
Pedestrians	-	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	0	-
% Pedestrians	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Bicycles on Crosswalk	-	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	0	-
% Bicycles on Crosswalk	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

*Pedestrians and Bicycles on Crosswalk. L: Left, R: Right, T: Thru, U: U-Turn

King Ave & 80th St W - TMC

Thu Feb 12, 2026

Midday Peak (11:30 AM - 12:30 PM)

All Classes (Motorcycles, Lights, Single-Unit Trucks, Articulated Trucks, Buses, Pedestrians, Bicycles on Road, Bicycles on Crosswalk)

All Movements

ID: 1377917, Location: 45.755208, -108.720208



Provided by: IMEG Corp.
401 E. State Street, 4th Floor,
Rockford, IL, 61104, US

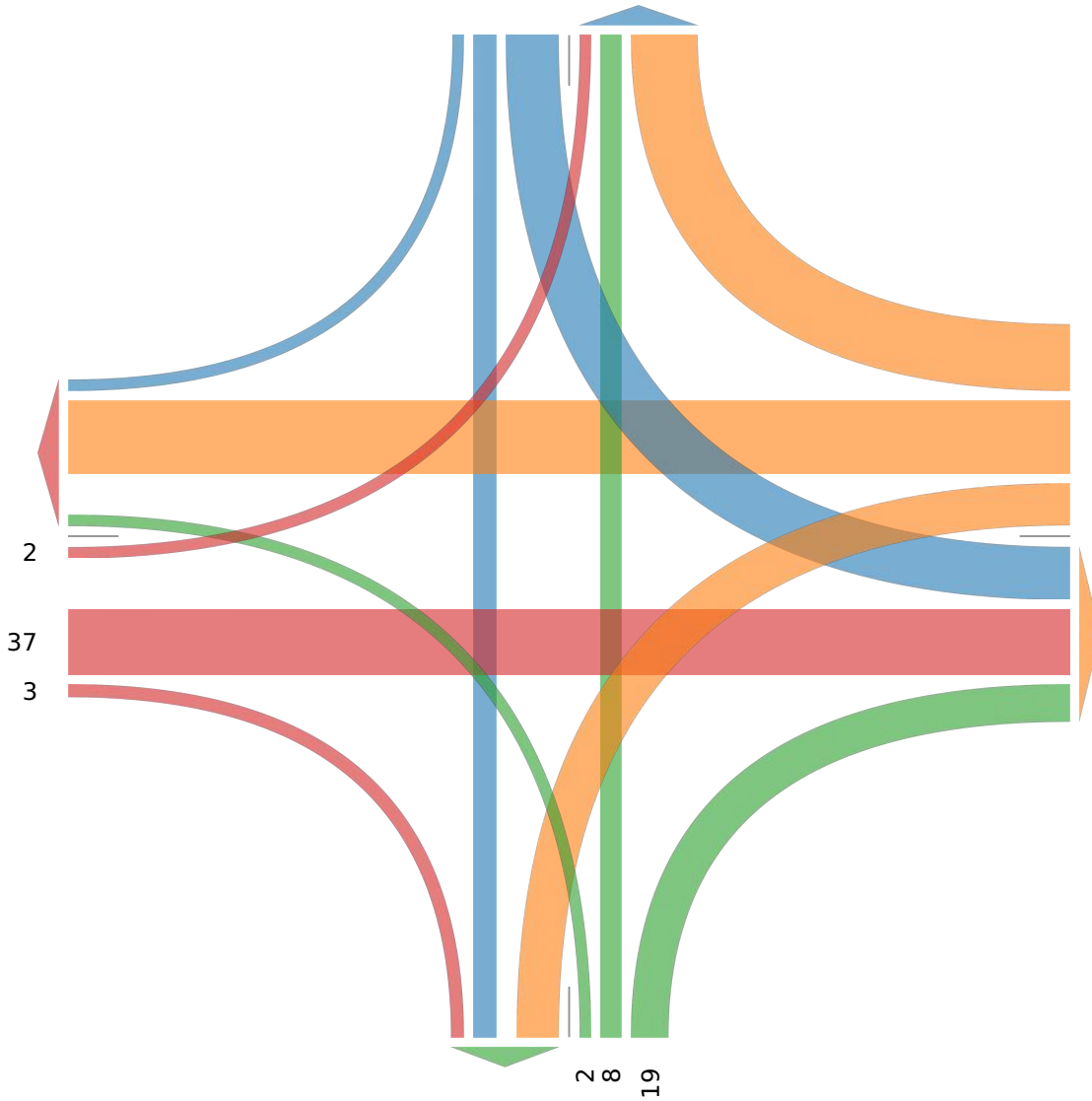
[N] 80th St W

Total: 88

In: 40 Out: 48

2 9 29

[W] King Ave
Total: 88
In: 42 Out: 46



38
42
22
Out: 85 In: 102
Total: 187
[E] King Ave

Out: 34 In: 29
Total: 63
[S] 80th St W

King Ave & 80th St W - TMC

Thu Feb 12, 2026

PM Peak (4:15 PM - 5:15 PM) - Overall Peak Hour

All Classes (Motorcycles, Lights, Single-Unit Trucks, Articulated Trucks, Buses, Pedestrians, Bicycles on Road, Bicycles on Crosswalk)

All Movements

ID: 1377917, Location: 45.755208, -108.720208



Provided by: IMEG Corp.
401 E. State Street, 4th Floor,
Rockford, IL, 61104, US

Leg Direction	80th St W Southbound					King Ave Westbound					80th St W Northbound					King Ave Eastbound									
Time	R	T	L	U	App Ped*	R	T	L	U	App Ped*	R	T	L	U	App Ped*	R	T	L	U	App Ped*	Int				
2026-02-12 4:15PM	1	0	9	0	10	0	22	15	4	0	41	0	4	4	0	0	8	0	1	12	2	0	15	0	74
4:30PM	0	3	14	0	17	0	14	12	6	0	32	0	7	2	2	0	11	0	1	11	2	0	14	0	74
4:45PM	0	4	11	0	15	0	13	12	6	0	31	0	3	1	0	0	4	0	2	11	1	0	14	0	64
5:00PM	0	3	12	0	15	0	22	12	14	0	48	0	2	8	3	0	13	0	1	5	0	0	6	0	82
Total	1	10	46	0	57	0	71	51	30	0	152	0	16	15	5	0	36	0	5	39	5	0	49	0	294
% Approach	1.8%	17.5%	80.7%	0%	-	-	46.7%	33.6%	19.7%	0%	-	-	44.4%	41.7%	13.9%	0%	-	-	10.2%	79.6%	10.2%	0%	-	-	-
% Total	0.3%	3.4%	15.6%	0%	19.4%	-	24.1%	17.3%	10.2%	0%	51.7%	-	5.4%	5.1%	1.7%	0%	12.2%	-	1.7%	13.3%	1.7%	0%	16.7%	-	-
PHF	0.250	0.625	0.821	-	0.838	-	0.773	0.850	0.536	-	0.776	-	0.571	0.469	0.417	-	0.692	-	0.625	0.813	0.625	-	0.817	-	0.887
Motorcycles	0	0	0	0	0	-	0	3	0	0	3	-	0	1	0	0	1	-	0	1	0	0	1	-	5
% Motorcycles	0%	0%	0%	0%	0%	-	0%	5.9%	0%	0%	2.0%	-	0%	6.7%	0%	0%	2.8%	-	0%	2.6%	0%	0%	2.0%	-	1.7%
Lights	1	10	44	0	55	-	68	47	29	0	144	-	16	13	5	0	34	-	5	35	5	0	45	-	278
% Lights	100%	100%	95.7%	0%	96.5%	-	95.8%	92.2%	96.7%	0%	94.7%	-	100%	86.7%	100%	0%	94.4%	-	100%	89.7%	100%	0%	91.8%	-	94.6%
Single-Unit Trucks	0	0	2	0	2	-	0	0	1	0	1	-	0	1	0	0	1	-	0	1	0	0	1	-	5
% Single-Unit Trucks	0%	0%	4.3%	0%	3.5%	-	0%	0%	3.3%	0%	0.7%	-	0%	6.7%	0%	0%	2.8%	-	0%	2.6%	0%	0%	2.0%	-	1.7%
Articulated Trucks	0	0	0	0	0	-	0	1	0	0	1	-	0	0	0	0	0	-	0	0	0	0	0	-	1
% Articulated Trucks	0%	0%	0%	0%	0%	-	0%	2.0%	0%	0%	0.7%	-	0%	0%	0%	0%	0%	-	0%	0%	0%	0%	0%	-	0.3%
Buses	0	0	0	0	0	-	0	0	0	0	0	-	0	0	0	0	0	-	0	2	0	0	2	-	2
% Buses	0%	0%	0%	0%	0%	-	0%	0%	0%	0%	0%	-	0%	0%	0%	0%	0%	-	0%	5.1%	0%	0%	4.1%	-	0.7%
Bicycles on Road	0	0	0	0	0	-	3	0	0	0	3	-	0	0	0	0	0	-	0	0	0	0	0	-	3
% Bicycles on Road	0%	0%	0%	0%	0%	-	4.2%	0%	0%	0%	2.0%	-	0%	0%	0%	0%	0%	-	0%	0%	0%	0%	0%	-	1.0%
Pedestrians	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	-	-	0
% Pedestrians	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Bicycles on Crosswalk	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	-	-	0
% Bicycles on Crosswalk	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

*Pedestrians and Bicycles on Crosswalk. L: Left, R: Right, T: Thru, U: U-Turn

King Ave & 80th St W - TMC

Thu Feb 12, 2026

PM Peak (4:15 PM - 5:15 PM) - Overall Peak Hour

All Classes (Motorcycles, Lights, Single-Unit Trucks, Articulated Trucks, Buses, Pedestrians, Bicycles on Road, Bicycles on Crosswalk)

All Movements

ID: 1377917, Location: 45.755208, -108.720208



Provided by: IMEG Corp.
401 E. State Street, 4th Floor,
Rockford, IL, 61104, US

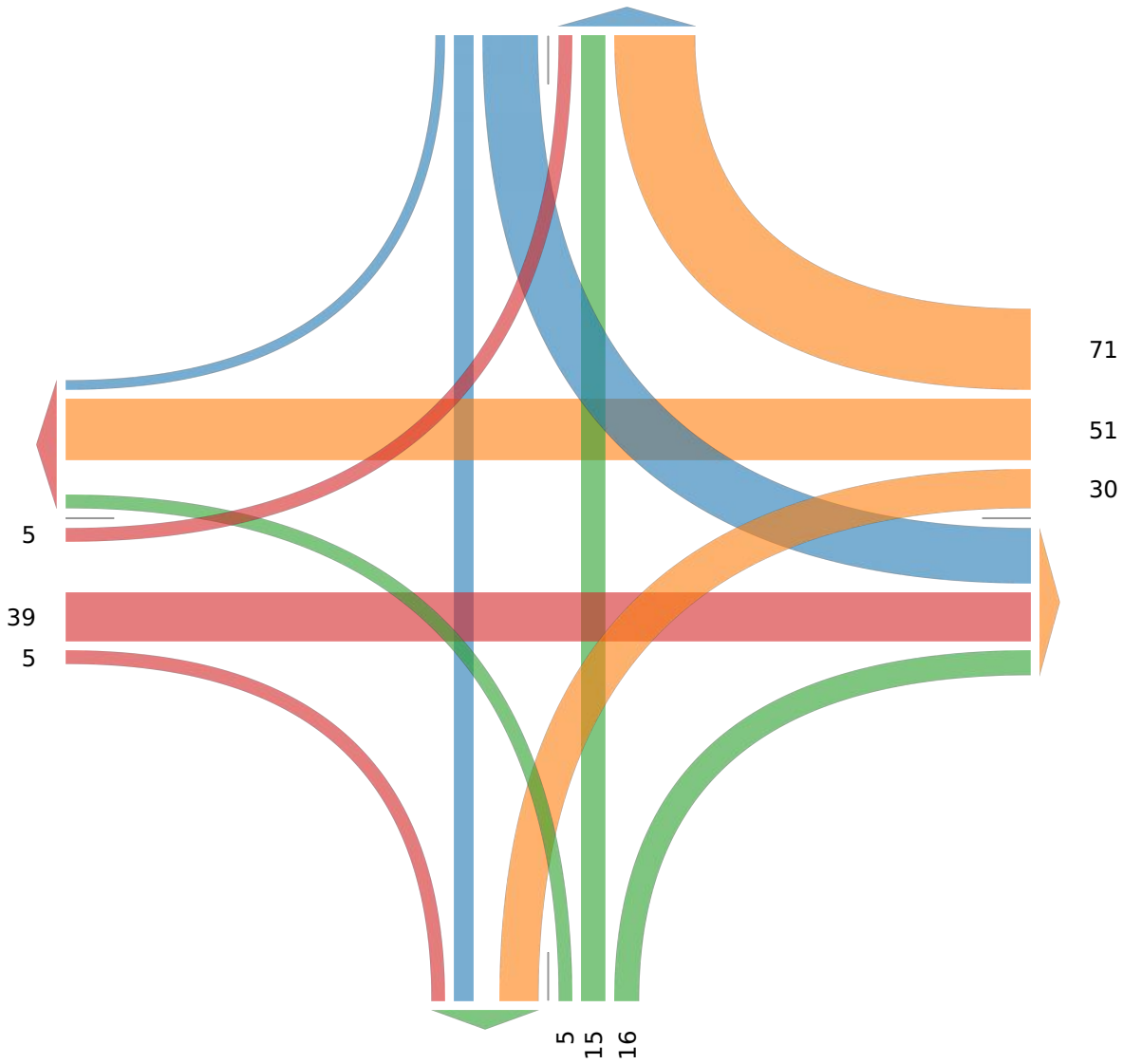
[N] 80th St W

Total: 148

In: 57 Out: 91

1 10 46

[W] King Ave
Total: 106
In: 49 Out: 57



Out: 101 In: 152
Total: 253
[E] King Ave

Out: 45 In: 36
Total: 81
[S] 80th St W

Hesper Rd & 80th St W - TMC

Thu Feb 12, 2026

Full Length (12 AM-12 AM (+1))

All Classes (Motorcycles, Lights, Single-Unit Trucks, Articulated Trucks, Buses, Pedestrians, Bicycles on Road, Bicycles on Crosswalk)

All Movements

ID: 1377915, Location: 45.740713, -108.720232



Provided by: IMEG Corp.
401 E. State Street, 4th Floor,
Rockford, IL, 61104, US

Leg Direction	80th St W Southbound						Hesper Rd Westbound						80th St W Northbound						Hesper Rd Eastbound						Int
	R	T	L	U	App	Ped*	R	T	L	U	App	Ped*	R	T	L	U	App	Ped*	R	T	L	U	App	Ped*	
2026-02-12 12:00AM	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
12:15AM	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
12:30AM	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
12:45AM	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	0	1
Hourly Total	2	0	0	0	2	0	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	0	3
1:00AM	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1
1:15AM	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
1:30AM	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
1:45AM	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
Hourly Total	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1
2:00AM	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
2:15AM	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
2:30AM	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
2:45AM	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
Hourly Total	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
3:00AM	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
3:15AM	0	0	0	0	0	0	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1
3:30AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1	0	1
3:45AM	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1	0	0	0	0	0	0	0	1
Hourly Total	0	0	0	0	0	0	1	0	0	0	1	0	1	0	0	0	1	0	0	0	0	0	1	0	3
4:00AM	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
4:15AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	0	1	1
4:30AM	0	1	0	0	1	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	0	0	2
4:45AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	0	1	1
Hourly Total	0	1	0	0	1	0	0	0	0	0	0	0	1	0	0	1	0	0	2	0	0	2	0	0	4
5:00AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	0	1	1
5:15AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	0	1	1
5:30AM	0	1	1	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	3	1	0	4	0	6	6
5:45AM	0	2	0	0	2	0	0	0	0	0	0	0	1	0	0	1	0	0	7	1	0	8	0	11	11
Hourly Total	0	3	1	0	4	0	0	0	0	0	0	0	1	0	0	1	0	0	12	2	0	14	0	19	19
6:00AM	0	2	1	0	3	0	2	4	0	0	6	0	0	0	0	0	0	0	6	0	0	6	0	15	15
6:15AM	1	2	0	0	3	0	0	1	0	0	1	0	0	0	0	0	0	1	4	1	0	6	0	10	10
6:30AM	0	1	1	0	2	0	0	0	0	0	0	0	1	1	0	2	0	1	13	5	0	19	0	23	23
6:45AM	1	3	1	0	5	0	1	4	0	0	5	0	0	2	0	2	0	2	9	1	0	12	0	24	24
Hourly Total	2	8	3	0	13	0	3	9	0	0	12	0	0	3	1	0	4	0	32	7	0	43	0	72	72
7:00AM	4	0	0	0	4	0	1	1	1	0	3	0	1	4	0	0	5	0	14	3	0	18	0	30	30
7:15AM	0	1	0	0	1	0	0	2	0	0	2	0	1	1	0	0	2	0	5	6	0	14	0	19	19
7:30AM	1	6	0	0	7	0	0	0	0	0	0	0	0	4	1	0	5	0	14	9	0	25	0	37	37
7:45AM	1	1	4	0	6	0	1	6	0	1	8	0	1	0	0	0	1	0	11	1	0	17	0	32	32
Hourly Total	6	8	4	0	18	0	2	9	1	1	13	0	3	9	1	0	13	0	44	19	0	74	0	118	118
8:00AM	2	2	1	0	5	0	1	2	0	0	3	0	0	3	2	0	5	0	5	2	0	8	0	21	21
8:15AM	1	4	2	0	7	0	0	3	0	0	3	0	2	5	0	0	7	0	3	3	1	7	0	24	24
8:30AM	0	8	0	0	8	0	6	0	1	0	7	0	0	3	1	0	4	0	4	7	0	12	0	31	31
8:45AM	1	2	1	0	4	0	0	4	0	0	4	0	0	1	0	0	1	0	4	1	2	7	0	16	16
Hourly Total	4	16	4	0	24	0	7	9	1	0	17	0	2	12	3	0	17	0	13	12	0	34	0	92	92
9:00AM	1	0	2	0	3	0	1	2	1	0	4	0	0	3	3	0	6	0	5	1	0	6	0	19	19
9:15AM	0	3	0	0	3	0	2	2	0	1	5	0	0	0	0	0	0	0	6	2	0	9	0	17	17
9:30AM	2	4	1	0	7	0	0	1	0	0	1	0	0	5	1	0	6	0	0	1	0	1	0	15	15
9:45AM	1	6	0	0	7	0	0	3	1	0	4	0	1	5	0	0	6	0	4	0	0	4	0	21	21
Hourly Total	4	13	3	0	20	0	3	8	2	1	14	0	1	13	4	0	18	0	15	4	0	20	0	72	72
10:00AM	0	1	0	0	1	0	0	3	1	0	4	0	1	1	1	0	3	0	3	2	0	5	0	13	13
10:15AM	1	2	1	0	4	0	1	2	0	0	3	0	2	7	1	0	10	0	1	1	0	2	0	19	19
10:30AM	4	6	2	0	12	0	1	1	0	0	2	0	0	2	0	0	2	0	2	4	0	10	0	26	26
10:45AM	3	3	3	0	9	0	2	2	0	0	4	0	0	4	0	0	4	0	1	1	2	4	0	21	21
Hourly Total	8	12	6	0	26	0	4	8	1	0	13	0	3	14	2	0	19	0	7	9	0	21	0	79	79
11:00AM	1	4	1	0	6	0	4	3	1	0	8	0	2	4	0	0	6	0	2	1	1	4	0	24	24
11:15AM	3	3	0	0	6	0	1	3	2	0	6	0	1	4	2	0	7	0	2	3	0	5	0	24	24
11:30AM	3	3	2	0	8	0	1	1	0	0	2	0	2	3	1	0	6	0	2	5	1	8	0	24	24
11:45AM	1	3	1	0	5	0	1	1	2	0	4	0	1	3	1	0	5	0	0	1	1	2	0	16	16

Leg Direction	80th St W Southbound						Hesper Rd Westbound						80th St W Northbound						Hesper Rd Eastbound						Int						
Time	R	T	L	U	App	Ped*	R	T	L	U	App	Ped*	R	T	L	U	App	Ped*	R	T	L	U	App	Ped*	R	T	L	U	App	Ped*	Int
Hourly Total	8	13	4	0	25	0	7	8	5	0	20	0	6	14	4	0	24	0	6	10	3	0	19	0	6	10	3	0	19	0	88
12:00PM	4	5	4	0	13	0	2	0	1	0	3	0	0	3	0	0	3	0	1	4	1	0	6	0	1	4	1	0	6	0	25
12:15PM	2	2	0	0	4	0	3	6	1	0	10	0	1	3	0	0	4	0	1	2	0	0	3	0	1	2	0	0	3	0	21
12:30PM	4	2	1	0	7	0	1	0	0	0	1	0	0	4	1	0	5	0	1	3	4	0	8	0	1	3	4	0	8	0	21
12:45PM	0	4	0	0	4	0	2	2	2	0	6	0	1	4	1	0	6	0	0	2	0	0	2	0	0	2	0	0	2	0	18
Hourly Total	10	13	5	0	28	0	8	8	4	0	20	0	2	14	2	0	18	0	3	11	5	0	19	0	3	11	5	0	19	0	85
1:00PM	2	5	2	0	9	0	1	4	1	0	6	0	0	2	0	0	2	0	0	1	2	0	3	0	0	1	2	0	3	0	20
1:15PM	3	2	0	0	5	0	1	2	0	0	3	0	1	2	0	0	3	0	1	2	0	0	3	0	1	2	0	0	3	0	14
1:30PM	1	2	1	0	4	0	1	3	0	0	4	0	4	1	2	0	7	0	0	5	3	0	8	0	0	5	3	0	8	0	23
1:45PM	3	1	0	0	4	0	1	4	1	0	6	0	0	1	0	0	1	0	0	3	2	0	5	0	0	3	2	0	5	0	16
Hourly Total	9	10	3	0	22	0	4	13	2	0	19	0	5	6	2	0	13	0	1	11	7	0	19	0	1	11	7	0	19	0	73
2:00PM	0	5	0	0	5	0	0	2	0	0	2	0	1	6	0	0	7	0	1	6	1	0	8	0	1	6	1	0	8	0	22
2:15PM	2	4	1	0	7	0	2	2	0	0	4	0	0	4	2	0	6	0	2	2	0	0	4	0	2	2	0	0	4	0	21
2:30PM	2	4	1	0	7	0	3	2	0	0	5	0	2	3	1	0	6	0	0	8	0	0	8	0	0	8	0	0	8	0	26
2:45PM	3	2	2	0	7	0	0	4	1	0	5	0	0	1	0	0	1	0	1	4	1	0	6	0	1	4	1	0	6	0	19
Hourly Total	7	15	4	0	26	0	5	10	1	0	16	0	3	14	3	0	20	0	4	20	2	0	26	0	4	20	2	0	26	0	88
3:00PM	3	2	0	0	5	0	2	3	0	0	5	0	0	6	1	0	7	0	0	5	4	0	9	0	0	5	4	0	9	0	26
3:15PM	4	5	2	0	11	0	3	5	0	0	8	0	0	2	1	0	3	0	1	4	1	0	6	0	1	4	1	0	6	0	28
3:30PM	3	5	1	0	9	0	0	6	1	0	7	0	0	6	1	0	7	0	1	6	1	0	8	0	1	6	1	0	8	0	31
3:45PM	6	1	0	0	7	0	1	8	0	0	9	0	0	3	4	0	7	0	1	1	0	0	2	0	1	1	0	0	2	0	25
Hourly Total	16	13	3	0	32	0	6	22	1	0	29	0	0	17	7	0	24	0	3	16	6	0	25	0	3	16	6	0	25	0	110
4:00PM	2	7	1	0	10	0	1	4	1	0	6	0	0	5	3	0	8	0	1	6	3	0	10	0	1	6	3	0	10	0	34
4:15PM	4	3	0	0	7	0	0	6	1	0	7	0	1	4	1	0	6	0	0	3	2	0	5	0	0	3	2	0	5	0	25
4:30PM	4	4	1	0	9	0	5	10	1	0	16	0	1	2	2	0	5	0	2	4	2	0	8	0	2	4	2	0	8	0	38
4:45PM	7	5	1	0	13	0	0	5	2	0	7	0	2	5	3	0	10	0	1	6	0	0	7	0	1	6	0	0	7	0	37
Hourly Total	17	19	3	0	39	0	6	25	5	0	36	0	4	16	9	0	29	0	4	19	7	0	30	0	4	19	7	0	30	0	134
5:00PM	8	6	1	0	15	0	9	12	0	0	21	0	1	0	2	0	3	0	4	3	1	0	8	0	4	3	1	0	8	0	47
5:15PM	6	10	1	0	17	0	0	5	1	0	6	0	1	5	1	0	7	0	1	4	5	0	10	0	1	4	5	0	10	0	40
5:30PM	5	3	0	0	8	0	2	8	2	0	12	0	2	6	3	0	11	0	1	5	5	0	11	0	1	5	5	0	11	0	42
5:45PM	5	3	0	0	8	0	1	7	1	0	9	0	2	3	1	0	6	0	2	5	3	0	10	0	2	5	3	0	10	0	33
Hourly Total	24	22	2	0	48	0	12	32	4	0	48	0	6	14	7	0	27	0	8	17	14	0	39	0	8	17	14	0	39	0	162
6:00PM	2	0	0	0	2	0	0	2	1	0	3	0	1	0	2	0	3	0	0	4	0	0	4	0	0	4	0	0	4	0	12
6:15PM	2	2	0	0	4	0	0	2	1	0	3	0	1	2	2	0	5	0	0	3	1	0	4	0	0	3	1	0	4	0	16
6:30PM	3	1	1	0	5	0	1	4	0	0	5	0	4	3	2	0	9	0	1	5	0	0	6	0	1	5	0	0	6	0	25
6:45PM	3	1	0	0	4	0	0	1	0	0	1	0	1	3	1	0	5	0	0	0	1	0	1	0	0	0	1	0	1	0	11
Hourly Total	10	4	1	0	15	0	1	9	2	0	12	0	7	8	7	0	22	0	1	12	2	0	15	0	1	12	2	0	15	0	64
7:00PM	1	3	0	0	4	0	1	2	0	0	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	7
7:15PM	4	1	0	0	5	0	0	3	0	0	3	0	0	3	3	0	6	0	0	1	2	0	3	0	0	1	2	0	3	0	17
7:30PM	1	2	0	0	3	0	0	7	1	0	8	0	1	0	0	0	1	0	0	2	0	0	2	0	0	2	0	0	2	0	14
7:45PM	4	1	1	0	6	0	0	5	0	0	5	0	0	1	0	0	1	0	0	2	0	0	2	0	0	2	0	0	2	0	14
Hourly Total	10	7	1	0	18	0	1	17	1	0	19	0	1	4	3	0	8	0	0	5	2	0	7	0	0	5	2	0	7	0	52
8:00PM	1	2	0	0	3	0	0	2	0	0	2	0	1	1	1	0	3	0	0	1	0	0	1	0	0	1	0	0	1	0	9
8:15PM	4	0	0	0	4	0	0	1	0	0	1	0	0	1	2	0	3	0	0	2	0	0	2	0	0	2	0	0	2	0	10
8:30PM	3	2	0	0	5	0	0	2	0	0	2	0	0	1	1	0	2	0	0	1	0	0	1	0	0	1	0	0	1	0	10
8:45PM	1	2	0	0	3	0	1	1	0	0	2	0	1	3	2	0	6	0	1	0	0	0	1	0	1	0	0	0	1	0	12
Hourly Total	9	6	0	0	15	0	1	6	0	0	7	0	2	6	6	0	14	0	1	4	0	0	5	0	1	4	0	0	5	0	41
9:00PM	2	0	0	0	2	0	1	0	0	0	1	0	0	2	1	0	3	0	0	1	0	0	1	0	0	1	0	0	1	0	7
9:15PM	2	1	0	0	3	0	0	0	0	0	0	0	0	1	1	0	2	0	0	0	0	1	1	0	0	0	0	1	1	0	6
9:30PM	3	2	0	0	5	0	0	3	1	0	4	0	0	0	1	0	1	0	1	0	0	0	1	0	1	0	0	0	1	0	11
9:45PM	3	1	0	0	4	0	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	5
Hourly Total	10	4	0	0	14	0	1	4	1	0	6	0	0	3	3	0	6	0	1	1	0	1	3	0	1	1	0	1	3	0	29
10:00PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1
10:15PM	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	0	0	1	0	0	1	0	2
10:30PM	0	1	0	0	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	1
10:45PM	1	1	0	0	2	0	0	2	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	4
Hourly Total	2	2	0	0	4	0	0	2	0	0	2	0	0	0	1	0	1	0	0	1	0	0	1	0	0	1	0	0	1	0	8
11:00PM	0	0	0	0	0	0	0	1	1	0	2	0	1	0	0	0	1	0	0	0	0	0	0	0</							

Leg Direction	80th St W Southbound						Hesper Rd Westbound						80th St W Northbound						Hesper Rd Eastbound						
Time	R	T	L	U	App	Ped*	R	T	L	U	App	Ped*	R	T	L	U	App	Ped*	R	T	L	U	App	Ped*	Int
Lights	156	183	43	0	382	-	70	192	31	2	295	-	45	169	67	0	281	-	62	241	98	1	402	-	1360
% Lights	97.5%	96.3%	91.5%	0%	96.2%	-	97.2%	95.5%	96.9%	100%	96.1%	-	95.7%	99.4%	98.5%	0%	98.6%	-	98.4%	95.6%	97.0%	100%	96.4%	-	96.7%
Single-Unit Trucks	2	6	2	0	10	-	2	7	0	0	9	-	0	0	1	0	1	-	0	7	3	0	10	-	30
% Single-Unit Trucks	1.3%	3.2%	4.3%	0%	2.5%	-	2.8%	3.5%	0%	0%	2.9%	-	0%	0%	1.5%	0%	0.4%	-	0%	2.8%	3.0%	0%	2.4%	-	2.1%
Articulated Trucks	0	0	0	0	0	-	0	0	0	0	0	-	0	0	0	0	0	-	1	0	0	0	1	-	1
% Articulated Trucks	0%	0%	0%	0%	0%	-	0%	0%	0%	0%	0%	-	0%	0%	0%	0%	0%	-	1.6%	0%	0%	0%	0.2%	-	0.1%
Buses	2	1	2	0	5	-	0	2	1	0	3	-	2	0	0	0	2	-	0	4	0	0	4	-	14
% Buses	1.3%	0.5%	4.3%	0%	1.3%	-	0%	1.0%	3.1%	0%	1.0%	-	4.3%	0%	0%	0%	0.7%	-	0%	1.6%	0%	0%	1.0%	-	1.0%
Bicycles on Road	0	0	0	0	0	-	0	0	0	0	0	-	0	0	0	0	0	-	0	0	0	0	0	-	0
% Bicycles on Road	0%	0%	0%	0%	0%	-	0%	0%	0%	0%	0%	-	0%	0%	0%	0%	0%	-	0%	0%	0%	0%	0%	-	0%
Pedestrians	-	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	0	
% Pedestrians	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Bicycles on Crosswalk	-	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	0	
% Bicycles on Crosswalk	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

*Pedestrians and Bicycles on Crosswalk. L: Left, R: Right, T: Thru, U: U-Turn

Hesper Rd & 80th St W - TMC

Thu Feb 12, 2026

Full Length (12 AM-12 AM (+1))

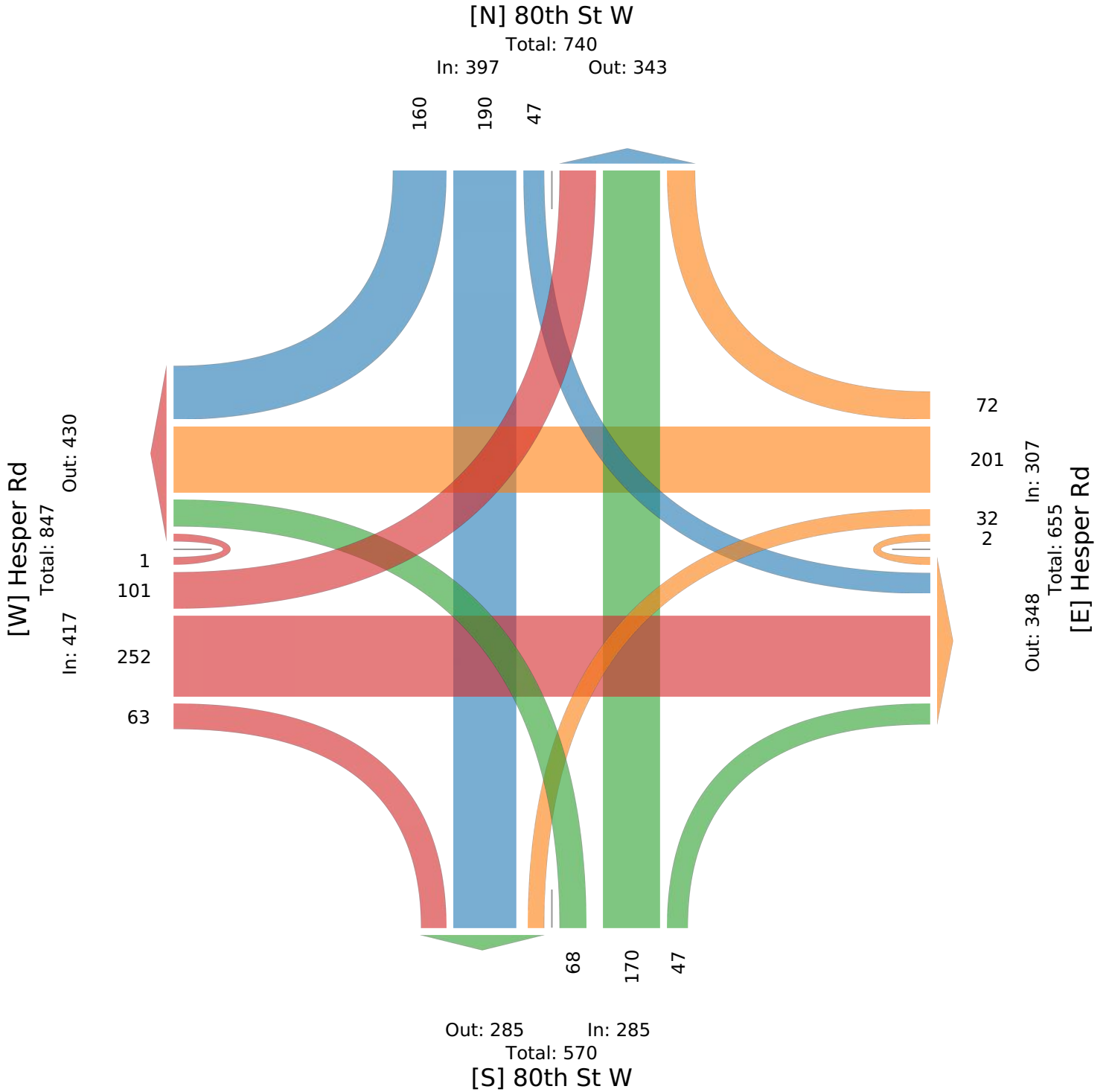
All Classes (Motorcycles, Lights, Single-Unit Trucks, Articulated Trucks, Buses, Pedestrians, Bicycles on Road, Bicycles on Crosswalk)

All Movements

ID: 1377915, Location: 45.740713, -108.720232



Provided by: IMEG Corp.
401 E. State Street, 4th Floor,
Rockford, IL, 61104, US



Hesper Rd & 80th St W - TMC

Thu Feb 12, 2026

Full Length (12 AM-12 AM (+1))

All Classes (Motorcycles, Lights, Single-Unit Trucks, Articulated Trucks, Buses, Pedestrians, Bicycles on Road, Bicycles on Crosswalk)

All Movements

ID: 1377915, Location: 45.740713, -108.720232



Provided by: IMEG Corp.
401 E. State Street, 4th Floor,
Rockford, IL, 61104, US

Leg Direction	80th St W Southbound						Hesper Rd Westbound						80th St W Northbound						Hesper Rd Eastbound						Int						
	R	T	L	U	App	Ped*	R	T	L	U	App	Ped*	R	T	L	U	App	Ped*	R	T	L	U	App	Ped*							
2026-02-12 12:00AM	2	0	0	0	2	0	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	3
1:00AM	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
2:00AM	1	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	0	0	0	0	1
3:00AM	0	0	0	0	0	0	1	0	0	0	1	0	1	0	0	0	1	0	1	0	0	0	1	0	1	0	0	0	1	0	3
4:00AM	0	1	0	0	1	0	0	0	0	0	0	0	0	1	0	0	1	0	0	2	0	0	2	0	0	2	0	0	2	0	4
5:00AM	0	3	1	0	4	0	0	0	0	0	0	0	0	1	0	0	1	0	0	12	2	0	14	0	0	12	2	0	14	0	19
6:00AM	2	8	3	0	13	0	3	9	0	0	12	0	0	3	1	0	4	0	4	32	7	0	43	0	4	32	7	0	43	0	72
7:00AM	6	8	4	0	18	0	2	9	1	1	13	0	3	9	1	0	13	0	11	44	19	0	74	0	11	44	19	0	74	0	118
8:00AM	4	16	4	0	24	0	7	9	1	0	17	0	2	12	3	0	17	0	9	13	12	0	34	0	9	13	12	0	34	0	92
9:00AM	4	13	3	0	20	0	3	8	2	1	14	0	1	13	4	0	18	0	1	15	4	0	20	0	1	15	4	0	20	0	72
10:00AM	8	12	6	0	26	0	4	8	1	0	13	0	3	14	2	0	19	0	5	7	9	0	21	0	5	7	9	0	21	0	79
11:00AM	8	13	4	0	25	0	7	8	5	0	20	0	6	14	4	0	24	0	6	10	3	0	19	0	6	10	3	0	19	0	88
12:00PM	10	13	5	0	28	0	8	8	4	0	20	0	2	14	2	0	18	0	3	11	5	0	19	0	3	11	5	0	19	0	85
1:00PM	9	10	3	0	22	0	4	13	2	0	19	0	5	6	2	0	13	0	1	11	7	0	19	0	1	11	7	0	19	0	73
2:00PM	7	15	4	0	26	0	5	10	1	0	16	0	3	14	3	0	20	0	4	20	2	0	26	0	4	20	2	0	26	0	88
3:00PM	16	13	3	0	32	0	6	22	1	0	29	0	0	17	7	0	24	0	3	16	6	0	25	0	3	16	6	0	25	0	110
4:00PM	17	19	3	0	39	0	6	25	5	0	36	0	4	16	9	0	29	0	4	19	7	0	30	0	4	19	7	0	30	0	134
5:00PM	24	22	2	0	48	0	12	32	4	0	48	0	6	14	7	0	27	0	8	17	14	0	39	0	8	17	14	0	39	0	162
6:00PM	10	4	1	0	15	0	1	9	2	0	12	0	7	8	7	0	22	0	1	12	2	0	15	0	1	12	2	0	15	0	64
7:00PM	10	7	1	0	18	0	1	17	1	0	19	0	1	4	3	0	8	0	0	5	2	0	7	0	0	5	2	0	7	0	52
8:00PM	9	6	0	0	15	0	1	6	0	0	7	0	2	6	6	0	14	0	1	4	0	0	5	0	1	4	0	0	5	0	41
9:00PM	10	4	0	0	14	0	1	4	1	0	6	0	0	3	3	0	6	0	1	1	0	1	3	0	1	1	0	1	3	0	29
10:00PM	2	2	0	0	4	0	0	2	0	0	2	0	0	0	1	0	1	0	0	1	0	0	1	0	0	1	0	0	1	0	8
11:00PM	1	1	0	0	2	0	0	1	1	0	2	0	1	0	3	0	4	0	0	0	0	0	0	0	0	0	0	0	0	0	8
Total	160	190	47	0	397	0	72	201	32	2	307	0	47	170	68	0	285	0	63	252	101	1	417	0	63	252	101	1	417	0	1406
% Approach	40.3%	47.9%	11.8%	0%	-	-	23.5%	65.5%	10.4%	0.7%	-	-	16.5%	59.6%	23.9%	0%	-	-	15.1%	60.4%	24.2%	0.2%	-	-	-	-	-	-	-	-	-
% Total	11.4%	13.5%	3.3%	0%	28.2%	-	5.1%	14.3%	2.3%	0.1%	21.8%	-	3.3%	12.1%	4.8%	0%	20.3%	-	4.5%	17.9%	7.2%	0.1%	29.7%	-	-	-	-	-	-	-	-
Motorcycles	0	0	0	0	0	-	0	0	0	0	0	-	0	1	0	0	1	-	0	0	0	0	0	-	0	0	0	0	0	-	1
% Motorcycles	0%	0%	0%	0%	0%	-	0%	0%	0%	0%	0%	-	0%	0.6%	0%	0%	0.4%	-	0%	0%	0%	0%	0%	-	0%	0%	0%	0%	0%	-	0.1%
Lights	156	183	43	0	382	-	70	192	31	2	295	-	45	169	67	0	281	-	62	241	98	1	402	-	62	241	98	1	402	-	1360
% Lights	97.5%	96.3%	91.5%	0%	96.2%	-	97.2%	95.5%	96.9%	100%	96.1%	-	95.7%	99.4%	98.5%	0%	98.6%	-	98.4%	95.6%	97.0%	100%	96.4%	-	98.4%	95.6%	97.0%	100%	96.4%	-	96.7%
Single-Unit Trucks	2	6	2	0	10	-	2	7	0	0	9	-	0	0	1	0	1	-	0	7	3	0	10	-	0	7	3	0	10	-	30
% Single-Unit Trucks	1.3%	3.2%	4.3%	0%	2.5%	-	2.8%	3.5%	0%	0%	2.9%	-	0%	0%	1.5%	0%	0.4%	-	0%	2.8%	3.0%	0%	2.4%	-	0%	2.8%	3.0%	0%	2.4%	-	2.1%
Articulated Trucks	0	0	0	0	0	-	0	0	0	0	0	-	0	0	0	0	0	-	1	0	0	0	1	-	1	0	0	0	1	-	1
% Articulated Trucks	0%	0%	0%	0%	0%	-	0%	0%	0%	0%	0%	-	0%	0%	0%	0%	0%	-	1.6%	0%	0%	0%	0.2%	-	1.6%	0%	0%	0%	0.2%	-	0.1%
Buses	2	1	2	0	5	-	0	2	1	0	3	-	2	0	0	0	2	-	0	4	0	0	4	-	0	4	0	0	4	-	14
% Buses	1.3%	0.5%	4.3%	0%	1.3%	-	0%	1.0%	3.1%	0%	1.0%	-	4.3%	0%	0%	0%	0.7%	-	0%	1.6%	0%	0%	1.0%	-	0%	1.6%	0%	0%	1.0%	-	1.0%
Bicycles on Road	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
% Bicycles on Road	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%
Pedestrians	-	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	0	-
% Pedestrians	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Bicycles on Crosswalk	-	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	0	-
% Bicycles on Crosswalk	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

*Pedestrians and Bicycles on Crosswalk. L: Left, R: Right, T: Thru, U: U-Turn

Hesper Rd & 80th St W - TMC

Thu Feb 12, 2026

Full Length (12 AM-12 AM (+1))

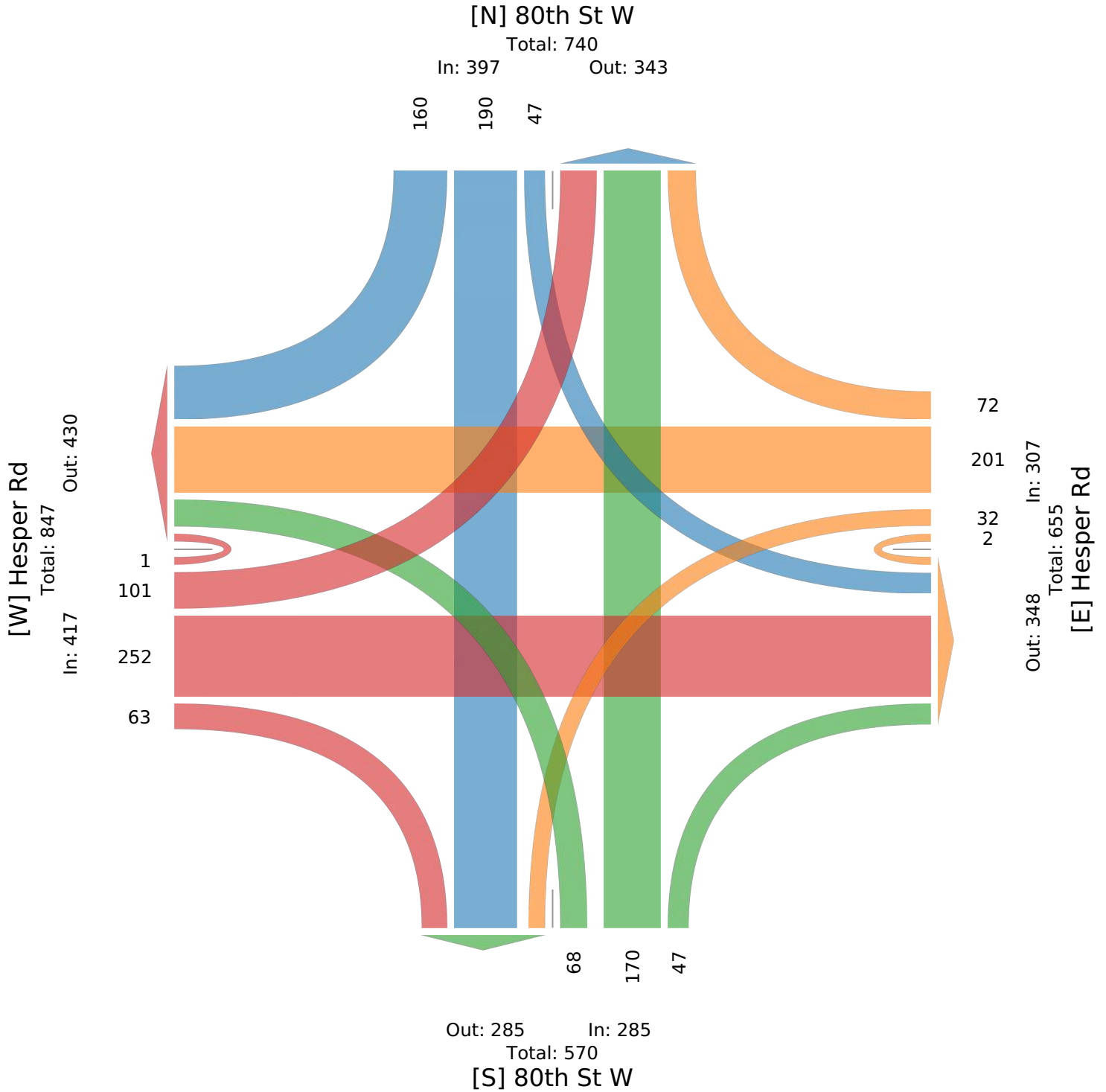
All Classes (Motorcycles, Lights, Single-Unit Trucks, Articulated Trucks, Buses, Pedestrians, Bicycles on Road, Bicycles on Crosswalk)

All Movements

ID: 1377915, Location: 45.740713, -108.720232



Provided by: IMEG Corp.
401 E. State Street, 4th Floor,
Rockford, IL, 61104, US



Hesper Rd & 80th St W - TMC

Thu Feb 12, 2026

AM Peak (7 AM - 8 AM)

All Classes (Motorcycles, Lights, Single-Unit Trucks, Articulated Trucks, Buses, Pedestrians, Bicycles on Road, Bicycles on Crosswalk)

All Movements

ID: 1377915, Location: 45.740713, -108.720232



Provided by: IMEG Corp.
401 E. State Street, 4th Floor,
Rockford, IL, 61104, US

Leg Direction	80th St W Southbound					Hesper Rd Westbound					80th St W Northbound					Hesper Rd Eastbound									
Time	R	T	L	U	App Ped*	R	T	L	U	App Ped*	R	T	L	U	App Ped*	R	T	L	U	App Ped*	Int				
2026-02-12 7:00AM	4	0	0	0	4	0	1	1	1	0	3	0	1	4	0	0	5	0	1	14	3	0	18	0	30
7:15AM	0	1	0	0	1	0	0	2	0	0	2	0	1	1	0	0	2	0	3	5	6	0	14	0	19
7:30AM	1	6	0	0	7	0	0	0	0	0	0	0	0	4	1	0	5	0	2	14	9	0	25	0	37
7:45AM	1	1	4	0	6	0	1	6	0	1	8	0	1	0	0	0	1	0	5	11	1	0	17	0	32
Total	6	8	4	0	18	0	2	9	1	1	13	0	3	9	1	0	13	0	11	44	19	0	74	0	118
% Approach	33.3%	44.4%	22.2%	0%	-	-	15.4%	69.2%	7.7%	7.7%	-	-	23.1%	69.2%	7.7%	0%	-	-	14.9%	59.5%	25.7%	0%	-	-	-
% Total	5.1%	6.8%	3.4%	0%	15.3%	-	1.7%	7.6%	0.8%	0.8%	11.0%	-	2.5%	7.6%	0.8%	0%	11.0%	-	9.3%	37.3%	16.1%	0%	62.7%	-	-
PHF	0.375	0.333	0.250	-	0.643	-	0.500	0.375	0.250	0.250	0.406	-	0.750	0.563	0.250	-	0.650	-	0.550	0.786	0.528	-	0.740	-	0.797
Motorcycles	0	0	0	0	0	-	0	0	0	0	0	-	0	0	0	0	0	-	0	0	0	0	0	-	0
% Motorcycles	0%	0%	0%	0%	0%	-	0%	0%	0%	0%	0%	-	0%	0%	0%	0%	0%	-	0%	0%	0%	0%	0%	-	0%
Lights	6	8	2	0	16	-	2	8	1	1	12	-	3	9	1	0	13	-	11	43	19	0	73	-	114
% Lights	100%	100%	50.0%	0%	88.9%	-	100%	88.9%	100%	100%	92.3%	-	100%	100%	100%	0%	100%	-	100%	97.7%	100%	0%	98.6%	-	96.6%
Single-Unit Trucks	0	0	1	0	1	-	0	0	0	0	0	-	0	0	0	0	0	-	0	0	0	0	0	-	1
% Single-Unit Trucks	0%	0%	25.0%	0%	5.6%	-	0%	0%	0%	0%	0%	-	0%	0%	0%	0%	0%	-	0%	0%	0%	0%	0%	-	0.8%
Articulated Trucks	0	0	0	0	0	-	0	0	0	0	0	-	0	0	0	0	0	-	0	0	0	0	0	-	0
% Articulated Trucks	0%	0%	0%	0%	0%	-	0%	0%	0%	0%	0%	-	0%	0%	0%	0%	0%	-	0%	0%	0%	0%	0%	-	0%
Buses	0	0	1	0	1	-	0	1	0	0	1	-	0	0	0	0	0	-	0	1	0	0	1	-	3
% Buses	0%	0%	25.0%	0%	5.6%	-	0%	11.1%	0%	0%	7.7%	-	0%	0%	0%	0%	0%	-	0%	2.3%	0%	0%	1.4%	-	2.5%
Bicycles on Road	0	0	0	0	0	-	0	0	0	0	0	-	0	0	0	0	0	-	0	0	0	0	0	-	0
% Bicycles on Road	0%	0%	0%	0%	0%	-	0%	0%	0%	0%	0%	-	0%	0%	0%	0%	0%	-	0%	0%	0%	0%	0%	-	0%
Pedestrians	-	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	0	-
% Pedestrians	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Bicycles on Crosswalk	-	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	0	-
% Bicycles on Crosswalk	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

*Pedestrians and Bicycles on Crosswalk. L: Left, R: Right, T: Thru, U: U-Turn

Hesper Rd & 80th St W - TMC

Thu Feb 12, 2026

AM Peak (7 AM - 8 AM)

All Classes (Motorcycles, Lights, Single-Unit Trucks, Articulated Trucks, Buses, Pedestrians, Bicycles on Road, Bicycles on Crosswalk)

All Movements

ID: 1377915, Location: 45.740713, -108.720232



Provided by: IMEG Corp.
401 E. State Street, 4th Floor,
Rockford, IL, 61104, US

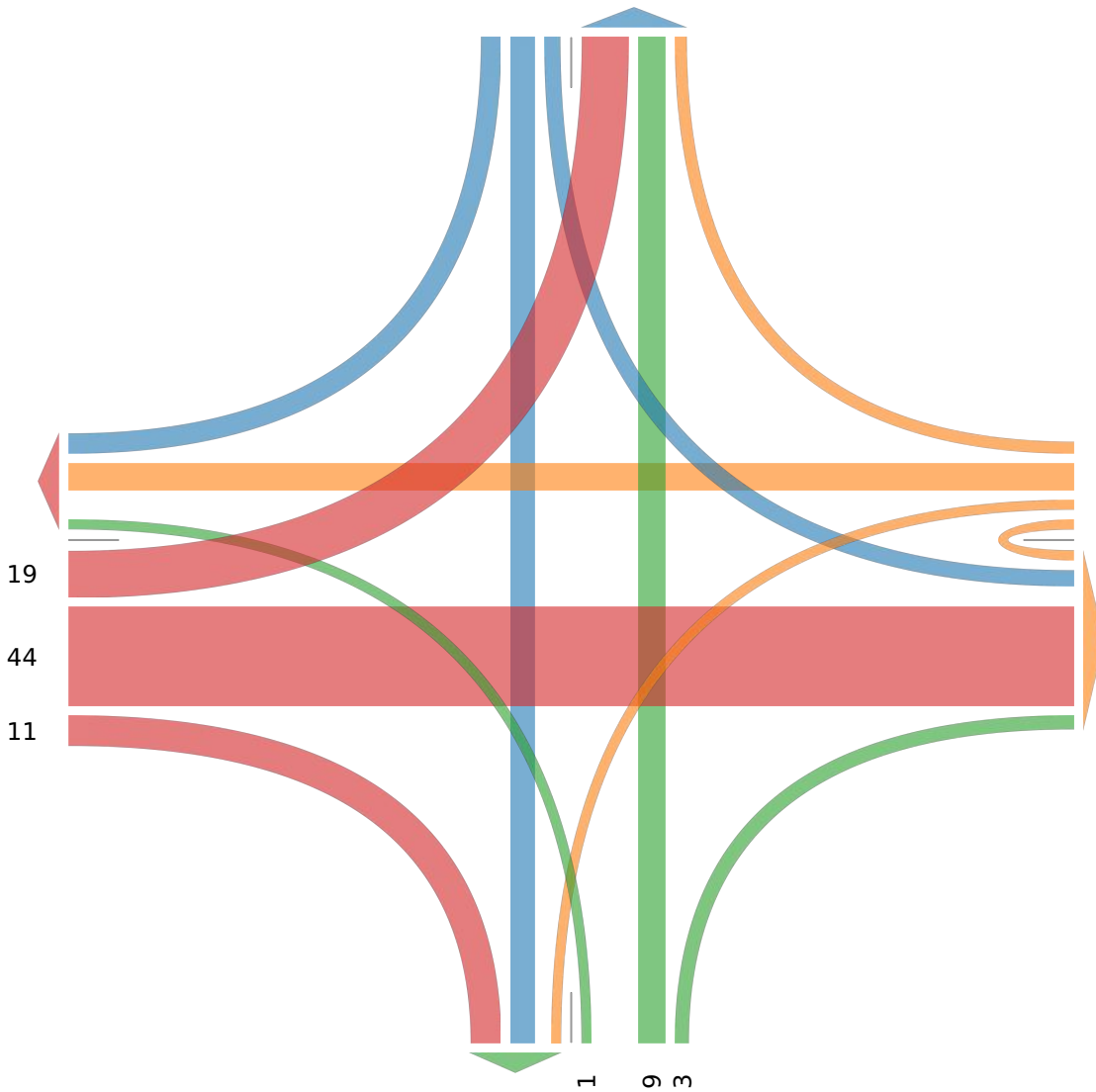
[N] 80th St W

Total: 48

In: 18 Out: 30

6 8 4

[W] Hesper Rd
Total: 90
In: 74 Out: 16



[E] Hesper Rd
Total: 65
In: 13 Out: 52

Out: 20 In: 13
Total: 33
[S] 80th St W

Hesper Rd & 80th St W - TMC

Thu Feb 12, 2026

Midday Peak (11:15 AM - 12:15 PM)

All Classes (Motorcycles, Lights, Single-Unit Trucks, Articulated Trucks, Buses, Pedestrians, Bicycles on Road, Bicycles on Crosswalk)

All Movements

ID: 1377915, Location: 45.740713, -108.720232



Provided by: IMEG Corp.
401 E. State Street, 4th Floor,
Rockford, IL, 61104, US

Leg Direction	80th St W Southbound						Hesper Rd Westbound						80th St W Northbound						Hesper Rd Eastbound						
Time	R	T	L	U	App	Ped*	R	T	L	U	App	Ped*	R	T	L	U	App	Ped*	R	T	L	U	App	Ped*	Int
2026-02-12 11:15AM	3	3	0	0	6	0	1	3	2	0	6	0	1	4	2	0	7	0	2	3	0	0	5	0	24
11:30AM	3	3	2	0	8	0	1	1	0	0	2	0	2	3	1	0	6	0	2	5	1	0	8	0	24
11:45AM	1	3	1	0	5	0	1	1	2	0	4	0	1	3	1	0	5	0	0	1	1	0	2	0	16
12:00PM	4	5	4	0	13	0	2	0	1	0	3	0	0	3	0	0	3	0	1	4	1	0	6	0	25
Total	11	14	7	0	32	0	5	5	5	0	15	0	4	13	4	0	21	0	5	13	3	0	21	0	89
% Approach	34.4%	43.8%	21.9%	0%	-	-	33.3%	33.3%	33.3%	0%	-	-	19.0%	61.9%	19.0%	0%	-	-	23.8%	61.9%	14.3%	0%	-	-	-
% Total	12.4%	15.7%	7.9%	0%	36.0%	-	5.6%	5.6%	5.6%	0%	16.9%	-	4.5%	14.6%	4.5%	0%	23.6%	-	5.6%	14.6%	3.4%	0%	23.6%	-	-
PHF	0.688	0.700	0.438	-	0.615	-	0.625	0.417	0.625	-	0.625	-	0.500	0.813	0.500	-	0.750	-	0.625	0.650	0.750	-	0.656	-	0.890
Motorcycles	0	0	0	0	0	-	0	0	0	0	0	-	0	0	0	0	0	-	0	0	0	0	0	-	0
% Motorcycles	0%	0%	0%	0%	0%	-	0%	0%	0%	0%	0%	-	0%	0%	0%	0%	0%	-	0%	0%	0%	0%	0%	-	0%
Lights	11	14	7	0	32	-	5	5	5	0	15	-	4	13	4	0	21	-	5	12	3	0	20	-	88
% Lights	100%	100%	100%	0%	100%	-	100%	100%	100%	0%	100%	-	100%	100%	100%	0%	100%	-	100%	92.3%	100%	0%	95.2%	-	98.9%
Single-Unit Trucks	0	0	0	0	0	-	0	0	0	0	0	-	0	0	0	0	0	-	0	1	0	0	1	-	1
% Single-Unit Trucks	0%	0%	0%	0%	0%	-	0%	0%	0%	0%	0%	-	0%	0%	0%	0%	0%	-	0%	7.7%	0%	0%	4.8%	-	1.1%
Articulated Trucks	0	0	0	0	0	-	0	0	0	0	0	-	0	0	0	0	0	-	0	0	0	0	0	-	0
% Articulated Trucks	0%	0%	0%	0%	0%	-	0%	0%	0%	0%	0%	-	0%	0%	0%	0%	0%	-	0%	0%	0%	0%	0%	-	0%
Buses	0	0	0	0	0	-	0	0	0	0	0	-	0	0	0	0	0	-	0	0	0	0	0	-	0
% Buses	0%	0%	0%	0%	0%	-	0%	0%	0%	0%	0%	-	0%	0%	0%	0%	0%	-	0%	0%	0%	0%	0%	-	0%
Bicycles on Road	0	0	0	0	0	-	0	0	0	0	0	-	0	0	0	0	0	-	0	0	0	0	0	-	0
% Bicycles on Road	0%	0%	0%	0%	0%	-	0%	0%	0%	0%	0%	-	0%	0%	0%	0%	0%	-	0%	0%	0%	0%	0%	-	0%
Pedestrians	-	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	0	
% Pedestrians	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Bicycles on Crosswalk	-	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	0	
% Bicycles on Crosswalk	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	

*Pedestrians and Bicycles on Crosswalk. L: Left, R: Right, T: Thru, U: U-Turn

Hesper Rd & 80th St W - TMC

Thu Feb 12, 2026

Midday Peak (11:15 AM - 12:15 PM)

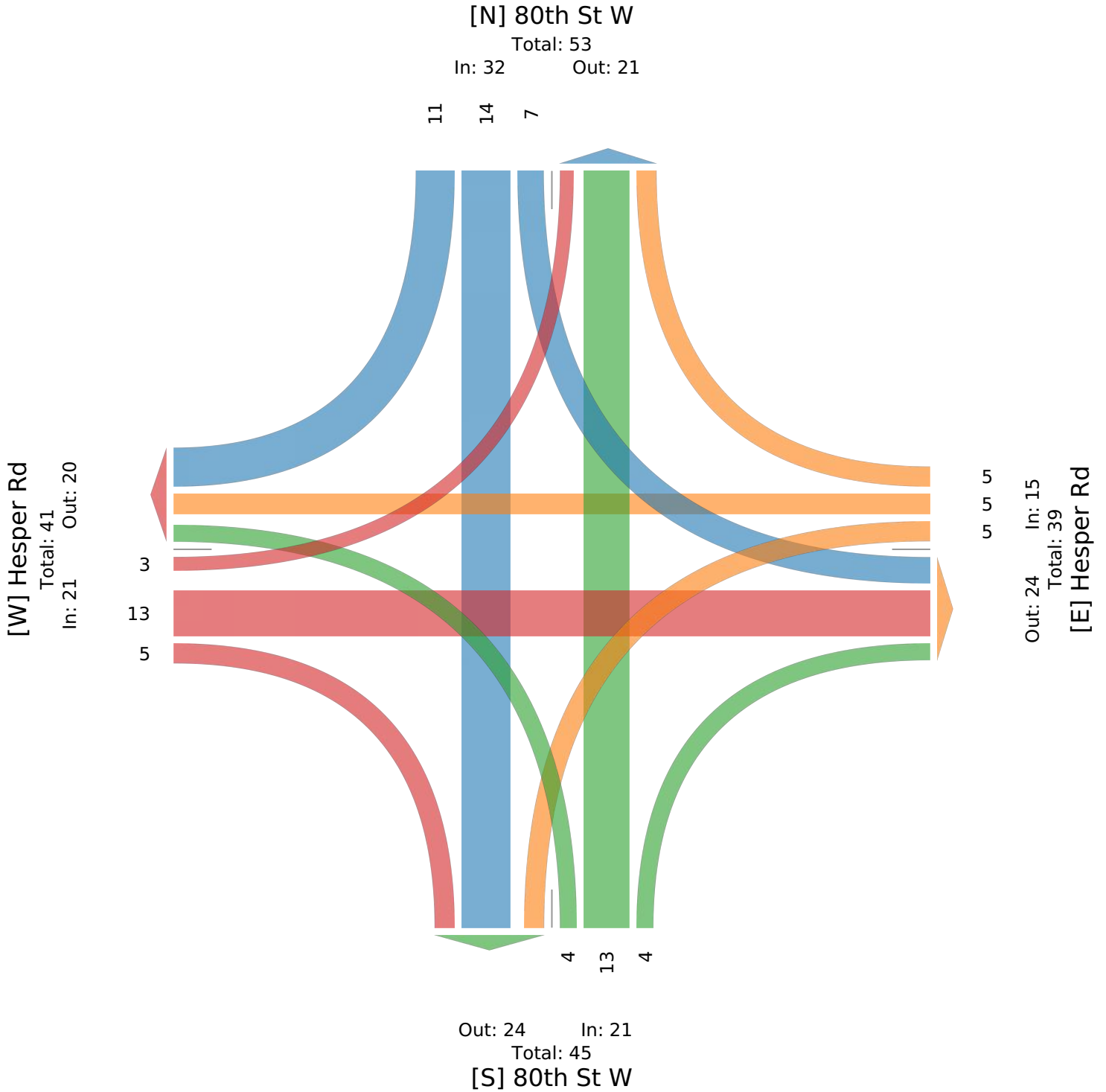
All Classes (Motorcycles, Lights, Single-Unit Trucks, Articulated Trucks, Buses, Pedestrians, Bicycles on Road, Bicycles on Crosswalk)

All Movements

ID: 1377915, Location: 45.740713, -108.720232



Provided by: IMEG Corp.
401 E. State Street, 4th Floor,
Rockford, IL, 61104, US



Hesper Rd & 80th St W - TMC

Thu Feb 12, 2026

PM Peak (4:45 PM - 5:45 PM) - Overall Peak Hour

All Classes (Motorcycles, Lights, Single-Unit Trucks, Articulated Trucks, Buses, Pedestrians, Bicycles on Road, Bicycles on Crosswalk)

All Movements

ID: 1377915, Location: 45.740713, -108.720232



Provided by: IMEG Corp.
401 E. State Street, 4th Floor,
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Leg Direction	80th St W Southbound					Hesper Rd Westbound					80th St W Northbound					Hesper Rd Eastbound									
Time	R	T	L	U	App Ped*	R	T	L	U	App Ped*	R	T	L	U	App Ped*	R	T	L	U	App Ped*	Int				
2026-02-12 4:45PM	7	5	1	0	13	0	0	5	2	0	7	0	2	5	3	0	10	0	1	6	0	0	7	0	37
5:00PM	8	6	1	0	15	0	9	12	0	0	21	0	1	0	2	0	3	0	4	3	1	0	8	0	47
5:15PM	6	10	1	0	17	0	0	5	1	0	6	0	1	5	1	0	7	0	1	4	5	0	10	0	40
5:30PM	5	3	0	0	8	0	2	8	2	0	12	0	2	6	3	0	11	0	1	5	5	0	11	0	42
Total	26	24	3	0	53	0	11	30	5	0	46	0	6	16	9	0	31	0	7	18	11	0	36	0	166
% Approach	49.1%	45.3%	5.7%	0%	-	-	23.9%	65.2%	10.9%	0%	-	-	19.4%	51.6%	29.0%	0%	-	-	19.4%	50.0%	30.6%	0%	-	-	-
% Total	15.7%	14.5%	1.8%	0%	31.9%	-	6.6%	18.1%	3.0%	0%	27.7%	-	3.6%	9.6%	5.4%	0%	18.7%	-	4.2%	10.8%	6.6%	0%	21.7%	-	-
PHF	0.813	0.600	0.750	-	0.779	-	0.306	0.625	0.625	-	0.548	-	0.750	0.667	0.750	-	0.705	-	0.438	0.750	0.550	-	0.818	-	0.883
Motorcycles	0	0	0	0	0	-	0	0	0	0	0	-	0	0	0	0	0	-	0	0	0	0	0	-	0
% Motorcycles	0%	0%	0%	0%	0%	-	0%	0%	0%	0%	0%	-	0%	0%	0%	0%	0%	-	0%	0%	0%	0%	0%	-	0%
Lights	26	24	3	0	53	-	11	30	5	0	46	-	6	16	9	0	31	-	7	18	11	0	36	-	166
% Lights	100%	100%	100%	0%	100%	-	100%	100%	100%	0%	100%	-	100%	100%	100%	0%	100%	-	100%	100%	100%	0%	100%	-	100%
Single-Unit Trucks	0	0	0	0	0	-	0	0	0	0	0	-	0	0	0	0	0	-	0	0	0	0	0	-	0
% Single-Unit Trucks	0%	0%	0%	0%	0%	-	0%	0%	0%	0%	0%	-	0%	0%	0%	0%	0%	-	0%	0%	0%	0%	0%	-	0%
Articulated Trucks	0	0	0	0	0	-	0	0	0	0	0	-	0	0	0	0	0	-	0	0	0	0	0	-	0
% Articulated Trucks	0%	0%	0%	0%	0%	-	0%	0%	0%	0%	0%	-	0%	0%	0%	0%	0%	-	0%	0%	0%	0%	0%	-	0%
Buses	0	0	0	0	0	-	0	0	0	0	0	-	0	0	0	0	0	-	0	0	0	0	0	-	0
% Buses	0%	0%	0%	0%	0%	-	0%	0%	0%	0%	0%	-	0%	0%	0%	0%	0%	-	0%	0%	0%	0%	0%	-	0%
Bicycles on Road	0	0	0	0	0	-	0	0	0	0	0	-	0	0	0	0	0	-	0	0	0	0	0	-	0
% Bicycles on Road	0%	0%	0%	0%	0%	-	0%	0%	0%	0%	0%	-	0%	0%	0%	0%	0%	-	0%	0%	0%	0%	0%	-	0%
Pedestrians	-	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	0	
% Pedestrians	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Bicycles on Crosswalk	-	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	0	
% Bicycles on Crosswalk	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	

*Pedestrians and Bicycles on Crosswalk. L: Left, R: Right, T: Thru, U: U-Turn

Hesper Rd & 80th St W - TMC

Thu Feb 12, 2026

PM Peak (4:45 PM - 5:45 PM) - Overall Peak Hour

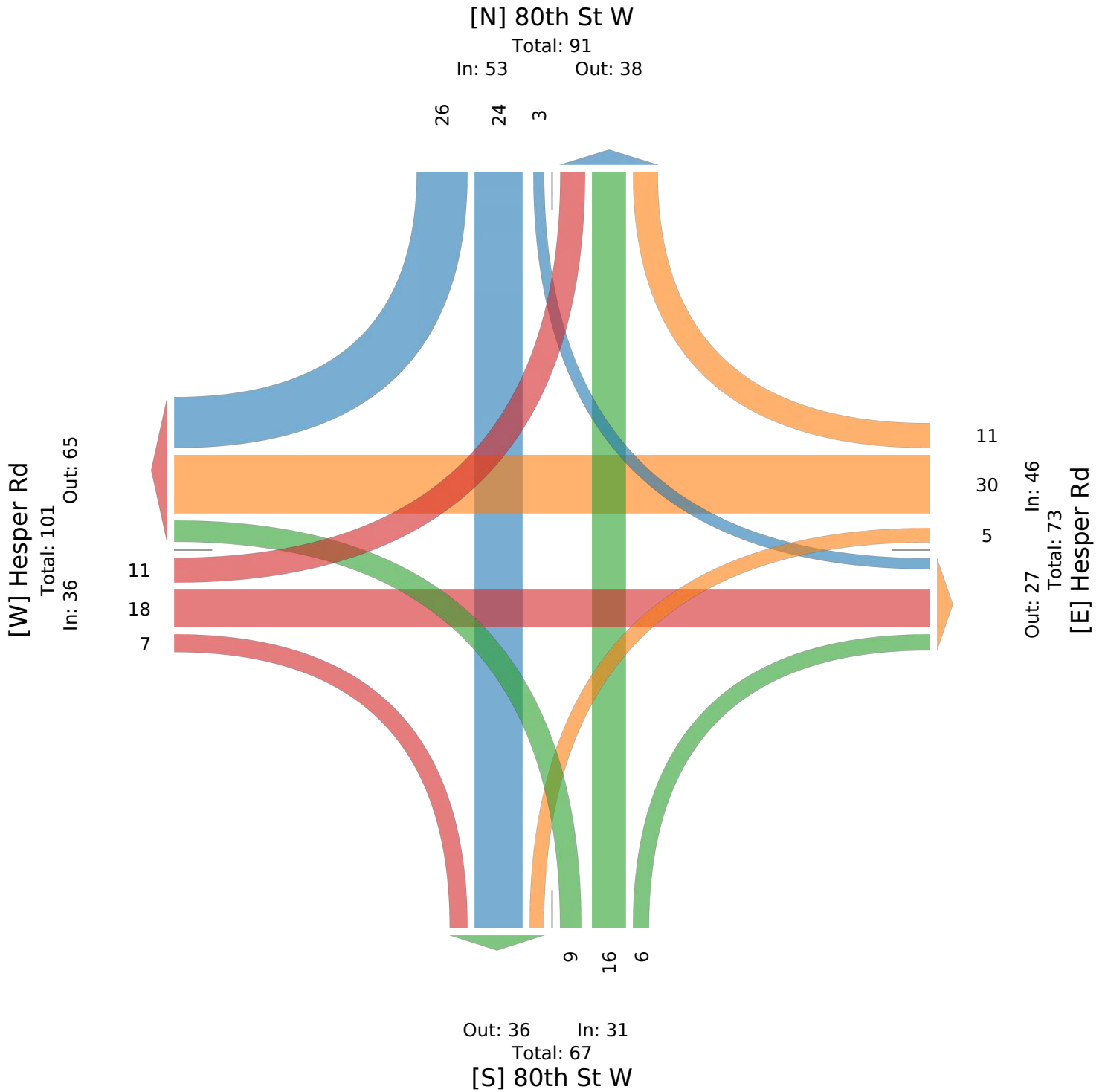
All Classes (Motorcycles, Lights, Single-Unit Trucks, Articulated Trucks, Buses, Pedestrians, Bicycles on Road, Bicycles on Crosswalk)

All Movements

ID: 1377915, Location: 45.740713, -108.720232



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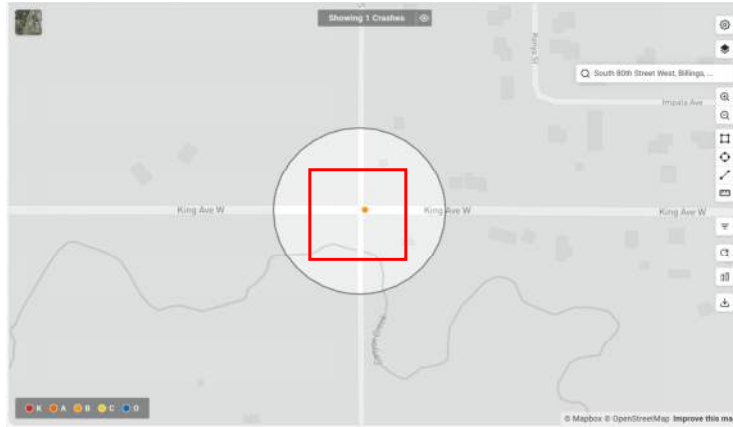


Shop House Acres Major Subdivision Traffic Impact Study

APPENDIX I Intersection Crash Data (2020-2024)

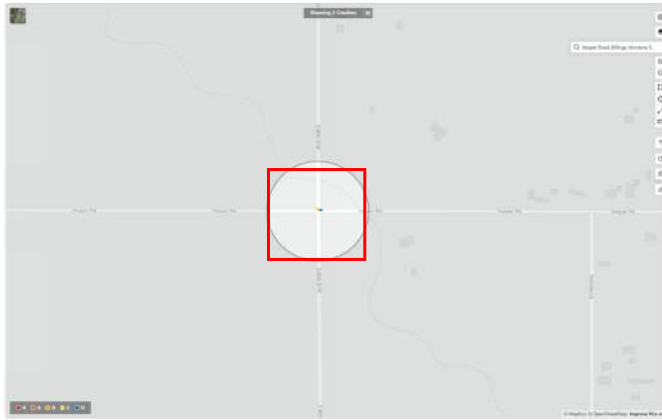
King Avenue West & South 80th Street West

Crash Record Number	Crash Date	Collision Type	Road Surface Condition	Crash Injury Severity	Type A Inj Crash?	Type B Inj Crash?	Type C Inj Crash?	Fatal Crash?
50197108	2/3/2024	Right Angle	Dry	Suspected Minor Injury	No	No	Yes	No



Hesper Road & South 80th Street West

Crash Record Number	Crash Date	Collision Type	Road Surface Condition	Crash Injury Severity	Type A Inj Crash?	Type B Inj Crash?	Type C Inj Crash?	Fatal Crash?
50144597	6/10/2024	Right Angle	Dry	No apparent Injury (property damage only crash)	No	No	No	No
50179153	9/23/2022	Right Angle	Dry	Possible injury crash	No	No	Yes	No



KABCO Injury Classification Scale and Definitions

STATE	INJURY CODES	CONVERSION	DEFINITIONS / INSTRUCTIONS / NOTES	SOURCE	LOCATION
MONTANA	???? to Present		<i>Documentation not available, years unknown.</i>	MT Crash Investigator's Report Instruction Manual	codes found on Manual pg19 (PDF pg24).
	0 – No Injury	O		15 INJURY CLASSIFICATION	
	1 – Possible Injury	C	Possible injury: A possible injury is any injury reported or claimed which is not a fatal injury, incapacitating injury, non-incapacitating evident injury.	15 INJURY CLASSIFICATION	
	2 – Non-incapacitating Evident Injury	B	Nonincapacitating evident injury: A nonincapacitating evident injury is any injury, other than a fatal injury or an incapacitating injury, which is evident to observers at the scene of the accident in which the injury occurred.	15 INJURY CLASSIFICATION	
	3 – Incapacitating Injury	A	Incapacitating injury: An incapacitating injury is any injury, other than a fatal injury, which prevents the injured person from walking, driving or normally continuing the activities the person was capable of performing before the injury occurred.	15 INJURY CLASSIFICATION	
	4 – Fatal Injury	K	Fatal Injury: A fatal injury is any injury that results in death. If any injury results in death within 30 days after the road vehicle accident in which the injury occurred, the injury classification should be changed to fatal injury.	15 INJURY CLASSIFICATION	
	5 – Injury, Severity Unknown			15 INJURY CLASSIFICATION	
	6 – Died Prior to Accident			15 INJURY CLASSIFICATION	
	9 – Unknown	U		15 INJURY CLASSIFICATION	

Found at: https://safety.fhwa.dot.gov/hsip/spm/conversion_tbl/pdfs/kabco_etable_by_state.pdf



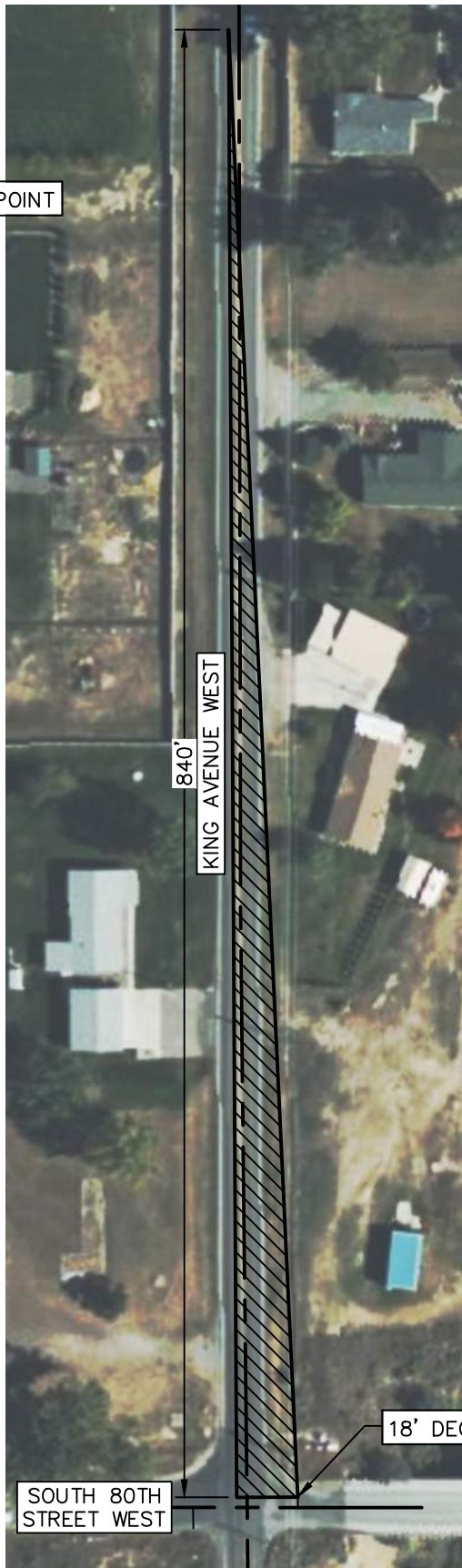
Shop House Acres Major Subdivision Traffic Impact Study

APPENDIX J Intersection Sight Distance Figures

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SOUTH 80TH ST. WEST NB—RIGHT TURN



SOUTH 80TH ST. WEST NB—LEFT TURN



0 100
SCALE: 1" = 100'



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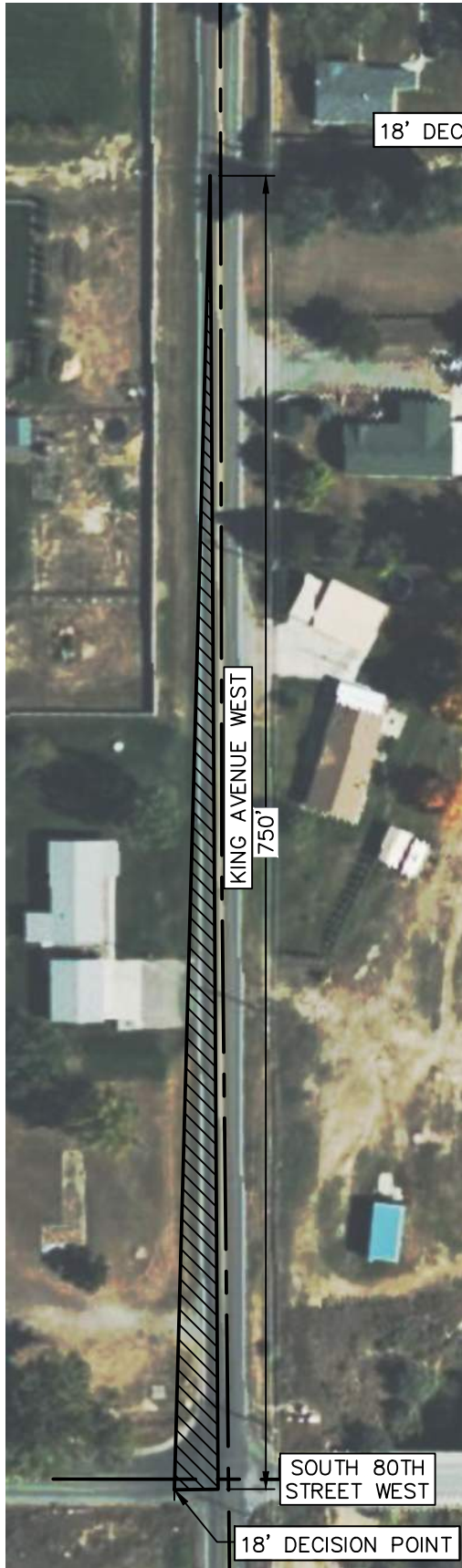
BILLINGS, MONTANA

INTERSECTION #1 NB SIGHT DISTANCE

EXHIBIT

J - 1

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SOUTH 80TH ST. WEST SB-RIGHT TURN



SOUTH 80TH ST. WEST SB-LEFT TURN



0 100
SCALE: 1" = 100'



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INTERSECTION #1 SB SIGHT DISTANCE

EXHIBIT

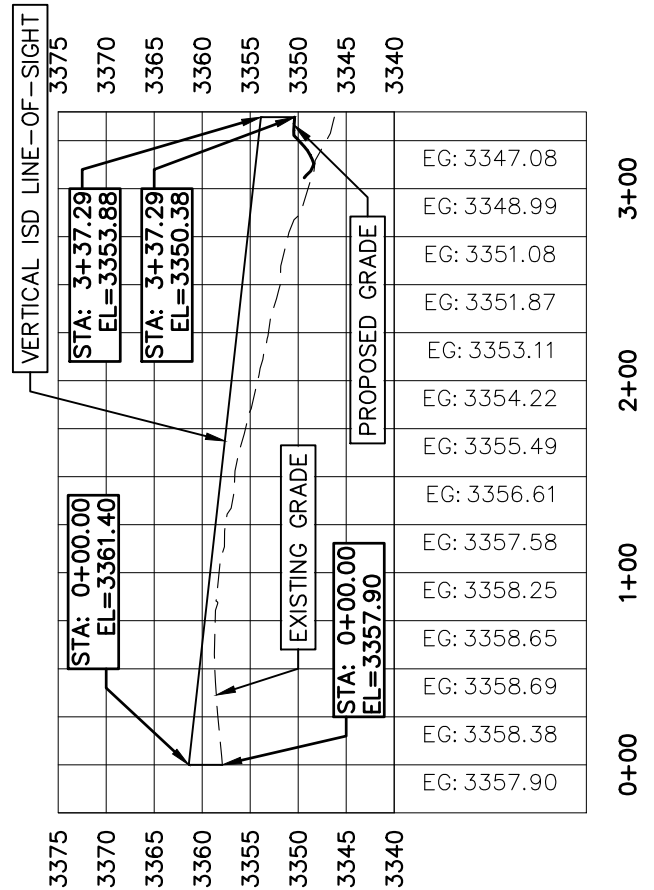
J - 2



0 100
SCALE: 1" = 100'



NORTH ACCESS LEFT TURN - CAR



NORTH ACCESS LEFT TURN - CAR PROFILE

SOUTH 80TH STREET WEST
POSTED SPEED=50MPH

$$ISD = 1.47(\text{SPEED [MPH]})(\text{TIME GAP})$$

TIME GAP (CAR)[SEC.] = 7.5
DRIVER EYE HEIGHT = 3.5'
OBJECT HEIGHT = 3.5'

ISD (POSTED) = 550'
ISD (ADVISORY) = 335' = 30MPH

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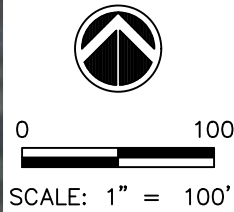
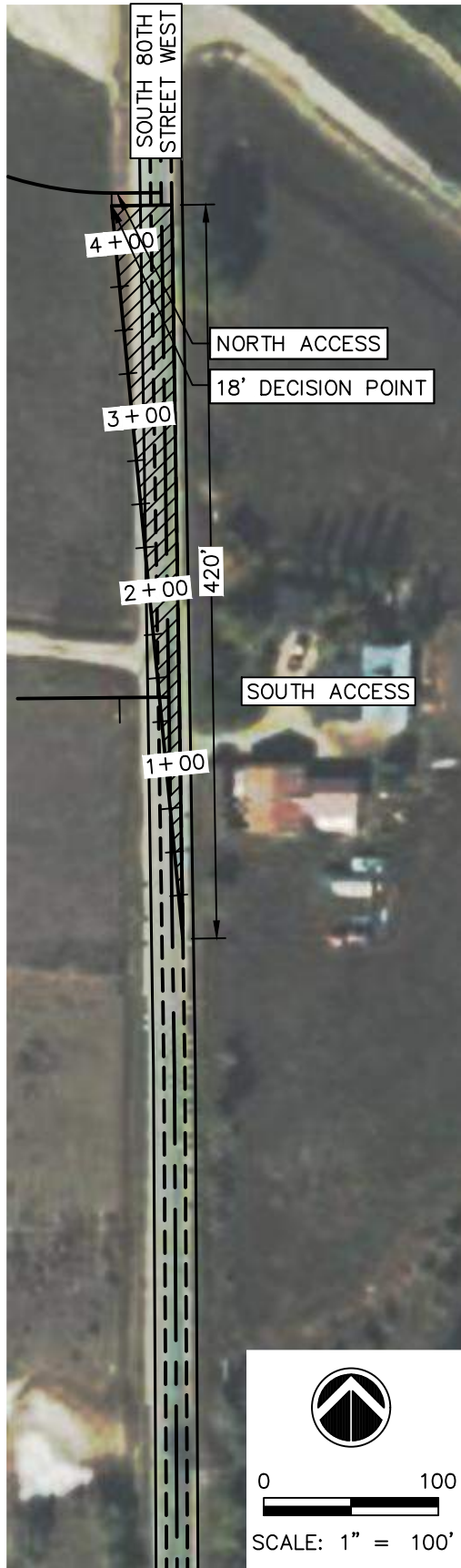
BILLINGS, MONTANA

NORTH ACCESS LT-CAR SIGHT DISTANCE

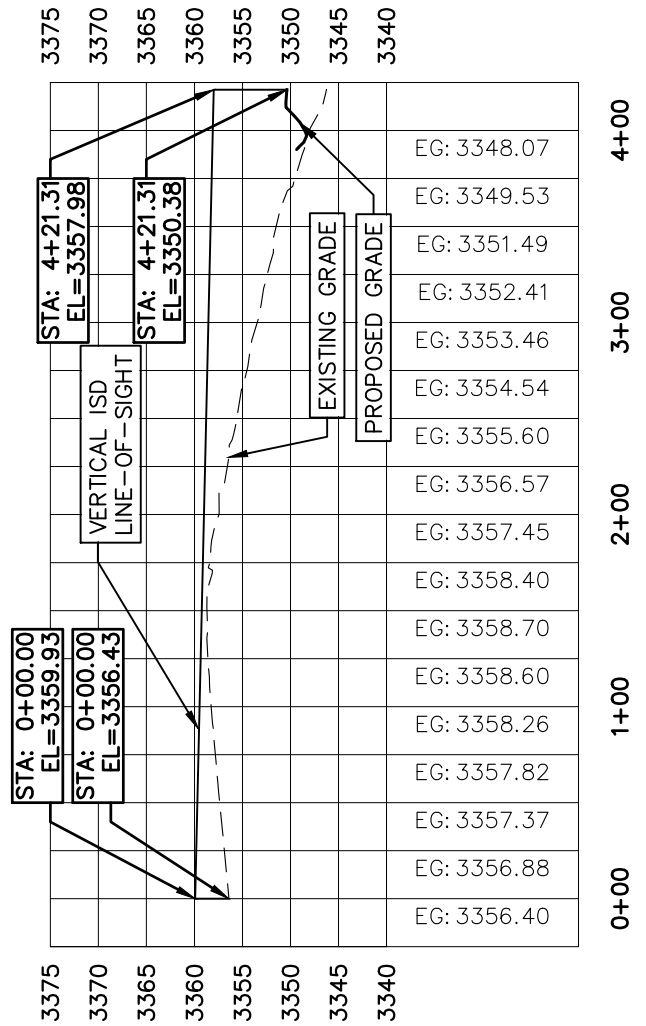
EXHIBIT

J - 3

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NORTH ACCESS LEFT TURN - TRUCK



SOUTH 80TH STREET WEST
POSTED SPEED=50MPH

$$ISD = 1.47(\text{SPEED [MPH]})(\text{TIME GAP})$$

TIME GAP (TRUCK)[SEC.] = 9.5
 DRIVER EYE HEIGHT = 7.6'
 OBJECT HEIGHT = 3.5'

ISD (POSTED) = 700'
 ISD (ADVISORY) = 420' = 30MOH

NORTH ACCESS LEFT TURN - TRUCK PROFILE



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NORTH ACCESS LT-TRUCK SIGHT DISTANCE

EXHIBIT

J - 4

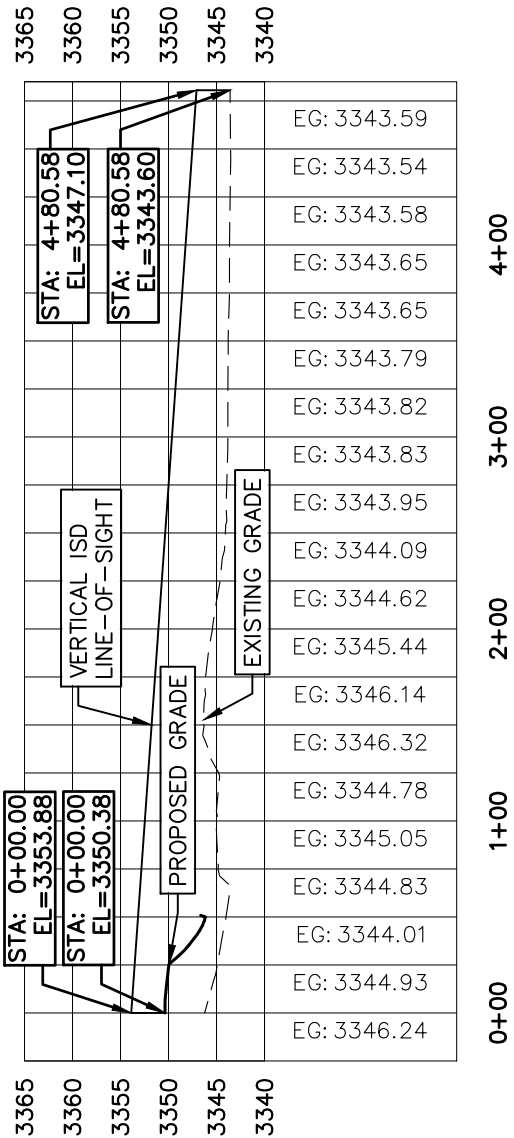


0 100
 SCALE: 1" = 100'

SOUTH 80TH STREET WEST
 POSTED SPEED=50MPH
 $ISD = 1.47(SPEED [MPH])(TIME GAP)$
 TIME GAP (CAR)[SEC.] = 6.5
 DRIVER EYE HEIGHT = 3.5'
 OBJECT HEIGHT = 3.5'
 ISD (POSTED) = 480'



NORTH ACCESS RIGHT TURN - CAR



NORTH ACCESS RIGHT TURN - CAR PROFILE

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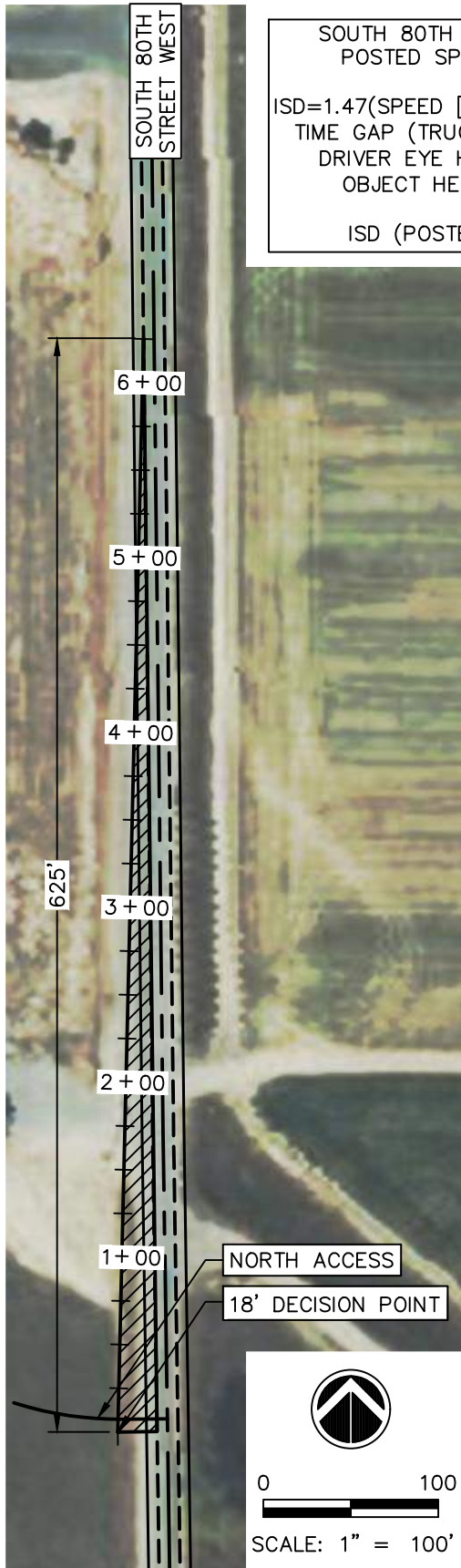
BILLINGS, MONTANA

NORTH ACCESS RT-CAR SIGHT DISTANCE

EXHIBIT

J - 5

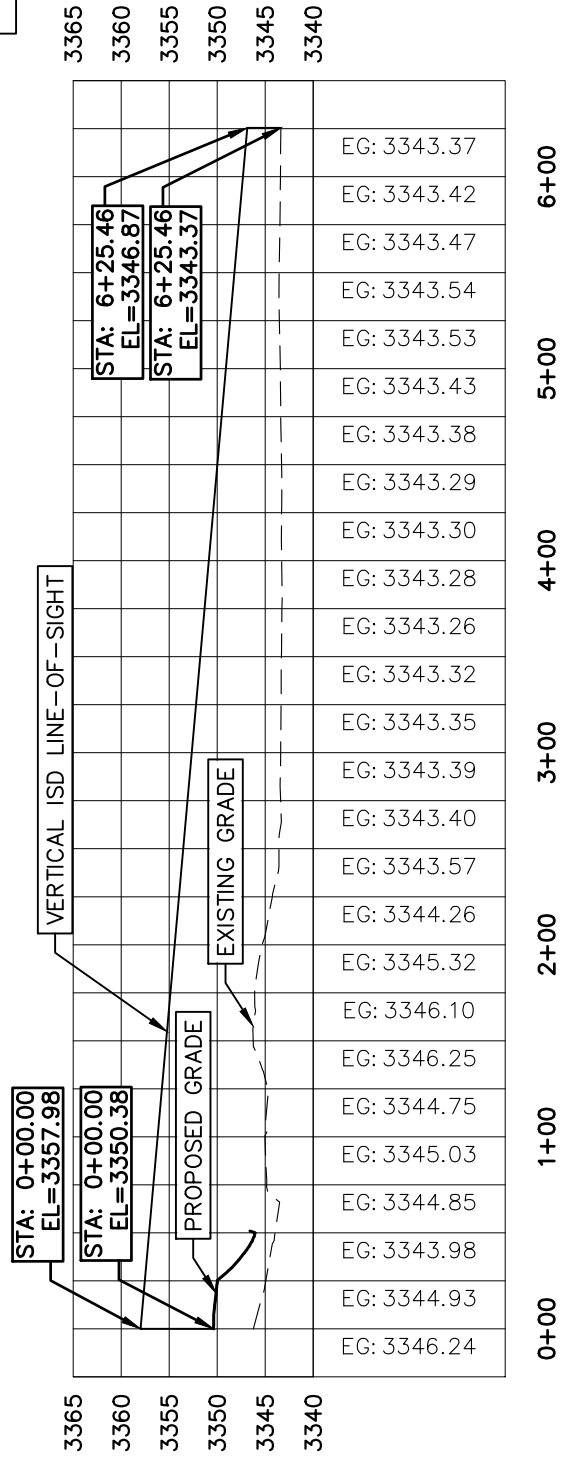
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SOUTH 80TH STREET WEST
POSTED SPEED=50MPH

ISD=1.47(SPEED [MPH])(TIME GAP)
TIME GAP (TRUCK)[SEC.] = 8.5
DRIVER EYE HEIGHT = 7.6'
OBJECT HEIGHT = 3.5'

ISD (POSTED) = 625'



NORTH ACCESS RIGHT TURN - TRUCK

NORTH ACCESS RIGHT TURN - TRUCK PROFILE



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NORTH ACCESS RT-TRUCK SIGHT DISTANCE

EXHIBIT

J - 6



0 100
SCALE: 1" = 100'

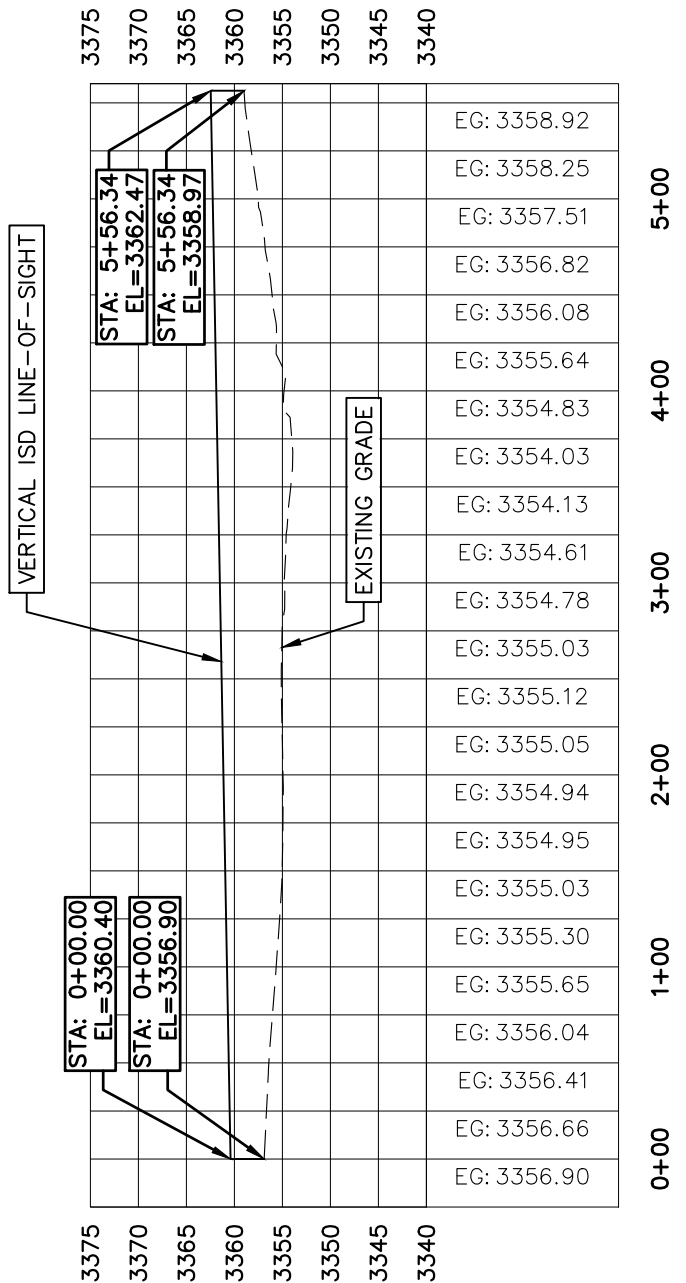
SOUTH 80TH STREET WEST
POSTED SPEED=50MPH

 $ISD = 1.47(\text{SPEED [MPH]})(\text{TIME GAP})$
 TIME GAP (CAR)[SEC.] = 7.5
 DRIVER EYE HEIGHT = 3.5'
 OBJECT HEIGHT = 3.5'

 ISD (POSTED) = 550'



SOUTH ACCESS LEFT TURN - CAR



SOUTH ACCESS LEFT TURN - CAR PROFILE

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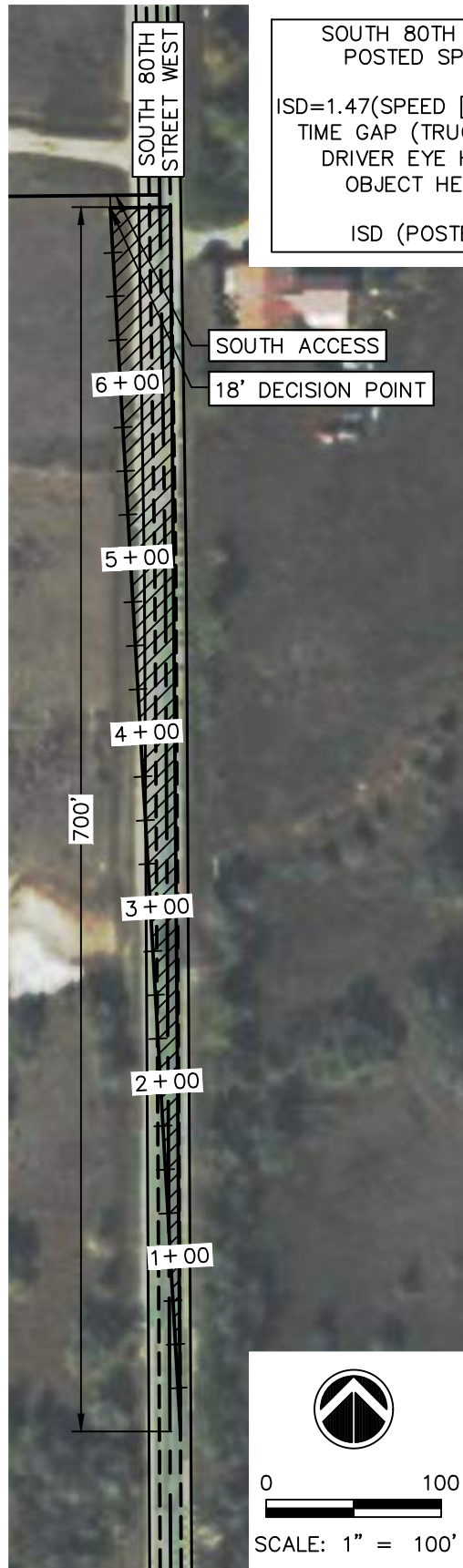
BILLINGS, MONTANA

SOUTH ACCESS LT-CAR SIGHT DISTANCE

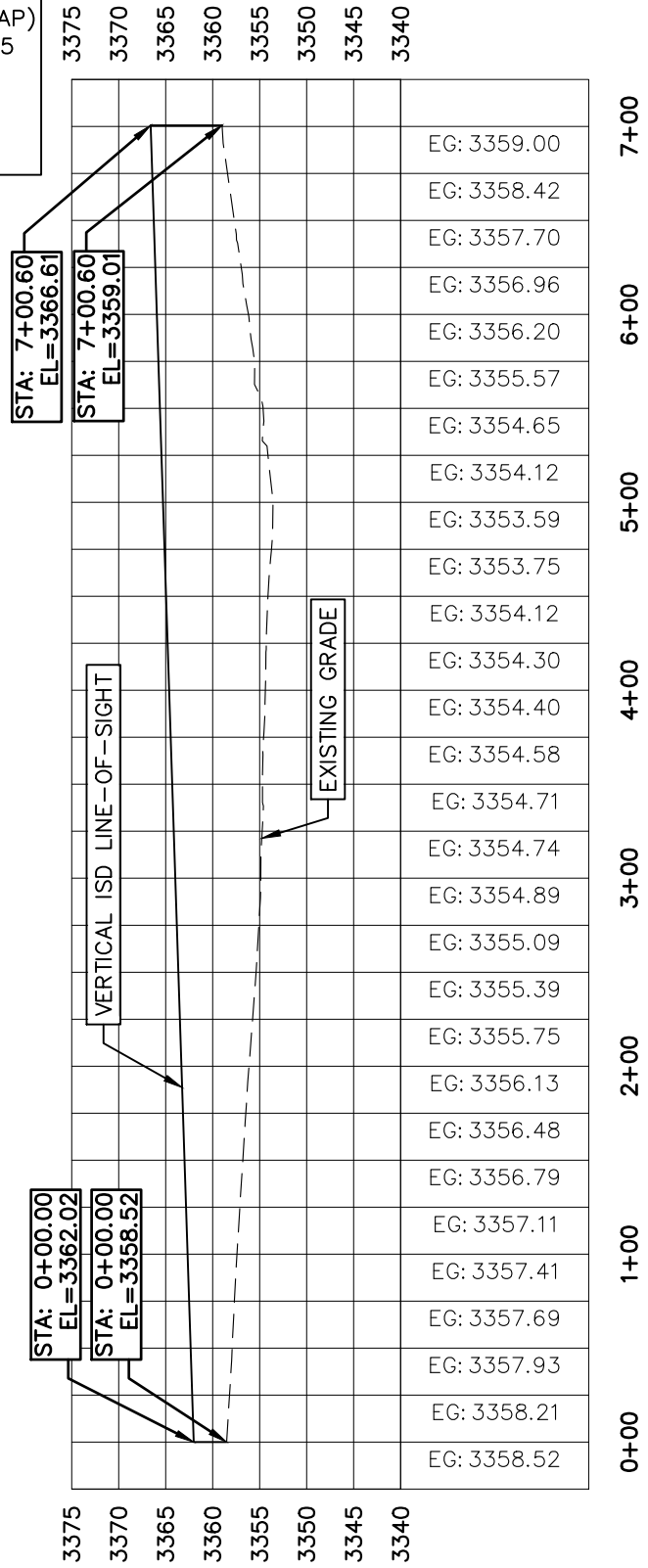
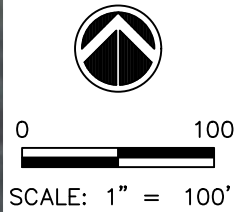
EXHIBIT

J - 7

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SOUTH 80TH STREET WEST
POSTED SPEED=50MPH
 $ISD = 1.47(\text{SPEED [MPH]})(\text{TIME GAP})$
 TIME GAP (TRUCK)[SEC.] = 9.5
 DRIVER EYE HEIGHT = 7.6'
 OBJECT HEIGHT = 3.5'
 ISD (POSTED) = 700'



SOUTH ACCESS LEFT TURN - TRUCK

SOUTH ACCESS LEFT TURN - TRUCK PROFILE



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SOUTH ACCESS LT-TRUCK SIGHT DISTANCE

EXHIBIT

J - 8

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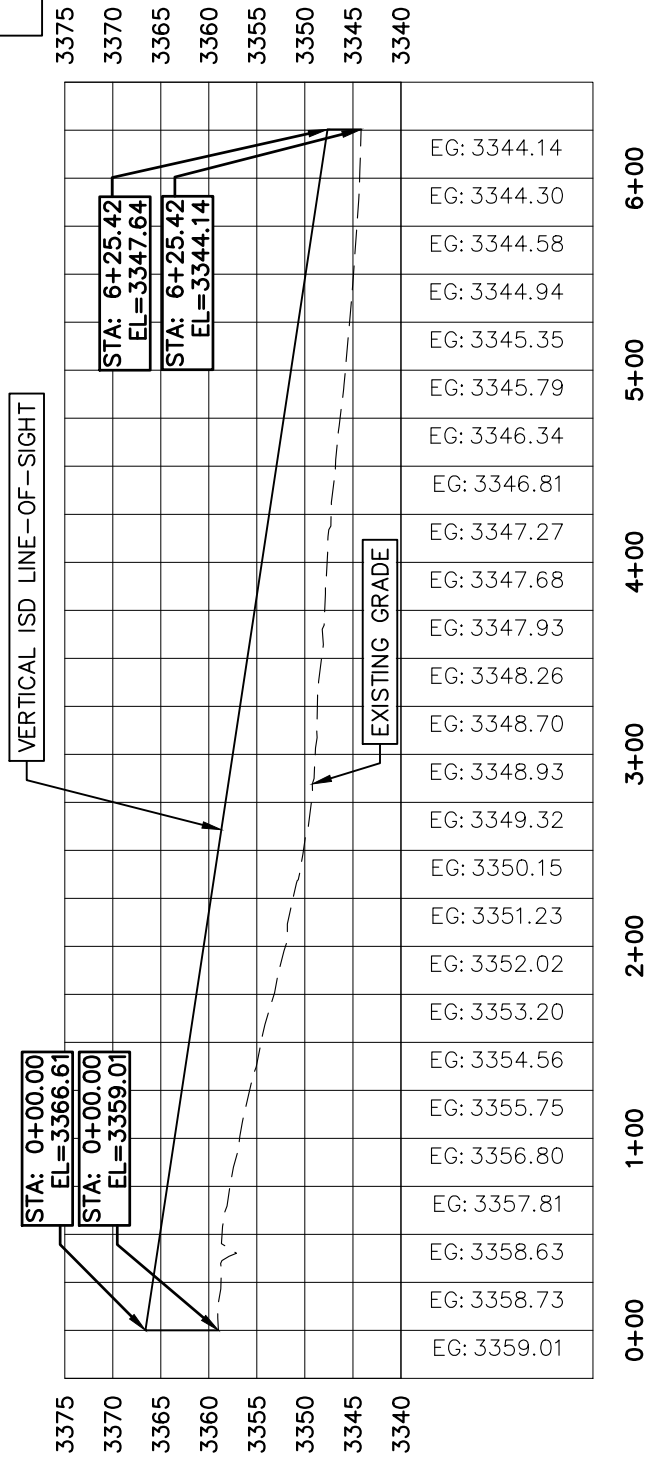


SOUTH 80TH STREET WEST
POSTED SPEED=50MPH

$$ISD = 1.47(\text{SPEED [MPH]})(\text{TIME GAP})$$

TIME GAP (TRUCK)[SEC.] = 8.5
DRIVER EYE HEIGHT = 7.6'
OBJECT HEIGHT = 3.5'

ISD (POSTED) = 625'



SOUTH ACCESS LEFT TURN - TRUCK

SOUTH ACCESS LEFT TURN - TRUCK PROFILE



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SOUTH ACCESS LT-TRUCK SIGHT DISTANCE

EXHIBIT

J - 10



0 100
SCALE: 1" = 100'



SOUTH 80TH ST. WEST NB-RIGHT TURN



SOUTH 80TH ST. WEST NB-LEFT TURN

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INTERSECTION #2 NB SIGHT DISTANCE

EXHIBIT

J - 7

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SOUTH 80TH ST. WEST SB-RIGHT TURN



SOUTH 80TH ST. WEST SB-LEFT TURN



0 100
SCALE: 1" = 100'



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INTERSECTION #2 SB SIGHT DISTANCE

EXHIBIT

J - 8



Shop House Acres Major Subdivision Traffic Impact Study

APPENDIX K Cost Participation

Intersection Cost Contribution			
Project: Shop House Acres Major Subdivision			
Prepared by: IMEG Corp.			
Revised: 02/16/2026			
Full Build Year: 2031			
Intersection	Percent	Cost of Intersection	Contribution by Intersection
#1) King Ave. West & South 80th St. West	1.58%	\$ 500,000	N/A
#2) Hesper Road & South 80th St West	1.17%	\$ 500,000	N/A
Total		\$	-

Intersection:		King Ave. West & South 80th St. West				
Conditions:		Existing 4-leg rural intersection with "STOP" signs controlling both the north and south legs of the intersection (South 80th St. West)				
Approach		AM Peak		PM Peak		Number of Lanes
		Mvmt Vol.	Lane Vol.	Mvmt Vol.	Lane Vol.	
NB	T	4	4	3	3	1
	L	1	1	1	1	1
SB	T	2	2	5	5	1
	L	0	0	0	0	1
EB	T	0	0	0	0	1
	L	0	0	0	0	1
WB	T	0	0	0	0	1
	L	1	1	13	13	1
Critical Lane Sum Increase:		5		19		<--- 1200 for 4-leg intersection 1140 for 3-leg intersection
Critical Lane Sum:		1200		1200		
Peak Hour %:		0.4%		1.6%		
Highest %:				1.58%		

Intersection:		Hesper Road & South 80th St West				
Conditions:		Existing 4-leg rural intersection with "STOP" signs controlling both the north and south legs of the intersection (South 80th St. West)				
Approach		AM Peak		PM Peak		Number of Lanes
		Mvmt Vol.	Lane Vol.	Mvmt Vol.	Lane Vol.	
NB	T	1	1	8	8	1
	L	0	0	0	0	1
SB	T	5	5	6	6	1
	L	3	3	1	1	1
EB	T	0	0	0	0	1
	L	3	3	5	5	1
WB	T	0	0	0	0	1
	L	0	0	0	0	1
Critical Lane Sum Increase:		8		14		<--- 1200 for 4-leg intersection 1140 for 3-leg intersection
Critical Lane Sum:		1200		1200		
Peak Hour %:		0.7%		1.2%		
Highest %:				1.17%		