

Transmittal Information

To: Carver County
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Date: April 18, 2022
Subject: Final Technical Memorandum – Corridor Traffic and Safety Analysis

1. Introduction

1.1 STUDY AREA

The County State Aid Highway (CSAH) 40 study corridor comprises approximately 9.7 miles from CSAH 11 (Jonathan Carver Parkway) to Trunk Highway (TH) 25, connecting the cities of Carver and Belle Plaine. The study area, including the three subsegments and twelve study intersections identified within the project limits, are illustrated in **Figure 1** and are listed below.

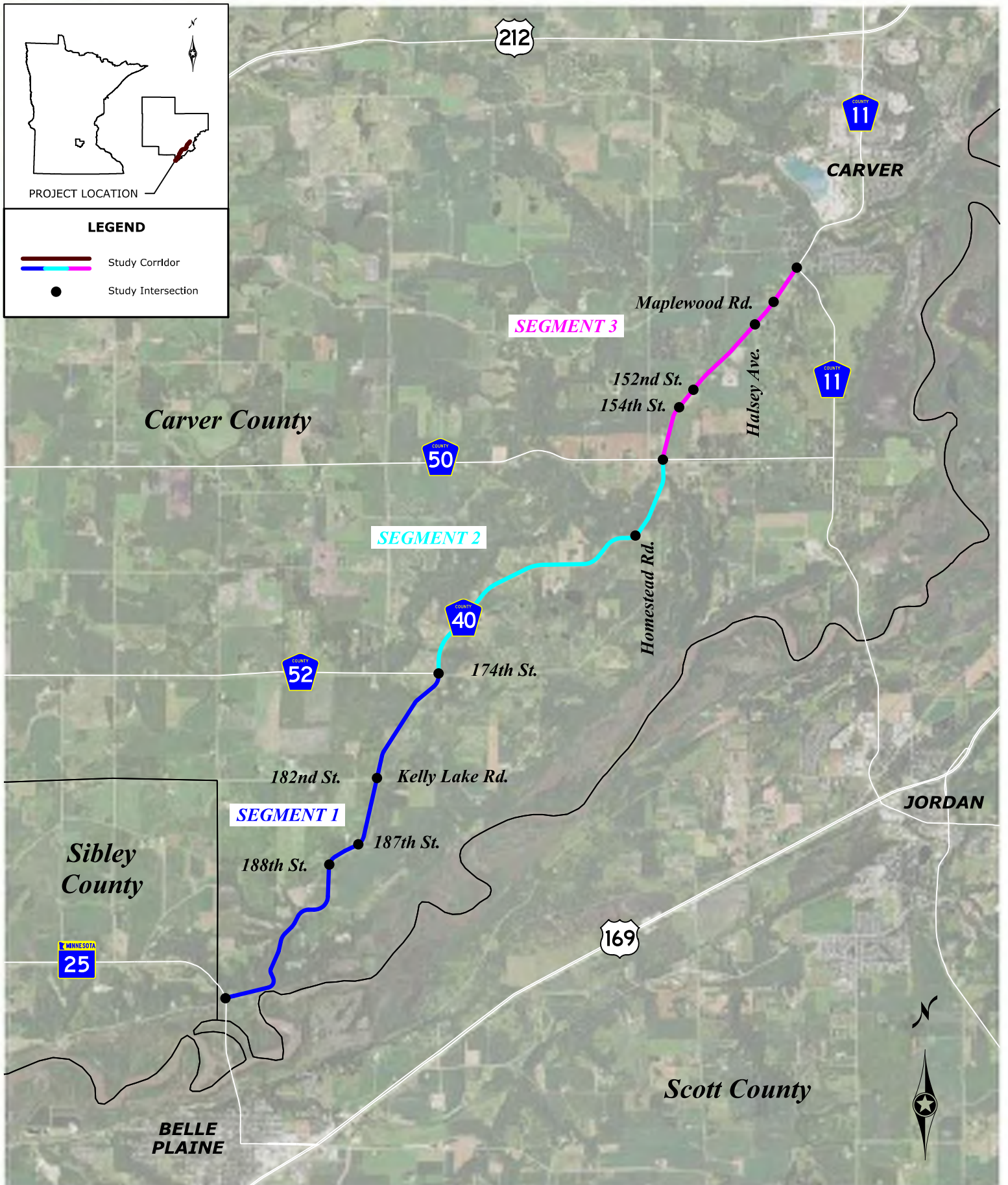
- CSAH 40 & CSAH 11
- CSAH 40 & Maplewood Road
- CSAH 40 & Halsey Avenue
- CSAH 40 & 152nd Street
- CSAH 40 & 154th Street
- CSAH 40 & CSAH 50
- CSAH 40 & Homestead Road
- CSAH 40 & CSAH 52 / 174th Street
- CSAH 40 & 182nd Street / Kelly Lake Road
- CSAH 40 & 187th Street
- CSAH 40 & 188th Street
- TH 25 & CSAH 40

It should be noted that the intersection of CSAH 40 & CSAH 11 was included at a high-level for consistency as a corridor end point, however, specific alternatives and recommendations for the intersection were established by a recent Jonathan Carver Parkway Corridor Study completed in 2019. The study corridor was divided into three high-level segments that correspond to those identified in the 3-year, 5-year, and 10-year Carver County Corridor Reports:

- Segment 1: TH 25 to CSAH 52 (CACO-C-226)
- Segment 2: CSAH 52 to CSAH 50 (CACO-C-227)
- Segment 3: CSAH 50 to CSAH 11 (CACO-C-228)

1.2 STUDY PURPOSE

With the County identifying a pavement rehabilitation project along CSAH 40 between CSAH 11 and TH 25, the purpose of this study is to identify potential geometric design solutions and other improvements to address safety deficiencies along the corridor. The draw of the corridor's rolling terrain and natural beauty has magnified safety and environmental concerns, while the Carver County Roadway Safety Plan deemed this segment of CSAH 40 as a "High Priority Segment" due to the high frequency and severity of crashes (including three fatalities during the 10-year analysis period).



CSAH 40 - Carver County

Figure 1
Study Area

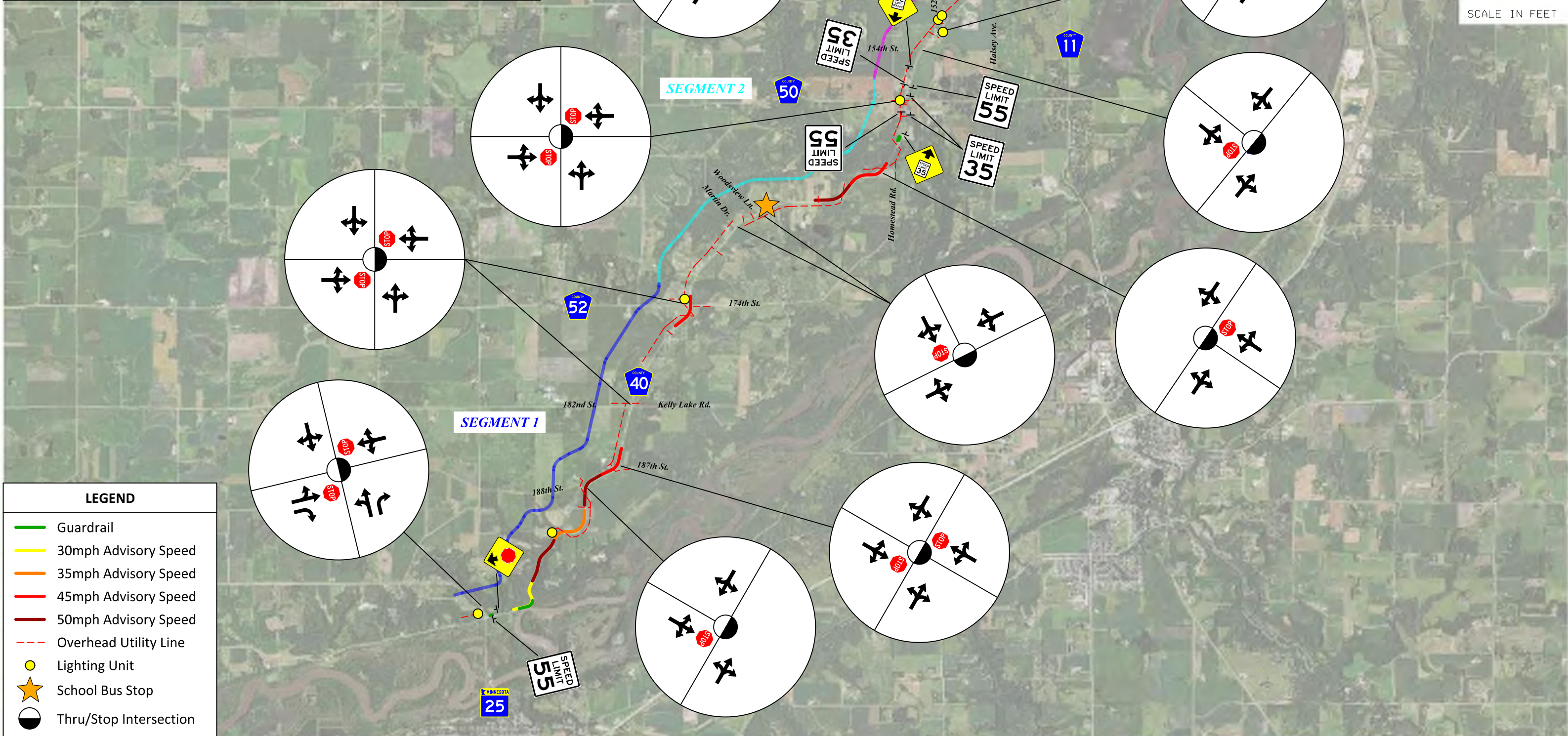
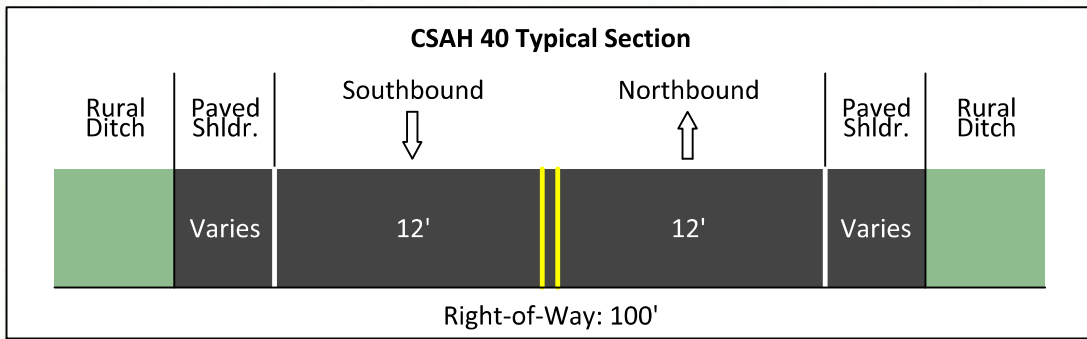
2. Existing Conditions

2.1 ROADWAY CHARACTERISTICS

CSAH 40 is a rural undivided two-lane roadway with no medians. There are several horizontal curves along the corridor, concentrated in Segment 1, with advisory speeds which range from 30 to 50 miles per hour (mph). The posted speed limit is 55 mph with a small stretch of 35 mph on either side of the CSAH 50 intersection. All intersections along the study corridor are stop controlled on the side-streets; southbound CSAH 40 is stop controlled at the intersection with TH 25. All intersections along the study corridor, except TH 25 & CSAH 40, are single-lane approaches with no dedicated turn lanes or bypass lanes. Lighting is present at various locations along the corridor, including at the TH 25, CSAH 52 / 174th Street, CSAH 50, and CSAH 11 intersections; however, all identified locations only have one lighting unit.

Proposed right of way along CSAH 40 is approximately 100 feet based on Carver County Right-of-Way Guidelines¹ for two-lane rural minor arterials and two-lane rural collectors, both without pedestrian/bicycle facilities. Lane geometrics, traffic control, street lighting, advisory speeds, overhead utility lines along the corridor, and a typical section can be found in **Figure 2**.

¹ Carver County Roadway Systems Final Plan 2010-2030 (Carver County, September 2009)



CSAH 40 - Carver County

Figure 2
Existing Conditions and Corridor Characteristics



2.2 ROADWAY ACCESS

A key factor affecting quality of mobility and safety characteristics (motor vehicle and multimodal) along the CSAH 40 corridor is roadway access. Carver County manages roadway access along CSAH 40 throughout the study area. The following section highlights existing access management categories and current access spacing.

2.2.1 Function Classification

Roadways serve two major functions: access and mobility. The function of a roadway is dependent on its classification. Interstates and principal arterials provide the highest degree of mobility but are limited in providing land access. Local streets provide a high degree of land access with less mobility. **Figure 3** shows a comparison of the different functional classifications relating access to mobility.

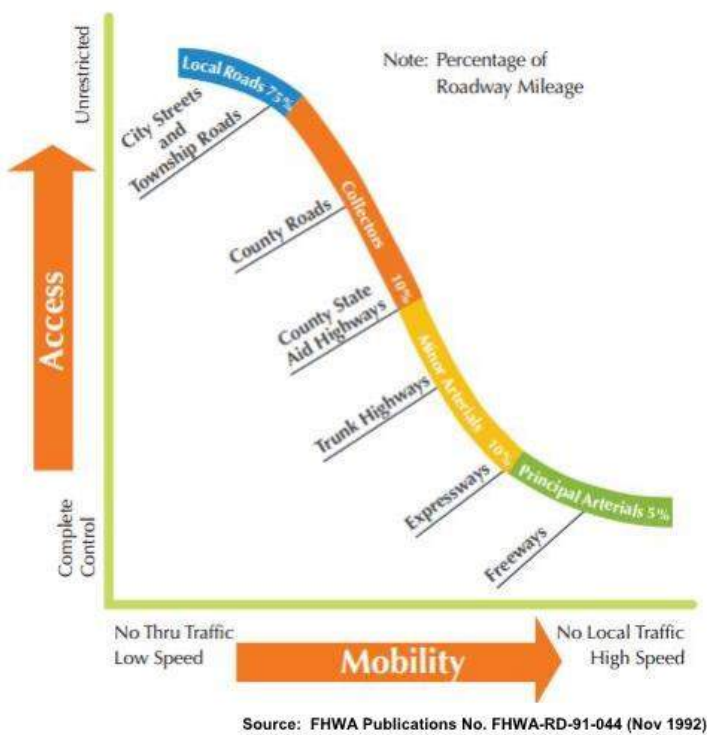


Figure 3. Access and Mobility Relationship to Functional Classification

CSAH 40 is classified as a major collector between TH 25 and CSAH 11, as detailed in the Carver County Roadway Systems Plan included in the transportation section of the 2040 Carver County Comprehensive Plan ². In the future, CSAH 40 will be classified as a minor arterial between TH 25 and CSAH 50 while remaining as a major collector between CSAH 50 and CSAH 11.

² 2040 Carver County Comprehensive Plan (Carver County, February 2020)

2.2.2 Access Management Categories

Access management is the planning, design, and implementation of land use and transportation strategies between the road and surrounding land. Appropriate spacing and design of public street intersections and private access is key to this strategy. The MnDOT Access Management Manual³ and the Carver County Roadway Systems Plan included in the transportation section of the 2040 Carver County Comprehensive Plan⁴ provide recommended access spacing for various roadway classifications. A roadway classification assignment has been given to all facilities in accordance with their function and priority. Each primary access classification is then further divided into subcategories, which allows for variation in access spacing based on adjacent land uses. Each access subcategory has spacing recommendations for primary full-movement intersections and secondary intersections.

Within the study area the CSAH 40 corridor is currently assigned Categories 5 and 6, with Subcategory A and Subcategory B respectively. Subcategory A is intended for rural areas, whereas Subcategory B is intended for areas outside of urban cores that are either urbanized or planned for urbanization. **Figure 4** provides a summary of MnDOT and Carver County access and driveway spacing guidelines applicable to the CSAH 40 corridor.

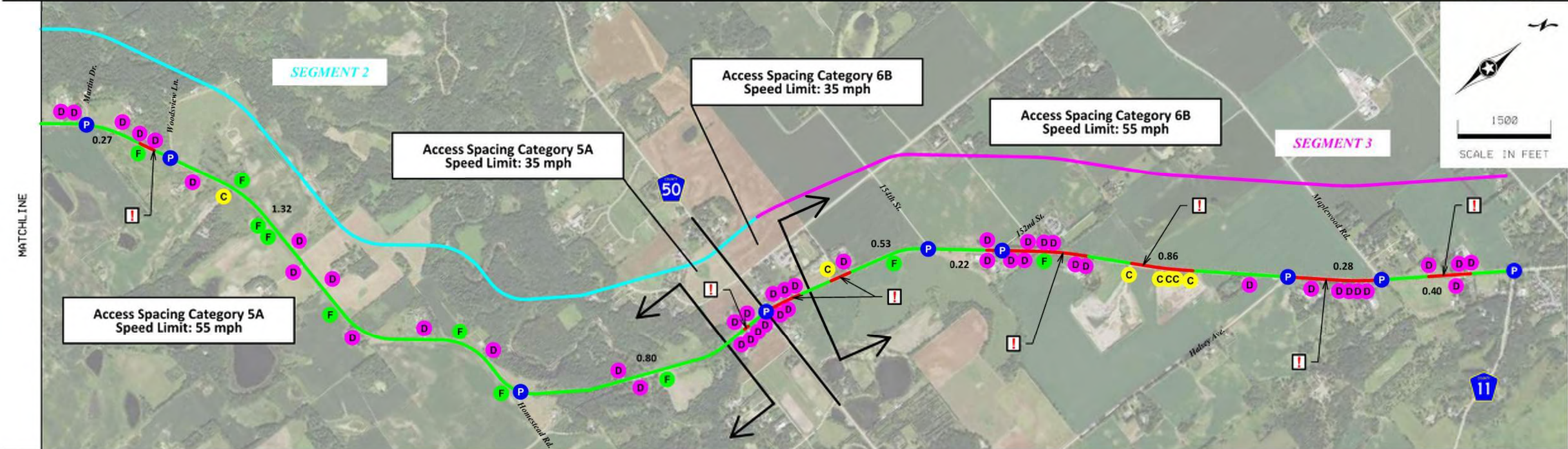
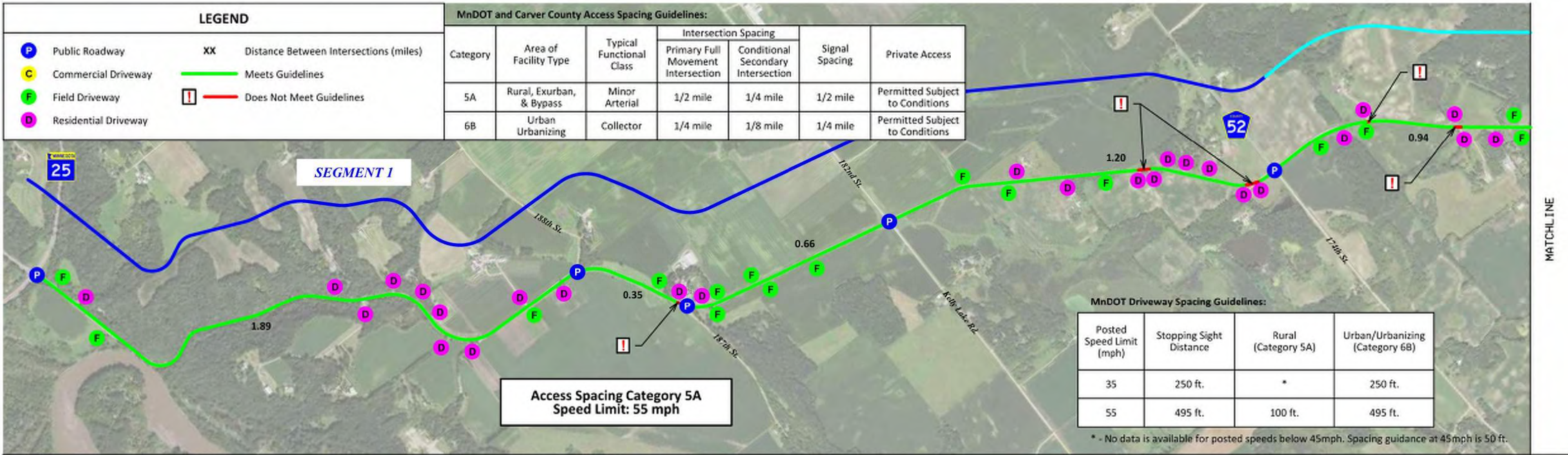
2.2.3 Access Inventory

To help differentiate between various access locations, and to establish a hierarchy for future access management strategies, four categories were utilized: public roadway, commercial driveway, field driveway, and residential driveway. Public roadways are the named and signed intersections (ex: the twelve study intersections – CSAH 50, Homestead Road, Halsey Avenue, etc.). Commercial driveways are accesses into businesses, institutions, and/or locations with a high number of heavy vehicles turning movements. Field driveways are locations that provide access to a field, primarily for farm or agricultural vehicles. Lastly, residential driveways are private accesses for residential use.

The current access spacing of public and private access locations along the corridor match the guidelines for Categories 5A and 6B; however, there are locations that do not match the driveway spacing guidelines. An illustration and description of each access point along the CSAH 40 study corridor, including the locations that did not meet the guidelines (red exclamation points) are shown in **Figure 4**.

³ MnDOT Access Management Manual (MnDOT, January 8, 2008)

⁴ 2040 Carver County Comprehensive Plan (Carver County, February 2020)



CSAH 40 - Carver County



Figure 4
Access Spacing

2.3 EXISTING TRAFFIC DEMAND

Motor vehicle demand, including cars and heavy trucks, directly correlates to the quality of mobility at intersections and will influence the transportation roadway needs along CSAH 40. The existing motor vehicle traffic demands are documented in the following sections.

2.3.1 Historical Annual Average Daily Traffic

Historical annual average daily traffic (AADT) volumes were reviewed along the CSAH 40 corridor, as well as north and south of CSAH 40 along TH 25, utilizing data from MnDOT’s Traffic Mapping Application. **Figure 5** shows a graphical representation of the data. AADT volumes remained relatively constant along CSAH 40 until 2011 when increases in AADT were observed, specifically along the northern end of the corridor. Meanwhile, TH 25 peaked around 2005 and declined until early 2010s and has since started to increase.

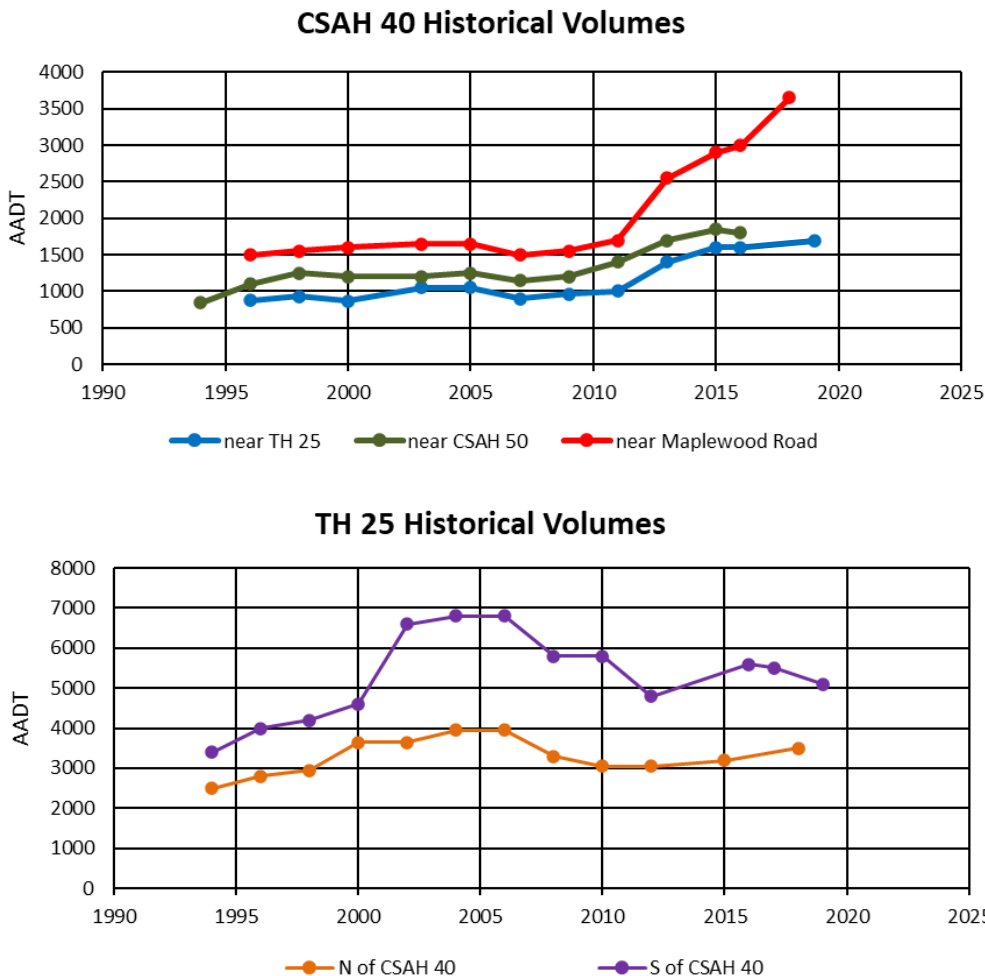


Figure 5. Historical Traffic Volumes

2.3.2 Existing Traffic Volumes

Alliant collected vehicle turning movement counts for the CSAH 40 corridor in December of 2020. The counts included full-intersection, 13-hour turning movement counts at CSAH 40 intersections with CSAH 11, CSAH 50, and TH 25 and 7-hour turning movement counts at Maplewood Road, Halsey Avenue, 154th Street, CSAH 52 / 174th Street, 182nd Street / Kelly Lake Road, and 188th Street. The traffic counts included motor vehicles, heavy vehicles, and pedestrians/bicycles. The network a.m. and p.m. peak hours were observed to be 6:45 to 7:45 a.m. and 3:45 to 4:45 p.m., respectively. Raw traffic counts are included in **Appendix A**.

To adjust for seasonal variations, StreetLight data from 2019 and 2020 was analyzed for the CSAH 40 corridor, generating the hourly seasonal average volume profiles shown in **Figure 6**. Seasonal adjustment factors (SAF) were calculated and applied to both a.m. peak hour (1.362) and p.m. peak hour (1.277) volumes. Existing year 2020 a.m. and p.m. peak hour traffic volumes, after applying the SAFs, are shown in **Figure 7** along with the most recent AADT published by MnDOT⁵.

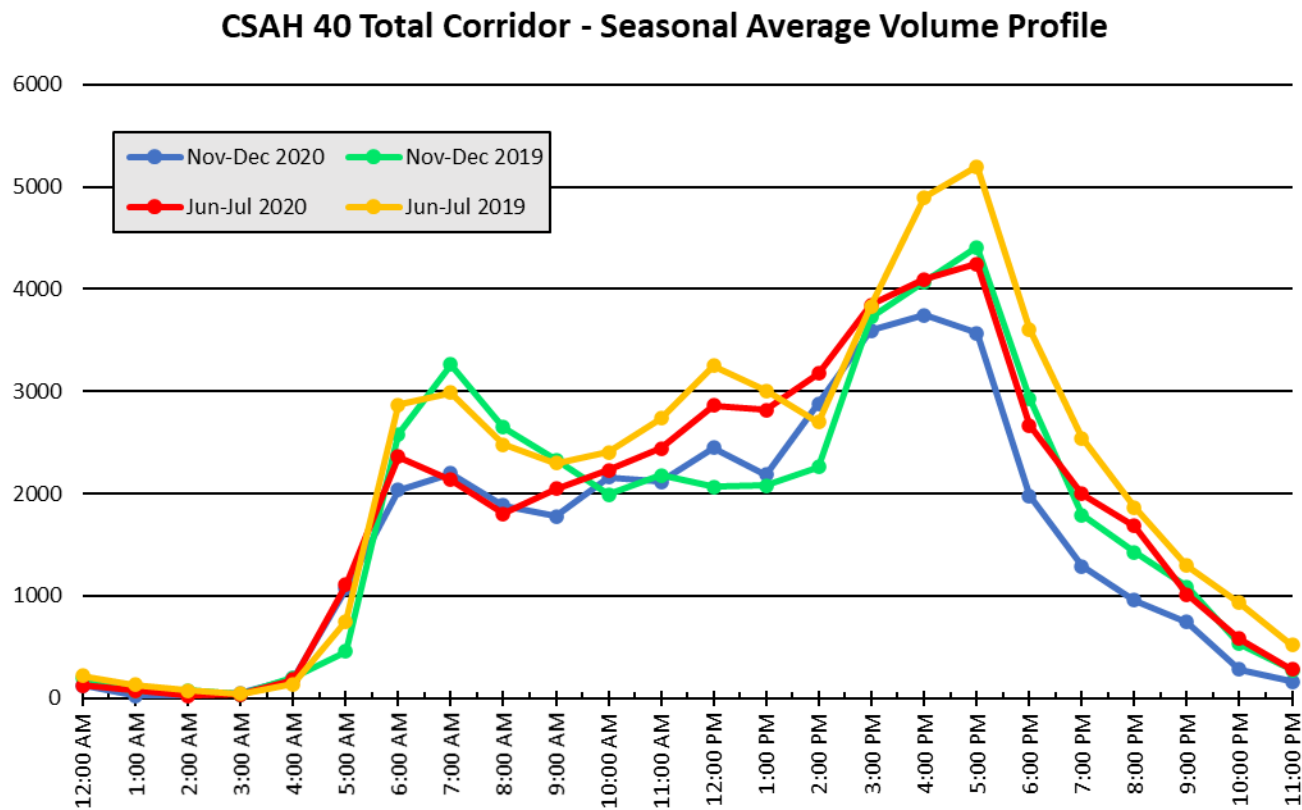
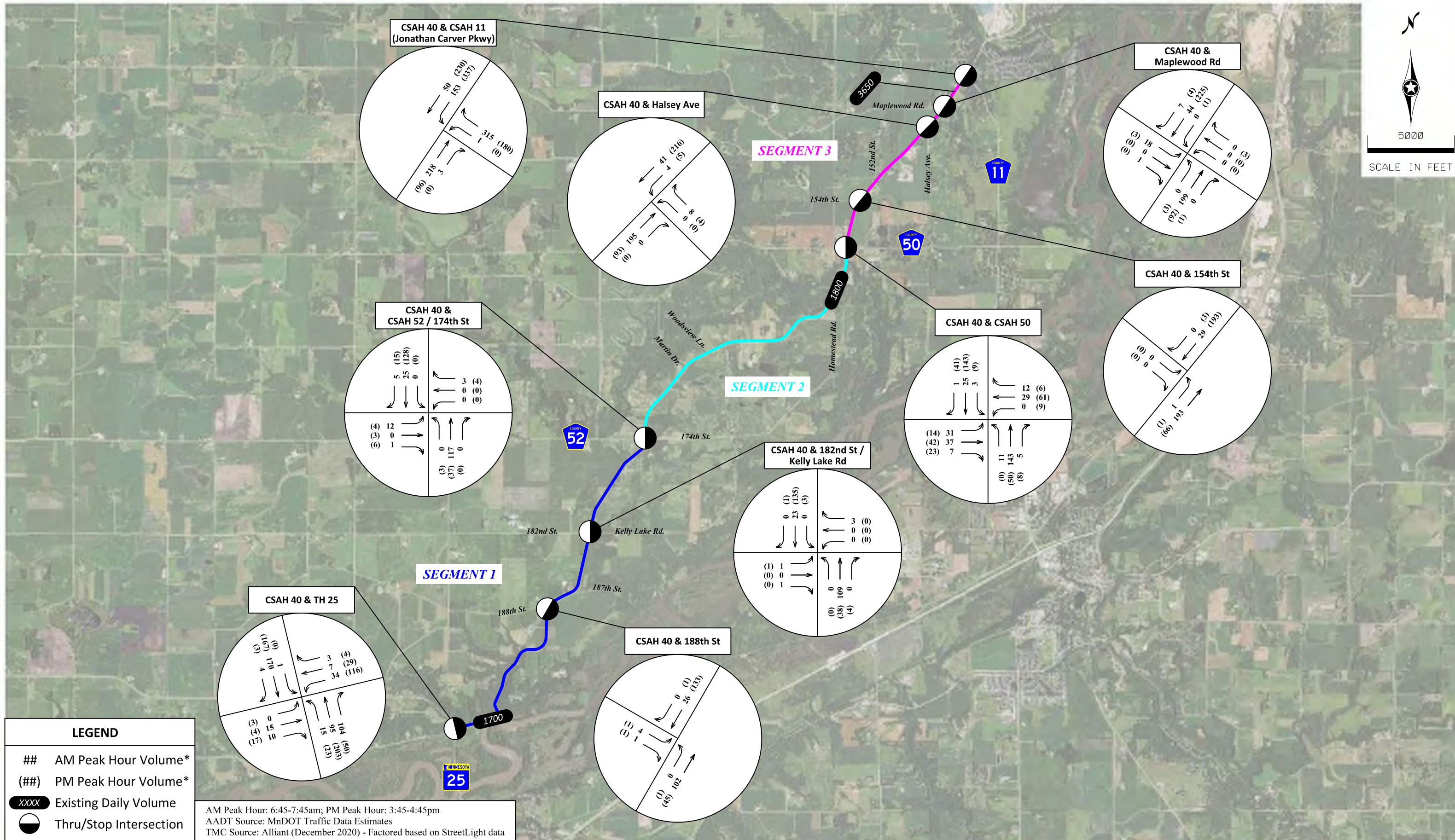


Figure 6. CSAH 40 Vehicle Volume Profile

⁵ MnDOT Traffic Mapping Application (MnDOT, 2021)



CSAH 40 - Carver County

Figure 7
Existing Peak Hour Traffic Volumes



2.4 MULTIMODAL CHARACTERISTICS AND DEMAND

The existing characteristics of the pedestrian, bicycle, and transit network were evaluated. Currently, no pedestrian/bicycle facilities nor transit routes exist along or cross the corridor. There is a school bus stop located near Woodsvew Lane, however, there are no transit buses that serve the corridor. The existing pedestrian/bicycle demands are documented in the following sections.

2.4.1 Pedestrian/Bicycle Counts

Pedestrians and bicycle data was collected via the Alliant turning movement counts, with a total of 13 pedestrians/bicyclists counted along the corridor. A summary by intersection is included in **Table 1**.

Table 1. Pedestrian/Bicycle Volumes

Intersection	Pedestrian / Bicycle Total Volume
CSAH 40 & CSAH 11	0
CSAH 40 & Maplewood Road	0
CSAH 40 & Halsey Avenue	0
CSAH 40 & 154th Street	0
CSAH 40 & CSAH 50	0
CSAH 40 & CSAH 52 - 174th Street	2
CSAH 40 & 182nd Street - Kelly Lake Road	0
CSAH 40 & 188th Street	3
CSAH 40 & TH 25	8

2.4.2 Pedestrian/Bicycle Trends

StreetLight data was utilized to analyze pedestrian and bicycle trends along the CSAH 40 corridor to better understand spring through fall demand. **Figure 8** shows the CSAH 40 corridor weekday and weekend average hourly pedestrian volume profile and **Figure 9** shows the CSAH 40 corridor weekday and weekend average hourly bicycle volume profile. Both profiles show a representation of the demand along the corridor for 2019 and 2020 from spring through fall (S-F). StreetLight is only able to provide estimated demand due to privacy concerns. Based on the StreetLight volume profiles the 2020 volumes were found to be greater than the 2019 volumes.

CSAH 40 Total Corridor - Pedestrian Volume Profile

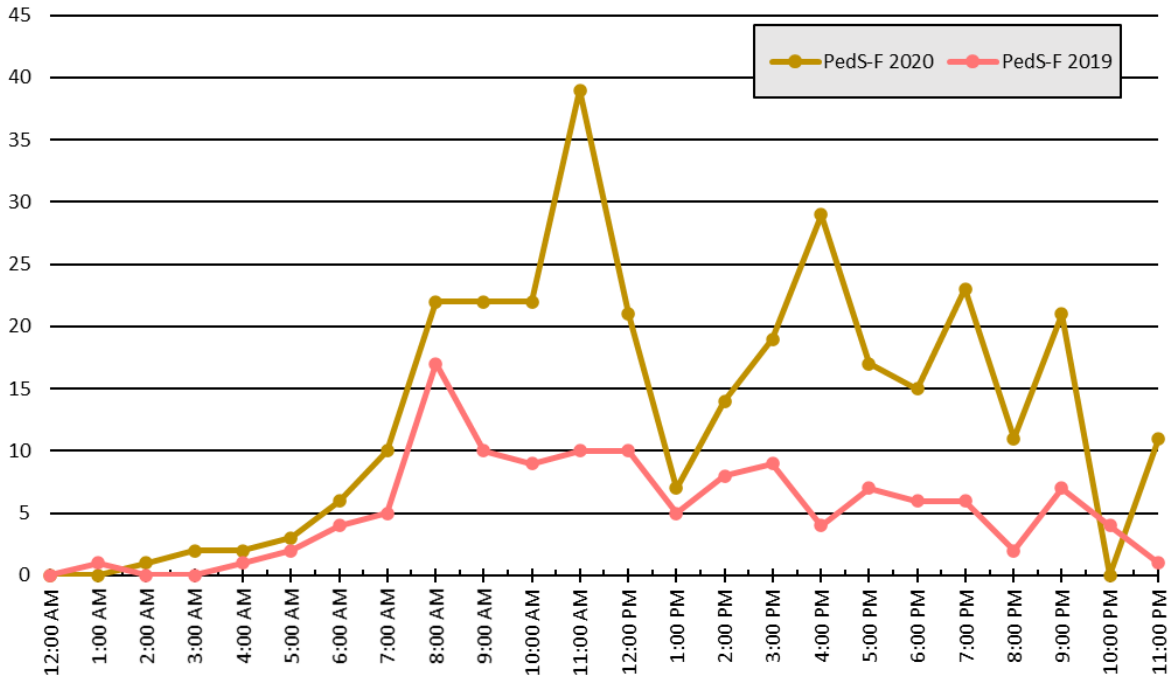


Figure 8. CSAH 40 Pedestrian Volume Profile

CSAH 40 Total Corridor - Bicycle Volume Profile

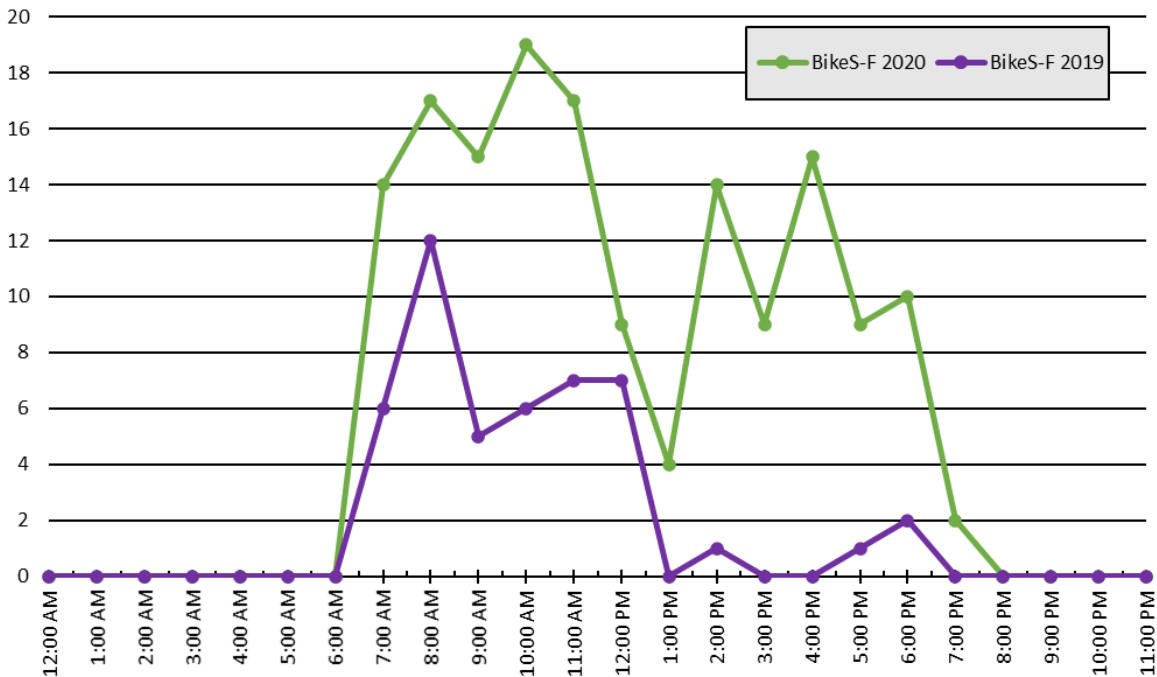


Figure 9. CSAH 40 Bicycle Volume Profile

3. Operational Analysis

3.1 TRAFFIC SIGNAL WARRANTS

A signal warrant analysis was completed for the CSAH 40 & CSAH 50 and TH 25 & CSAH 40 intersections under existing year 2020 volumes. The warrant analyses were conducted in accordance with the Minnesota Manual on Uniform Traffic Control Devices (MnMUTCD)⁶. The following warrants were considered:

- W1 – Eight-Hour Vehicular Volume
- W2 – Four-Hour Vehicular Volume
- W3 – Peak Hour
- W4 – Pedestrian Volume
- W5 – School Crossing
- W6 – Coordinated Signal System
- W7 – Crash Experience
- W8 – Roadway Network
- W9 – Intersection Near a Grade Crossing

Warrant 1, Warrant 2, and Warrant 3 were reviewed under existing traffic volumes. Warrant 7 was reviewed using historical crash data. The remaining traffic signal warrants were not applicable at the intersections or minimum warrant standards were not met. **Table 2** presents a summary of the MnMUTCD signal warrant analyses results. The right-turn volumes on the minor street approaches were or were not included based upon the recommended procedures documented in MnDOT Technical Memorandum 13-05-T-02⁷. Detailed signal warrant analyses results are included in **Appendix B**.

Table 2. Signal Warrant Analyses Summary

Intersection	Scenario	Warrant 1 - Eight-Hour Vehicular Volumes				Warrant 2 - Four-Hour Vehicular Volumes		Warrant 3 - Peak Hour		Warrant 7 - Crash Experience		
		1A	1B	1C	Met?	Hours	Met?	3B	Met?	7B	7C	Met?
CSAH 40 & CSAH 50	Existing 2020	0	0	0	No	0	No	0	No	1	0	No
TH 25 & CSAH 40		3	0	1	No	1	No	0	No	5	4	No ¹

1. Met 7B, 5 right angle/left turn crashes over 12 month period (June 2018 - May 2019).

Results of the signal warrant analyses indicate that a signal is not warranted at either intersection (CSAH 40 & CSAH 50 and TH 25 & CSAH 40) under eight-hour vehicular volumes (Warrant 1), four-hour vehicular volumes (Warrant 2), or peak-hour vehicular volumes (Warrant 3) for existing year 2020 traffic volumes.

Warrant 7 – Crash experience was not met for either intersection. The TH 25 & CSAH 40 intersection met Criteria 7B, five or more reported crashes that were susceptible to correction by a traffic signal within a 12-month period; however, it did not meet the volume component (Criteria 7C).

⁶ Minnesota Manual on Uniform Traffic Control Devices, (MnDOT, February 2015)

⁷ Technical Memorandum 13-05-T-02, MnDOT Engineering Services, Intersection Control Evaluation, (MnDOT, 2013)

3.2 TRAFFIC OPERATIONS ANALYSIS

A traffic operations analysis was completed using Synchro/SimTraffic software under existing year 2020 conditions for CSAH 40 & CSAH 50 and TH 25 & CSAH 40 to evaluate existing intersection performance. Traffic operations analyses provide context to the need for intersection improvements based on intersection capacity by identifying a Level of Service (LOS), which indicates the quality of traffic flow through an intersection. Intersections are given a ranking from LOS A through LOS F. The LOS results are based on average delay per vehicle, which correspond to the delay threshold values shown in **Table 3**.

Table 3. Level of Service Criteria

Level of Service	Description	Delay per Vehicle (seconds)	
		Signalized Intersection	Unsignalized Intersection
A	Free Flow: Low volumes and no delays.	0 - 10	0 - 10
B	Stable Flow: Speeds restricted by travel conditions, minor delays.	> 10 - 20	> 10 - 15
C	Stable Flow: Speeds and maneuverability closely controlled due to higher volumes.	> 20 - 35	> 15 - 25
D	Stable Flow: Speeds considerably affected by change in operating conditions. High density traffic restricts maneuverability, volume near capacity.	> 35 - 55	> 25 - 35
E	Unstable Flow: Low speeds, considerable delay, volume at or slightly over capacity.	> 55 - 80	> 35 - 50
F	Forced Flow: Very low speeds, volume exceed capacity, long delays with stop and go traffic.	> 80	> 50

Source: Highway Capacity Manual, 2010 Edition, Transportation Research Board, Exhibits 18-4 & 19-1.

LOS A indicates the best traffic operation, with vehicles experiencing minimal delays. LOS F indicates an intersection where demand exceeds capacity, or a breakdown of traffic flow. The LOS C/D boundary for overall operations is generally considered the acceptable threshold for operating conditions in greater Minnesota. For side-street stop-controlled intersections, a key measure of operational effectiveness is the side-street LOS where long delays and poor LOS can occur even if the overall intersection is functioning well. Results of the traffic operations analysis are presented in **Table 4**, with detailed results included in **Appendix C**.

Table 4. Operations Analyses Summary

Intersection	AM Peak Hour		PM Peak Hour	
	LOS	Delay (s)	LOS	Delay (s)
CSAH 40 & CSAH 50	A / A	2.5 / 5.8	A / A	3.0 / 6.8
TH 25 & CSAH 40	A / A	1.7 / 6.3	A / A	2.7 / 7.7

Overall Intersection LOS / Worst Approach LOS

Overall Intersection Delay / Worst Approach Delay

Results of the existing year 2020 operational analysis indicate that both intersections, and their side-street approaches, operate at overall LOS A during the a.m. and p.m. peak hours with minimal delay. The Carver County 2040 Comprehensive Plan shows the CSAH 40 corridor having a volume-to-capacity (v/c) ratio less than 0.85 under both existing 2017 and forecast 2040 volumes, indicating that the corridor is uncongested and has a low probability of operational problems due to the volume of traffic on the facility. These intersections do not currently present any capacity issues at this time, nor are they expected to in the immediate future unless traffic volumes or patterns in the study area change drastically with developments or infrastructure improvements.

4. Crash Analysis

4.1 CRASH EXPERIENCE

Historical crash data from the most recent 10 years of data available, 2010 through 2019, was obtained from MnDOT's Crash Mapping Analysis Tool (MnCMAT2) platform. Characteristics have largely remained unchanged during this time and 10 years of data presents a more statistically relevant evaluation than the typically recommended 5-year analysis. Law enforcement narratives were reviewed to ensure data accuracy. Based on the crash data provided there were 3 fatalities reported during the 10-year analysis period along the corridor. The corridor had a significant number of motorcycle crashes, specifically along the horizontal curves of the southernmost segment of CSAH 40 between TH 25 and 188th Street.

4.1.1 Intersection Crash Rate Analysis

History has proven that crashes are a function of exposure. Roadways with higher traffic volumes experience more crashes than similar roadways with lower volumes. Rather than simply documenting the number of crashes that occur at an intersection, the crash rate must be considered. Crash rates normalize different locations with varying traffic volumes, providing a useful tool in comparing the locations with respect to safety. Actual crash rates at specific locations can also be compared to state average or typical values for an intersection type. Intersection crash rates are defined as the number of crashes occurring per million entering vehicles (MEV). **Table 5** summarizes the observed intersection crash rates compared to the statewide averages for similar traffic control types.

Crash occurrence is somewhat random by nature. Identifying every intersection or segment with a crash rate above the statewide average in an analysis would produce a large amount of data that may not be statistically relevant with respect to safety deficiencies. The critical crash rate identifies locations that have a crash rate higher than similar facilities by a statistically significant amount. The critical crash rate is calculated by adjusting the systemwide average based on the amount of exposure and a statistically constant indicating level of confidence⁸. At locations where the observed crash rate exceeds the critical crash rate, it is 99 percent certain that an intersection or segment could be improved through either the modification of the existing traffic control, configuration of the intersection, or modifications to the segment.

The observed 10-year crash rate at CSAH 40 intersections with CSAH 11, CSAH 50, CSAH 52 / 174th Street, and 188th Street were all greater than the statewide average for a rural thru/stop intersection (0.27 crashes / MEV) yet less than the calculated critical rates. Therefore, the number of reported crashes for these intersections would not be considered statistically significant, although the CSAH 40 & CSAH 50 intersection (0.64 crashes / MEV) is approaching its calculated critical rate (0.69 crashes / MEV). The TH 25 & CSAH 40 intersection would be considered statistically significant as this intersection's crash rate (0.66 crashes / MEV) was greater than both the statewide average and the calculated critical rate. A summary of the intersection crash analysis can be found in **Figure 10**. Collision diagrams and detailed crash breakdowns can be found in **Appendix D**.

⁸ MnDOT Traffic Safety Fundamentals Handbook, (MnDOT, August 2015)

Table 5. Intersection Crash Rate

Intersection	Traffic Control	Total Crashes ¹	Total Entering Volume ²	Crash Rate per MEV	State Average Crash Rate ³	Crash Critical Rate ^{4,5}	Crash Severity Rate ⁶	State Average Severity Rate ³	Crash Severity Critical Rate ^{4,5}	K/A Crashes	K/A Rate	State Average K/A Rate	K/A Critical Rate ^{4,5}
CSAH 40 & CSAH 11	Rural Thru/Stop	11	18,195,250	0.60	0.27	0.61	0.77	0.43	0.65	0	0.00	1.14	7.10
CSAH 40 & Maplewood Rd	Rural Thru/Stop	2	10,256,500	0.19	0.27	0.74	0.29	0.43	0.74	0	0.00	1.14	10.29
CSAH 40 & Halsey Ave	Rural Thru/Stop	1	10,256,500	0.10	0.27	0.74	0.29	0.43	0.74	0	0.00	1.14	10.29
CSAH 40 & 152nd St	Rural Thru/Stop	1	10,256,500	0.10	0.27	0.74	0.49	0.43	0.74	1	9.75	1.14	10.29
CSAH 40 & 154th St	Rural Thru/Stop	1	10,256,500	0.10	0.27	0.74	0.29	0.43	0.74	0	0.00	1.14	10.29
CSAH 40 & CSAH 50	Rural Thru/Stop	8	12,423,688	0.64	0.27	0.69	1.13	0.43	0.71	0	0.00	1.14	9.05
CSAH 40 & Homestead Rd	Rural Thru/Stop	1	6,341,875	0.16	0.27	0.88	0.16	0.43	0.84	0	0.00	1.14	14.46
CSAH 40 & CSAH 52	Rural Thru/Stop	3	6,539,888	0.46	0.27	0.87	0.76	0.43	0.84	0	0.00	1.14	14.14
CSAH 40 & 182nd St / Kelly Lake Rd	Rural Thru/Stop	1	5,694,000	0.18	0.27	0.92	0.18	0.43	0.87	0	0.00	1.14	15.66
CSAH 40 & 187th St	Rural Thru/Stop	0	5,511,500	0.00	0.27	0.93	0.00	0.43	0.88	0	0.00	1.14	16.04
CSAH 40 & 188th St	Rural Thru/Stop	2	5,511,500	0.36	0.27	0.93	0.91	0.43	0.88	0	0.00	1.14	16.04
TH 25 & CSAH 40	Rural Thru/Stop	13	19,807,333	0.66	0.27	0.60	1.46	0.43	0.64	1	5.05	1.14	6.74

¹ Crash Data obtained from MnCMAT

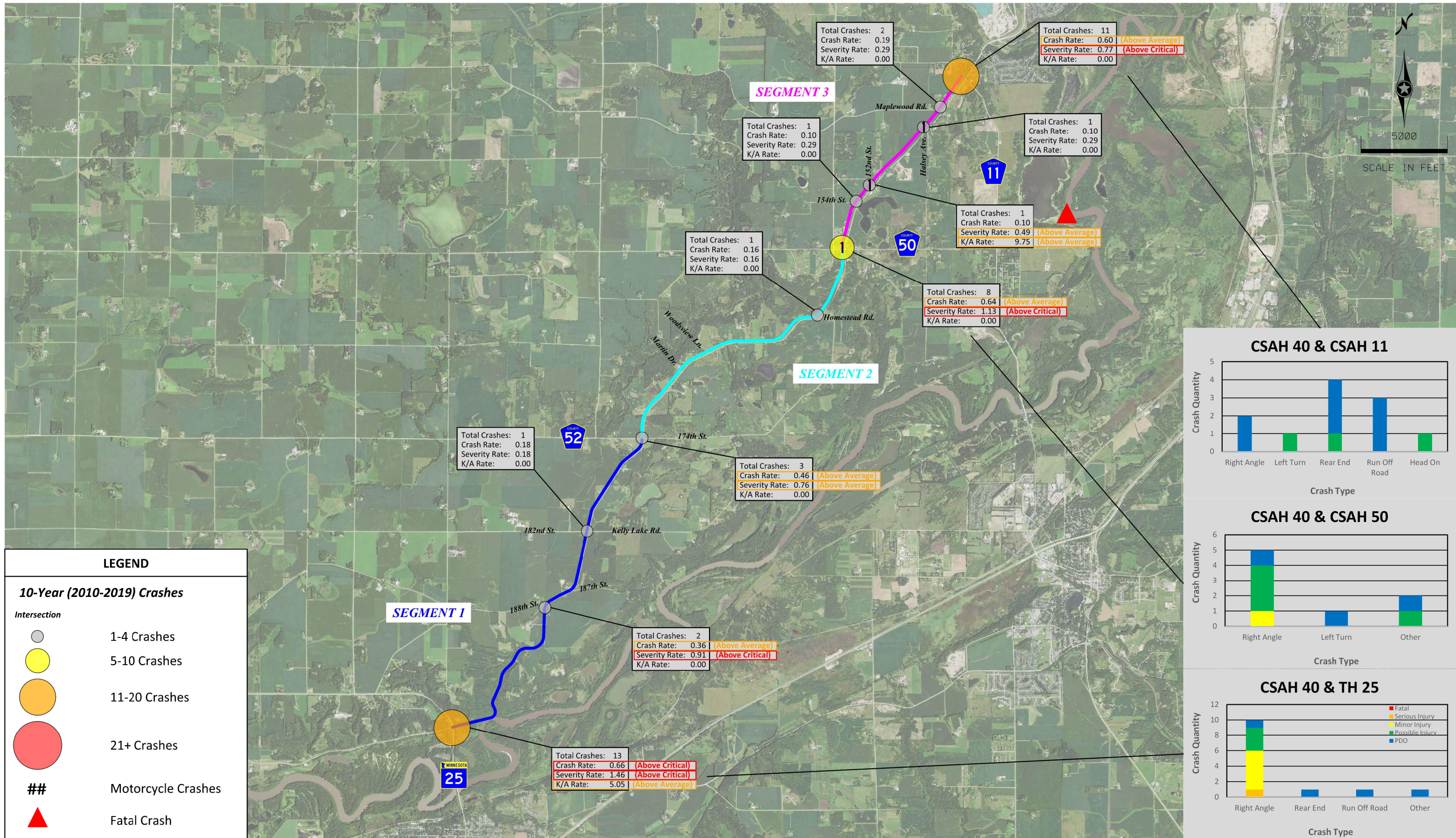
² AADT obtained from MnDOT Traffic Data Map

³ MnDOT's 2015 Green Sheets were used to determine the state average crash rate.

⁴ The critical rate is a statistically adjusted crash rate to account for random nature of crashes

⁵ A 99.5% confidence level was assumed for critical crash rate and an 90% confidence level was assumed for critical severity and K/A rate.

⁶ Severity rate factors: 5 for Fatal Crashes, 4 for A type, 3 for B type, 2 for C type, and 1 for Property Damage Crashes

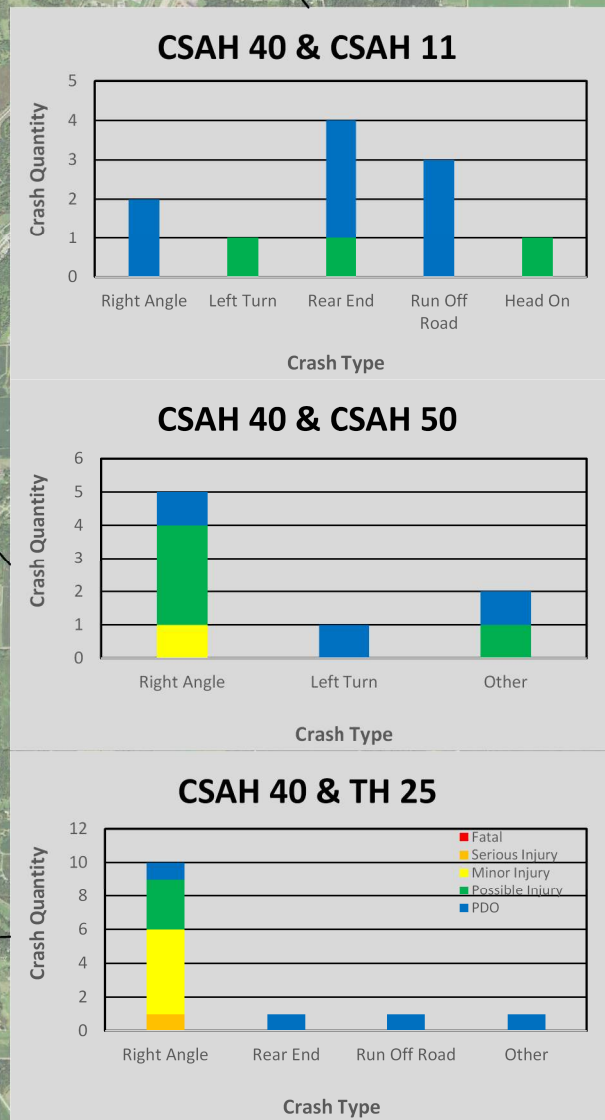


LEGEND

10-Year (2010-2019) Crashes

Intersection

- 1-4 Crashes
- 5-10 Crashes
- 11-20 Crashes
- 21+ Crashes
- ##** Motorcycle Crashes
- Fatal Crash



CSAH 40 - Carver County



Figure 10
Safety Analysis: Intersection

4.1.2 Segment Crash Rate Analysis

Not all crashes occur at an intersection or are considered intersection-related, therefore a segment crash analysis was conducted along the CSAH 40 corridor. Segment crash rates are the number of crashes per million vehicle-miles-traveled (MVMT). **Table 6** summarizes the observed segment crash rates compared to the statewide averages for similar facility types. Segments were made from one public intersection to another public intersection (e.g., Halsey Avenue to Maplewood Road) but did not include crashes already accounted for at those individual intersections. There were two intersection-to-intersection segments that were divided further, approximately in half, creating shorter segments to better understand and analyze the crash data, Homestead Road to CSAH 52 / 174th Street and 188th Street to TH 25.

All segments had an observed 10-year crash rate greater than the statewide average for a rural two-lane roadway (0.32 crashes / MVMT or 0.41 crashes / MVMT depending upon traffic volumes). The segments between CSAH 50 and 182nd Street / Kelly Lake Road and the segments between 187th Street and TH 25 had observed crash rates greater than the calculated critical rates. Therefore, the number of reported crashes for these latter segments would be considered statistically significant. A summary of the segment crash analysis can be found in **Figure 11**.

Table 6. Segment Crash Rate

Segment	Cross-Section	Segment Length (miles)	Total Crashes ¹	Total VMT ²	Crash Rate per MVMT	State Average Crash Rate ³	Crash Critical Rate ^{4, 5}	Crash Severity Rate ⁶	State Average Severity Rate ³	Crash Severity Critical Rate ^{4, 5}	K/A Crashes	K/A Rate	State Average K/A Rate	K/A Critical Rate ^{4, 5}
Maplewood Rd to CSAH 11	Rural 2-Lane (1500-5000 ADT)	0.38	3	3,828,120	0.78	0.32	1.20	1.31	0.53	1.14	0	0.00	1.61	22.99
Halsey Ave to Maplewood Rd	Rural 2-Lane (1500-5000 ADT)	0.28	1	2,820,720	0.35	0.32	1.36	0.35	0.53	1.26	0	0.00	1.61	29.02
152nd St to Halsey Ave	Rural 2-Lane (1500-5000 ADT)	0.85	4	8,562,900	0.47	0.32	0.88	0.47	0.53	0.91	0	0.00	1.61	13.01
154th St to 152nd St	Rural 2-Lane (1500-5000 ADT)	0.21	1	2,115,540	0.47	0.32	1.56	0.47	0.53	1.41	0	0.00	1.61	36.43
CSAH 50 to 154th St	Rural 2-Lane (1500-5000 ADT)	0.52	2	5,238,480	0.38	0.32	1.05	0.38	0.53	1.03	0	0.00	1.61	18.26
Homestead Rd to CSAH 50	Rural 2-Lane (1500-5000 ADT)	0.80	12	4,927,500	2.44	0.32	1.08	4.67	0.53	1.05	0	0.00	1.61	19.09
Woodsview Ln to Homestead Rd	Rural 2-Lane (1500-5000 ADT)	1.33	8	8,191,969	0.98	0.32	0.89	1.10	0.53	0.92	0	0.00	1.61	13.40
CSAH 52 to Woodsview Ln	Rural 2-Lane (1500-5000 ADT)	1.21	19	7,452,844	2.55	0.32	0.92	4.56	0.53	0.94	2	26.84	1.61	14.28
182nd St to CSAH 52	Rural 2-Lane (<1500 ADT)	1.20	17	6,394,800	2.66	0.41	1.14	6.10	0.74	1.25	5	78.19	2.65	18.72
187th St to 182nd St	Rural 2-Lane (<1500 ADT)	0.65	4	3,463,850	1.15	0.41	1.44	1.73	0.74	1.48	0	0.00	2.65	28.30
188th St to 187th St	Rural 2-Lane (<1500 ADT)	0.35	5	1,865,150	2.68	0.41	1.89	5.36	0.74	1.82	0	0.00	2.65	44.74
TH 25 to 188th St (Last 4 curves)	Rural 2-Lane (<1500 ADT)	1.01	12	5,382,290	2.23	0.41	1.21	3.34	0.74	1.31	1	18.58	2.65	20.94
TH 25 to 188th St (First 2 curves)	Rural 2-Lane (<1500 ADT)	0.89	44	4,742,810	9.28	0.41	1.27	20.87	0.74	1.35	7	147.59	2.65	22.78

¹ Crash Data obtained from MnCMAT and detailed police crash reports. Intersection crashes not included in segment analysis.

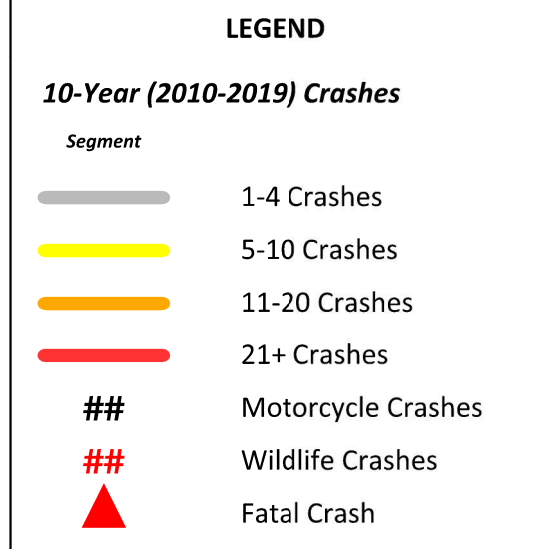
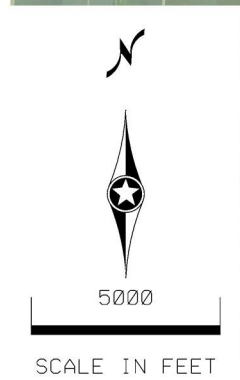
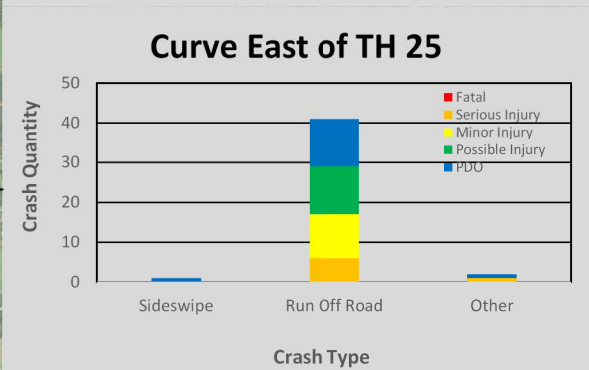
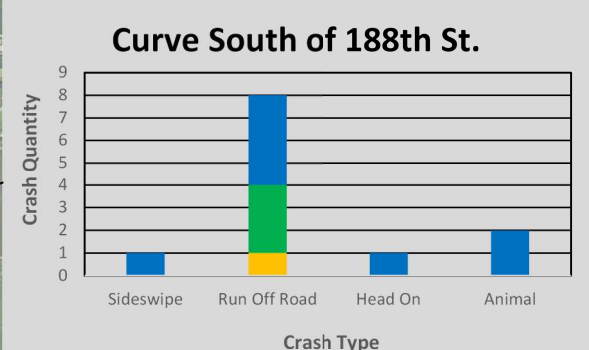
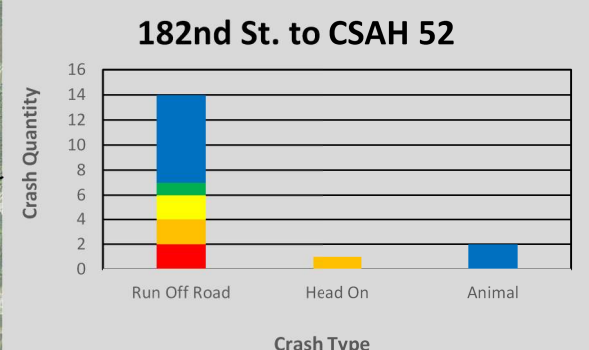
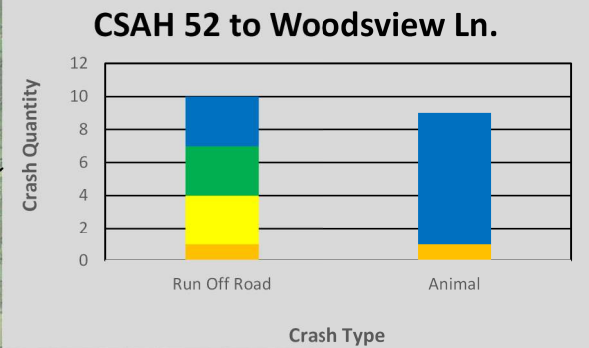
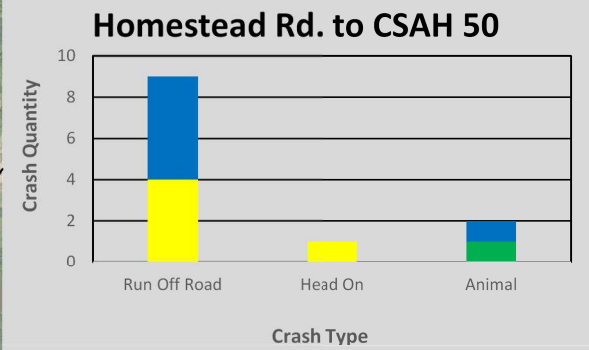
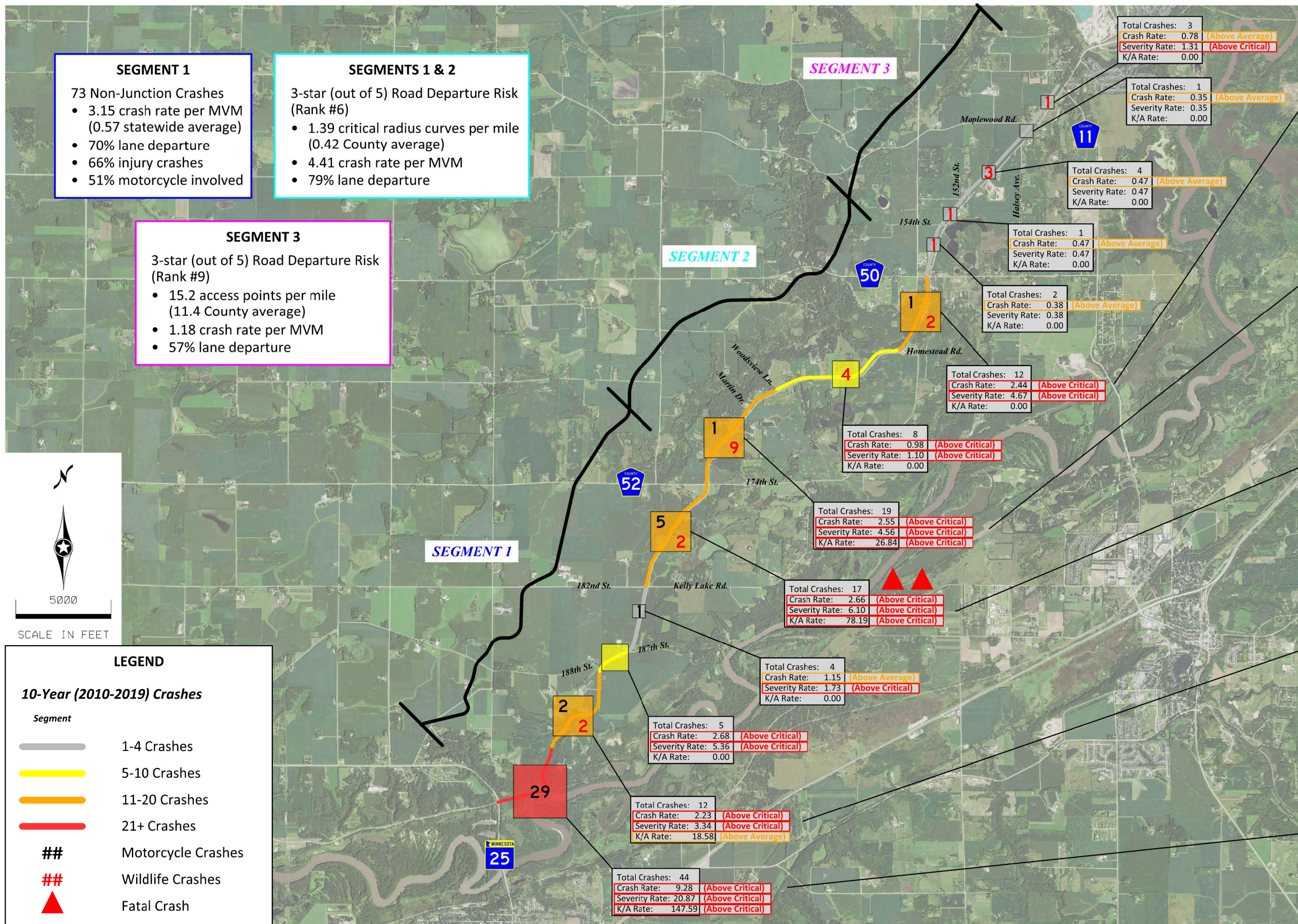
² AADT obtained from MnDOT Traffic Data Map

³ MnDOT's 2015 Green Sheets were used to determine the State average crash rate.

⁴ The critical rate is a statistically adjusted crash rate to account for random nature of crashes

⁵ A 99.5% confidence level was assumed for critical crash rate and an 90% confidence level was assumed for critical severity and K/A rate.

⁶ Severity rate factors: 5 for Fatal Crashes, 4 for A type, 3 for B type, 2 for C type, and 1 for Property Damage Crashes



CSAH 40 - Carver County



Figure 11
Safety Analysis: Segment

4.2 CRASH SEVERITY

Crash severity quantifies how severe the crashes are at a location. The purpose for analyzing this statistic is to identify locations that experience a low crash rate but have a high percentage of injury or fatal crashes. Conversely, locations which have high crash rates and a large proportion of property damage crashes may not warrant as much priority when deficiencies are being addressed. Crashes are categorized into five severities:

- Fatal (Type K)
- Incapacitating Injury (Type A)
- Non-incapacitating Injury (Type B)
- Possible Injury (Type C)
- Property Damage Only (PDO)

4.2.1 Crash Severity Rates

Crash severity rates are calculated using a weighted-scale, applying individual values to each crash by severity starting with five for a fatality (Type K), four with an incapacitating injury (Type A), three for a non-incapacitating injury (Type B), two for a possible injury (Type C), and ending with one for a property damage only (PDO) crash. At an individual location all crashes are added together based on their severity, with the total value then divided by the total entering volume (in millions) to get the resulting crash severity rate.

CSAH 40 & 152nd Street and CSAH 40 & CSAH 52 / 174th Street had crash severity rates greater than the statewide average rate (0.43) but less than their corresponding critical rates, which would not be considered statistically significant. CSAH 40 intersections with CSAH 11, CSAH 50, 188th Street, and TH 25 all had crash severity rates greater than both the statewide average rate and their corresponding critical rates, meaning these locations were found to be statistically significant.

Except for those between Maplewood Road and CSAH 50, all other segments had crash severity rates greater than both the statewide average rate (0.53 or 0.74 depending upon traffic volumes) and their corresponding critical rates, meaning these locations were also found to be statistically significant.

4.2.2 K/A Rates

K/A rate is defined as the number of fatal and incapacitating injury crashes occurring per million entering vehicles (MEV) or million vehicle-miles-traveled (MVMT). There were 3 fatalities reported within the 10-year study period along the CSAH 40 corridor with one at the intersection with 152nd Street (right-angle – motorcycle involved) and two along the segment between CSAH 52 / 174th Street and 182nd Street / Kelly Lake Road (run off road – one of which involved a motorcycle).

CSAH 40 & 152nd Street (1 – Type K) and TH 25 & CSAH 40 (1 – Type A) both had K/A rates greater than the statewide average (1.14 crashes / MEV) yet below the corresponding calculated critical rates, meaning they were not statistically significant. The segment south of 188th Street, approximately halfway to the TH 25 & CSAH 40 intersection (four northern-most curves), had a K/A crash rate (18.58) greater than the statewide average rate (2.65) but less than the corresponding critical rate (20.94). The segment from Woodview Lane to 182nd Street / Kelly Lake Road and the segment consisting of the two southern-most curves between 188th Street and TH 25 were found to have K/A crash rate greater than both the statewide average and their corresponding critical rates.

5. Potential Safety Improvements

The detailed safety analysis completed for CSAH 40, as summarized in the previous section, helped generate a list of corridor deficiencies that would serve as the foundation for potential corridor safety improvements. The Carver County Highway Safety Plan⁹ was referenced to understand improvements already being considered, and how any additional recommendations would fit into the County's plan. To generate a list of potential improvements, the Crash Modification Factors (CMFs) Clearinghouse was utilized to establish CMFs for any County identified safety improvements or those applicable to the CSAH 40 corridor.

CMFs are countermeasures used to calculate the estimated number of crashes after changing or improving a roadway or intersection. Estimating the number of crashes after an improvement is a key element in a benefit-cost evaluation as it provides an expected safety benefit or cost depending upon if the CMF is greater or less than 1.00. CMFs that are greater than 1.00 indicate that more crashes will occur after the improvement, while a CMF less than 1.00 indicates that fewer crashes will occur after the improvement. The *Crash Modification Factors Clearinghouse* is a library of these countermeasures and was used to identify the following CMFs. A summary of the CMFs and other intersection improvements can be found in **Figure 12**.

5.1 CORRIDOR-WIDE IMPROVEMENTS

One geometric improvement that was identified for application corridor-wide was increasing the typical shoulder width from 3 feet to 8 feet. This improvement would result in an estimated crash reduction of 18 percent (CMF of 0.824) and would apply to single vehicle run off road, head on, and sideswipe crashes. The CMF was calculated using tables in the NCHRP Report 783¹⁰ for rural two-lane highway shoulder widths. Additional corridor-wide improvements that could be considered include increasing clear zone distances, improving existing safety barriers (guardrail), and/or revising compound horizontal curves.

⁹ *Carver County Roadway Safety Plan* (Carver County, July 2013)

¹⁰ *National Cooperative Highway Research Program (NCHRP) Report 783: Evaluation of the 13 Controlling Criteria for Geometric Design* (National Academies Press, 2014)

5.2 SEGMENT IMPROVEMENTS

A total of 99 run off the road (ROR) crashes were reported during the 10-year analysis period (2010 to 2019) with approximately two-thirds of the crashes occurring to the right (not crossing the centerline). Segment 1 (TH 25 to CSAH 52) and Segment 2 (CSAH 52 to CSAH 50) had the higher concentration of ROR crashes accounting for 71 and 23 total ROR crashes, respectively. A summary table included on **Figure 12** breaks down these crashes by high-level segment and direction, in addition to a more detailed depiction of crashes at major locations (shorter segments with more than 5 ROR crashes).

Due to the frequency of ROR crashes, installing edgeline/shoulder rumble or mumble strips would be a recommended improvement, with an estimated crash reduction of 17 percent (CMF of 0.839)¹¹ which would apply to ROR crashes that did not cross the centerline (i.e. ROR right crashes). A total of 64 ROR right crashes were reported along CSAH 40 between TH 25 and CSAH 50 (Segments 1 & 2) during the 10-year analysis period, which would reduce to 54 ROR right crashes after improvement over a 10-year period. This would result in an estimated reduction of 1.03 crashes per year.

Many of the ROR crashes occurred along the horizontal curves of the southernmost segment of CSAH 40 between TH 25 and 188th Street. Specific curve improvements, described in the next section, could be made to further increase safety along this segment and potentially reduce the number of ROR crashes even further.

5.3 CURVE IMPROVEMENTS

There are many potential improvements for increasing safety along a horizontal curve, which target a variety of deficiencies that may be contributing to crashes along the corridor such as vehicular speeds, visibility, or weather. The following list identifies potential improvements, with images of each included in **Figure 12**:

- a. Install wide pavement markings (edgelines, lanelines, etc.)
- b. Curve warning pavement markings
- c. Optical speed bar pavement markings
- d. Install lighting
- e. Install dynamic speed feedback sign
- f. Install icy curve warning system
- g. Install dynamic curve warning system
- h. Adjust superelevation (not pictured)
- i. Adjust horizontal curvature (not pictured)
- j. Motorcycle-safe guardrail attachments

5.3.1 Implementation Rankings

A planning-level review of each potential improvement was completed to establish priority based on two key factors: relative cost and potential impact, depicted in **Table 7**. Based on this review, improvements ranked 1A, 1B, 2A, 2B, 3, and 4 would be recommended for implementation. Key takeaways include:

¹¹ Install edgeline or shoulder rumble strips (CMF Clearinghouse ID 9763 – 4 stars)

- Superelevation and horizontal curvature improvements (1A & 1B) are cheaper if included as part of a larger roadway project and may improve safety by increasing the design speed of the roadway.
- Dynamic speed feedback and/or curve warning systems (2A & 2B) actively target vehicular speed and provide motorists direct feedback. One improvement, or a combination of both, could be implemented.
- Pavement marking improvements (3, 4, & 5) are low-cost and could be easily implemented, however, they passively target vehicular speeds and may not improve safety as much as active improvements.
- Improvements such as lighting or icy curve warning systems are not recommended at this time due to the high-cost and limited number of crashes observed under nighttime or snow/icy roadway conditions.

Addressing motorcycle crashes along the corridor is crucial, as motorcycle crashes often result in injuries. However, motorcycle crash narratives were largely inconclusive as to what caused injuries or if guardrail improvements (6) would reduce severity. As a result, motorcycle-safe guardrail attachments are considered for implementation but only after other potential improvements are implemented and/or as funding allows.

5.4 INTERSECTION IMPROVEMENTS

5.4.1 TH 25 & CSAH 40

The TH 25 & CSAH 40 intersection has many side-street right-angle crashes as they make up 10 of the 13 crashes (77 percent). Potential improvements include offsetting the northbound TH 25 right-turn lane (5 of the 10 right-angle crashes involved northbound TH 25 and westbound CSAH 40), adjusting side-street approach (CSAH 40 / CSAH 6) vertical curves and horizontal alignments, and installing additional intersection lighting (currently there is one lighting unit). Installing additional lighting could result in an estimated crash reduction of 32 percent (CMF of 0.68)¹² and would be forecasted to reduce approximately 1.3 crashes per 10-year period. Added intersection lighting is consistent with the County Road Safety Plan. A separate study, which would include the development of a recommended layout for this intersection, should be completed in preparation for an HSIP application.

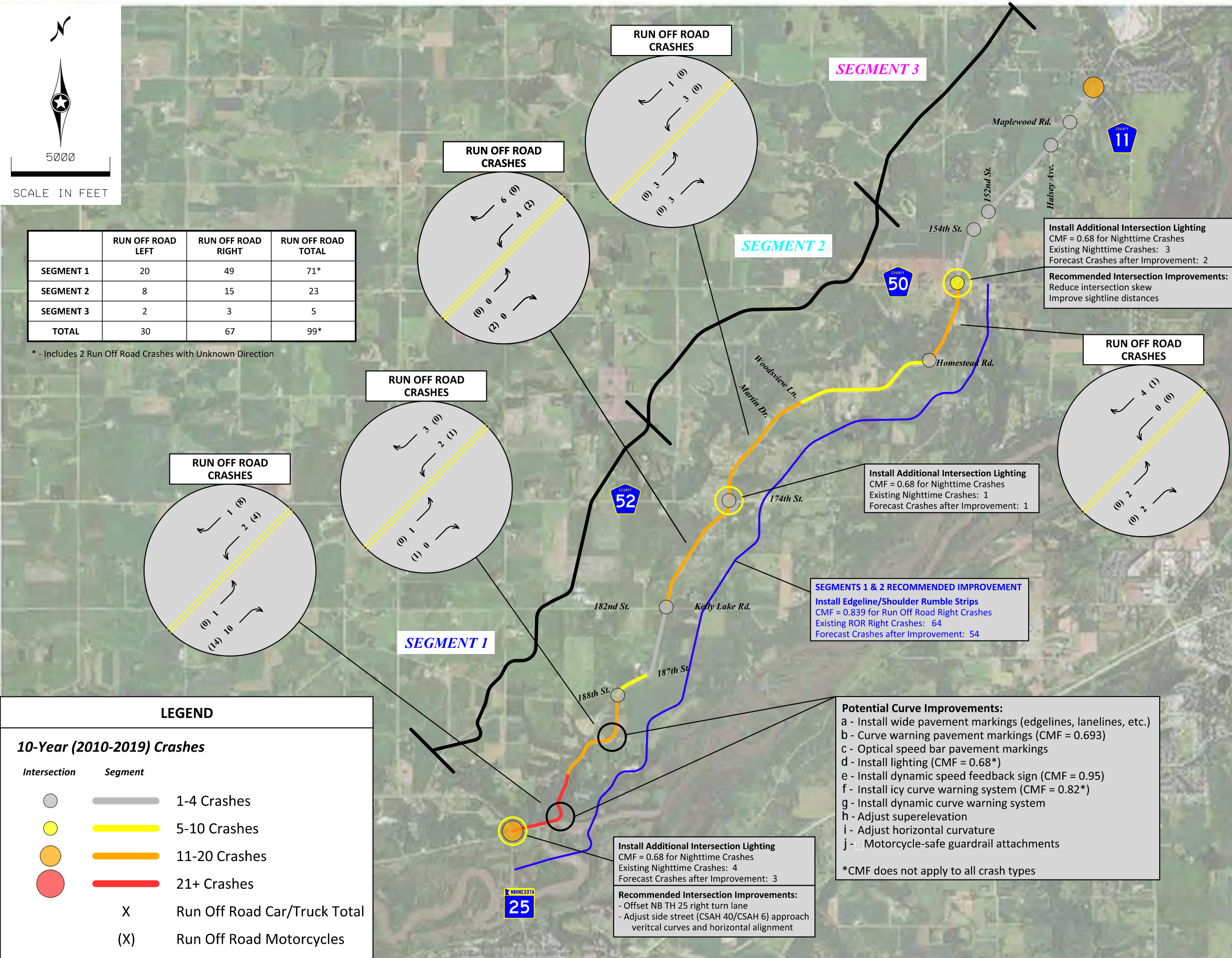
5.4.2 CSAH 40 & CSAH 52 / 174th Street

A potential improvement to the CSAH 40 & CSAH 52 / 174th Street intersection is to install additional intersection lighting (currently there is one lighting unit) which could result in an estimated crash reduction of 32 percent (CMF of 0.68)¹² and would be forecasted to reduce 0.32 crashes per 10-year period. All three crashes that were reported at this intersection during the 10-year analysis period were vehicles running off the road into the southeast quadrant. Added intersection lighting is consistent with the County Road Safety Plan.

5.4.3 CSAH 40 & CSAH 50

Potential improvements for the CSAH 40 & CSAH 50 intersection include reducing the intersection skew, improving the sightline distances, and installing additional intersection lighting (currently there is one lighting unit). Installing additional lighting could result in an estimated crash reduction of 32 percent (CMF of 0.68)¹² and would be forecasted to reduce approximately 0.96 crashes per 10-year period. Added intersection lighting is consistent with the County Road Safety Plan.

¹² Install lighting (CMF Clearinghouse ID 7776 – 4 stars)



	RUN OFF ROAD LEFT	RUN OFF ROAD RIGHT	RUN OFF ROAD TOTAL
SEGMENT 1	20	49	71*
SEGMENT 2	8	15	23
SEGMENT 3	2	3	5
TOTAL	30	67	99*

* - Includes 2 Run Off Road Crashes with Unknown Direction

LEGEND

10-Year (2010-2019) Crashes

Intersection	Segment	Crashes
○	—	1-4 Crashes
●	—	5-10 Crashes
●	—	11-20 Crashes
●	—	21+ Crashes
X		Run Off Road Car/Truck Total
(X)		Run Off Road Motorcycles

POTENTIAL CURVE IMPROVEMENTS

Potential Curve Improvements:

- a - Install wide pavement markings (edgelines, lanelines, etc.)
- b - Curve warning pavement markings (CMF = 0.693)
- c - Optical speed bar pavement markings
- d - Install lighting (CMF = 0.68*)
- e - Install dynamic speed feedback sign (CMF = 0.95)
- f - Install icy curve warning system (CMF = 0.82*)
- g - Install dynamic curve warning system
- h - Adjust superelevation
- i - Adjust horizontal curvature
- j - Motorcycle-safe guardrail attachments

*CMF does not apply to all crash types

Recommended Corridor-Wide Improvements:

- Increase shoulder widths (from 3 ft. to 8 ft.) (CMF = 0.824*)

Potential Corridor-Wide Improvements:

- Increase clear zone distances
- Improve safety barriers
- Remove compound horizontal curves

*CMF does not apply to all crash types

Table 7. Implementation Rankings: Potential Curve Improvements

Rank	Potential Curve Improvement	Assumptions	Estimated Cost	Relative Cost	Potential Impact	Explanation
1A	Adjust superelevation	Increase in cost is included in roadway design and minimal relative to overall construction cost.	-	MEDIUM	MEDIUM	Improves drivability of curves, may increase design speed.
1B	Adjust horizontal curvature	Increase in cost is included in roadway design and minimal relative to overall construction cost.	-	HIGH	MEDIUM	Improves drivability of curves, may increase design speed.
2A	Install dynamic speed feedback sign	MnDOT average bid prices are roughly \$2k per sign plus cost of power, assume 2 signs at both curves.	\$10k+	MEDIUM	HIGH	Actively targets advisory vehicle speeds entering curves. May change driver behavior more than pavement markings alone.
2B	Install dynamic curve warning system ¹	TAPCO provided quote for hard-wired system ranges from \$30k to \$50k. Does not include installation or power run.	\$30k-\$50k+	HIGH	MEDIUM	Actively targets vehicle speeds and nighttime visibility. May change driver behavior throughout the day.
3	Install wide pavement markings ²	MnDOT average bid prices are roughly \$1 / LF more for 8" versus 6" striping, assumes 3 lines and 2,000 LF.	\$6k	LOW	LOW	Improves visibility of lane lines throughout curves.
4	Optical speed bar pavement markings	Additional pavement markings are a low-cost improvement and were not calculated.	-	LOW	MEDIUM	Passively targets vehicle speeds entering curves.
5	Curve warning pavement markings	Additional pavement markings are a low-cost improvement and were not calculated.	-	LOW	LOW	Passively targets vehicle speeds entering curves.
6	Motorcycle-safe guardrail attachment ³	MnDOT average bid prices are \$30 / LF for guardrail, assumes 1,000 LF (current length of guardrail).	\$30k+	HIGH	LOW	Does not eliminate motorcycle crashes but may reduce severity.
N/A	Install lighting ¹	MnDOT average bid prices for a lighting system range from \$50k to \$100k plus cost of power.	\$50k-\$100k+	HIGH	LOW	Passively targets nighttime visibility despite minimal crashes. Provides for better visibility than dynamic warning system.
N/A	Install icy curve warning system ⁴	Cost is extremely variable based on components (ex: flashing sign vs DMS) but is relatively high.	\$30k-\$50k+	HIGH	LOW	Actively targets weather effects despite minimal crashes.

¹ Of the 44 crashes observed: 3 occurred in the dark, 4 occurred at dusk or dawn

² 6" MC Ground-In (WR) is \$0.73/LF, 8" MC Ground-In (WR) is \$1.75/LF

³ Motorcycle crash narratives are inconclusive in regard to what caused injuries and/or if guardrail improvements would help

⁴ Of the 44 crashes observed: 1 occurred with a snow/icy roadway surface, 3 occurred with a wet roadway surface

6. CSAH 40 / CSAH 43 Realignment

6.1 ALTERNATIVE DISCUSSION

A realignment of CSAH 40 and CSAH 43 between 154th Street and Homestead Road, which would effectively reduce traffic along Jonathan Carver Parkway (expected to exceed capacity in the future), was previously discussed by Carver County at a high-level and shown in the Carver County 2030 Comprehensive Plan. The resulting realignment would make CSAH 40 to CSAH 43 the primary through movement, tying into a future interchange at the TH 212 / CSAH 43 intersection. Details regarding the two potential alternatives were shared by Carver County, with descriptions included below as well as high-level conceptual drawings in **Figure 13**.

- **Pink:** Realign CSAH 43 to the east with two horizontal curves, providing a newly constructed T-intersection between the two curves for the existing CSAH 40 movement to the northeast.
- **Red:** Realign CSAH 40 to the west, utilizing two existing intersections of CSAH 43 / 154th Street and CSAH 43 / CSAH 50 to provide the existing CSAH 40 movement to the northeast.

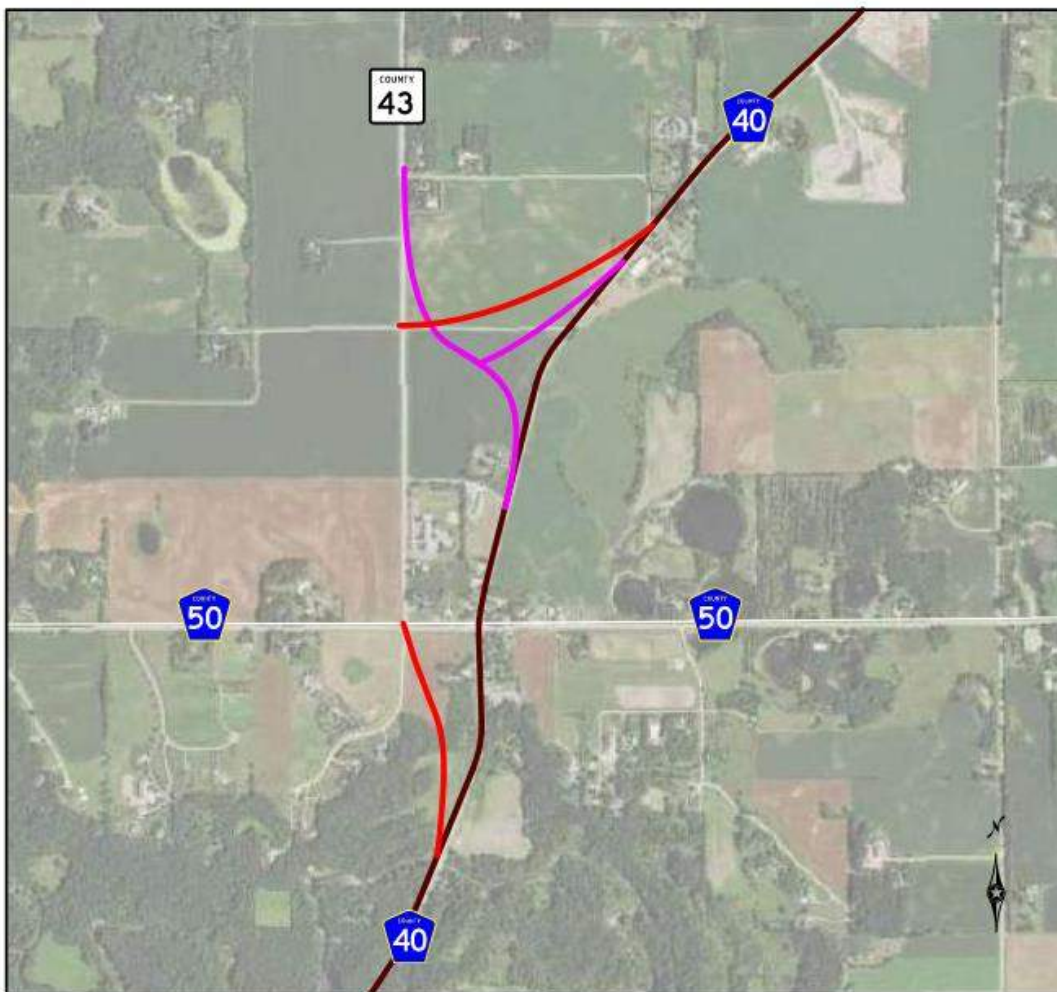


Figure 13. CSAH 40 / CSAH 43 Realignment Alternatives

To understand the safety implications of a potential realignment of CSAH 40 between 154th Street and Homestead Road an additional safety analysis was completed. The pink alternative would require CSAH 40 to intersect in between two new horizontal curves, albeit in a fairly open area. Both alternatives may require southbound CSAH 40 motorists to make a left-turn through a stop-controlled intersection, although additional changes could make CSAH 40 / CSAH 43 the preferred route north of the realignment and decrease the volumes for this movement. The drawback of the red alternative is that the proposed horizontal curve south of CSAH 50 is rerouting through a wooded area with elevation changes and may not be an improvement over the existing roadway configuration. Furthermore, the red alternative could potentially introduce two left-turns for southbound CSAH 40 if the southern portion was not built.

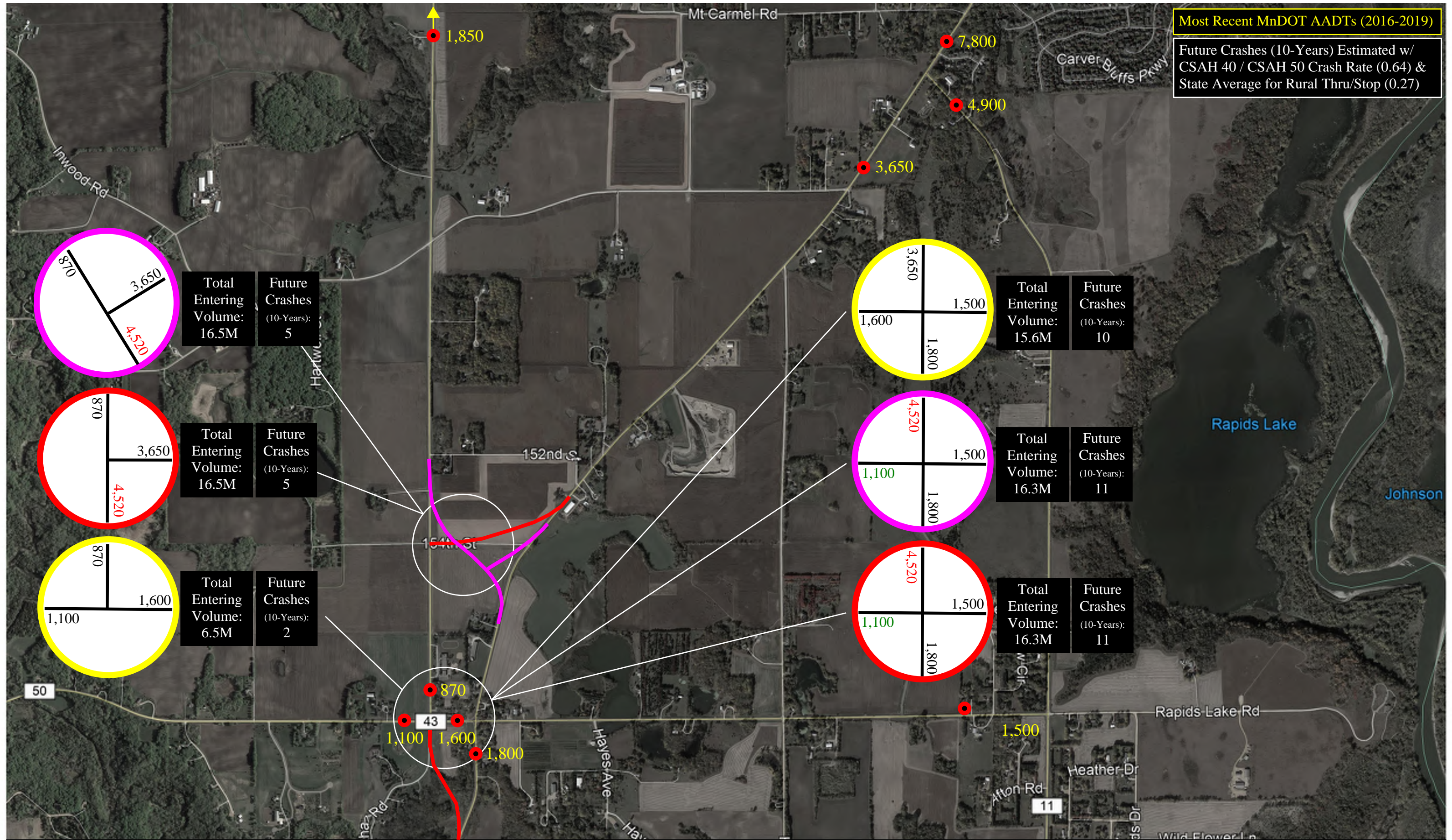
6.2 CRASH ANALYSIS

Crash data was provided by Carver County for CSAH 40 from 154th Street (first intersection north of CSAH 50) to Homestead Road (first intersection south of CSAH 50). A total of 24 crashes occurred within the 10-year analysis period (2010 to 2019) with 10 intersection-related and 14 segment-related crashes. Based on this crash data, and a review of law enforcement narratives, we can make the following conclusions:

- The CSAH 40 & CSAH 50 intersection accounted for 33 percent of all crashes (8 out of 24) within the realignment limits and 80 percent of intersection-related crashes (8 out of 10), with 5 of them being angle crashes (4 out of 5 involving westbound motorists).
- Nearly half of crashes within the realignment limits were run off the road crashes (11 out of 24), which were more frequent south of CSAH 50 (10 out of 11) than north of CSAH 50 (1 out of 11) – it is important to note that it is often difficult to determine exact locations for segment crashes and many of the crashes between CSAH 50 and Homestead Road may be beyond the realignment limits.
 - A ROR motorcycle accident (Type B) occurred along the south segment in 2012, speed related
 - Southbound CSAH 40 motorcycle – 11:42 am, early June
- Three (3 out of 24) animal related crashes, one north and two south of CSAH 50.
- A motorcycle fatality occurred at 152nd Street in 2014, outside the realignment limits.
 - Southbound CSAH 40 motorcycle – 7:16 am, late October

An additional review of crashes along CSAH 43 between Carver Creek and CSAH 50 was completed to understand any safety concerns with utilizing this stretch of the CSAH 43 corridor. It was determined that no crashes occurred south of 152nd Street, including at the intersection of CSAH 43 & CSAH 50. Per alternative sketches provided by Carver County, both alternatives would tie in south of 152nd Street.

To predict future crashes at the CSAH 40 & CSAH 50 intersection, and any intersections where traffic volumes were impacted due to a potential realignment, the most recent AADTs from MnDOT's Traffic Mapping Application were used. The resulting estimates for million entering vehicles (MEV) at each intersection, in addition to future crashes, over the next 10-years is shown in **Figure 14**. Both the pink and red alternative would result in an increase in AADTs along the north leg of the CSAH 40 & CSAH 50 intersection, a decrease along the west leg, and result in an increase in one crash over the 10-year period due to higher overall AADTs. CSAH 50 & CSAH 43, which had no crashes during the analysis period, would be replaced in both alternatives with a newly constructed T-intersection near 154th Street which would see an estimated 5 crashes over the next 10-years based on statewide average crash rates for a rural through/stop intersection.



CSAH 40 - Carver County

Figure 14
Safety Analysis: CSAH 40 / CSAH 43 Realignment



6.3 REALIGNMENT CONCLUSION

With a potential realignment, and corresponding shift of traffic volumes, both alternatives may impact safety at the CSAH 40 / CSAH 50 intersection. Traffic volumes for the side-street movements may be reduced, however, an increase in mainline volumes may make crossing movements more difficult and cancel out any potential crash reductions. Curvature concerns are unlikely to be removed entirely, rather replaced by new curvature concerns either to the north (pink) or the south (red) depending on the alternative. Neither alternative would address the 2014 fatality at 152nd Street, which occurred outside the limits of the proposed realignment. Realigning CSAH 40 per the red alternative would divert traffic away from several residential driveways, however, this traffic would instead pass by East Union Elementary School within one-quarter mile of CSAH 50.

Until improvements are made at the US 212 & CSAH 43 intersection a high percentage of vehicles will continue to utilize CSAH 40, resulting in CSAH 40 southbound motorists making left-turns at the newly created T-intersection in the vicinity of the existing 154th Street intersection. If a realignment is pursued in the future, further evaluation would be needed to understand potential safety or operational issues at the CSAH 40 & CSAH 50 intersection (or its relocated counterpart) as future volumes increase or design characteristics of either intersection are finalized.

Appendix A: Turning Movement Count Data

ALLIANT ENGINEERING, INC.

733 S Marquette Ave #700, Minneapolis, MN 55402

Intersection: CSAH 40 & CSAH 11 (Jonathan Carver Pkwy)
 Date: 12/8/2020
 Duration: 6:00-19:00

Site Code: 101
 Ref Pt: N/A
 Page No: 1 of 4

All Vehicles (Cars & Trucks) Printed

Start Time	CSAH 40 Southbound						CSAH 11 (Jonathan Carver Pkwy) Westbound						CSAH 40 Northbound						N/A Eastbound						Int. Veh. Total	Int. Ped/ Bike Total	
	U-Turn	Left	Thru	Right	App. Total	Peds/ Bikes	U-Turn	Left	Thru	Right	App. Total	Peds/ Bikes	U-Turn	Left	Thru	Right	App. Total	Peds/ Bikes	U-Turn	Left	Thru	Right	App. Total	Peds/ Bikes			
6:00	--	4	1	--	5	--	--	--	43	43	--	--	--	24	--	24	--	--	--	--	--	--	0	--	72	--	
6:15	--	15	3	--	18	--	--	1	--	44	45	--	--	--	34	--	34	--	--	--	--	--	0	--	97	--	
6:30	--	16	4	--	20	--	--	2	--	64	66	--	--	--	27	--	27	--	--	--	--	--	0	--	113	--	
6:45	--	22	12	--	34	--	--	1	--	48	49	--	--	--	39	--	39	--	--	--	--	--	0	--	122	--	
Hour Total	--	57	20	--	77	--	--	4	--	199	203	--	--	--	124	--	124	--	--	--	--	--	--	0	--	404	--
7:00	--	11	5	--	16	--	--	--	50	50	--	--	--	50	1	51	--	--	--	--	--	--	0	--	117	--	
7:15	--	39	7	--	46	--	--	--	69	69	--	--	--	39	1	40	--	--	--	--	--	--	0	--	155	--	
7:30	--	40	13	--	53	--	--	--	64	64	--	--	--	32	--	32	--	--	--	--	--	--	0	--	149	--	
7:45	--	31	13	--	44	--	--	1	--	51	52	--	--	--	34	1	35	--	--	--	--	--	0	--	131	--	
Hour Total	--	121	38	--	159	--	--	1	--	234	235	--	--	--	155	3	158	--	--	--	--	--	--	0	--	552	--
8:00	--	18	8	--	26	--	--	1	--	46	47	--	--	--	26	--	26	--	--	--	--	--	0	--	99	--	
8:15	--	18	13	--	31	--	--	--	39	39	--	--	--	28	1	29	--	--	--	--	--	--	0	--	99	--	
8:30	--	24	9	--	33	--	--	--	41	41	--	--	--	25	--	25	--	--	--	--	--	--	0	--	99	--	
8:45	--	31	8	--	39	--	--	2	--	41	33	--	--	--	24	1	25	--	--	--	--	--	0	--	97	--	
Hour Total	--	91	38	--	129	--	--	3	--	157	160	--	--	--	103	2	105	--	--	--	--	--	--	0	--	394	--
9:00	--	22	10	--	32	--	--	--	22	22	--	--	--	18	--	18	--	--	--	--	--	--	0	--	72	--	
9:15	--	14	22	--	36	--	--	1	--	25	26	--	--	--	14	1	15	--	--	--	--	--	0	--	77	--	
9:30	--	20	10	--	30	--	--	--	37	37	--	--	--	19	1	20	--	--	--	--	--	--	0	--	87	--	
9:45	--	19	17	--	36	--	--	--	25	25	--	--	--	16	--	16	--	--	--	--	--	--	0	--	77	--	
Hour Total	--	75	59	--	134	--	--	1	--	109	110	--	--	--	67	2	69	--	--	--	--	--	--	0	--	313	--
10:00	--	18	21	--	39	--	--	--	27	27	--	--	--	22	1	23	--	--	--	--	--	--	0	--	89	--	
10:15	--	14	7	--	21	--	--	1	--	29	30	--	--	--	23	--	23	--	--	--	--	--	0	--	74	--	
10:30	--	17	15	--	32	--	--	--	33	33	--	--	--	16	--	16	--	--	--	--	--	--	0	--	81	--	
10:45	--	22	13	--	35	--	--	--	17	17	--	--	--	15	--	15	--	--	--	--	--	--	0	--	67	--	
Hour Total	--	71	56	--	127	--	--	1	--	106	107	--	--	--	76	1	77	--	--	--	--	--	--	0	--	311	--
11:00	--	26	16	--	42	--	--	1	--	29	30	--	--	--	13	--	13	--	--	--	--	--	0	--	85	--	
11:15	--	24	16	--	40	--	--	--	25	25	--	--	--	15	1	16	--	--	--	--	--	--	0	--	81	--	
11:30	--	21	15	--	36	--	--	--	24	24	--	--	--	14	--	14	--	--	--	--	--	--	0	--	74	--	
11:45	--	33	13	--	46	--	--	1	--	17	18	--	--	--	23	1	24	--	--	--	--	--	0	--	88	--	
Hour Total	--	104	60	--	164	--	--	2	--	95	97	--	--	--	65	2	67	--	--	--	--	--	--	0	--	328	--
12:00	--	23	20	--	43	--	--	--	22	22	--	--	--	14	--	14	--	--	--	--	--	--	0	--	79	--	
12:15	--	35	17	--	52	--	--	--	27	27	--	--	--	18	1	19	--	--	--	--	--	--	0	--	98	--	
12:30	--	21	19	--	40	--	--	2	--	29	31	--	--	--	11	--	11	--	--	--	--	--	0	--	82	--	
12:45	--	29	26	--	55	--	--	--	25	25	--	--	--	12	--	12	--	--	--	--	--	--	0	--	92	--	
Hour Total	--	108	82	--	190	--	--	2	--	103	105	--	--	--	55	1	56	--	--	--	--	--	--	0	--	351	--
13:00	--	25	19	--	44	--	--	--	24	24	--	--	--	24	--	24	--	--	--	--	--	--	0	--	92	--	
13:15	--	24	11	--	35	--	--	1	--	30	31	--	--	--	18	2	20	--	--	--	--	--	0	--	86	--	
13:30	--	34	18	--	52	--	--	--	24	24	--	--	--	22	--	22	--	--	--	--	--	--	0	--	98	--	
13:45	--	31	11	--	42	--	--	--	29	29	--	--	--	12	--	12	--	--	--	--	--	--	0	--	83	--	
Hour Total	--	114	59	--	173	--	--	1	--	107	108	--	--	--	76	2	78	--	--	--	--	--	--	0	--	359	--
14:00	--	24	22	--	46	--	--	--	33	33	--	--	--	14	2	16	--	--	--	--	--	--	0	--	95	--	
14:15	--	38	39	--	77	--	--	--	33	33	--	--	--	15	--	15	--	--	--	--	--	--	0	--	125	--	
14:30	--	39	25	--	64	--	--	--	38	38	--	--	--	24	--	24	--	--	--	--	--	--	0	--	126	--	
14:45	--	46	40	--	86	--	--	1	--	35	36	--	--	--	16	--	16	--	--	--	--	--	0	--	138	--	
Hour Total	--	147	126	--	273	--	--	1	--	139	140	--	--	--	69	2	71	--	--	--	--	--	--	0	--	484	--
15:00	--	41	27	--	68	--	--	--	25	25	--	--	--	23	--	23	--	--	--	--	--	--	0	--	116	--	
15:15	--	60	47	--	107	--	--	--	33	33	--	--	--	19	--	19	--	--	--	--	--	--	0	--	159	--	
15:30	--	62	29	--	91	--	--	--	56	56	--	--	--	18	1	19	--	--	--	--	--	--	0	--	166	--	
15:45	--	55	62	--	117	--	--	--	21	21	--	--	--	25	--	25	--	--	--	--	--	--	0	--	163	--	
Hour Total	--	218	165	--	383	--	--	--	135	135	--	--	--	85	1	86	--	--	--	--	--	--	--	0	--	604	--
16:00	--	71	33	--	104	--	--	--	36	36	--	--	--	20	--	20	--	--	--	--	--	--	0	--	160	--	
16:15	--	77	49	--	126	--	--	--	40	40	--	--	--	18	--	18	--	--	--	--	--	--	0	--	184	--	
16:30	--	61	36	--	97	--	--	--	44	44	--	--	--	12	--	12	--	--	--	--	--	--	0	--	153	--	
16:45	--	76	41	--	117	--	--	1	--	35	36	--	--	--	19	1	20	--	--	--	--	--	0	--	173	--	
Hour Total	--	285	159	--	444	--	--	1	--	155	156	--	--	--	69	1	70	--	--	--	--	--	--	0	--	670	--
17:00	--	48	36	--	84	--	--	1	--	26	27	--	--	--	15	--	15	--	--	--	--	--	0	--	126	--	
17:15	--	59	46	--	105	--	--	--	38	38	--	--	--	9	--	9	--	--	--	--	--	--	0	--	152	--	
17:30	--	59	28	--	87	--	--	2	--	33	35	--	--	--	19	--	19	--	--	--	--	--	0	--	141	--	
17:45	--	40	19	--	59	--	--	1	--	26	27	--	--	--	14	1	15	--	--	--	--	--	0	--	101	--	
Hour Total	--	206	129	--	335	--	--	4	--	123	127	--	--	--	57	1	58	--	--	--	--	--	--	0	--	520	--
18:00	--	23	23	--	46	--	--	--	22	22	--	--	--	13	1	14	--	--	--	--	--	--	0	--	82	--	
18:15	--	40	16	--	56	--	--	1	--	16	17	--	--	--	7	--	7	--	--	--	--	--	0	--	80	--	
18:30	--	16	9	--	25	--	--	--	10	10	--	--	--	4	--	4	--	--	--	--	--	--	0	--	39	--	
18:45	--	13	14	--	27	--	--	--	11	11	--	--	--	4	--	4	--	--	--	--	--	--	0	--	42	--	
Hour Total	--	92	62	--	154	--	--	1	--	59	60	--	--	--	28	1	29	--	--	--	--	--	--	0	--	243	--
Grand Total	--	1689	1053	--	2742	--	--	22	--	1721	1743	--	--	--	1029	19	1048	--	--	--	--	--	0	--	5533	--	
% of App. % of Total	0.0%	61.6%	38.4%	0.0%	0.0%	0.0%	30.5%	19.0%	0.0%	49.6%	--	0.0%	1.3%	0.0%	98.7%	0.0%	0.4%	0.0%	31.1%	31.5%	--	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Cars Total	--	1488	819	--	2307	--	--	21	--	1508	1529	--	--	--	799	19	818	--	--	--	--	--	0	--	4654	--	
Cars % of Movement	0.0%	88.1%	77.8%	0.0%	84																						

ALLIANT ENGINEERING, INC.

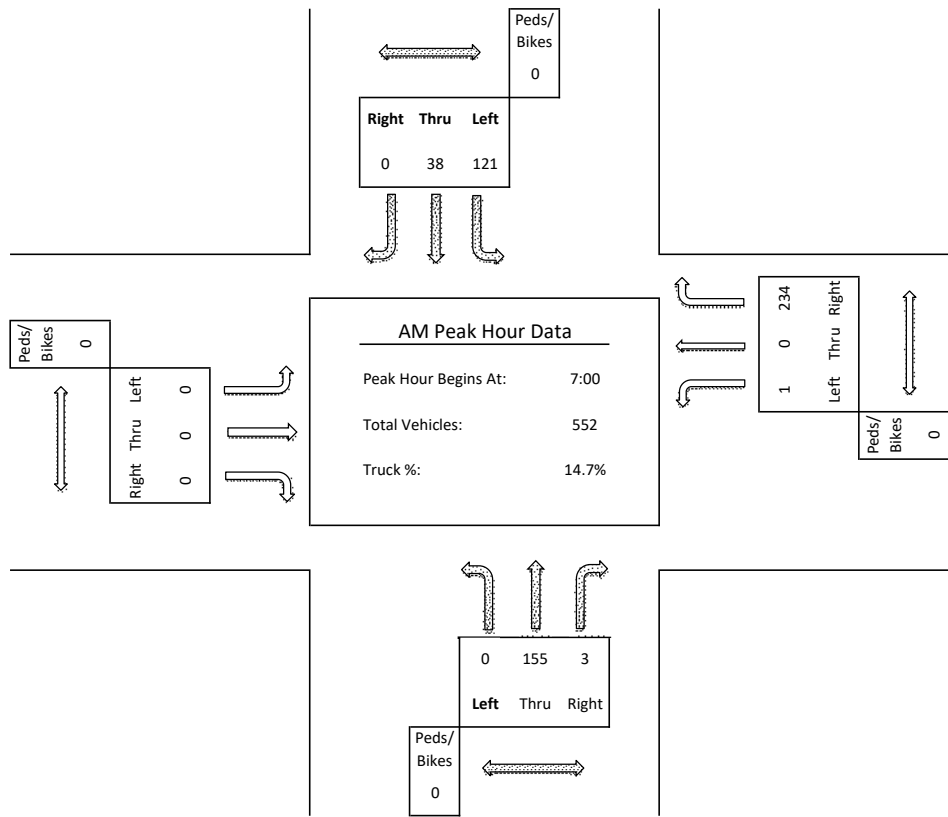
733 S Marquette Ave #700, Minneapolis, MN 55402

Intersection: CSAH 40 & CSAH 11 (Jonathan Carver Pkwy)
 Date: 12/8/2020
 Duration: 6:00-19:00

Site Code: 101
 Ref Pt: N/A
 Page No: 2 of 4

All Vehicles (Cars & Trucks) Printed

Start Time	CSAH 40 Southbound						CSAH 11 (Jonathan Carver Pkwy) Westbound						CSAH 40 Northbound						N/A Eastbound						Int. Veh. Total	Int. Ped/Bike Total
	U-Turn	Left	Thru	Right	App. Total	Peds/Bikes	U-Turn	Left	Thru	Right	App. Total	Peds/Bikes	U-Turn	Left	Thru	Right	App. Total	Peds/Bikes	U-Turn	Left	Thru	Right	App. Total	Peds/Bikes		
7:00	--	11	5	--	16	--	--	--	--	50	50	--	--	--	50	1	51	--	--	--	--	--	0	--	117	--
7:15	--	39	7	--	46	--	--	--	--	69	69	--	--	--	39	1	40	--	--	--	--	--	0	--	155	--
7:30	--	40	13	--	53	--	--	--	--	64	64	--	--	--	32	--	32	--	--	--	--	--	0	--	149	--
7:45	--	31	13	--	44	--	--	1	--	51	52	--	--	--	34	1	35	--	--	--	--	--	0	--	131	--
Hour Total	--	121	38	--	159	--	--	1	--	234	235	--	--	--	155	3	158	--	--	--	--	--	--	--	552	--
% of App.	0.0%	76.1%	23.9%	0.0%			0.0%	0.4%	0.0%	99.6%			0.0%	0.0%	98.1%	1.9%			0.0%	0.0%	0.0%	0.0%	0.0%			
% of Total	0.0%	21.9%	6.9%	0.0%	28.8%	--	0.0%	0.2%	0.0%	42.4%	42.6%	--	0.0%	0.0%	28.1%	0.5%	28.6%	--	0.0%	0.0%	0.0%	0.0%	0.0%	--		
Cars Total	--	105	22	--	127	--	--	1	--	203	204	--	--	--	137	3	140	--	--	--	--	--	0	--	471	--
Cars % of Movement	0.0%	86.8%	57.9%	0.0%	79.9%	--	0.0%	100%	0.0%	86.8%	86.8%	--	0.0%	0.0%	88.4%	100%	88.6%	--	0.0%	0.0%	0.0%	0.0%	0.0%	--	85.3%	
Trucks Total	--	16	16	--	32	--	--	--	--	31	31	--	--	--	18	--	18	--	--	--	--	--	0	--	81	--
Trucks % of Movement	0.0%	13.2%	42.1%	0.0%	20.1%	--	0.0%	0.0%	0.0%	13.2%	13.2%	--	0.0%	0.0%	11.6%	0.0%	11.4%	--	0.0%	0.0%	0.0%	0.0%	0.0%	--	14.7%	



ALLIANT ENGINEERING, INC.

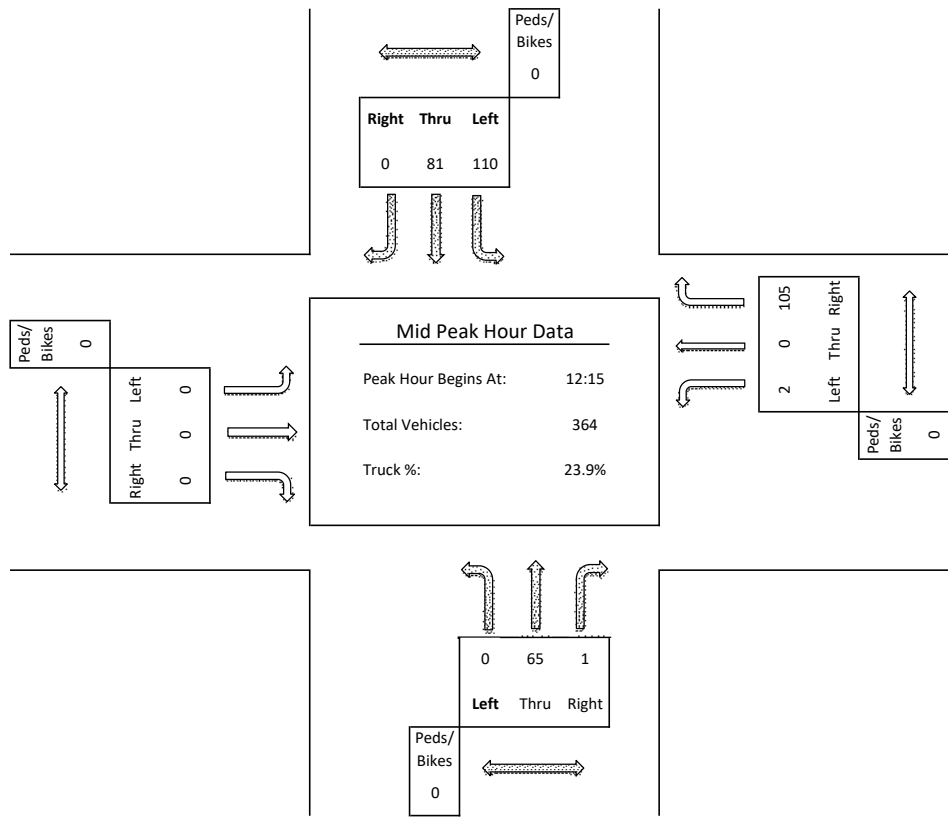
733 S Marquette Ave #700, Minneapolis, MN 55402

Intersection: CSAH 40 & CSAH 11 (Jonathan Carver Pkwy)
 Date: 12/8/2020
 Duration: 6:00-19:00

Site Code: 101
 Ref Pt: N/A
 Page No: 3 of 4

All Vehicles (Cars & Trucks) Printed

Start Time	CSAH 40 Southbound						CSAH 11 (Jonathan Carver Pkwy) Westbound						CSAH 40 Northbound						N/A Eastbound						Int. Veh. Total	Int. Ped/Bike Total
	U-Turn	Left	Thru	Right	App. Total	Peds/Bikes	U-Turn	Left	Thru	Right	App. Total	Peds/Bikes	U-Turn	Left	Thru	Right	App. Total	Peds/Bikes	U-Turn	Left	Thru	Right	App. Total	Peds/Bikes		
12:15	--	35	17	--	52	--	--	--	--	27	27	--	--	--	18	1	19	--	--	--	--	--	0	--	98	--
12:30	--	21	19	--	40	--	--	2	--	29	31	--	--	--	11	--	11	--	--	--	--	--	0	--	82	--
12:45	--	29	26	--	55	--	--	--	--	25	25	--	--	--	12	--	12	--	--	--	--	--	0	--	92	--
13:00	--	25	19	--	44	--	--	--	--	24	24	--	--	--	24	--	24	--	--	--	--	--	0	--	92	--
Hour Total	--	110	81	--	191	--	--	2	--	105	107	--	--	--	65	1	66	--	--	--	--	--	--	--	364	--
% of App.	0.0%	57.6%	42.4%	0.0%			0.0%	1.9%	0.0%	98.1%			0.0%	0.0%	98.5%	1.5%			0.0%	0.0%	0.0%	0.0%	0.0%			
% of Total	0.0%	30.2%	22.3%	0.0%	52.5%	--	0.0%	0.5%	0.0%	28.8%	29.4%	--	0.0%	0.0%	17.9%	0.3%	18.1%	--	0.0%	0.0%	0.0%	0.0%	0.0%	--		
Cars Total	--	93	59	--	152	--	--	2	--	86	88	--	--	--	36	1	37	--	--	--	--	--	0	--	277	--
Cars % of Movement	0.0%	84.5%	72.8%	0.0%	79.6%	--	0.0%	100%	0.0%	81.9%	82.2%	--	0.0%	0.0%	55.4%	100%	56.1%	--	0.0%	0.0%	0.0%	0.0%	0.0%	--	76.1%	
Trucks Total	--	17	22	--	39	--	--	--	--	19	19	--	--	--	29	--	29	--	--	--	--	--	0	--	87	--
Trucks % of Movement	0.0%	15.5%	27.2%	0.0%	20.4%	--	0.0%	0.0%	0.0%	18.1%	17.8%	--	0.0%	0.0%	44.6%	0.0%	43.9%	--	0.0%	0.0%	0.0%	0.0%	0.0%	--	23.9%	



ALLIANT ENGINEERING, INC.

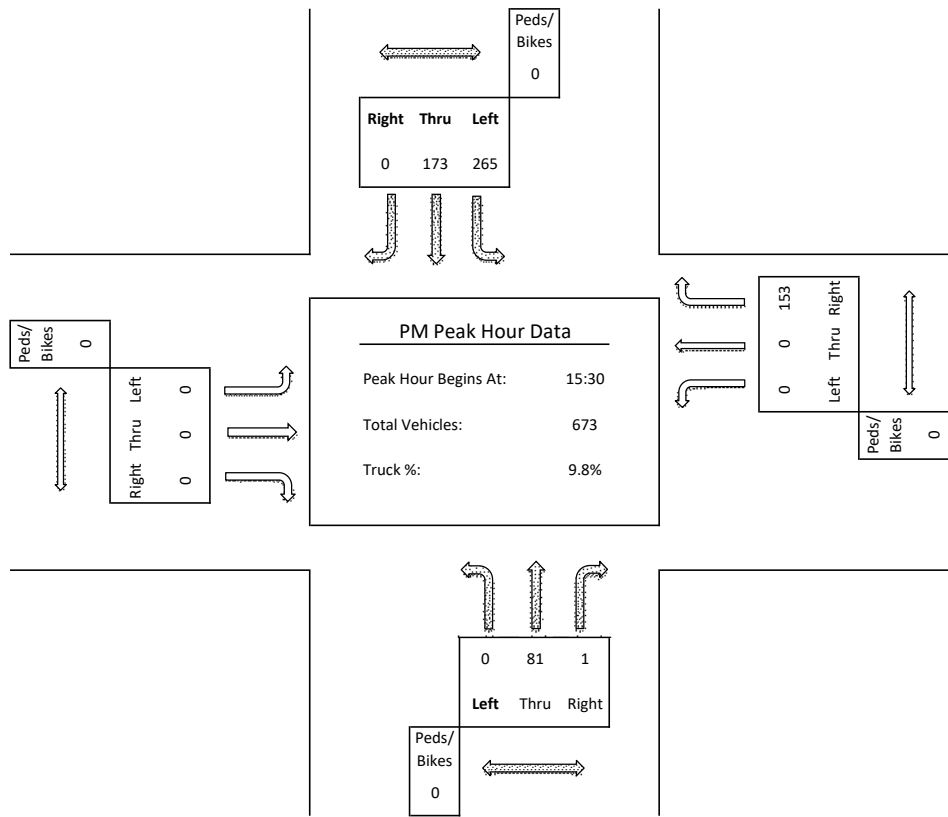
733 S Marquette Ave #700, Minneapolis, MN 55402

Intersection: CSAH 40 & CSAH 11 (Jonathan Carver Pkwy)
 Date: 12/8/2020
 Duration: 6:00-19:00

Site Code: 101
 Ref Pt: N/A
 Page No: 4 of 4

All Vehicles (Cars & Trucks) Printed

Start Time	CSAH 40 Southbound						CSAH 11 (Jonathan Carver Pkwy) Westbound						CSAH 40 Northbound						N/A Eastbound						Int. Veh. Total	Int. Ped/Bike Total
	U-Turn	Left	Thru	Right	App. Total	Peds/Bikes	U-Turn	Left	Thru	Right	App. Total	Peds/Bikes	U-Turn	Left	Thru	Right	App. Total	Peds/Bikes	U-Turn	Left	Thru	Right	App. Total	Peds/Bikes		
15:30	--	62	29	--	91	--	--	--	--	56	56	--	--	--	18	1	19	--	--	--	--	--	0	--	166	--
15:45	--	55	62	--	117	--	--	--	--	21	21	--	--	--	25	--	25	--	--	--	--	--	0	--	163	--
16:00	--	71	33	--	104	--	--	--	--	36	36	--	--	--	20	--	20	--	--	--	--	--	0	--	160	--
16:15	--	77	49	--	126	--	--	--	--	40	40	--	--	--	18	--	18	--	--	--	--	--	0	--	184	--
Hour Total	--	265	173	--	438	--	--	--	--	153	153	--	--	--	81	1	82	--	--	--	--	--	--	--	673	--
% of App.	0.0%	60.5%	39.5%	0.0%			0.0%	0.0%	0.0%	100%			0.0%	0.0%	98.8%	1.2%			0.0%	0.0%	0.0%	0.0%				
% of Total	0.0%	39.4%	25.7%	0.0%	65.1%	--	0.0%	0.0%	0.0%	22.7%	22.7%	--	0.0%	0.0%	12.0%	0.1%	12.2%	--	0.0%	0.0%	0.0%	0.0%	0.0%	--		
Cars Total	--	256	143	--	399	--	--	--	--	146	146	--	--	--	61	1	62	--	--	--	--	--	0	--	607	--
Cars % of Movement	0.0%	96.6%	82.7%	0.0%	91.1%	--	0.0%	0.0%	0.0%	95.4%	95.4%	--	0.0%	0.0%	75.3%	100%	75.6%	--	0.0%	0.0%	0.0%	0.0%	0.0%	--	90.2%	
Trucks Total	--	9	30	--	39	--	--	--	--	7	7	--	--	--	20	--	20	--	--	--	--	--	0	--	66	--
Trucks % of Movement	0.0%	3.4%	17.3%	0.0%	8.9%	--	0.0%	0.0%	0.0%	4.6%	4.6%	--	0.0%	0.0%	24.7%	0.0%	24.4%	--	0.0%	0.0%	0.0%	0.0%	0.0%	--	9.8%	



ALLIANT ENGINEERING, INC.

733 S Marquette Ave #700, Minneapolis, MN 55402

Intersection: CSAH 40 & Maplewood Rd
 Date: 12/8/2020
 Duration: 6:00-9:00, 15:00-19:00

Site Code: 102
 Ref Pt: N/A
 Page No: 1 of 3

All Vehicles (Cars & Trucks) Printed

Start Time	CSAH 40 Southbound						driveway Westbound						CSAH 40 Northbound						Maplewood Rd Eastbound						Int. Veh. Total	Int. Ped/Bike Total
	U-Turn	Left	Thru	Right	App. Total	Peds/Bikes	U-Turn	Left	Thru	Right	App. Total	Peds/Bikes	U-Turn	Left	Thru	Right	App. Total	Peds/Bikes	U-Turn	Left	Thru	Right	App. Total	Peds/Bikes		
6:00	--	--	--	--	0	--	--	--	--	0	--	--	--	24	--	24	--	--	--	--	0	--	24	--		
6:15	--	--	4	--	4	--	--	--	--	0	--	--	--	34	--	34	--	--	1	--	--	1	--	39	--	
6:30	--	--	6	1	7	--	--	--	--	0	--	--	--	25	--	25	--	--	1	--	--	1	--	33	--	
6:45	--	--	9	4	13	--	--	--	--	0	--	--	--	40	--	40	--	--	1	--	--	1	--	54	--	
Hour Total	--	--	19	5	24	--	--	--	--	--	--	--	--	123	--	123	--	--	3	--	--	3	--	150	--	
7:00	--	--	4	1	5	--	--	--	--	0	--	--	--	39	--	39	--	--	10	--	1	11	--	55	--	
7:15	--	--	7	--	7	--	--	--	--	0	--	--	--	39	--	39	--	--	--	--	0	--	46	--		
7:30	--	--	12	--	12	--	--	--	--	0	--	--	--	28	--	28	--	--	2	--	--	2	--	42	--	
7:45	--	--	13	1	14	--	--	--	--	0	--	--	--	30	--	30	--	--	3	--	--	3	--	47	--	
Hour Total	--	--	36	2	38	--	--	--	--	--	--	--	--	136	--	136	--	--	15	--	1	16	--	190	--	
8:00	--	--	8	1	9	--	--	--	--	0	--	--	--	31	--	31	--	--	2	--	--	2	--	42	--	
8:15	--	--	15	--	15	--	--	--	1	1	--	--	--	24	--	24	--	--	--	--	0	--	40	--		
8:30	--	--	10	--	10	--	--	--	--	0	--	--	1	27	--	28	--	--	--	--	0	--	38	--		
8:45	--	--	8	1	9	--	--	--	--	0	--	--	--	25	--	25	--	--	--	--	0	--	34	--		
Hour Total	--	--	41	2	43	--	--	--	1	1	--	--	1	107	--	108	--	--	2	--	--	2	--	154	--	
15:00	--	--	28	--	28	--	--	--	--	0	--	--	--	21	--	21	--	--	2	--	--	2	--	51	--	
15:15	--	--	44	--	44	--	--	--	--	0	--	--	--	18	1	19	--	--	--	--	0	--	63	--		
15:30	--	1	26	3	30	--	--	--	1	1	--	--	--	17	--	17	--	--	1	--	--	1	--	49	--	
15:45	--	1	59	2	62	--	--	--	1	1	--	--	1	23	1	25	--	--	--	--	0	--	88	--		
Hour Total	--	2	157	5	164	--	--	--	2	2	--	--	1	79	2	82	--	--	3	--	--	3	--	251	--	
16:00	--	--	33	--	33	--	--	--	1	1	--	--	--	18	--	18	--	--	--	--	0	--	52	--		
16:15	--	--	47	--	47	--	--	--	--	0	--	--	--	19	--	19	--	--	--	--	0	--	66	--		
16:30	--	--	37	1	38	--	--	--	--	0	--	--	1	12	--	13	--	--	2	--	--	2	--	53	--	
16:45	--	--	35	2	37	--	--	--	--	0	--	--	--	17	--	17	--	--	--	--	0	--	54	--		
Hour Total	--	--	152	3	155	--	--	--	1	1	--	--	1	66	--	67	--	--	2	--	--	2	--	225	--	
17:00	--	--	33	8	41	--	--	--	1	1	--	--	--	14	--	14	--	--	1	--	--	1	--	57	--	
17:15	--	1	41	2	44	--	--	--	1	1	--	--	--	7	--	7	--	--	--	--	1	1	--	53	--	
17:30	--	--	32	--	32	--	--	--	--	0	--	--	--	14	--	14	--	--	4	--	1	5	--	51	--	
17:45	--	--	16	3	19	--	--	--	--	0	--	--	--	13	--	13	--	--	1	--	--	1	--	33	--	
Hour Total	--	1	122	13	136	--	--	--	2	2	--	--	--	48	--	48	--	--	6	--	2	8	--	194	--	
19:00	--	--	--	--	0	--	--	--	--	0	--	--	--	--	--	0	--	--	--	--	0	--	--	--		
19:15	--	--	--	--	0	--	--	--	--	0	--	--	--	--	--	0	--	--	--	--	0	--	--	--		
19:30	--	--	--	--	0	--	--	--	--	0	--	--	--	--	--	0	--	--	--	--	0	--	--	--		
19:45	--	--	--	--	0	--	--	--	--	0	--	--	--	--	--	0	--	--	--	--	0	--	--	--		
Hour Total	--	--	--	--	0	--	--	--	--	0	--	--	--	--	--	0	--	--	--	--	0	--	--	--		
Grand Total	--	3	585	33	621	--	--	3	7	10	--	--	3	585	4	592	--	--	33	--	3	36	--	1259	--	
% of App.	0.0%	0.5%	94.2%	5.3%			0.0%	30.0%	0.0%	70.0%		0.0%	0.5%	98.8%	0.7%		0.0%	91.7%	0.0%	8.3%						
% of Total	0.0%	0.2%	46.5%	2.6%	49.3%	--	0.0%	0.2%	0.0%	0.6%	0.8%	--	0.0%	0.2%	46.5%	0.3%	47.0%	--	0.0%	2.6%	0.0%	0.2%	2.9%	--		
Cars Total	--	3	502	29	534	--	--	3	6	9	--	--	3	507	3	513	--	--	28	--	3	31	--	1087	--	
Cars % of Movement	0.0%	100%	85.8%	87.9%	86.0%	--	0.0%	100%	0.0%	85.7%	90.0%	--	0.0%	100%	86.7%	75.0%	86.7%	--	0.0%	84.8%	0.0%	100%	86.1%	--		
Trucks Total	--	--	83	4	87	--	--	--	1	1	--	--	--	78	1	79	--	--	5	--	--	5	--	172	--	
Trucks % of Movement	0.0%	0.0%	14.2%	12.1%	14.0%	--	0.0%	0.0%	0.0%	14.3%	10.0%	--	0.0%	0.0%	13.3%	25.0%	13.3%	--	0.0%	15.2%	0.0%	0.0%	13.9%	--		

ALLIANT ENGINEERING, INC.

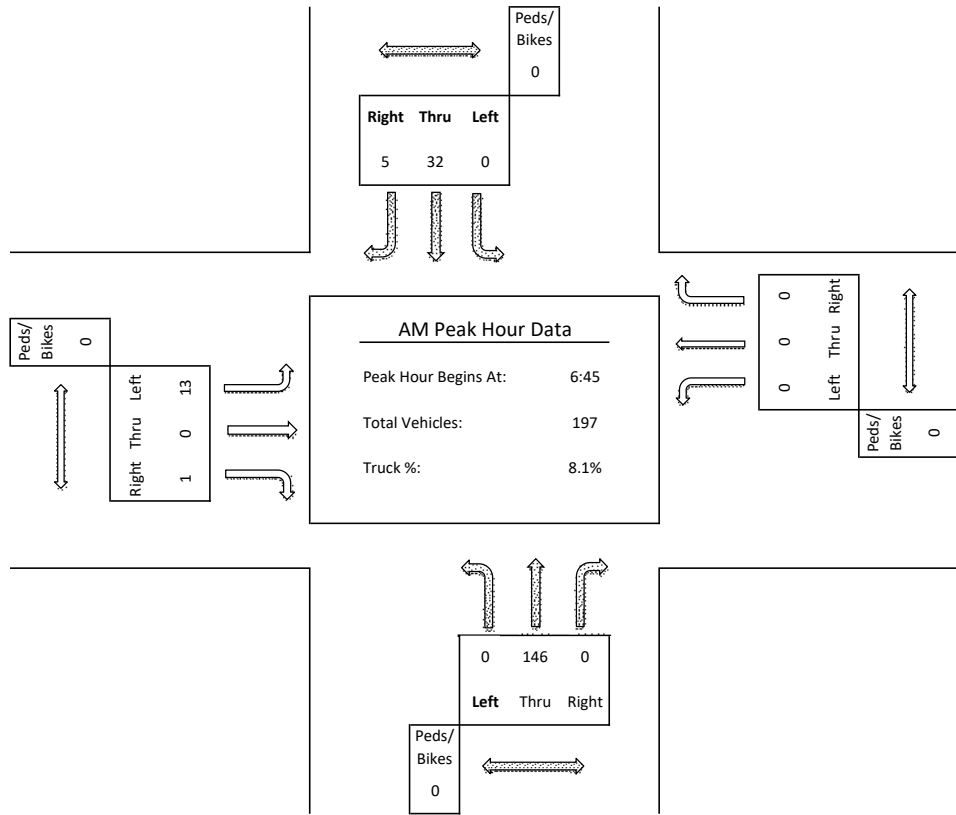
733 S Marquette Ave #700, Minneapolis, MN 55402

Intersection: CSAH 40 & Maplewood Rd
 Date: 12/8/2020
 Duration: 6:00-9:00, 15:00-19:00

Site Code: 102
 Ref Pt: N/A
 Page No: 2 of 3

All Vehicles (Cars & Trucks) Printed

Start Time	CSAH 40 Southbound						driveway Westbound						CSAH 40 Northbound						Maplewood Rd Eastbound						Int. Veh. Total	Int. Ped/Bike Total
	U-Turn	Left	Thru	Right	App. Total	Peds/Bikes	U-Turn	Left	Thru	Right	App. Total	Peds/Bikes	U-Turn	Left	Thru	Right	App. Total	Peds/Bikes	U-Turn	Left	Thru	Right	App. Total	Peds/Bikes		
6:45	--	--	9	4	13	--	--	--	--	--	0	--	--	--	40	--	40	--	--	1	--	--	1	--	54	--
7:00	--	--	4	1	5	--	--	--	--	--	0	--	--	--	39	--	39	--	--	10	--	1	11	--	55	--
7:15	--	--	7	--	7	--	--	--	--	--	0	--	--	--	39	--	39	--	--	--	--	--	0	--	46	--
7:30	--	--	12	--	12	--	--	--	--	--	0	--	--	--	28	--	28	--	--	2	--	--	2	--	42	--
Hour Total	--	--	32	5	37	--	--	--	--	--	0	--	--	--	146	--	146	--	--	13	--	1	14	--	197	--
% of App.	0.0%	0.0%	86.5%	13.5%			0.0%	0.0%	0.0%	0.0%			0.0%	0.0%	100%	0.0%			0.0%	92.9%	0.0%	7.1%				
% of Total	0.0%	0.0%	16.2%	2.5%	18.8%	--	0.0%	0.0%	0.0%	0.0%	0.0%	--	0.0%	0.0%	74.1%	0.0%	74.1%	--	0.0%	6.6%	0.0%	0.5%	7.1%	--		
Cars Total	--	--	27	5	32	--	--	--	--	--	0	--	--	--	140	--	140	--	--	8	--	1	9	--	181	--
Cars % of Movement	0.0%	0.0%	84.4%	100%	86.5%	--	0.0%	0.0%	0.0%	0.0%	0.0%	--	0.0%	0.0%	95.9%	0.0%	95.9%	--	0.0%	61.5%	0.0%	100%	64.3%	--	91.9%	
Trucks Total	--	--	5	--	5	--	--	--	--	--	0	--	--	--	6	--	6	--	--	5	--	--	5	--	16	--
Trucks % of Movement	0.0%	0.0%	15.6%	0.0%	13.5%	--	0.0%	0.0%	0.0%	0.0%	0.0%	--	0.0%	0.0%	4.1%	0.0%	4.1%	--	0.0%	38.5%	0.0%	0.0%	35.7%	--	8.1%	



ALLIANT ENGINEERING, INC.

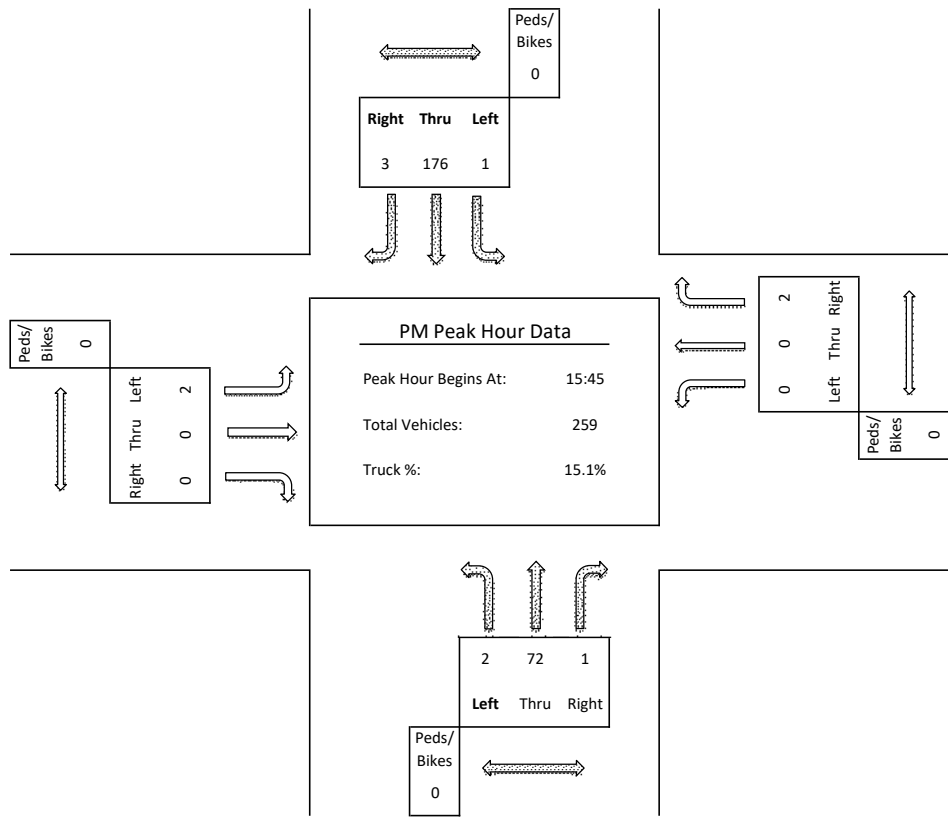
733 S Marquette Ave #700, Minneapolis, MN 55402

Intersection: CSAH 40 & Maplewood Rd
 Date: 12/8/2020
 Duration: 6:00-9:00, 15:00-19:00

Site Code: 102
 Ref Pt: N/A
 Page No: 3 of 3

All Vehicles (Cars & Trucks) Printed

Start Time	CSAH 40 Southbound						driveway Westbound						CSAH 40 Northbound						Maplewood Rd Eastbound						Int. Veh. Total	Int. Ped/Bike Total
	U-Turn	Left	Thru	Right	App. Total	Peds/Bikes	U-Turn	Left	Thru	Right	App. Total	Peds/Bikes	U-Turn	Left	Thru	Right	App. Total	Peds/Bikes	U-Turn	Left	Thru	Right	App. Total	Peds/Bikes		
15:45	--	1	59	2	62	--	--	--	--	1	1	--	--	1	23	1	25	--	--	--	--	--	0	--	88	--
16:00	--	--	33	--	33	--	--	--	--	1	1	--	--	--	18	--	18	--	--	--	--	--	0	--	52	--
16:15	--	--	47	--	47	--	--	--	--	--	0	--	--	--	19	--	19	--	--	--	--	--	0	--	66	--
16:30	--	--	37	1	38	--	--	--	--	--	0	--	--	1	12	--	13	--	--	2	--	--	2	--	53	--
Hour Total	--	1	176	3	180	--	--	--	--	2	2	--	--	2	72	1	75	--	--	2	--	--	2	--	259	--
% of App.	0.0%	0.6%	97.8%	1.7%			0.0%	0.0%	0.0%	100%			0.0%	2.7%	96.0%	1.3%			0.0%	100%	0.0%	0.0%				
% of Total	0.0%	0.4%	68.0%	1.2%	69.5%	--	0.0%	0.0%	0.0%	0.8%	0.8%	--	0.0%	0.8%	27.8%	0.4%	29.0%	--	0.0%	0.8%	0.0%	0.0%	0.8%	--		
Cars Total	--	1	152	3	156	--	--	--	--	2	2	--	--	2	57	1	60	--	--	2	--	--	2	--	220	--
Cars % of Movement	0.0%	100%	86.4%	100%	86.7%	--	0.0%	0.0%	0.0%	100%	100%	--	0.0%	100%	79.2%	100%	80.0%	--	0.0%	100%	0.0%	0.0%	100%	--	84.9%	
Trucks Total	--	--	24	--	24	--	--	--	--	--	0	--	--	--	15	--	15	--	--	--	--	--	0	--	39	--
Trucks % of Movement	0.0%	0.0%	13.6%	0.0%	13.3%	--	0.0%	0.0%	0.0%	0.0%	0.0%	--	0.0%	0.0%	20.8%	0.0%	20.0%	--	0.0%	0.0%	0.0%	0.0%	0.0%	--	15.1%	



ALLIANT ENGINEERING, INC.

733 S Marquette Ave #700, Minneapolis, MN 55402

Intersection: CSAH 40 & Halsey Ave
 Date: 12/8/2020
 Duration: 6:00-9:00, 15:00-19:00

Site Code: 103
 Ref Pt: N/A
 Page No: 1 of 3

All Vehicles (Cars & Trucks) Printed

Start Time	N/A Southbound						CSAH 40 Westbound						Halsey Ave Northbound						CSAH 40 Eastbound						Int. Veh. Total	Int. Ped/ Bike Total	
	U-Turn	Left	Thru	Right	App. Total	Peds/ Bikes	U-Turn	Left	Thru	Right	App. Total	Peds/ Bikes	U-Turn	Left	Thru	Right	App. Total	Peds/ Bikes	U-Turn	Left	Thru	Right	App. Total	Peds/ Bikes			
6:00	--	--	--	--	0	--	--	--	--	0	--	--	--	--	1	1	--	--	--	24	--	24	--	25	--		
6:15	--	--	--	--	0	--	--	--	1	--	1	--	--	--	1	1	--	--	--	34	--	34	--	36	--		
6:30	--	--	--	--	0	--	--	--	5	--	5	--	--	--	2	2	--	--	--	22	--	22	--	29	--		
6:45	--	--	--	--	0	--	--	--	9	--	9	--	--	--	2	2	--	--	--	37	--	37	--	48	--		
Hour Total	--	--	--	--	--	--	--	--	15	--	15	--	--	--	6	6	--	--	--	117	--	117	--	138	--		
7:00	--	--	--	--	0	--	--	1	3	--	4	--	--	--	2	2	--	--	--	38	--	38	--	44	--		
7:15	--	--	--	--	0	--	--	2	3	--	5	--	--	--	1	1	--	--	--	40	--	40	--	46	--		
7:30	--	--	--	--	0	--	--	--	15	--	15	--	--	--	1	1	--	--	--	28	--	28	--	44	--		
7:45	--	--	--	--	0	--	--	1	12	--	13	--	--	--	3	3	--	--	--	30	--	30	--	46	--		
Hour Total	--	--	--	--	--	--	--	4	33	--	37	--	--	--	7	7	--	--	--	136	--	136	--	180	--		
8:00	--	--	--	--	0	--	--	--	8	--	8	--	--	--	--	0	--	--	--	29	--	29	--	37	--		
8:15	--	--	--	--	0	--	--	1	10	--	11	--	--	--	--	0	--	--	--	24	--	24	--	35	--		
8:30	--	--	--	--	0	--	--	--	12	--	12	--	--	--	1	1	2	--	--	--	27	--	27	--	41	--	
8:45	--	--	--	--	0	--	--	--	8	--	8	--	--	--	--	--	0	--	--	--	24	--	24	--	32	--	
Hour Total	--	--	--	--	--	--	--	1	38	--	39	--	--	--	1	1	2	--	--	--	104	--	104	--	145	--	
15:00	--	--	--	--	0	--	--	2	26	--	28	--	--	1	--	1	--	--	--	21	--	21	--	50	--		
15:15	--	--	--	--	0	--	--	--	39	--	39	--	--	--	1	1	--	--	--	19	--	19	--	59	--		
15:30	--	--	--	--	0	--	--	--	27	--	27	--	--	--	1	1	--	--	--	17	--	17	--	45	--		
15:45	--	--	--	--	0	--	--	--	60	--	60	--	--	--	1	1	--	--	--	24	--	24	--	85	--		
Hour Total	--	--	--	--	--	--	--	2	152	--	154	--	--	1	3	4	--	--	--	81	--	81	--	239	--		
16:00	--	--	--	--	0	--	--	1	34	--	35	--	--	--	1	1	--	--	--	17	--	17	--	53	--		
16:15	--	--	--	--	0	--	--	3	41	--	44	--	--	--	--	0	--	--	--	18	--	18	--	62	--		
16:30	--	--	--	--	0	--	--	--	34	--	34	--	--	--	1	1	--	--	--	14	--	14	--	49	--		
16:45	--	--	--	--	0	--	--	3	33	--	36	--	--	--	1	1	--	--	--	17	--	17	--	54	--		
Hour Total	--	--	--	--	--	--	--	7	142	--	149	--	--	--	3	3	--	--	--	66	--	66	--	218	--		
17:00	--	--	--	--	0	--	--	--	31	--	31	--	--	--	1	1	--	--	--	14	--	14	--	46	--		
17:15	--	--	--	--	0	--	--	2	41	--	43	--	--	--	--	0	--	--	--	6	--	6	--	49	--		
17:30	--	--	--	--	0	--	--	--	32	--	32	--	--	--	--	0	--	--	--	15	1	16	--	48	--		
17:45	--	--	--	--	0	--	--	--	18	--	18	--	--	--	1	1	--	--	--	11	--	11	--	30	--		
Hour Total	--	--	--	--	--	--	--	2	122	--	124	--	--	--	2	2	--	--	--	46	1	47	--	173	--		
19:00	--	--	--	--	0	--	--	--	--	--	0	--	--	--	--	0	--	--	--	--	--	0	--	--	--		
19:15	--	--	--	--	0	--	--	--	--	--	0	--	--	--	--	0	--	--	--	--	--	0	--	--	--		
19:30	--	--	--	--	0	--	--	--	--	--	0	--	--	--	--	0	--	--	--	--	--	0	--	--	--		
19:45	--	--	--	--	0	--	--	--	--	--	0	--	--	--	--	0	--	--	--	--	--	0	--	--	--		
Hour Total	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--		
Grand Total	--	--	--	--	0	--	--	19	561	--	580	--	--	1	1	25	27	--	--	--	575	1	576	--	1183	--	
% of App.	0.0%	0.0%	0.0%	0.0%				0.0%	3.3%	96.7%	0.0%		0.0%	3.7%	3.7%	92.6%			0.0%	0.0%	99.8%	0.2%					
% of Total	0.0%	0.0%	0.0%	0.0%	0.0%	--		0.0%	1.6%	47.4%	0.0%	49.0%	--	0.0%	0.1%	0.1%	2.1%	2.3%	--	0.0%	0.0%	48.6%	0.1%	48.7%	--		
Cars Total	--	--	--	--	0	--		19	490	--	509	--		1	1	23	25	--		--	503	1	504	--	1038	--	
Cars % of Movement	0.0%	0.0%	0.0%	0.0%	0.0%	--		0.0%	100%	87.3%	0.0%	87.8%	--	0.0%	100%	100%	92.0%	92.6%	--	0.0%	0.0%	87.5%	100%	87.5%	--	87.7%	
Trucks Total	--	--	--	--	0	--		--	--	71	--	71	--		--	--	2	2	--		--	72	--	72	--	145	--
Trucks % of Movement	0.0%	0.0%	0.0%	0.0%	0.0%	--		0.0%	0.0%	12.7%	0.0%	12.2%	--	0.0%	0.0%	0.0%	8.0%	7.4%	--	0.0%	0.0%	12.5%	0.0%	12.5%	--	12.3%	

ALLIANT ENGINEERING, INC.

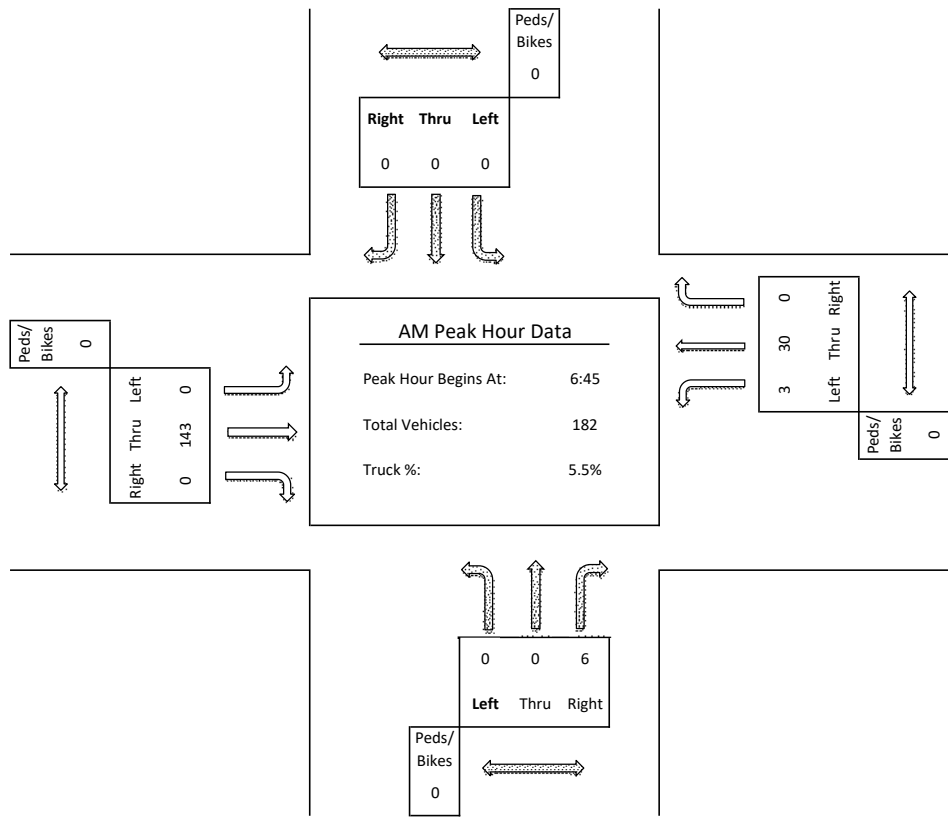
733 S Marquette Ave #700, Minneapolis, MN 55402

Intersection: CSAH 40 & Halsey Ave
 Date: 12/8/2020
 Duration: 6:00-9:00, 15:00-19:00

Site Code: 103
 Ref Pt: N/A
 Page No: 2 of 3

All Vehicles (Cars & Trucks) Printed

Start Time	N/A Southbound						CSAH 40 Westbound						Halsey Ave Northbound						CSAH 40 Eastbound						Int. Veh. Total	Int. Ped/Bike Total
	U-Turn	Left	Thru	Right	App. Total	Peds/Bikes	U-Turn	Left	Thru	Right	App. Total	Peds/Bikes	U-Turn	Left	Thru	Right	App. Total	Peds/Bikes	U-Turn	Left	Thru	Right	App. Total	Peds/Bikes		
6:45	--	--	--	--	0	--	--	--	9	--	9	--	--	--	--	2	2	--	--	--	37	--	37	--	48	--
7:00	--	--	--	--	0	--	--	1	3	--	4	--	--	--	--	2	2	--	--	--	38	--	38	--	44	--
7:15	--	--	--	--	0	--	--	2	3	--	5	--	--	--	--	1	1	--	--	--	40	--	40	--	46	--
7:30	--	--	--	--	0	--	--	--	15	--	15	--	--	--	--	1	1	--	--	--	28	--	28	--	44	--
Hour Total	--	--	--	--	--	--	--	3	30	--	33	--	--	--	--	6	6	--	--	--	143	--	143	--	182	--
% of App.	0.0%	0.0%	0.0%	0.0%			0.0%	9.1%	90.9%	0.0%			0.0%	0.0%	0.0%	100%			0.0%	0.0%	100%	0.0%				
% of Total	0.0%	0.0%	0.0%	0.0%	0.0%	--	0.0%	1.6%	16.5%	0.0%	18.1%	--	0.0%	0.0%	0.0%	3.3%	3.3%	--	0.0%	0.0%	78.6%	0.0%	78.6%	--		
Cars Total	--	--	--	--	0	--	--	3	27	--	30	--	--	--	--	5	5	--	--	--	137	--	137	--	172	--
Cars % of Movement	0.0%	0.0%	0.0%	0.0%	0.0%	--	0.0%	100%	90.0%	0.0%	90.9%	--	0.0%	0.0%	0.0%	83.3%	83.3%	--	0.0%	0.0%	95.8%	0.0%	95.8%	--	94.5%	--
Trucks Total	--	--	--	--	0	--	--	--	3	--	3	--	--	--	--	1	1	--	--	--	6	--	6	--	10	--
Trucks % of Movement	0.0%	0.0%	0.0%	0.0%	0.0%	--	0.0%	0.0%	10.0%	0.0%	9.1%	--	0.0%	0.0%	0.0%	16.7%	16.7%	--	0.0%	0.0%	4.2%	0.0%	4.2%	--	5.5%	--



ALLIANT ENGINEERING, INC.

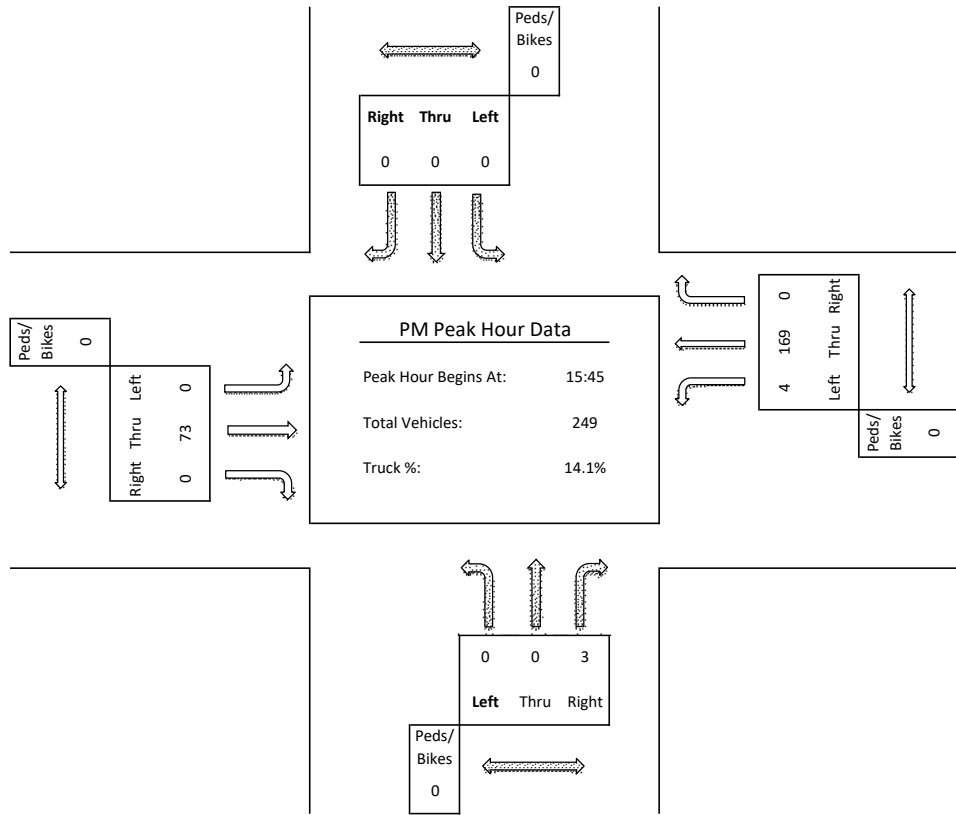
733 S Marquette Ave #700, Minneapolis, MN 55402

Intersection: CSAH 40 & Halsey Ave
 Date: 12/8/2020
 Duration: 6:00-9:00, 15:00-19:00

Site Code: 103
 Ref Pt: N/A
 Page No: 3 of 3

All Vehicles (Cars & Trucks) Printed

Start Time	N/A Southbound						CSAH 40 Westbound						Halsey Ave Northbound						CSAH 40 Eastbound						Int. Veh. Total	Int. Ped/Bike Total
	U-Turn	Left	Thru	Right	App. Total	Peds/Bikes	U-Turn	Left	Thru	Right	App. Total	Peds/Bikes	U-Turn	Left	Thru	Right	App. Total	Peds/Bikes	U-Turn	Left	Thru	Right	App. Total	Peds/Bikes		
15:45	--	--	--	--	0	--	--	--	60	--	60	--	--	--	--	1	1	--	--	--	24	--	24	--	85	--
16:00	--	--	--	--	0	--	--	1	34	--	35	--	--	--	--	1	1	--	--	--	17	--	17	--	53	--
16:15	--	--	--	--	0	--	--	3	41	--	44	--	--	--	--	--	0	--	--	--	18	--	18	--	62	--
16:30	--	--	--	--	0	--	--	--	34	--	34	--	--	--	--	1	1	--	--	--	14	--	14	--	49	--
Hour Total	--	--	--	--	--	--	--	4	169	--	173	--	--	--	--	3	3	--	--	--	73	--	73	--	249	--
% of App.	0.0%	0.0%	0.0%	0.0%			0.0%	2.3%	97.7%	0.0%			0.0%	0.0%	0.0%	100%			0.0%	0.0%	100%	0.0%				
% of Total	0.0%	0.0%	0.0%	0.0%	0.0%	--	0.0%	1.6%	67.9%	0.0%	69.5%	--	0.0%	0.0%	0.0%	1.2%	1.2%	--	0.0%	0.0%	29.3%	0.0%	29.3%	--		
Cars Total	--	--	--	--	0	--	--	4	147	--	151	--	--	--	--	3	3	--	--	--	60	--	60	--	214	--
Cars % of Movement	0.0%	0.0%	0.0%	0.0%	0.0%	--	0.0%	100%	87.0%	0.0%	87.3%	--	0.0%	0.0%	0.0%	100%	100%	--	0.0%	0.0%	82.2%	0.0%	82.2%	--	85.9%	
Trucks Total	--	--	--	--	0	--	--	--	22	--	22	--	--	--	--	--	0	--	--	--	13	--	13	--	35	--
Trucks % of Movement	0.0%	0.0%	0.0%	0.0%	0.0%	--	0.0%	0.0%	13.0%	0.0%	12.7%	--	0.0%	0.0%	0.0%	0.0%	0.0%	--	0.0%	0.0%	17.8%	0.0%	17.8%	--	14.1%	



ALLIANT ENGINEERING, INC.

733 S Marquette Ave #700, Minneapolis, MN 55402

Intersection: CSAH 40 & 154th St
 Date: 12/8/2020
 Duration: 6:00-9:00, 15:00-19:00

Site Code: 104
 Ref Pt: N/A
 Page No: 1 of 3

All Vehicles (Cars & Trucks) Printed

Start Time	CSAH 40 Southbound						N/A Westbound						CSAH 40 Northbound						154th St Eastbound						Int. Veh. Total	Int. Ped/Bike Total
	U-Turn	Left	Thru	Right	App. Total	Peds/Bikes	U-Turn	Left	Thru	Right	App. Total	Peds/Bikes	U-Turn	Left	Thru	Right	App. Total	Peds/Bikes	U-Turn	Left	Thru	Right	App. Total	Peds/Bikes		
6:00	--	--	--	--	0	--	--	--	--	0	--	--	--	22	--	22	--	--	--	--	0	--	22	--		
6:15	--	--	2	--	2	--	--	--	--	0	--	--	--	31	--	31	--	--	--	--	0	--	33	--		
6:30	--	--	5	--	5	--	--	--	--	0	--	--	--	26	--	26	--	--	--	--	0	--	31	--		
6:45	--	--	8	--	8	--	--	--	--	0	--	--	--	39	--	39	--	--	--	--	0	--	47	--		
Hour Total	--	--	15	--	15	--	--	--	--	0	--	--	--	118	--	118	--	--	--	--	0	--	133	--		
7:00	--	--	3	--	3	--	--	--	--	0	--	--	--	35	--	35	--	--	--	--	0	--	38	--		
7:15	--	--	3	--	3	--	--	--	--	0	--	--	1	36	--	37	--	--	--	--	0	--	40	--		
7:30	--	--	7	--	7	--	--	--	--	0	--	--	--	32	--	32	--	--	--	--	0	--	39	--		
7:45	--	--	4	--	4	--	--	--	--	0	--	--	--	16	--	16	--	--	--	--	0	--	20	--		
Hour Total	--	--	17	--	17	--	--	--	--	0	--	--	1	119	--	120	--	--	--	--	0	--	137	--		
8:00	--	--	5	--	5	--	--	--	--	0	--	--	--	24	--	24	--	--	--	--	0	--	29	--		
8:15	--	--	3	1	4	--	--	--	--	0	--	--	--	19	--	19	--	--	--	--	0	--	23	--		
8:30	--	--	3	--	3	--	--	--	--	0	--	--	1	21	--	22	--	--	--	--	0	--	25	--		
8:45	--	--	4	--	4	--	--	--	--	0	--	--	1	16	--	17	--	--	--	--	0	--	21	--		
Hour Total	--	--	15	1	16	--	--	--	--	0	--	--	2	80	--	82	--	--	--	--	0	--	98	--		
15:00	--	--	16	--	16	--	--	--	--	0	--	--	1	12	--	13	--	--	--	--	0	--	29	--		
15:15	--	--	34	--	34	--	--	--	--	0	--	--	--	5	--	5	--	--	1	--	1	--	40	--		
15:30	--	--	16	--	16	--	--	--	--	0	--	--	--	12	--	12	--	--	1	--	1	--	29	--		
15:45	--	--	47	1	48	--	--	--	--	0	--	--	--	19	--	19	--	--	--	--	0	--	67	--		
Hour Total	--	--	113	1	114	--	--	--	--	0	--	--	1	48	--	49	--	--	2	--	2	--	165	--		
16:00	--	--	30	1	31	--	--	--	--	0	--	--	--	9	--	9	--	--	--	--	0	--	40	--		
16:15	--	--	45	--	45	--	--	--	--	0	--	--	--	12	--	12	--	--	--	--	0	--	57	--		
16:30	--	--	29	--	29	--	--	--	--	0	--	--	1	12	--	13	--	--	--	--	0	--	42	--		
16:45	--	--	35	--	35	--	--	--	--	0	--	--	--	19	--	19	--	--	--	1	1	--	55	--		
Hour Total	--	--	139	1	140	--	--	--	--	0	--	--	1	52	--	53	--	--	--	1	1	--	194	--		
17:00	--	--	28	--	28	--	--	--	--	0	--	--	--	12	--	12	--	--	1	--	1	--	41	--		
17:15	--	--	33	1	34	--	--	--	--	0	--	--	--	8	--	8	--	--	--	--	0	--	42	--		
17:30	--	--	28	--	28	--	--	--	--	0	--	--	--	13	--	13	--	--	--	--	0	--	41	--		
17:45	--	--	15	--	15	--	--	--	--	0	--	--	--	12	--	12	--	--	--	--	0	--	27	--		
Hour Total	--	--	104	1	105	--	--	--	--	0	--	--	--	45	--	45	--	--	1	--	1	--	151	--		
19:00	--	--	--	--	0	--	--	--	--	0	--	--	--	--	--	0	--	--	--	--	0	--	--	--		
19:15	--	--	--	--	0	--	--	--	--	0	--	--	--	--	--	0	--	--	--	--	0	--	--	--		
19:30	--	--	--	--	0	--	--	--	--	0	--	--	--	--	--	0	--	--	--	--	0	--	--	--		
19:45	--	--	--	--	0	--	--	--	--	0	--	--	--	--	--	0	--	--	--	--	0	--	--	--		
Hour Total	--	--	--	--	0	--	--	--	--	0	--	--	--	--	--	0	--	--	--	--	0	--	--	--		
Grand Total	--	--	461	4	465	--	--	--	--	0	--	--	6	484	--	490	--	--	3	--	1	4	--	959	--	
% of App.	0.0%	0.0%	99.1%	0.9%			0.0%	0.0%	0.0%	0.0%		0.0%	1.2%	98.8%	0.0%		0.0%	75.0%	0.0%	25.0%						
% of Total	0.0%	0.0%	48.1%	0.4%	48.5%	--	0.0%	0.0%	0.0%	0.0%	--	0.0%	0.6%	50.5%	0.0%	51.1%	--	0.0%	0.3%	0.0%	0.1%	0.4%	--			
Cars Total	--	--	427	3	430	--	--	--	--	0	--	--	6	472	--	478	--	--	3	--	1	4	--	912	--	
Cars % of Movement	0.0%	0.0%	92.6%	75.0%	92.5%	--	0.0%	0.0%	0.0%	0.0%	--	0.0%	100%	97.5%	0.0%	97.6%	--	0.0%	100%	0.0%	100%	100%	--	95.1%		
Trucks Total	--	--	34	1	35	--	--	--	--	0	--	--	--	12	--	12	--	--	--	--	0	--	47	--		
Trucks % of Movement	0.0%	0.0%	7.4%	25.0%	7.5%	--	0.0%	0.0%	0.0%	0.0%	--	0.0%	0.0%	2.5%	0.0%	2.4%	--	0.0%	0.0%	0.0%	0.0%	0.0%	--	4.9%		

ALLIANT ENGINEERING, INC.

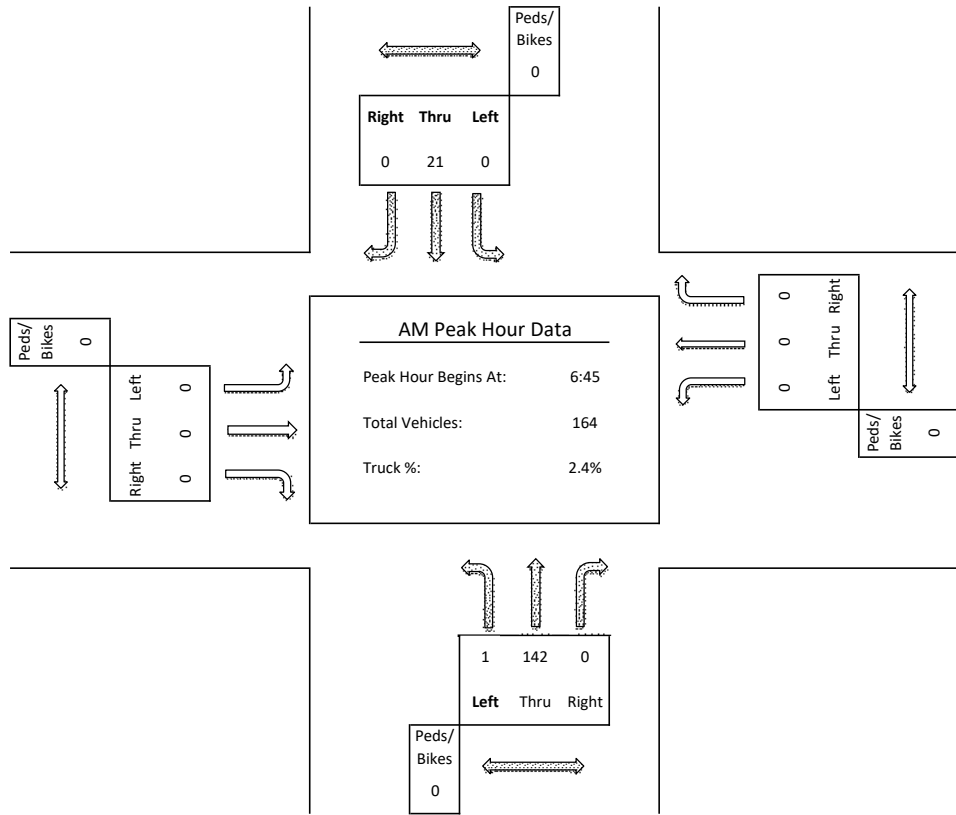
733 S Marquette Ave #700, Minneapolis, MN 55402

Intersection: CSAH 40 & 154th St
 Date: 12/8/2020
 Duration: 6:00-9:00, 15:00-19:00

Site Code: 104
 Ref Pt: N/A
 Page No: 2 of 3

All Vehicles (Cars & Trucks) Printed

Start Time	CSAH 40 Southbound						N/A Westbound						CSAH 40 Northbound						154th St Eastbound						Int. Veh. Total	Int. Ped/Bike Total
	U-Turn	Left	Thru	Right	App. Total	Peds/Bikes	U-Turn	Left	Thru	Right	App. Total	Peds/Bikes	U-Turn	Left	Thru	Right	App. Total	Peds/Bikes	U-Turn	Left	Thru	Right	App. Total	Peds/Bikes		
6:45	--	--	8	--	8	--	--	--	--	--	0	--	--	--	39	--	39	--	--	--	--	--	0	--	47	--
7:00	--	--	3	--	3	--	--	--	--	--	0	--	--	--	35	--	35	--	--	--	--	--	0	--	38	--
7:15	--	--	3	--	3	--	--	--	--	--	0	--	--	--	1	36	37	--	--	--	--	--	0	--	40	--
7:30	--	--	7	--	7	--	--	--	--	--	0	--	--	--	--	32	32	--	--	--	--	--	0	--	39	--
Hour Total	--	--	21	--	21	--	--	--	--	--	0	--	--	1	142	--	143	--	--	--	--	--	0	--	164	--
% of App.	0.0%	0.0%	100%	0.0%			0.0%	0.0%	0.0%	0.0%			0.0%	0.7%	99.3%	0.0%			0.0%	0.0%	0.0%	0.0%				
% of Total	0.0%	0.0%	12.8%	0.0%	12.8%	--	0.0%	0.0%	0.0%	0.0%	0.0%	--	0.0%	0.6%	86.6%	0.0%	87.2%	--	0.0%	0.0%	0.0%	0.0%	0.0%	--		
Cars Total	--	--	20	--	20	--	--	--	--	--	0	--	--	1	139	--	140	--	--	--	--	--	0	--	160	--
Cars % of Movement	0.0%	0.0%	95.2%	0.0%	95.2%	--	0.0%	0.0%	0.0%	0.0%	0.0%	--	0.0%	100%	97.9%	0.0%	97.9%	--	0.0%	0.0%	0.0%	0.0%	0.0%	--	97.6%	
Trucks Total	--	--	1	--	1	--	--	--	--	--	0	--	--	--	3	--	3	--	--	--	--	--	0	--	4	--
Trucks % of Movement	0.0%	0.0%	4.8%	0.0%	4.8%	--	0.0%	0.0%	0.0%	0.0%	0.0%	--	0.0%	0.0%	2.1%	0.0%	2.1%	--	0.0%	0.0%	0.0%	0.0%	0.0%	--	2.4%	



ALLIANT ENGINEERING, INC.

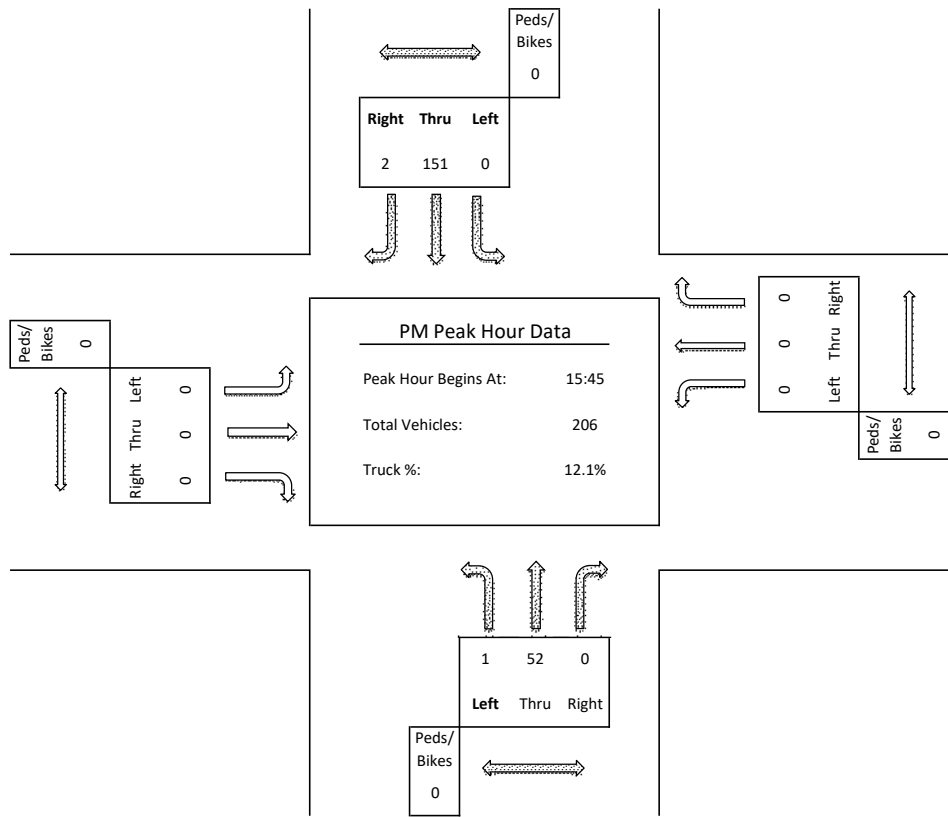
733 S Marquette Ave #700, Minneapolis, MN 55402

Intersection: CSAH 40 & 154th St
 Date: 12/8/2020
 Duration: 6:00-9:00, 15:00-19:00

Site Code: 104
 Ref Pt: N/A
 Page No: 3 of 3

All Vehicles (Cars & Trucks) Printed

Start Time	CSAH 40 Southbound						N/A Westbound						CSAH 40 Northbound						154th St Eastbound						Int. Veh. Total	Int. Ped/Bike Total
	U-Turn	Left	Thru	Right	App. Total	Peds/Bikes	U-Turn	Left	Thru	Right	App. Total	Peds/Bikes	U-Turn	Left	Thru	Right	App. Total	Peds/Bikes	U-Turn	Left	Thru	Right	App. Total	Peds/Bikes		
15:45	--	--	47	1	48	--	--	--	--	--	0	--	--	--	19	--	19	--	--	--	--	--	0	--	67	--
16:00	--	--	30	1	31	--	--	--	--	--	0	--	--	--	9	--	9	--	--	--	--	--	0	--	40	--
16:15	--	--	45	--	45	--	--	--	--	--	0	--	--	--	12	--	12	--	--	--	--	--	0	--	57	--
16:30	--	--	29	--	29	--	--	--	--	--	0	--	--	--	12	--	13	--	--	--	--	--	0	--	42	--
Hour Total	--	--	151	2	153	--	--	--	--	--	--	--	--	1	52	--	53	--	--	--	--	--	--	--	206	--
% of App.	0.0%	0.0%	98.7%	1.3%			0.0%	0.0%	0.0%	0.0%			0.0%	1.9%	98.1%	0.0%			0.0%	0.0%	0.0%	0.0%				
% of Total	0.0%	0.0%	73.3%	1.0%	74.3%	--	0.0%	0.0%	0.0%	0.0%	0.0%	--	0.0%	0.5%	25.2%	0.0%	25.7%	--	0.0%	0.0%	0.0%	0.0%	0.0%	--		
Cars Total	--	--	130	1	131	--	--	--	--	--	0	--	--	1	49	--	50	--	--	--	--	--	0	--	181	--
Cars % of Movement	0.0%	0.0%	86.1%	50.0%	85.6%	--	0.0%	0.0%	0.0%	0.0%	0.0%	--	0.0%	100%	94.2%	0.0%	94.3%	--	0.0%	0.0%	0.0%	0.0%	0.0%	--	87.9%	
Trucks Total	--	--	21	1	22	--	--	--	--	--	0	--	--	--	3	--	3	--	--	--	--	--	0	--	25	--
Trucks % of Movement	0.0%	0.0%	13.9%	50.0%	14.4%	--	0.0%	0.0%	0.0%	0.0%	0.0%	--	0.0%	0.0%	5.8%	0.0%	5.7%	--	0.0%	0.0%	0.0%	0.0%	0.0%	--	12.1%	



ALLIANT ENGINEERING, INC.

733 S Marquette Ave #700, Minneapolis, MN 55402

Intersection: CSAH 40 & CSAH 50
 Date: 12/8/2020
 Duration: 6:00-19:00

Site Code: 105
 Ref Pt: N/A
 Page No: 1 of 4

All Vehicles (Cars & Trucks) Printed

Start Time	CSAH 40 Southbound						CSAH 50 Westbound						CSAH 40 Northbound						CSAH 50 Eastbound						Int. Veh. Total	Int. Ped/ Bike Total		
	U-Turn	Left	Thru	Right	App. Total	Peds/ Bikes	U-Turn	Left	Thru	Right	App. Total	Peds/ Bikes	U-Turn	Left	Thru	Right	App. Total	Peds/ Bikes	U-Turn	Left	Thru	Right	App. Total	Peds/ Bikes				
6:00	--	--	--	--	0	--	--	2	2	--	4	--	--	--	20	1	21	--	--	2	5	--	7	--	32	--		
6:15	--	2	1	1	4	--	--	--	2	2	4	--	--	--	24	1	25	--	--	3	5	1	9	--	42	--		
6:30	--	1	2	--	3	--	--	--	6	2	8	--	--	2	22	2	26	--	--	2	9	--	11	--	48	--		
6:45	--	--	4	--	4	--	--	--	2	1	3	--	--	4	30	1	35	--	--	7	13	1	21	--	63	--		
Hour Total	--	3	7	1	11	--	--	2	12	5	19	--	--	6	96	5	107	--	--	14	32	2	48	--	185	--		
7:00	--	1	4	--	5	--	--	--	4	2	6	--	--	2	27	--	29	--	--	8	7	--	15	--	55	--		
7:15	--	--	3	1	4	--	--	--	6	2	8	--	--	--	24	1	25	--	--	7	3	2	12	--	49	--		
7:30	--	1	7	--	8	--	--	--	9	4	13	--	--	2	24	2	28	--	--	1	4	2	7	--	56	--		
7:45	--	--	2	3	5	--	--	1	5	3	9	--	--	1	10	4	15	--	--	4	7	--	11	--	40	--		
Hour Total	--	2	16	4	22	--	--	1	24	11	36	--	--	5	85	7	97	--	--	20	21	4	45	--	200	--		
8:00	--	--	2	3	5	--	--	1	4	1	6	--	--	1	22	1	24	--	--	1	6	1	8	--	43	--		
8:15	--	--	3	2	5	--	--	1	3	2	6	--	--	1	15	2	18	--	--	3	11	4	18	--	47	--		
8:30	--	--	2	1	3	--	--	1	6	1	8	--	--	1	18	1	20	--	--	3	10	1	14	--	45	--		
8:45	--	--	1	2	3	--	--	--	7	2	9	--	--	--	14	2	16	--	--	2	3	--	5	--	33	--		
Hour Total	--	--	8	8	16	--	--	3	20	6	29	--	--	3	69	6	78	--	--	9	30	6	45	--	168	--		
9:00	--	1	5	1	7	--	--	--	5	--	5	--	--	--	13	1	14	--	--	1	3	--	4	--	30	--		
9:15	--	--	7	2	9	--	--	--	6	--	6	--	--	3	3	--	6	--	--	1	2	1	4	--	25	--		
9:30	--	--	6	--	6	--	--	--	7	--	7	--	--	--	9	--	9	--	--	3	4	--	7	--	29	--		
9:45	--	--	4	4	8	--	--	4	2	3	9	--	--	--	5	--	5	--	--	2	9	--	11	--	33	--		
Hour Total	--	1	22	7	30	--	--	4	20	3	27	--	--	3	30	1	34	--	--	7	18	1	26	--	117	--		
10:00	--	--	7	--	7	--	--	--	1	1	--	--	--	--	6	--	6	--	--	4	4	--	8	--	22	--		
10:15	--	--	5	1	6	--	--	1	4	--	5	--	--	2	11	--	13	--	--	--	3	1	4	--	28	--		
10:30	--	--	6	2	8	--	--	--	2	1	3	--	--	--	10	--	10	--	--	1	--	4	5	--	26	--		
10:45	--	1	4	1	6	--	--	--	5	1	6	--	--	--	3	--	3	--	--	--	3	1	4	--	19	--		
Hour Total	--	1	22	4	27	--	--	1	11	3	15	--	--	2	30	--	32	--	--	5	10	6	21	--	95	--		
11:00	--	1	7	1	9	--	--	2	4	2	8	--	--	2	5	1	8	--	--	--	4	3	7	--	32	--		
11:15	--	1	6	4	11	--	--	--	4	1	5	--	--	1	5	--	6	--	--	1	3	8	--	12	--	34	--	
11:30	--	2	2	3	7	--	--	--	6	1	7	--	--	--	7	--	7	--	--	2	2	1	5	--	26	--		
11:45	--	--	7	--	7	--	--	--	6	--	6	--	--	--	9	1	10	--	--	4	9	3	16	--	39	--		
Hour Total	--	4	22	8	34	--	--	2	20	4	26	--	--	3	26	2	31	--	--	1	9	23	7	40	--	131	--	
12:00	--	1	4	2	7	--	--	--	4	--	4	--	--	--	6	3	9	--	--	1	8	2	11	--	31	--		
12:15	--	2	10	1	13	--	--	1	4	1	6	--	--	2	5	4	11	--	--	--	4	2	6	--	36	--		
12:30	--	--	12	1	13	--	--	1	3	--	4	--	--	--	6	--	6	--	--	--	4	1	5	--	28	--		
12:45	--	--	11	5	16	--	--	1	9	3	13	--	--	1	3	1	5	--	--	5	6	--	11	--	45	--		
Hour Total	--	3	37	9	49	--	--	3	20	4	27	--	--	3	20	8	31	--	--	6	22	5	33	--	140	--		
13:00	--	1	12	--	13	--	--	1	7	--	8	--	--	1	7	--	8	--	--	2	2	--	4	--	33	--		
13:15	--	--	6	3	9	--	--	--	6	1	7	--	--	1	15	1	17	--	--	3	3	--	6	--	39	--		
13:30	--	2	5	1	8	--	--	1	4	2	7	--	--	2	6	1	9	--	--	6	4	5	15	--	39	--		
13:45	--	1	10	3	14	--	--	1	8	1	10	--	--	--	6	1	7	--	--	1	1	2	4	--	35	--		
Hour Total	--	4	33	7	44	--	--	3	25	4	32	--	--	4	34	3	41	--	--	12	10	7	29	--	146	--		
14:00	--	2	7	1	10	--	--	--	2	3	5	--	--	1	7	--	8	--	--	5	9	--	14	--	37	--		
14:15	--	1	18	7	26	--	--	3	7	1	11	--	--	1	8	1	10	--	--	1	4	--	5	--	52	--		
14:30	--	5	16	4	25	--	--	--	5	1	6	--	--	--	9	1	10	--	--	2	8	1	11	--	52	--		
14:45	--	--	32	4	36	--	--	2	8	--	10	--	--	1	--	9	2	12	--	--	3	3	3	9	--	67	--	
Hour Total	--	8	73	16	97	--	--	5	22	5	32	--	--	1	2	33	4	40	--	--	11	24	4	39	--	208	--	
15:00	--	3	9	6	18	--	--	1	10	1	12	--	--	--	9	1	10	--	--	3	6	1	10	--	50	--		
15:15	--	--	30	4	34	--	--	1	11	--	12	--	--	--	5	1	6	--	--	--	6	3	9	--	61	--		
15:30	--	1	14	2	17	--	--	3	9	--	12	--	--	--	11	--	11	--	--	1	9	1	11	--	51	--		
15:45	--	2	29	11	42	--	--	5	14	2	21	--	--	--	14	1	15	--	--	1	3	9	5	18	--	96	--	
Hour Total	--	6	82	23	111	--	--	10	44	3	57	--	--	--	39	3	42	--	--	1	7	30	10	48	--	258	--	
16:00	--	2	23	10	35	--	--	1	9	1	11	--	--	--	11	--	11	--	--	2	7	3	12	--	69	--		
16:15	--	2	37	7	46	--	--	1	7	--	8	--	--	--	7	1	8	--	--	2	6	4	12	--	74	--		
16:30	--	1	23	4	28	--	--	--	18	2	20	--	--	--	7	4	11	--	--	3	11	6	20	--	79	--		
16:45	--	3	29	7	39	--	--	3	6	1	10	--	--	1	12	2	15	--	--	6	7	3	16	--	80	--		
Hour Total	--	8	112	28	148	--	--	5	40	4	49	--	--	1	37	7	45	--	--	13	31	16	60	--	302	--		
17:00	--	1	25	3	29	--	--	1	6	--	7	--	--	1	8	2	11	--	--	3	5	3	11	--	58	--		
17:15	--	3	27	6	36	--	--	1	8	1	10	--	--	--	8	--	8	--	--	--	5	3	8	--	62	--		
17:30	--	3	24	5	32	--	--	1	9	2	12	--	--	--	6	--	6	--	--	4	8	1	13	--	63	--		
17:45	--	2	11	3	16	--	--	1	7	--	8	--	--	2	9	--	11	--	--	3	3	2	8	--	43	--		
Hour Total	--	9	87	17	113	--	--	4	30	3	37	--	--	3	31	2	36	--	--	10	21	9	40	--	226	--		
18:00	--	1	18	3	22	--	--	2	--	1	3	--	--	--	10	--	10	--	--	1	3	--	4	--	39	--		
18:15	--	--	9	4	13	--	--	--	4	--	4	--	--	--	4	1	5	--	--	--	1	--	1	--	23	--		
18:30	--	--	8	3	11	--	--	--	1	2	3	--	--	--	1	--	1	--	--	1	2	1	4	--	19	--		
18:45	--	--	8	3	11	--	--	--	4	--	4	--	--	2	--	1	2	5	--	--	--	5	--	5	--	25	--	
Hour Total	--	1	43	13	57	--	--	2	9	3	14	--	--	2	--	16	3	21	--	--	2	11	1	14	--	106	--	
Grand Total	--	50	564	145	759	--	--	45	297	58	400	--	--	3	35	546	51	635	--	--	2	125	283	78	488	--	2282	--
% of App.	0.0%	6.6%	74.3%	19.1%			0.0%	11.3%	74.3%	14.5%			0.5%	5.5%	86.0%	8.0%			0.4%	25.6%	58.0%	16.0%						
% of Total	0.0%	2.2%	24.7%	6.4%	33.3%	--	0.0%	2.0%																				

ALLIANT ENGINEERING, INC.

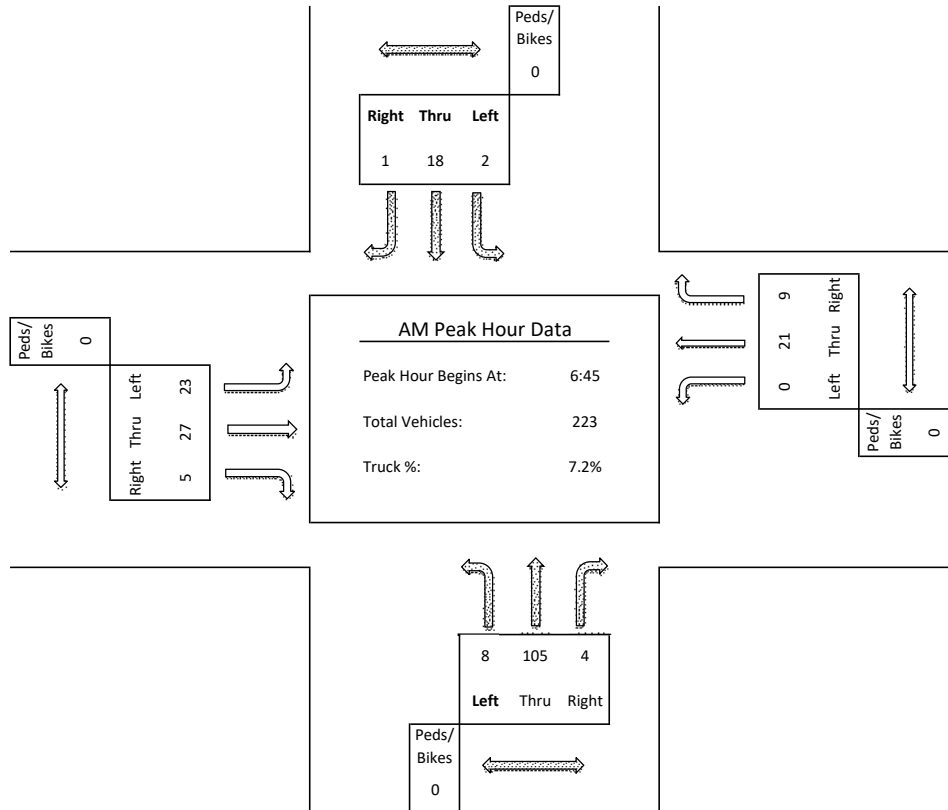
733 S Marquette Ave #700, Minneapolis, MN 55402

Intersection: CSAH 40 & CSAH 50
 Date: 12/8/2020
 Duration: 6:00-19:00

Site Code: 105
 Ref Pt: N/A
 Page No: 2 of 4

All Vehicles (Cars & Trucks) Printed

Start Time	CSAH 40 Southbound						CSAH 50 Westbound						CSAH 40 Northbound						CSAH 50 Eastbound						Int. Veh. Total	Int. Ped/Bike Total
	U-Turn	Left	Thru	Right	App. Total	Peds/Bikes	U-Turn	Left	Thru	Right	App. Total	Peds/Bikes	U-Turn	Left	Thru	Right	App. Total	Peds/Bikes	U-Turn	Left	Thru	Right	App. Total	Peds/Bikes		
6:45	--	--	4	--	4	--	--	--	2	1	3	--	--	4	30	1	35	--	--	7	13	1	21	--	63	--
7:00	--	1	4	--	5	--	--	--	4	2	6	--	--	2	27	--	29	--	--	8	7	--	15	--	55	--
7:15	--	--	3	1	4	--	--	--	6	2	8	--	--	--	24	1	25	--	--	7	3	2	12	--	49	--
7:30	--	1	7	--	8	--	--	--	9	4	13	--	--	2	24	2	28	--	--	1	4	2	7	--	56	--
Hour Total	--	2	18	1	21	--	--	--	21	9	30	--	--	8	105	4	117	--	--	23	27	5	55	--	223	--
% of App.	0.0%	9.5%	85.7%	4.8%			0.0%	0.0%	70.0%	30.0%			0.0%	6.8%	89.7%	3.4%			0.0%	41.8%	49.1%	9.1%				
% of Total	0.0%	0.9%	8.1%	0.4%	9.4%	--	0.0%	0.0%	9.4%	4.0%	13.5%	--	0.0%	3.6%	47.1%	1.8%	52.5%	--	0.0%	10.3%	12.1%	2.2%	24.7%	--		
Cars Total	--	2	18	1	21	--	--	--	18	6	24	--	--	7	102	4	113	--	--	19	25	5	49	--	207	--
Cars % of Movement	0.0%	100%	100%	100%	100%	--	0.0%	0.0%	85.7%	66.7%	80.0%	--	0.0%	87.5%	97.1%	100%	96.6%	--	0.0%	82.6%	92.6%	100%	89.1%	--	92.8%	--
Trucks Total	--	--	--	--	0	--	--	--	3	3	6	--	--	1	3	--	4	--	--	4	2	--	6	--	16	--
Trucks % of Movement	0.0%	0.0%	0.0%	0.0%	0.0%	--	0.0%	0.0%	14.3%	33.3%	20.0%	--	0.0%	12.5%	2.9%	0.0%	3.4%	--	0.0%	17.4%	7.4%	0.0%	10.9%	--	7.2%	--
Motorcycles % of	0.0%	0.0%	0.0%	0.0%	0.0%	--	0.0%	0.0%	0.0%	0.0%	0.0%	--	0.0%	0.0%	0.0%	0.0%	0.0%	--	0.0%	0.0%	0.0%	0.0%	0.0%	--	--	--



ALLIANT ENGINEERING, INC.

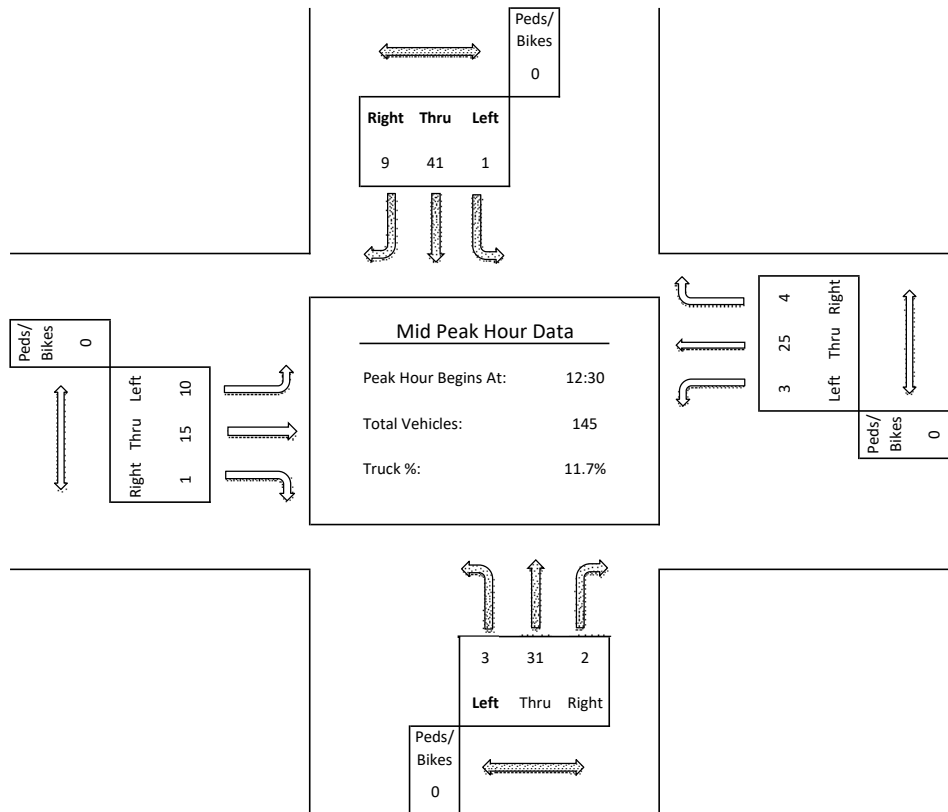
733 S Marquette Ave #700, Minneapolis, MN 55402

Intersection: CSAH 40 & CSAH 50
 Date: 12/8/2020
 Duration: 6:00-19:00

Site Code: 105
 Ref Pt: N/A
 Page No: 3 of 4

All Vehicles (Cars & Trucks) Printed

Start Time	CSAH 40 Southbound						CSAH 50 Westbound						CSAH 40 Northbound						CSAH 50 Eastbound						Int. Veh. Total	Int. Ped/Bike Total
	U-Turn	Left	Thru	Right	App. Total	Peds/Bikes	U-Turn	Left	Thru	Right	App. Total	Peds/Bikes	U-Turn	Left	Thru	Right	App. Total	Peds/Bikes	U-Turn	Left	Thru	Right	App. Total	Peds/Bikes		
12:30	--	--	12	1	13	--	--	1	3	--	4	--	--	--	6	--	6	--	--	--	4	1	5	--	28	--
12:45	--	--	11	5	16	--	--	1	9	3	13	--	--	1	3	1	5	--	--	5	6	--	11	--	45	--
13:00	--	1	12	--	13	--	--	1	7	--	8	--	--	1	7	--	8	--	--	2	2	--	4	--	33	--
13:15	--	--	6	3	9	--	--	--	6	1	7	--	--	1	15	1	17	--	--	3	3	--	6	--	39	--
Hour Total	--	1	41	9	51	--	--	3	25	4	32	--	--	3	31	2	36	--	--	10	15	1	26	--	145	--
% of App.	0.0%	2.0%	80.4%	17.6%			0.0%	9.4%	78.1%	12.5%			0.0%	8.3%	86.1%	5.6%			0.0%	38.5%	57.7%	3.8%				
% of Total	0.0%	0.7%	28.3%	6.2%	35.2%	--	0.0%	2.1%	17.2%	2.8%	22.1%	--	0.0%	2.1%	21.4%	1.4%	24.8%	--	0.0%	6.9%	10.3%	0.7%	17.9%	--		
Cars Total	--	1	38	9	48	--	--	3	19	4	26	--	--	2	29	2	33	--	--	9	11	1	21	--	128	--
Cars % of Movement	0.0%	100%	92.7%	100%	94.1%	--	0.0%	100%	76.0%	100%	81.3%	--	0.0%	66.7%	93.5%	100%	91.7%	--	0.0%	90.0%	73.3%	100%	80.8%	--	88.3%	--
Trucks Total	--	--	3	--	3	--	--	--	6	--	6	--	--	1	2	--	3	--	--	1	4	--	5	--	17	--
Trucks % of Movement	0.0%	0.0%	7.3%	0.0%	5.9%	--	0.0%	0.0%	24.0%	0.0%	18.8%	--	0.0%	33.3%	6.5%	0.0%	8.3%	--	0.0%	10.0%	26.7%	0.0%	19.2%	--	11.7%	--
Motorcycles % of	0.0%	0.0%	0.0%	0.0%	0.0%	--	0.0%	0.0%	0.0%	0.0%	0.0%	--	0.0%	0.0%	0.0%	0.0%	0.0%	--	0.0%	0.0%	0.0%	0.0%	0.0%	--	--	--



ALLIANT ENGINEERING, INC.

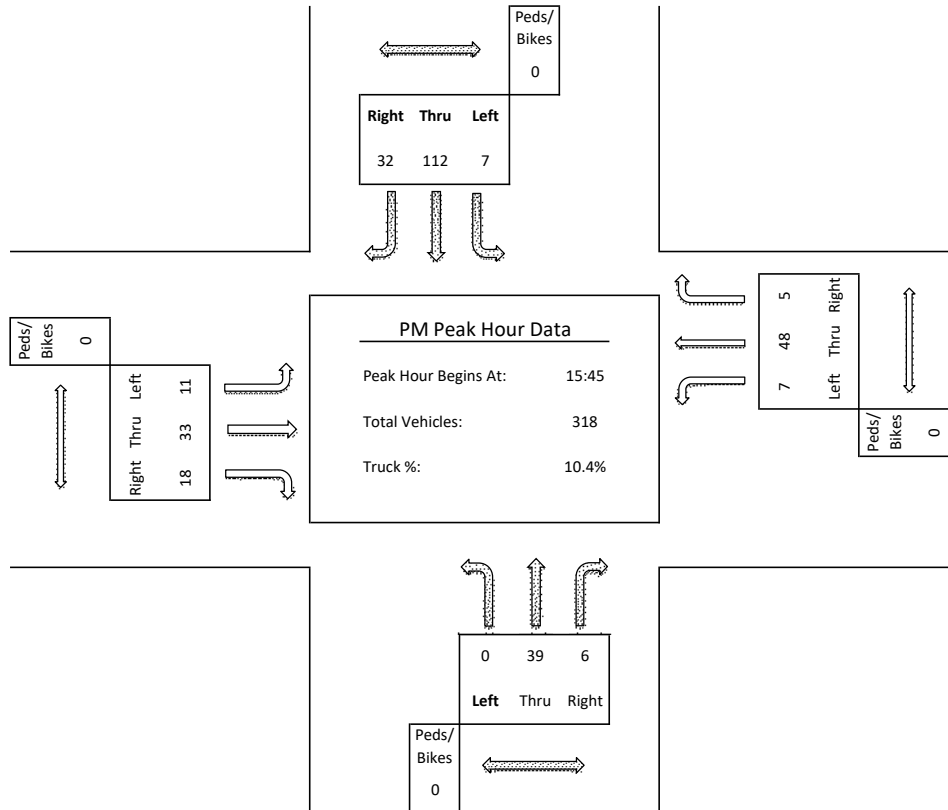
733 S Marquette Ave #700, Minneapolis, MN 55402

Intersection: CSAH 40 & CSAH 50
 Date: 12/8/2020
 Duration: 6:00-19:00

Site Code: 105
 Ref Pt: N/A
 Page No: 4 of 4

All Vehicles (Cars & Trucks) Printed

Start Time	CSAH 40 Southbound						CSAH 50 Westbound						CSAH 40 Northbound						CSAH 50 Eastbound						Int. Veh. Total	Int. Ped/Bike Total
	U-Turn	Left	Thru	Right	App. Total	Peds/Bikes	U-Turn	Left	Thru	Right	App. Total	Peds/Bikes	U-Turn	Left	Thru	Right	App. Total	Peds/Bikes	U-Turn	Left	Thru	Right	App. Total	Peds/Bikes		
15:45	--	2	29	11	42	--	--	5	14	2	21	--	--	--	14	1	15	--	1	3	9	5	18	--	96	--
16:00	--	2	23	10	35	--	--	1	9	1	11	--	--	--	11	--	11	--	--	2	7	3	12	--	69	--
16:15	--	2	37	7	46	--	--	1	7	--	8	--	--	--	7	1	8	--	--	2	6	4	12	--	74	--
16:30	--	1	23	4	28	--	--	--	18	2	20	--	--	--	7	4	11	--	--	3	11	6	20	--	79	--
Hour Total	--	7	112	32	151	--	--	7	48	5	60	--	--	--	39	6	45	--	1	10	33	18	62	--	318	--
% of App.	0.0%	4.6%	74.2%	21.2%			0.0%	11.7%	80.0%	8.3%			0.0%	0.0%	86.7%	13.3%			1.6%	16.1%	53.2%	29.0%				
% of Total	0.0%	2.2%	35.2%	10.1%	47.5%	--	0.0%	2.2%	15.1%	1.6%	18.9%	--	0.0%	0.0%	12.3%	1.9%	14.2%	--	0.3%	3.1%	10.4%	5.7%	19.5%	--		
Cars Total	--	7	110	17	134	--	--	7	42	4	53	--	--	--	37	6	43	--	1	10	26	18	55	--	285	--
Cars % of Movement	0.0%	100%	98.2%	53.1%	88.7%	--	0.0%	100%	87.5%	80.0%	88.3%	--	0.0%	0.0%	94.9%	100%	95.6%	--	100%	100%	78.8%	100%	88.7%	--	89.6%	--
Trucks Total	--	--	2	15	17	--	--	--	6	1	7	--	--	--	2	--	2	--	--	--	7	--	7	--	33	--
Trucks % of Movement	0.0%	0.0%	1.8%	46.9%	11.3%	--	0.0%	0.0%	12.5%	20.0%	11.7%	--	0.0%	0.0%	5.1%	0.0%	4.4%	--	0.0%	0.0%	21.2%	0.0%	11.3%	--	10.4%	--
Motorcycles % of	--	--	--	--	0	--	--	1	--	--	1	--	--	--	--	--	0	--	--	--	--	--	0	--	1	--
Motorcycles % of	0.0%	0.0%	0.0%	0.0%	0.0%	--	0.0%	14.3%	0.0%	0.0%	1.7%	--	0.0%	0.0%	0.0%	0.0%	0.0%	--	0.0%	0.0%	0.0%	0.0%	0.0%	--	0.3%	--



ALLIANT ENGINEERING, INC.

733 S Marquette Ave #700, Minneapolis, MN 55402

Intersection: CSAH 40 & 174th St/CSAH 52
 Date: 12/8/2020
 Duration: 6:00-9:00, 15:00-19:00

Site Code: 106
 Ref Pt: N/A
 Page No: 1 of 3

All Vehicles (Cars & Trucks) Printed

Start Time	CSAH 40 Southbound						174th St Westbound						CSAH 40 Northbound						CSAH 52 Eastbound						Int. Veh. Total	Int. Ped/ Bike Total
	U-Turn	Left	Thru	Right	App. Total	Peds/ Bikes	U-Turn	Left	Thru	Right	App. Total	Peds/ Bikes	U-Turn	Left	Thru	Right	App. Total	Peds/ Bikes	U-Turn	Left	Thru	Right	App. Total	Peds/ Bikes		
6:00	--	--	1	--	1	--	--	--	--	2	2	--	--	--	19	--	19	--	--	4	--	--	4	--	26	--
6:15	--	--	2	1	3	--	--	--	--	--	0	--	--	1	19	--	20	--	--	1	--	--	1	--	24	--
6:30	--	--	1	--	1	--	--	1	1	--	2	--	--	2	25	--	27	--	--	2	--	--	2	--	32	--
6:45	--	--	3	2	5	--	--	--	--	1	1	--	--	--	17	--	17	--	--	7	--	--	7	--	30	--
Hour Total	--	--	7	3	10	--	--	1	1	3	5	--	--	3	80	--	83	--	--	14	--	--	14	--	112	--
7:00	--	--	4	--	4	--	--	--	--	--	0	--	--	--	25	--	25	--	--	--	--	1	1	--	30	--
7:15	--	--	6	1	7	--	--	--	--	1	1	--	--	--	19	--	19	--	--	--	--	--	0	--	27	--
7:30	--	--	5	1	6	--	--	--	--	--	0	--	--	--	25	--	25	--	--	2	--	--	2	--	33	--
7:45	--	--	3	1	4	--	--	--	1	--	1	--	--	1	9	--	10	--	--	1	--	1	2	--	17	--
Hour Total	--	--	18	3	21	--	--	--	1	1	2	--	--	1	78	--	79	--	--	3	--	2	5	--	107	--
8:00	--	2	--	1	3	--	--	1	--	--	1	--	--	--	19	--	19	--	--	3	--	--	3	--	26	--
8:15	--	--	3	1	4	--	--	--	--	--	0	--	--	--	9	1	10	--	--	3	--	--	3	--	17	--
8:30	--	--	1	1	2	--	--	--	--	1	1	--	--	3	13	--	16	--	--	2	--	--	2	--	21	--
8:45	--	--	1	--	1	--	--	--	--	--	0	--	--	--	12	1	13	--	--	2	--	1	3	--	17	--
Hour Total	--	2	5	3	10	--	--	1	--	1	2	--	--	3	53	2	58	--	--	10	--	1	11	--	81	--
15:00	--	--	7	--	7	--	--	1	--	1	2	--	--	--	7	1	8	--	--	--	--	1	1	--	18	--
15:15	--	1	29	--	30	--	--	--	--	1	1	--	--	--	5	--	5	--	--	--	--	--	0	--	36	--
15:30	--	--	20	3	23	--	--	--	1	--	1	--	--	--	7	--	7	--	--	1	2	--	3	--	34	--
15:45	--	--	30	3	33	--	--	--	--	1	1	1	--	--	9	--	9	--	--	--	--	1	1	1	44	2
Hour Total	--	1	86	6	93	--	--	1	1	3	5	1	--	--	28	1	29	--	--	1	2	2	5	1	132	2
16:00	--	--	18	2	20	--	--	--	--	1	1	--	--	--	7	--	7	--	--	1	1	2	4	--	32	--
16:15	--	--	30	3	33	--	--	--	--	1	1	--	--	1	6	--	7	--	--	1	1	1	3	--	44	--
16:30	--	--	22	4	26	--	--	--	--	--	0	--	--	1	7	--	8	--	--	1	--	1	2	--	36	--
16:45	--	1	31	--	32	--	--	--	1	--	1	--	--	2	12	1	15	--	--	--	1	1	2	--	50	--
Hour Total	--	1	101	9	111	--	--	--	1	2	3	--	--	4	32	1	37	--	--	3	3	5	11	--	162	--
17:00	--	1	26	3	30	--	--	--	2	--	2	--	--	1	6	1	8	--	--	3	--	1	4	--	44	--
17:15	--	--	27	1	28	--	--	1	--	--	1	--	--	1	7	--	8	--	--	2	--	--	2	--	39	--
17:30	--	--	21	4	25	--	--	--	--	--	0	--	--	--	4	--	4	--	--	--	--	1	1	--	30	--
17:45	--	1	9	3	13	--	--	--	--	--	0	--	--	--	7	--	7	--	--	--	--	--	0	--	20	--
Hour Total	--	2	83	11	96	--	--	1	2	--	3	--	--	2	24	1	27	--	--	5	--	2	7	--	133	--
19:00	--	--	--	--	0	--	--	--	--	--	0	--	--	--	--	--	0	--	--	--	--	--	0	--	--	--
19:15	--	--	--	--	0	--	--	--	--	--	0	--	--	--	--	--	0	--	--	--	--	--	0	--	--	--
19:30	--	--	--	--	0	--	--	--	--	--	0	--	--	--	--	--	0	--	--	--	--	--	0	--	--	--
19:45	--	--	--	--	0	--	--	--	--	--	0	--	--	--	--	--	0	--	--	--	--	--	0	--	--	--
Hour Total	--	--	--	--	0	--	--	--	--	--	0	--	--	--	--	--	0	--	--	--	--	--	0	--	--	--
Grand Total	1	7	327	44	379	--	--	4	6	10	20	1	--	14	307	6	327	--	--	38	6	14	58	1	784	2
% of App.	0.3%	1.8%	86.3%	11.6%			0.0%	20.0%	30.0%	50.0%			0.0%	4.3%	93.9%	1.8%			0.0%	65.5%	10.3%	24.1%				
% of Total	0.1%	0.9%	41.7%	5.6%	48.3%	0.0%	0.0%	0.5%	0.8%	1.3%	2.6%	50.0%	0.0%	1.8%	39.2%	0.8%	41.7%	0.0%	0.0%	4.8%	0.8%	1.8%	7.4%	50.0%		
Cars Total	1	7	322	43	373	--	--	4	6	10	20	1	--	14	301	6	321	--	--	34	6	14	54	--	768	1
Cars % of Movement	100%	100%	98.5%	97.7%	98.4%	0.0%	0.0%	100%	100%	100%	100%	#####	0.0%	100%	98.0%	100%	98.2%	0.0%	0.0%	89.5%	100%	100%	93.1%	0.0%	98.0%	
Trucks Total	--	--	5	1	6	--	--	--	--	--	0	--	--	--	6	--	6	--	--	4	--	--	4	1	16	1
Trucks % of Movement	0.0%	0.0%	1.5%	2.3%	1.6%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	2.0%	0.0%	1.8%	0.0%	0.0%	10.5%	0.0%	0.0%	6.9%	#####	2.0%	
Motorcycles	--	--	1	--	1	--	--	--	--	--	0	--	--	--	--	--	0	--	--	--	--	--	0	--	1	--
Motorcycles % of Movement	0.0%	0.0%	0.3%	0.0%	0.3%	--	0.0%	0.0%	0.0%	0.0%	0.0%	--	0.0%	0.0%	0.0%	0.0%	0.0%	--	0.0%	0.0%	0.0%	0.0%	0.0%	--	0.1%	

ALLIANT ENGINEERING, INC.

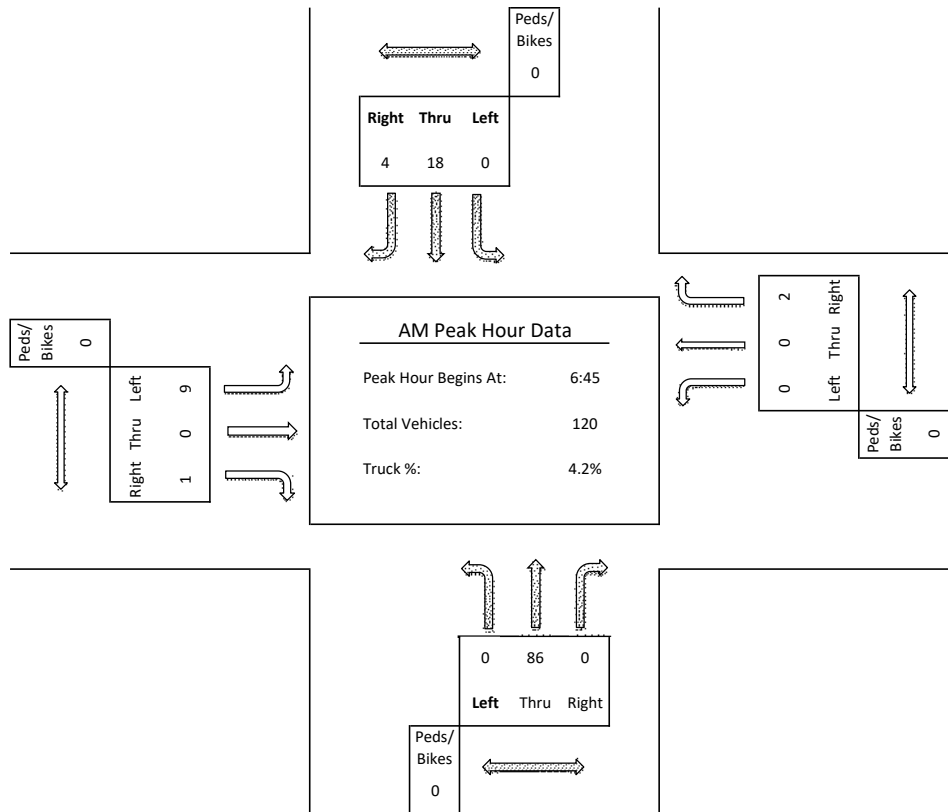
733 S Marquette Ave #700, Minneapolis, MN 55402

Intersection: CSAH 40 & 174th St/CSAH 52
 Date: 12/8/2020
 Duration: 6:00-9:00, 15:00-19:00

Site Code: 106
 Ref Pt: N/A
 Page No: 2 of 3

All Vehicles (Cars & Trucks) Printed

Start Time	CSAH 40 Southbound						174th St Westbound						CSAH 40 Northbound						CSAH 52 Eastbound						Int. Veh. Total	Int. Ped/Bike Total
	U-Turn	Left	Thru	Right	App. Total	Peds/Bikes	U-Turn	Left	Thru	Right	App. Total	Peds/Bikes	U-Turn	Left	Thru	Right	App. Total	Peds/Bikes	U-Turn	Left	Thru	Right	App. Total	Peds/Bikes		
6:45	--	--	3	2	5	--	--	--	--	1	1	--	--	--	17	--	17	--	--	7	--	--	7	--	30	--
7:00	--	--	4	--	4	--	--	--	--	--	0	--	--	--	25	--	25	--	--	--	--	1	1	--	30	--
7:15	--	--	6	1	7	--	--	--	--	1	1	--	--	--	19	--	19	--	--	--	--	--	0	--	27	--
7:30	--	--	5	1	6	--	--	--	--	--	0	--	--	--	25	--	25	--	--	2	--	--	2	--	33	--
Hour Total	--	--	18	4	22	--	--	--	--	2	2	--	--	--	86	--	86	--	--	9	--	1	10	--	120	--
% of App.	0.0%	0.0%	81.8%	18.2%			0.0%	0.0%	0.0%	100%			0.0%	0.0%	100%	0.0%			0.0%	90.0%	0.0%	10.0%				
% of Total	0.0%	0.0%	15.0%	3.3%	18.3%	--	0.0%	0.0%	0.0%	1.7%	1.7%	--	0.0%	0.0%	71.7%	0.0%	71.7%	--	0.0%	7.5%	0.0%	0.8%	8.3%	--		
Cars Total	--	--	17	3	20	--	--	--	--	2	2	--	--	--	84	--	84	--	--	8	--	1	9	--	115	--
Cars % of Movement	0.0%	0.0%	94.4%	75.0%	90.9%	--	0.0%	0.0%	0.0%	100%	100%	--	0.0%	0.0%	97.7%	0.0%	97.7%	--	0.0%	88.9%	0.0%	100%	90.0%	--	95.8%	
Trucks Total	--	--	1	1	2	--	--	--	--	--	0	--	--	--	2	--	2	--	--	1	--	--	1	--	5	--
Trucks % of Movement	0.0%	0.0%	5.6%	25.0%	9.1%	--	0.0%	0.0%	0.0%	0.0%	0.0%	--	0.0%	0.0%	2.3%	0.0%	2.3%	--	0.0%	11.1%	0.0%	0.0%	10.0%	--	4.2%	
Motorcycles	--	--	--	--	0	--	--	--	--	--	0	--	--	--	--	--	0	--	--	--	--	--	0	--	--	--
Motorcycles % of Movement	0.0%	0.0%	0.0%	0.0%	0.0%	--	0.0%	0.0%	0.0%	0.0%	0.0%	--	0.0%	0.0%	0.0%	0.0%	0.0%	--	0.0%	0.0%	0.0%	0.0%	0.0%	--	--	



ALLIANT ENGINEERING, INC.

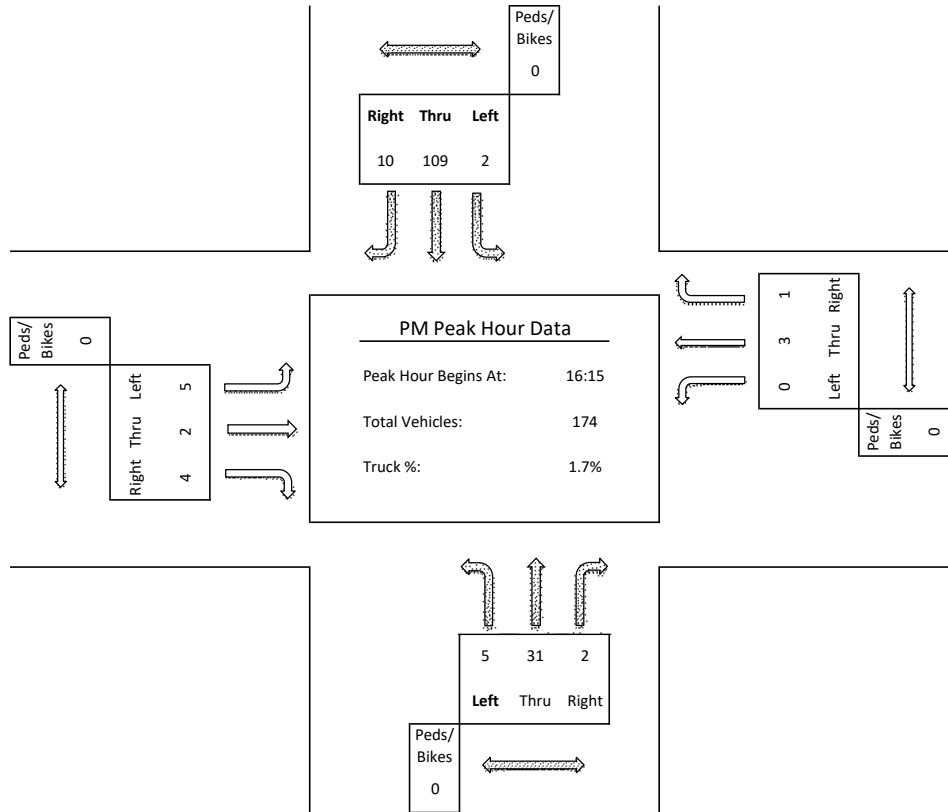
733 S Marquette Ave #700, Minneapolis, MN 55402

Intersection: CSAH 40 & 174th St/CSAH 52
 Date: 12/8/2020
 Duration: 6:00-9:00, 15:00-19:00

Site Code: 106
 Ref Pt: N/A
 Page No: 3 of 3

All Vehicles (Cars & Trucks) Printed

Start Time	CSAH 40 Southbound						174th St Westbound						CSAH 40 Northbound						CSAH 52 Eastbound						Int. Veh. Total	Int. Ped/Bike Total
	U-Turn	Left	Thru	Right	App. Total	Peds/Bikes	U-Turn	Left	Thru	Right	App. Total	Peds/Bikes	U-Turn	Left	Thru	Right	App. Total	Peds/Bikes	U-Turn	Left	Thru	Right	App. Total	Peds/Bikes		
16:15	--	--	30	3	33	--	--	--	--	1	1	--	--	1	6	--	7	--	--	1	1	1	3	--	44	--
16:30	--	--	22	4	26	--	--	--	--	--	0	--	--	1	7	--	8	--	--	1	--	1	2	--	36	--
16:45	--	1	31	--	32	--	--	--	1	--	1	--	--	2	12	1	15	--	--	--	1	1	2	--	50	--
17:00	--	1	26	3	30	--	--	--	2	--	2	--	--	1	6	1	8	--	--	3	--	1	4	--	44	--
Hour Total	--	2	109	10	121	--	--	--	3	1	4	--	--	5	31	2	38	--	--	5	2	4	11	--	174	--
% of App.	0.0%	1.7%	90.1%	8.3%			0.0%	0.0%	75.0%	25.0%			0.0%	13.2%	81.6%	5.3%			0.0%	45.5%	18.2%	36.4%				
% of Total	0.0%	1.1%	62.6%	5.7%	69.5%	--	0.0%	0.0%	1.7%	0.6%	2.3%	--	0.0%	2.9%	17.8%	1.1%	21.8%	--	0.0%	2.9%	1.1%	2.3%	6.3%	--		
Cars Total	--	2	106	10	118	--	--	--	3	1	4	--	--	5	31	2	38	--	--	5	2	4	11	--	171	--
Cars % of Movement	0.0%	100%	97.2%	100%	97.5%	--	0.0%	0.0%	100%	100%	100%	--	0.0%	100%	100%	100%	100%	--	0.0%	100%	100%	100%	100%	--	98.3%	
Trucks Total	--	--	3	--	3	--	--	--	--	--	0	--	--	--	--	--	0	--	--	--	--	--	0	--	3	--
Trucks % of Movement	0.0%	0.0%	2.8%	0.0%	2.5%	--	0.0%	0.0%	0.0%	0.0%	0.0%	--	0.0%	0.0%	0.0%	0.0%	0.0%	--	0.0%	0.0%	0.0%	0.0%	0.0%	--	1.7%	
Motorcycles	--	--	1	--	1	--	--	--	--	--	0	--	--	--	--	--	0	--	--	--	--	--	0	--	1	--
Motorcycles % of Movement	0.0%	0.0%	0.9%	0.0%	0.8%	--	0.0%	0.0%	0.0%	0.0%	0.0%	--	0.0%	0.0%	0.0%	0.0%	0.0%	--	0.0%	0.0%	0.0%	0.0%	0.0%	--	0.6%	



ALLIANT ENGINEERING, INC.

733 S Marquette Ave #700, Minneapolis, MN 55402

Intersection: CSAH 40 & 182nd St/Kelly Lake Rd
 Date: 12/8/2020
 Duration: 6:00-9:00, 15:00-19:00

Site Code: 107
 Ref Pt: N/A
 Page No: 1 of 3

All Vehicles (Cars & Trucks) Printed

Start Time	CSAH 40 Southbound						Kelly Lake Rd Westbound						CSAH 40 Northbound						182nd St Eastbound						Int. Veh. Total	Int. Ped/Bike Total
	U-Turn	Left	Thru	Right	App. Total	Peds/Bikes	U-Turn	Left	Thru	Right	App. Total	Peds/Bikes	U-Turn	Left	Thru	Right	App. Total	Peds/Bikes	U-Turn	Left	Thru	Right	App. Total	Peds/Bikes		
6:00	--	--	1	--	1	--	--	1	--	--	1	--	--	--	18	--	18	--	--	--	--	--	0	--	20	--
6:15	--	--	3	--	3	--	--	--	--	--	0	--	--	--	19	--	19	--	--	--	--	--	0	--	22	--
6:30	--	--	3	--	3	--	--	--	--	--	0	--	--	--	27	--	27	--	--	--	--	--	0	--	30	--
6:45	--	--	3	--	3	--	--	--	--	--	0	--	--	--	17	--	17	--	--	--	--	--	0	--	20	--
Hour Total	--	--	10	--	10	--	--	1	--	--	1	--	--	--	81	--	81	--	--	--	--	--	--	--	92	--
7:00	--	--	5	--	5	--	--	--	--	--	0	--	--	--	23	--	23	--	--	--	--	1	1	--	29	--
7:15	--	--	2	--	2	--	--	--	--	2	2	--	--	--	20	--	20	--	--	--	--	--	0	--	24	--
7:30	--	--	7	--	7	--	--	--	--	--	0	--	--	--	20	--	20	--	--	1	--	--	1	--	28	--
7:45	--	--	3	--	3	--	--	--	--	1	1	--	--	--	10	--	10	--	--	--	--	--	0	--	14	--
Hour Total	--	--	17	--	17	--	--	--	--	3	3	--	--	--	73	--	73	--	--	1	--	1	2	--	95	--
8:00	--	--	2	--	2	--	--	--	--	--	0	--	--	1	17	--	18	--	--	--	--	--	0	--	20	--
8:15	--	--	2	--	2	--	--	1	--	--	1	--	--	--	12	--	12	--	--	--	--	--	0	--	15	--
8:30	--	--	1	--	1	--	--	2	--	--	2	--	--	--	14	--	14	--	--	--	--	--	0	--	17	--
8:45	--	--	1	--	1	--	--	1	--	--	1	--	--	--	14	--	14	--	--	--	--	--	0	--	16	--
Hour Total	--	--	6	--	6	--	--	4	--	--	4	--	--	1	57	--	58	--	--	--	--	--	--	--	68	--
15:00	--	--	12	--	12	--	--	--	1	--	1	--	--	--	7	--	7	--	--	1	1	--	2	--	22	--
15:15	--	1	23	--	24	--	--	2	--	--	2	--	--	--	5	2	7	--	--	--	--	--	0	--	33	--
15:30	--	--	19	1	20	--	--	--	--	--	0	--	--	--	6	--	6	--	--	--	--	1	1	--	27	--
15:45	--	1	27	--	28	--	--	--	--	--	0	--	--	--	8	2	10	--	--	--	--	--	0	--	38	--
Hour Total	--	2	81	1	84	--	--	2	1	--	3	--	--	--	26	4	30	--	--	1	1	1	3	--	120	--
16:00	--	1	28	--	29	--	--	--	--	--	0	--	--	--	6	--	6	--	--	--	--	--	0	--	35	--
16:15	--	--	30	--	30	--	--	--	--	--	0	--	--	--	8	--	8	--	--	--	--	--	0	--	38	--
16:30	--	--	21	1	22	--	--	--	--	--	0	--	--	--	8	1	9	--	--	1	--	--	1	--	32	--
16:45	--	4	28	--	32	--	--	--	--	--	0	--	--	1	12	--	13	--	--	2	--	--	2	--	47	--
Hour Total	--	5	107	1	113	--	--	--	--	--	--	--	--	1	34	1	36	--	--	3	--	--	3	--	152	--
17:00	--	1	25	--	26	--	--	--	--	--	0	--	--	--	6	--	6	--	--	--	--	--	0	--	32	--
17:15	--	1	32	--	33	--	--	--	--	--	0	--	--	--	8	--	8	--	--	--	--	--	0	--	41	--
17:30	--	--	24	--	24	--	--	1	--	--	1	--	--	--	6	--	6	--	--	--	--	--	0	--	31	--
17:45	--	--	10	--	10	--	--	--	--	--	0	--	--	--	5	1	6	--	--	--	--	--	0	--	16	--
Hour Total	--	2	91	--	93	--	--	1	--	--	1	--	--	--	25	1	26	--	--	--	--	--	--	--	120	--
19:00	--	--	--	--	0	--	--	--	--	--	0	--	--	--	--	--	0	--	--	--	--	--	0	--	--	--
19:15	--	--	--	--	0	--	--	--	--	--	0	--	--	--	--	--	0	--	--	--	--	--	0	--	--	--
19:30	--	--	--	--	0	--	--	--	--	--	0	--	--	--	--	--	0	--	--	--	--	--	0	--	--	--
19:45	--	--	--	--	0	--	--	--	--	--	0	--	--	--	--	--	0	--	--	--	--	--	0	--	--	--
Hour Total	--	--	--	--	0	--	--	--	--	--	0	--	--	--	--	--	0	--	--	--	--	--	0	--	--	--
Grand Total	--	9	340	2	351	--	--	9	1	3	13	--	--	3	310	8	321	--	--	7	1	3	11	--	696	--
% of App.	0.0%	2.6%	96.9%	0.6%			0.0%	69.2%	7.7%	23.1%			0.0%	0.9%	96.6%	2.5%			0.0%	63.6%	9.1%	27.3%				
% of Total	0.0%	1.3%	48.9%	0.3%	50.4%	--	0.0%	1.3%	0.1%	0.4%	1.9%	--	0.0%	0.4%	44.5%	1.1%	46.1%	--	0.0%	1.0%	0.1%	0.4%	1.6%	--		
Cars Total	--	6	335	1	342	--	--	8	1	2	11	--	--	3	305	7	315	--	--	5	1	3	9	--	677	--
Cars % of Movement	0.0%	66.7%	98.5%	50.0%	97.4%	--	0.0%	88.9%	100%	66.7%	84.6%	--	0.0%	100%	98.4%	87.5%	98.1%	--	0.0%	71.4%	100%	100%	81.8%	--	97.3%	--
Trucks Total	--	3	5	1	9	--	--	1	--	1	2	--	--	--	5	1	6	--	--	2	--	--	2	--	19	--
Trucks % of Movement	0.0%	33.3%	1.5%	50.0%	2.6%	--	0.0%	11.1%	0.0%	33.3%	15.4%	--	0.0%	0.0%	1.6%	12.5%	1.9%	--	0.0%	28.6%	0.0%	0.0%	18.2%	--	2.7%	--

ALLIANT ENGINEERING, INC.

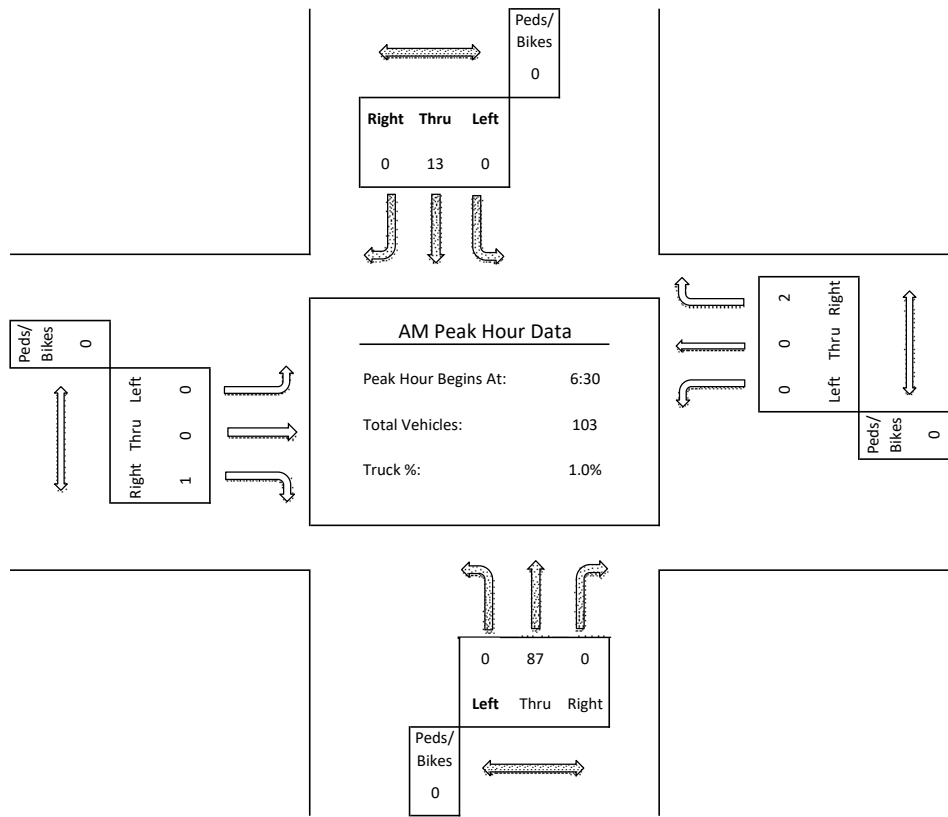
733 S Marquette Ave #700, Minneapolis, MN 55402

Intersection: CSAH 40 & 182nd St/Kelly Lake Rd
 Date: 12/8/2020
 Duration: 6:00-9:00, 15:00-19:00

Site Code: 107
 Ref Pt: N/A
 Page No: 2 of 3

All Vehicles (Cars & Trucks) Printed

Start Time	CSAH 40 Southbound						Kelly Lake Rd Westbound						CSAH 40 Northbound						182nd St Eastbound						Int. Veh. Total	Int. Ped/Bike Total
	U-Turn	Left	Thru	Right	App. Total	Peds/Bikes	U-Turn	Left	Thru	Right	App. Total	Peds/Bikes	U-Turn	Left	Thru	Right	App. Total	Peds/Bikes	U-Turn	Left	Thru	Right	App. Total	Peds/Bikes		
6:30	--	--	3	--	3	--	--	--	--	--	0	--	--	--	27	--	27	--	--	--	--	--	0	--	30	--
6:45	--	--	3	--	3	--	--	--	--	--	0	--	--	--	17	--	17	--	--	--	--	--	0	--	20	--
7:00	--	--	5	--	5	--	--	--	--	--	0	--	--	--	23	--	23	--	--	--	--	1	1	--	29	--
7:15	--	--	2	--	2	--	--	--	--	2	2	--	--	--	20	--	20	--	--	--	--	--	0	--	24	--
Hour Total	--	--	13	--	13	--	--	--	--	2	2	--	--	--	87	--	87	--	--	--	--	1	1	--	103	--
% of App.	0.0%	0.0%	100%	0.0%			0.0%	0.0%	0.0%	100%			0.0%	0.0%	100%	0.0%			0.0%	0.0%	0.0%	100%				
% of Total	0.0%	0.0%	12.6%	0.0%	12.6%	--	0.0%	0.0%	0.0%	1.9%	1.9%	--	0.0%	0.0%	84.5%	0.0%	84.5%	--	0.0%	0.0%	0.0%	1.0%	1.0%	--		
Cars Total	--	--	13	--	13	--	--	--	--	1	1	--	--	--	87	--	87	--	--	--	--	1	1	--	102	--
Cars % of Movement	0.0%	0.0%	100%	0.0%	100%	--	0.0%	0.0%	0.0%	50.0%	50.0%	--	0.0%	0.0%	100%	0.0%	100%	--	0.0%	0.0%	0.0%	100%	100%	--	99.0%	
Trucks Total	--	--	--	--	0	--	--	--	--	1	1	--	--	--	--	--	0	--	--	--	--	--	0	--	1	--
Trucks % of Movement	0.0%	0.0%	0.0%	0.0%	0.0%	--	0.0%	0.0%	0.0%	50.0%	50.0%	--	0.0%	0.0%	0.0%	0.0%	0.0%	--	0.0%	0.0%	0.0%	0.0%	0.0%	--	1.0%	



ALLIANT ENGINEERING, INC.

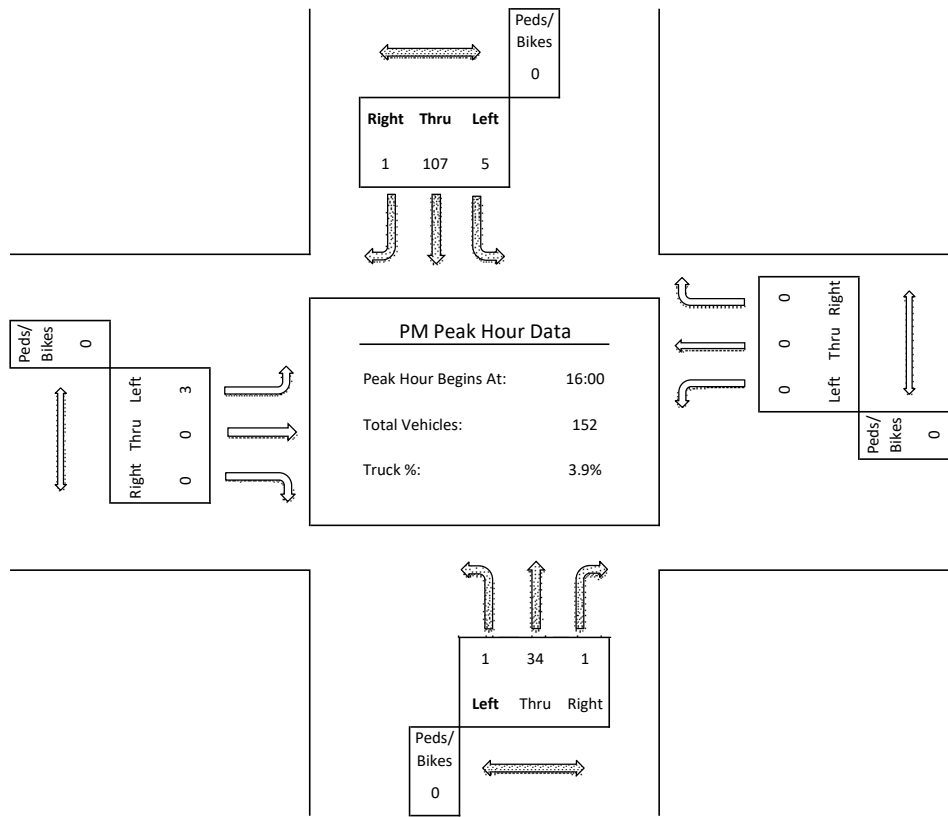
733 S Marquette Ave #700, Minneapolis, MN 55402

Intersection: CSAH 40 & 182nd St/Kelly Lake Rd
 Date: 12/8/2020
 Duration: 6:00-9:00, 15:00-19:00

Site Code: 107
 Ref Pt: N/A
 Page No: 3 of 3

All Vehicles (Cars & Trucks) Printed

Start Time	CSAH 40 Southbound						Kelly Lake Rd Westbound						CSAH 40 Northbound						182nd St Eastbound						Int. Veh. Total	Int. Ped/Bike Total
	U-Turn	Left	Thru	Right	App. Total	Peds/Bikes	U-Turn	Left	Thru	Right	App. Total	Peds/Bikes	U-Turn	Left	Thru	Right	App. Total	Peds/Bikes	U-Turn	Left	Thru	Right	App. Total	Peds/Bikes		
16:00	--	1	28	--	29	--	--	--	--	--	0	--	--	--	6	--	6	--	--	--	--	--	0	--	35	--
16:15	--	--	30	--	30	--	--	--	--	--	0	--	--	--	8	--	8	--	--	--	--	--	0	--	38	--
16:30	--	--	21	1	22	--	--	--	--	--	0	--	--	--	8	1	9	--	--	1	--	--	1	--	32	--
16:45	--	4	28	--	32	--	--	--	--	--	0	--	--	1	12	--	13	--	--	2	--	--	2	--	47	--
Hour Total	--	5	107	1	113	--	--	--	--	--	0	--	--	1	34	1	36	--	--	3	--	--	3	--	152	--
% of App.	0.0%	4.4%	94.7%	0.9%			0.0%	0.0%	0.0%	0.0%			0.0%	2.8%	94.4%	2.8%			0.0%	100%	0.0%	0.0%				
% of Total	0.0%	3.3%	70.4%	0.7%	74.3%	--	0.0%	0.0%	0.0%	0.0%	0.0%	--	0.0%	0.7%	22.4%	0.7%	23.7%	--	0.0%	2.0%	0.0%	0.0%	2.0%	--		
Cars Total	--	3	105	--	108	--	--	--	--	--	0	--	--	1	34	1	36	--	--	2	--	--	2	--	146	--
Cars % of Movement	0.0%	60.0%	98.1%	0.0%	95.6%	--	0.0%	0.0%	0.0%	0.0%	0.0%	--	0.0%	100%	100%	100%	100%	--	0.0%	66.7%	0.0%	0.0%	66.7%	--	96.1%	
Trucks Total	--	2	2	1	5	--	--	--	--	--	0	--	--	--	--	--	0	--	--	1	--	--	1	--	6	--
Trucks % of Movement	0.0%	40.0%	1.9%	100%	4.4%	--	0.0%	0.0%	0.0%	0.0%	0.0%	--	0.0%	0.0%	0.0%	0.0%	0.0%	--	0.0%	33.3%	0.0%	0.0%	33.3%	--	3.9%	



ALLIANT ENGINEERING, INC.

733 S Marquette Ave #700, Minneapolis, MN 55402

Intersection: CSAH 40 & 188th St
 Date: 12/8/2020
 Duration: 6:00-9:00, 15:00-19:00

Site Code: 108
 Ref Pt: N/A
 Page No: 1 of 3

All Vehicles (Cars & Trucks) Printed

Start Time	CSAH 40 Southbound						N/A Westbound						CSAH 40 Northbound						188th St Eastbound						Int. Veh. Total	Int. Ped/ Bike Total
	U-Turn	Left	Thru	Right	App. Total	Peds/ Bikes	U-Turn	Left	Thru	Right	App. Total	Peds/ Bikes	U-Turn	Left	Thru	Right	App. Total	Peds/ Bikes	U-Turn	Left	Thru	Right	App. Total	Peds/ Bikes		
6:00	--	--	2	--	2	1	--	--	--	--	0	--	--	1	18	--	19	--	1	1	--	1	3	--	24	1
6:15	--	--	5	1	6	1	--	--	--	--	0	--	--	--	15	--	15	--	1	2	--	--	3	1	24	2
6:30	--	--	3	--	3	--	--	--	--	--	0	--	--	--	27	--	27	--	--	1	--	1	2	--	32	--
6:45	--	--	4	--	4	--	--	--	--	--	0	--	--	--	17	--	17	--	--	--	--	--	0	--	21	--
Hour Total	--	--	14	1	15	2	--	--	--	--	--	--	--	1	77	--	78	--	2	4	--	2	8	1	101	3
7:00	--	--	6	--	6	--	--	--	--	--	0	--	--	--	19	--	19	--	--	3	--	--	3	--	28	--
7:15	--	--	3	--	3	--	--	--	--	--	0	--	--	--	21	--	21	--	--	--	--	--	0	--	24	--
7:30	--	--	6	--	6	--	--	--	--	--	0	--	--	--	18	--	18	--	--	--	--	1	1	--	25	--
7:45	--	--	5	--	5	--	--	--	--	--	0	--	--	1	9	--	10	--	--	--	--	--	0	--	15	--
Hour Total	--	--	20	--	20	--	--	--	--	--	--	--	--	1	67	--	68	--	--	3	--	1	4	--	92	--
8:00	--	--	1	--	1	--	--	--	--	--	0	--	--	--	17	--	17	--	--	1	--	--	1	--	19	--
8:15	--	--	4	--	4	--	--	--	--	--	0	--	--	--	12	--	12	--	--	1	--	--	1	--	17	--
8:30	--	--	2	--	2	--	--	--	--	--	0	--	--	--	12	--	12	--	--	--	--	--	0	--	14	--
8:45	--	--	3	--	3	--	--	--	--	--	0	--	--	--	15	--	15	--	--	--	--	--	0	--	18	--
Hour Total	--	--	10	--	10	--	--	--	--	--	--	--	--	--	56	--	56	--	--	2	--	--	2	--	68	--
15:00	--	--	13	--	13	--	--	--	--	--	0	--	--	--	6	--	6	--	--	--	--	--	0	--	19	--
15:15	--	--	23	--	23	--	--	--	--	--	0	--	--	--	8	--	8	--	--	--	--	--	0	--	31	--
15:30	--	--	23	--	23	--	--	--	--	--	0	--	--	--	7	--	7	--	--	--	--	--	0	--	30	--
15:45	--	--	25	--	25	--	--	--	--	--	0	--	--	--	10	--	10	--	--	--	--	--	0	--	35	--
Hour Total	--	--	84	--	84	--	--	--	--	--	--	--	--	--	31	--	31	--	--	--	--	--	--	--	115	--
16:00	--	--	28	--	28	--	--	--	--	--	0	--	--	--	6	--	6	--	--	1	--	--	1	--	35	--
16:15	--	--	29	--	29	--	--	--	--	--	0	--	--	--	9	--	9	--	--	--	--	1	1	--	39	--
16:30	--	--	22	1	23	--	--	--	--	--	0	--	--	1	10	--	11	--	--	--	--	--	0	--	34	--
16:45	--	--	22	--	22	--	--	--	--	--	0	--	--	--	11	--	11	--	--	1	--	--	1	--	34	--
Hour Total	--	--	101	1	102	--	--	--	--	--	--	--	--	1	36	--	37	--	--	2	--	1	3	--	142	--
17:00	--	--	26	--	26	--	--	--	--	--	0	--	--	--	7	--	7	--	--	--	--	--	0	--	33	--
17:15	--	--	24	--	24	--	--	--	--	--	0	--	--	--	7	--	7	--	--	--	--	--	0	--	31	--
17:30	--	--	30	--	30	--	--	--	--	--	0	--	--	2	7	--	9	--	--	--	--	--	0	--	39	--
17:45	--	--	13	--	13	--	--	--	--	--	0	--	--	--	5	--	5	--	--	--	--	--	0	--	18	--
Hour Total	--	--	93	--	93	--	--	--	--	--	--	--	--	2	26	--	28	--	--	--	--	--	--	--	121	--
19:00	--	--	--	--	0	--	--	--	--	--	0	--	--	--	--	--	0	--	--	--	--	--	0	--	--	--
19:15	--	--	--	--	0	--	--	--	--	--	0	--	--	--	--	--	0	--	--	--	--	--	0	--	--	--
19:30	--	--	--	--	0	--	--	--	--	--	0	--	--	--	--	--	0	--	--	--	--	--	0	--	--	--
19:45	--	--	--	--	0	--	--	--	--	--	0	--	--	--	--	--	0	--	--	--	--	--	0	--	--	--
Hour Total	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Grand Total	--	--	349	4	353	2	--	--	--	--	0	--	--	5	310	--	315	--	2	11	--	4	17	1	685	3
% of App.	0.0%	0.0%	98.9%	1.1%			0.0%	0.0%	0.0%	0.0%			0.0%	1.6%	98.4%	0.0%			11.8%	64.7%	0.0%	23.5%				
% of Total	0.0%	0.0%	50.9%	0.6%	51.5%	66.7%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.7%	45.3%	0.0%	46.0%	0.0%	0.3%	1.6%	0.0%	0.6%	2.5%	33.3%		
Cars Total	--	--	347	4	351	1	--	--	--	--	0	--	--	5	307	--	312	--	1	11	--	4	16	1	679	2
Cars % of Movement	0.0%	0.0%	99.4%	100%	99.4%	50.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	100%	99.0%	0.0%	99.0%	0.0%	50.0%	100%	0.0%	100%	94.1%	50.0%	99.1%	
Trucks Total	--	--	2	--	2	1	--	--	--	--	0	--	--	--	3	--	3	--	1	--	--	--	1	--	6	1
Trucks % of Movement	0.0%	0.0%	0.6%	0.0%	0.6%	#####	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	1.0%	0.0%	1.0%	0.0%	50.0%	0.0%	0.0%	0.0%	5.9%	0.0%	0.9%	

ALLIANT ENGINEERING, INC.

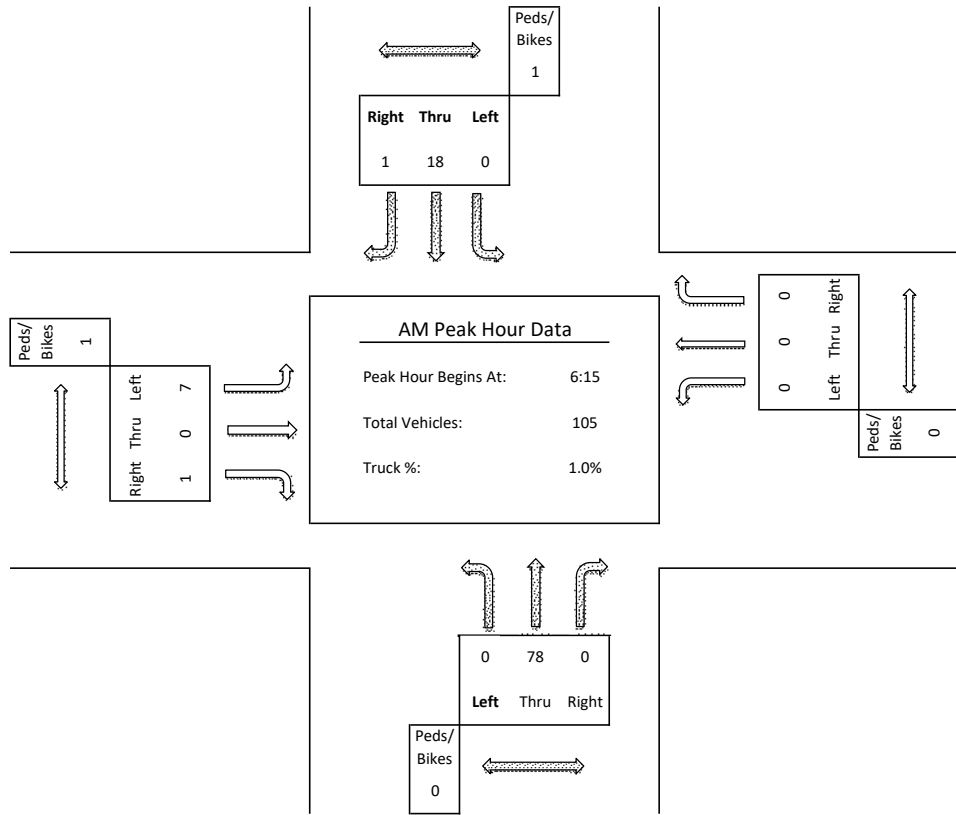
733 S Marquette Ave #700, Minneapolis, MN 55402

Intersection: CSAH 40 & 188th St
 Date: 12/8/2020
 Duration: 6:00-9:00, 15:00-19:00

Site Code: 108
 Ref Pt: N/A
 Page No: 2 of 3

All Vehicles (Cars & Trucks) Printed

Start Time	CSAH 40 Southbound						N/A Westbound						CSAH 40 Northbound						188th St Eastbound						Int. Veh. Total	Int. Ped/Bike Total
	U-Turn	Left	Thru	Right	App. Total	Peds/Bikes	U-Turn	Left	Thru	Right	App. Total	Peds/Bikes	U-Turn	Left	Thru	Right	App. Total	Peds/Bikes	U-Turn	Left	Thru	Right	App. Total	Peds/Bikes		
6:15	--	--	5	1	6	1	--	--	--	--	0	--	--	--	15	--	15	--	1	2	--	--	3	1	24	2
6:30	--	--	3	--	3	--	--	--	--	--	0	--	--	--	27	--	27	--	--	1	--	1	2	--	32	--
6:45	--	--	4	--	4	--	--	--	--	--	0	--	--	--	17	--	17	--	--	--	--	--	0	--	21	--
7:00	--	--	6	--	6	--	--	--	--	--	0	--	--	--	19	--	19	--	--	3	--	--	3	--	28	--
Hour Total	--	--	18	1	19	1	--	--	--	--	--	--	--	--	78	--	78	--	1	6	--	1	8	1	105	2
% of App.	0.0%	0.0%	94.7%	5.3%			0.0%	0.0%	0.0%	0.0%			0.0%	0.0%	100%	0.0%			12.5%	75.0%	0.0%	12.5%				
% of Total	0.0%	0.0%	17.1%	1.0%	18.1%	50.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	74.3%	0.0%	74.3%	0.0%	1.0%	5.7%	0.0%	1.0%	7.6%	50.0%		
Cars Total	--	--	18	1	19	1	--	--	--	--	0	--	--	--	78	--	78	--	--	6	--	1	7	1	104	2
Cars % of Movement	0.0%	0.0%	100%	100%	100%	50.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	100%	0.0%	100%	0.0%	0.0%	100%	0.0%	100%	87.5%	50.0%	99.0%	
Trucks Total	--	--	--	--	0	--	--	--	--	--	0	--	--	--	--	--	0	--	1	--	--	--	1	--	1	--
Trucks % of Movement	0.0%	0.0%	0.0%	0.0%	0.0%	--	0.0%	0.0%	0.0%	0.0%	0.0%	--	0.0%	0.0%	0.0%	0.0%	0.0%	--	100%	0.0%	0.0%	0.0%	12.5%	--	1.0%	



ALLIANT ENGINEERING, INC.

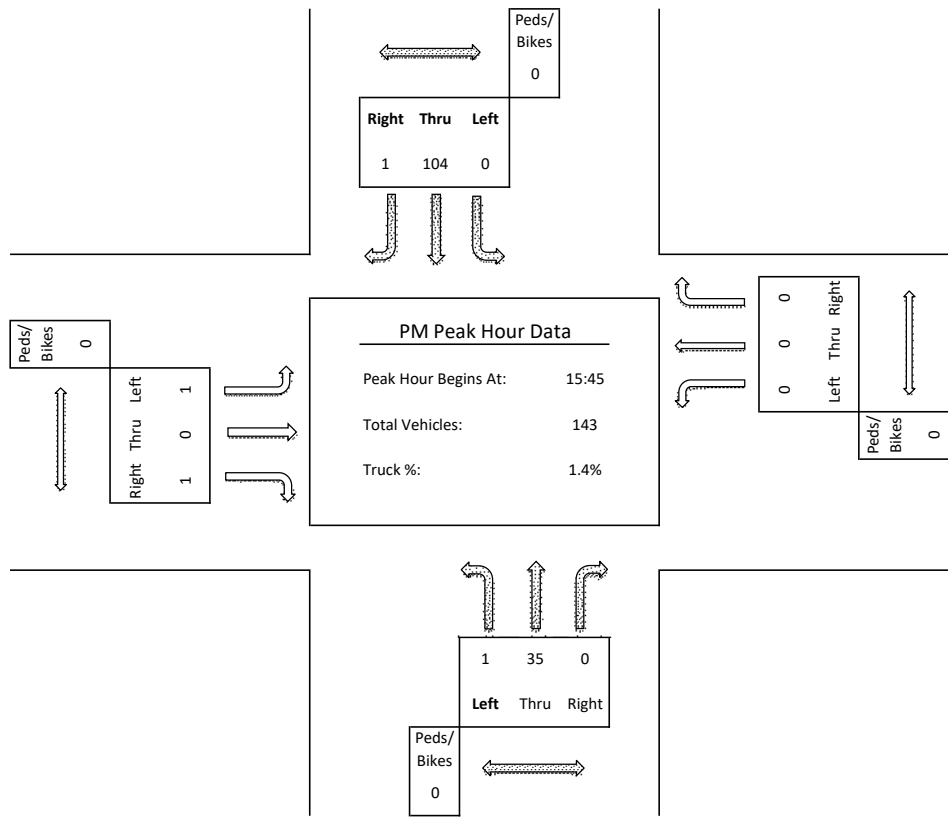
733 S Marquette Ave #700, Minneapolis, MN 55402

Intersection: CSAH 40 & 188th St
 Date: 12/8/2020
 Duration: 6:00-9:00, 15:00-19:00

Site Code: 108
 Ref Pt: N/A
 Page No: 3 of 3

All Vehicles (Cars & Trucks) Printed

Start Time	CSAH 40 Southbound						N/A Westbound						CSAH 40 Northbound						188th St Eastbound						Int. Veh. Total	Int. Ped/Bike Total
	U-Turn	Left	Thru	Right	App. Total	Peds/Bikes	U-Turn	Left	Thru	Right	App. Total	Peds/Bikes	U-Turn	Left	Thru	Right	App. Total	Peds/Bikes	U-Turn	Left	Thru	Right	App. Total	Peds/Bikes		
15:45	--	--	25	--	25	--	--	--	--	--	0	--	--	--	10	--	10	--	--	--	--	--	0	--	35	--
16:00	--	--	28	--	28	--	--	--	--	--	0	--	--	--	6	--	6	--	--	1	--	--	1	--	35	--
16:15	--	--	29	--	29	--	--	--	--	--	0	--	--	--	9	--	9	--	--	--	--	1	1	--	39	--
16:30	--	--	22	1	23	--	--	--	--	--	0	--	--	1	10	--	11	--	--	--	--	--	0	--	34	--
Hour Total	--	--	104	1	105	--	--	--	--	--	--	--	--	1	35	--	36	--	--	1	--	1	2	--	143	--
% of App.	0.0%	0.0%	99.0%	1.0%			0.0%	0.0%	0.0%	0.0%			0.0%	2.8%	97.2%	0.0%			0.0%	50.0%	0.0%	50.0%				
% of Total	0.0%	0.0%	72.7%	0.7%	73.4%	--	0.0%	0.0%	0.0%	0.0%	0.0%	--	0.0%	0.7%	24.5%	0.0%	25.2%	--	0.0%	0.7%	0.0%	0.7%	1.4%	--		
Cars Total	--	--	103	1	104	--	--	--	--	--	0	--	--	1	34	--	35	--	--	1	--	1	2	--	141	--
Cars % of Movement	0.0%	0.0%	99.0%	100%	99.0%	--	0.0%	0.0%	0.0%	0.0%	0.0%	--	0.0%	100%	97.1%	0.0%	97.2%	--	0.0%	100%	0.0%	100%	100%	--	98.6%	--
Trucks Total	--	--	1	--	1	--	--	--	--	--	0	--	--	--	1	--	1	--	--	--	--	--	0	--	2	--
Trucks % of Movement	0.0%	0.0%	1.0%	0.0%	1.0%	--	0.0%	0.0%	0.0%	0.0%	0.0%	--	0.0%	0.0%	2.9%	0.0%	2.8%	--	0.0%	0.0%	0.0%	0.0%	0.0%	--	1.4%	--



ALLIANT ENGINEERING, INC.

733 S Marquette Ave #700, Minneapolis, MN 55402

Intersection: TH 25 & CSAH 40
 Date: 12/17/2020
 Duration: 6:00-19:00

Site Code: 109
 Ref Pt: N/A
 Page No: 1 of 4

All Vehicles (Cars & Trucks) Printed

Start Time	TH 25 Southbound						CSAH 40 Westbound						TH 25 Northbound						CSAH 40 Eastbound						Int. Veh. Total	Int. Ped/ Bike Total		
	U-Turn	Left	Thru	Right	App. Total	Peds/ Bikes	U-Turn	Left	Thru	Right	App. Total	Peds/ Bikes	U-Turn	Left	Thru	Right	App. Total	Peds/ Bikes	U-Turn	Left	Thru	Right	App. Total	Peds/ Bikes				
6:00	--	4	23	--	27	--	--	2	--	--	2	--	--	1	12	13	26	--	--	--	2	1	3	--	58	--		
6:15	--	--	25	--	25	--	--	3	--	1	4	--	--	1	11	16	28	--	--	--	1	3	4	--	61	--		
6:30	--	--	20	--	20	--	--	5	--	--	5	--	--	1	24	20	45	--	--	--	4	2	6	--	76	--		
6:45	--	--	25	--	25	--	--	5	--	--	5	--	--	2	16	17	35	--	--	--	3	2	5	--	70	--		
Hour Total	--	4	93	--	97	--	--	15	--	1	16	--	--	5	63	66	134	--	--	--	10	8	18	--	265	--		
7:00	--	--	29	--	29	--	--	8	2	1	11	--	--	5	19	19	43	--	--	--	--	1	1	--	84	--		
7:15	--	--	34	3	37	--	--	5	2	1	8	--	--	1	16	24	41	--	--	--	1	1	2	--	88	--		
7:30	--	1	37	--	38	--	--	7	1	--	8	--	--	3	19	16	38	--	--	--	7	3	10	--	94	--		
7:45	--	1	36	--	37	--	--	2	--	--	2	--	--	2	25	5	32	--	--	--	1	1	3	5	76	--		
Hour Total	--	2	136	3	141	--	--	22	5	2	29	--	--	11	79	64	154	--	--	--	1	9	8	18	--	342	--	
8:00	--	--	19	--	19	--	--	7	1	--	8	--	--	3	27	7	37	--	--	--	2	1	4	7	71	--		
8:15	--	--	25	--	25	--	--	5	--	--	5	--	--	4	29	2	35	--	--	--	2	5	7	--	72	--		
8:30	--	--	34	1	35	--	--	1	2	--	3	--	--	1	26	13	40	--	--	--	1	--	1	2	80	--		
8:45	--	2	26	1	29	--	--	1	--	--	1	--	--	2	20	8	30	--	--	--	1	1	2	4	64	--		
Hour Total	--	2	104	2	108	--	--	14	3	--	17	--	--	10	102	30	142	--	--	--	4	4	12	20	--	287	--	
9:00	--	--	27	--	27	--	--	5	4	--	9	--	--	1	21	7	29	--	--	--	2	3	1	6	71	--		
9:15	--	2	20	3	25	--	--	3	--	--	3	--	--	2	13	2	17	--	--	--	1	--	1	2	47	--		
9:30	--	--	19	3	22	--	--	4	1	2	7	--	--	2	23	6	31	--	--	--	3	6	9	--	69	--		
9:45	--	--	24	1	25	--	--	5	1	1	7	--	--	3	12	6	21	--	--	--	1	1	4	6	59	--		
Hour Total	--	2	90	7	99	--	--	17	6	3	26	--	--	8	69	21	98	--	--	--	4	7	12	23	--	246	--	
10:00	--	1	21	2	24	--	--	10	2	--	12	--	--	1	18	6	25	--	--	--	1	3	1	5	66	--		
10:15	--	--	23	1	24	--	--	8	1	--	9	--	--	1	21	8	30	--	--	--	2	4	2	8	71	--		
10:30	--	1	15	1	17	--	--	6	3	--	9	--	--	7	19	4	30	--	--	--	1	6	7	--	63	--		
10:45	--	2	35	--	37	--	--	2	--	2	4	--	--	2	14	6	22	--	--	--	--	9	9	--	72	--		
Hour Total	--	4	94	4	102	--	--	26	6	2	34	--	--	11	72	24	107	--	--	--	3	8	18	29	--	272	--	
11:00	--	--	20	--	20	--	--	5	--	--	5	--	--	4	27	5	36	--	--	--	1	--	4	5	66	--		
11:15	--	1	24	--	25	--	--	6	1	1	8	--	--	3	19	13	35	--	--	--	4	4	8	--	76	--		
11:30	--	--	27	1	28	--	--	10	--	--	10	--	--	7	25	4	36	--	--	--	1	3	4	--	78	--		
11:45	--	1	17	2	20	--	--	4	1	1	6	--	--	1	19	6	26	--	--	--	1	1	2	--	54	--		
Hour Total	--	2	88	3	93	--	--	25	2	2	29	--	--	15	90	28	133	--	--	--	1	6	12	19	--	274	--	
12:00	--	1	24	1	26	--	--	9	2	2	13	--	--	4	29	7	40	--	--	--	--	1	6	7	86	--		
12:15	--	--	18	--	18	--	--	6	1	--	7	--	--	1	3	23	10	37	--	--	--	3	2	5	67	--		
12:30	--	1	29	--	30	--	--	12	1	--	13	--	--	5	24	9	38	--	--	--	1	5	6	--	87	--		
12:45	--	--	20	--	20	--	--	7	--	--	7	--	--	4	35	8	47	--	--	--	1	1	2	4	78	--		
Hour Total	--	2	91	1	94	--	--	34	4	2	40	--	--	1	16	111	34	162	--	--	--	1	6	15	22	--	318	--
13:00	--	--	25	2	27	--	--	5	3	2	10	--	--	1	21	8	30	--	--	--	1	3	1	5	72	--		
13:15	--	--	20	--	20	--	--	7	1	2	10	--	--	11	16	3	30	--	--	--	--	1	3	4	--	64	--	
13:30	--	1	17	--	18	--	--	5	--	--	5	--	--	4	32	7	43	--	--	--	--	4	4	--	70	--		
13:45	--	1	23	1	25	--	--	5	4	2	11	--	--	5	25	4	34	--	--	--	1	2	3	6	76	2		
Hour Total	--	2	85	3	90	--	--	22	8	6	36	--	--	21	94	22	137	--	--	--	2	6	11	19	2	282	2	
14:00	--	--	21	--	21	--	1	14	1	1	17	--	--	6	24	14	44	--	--	--	--	4	4	8	1	90	1	
14:15	--	--	24	3	27	--	--	10	2	1	13	--	--	4	25	10	39	--	--	--	--	1	6	7	1	86	1	
14:30	--	1	23	--	24	--	--	15	2	1	18	--	--	1	28	6	35	--	--	--	--	4	4	2	81	2		
14:45	--	--	32	--	32	--	--	11	5	1	17	--	--	3	39	8	50	--	--	--	2	--	1	3	102	--		
Hour Total	--	1	100	3	104	--	1	50	10	4	65	--	--	14	116	38	168	--	--	--	2	5	15	22	4	359	4	
15:00	--	--	21	--	21	--	--	19	--	--	19	--	--	1	30	13	44	--	--	--	--	2	1	3	--	87	--	
15:15	--	--	20	1	21	--	--	18	3	1	22	--	--	4	27	8	39	--	--	--	--	--	6	6	--	88	--	
15:30	--	3	25	6	34	--	--	21	3	1	25	--	--	6	30	8	44	--	--	--	1	1	4	6	2	109	2	
15:45	--	--	30	--	30	--	--	21	5	--	26	--	--	6	31	12	49	--	--	--	--	2	2	--	107	--		
Hour Total	--	3	96	7	106	--	--	79	11	2	92	--	--	17	118	41	176	--	--	--	1	3	13	17	2	391	2	
16:00	--	--	31	--	31	--	--	27	5	2	34	--	--	4	43	10	57	--	--	--	1	1	4	6	--	128	--	
16:15	--	--	35	2	37	--	--	18	8	1	27	--	--	3	38	8	49	--	--	--	--	--	3	3	--	116	--	
16:30	--	--	35	--	35	--	--	25	5	--	30	--	--	5	47	9	61	--	--	--	1	2	4	7	--	133	--	
16:45	--	--	28	1	29	--	--	23	2	1	26	--	--	4	49	13	66	--	--	--	--	1	5	6	--	127	--	
Hour Total	--	--	129	3	132	--	--	93	20	4	117	--	--	16	177	40	233	--	--	--	2	4	16	22	--	504	--	
17:00	--	2	30	--	32	--	--	28	2	2	32	--	--	7	40	17	64	--	--	--	1	1	4	6	--	134	--	
17:15	--	--	37	--	37	--	--	20	2	1	23	--	--	4	34	3	41	--	--	--	1	--	4	5	--	106	--	
17:30	--	--	19	--	19	--	--	23	2	2	27	--	--	1	30	5	36	--	--	--	--	1	2	3	--	85	--	
17:45	--	--	30	--	30	--	--	13	1	2	16	--	--	--	32	7	39	--	--	--	--	--	1	1	--	86	--	
Hour Total	--	2	116	--	118	--	--	84	7	7	98	--	--	12	136	32	180	--	--	--	2	2	11	15	--	411	--	
18:00	--	1	18	--	19	--	--	11	2	1	14	--	--	3	23	1	27	--	--	--	--	--	2	2	--	62	--	
18:15	--	--	23	--	23	--	--	6	1	1	8	--	--	2	32	6	40	--	--	--	--	--	--	0	--	71	--	
18:30	--	--	17	--	17	--	--	9	1	--	10	--	--	2	23	1	26	--	--	--	--	--	2	2	--	55	--	
18:45	--	--	12	--	12	--	--	8	1	--	9	--	--	--	15	4	19	--	--	--	--	--	--	0	--	40	--	
Hour Total	--	1	70	--	71	--	--	34	5	2	41	--	--	7	93	12	112	--	--	--	--	--	4	4	--	228	--	
Grand Total	--	27	1292	36	1355	--	1	515	87	37	640	--	1	163	1320	452	1936	--	--	--	23	70	155	248	8	4179	8	
% of App. % of Total	0.0%	2.0%	95.4%	2.7%	0.0%	0.0%	0.2%	80.5%	13.6%	5.8%	0.0%	0.0%	0.0%	0.6%	30.9%	0.9%	32.4%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	
Cars Total	--	26	1147	31	1204	--	1	504	85	31	621	--	1	148	1154	433	1736	--	--	--	22	67	139	228	8	3789	8	
Cars % of Movement	0.0%	96.3%	88.8%	86.1%	88.9%	0.0%	100%	9																				

ALLIANT ENGINEERING, INC.

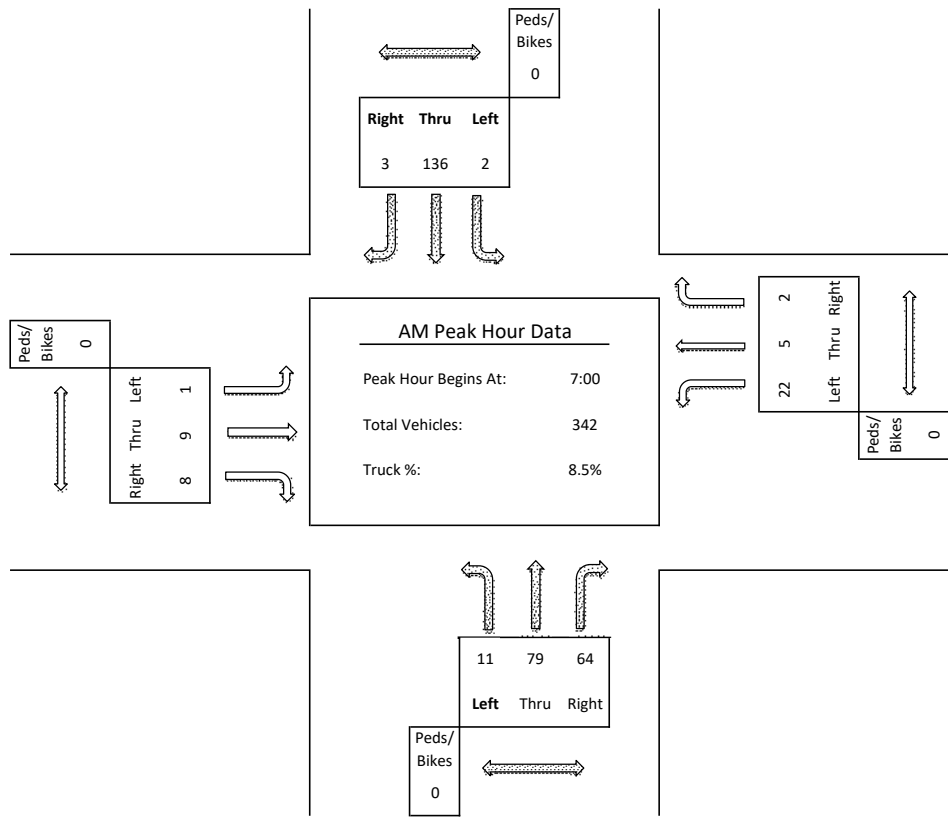
733 S Marquette Ave #700, Minneapolis, MN 55402

Intersection: TH 25 & CSAH 40
 Date: 12/17/2020
 Duration: 6:00-19:00

Site Code: 109
 Ref Pt: N/A
 Page No: 2 of 4

All Vehicles (Cars & Trucks) Printed

Start Time	TH 25 Southbound						CSAH 40 Westbound						TH 25 Northbound						CSAH 40 Eastbound						Int. Veh. Total	Int. Ped/Bike Total
	U-Turn	Left	Thru	Right	App. Total	Peds/Bikes	U-Turn	Left	Thru	Right	App. Total	Peds/Bikes	U-Turn	Left	Thru	Right	App. Total	Peds/Bikes	U-Turn	Left	Thru	Right	App. Total	Peds/Bikes		
7:00	--	--	29	--	29	--	--	8	2	1	11	--	--	5	19	19	43	--	--	--	--	1	1	--	84	--
7:15	--	--	34	3	37	--	--	5	2	1	8	--	--	1	16	24	41	--	--	--	1	1	2	--	88	--
7:30	--	1	37	--	38	--	--	7	1	--	8	--	--	3	19	16	38	--	--	--	7	3	10	--	94	--
7:45	--	1	36	--	37	--	--	2	--	--	2	--	--	2	25	5	32	--	--	1	1	3	5	--	76	--
Hour Total	--	2	136	3	141	--	--	22	5	2	29	--	--	11	79	64	154	--	--	1	9	8	18	--	342	--
% of App.	0.0%	1.4%	96.5%	2.1%			0.0%	75.9%	17.2%	6.9%			0.0%	7.1%	51.3%	41.6%			0.0%	5.6%	50.0%	44.4%				
% of Total	0.0%	0.6%	39.8%	0.9%	41.2%	--	0.0%	6.4%	1.5%	0.6%	8.5%	--	0.0%	3.2%	23.1%	18.7%	45.0%	--	0.0%	0.3%	2.6%	2.3%	5.3%	--		
Cars Total	--	2	123	3	128	--	--	22	5	2	29	--	--	10	71	59	140	--	--	1	9	6	16	--	313	--
Cars % of Movement	0.0%	100%	90.4%	100%	90.8%	--	0.0%	100%	100%	100%	100%	--	0.0%	90.9%	89.9%	92.2%	90.9%	--	0.0%	100%	100%	75.0%	88.9%	--	91.5%	--
Trucks Total	--	--	13	--	13	--	--	--	--	--	0	--	--	1	8	5	14	--	--	--	--	2	2	--	29	--
Trucks % of Movement	0.0%	0.0%	9.6%	0.0%	9.2%	--	0.0%	0.0%	0.0%	0.0%	0.0%	--	0.0%	9.1%	10.1%	7.8%	9.1%	--	0.0%	0.0%	0.0%	25.0%	11.1%	--	8.5%	--



ALLIANT ENGINEERING, INC.

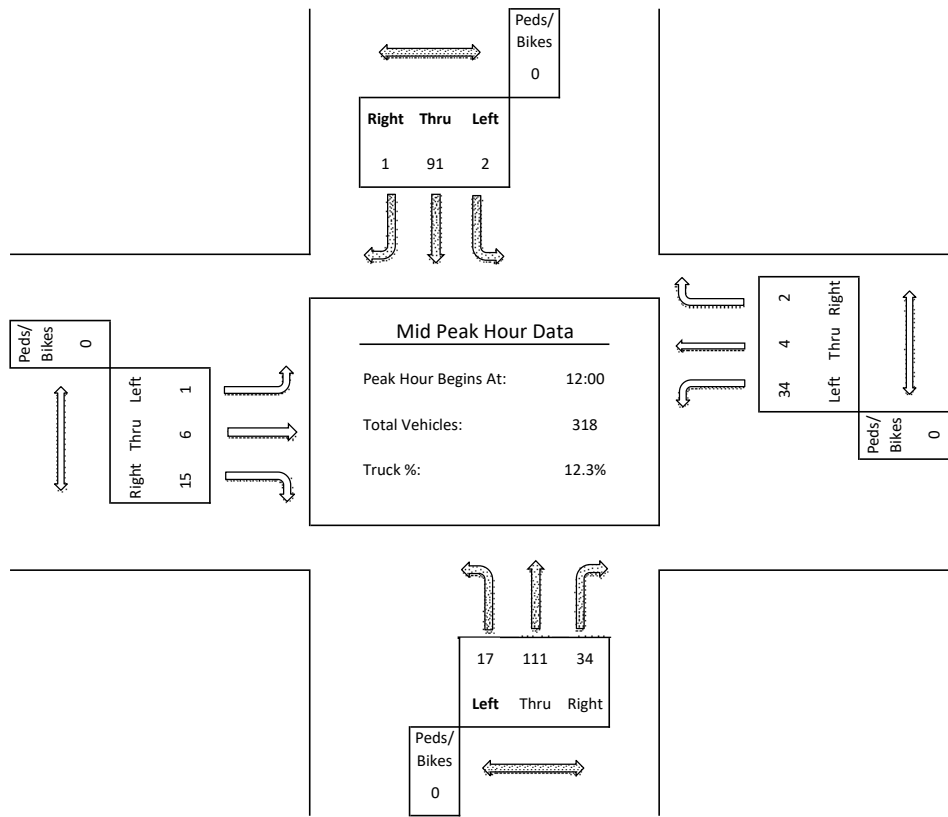
733 S Marquette Ave #700, Minneapolis, MN 55402

Intersection: TH 25 & CSAH 40
 Date: 12/17/2020
 Duration: 6:00-19:00

Site Code: 109
 Ref Pt: N/A
 Page No: 3 of 4

All Vehicles (Cars & Trucks) Printed

Start Time	TH 25 Southbound						CSAH 40 Westbound						TH 25 Northbound						CSAH 40 Eastbound						Int. Veh. Total	Int. Ped/Bike Total
	U-Turn	Left	Thru	Right	App. Total	Peds/Bikes	U-Turn	Left	Thru	Right	App. Total	Peds/Bikes	U-Turn	Left	Thru	Right	App. Total	Peds/Bikes	U-Turn	Left	Thru	Right	App. Total	Peds/Bikes		
12:00	--	1	24	1	26	--	--	9	2	2	13	--	--	4	29	7	40	--	--	--	1	6	7	--	86	--
12:15	--	--	18	--	18	--	--	6	1	--	7	--	1	3	23	10	37	--	--	--	3	2	5	--	67	--
12:30	--	1	29	--	30	--	--	12	1	--	13	--	--	5	24	9	38	--	--	--	1	5	6	--	87	--
12:45	--	--	20	--	20	--	--	7	--	--	7	--	--	4	35	8	47	--	--	1	1	2	4	--	78	--
Hour Total	--	2	91	1	94	--	--	34	4	2	40	--	1	16	111	34	162	--	--	1	6	15	22	--	318	--
% of App.	0.0%	2.1%	96.8%	1.1%			0.0%	85.0%	10.0%	5.0%			0.6%	9.9%	68.5%	21.0%			0.0%	4.5%	27.3%	68.2%				
% of Total	0.0%	0.6%	28.6%	0.3%	29.6%	--	0.0%	10.7%	1.3%	0.6%	12.6%	--	0.3%	5.0%	34.9%	10.7%	50.9%	--	0.0%	0.3%	1.9%	4.7%	6.9%	--		
Cars Total	--	1	77	1	79	--	--	32	4	2	38	--	1	15	92	33	141	--	--	1	6	14	21	--	279	--
Cars % of Movement	0.0%	50.0%	84.6%	100%	84.0%	--	0.0%	94.1%	100%	100%	95.0%	--	100%	93.8%	82.9%	97.1%	87.0%	--	0.0%	100%	100%	93.3%	95.5%	--	87.7%	
Trucks Total	--	1	14	--	15	--	--	2	--	--	2	--	--	1	19	1	21	--	--	--	--	1	1	--	39	--
Trucks % of Movement	0.0%	50.0%	15.4%	0.0%	16.0%	--	0.0%	5.9%	0.0%	0.0%	5.0%	--	0.0%	6.3%	17.1%	2.9%	13.0%	--	0.0%	0.0%	0.0%	6.7%	4.5%	--	12.3%	



ALLIANT ENGINEERING, INC.

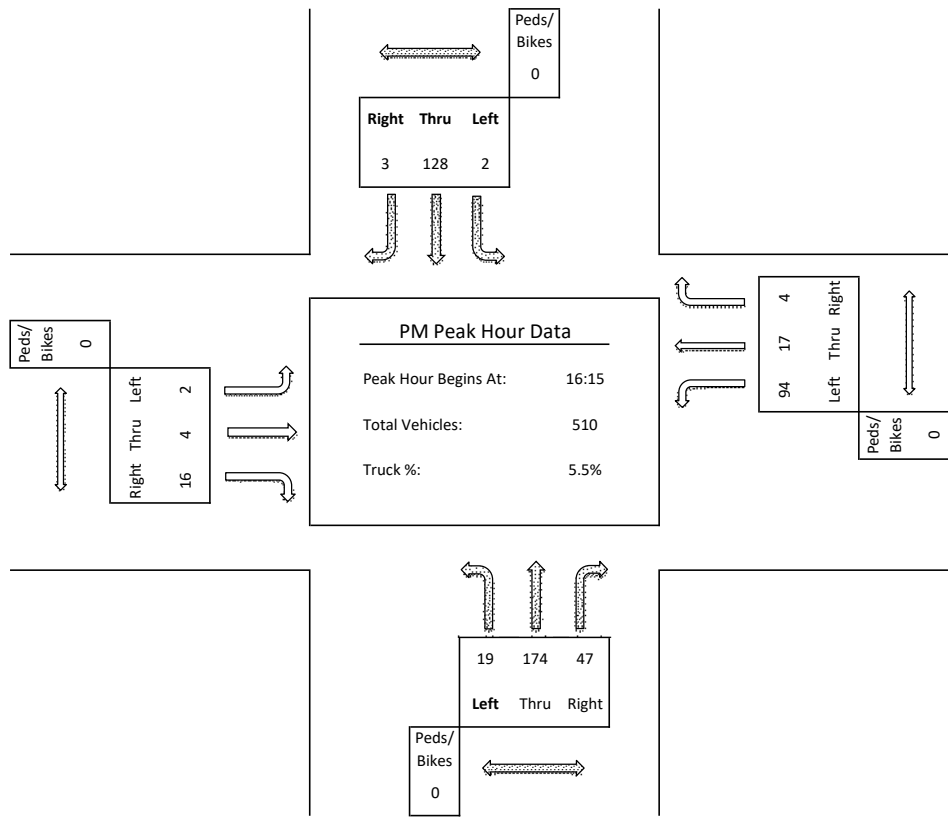
733 S Marquette Ave #700, Minneapolis, MN 55402

Intersection: TH 25 & CSAH 40
 Date: 12/17/2020
 Duration: 6:00-19:00

Site Code: 109
 Ref Pt: N/A
 Page No: 4 of 4

All Vehicles (Cars & Trucks) Printed

Start Time	TH 25 Southbound						CSAH 40 Westbound						TH 25 Northbound						CSAH 40 Eastbound						Int. Veh. Total	Int. Ped/Bike Total
	U-Turn	Left	Thru	Right	App. Total	Peds/Bikes	U-Turn	Left	Thru	Right	App. Total	Peds/Bikes	U-Turn	Left	Thru	Right	App. Total	Peds/Bikes	U-Turn	Left	Thru	Right	App. Total	Peds/Bikes		
16:15	--	--	35	2	37	--	--	18	8	1	27	--	--	3	38	8	49	--	--	--	--	3	3	--	116	--
16:30	--	--	35	--	35	--	--	25	5	--	30	--	--	5	47	9	61	--	--	1	2	4	7	--	133	--
16:45	--	--	28	1	29	--	--	23	2	1	26	--	--	4	49	13	66	--	--	--	1	5	6	--	127	--
17:00	--	2	30	--	32	--	--	28	2	2	32	--	--	7	40	17	64	--	--	1	1	4	6	--	134	--
Hour Total	--	2	128	3	133	--	--	94	17	4	115	--	--	19	174	47	240	--	--	2	4	16	22	--	510	--
% of App.	0.0%	1.5%	96.2%	2.3%			0.0%	81.7%	14.8%	3.5%			0.0%	7.9%	72.5%	19.6%			0.0%	9.1%	18.2%	72.7%				
% of Total	0.0%	0.4%	25.1%	0.6%	26.1%	--	0.0%	18.4%	3.3%	0.8%	22.5%	--	0.0%	3.7%	34.1%	9.2%	47.1%	--	0.0%	0.4%	0.8%	3.1%	4.3%	--		
Cars Total	--	2	120	3	125	--	--	92	17	4	113	--	--	19	157	46	222	--	--	2	4	16	22	--	482	--
Cars % of Movement	0.0%	100%	93.8%	100%	94.0%	--	0.0%	97.9%	100%	100%	98.3%	--	0.0%	100%	90.2%	97.9%	92.5%	--	0.0%	100%	100%	100%	100%	--	94.5%	--
Trucks Total	--	--	8	--	8	--	--	2	--	--	2	--	--	--	17	1	18	--	--	--	--	--	0	--	28	--
Trucks % of Movement	0.0%	0.0%	6.3%	0.0%	6.0%	--	0.0%	2.1%	0.0%	0.0%	1.7%	--	0.0%	0.0%	9.8%	2.1%	7.5%	--	0.0%	0.0%	0.0%	0.0%	0.0%	--	5.5%	--



Appendix B: Traffic Signal Warrant Analyses

TRAFFIC SIGNAL WARRANTS ANALYSIS

CSAH 40 Corridor Study, CSAH 40 & CSAH 50



Background	Project Data			Analysis	Volumes	Direction	Analysis Approach		Roadway	Speed	Lanes	RT %
	Project: CSAH 40 Corridor Study Intersection: CSAH 40 & CSAH 50 Population < 10,000? NO 70% Factor Used: YES	Date: 3/11/2021 Analysis: JDC	Scenario: Existing Format: 15 MIN	SB NB WB EB	Major Approach 1 Major Approach 3 Minor Approach 2 Minor Approach 4	CSAH 40 CSAH 40 CSAH 50 CSAH 50	55 55 35 35	1 1 1 1	100% 100% 100% 100%			

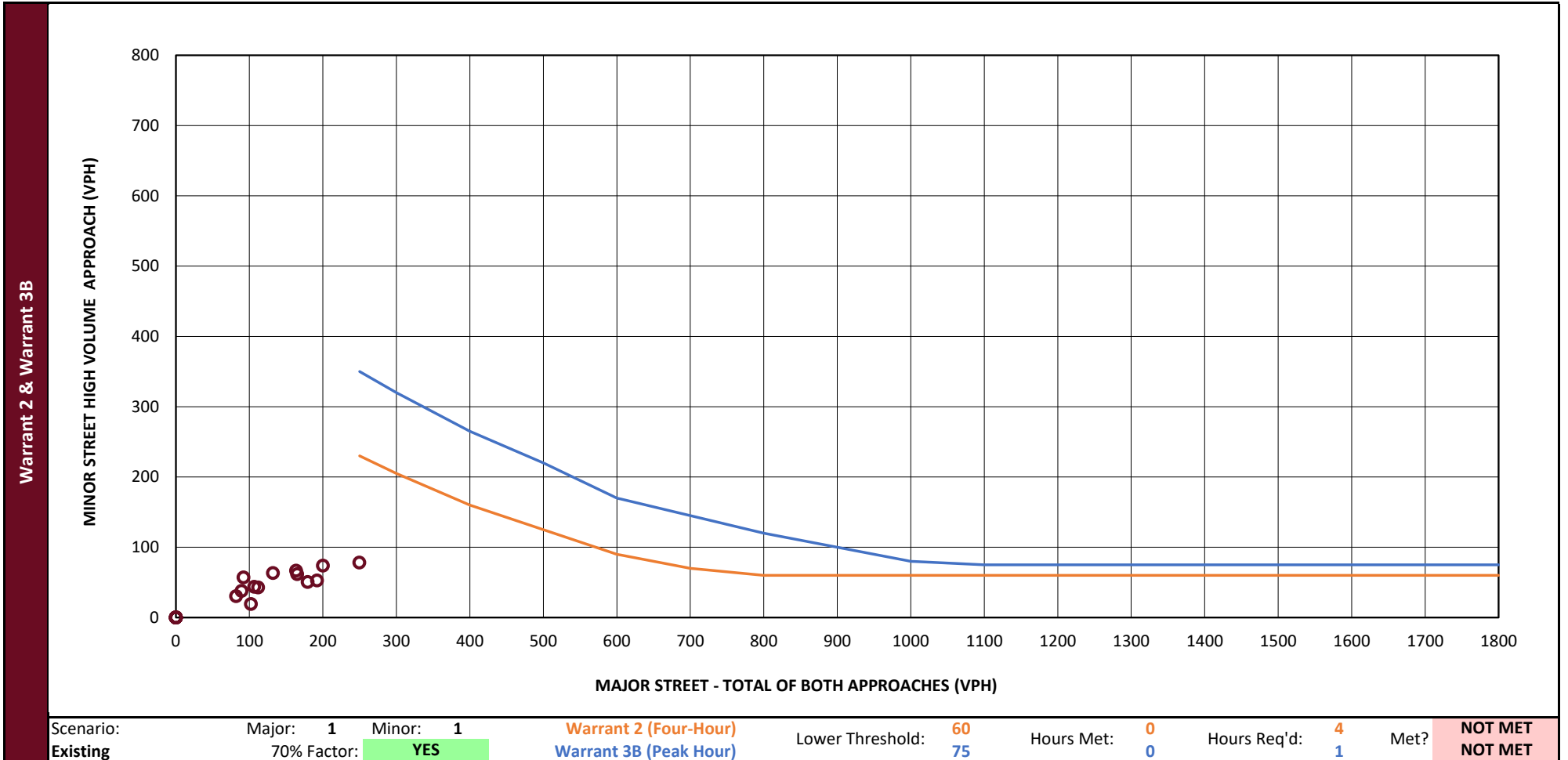
Warrant Analysis	Hour	Major Approaches			Volumes Met		Minor Approaches			Volumes Met		Traffic Signal Warrants							Volumes Met		AWS Warrants	
		Major 1	Major 3	Total	A 350	B 525	Minor 2	Minor 4	Max	A 105	B 53	Same Hours	80% A	80% B	4-HR	Peak	Existing 60%	C1	C2	Same	80%	
		1	3									1A	1B	1C	2	3B	1A	1B	210	140	C	D
12 - 1 AM	0	0	0			0	0	0														
1 - 2 AM	0	0	0			0	0	0														
2 - 3 AM	0	0	0			0	0	0														
3 - 4 AM	0	0	0			0	0	0														
4 - 5 AM	0	0	0			0	0	0														
5 - 6 AM	0	0	0			0	0	0														
6 - 7 AM	16	148	164			27	67	67		X												
7 - 8 AM	32	134	165			51	62	62		X												
8 - 9 AM	24	108	132			41	63	63		X												
9 - 10 AM	42	47	89			38	36	38														
10 - 11 AM	38	44	82			22	30	30														
11 - Noon	48	43	92			37	57	57		X												
12 - 1 PM	65	41	106			35	44	44														
1 - 2 PM	57	55	112			43	38	43														
2 - 3 PM	126	53	179			42	51	51														
3 - 4 PM	144	56	200			74	64	74		X												
4 - 5 PM	190	60	250			64	78	78		X							X		X	X	X	
5 - 6 PM	146	46	192			48	53	53														
6 - 7 PM	74	28	102			19	19	19														
7 - 8 PM	0	0	0			0	0	0														
8 - 9 PM	0	0	0			0	0	0														
9 - 10 PM	0	0	0			0	0	0														
10 - 11 PM	0	0	0			0	0	0														
11 - 12 AM	0	0	0			0	0	0														

Warrant Summary	Warrant & Description	Met	Req'd.	Warrant Met?	Warrant & Description	Met	Req'd.	Warrant Met?
	Warrant 1A: Eight-Hour (Minimum Vehicular Volume)	0	8	NOT MET	Existing Signal Justification: Condition A	1	8	NOT MET
Warrant 1B: Eight-Hour (Interruption of Continuous Traffic)	0	8	NOT MET	Existing Signal Justification: Condition B	0	8	NOT MET	
Warrant 1C: Eight-Hour (Combination of Warrants)	0	8	NOT MET	All-Way Stop: Criteria A (Signal Justified)	-	-	NOT MET	
Warrant 2: Four-Hour	0	4	NOT MET	All-Way Stop: Criteria B (Crash History - 12 Months)	1	5	NOT MET	
Warrant 3B: Peak Hour	0	1	NOT MET	All-Way Stop: Criteria C (Minimum Volumes)	1	8	NOT MET	
Warrant 7B: Crash History - 12 Months	1	5	NOT MET	All-Way Stop: Criteria C (Minimum Delay - Minor Peak Hour)	0	30	NOT MET	
Warrant 7C: Condition A or Condition B (80%)	0	8	NOT MET	All-Way Stop: Criteria D (80% B, C.1, & C.2)	0	8	NOT MET	

Source: Minnesota Manual on Uniform Traffic Control Devices (MnMUTCD)

TRAFFIC SIGNAL WARRANTS ANALYSIS

CSAH 40 Corridor Study, CSAH 40 & CSAH 50



Source: Minnesota Manual on Uniform Traffic Control Devices (MnMUTCD)

Warrant 2 (Four-Hour) Notes:

100%: 115 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 80 vph applies as the lower threshold volume for a minor-street approach with one lane.
70%: 80 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 60 vph applies as the lower threshold volume for a minor-street approach with one lane.

Warrant 3B (Peak Hour) Notes:

100%: 150 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 100 vph applies as the lower threshold volume for a minor-street approach with one lane.
70%: 100 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 75 vph applies as the lower threshold volume for a minor-street approach with one lane.

TRAFFIC SIGNAL WARRANTS ANALYSIS

CSAH 40 Corridor Study, CSAH 40 & TH 25



Background	Project Data			Analysis	Volumes	Direction	Analysis Approach		Roadway	Speed	Lanes	RT %
	Project: CSAH 40 Corridor Study			Date:	Scenario:	SB	Major Approach 1		TH 25	55	1	100%
	Intersection: CSAH 40 & TH 25			3/11/2021	Existing	NB	Major Approach 3		TH 25	55	1	100%
	Population < 10,000? NO			Analysis:	Format:	WB	Minor Approach 2		CSAH 40	55	1	100%
70% Factor Used: YES			JDC	15 MIN	EB	Minor Approach 4		CSAH 6	55	1	0%	

Warrant Analysis	Hour	Major Approaches			Volumes Met		Minor Approaches			Volumes Met		Traffic Signal Warrants							Volumes Met		AWS Warrants		
		Major 1	Major 3	Total	A 350	B 525	Minor 2	Minor 4	Max	A 105	B 53	Same Hours	80% A	80% B	4-HR	Peak	Existing 60%		C1	C2	Same	80%	
		1	3									1A	1B	1C		2	3B	1A	1B	210	140	C	D
12 - 1 AM	0	0	0			0	0	0															
1 - 2 AM	0	0	0			0	0	0															
2 - 3 AM	0	0	0			0	0	0															
3 - 4 AM	0	0	0			0	0	0															
4 - 5 AM	0	0	0			0	0	0															
5 - 6 AM	0	0	0			0	0	0															
6 - 7 AM	132	185	317			22	14	22												X			
7 - 8 AM	193	211	404	X		41	14	41										X		X			
8 - 9 AM	148	195	343			23	11	23												X			
9 - 10 AM	137	136	273			36	15	36												X			
10 - 11 AM	140	148	289			47	15	47												X			
11 - Noon	128	183	311			41	10	41												X			
12 - 1 PM	121	208	329			52	9	52										X		X			
1 - 2 PM	116	177	293			47	10	47											X	X			
2 - 3 PM	133	216	349			86	9	86		X			X				X	X	X	X			
3 - 4 PM	136	227	364	X		119	5	119	X	X	X		X				X	X	X	X			
4 - 5 PM	170	299	469	X		151	8	151	X	X	X		X	X	X		X	X	X	X	X		
5 - 6 PM	151	231	382	X		127	5	127	X	X	X		X				X	X	X	X			
6 - 7 PM	91	146	236			54	0	54		X										X			
7 - 8 PM	0	0	0			0	0	0															
8 - 9 PM	0	0	0			0	0	0															
9 - 10 PM	0	0	0			0	0	0															
10 - 11 PM	0	0	0			0	0	0															
11 - 12 AM	0	0	0			0	0	0															

Warrant Summary	Warrant & Description			Met	Req'd.	Warrant Met?	Warrant & Description			Met	Req'd.	Warrant Met?
	Warrant 1A: Eight-Hour (Minimum Vehicular Volume)			3	8	NOT MET	Existing Signal Justification: Condition A			4	8	NOT MET
	Warrant 1B: Eight-Hour (Interruption of Continuous Traffic)			0	8	NOT MET	Existing Signal Justification: Condition B			6	8	NOT MET
	Warrant 1C: Eight-Hour (Combination of Warrants)			1	8	NOT MET	All-Way Stop: Criteria A (Signal Justified)			-	-	NOT MET
	Warrant 2: Four-Hour			1	4	NOT MET	All-Way Stop: Criteria B (Crash History - 12 Months)			5	5	MET
	Warrant 3B: Peak Hour			0	1	NOT MET	All-Way Stop: Criteria C (Minimum Volumes)			1	8	NOT MET
	Warrant 7B: Crash History - 12 Months			5	5	MET	All-Way Stop: Criteria C (Minimum Delay - Minor Peak Hour)			0	30	NOT MET
	Warrant 7C: Condition A or Condition B (80%)			4	8	NOT MET	All-Way Stop: Criteria D (80% B, C.1, & C.2)			0	8	NOT MET

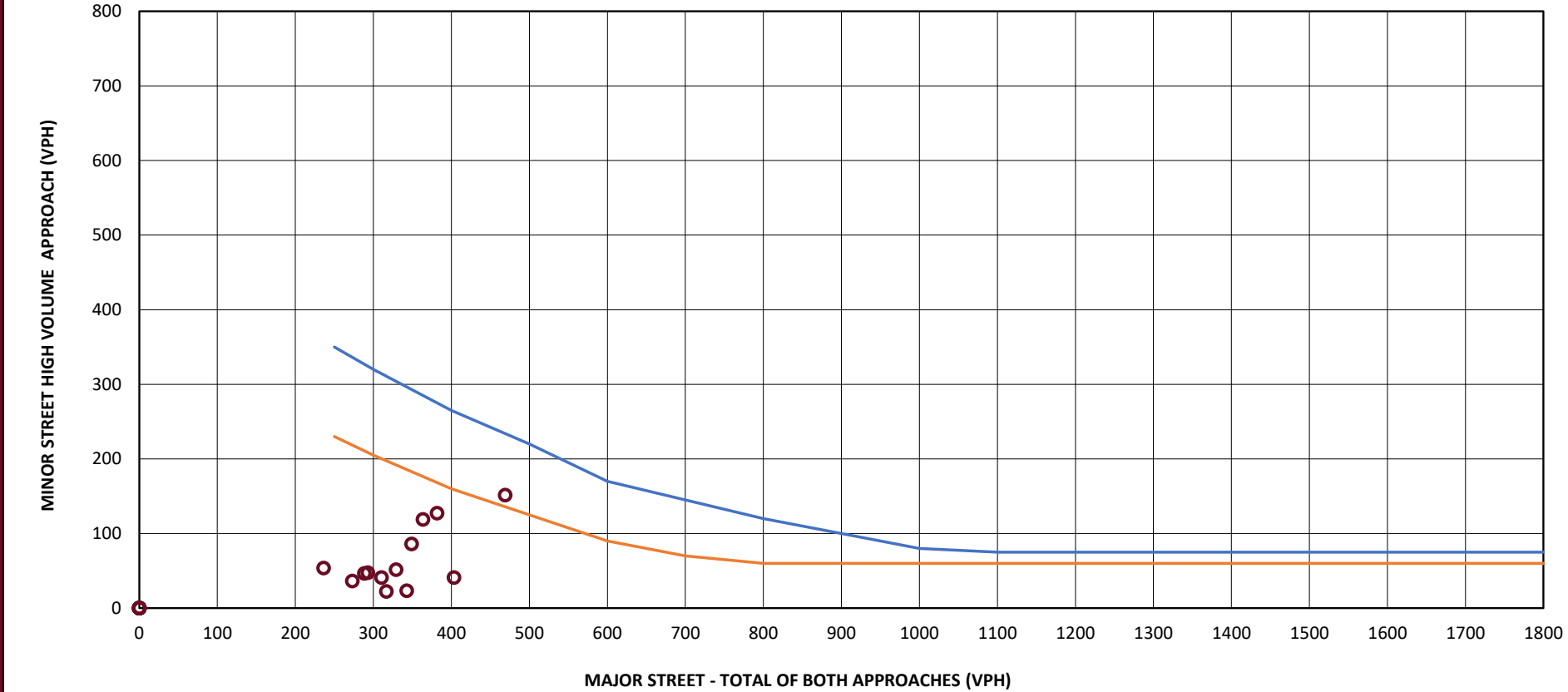
Source: Minnesota Manual on Uniform Traffic Control Devices (MnMUTCD)

TRAFFIC SIGNAL WARRANTS ANALYSIS

CSAH 40 Corridor Study, CSAH 40 & TH 25



Warrant 2 & Warrant 3B



Scenario:	Major: 1	Minor: 1	Warrant 2 (Four-Hour)	Lower Threshold: 60	Hours Met: 1	Hours Req'd: 4	Met?	NOT MET
Existing	70% Factor: YES		Warrant 3B (Peak Hour)	75	0	1		NOT MET

Source: Minnesota Manual on Uniform Traffic Control Devices (MnMUTCD)

Warrant 2 (Four-Hour) Notes:

100%: 115 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 80 vph applies as the lower threshold volume for a minor-street approach with one lane.
70%: 80 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 60 vph applies as the lower threshold volume for a minor-street approach with one lane.

Warrant 3B (Peak Hour) Notes:

100%: 150 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 100 vph applies as the lower threshold volume for a minor-street approach with one lane.
70%: 100 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 75 vph applies as the lower threshold volume for a minor-street approach with one lane.

Appendix C: Detailed Operational Analyses



CSAH 40 (Carver County) Intersection MOE Analysis - Measures of Effectiveness Summary

Existing Conditions

Intersection	AM Peak Hour		PM Peak Hour	
	LOS	Delay (s)	LOS	Delay (s)
CSAH 40 & CSAH 50	A / A	2.5 / 5.8	A / A	3.0 / 6.8
TH 25 & CSAH 40	A / A	1.7 / 6.3	A / A	2.7 / 7.7

Overall Intersection LOS / Worst Approach LOS

Overall Intersection Delay / Worst Approach Delay

Existing Conditions - AM Peak Hour

Intersection	MOE	Eastbound Approach			Westbound Approach			Northbound Approach			Southbound Approach			Intersection Total
		EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	
CSAH 40 & CSAH 50	Movement Delay (sec/veh)	5.5	6.7	2.8	0.0	6.8	3.0	1.9	0.4	0.3	2.6	0.2	0.0	2.5
	Total Delay (hr)	0.0	0.1	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2
	Movement LOS	A	A	A	A	A	A	A	A	A	A	A	A	A
	Movement Volume	31	37	9	0	28	11	9	138	5	1	26	2	297
	Maximum Queue (ft)	74	74	74	64	64	64	6	6	6	10	10	10	
	95th-Percentile Queue (ft)	61	61	61	52	52	52	5	5	5	5	5	5	
	Average Queue (ft)	33	33	33	24	24	24	0	0	0	0	0	0	
	Link Distance	1232	1232	1232	902	902	902	1011	1011	1011	1280	1280	1280	
	Storage Bay Distance (ft)	0	0	0	0	0	0	0	0	0	0	0	0	
	Approach Delay (sec/veh)	5.8			5.7			0.5			0.3			
	Approach LOS	A			A			A			A			

Intersection	MOE	Eastbound Approach			Westbound Approach			Northbound Approach			Southbound Approach			Intersection Total
		EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	
TH 25 & CSAH 40	Movement Delay (sec/veh)	0.0	8.5	2.5	6.3	6.9	3.0	2.7	0.9	0.8	0.5	0.6	1.0	1.7
	Total Delay (hr)	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1
	Movement LOS	A	A	A	A	A	A	A	A	A	A	A	A	A
	Movement Volume	0	16	9	38	7	2	16	94	104	1	164	4	455
	Maximum Queue (ft)	52	52	52	68	68	68	30	30	6	0	0	0	
	95th-Percentile Queue (ft)	40	40	40	53	53	53	15	15	3	0	0	0	
	Average Queue (ft)	11	11	11	24	24	24	2	2	0	0	0	0	
	Link Distance	1425	1425	1425	1316	1316	1316	1434	1434	1434	1658	1658	1658	
	Storage Bay Distance (ft)	0	0	0	0	0	0	0	0	325	0	0	0	
	Approach Delay (sec/veh)	6.3			6.2			1.0			0.6			
	Approach LOS	A			A			A			A			

Existing Conditions - PM Peak Hour

Intersection	MOE	Eastbound Approach			Westbound Approach			Northbound Approach			Southbound Approach			Intersection Total
		EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	
CSAH 40 & CSAH 50	Movement Delay (sec/veh)	5.8	7.2	3.6	5.5	7.3	4.1	0.0	0.3	0.1	2.2	0.9	0.5	3.0
	Total Delay (hr)	0.0	0.1	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2
	Movement LOS	A	A	A	A	A	A	A	A	A	A	A	A	A
	Movement Volume	15	44	25	5	63	9	0	46	8	8	133	43	399
	Maximum Queue (ft)	86	86	86	77	77	77	0	0	0	19	19	19	
	95th-Percentile Queue (ft)	70	70	70	65	65	65	0	0	0	10	10	10	
	Average Queue (ft)	38	38	38	34	34	34	0	0	0	1	1	1	
	Link Distance	1232	1232	1232	902	902	902	1011	1011	1011	1280	1280	1280	
	Storage Bay Distance (ft)	0	0	0	0	0	0	0	0	0	0	0	0	
	Approach Delay (sec/veh)	5.9			6.8			0.3			0.9			
	Approach LOS	A			A			A			A			

Intersection	MOE	Eastbound Approach			Westbound Approach			Northbound Approach			Southbound Approach			Intersection Total
		EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	
TH 25 & CSAH 40	Movement Delay (sec/veh)	6.1	12.2	2.7	7.7	8.4	4.7	2.8	1.1	0.5	0.0	0.6	0.4	2.7
	Total Delay (hr)	0.0	0.0	0.0	0.2	0.1	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.4
	Movement LOS	A	B	A	A	A	A	A	A	A	A	A	A	A
	Movement Volume	2	4	17	112	29	5	25	206	52	0	164	3	619
	Maximum Queue (ft)	34	34	34	93	93	93	44	44	0	0	0	0	
	95th-Percentile Queue (ft)	25	25	25	74	74	74	22	22	0	0	0	0	
	Average Queue (ft)	6	6	6	44	44	44	3	3	0	0	0	0	
	Link Distance	1425	1425	1425	1316	1316	1316	1434	1434	1434	1658	1658	1658	
	Storage Bay Distance (ft)	0	0	0	0	0	0	0	0	325	0	0	0	
	Approach Delay (sec/veh)	4.6			7.7			1.1			0.6			
	Approach LOS	A			A			A			A			

Appendix D: Detailed Safety Analyses

Collision Diagram

Minnesota Department of Transportation

Location: CSAH 40 & CSAH 11

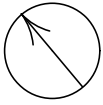
Time Period: 2010-2019

Date: 12/14/2020

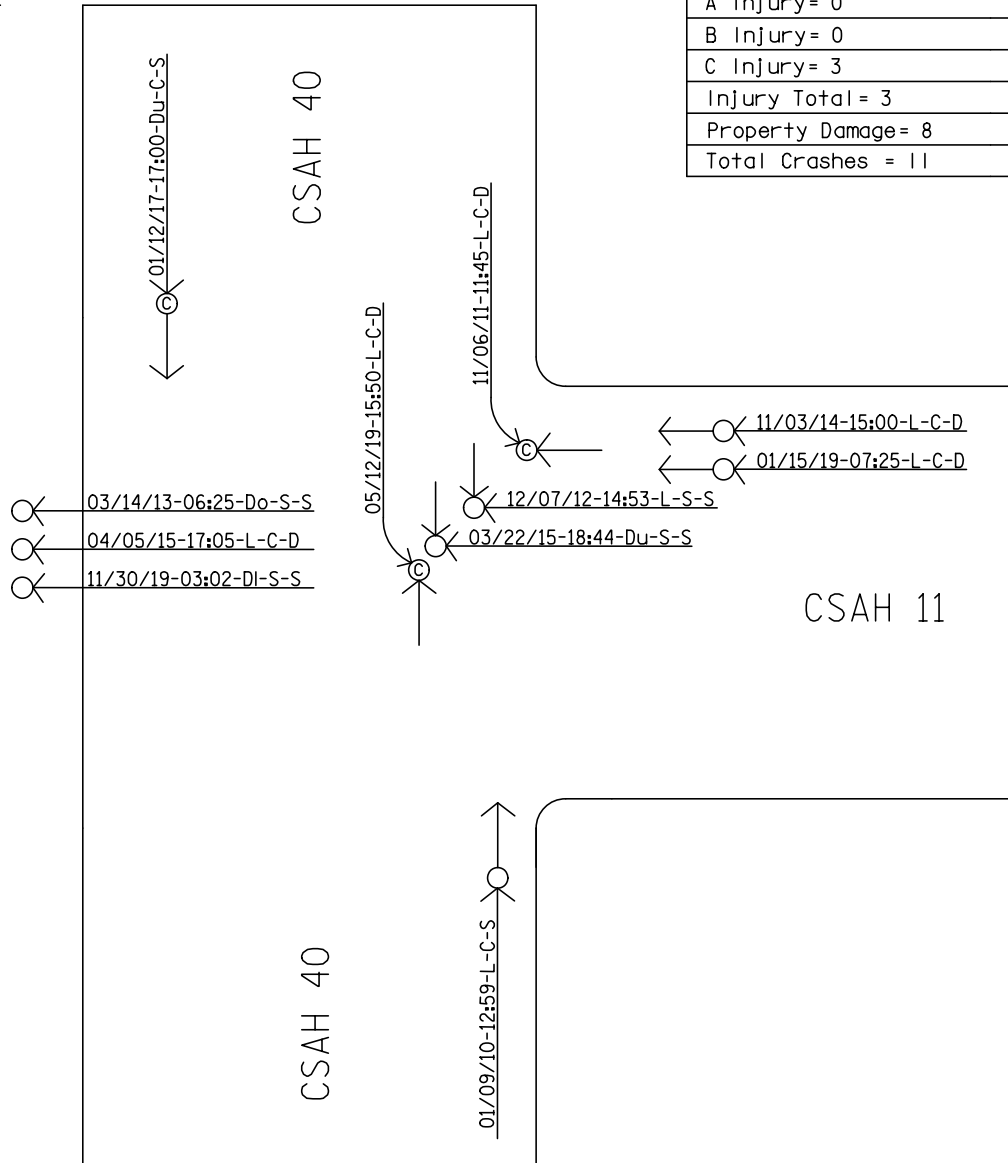
Prepared By: JDC

No. of Crashes

Fatal = 0
A Injury = 0
B Injury = 0
C Injury = 3
Injury Total = 3
Property Damage = 8
Total Crashes = 11



North



KEY	
Motor Vehicle Out of Control	Pedestrian
Motor Vehicle Backing Up	Bicycle
Motor Vehicle Rollover	Motorcycle
Motor Vehicle Sideswipe	Parked Vehicle
<input type="checkbox"/> Fixed Object	Rear End Property Damage
<input checked="" type="radio"/> Fatal Crash	Right Angle B Injury
<input checked="" type="radio"/> A Injury Crash	
<input checked="" type="radio"/> B Injury Crash	
<input checked="" type="radio"/> C Injury Crash	
<input type="radio"/> Property Damage Crash	

NOTES		
Light: L = Daylight (1) DN = Dawn (2) Du = Dusk (3) DI = Dark, Lighted (4) Do = Dark, Lights Off (5) D = Dark, Unlighted (6) X = Unknown (99)	Weather: C = Clear or Cloudy (1 or 2) R = Rain (3) S = Snow or Sleet (4 or 5) F = Fog, Smog, Smoke (6) B = Blowing Sand/Dust (7) W = Severe Crosswinds (8) X = Other or Unknown (99)	Surface: D = Dry (1) W = Wet (2) S = Snow or Ice (3 or 4) M = Muddy (5) Db = Debris (6) O = Oily (7) X = Other or Unknown (99)
(X) = Number of Vehicles in Crash (X) Other Vehicle (X) Injury Type (X) [Date] - [Time (hrs)] - [Light-Weather-Surface]		

CSAH 40 - Carver County

Figure X
Collision Diagram



Collision Diagram

Minnesota Department of Transportation

Location: CSAH 40 & Maplewood Rd.

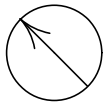
Time Period: 2010-2019

Date: 12/14/2020

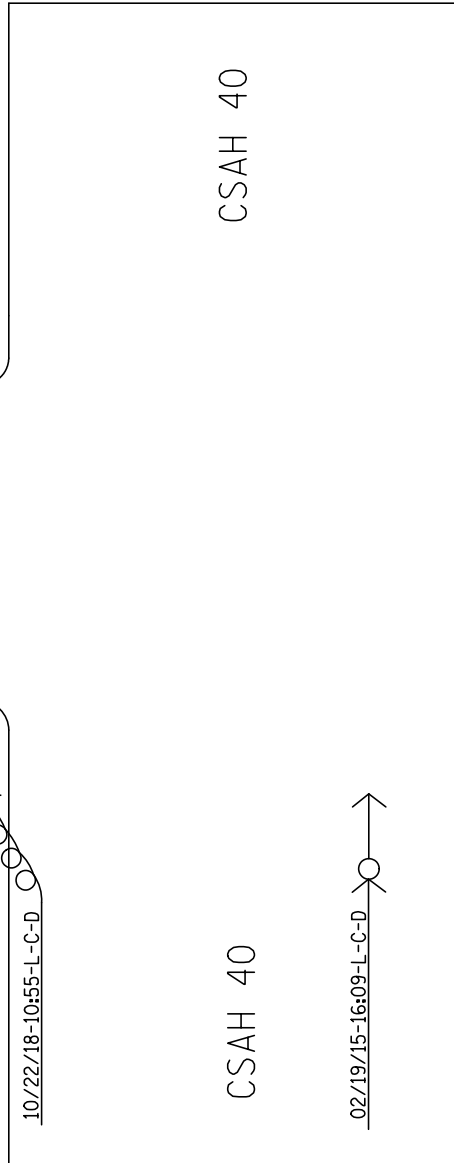
Prepared By: JDC

No. of Crashes

Fatal = 0
A Injury = 0
B Injury = 0
C Injury = 1
Injury Total = 1
Property Damage = 1
Total Crashes = 2



North



MAPLEWOOD RD.

CSAH 40

CSAH 40

10/22/18-10:55-L-C-D

02/19/15-16:09-L-C-D

KEY

- Motor Vehicle Out of Control
- Motor Vehicle Backing Up
- Motor Vehicle Rollover
- Motor Vehicle Sideswipe
- Fixed Object
- Fatal Crash
- A Injury Crash
- B Injury Crash
- C Injury Crash
- Property Damage Crash
- Pedestrian
- Bicycle
- Motorcycle
- Parked Vehicle
- Rear End Property Damage
- Right Angle B Injury

NOTES

Light:

- L = Daylight (1)
- DN = Dawn (2)
- Du = Dusk (3)
- DI = Dark, Lighted (4)
- Do = Dark, Lights Off (5)
- D = Dark, Unlighted (6)
- X = Unknown (99)

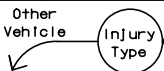
Weather:

- C = Clear or Cloudy (1 or 2)
- R = Rain (3)
- S = Snow or Sleet (4 or 5)
- F = Fog, Smog, Smoke (6)
- B = Blowing Sand/Dust (7)
- W = Severe Crosswinds (8)
- X = Other or Unknown (99)

Surface:

- D = Dry (1)
- W = Wet (2)
- S = Snow or Ice (3 or 4)
- M = Muddy (5)
- Db = Debris (6)
- O = Oily (7)
- X = Other or Unknown (99)

(X) = Number of Vehicles in Crash (X)



[Date] - [Time (hrs)] - [Light-Weather-Surface]

CSAH 40 - Carver County



Figure X
Collision Diagram

Collision Diagram

Minnesota Department of Transportation

Location: CSAH 40 & Halsey Ave.

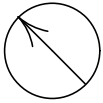
Time Period: 2010-2019

Date: 12/14/2020

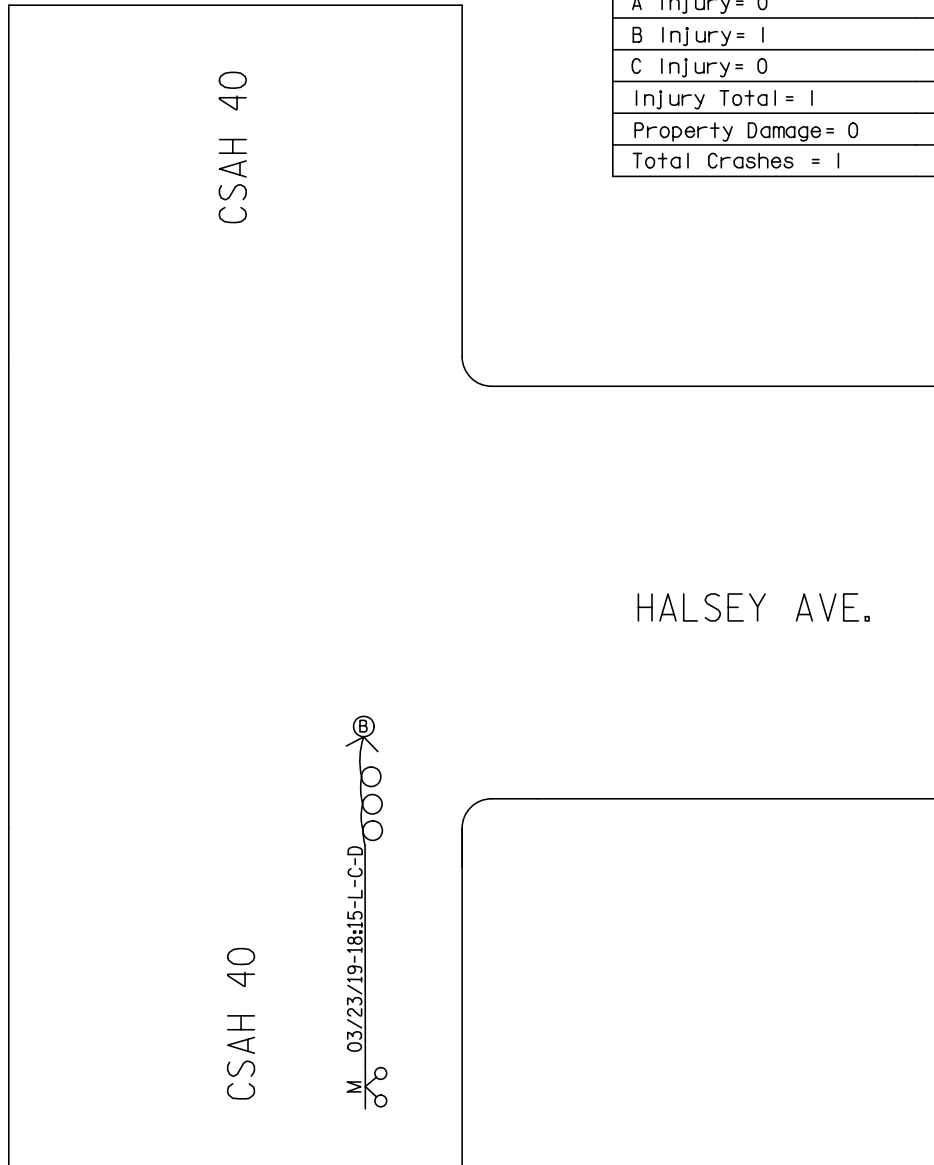
Prepared By: JDC

No. of Crashes

Fatal = 0
A Injury = 0
B Injury = 1
C Injury = 0
Injury Total = 1
Property Damage = 0
Total Crashes = 1



North



KEY	
Motor Vehicle Out of Control	Pedestrian
Motor Vehicle Backing Up	Bicycle
Motor Vehicle Rollover	Motorcycle
Motor Vehicle Sideswipe	Parked Vehicle
<input type="checkbox"/> Fixed Object	Rear End Property Damage
<input checked="" type="radio"/> Fatal Crash	Right Angle B Injury
<input checked="" type="radio"/> A Injury Crash	
<input checked="" type="radio"/> B Injury Crash	
<input checked="" type="radio"/> C Injury Crash	
<input type="radio"/> Property Damage Crash	

NOTES		
Light: L = Daylight (1) DN = Dawn (2) Du = Dusk (3) DI = Dark, Lighted (4) Do = Dark, Lights Off (5) D = Dark, Unlighted (6) X = Unknown (99)	Weather: C = Clear or Cloudy (1 or 2) R = Rain (3) S = Snow or Sleet (4 or 5) F = Fog, Smog, Smoke (6) B = Blowing Sand/Dust (7) W = Severe Crosswinds (8) X = Other or Unknown (99)	Surface: D = Dry (1) W = Wet (2) S = Snow or Ice (3 or 4) M = Muddy (5) Db = Debris (6) O = Oily (7) X = Other or Unknown (99)
(X) = Number of Vehicles in Crash (X) Other Vehicle (X) Injury Type [Date] - [Time (hrs)] - [Light-Weather-Surface]		

CSAH 40 - Carver County



Figure X
Collision Diagram

Collision Diagram

Minnesota Department of Transportation

Location: CSAH 40 & CSAH 50

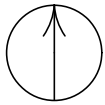
Time Period: 2010-2019

Date: 12/14/2020

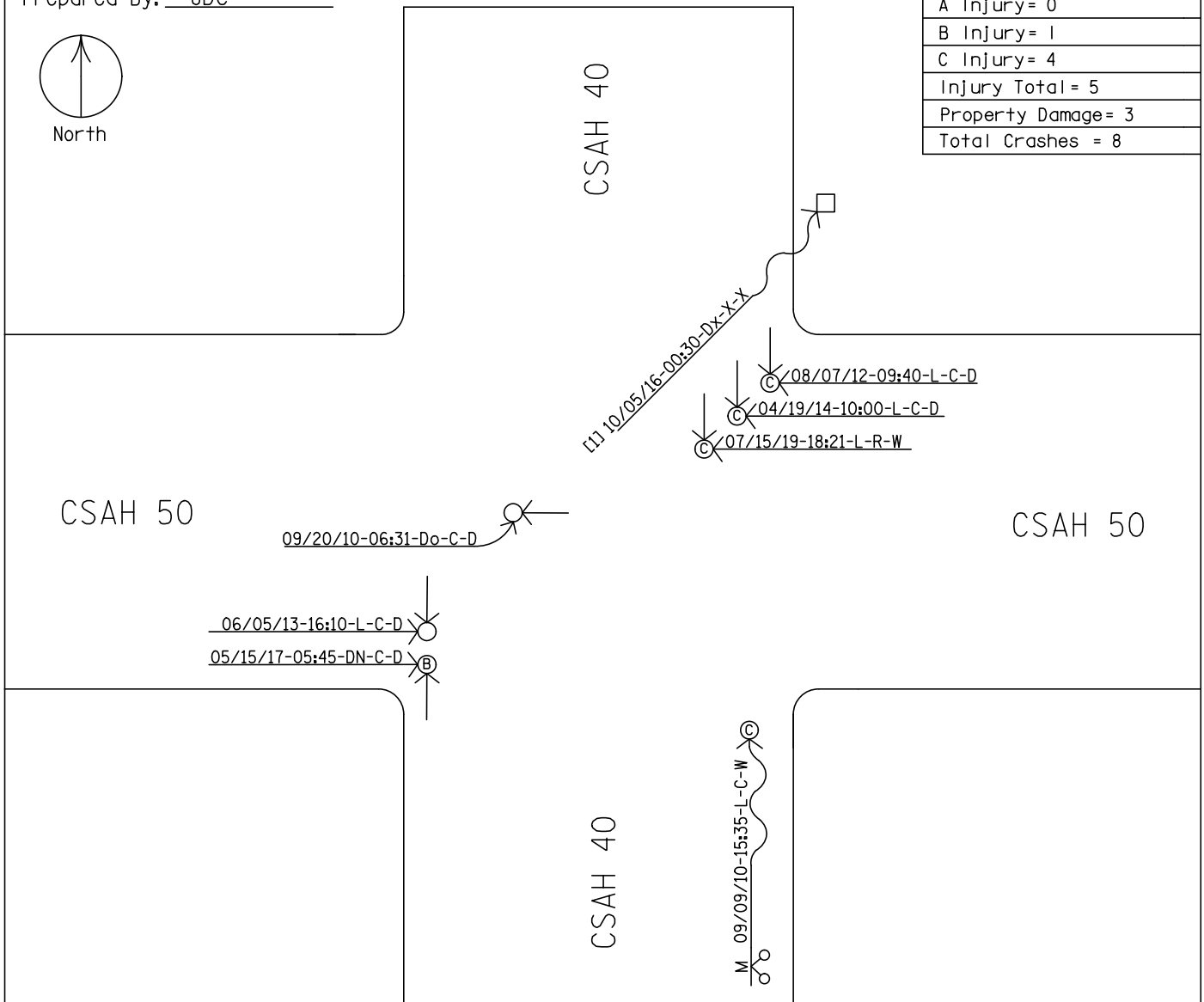
Prepared By: JDC

No. of Crashes

Fatal = 0
A Injury = 0
B Injury = 1
C Injury = 4
Injury Total = 5
Property Damage = 3
Total Crashes = 8



North



KEY		NOTES		
Motor Vehicle Out of Control	Pedestrian	[1] Wreckless driving, lost control doing doughnuts.		
Motor Vehicle Backing Up	Bicycle			
Motor Vehicle Rollover	Motorcycle	Light:	Weather:	Surface:
Motor Vehicle Sideswipe	Parked Vehicle	L = Daylight (1)	C = Clear or Cloudy (1 or 2)	D = Dry (1)
Fixed Object	Rear End Property Damage	DN = Dawn (2)	R = Rain (3)	W = Wet (2)
Fatal Crash	Right Angle B Injury	Du = Dusk (3)	S = Snow or Sleet (4 or 5)	S = Snow or Ice (3 or 4)
A Injury Crash		DI = Dark, Lighted (4)	F = Fog, Smog, Smoke (6)	M = Muddy (5)
B Injury Crash		Do = Dark, Lights Off (5)	B = Blowing Sand/Dust (7)	Db = Debris (6)
C Injury Crash		D = Dark, Unlighted (6)	W = Severe Crosswinds (8)	O = Oily (7)
Property Damage Crash		X = Unknown (99)	X = Other or Unknown (99)	X = Other or Unknown (99)
		(X) = Number of Vehicles in Crash (X) Other Vehicle (X) Injury Type [Date] - [Time (hrs)] - [Light-Weather-Surface]		

CSAH 40 - Carver County

Figure X
Collision Diagram



Collision Diagram

Minnesota Department of Transportation

Location: CSAH 40 & CSAH 52

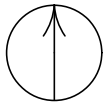
Time Period: 2010-2019

Date: 12/14/2020

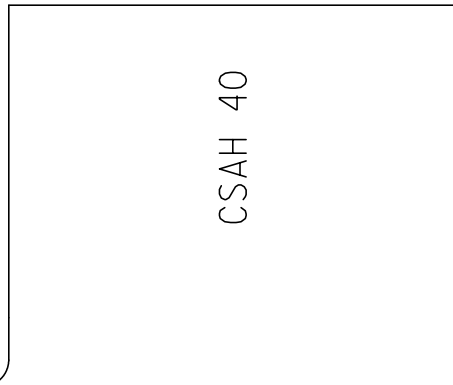
Prepared By: JDC

No. of Crashes

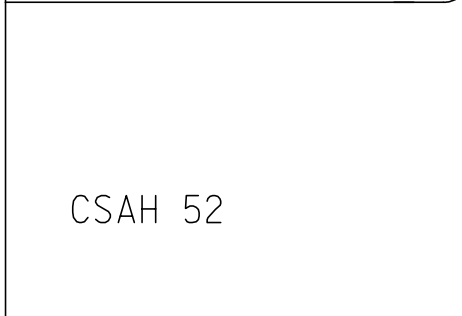
Fatal = 0
A Injury = 0
B Injury = 1
C Injury = 0
Injury Total = 1
Property Damage = 2
Total Crashes = 3



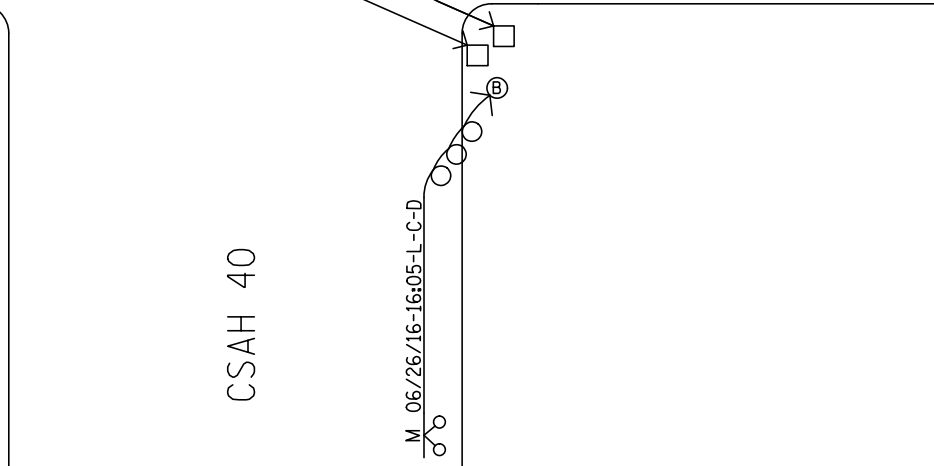
North



CSAH 40



CSAH 52



174TH ST.

09/20/16-07:20-DN-C-D

06/24/18-09:50-L-C-D [1]

M 06/26/16-16:05-L-C-D

KEY

- Motor Vehicle Out of Control
- Motor Vehicle Backing Up
- Motor Vehicle Rollover
- Motor Vehicle Sideswipe
- Fixed Object
- Fatal Crash
- A Injury Crash
- B Injury Crash
- C Injury Crash
- Property Damage Crash
- Pedestrian
- Bicycle
- Motorcycle
- Parked Vehicle
- Rear End Property Damage
- Right Angle B Injury

NOTES

[1] Driver had been drinking alcohol.

Light: L = Daylight (1) DN = Dawn (2) Du = Dusk (3) DI = Dark, Lighted (4) Do = Dark, Lights Off (5) D = Dark, Unlighted (6) X = Unknown (99)	Weather: C = Clear or Cloudy (1 or 2) R = Rain (3) S = Snow or Sleet (4 or 5) F = Fog, Smog, Smoke (6) B = Blowing Sand/Dust (7) W = Severe Crosswinds (8) X = Other or Unknown (99)	Surface: D = Dry (1) W = Wet (2) S = Snow or Ice (3 or 4) M = Muddy (5) Db = Debris (6) O = Oily (7) X = Other or Unknown (99)
---	--	--

(X) = Number of Vehicles in Crash (X) Other Vehicle (X) Injury Type (X) [Date] - [Time (hrs)] - [Light-Weather-Surface]

CSAH 40 - Carver County



Figure X
Collision Diagram

Collision Diagram

Minnesota Department of Transportation

Location: CSAH 40 & 182nd St./Kelly Lake Rd.

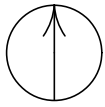
Time Period: 2010-2019

Date: 12/14/2020

Prepared By: JDC

No. of Crashes

Fatal = 0
A Injury = 0
B Injury = 0
C Injury = 0
Injury Total = 0
Property Damage = 1
Total Crashes = 1



North

CSAH 40

182ND ST.

KELLY LAKE RD.

CSAH 40

.05/04/17-14:50-L-C-D

KEY

NOTES

- | | |
|---|--------------------------|
| Motor Vehicle Out of Control | Pedestrian |
| Motor Vehicle Backing Up | Bicycle |
| Motor Vehicle Rollover | Motorcycle |
| Motor Vehicle Sideswipe | Parked Vehicle |
| <input type="checkbox"/> Fixed Object | Rear End Property Damage |
| <input checked="" type="checkbox"/> Fatal Crash | Right Angle B Injury |
| <input checked="" type="radio"/> A Injury Crash | |
| <input checked="" type="radio"/> B Injury Crash | |
| <input checked="" type="radio"/> C Injury Crash | |
| <input type="radio"/> Property Damage Crash | |

Light: L = Daylight (1) DN = Dawn (2) Du = Dusk (3) DI = Dark, Lighted (4) Do = Dark, Lights Off (5) D = Dark, Unlighted (6) X = Unknown (99)	Weather: C = Clear or Cloudy (1 or 2) R = Rain (3) S = Snow or Sleet (4 or 5) F = Fog, Smog, Smoke (6) B = Blowing Sand/Dust (7) W = Severe Crosswinds (8) X = Other or Unknown (99)	Surface: D = Dry (1) W = Wet (2) S = Snow or Ice (3 or 4) M = Muddy (5) Db = Debris (6) O = Oily (7) X = Other or Unknown (99)
---	--	--

(X) = Number of Vehicles in Crash (X) Other Vehicle (X) Injury Type (X) [Date] - [Time (hrs)] - [Light-Weather-Surface]

CSAH 40 - Carver County



Figure X
Collision Diagram

Collision Diagram

Minnesota Department of Transportation

Location: CSAH 40 & 188th St.

Time Period: 2010-2019

Date: 12/14/2020

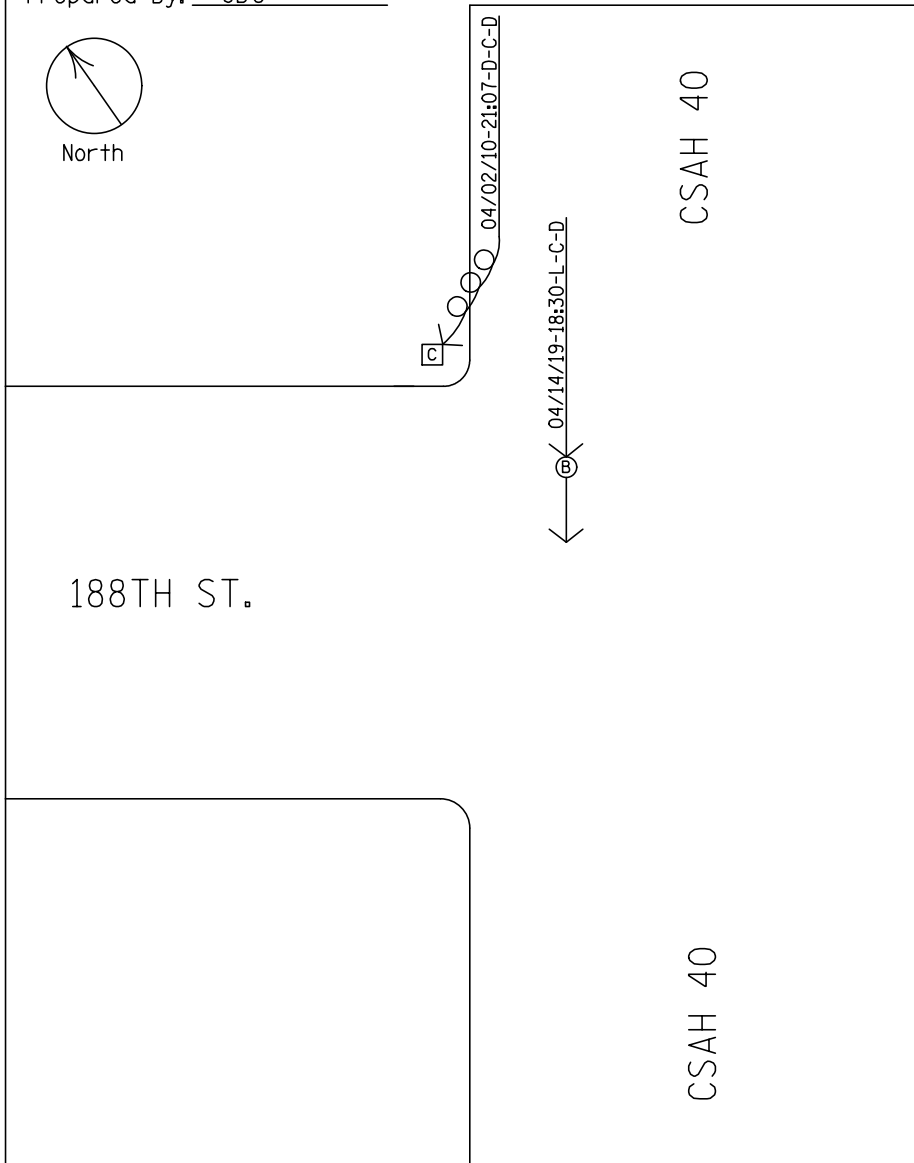
Prepared By: JDC

No. of Crashes

Fatal = 0
A Injury = 0
B Injury = 1
C Injury = 1
Injury Total = 2
Property Damage = 0
Total Crashes = 2



North



KEY		NOTES								
Motor Vehicle Out of Control	Pedestrian	<table border="1"> <tr> <th>Light:</th> <th>Weather:</th> <th>Surface:</th> </tr> <tr> <td>L = Daylight (1) DN = Dawn (2) Du = Dusk (3) DI = Dark, Lighted (4) Do = Dark, Lights Off (5) D = Dark, Unlighted (6) X = Unknown (99)</td> <td>C = Clear or Cloudy (1 or 2) R = Rain (3) S = Snow or Sleet (4 or 5) F = Fog, Smog, Smoke (6) B = Blowing Sand/Dust (7) W = Severe Crosswinds (8) X = Other or Unknown (99)</td> <td>D = Dry (1) W = Wet (2) S = Snow or Ice (3 or 4) M = Muddy (5) O = Oily (7) X = Other or Unknown (99)</td> </tr> </table>			Light:	Weather:	Surface:	L = Daylight (1) DN = Dawn (2) Du = Dusk (3) DI = Dark, Lighted (4) Do = Dark, Lights Off (5) D = Dark, Unlighted (6) X = Unknown (99)	C = Clear or Cloudy (1 or 2) R = Rain (3) S = Snow or Sleet (4 or 5) F = Fog, Smog, Smoke (6) B = Blowing Sand/Dust (7) W = Severe Crosswinds (8) X = Other or Unknown (99)	D = Dry (1) W = Wet (2) S = Snow or Ice (3 or 4) M = Muddy (5) O = Oily (7) X = Other or Unknown (99)
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Motor Vehicle Backing Up	Bicycle									
Motor Vehicle Rollover	Motorcycle									
Motor Vehicle Sideswipe	Parked Vehicle	<p>(X) = Number of Vehicles in Crash (X)</p> <p>Other Vehicle (X) → Injury Type ← [Date] - [Time (hrs)] - [Light-Weather-Surface]</p>								
<input type="checkbox"/> Fixed Object	Rear End Property Damage									
<input checked="" type="checkbox"/> Fatal Crash	Right Angle B Injury									
<input checked="" type="radio"/> A Injury Crash										
<input checked="" type="radio"/> B Injury Crash										
<input checked="" type="radio"/> C Injury Crash										
<input type="radio"/> Property Damage Crash										

CSAH 40 - Carver County



Figure X
Collision Diagram

Collision Diagram

Minnesota Department of Transportation

Location: CSAH 40 & TH 25

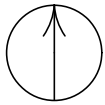
Time Period: 2010-2019

Date: 12/14/2020

Prepared By: JDC

No. of Crashes

Fatal = 0
A Injury = 1
B Injury = 5
C Injury = 3
Injury Total = 9
Property Damage = 4
Total Crashes = 13



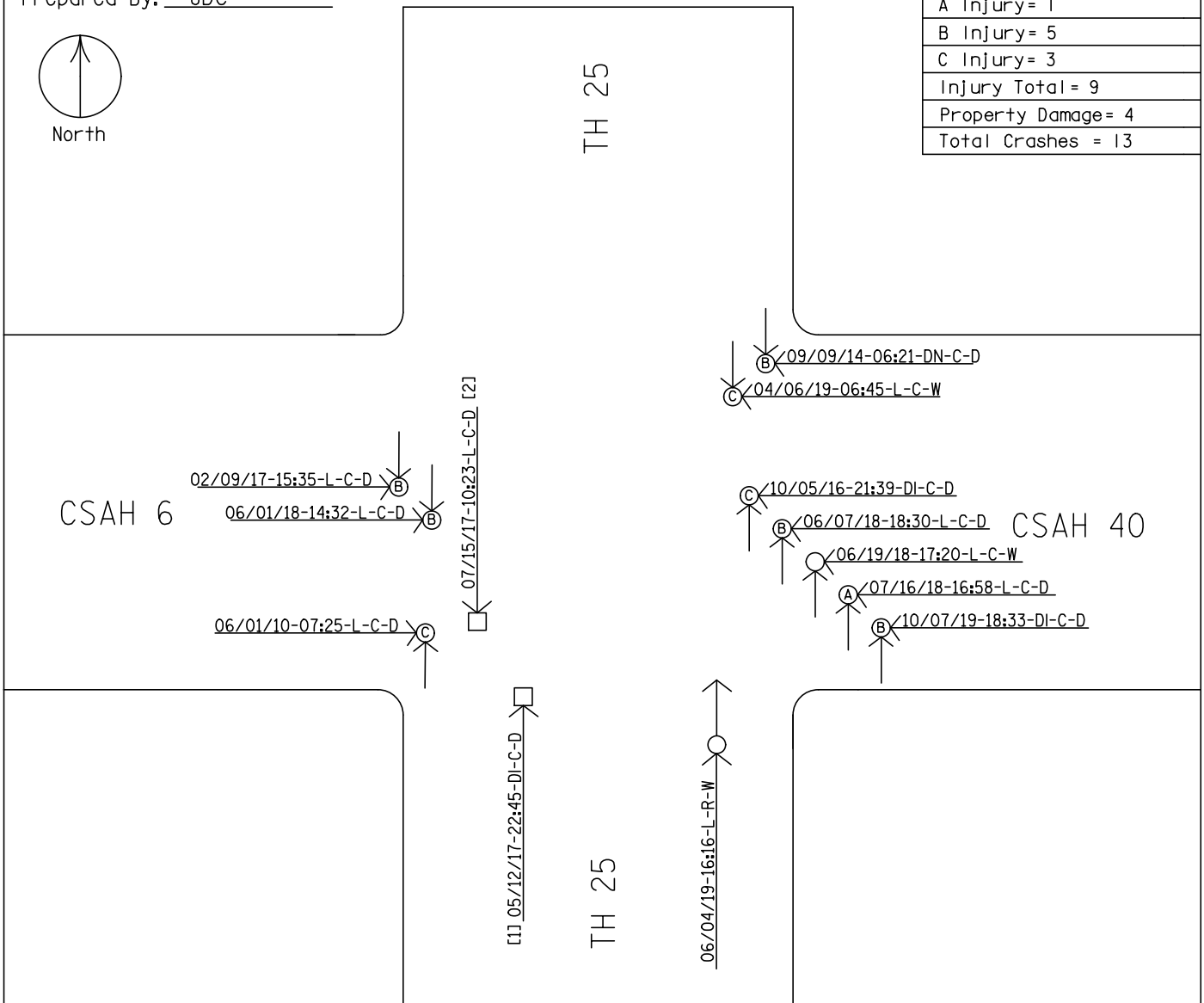
North

TH 25

CSAH 6

CSAH 40

TH 25



KEY

NOTES

- Motor Vehicle Out of Control
- Motor Vehicle Backing Up
- Motor Vehicle Rollover
- Motor Vehicle Sideswipe
- Fixed Object
- Fatal Crash
- A Injury Crash
- B Injury Crash
- C Injury Crash
- Property Damage Crash
- Pedestrian
- Bicycle
- Motorcycle
- Parked Vehicle
- Rear End Property Damage
- Right Angle B Injury

[1] Driver had been drinking alcohol.
 [2] Driver swerved to avoid colliding with a bicyclist.

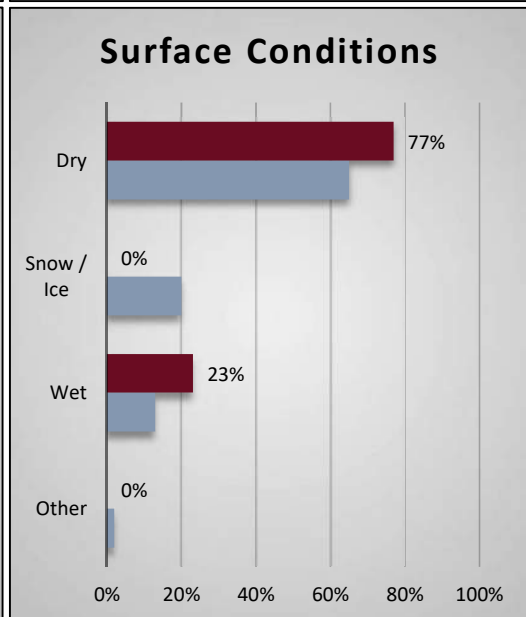
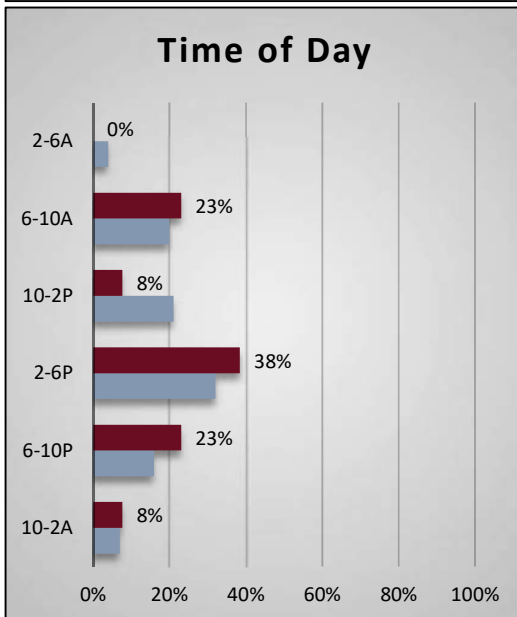
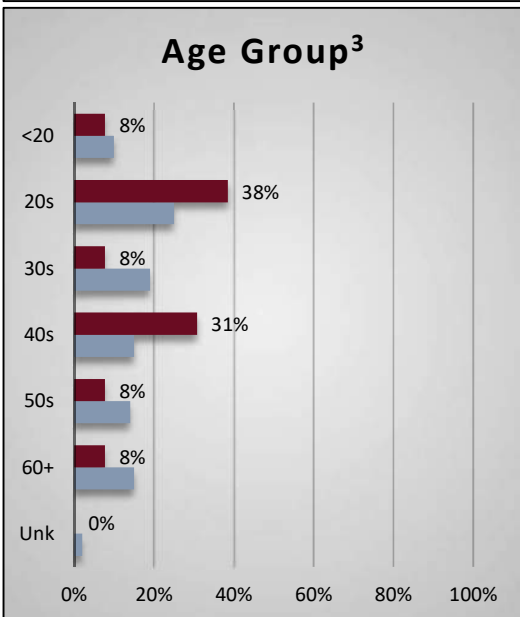
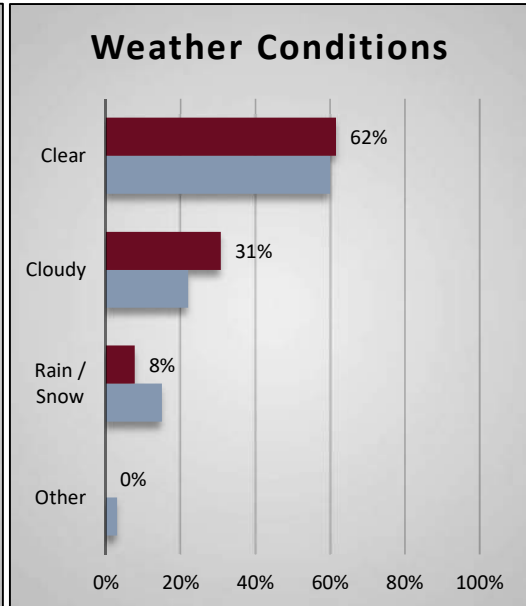
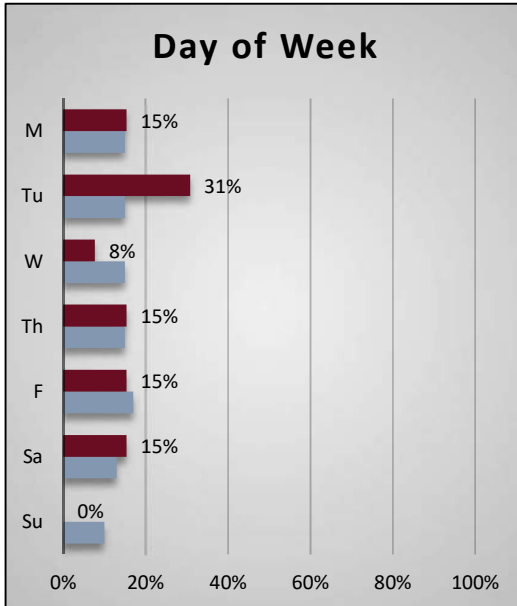
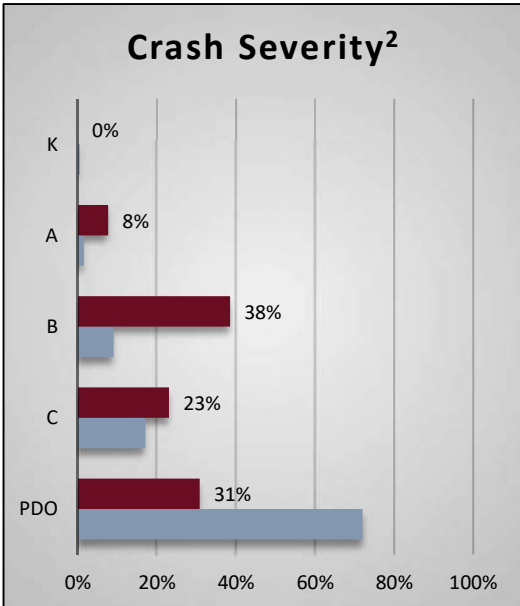
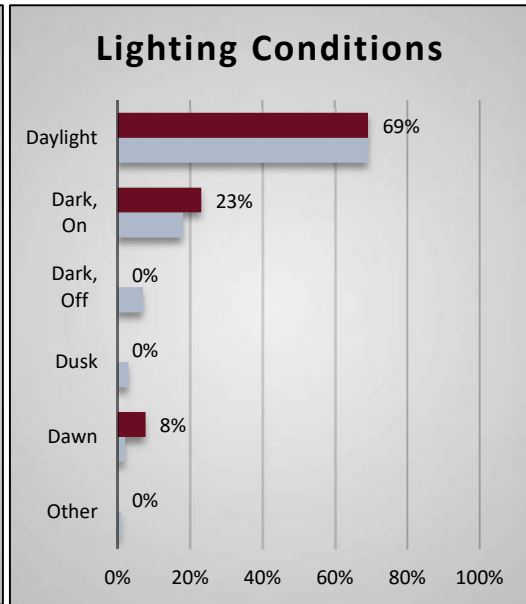
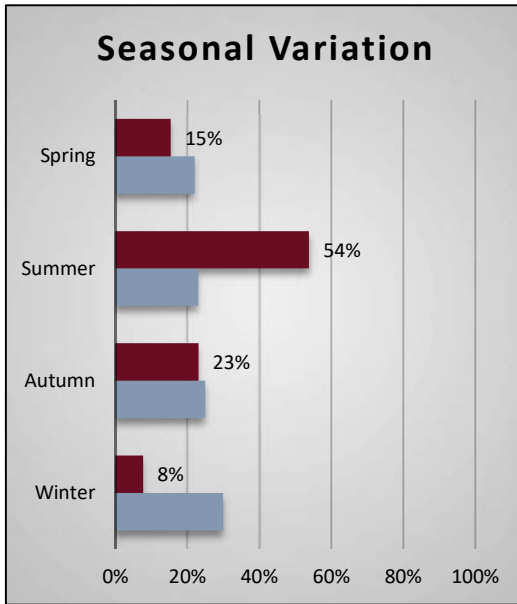
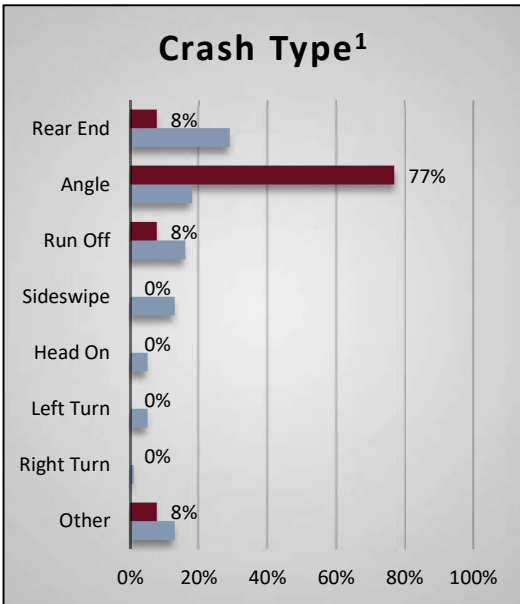
Light:	Weather:	Surface:
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(X) = Number of Vehicles in Crash (X) Other Vehicle (X) Injury Type (X) [Date] - [Time (hrs)] - [Light-Weather-Surface]

CSAH 40 - Carver County



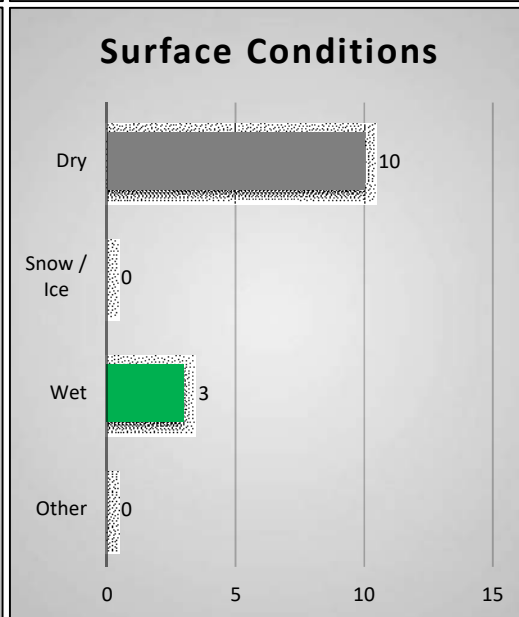
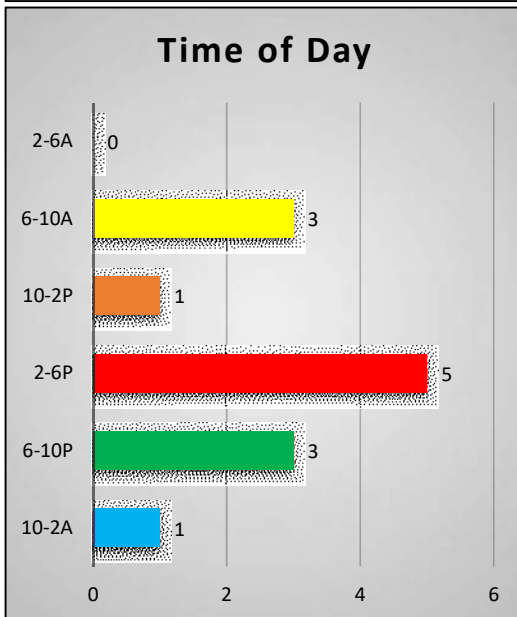
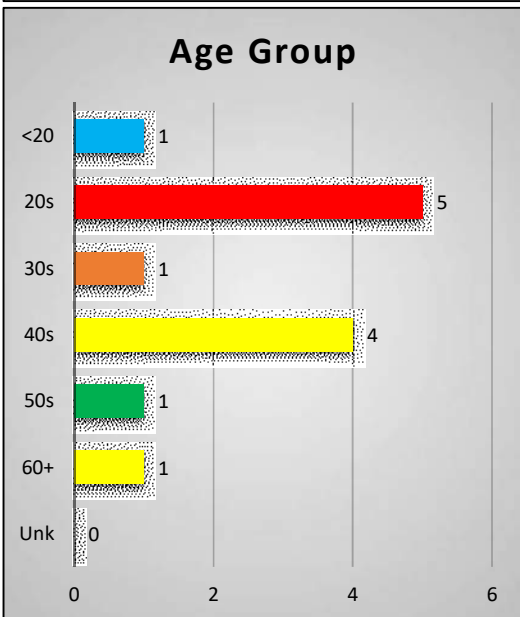
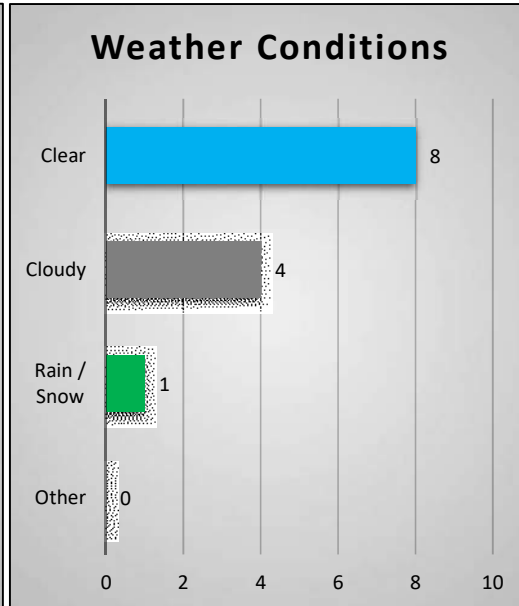
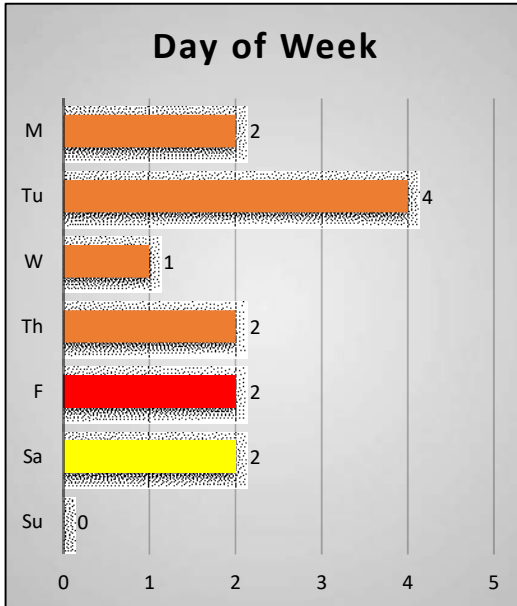
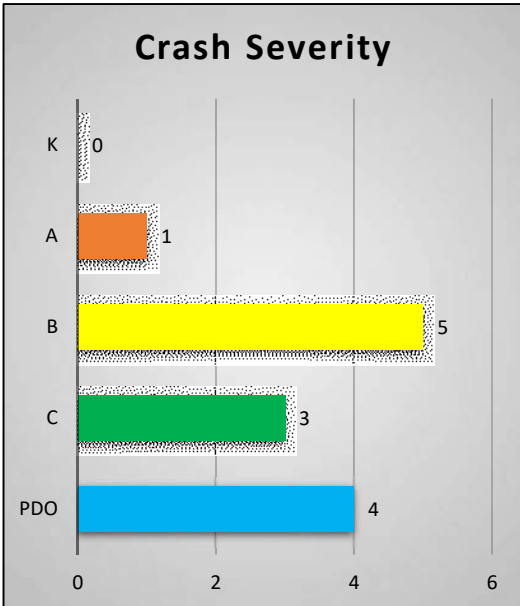
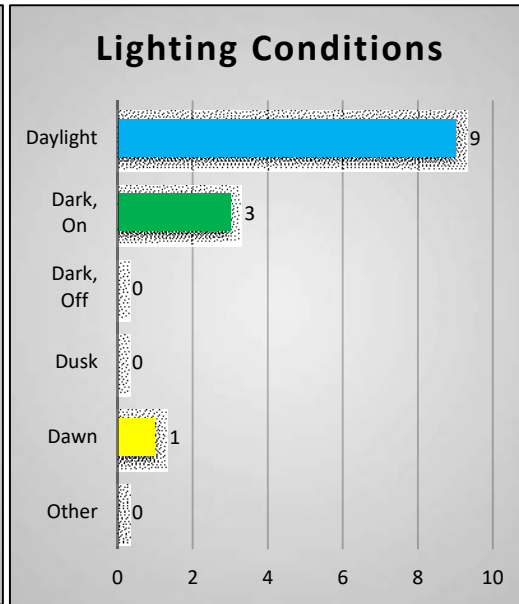
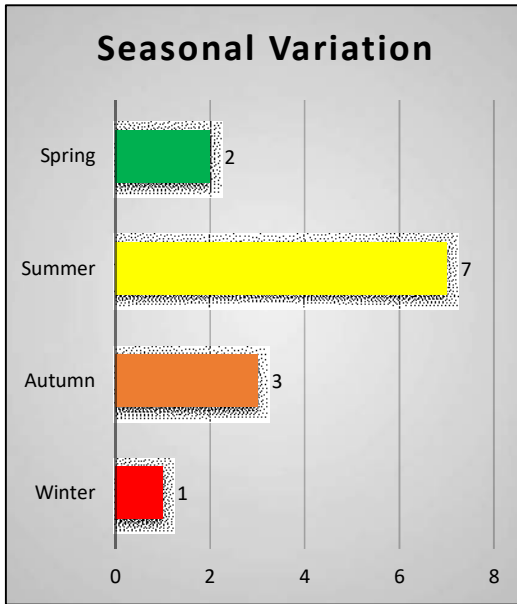
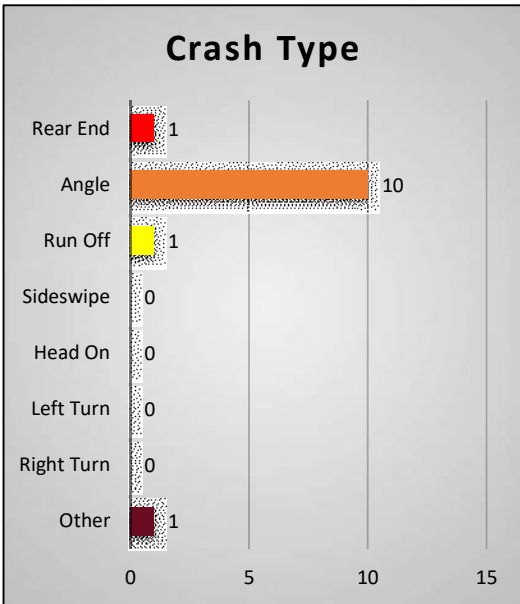
Figure X
Collision Diagram



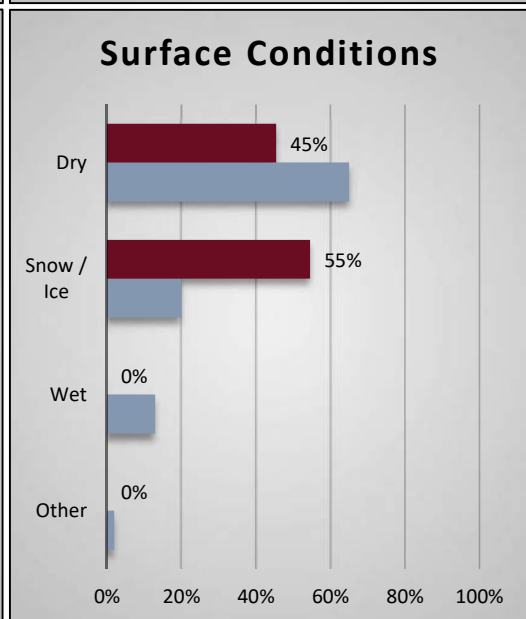
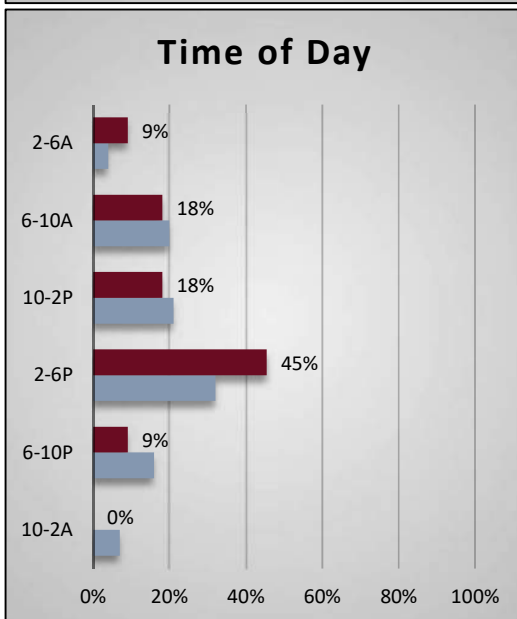
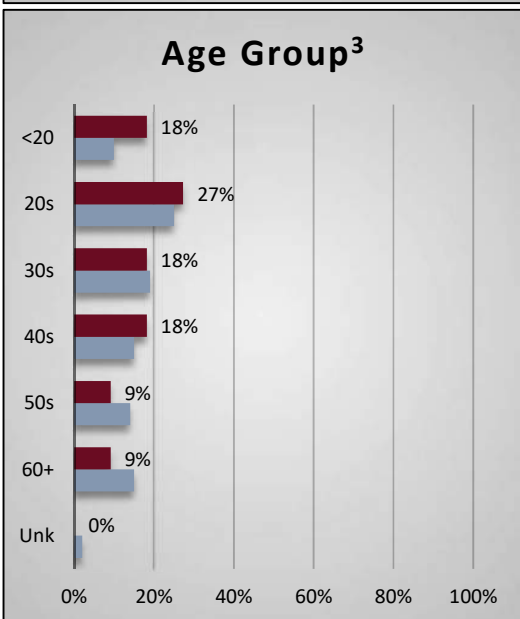
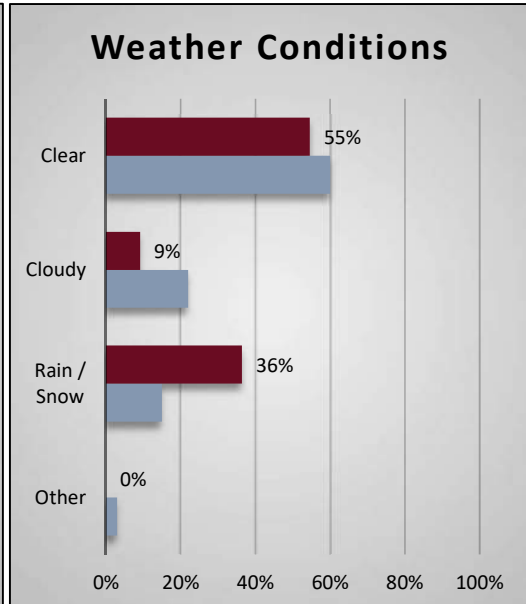
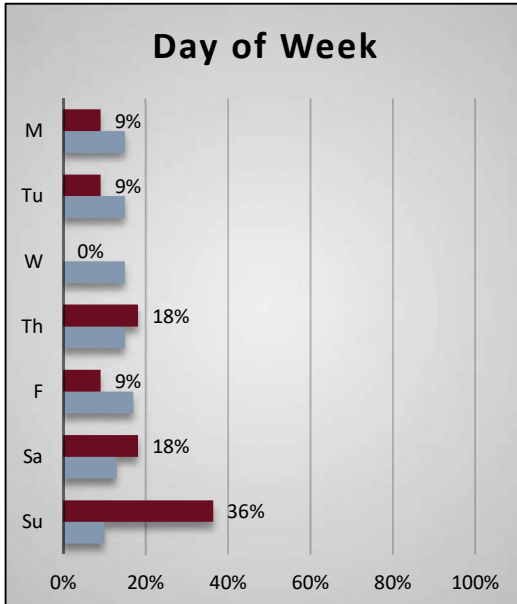
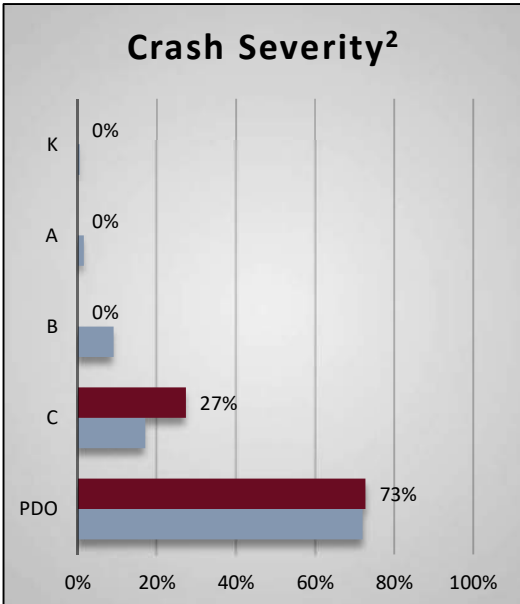
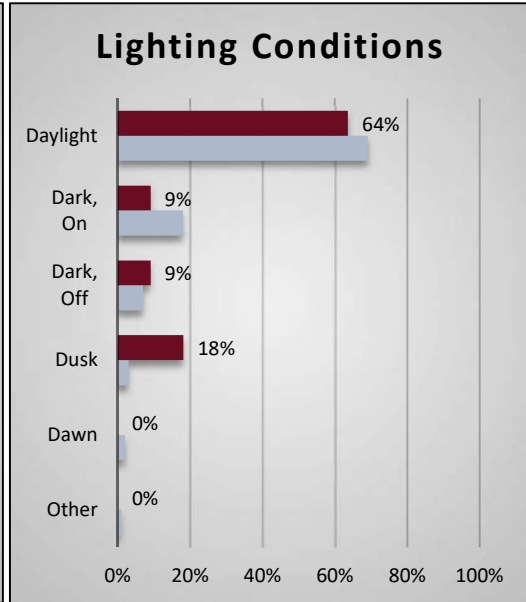
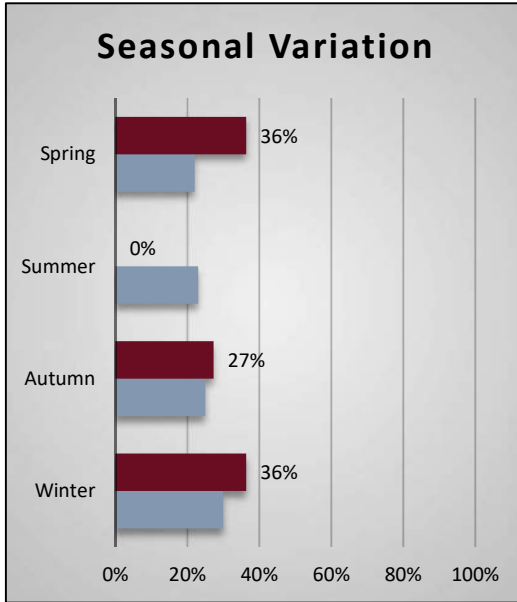
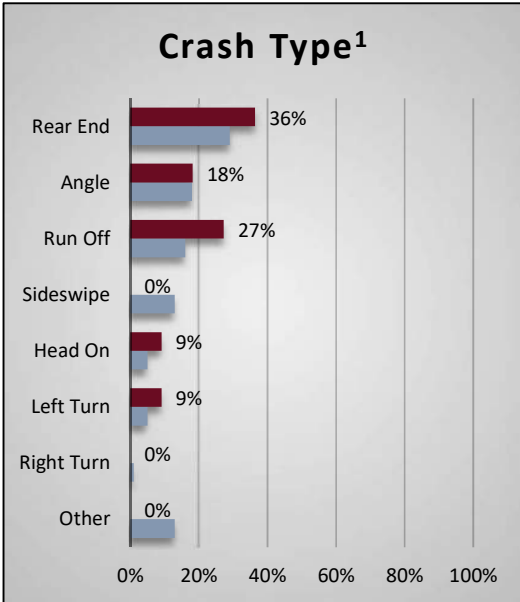
¹ Baseline Crash Type values were calculated using 2004-2015 data as recorded categories changed starting in 2016.

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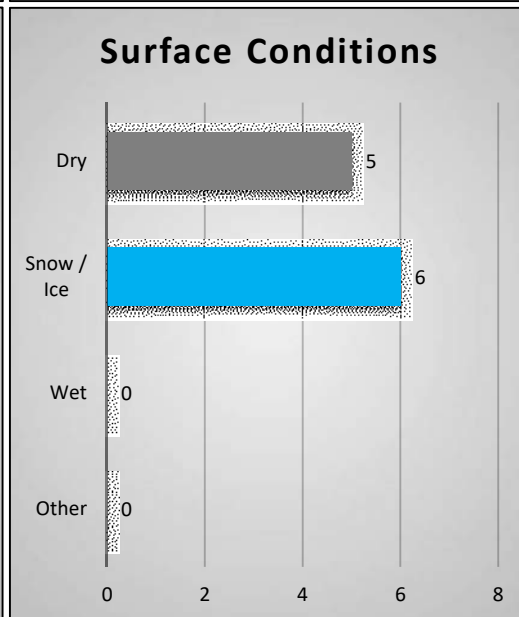
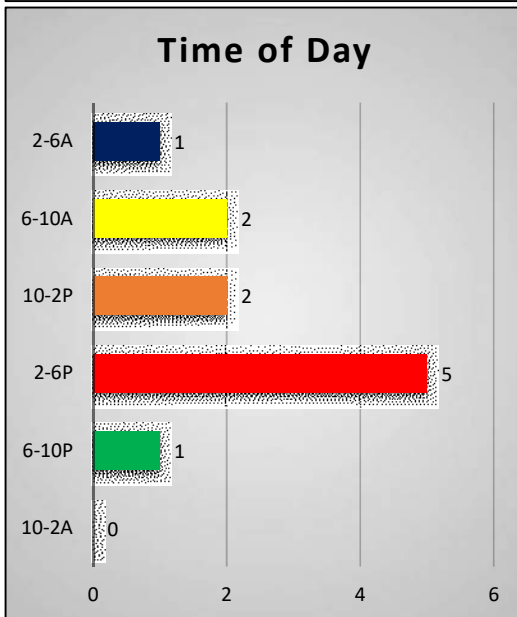
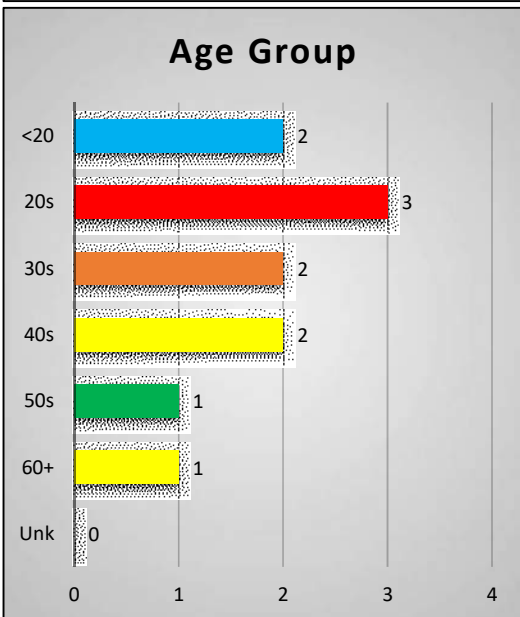
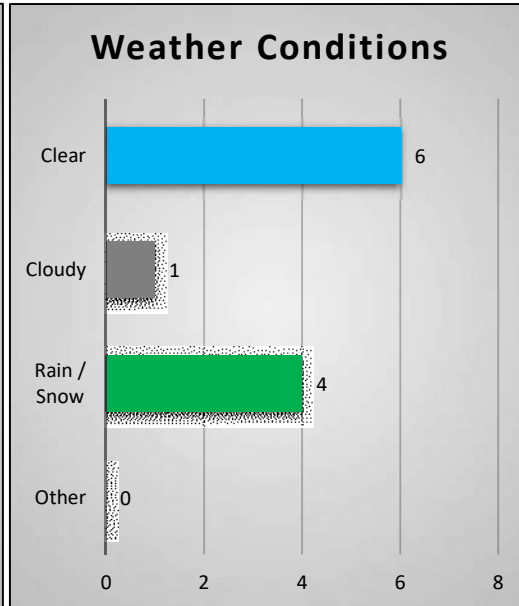
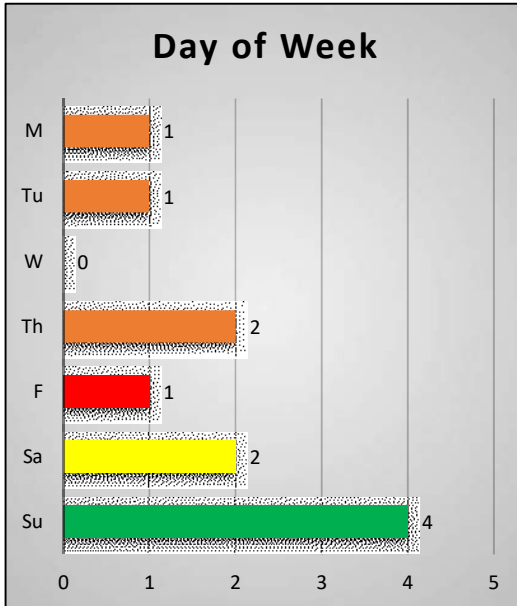
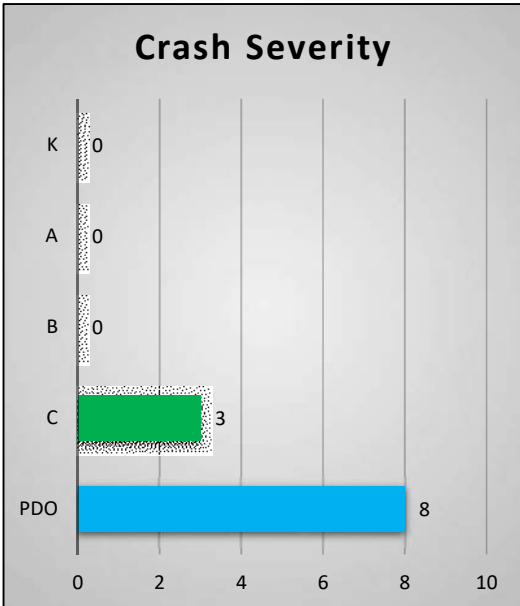
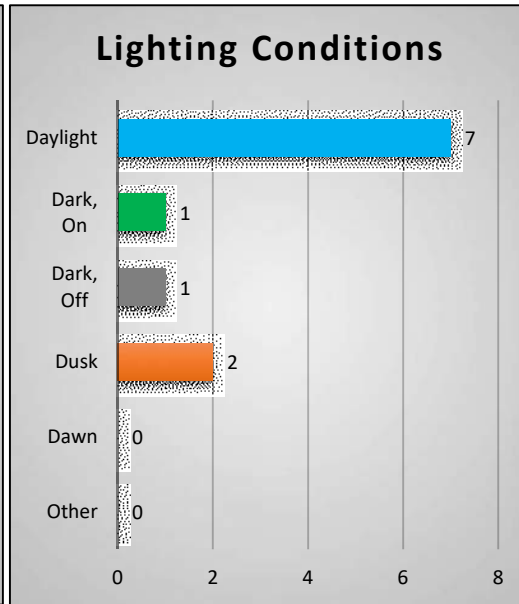
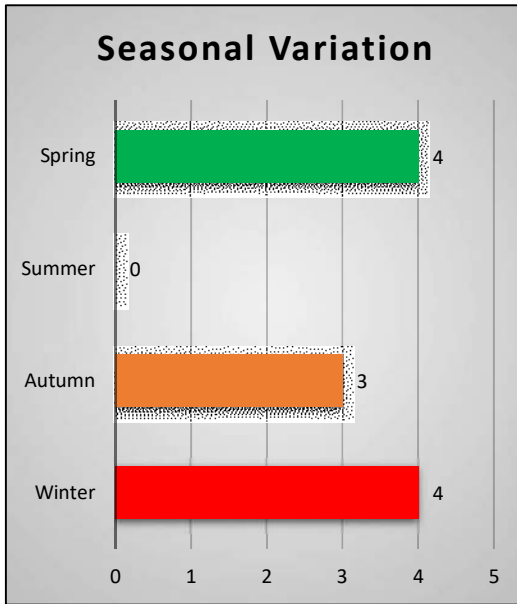
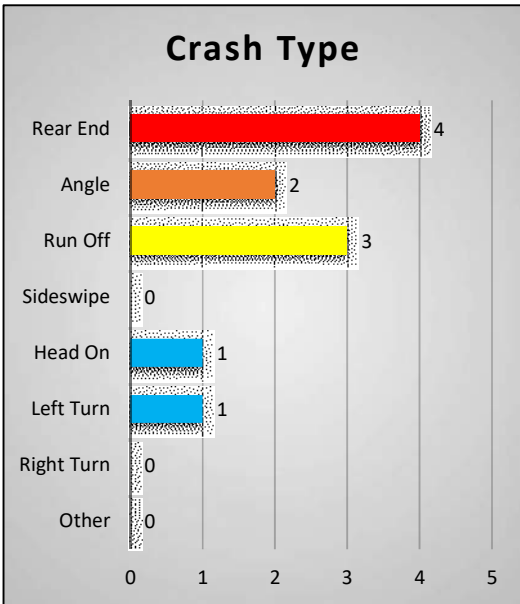
Note: Known categories in the first two columns are color-coded highest to lowest according to baseline values as follows: red, orange, yellow, green, blue, indigo.



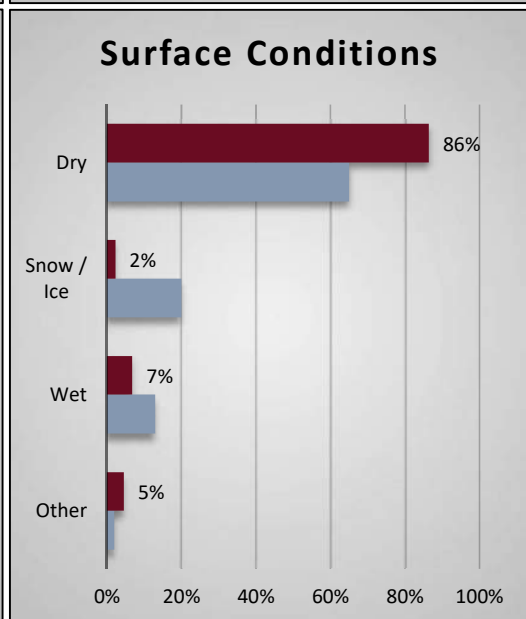
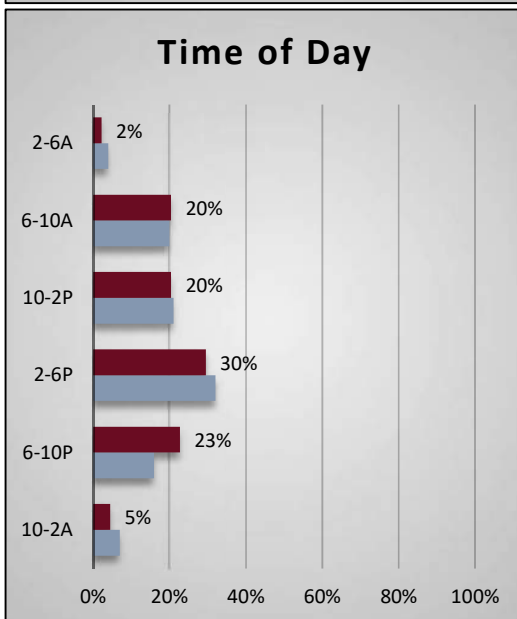
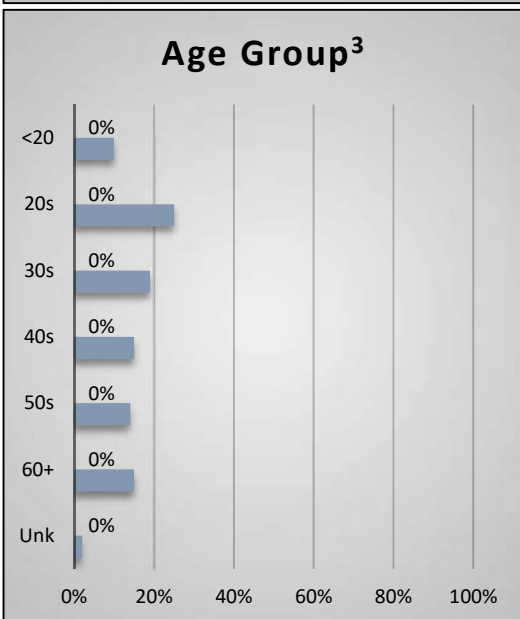
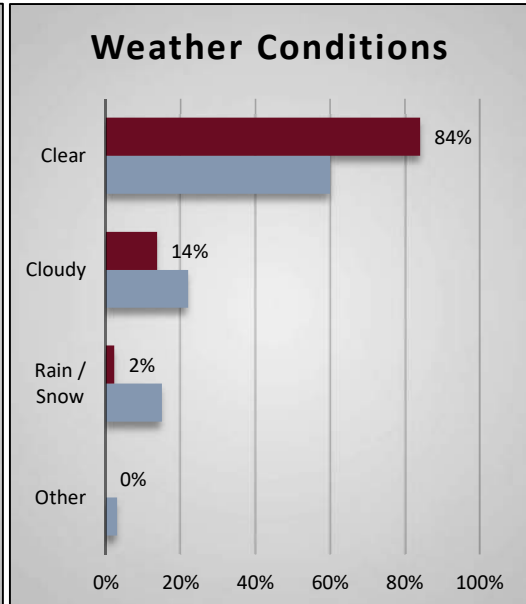
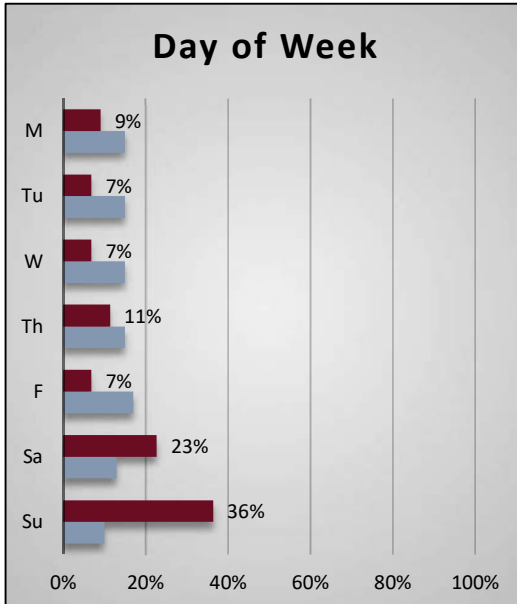
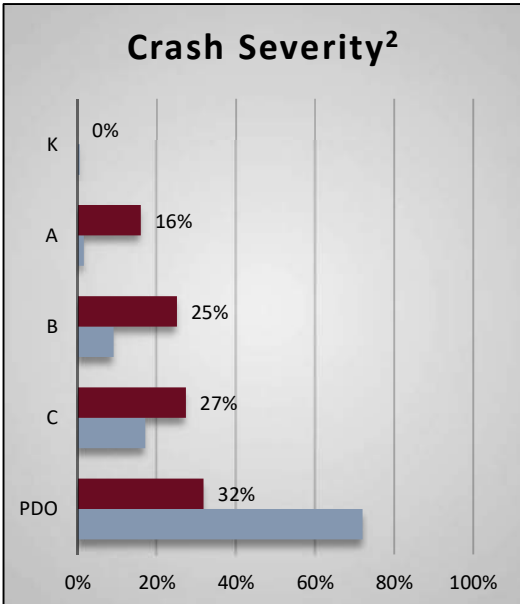
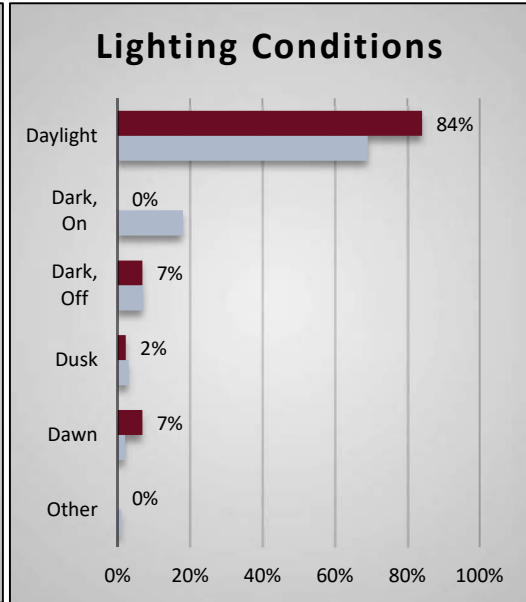
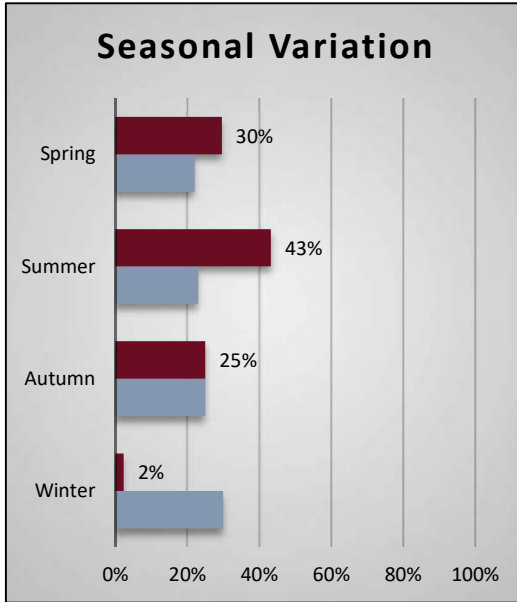
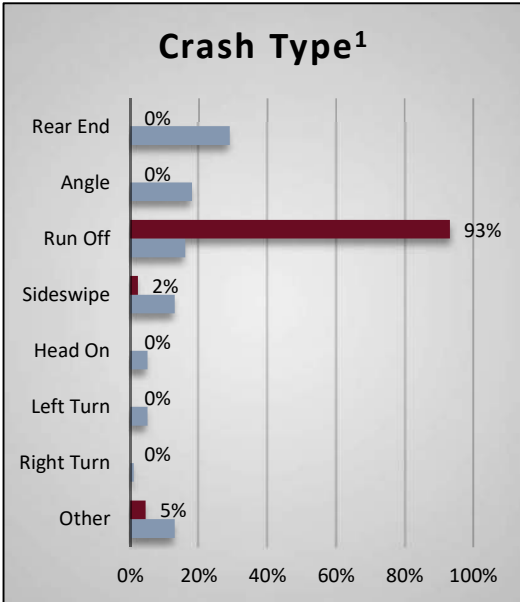
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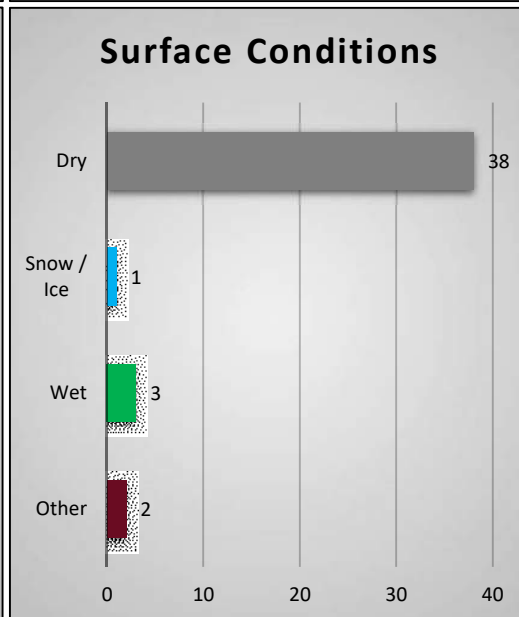
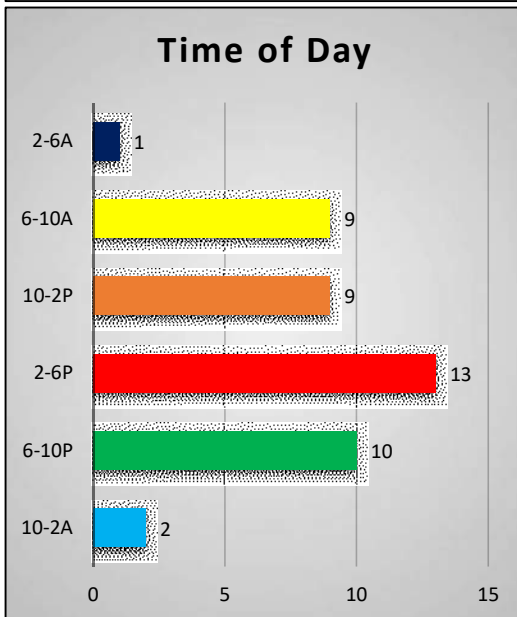
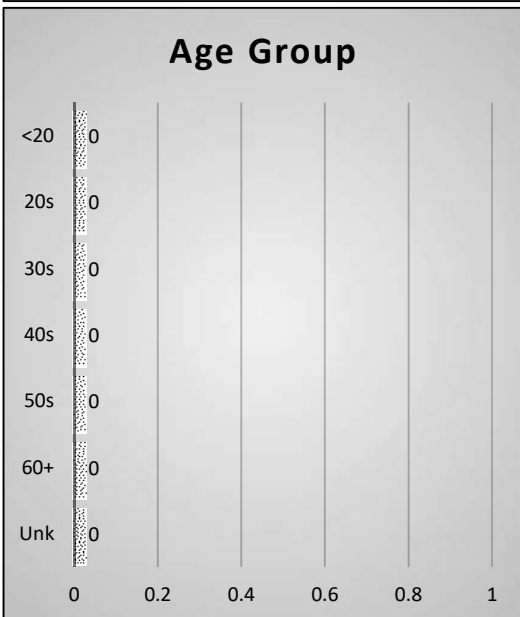
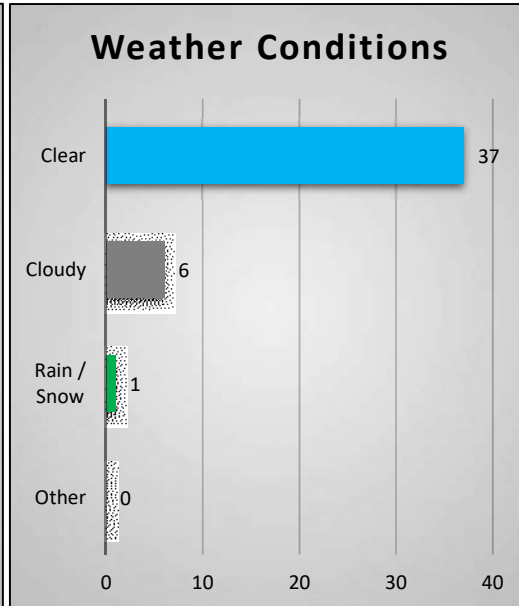
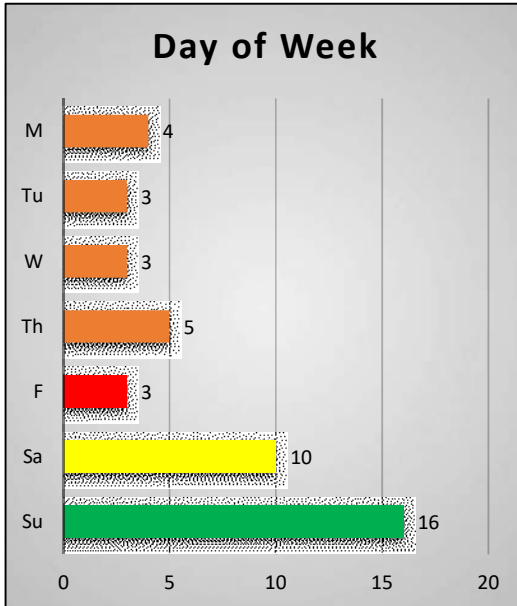
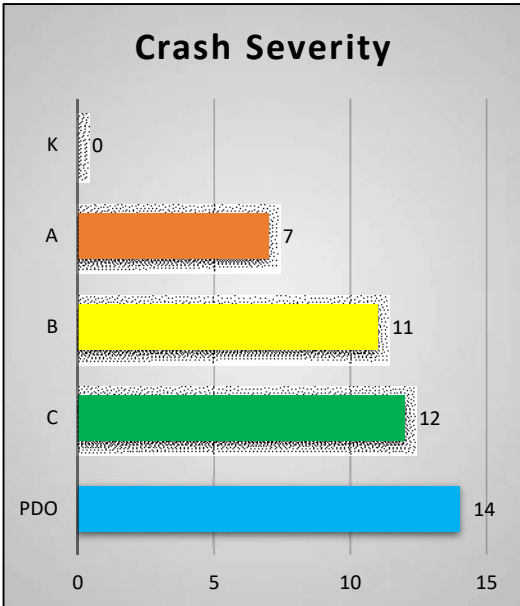
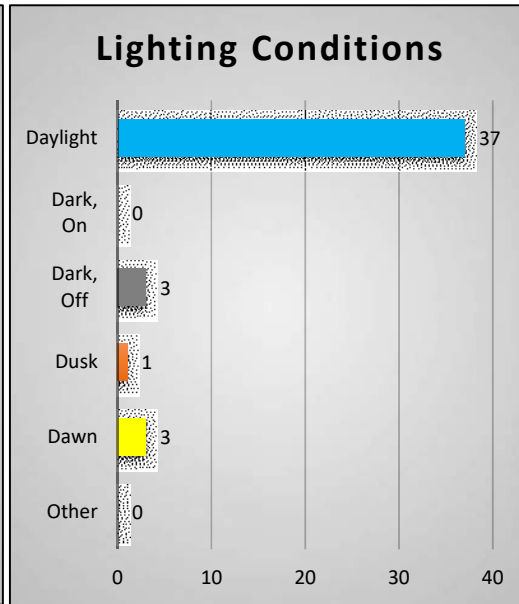
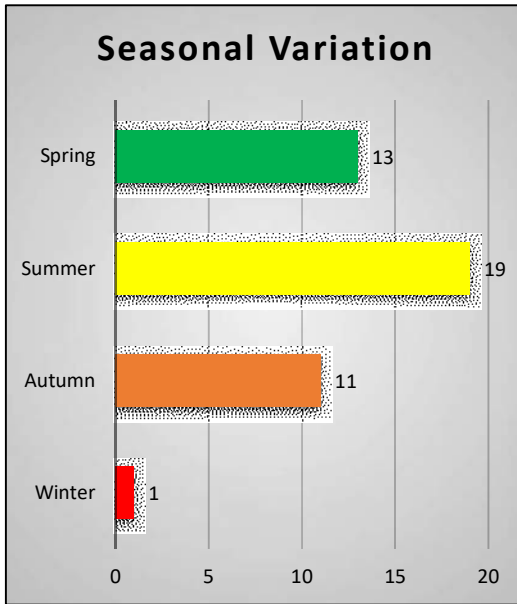
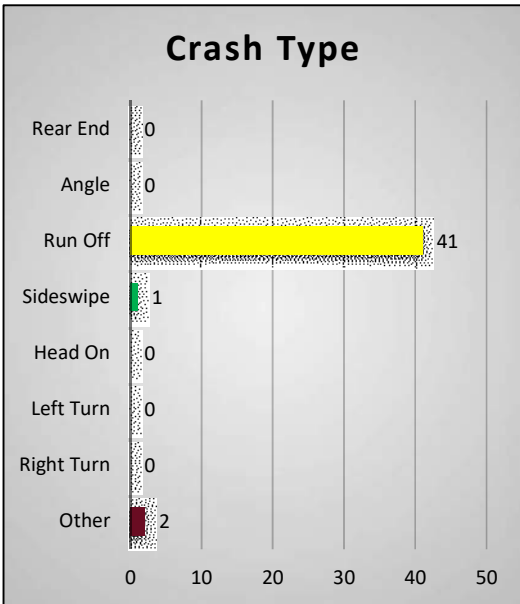
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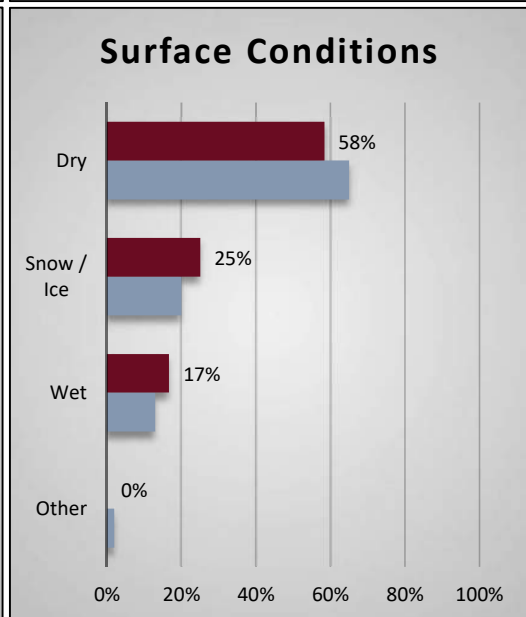
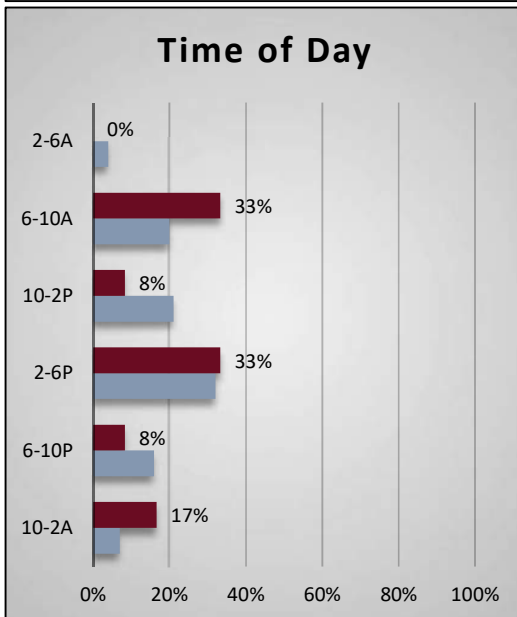
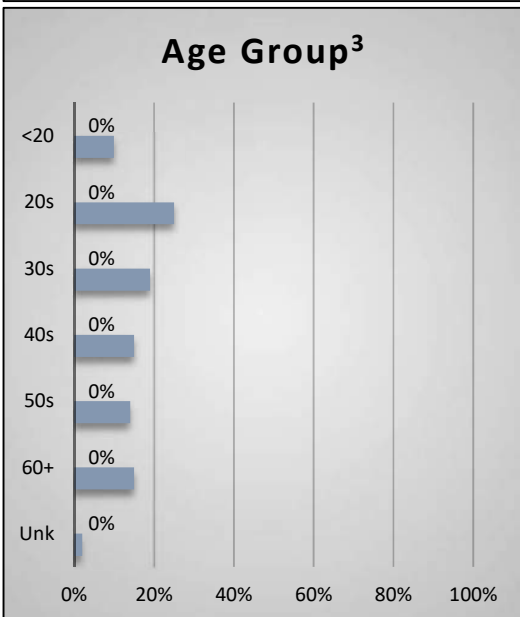
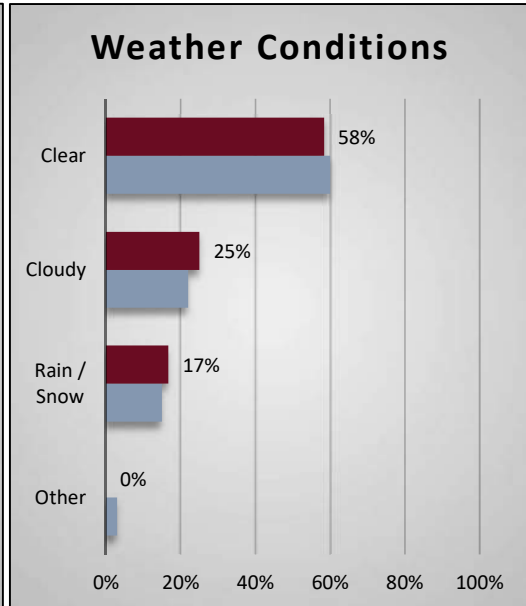
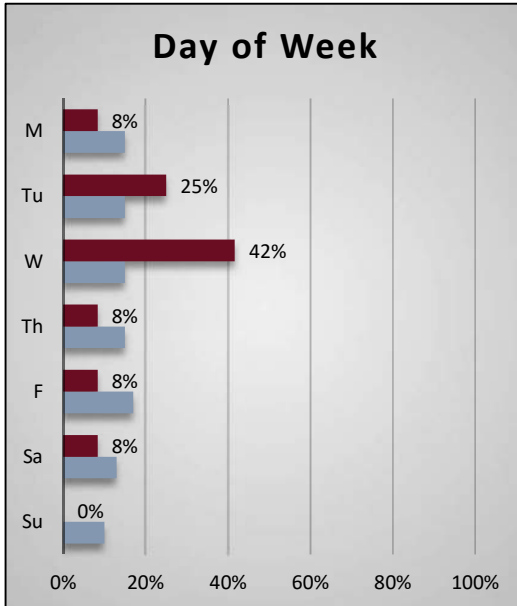
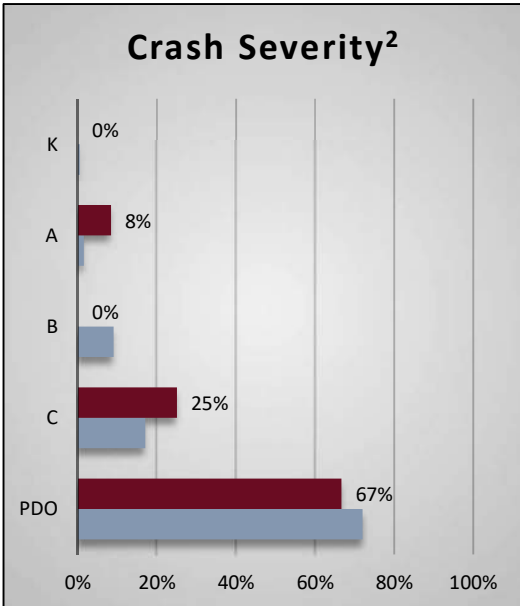
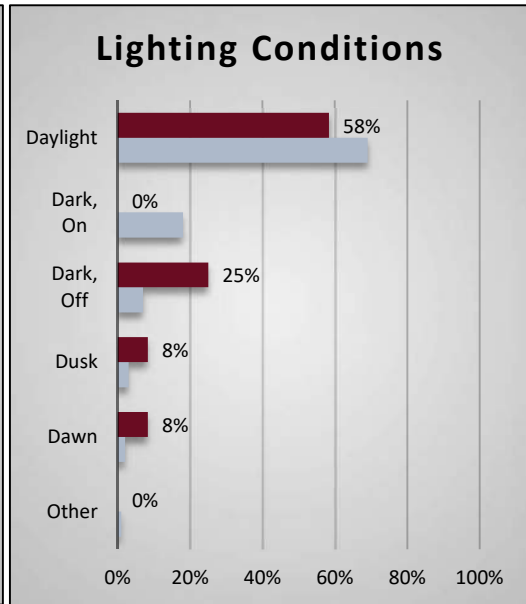
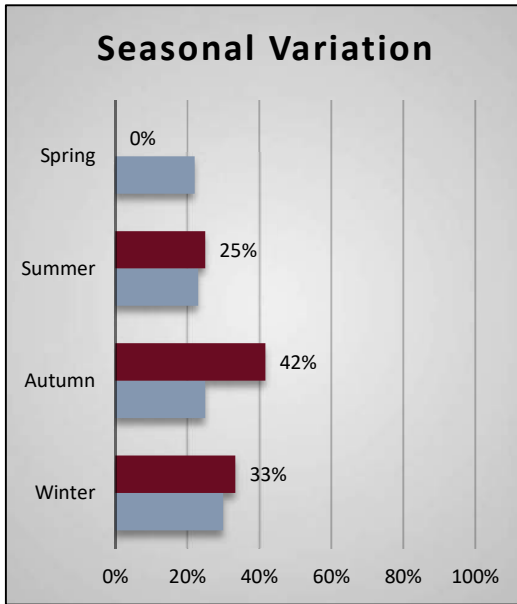
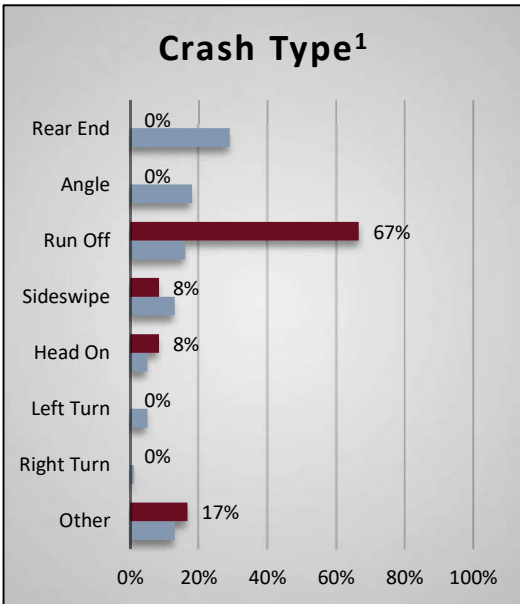
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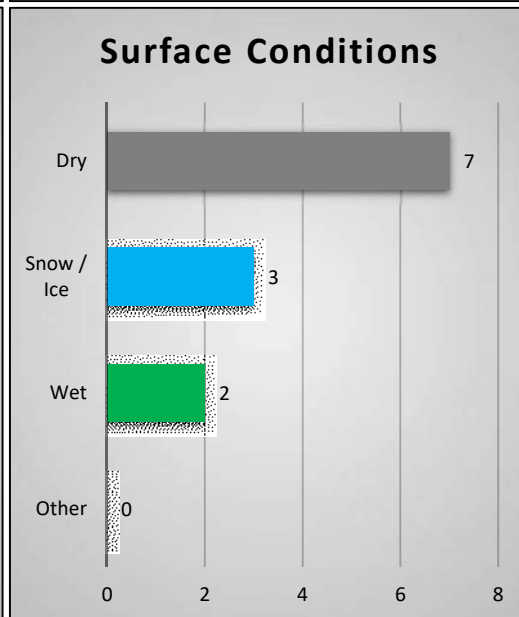
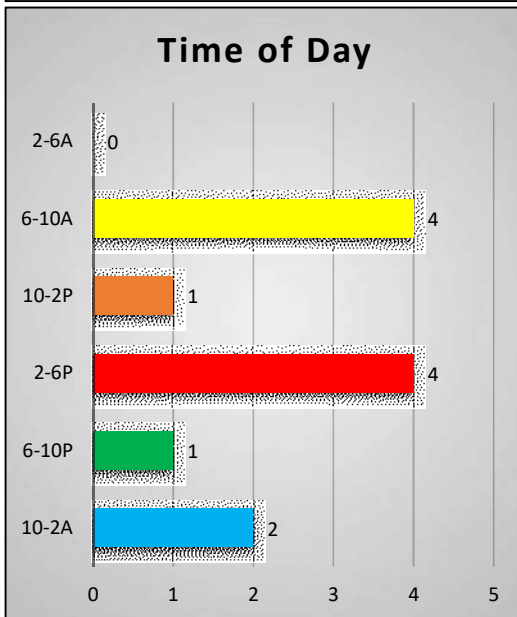
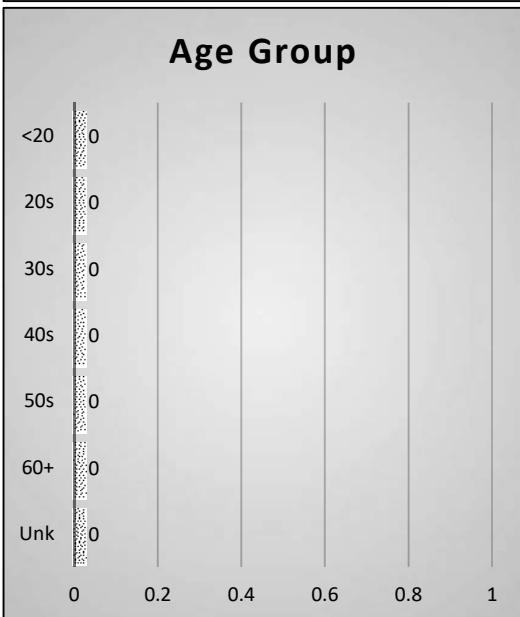
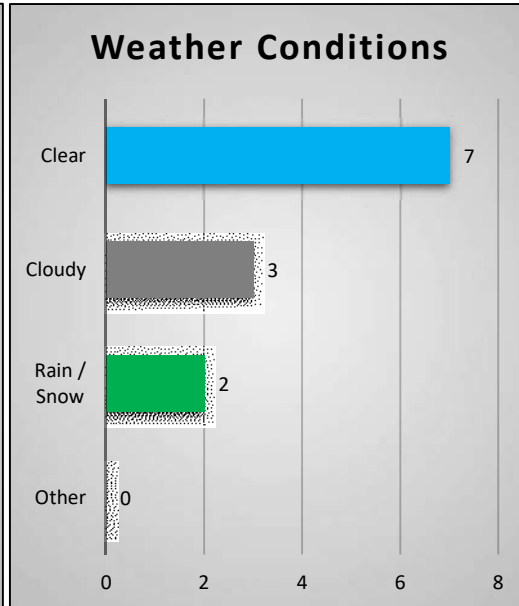
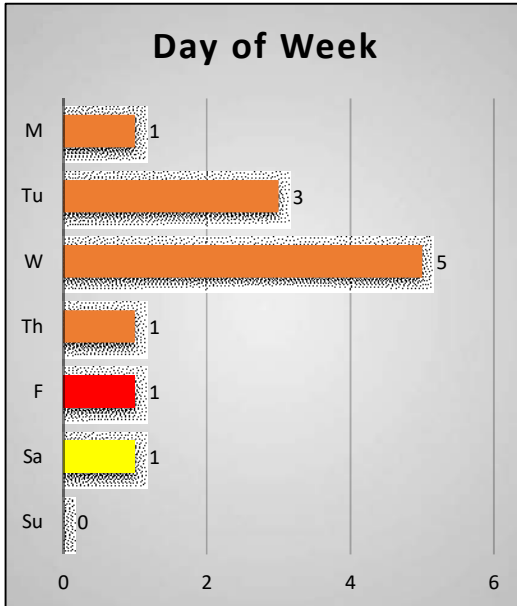
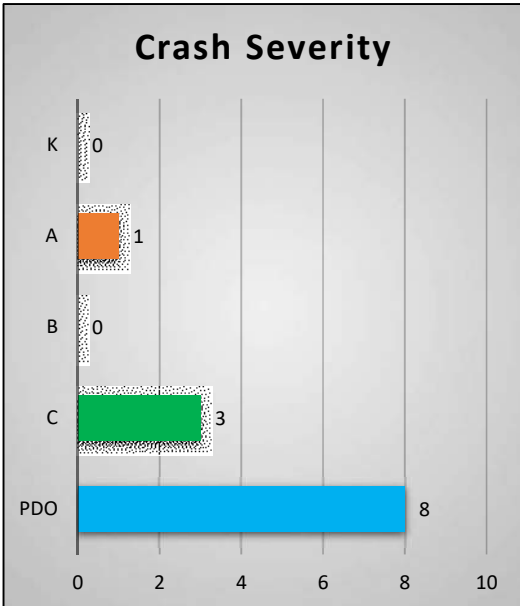
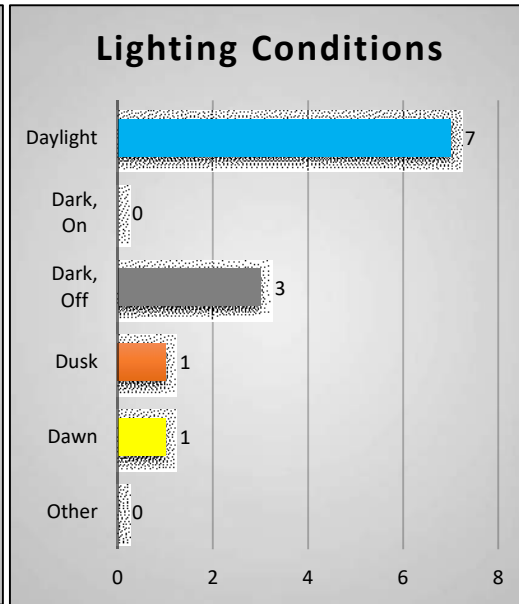
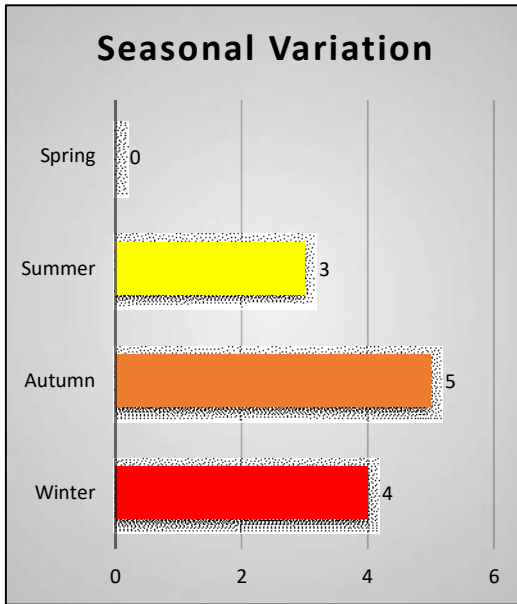
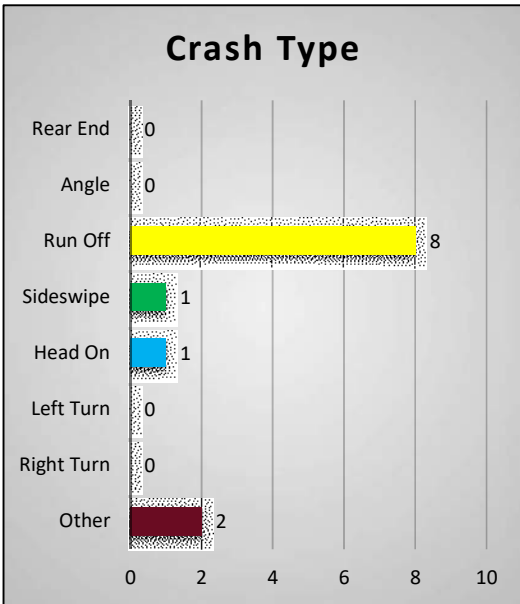
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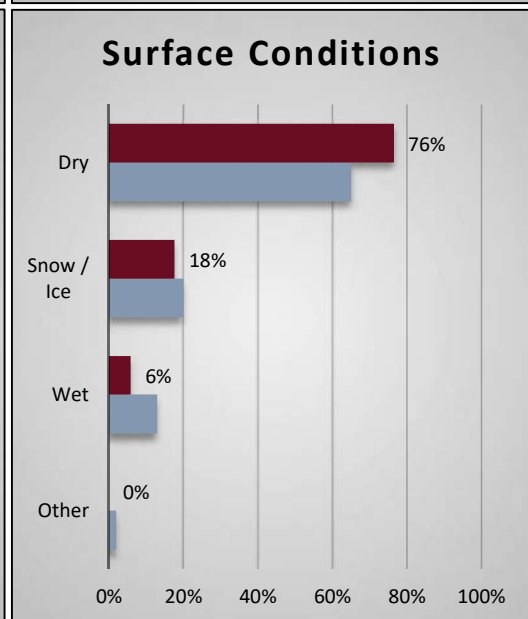
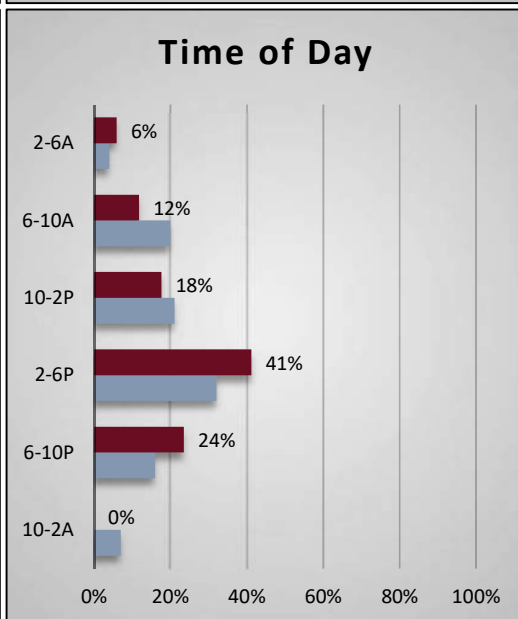
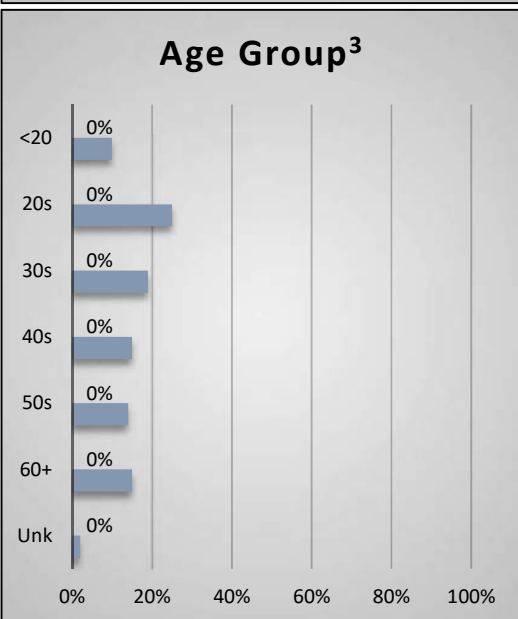
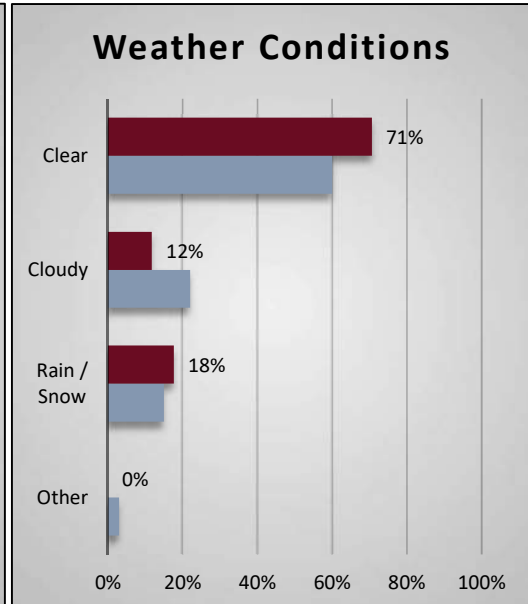
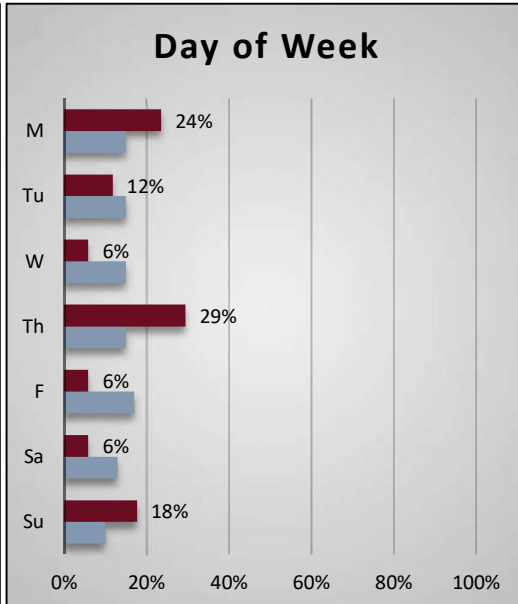
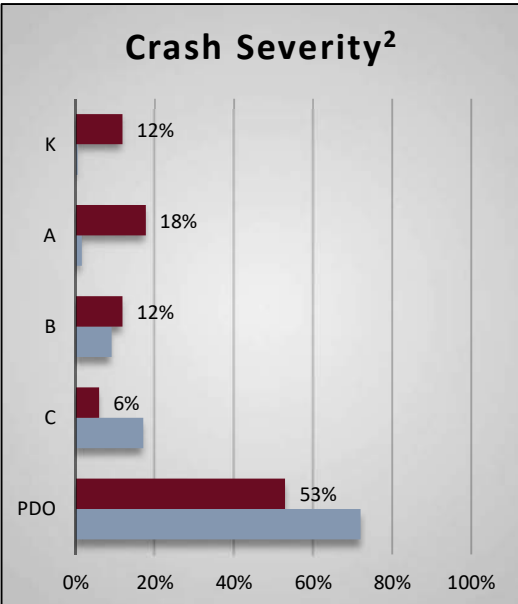
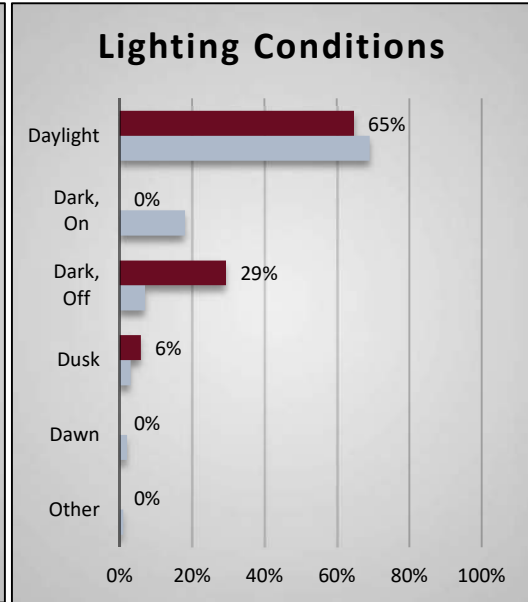
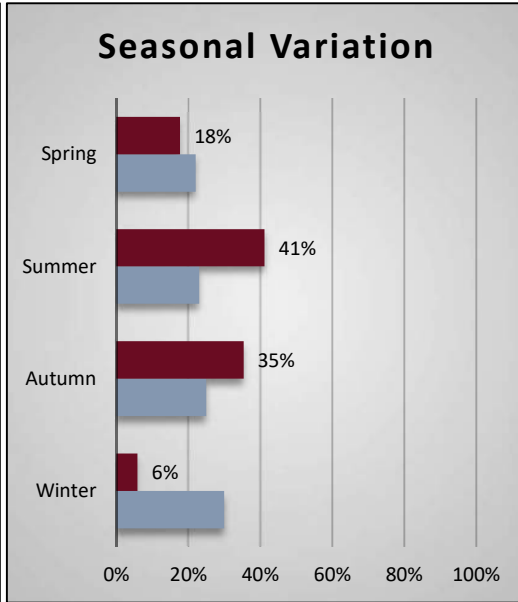
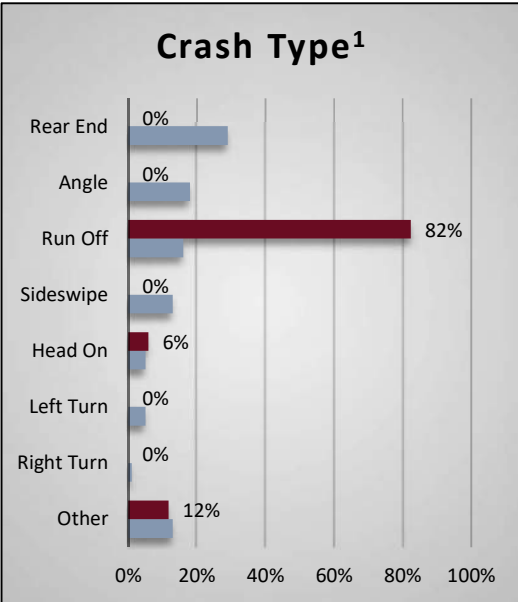
¹ Baseline Crash Type values were calculated using 2004-2015 data as recorded categories changed starting in 2016.

² Definitions for Crash Severity were changed starting in 2016, all years (2004-2019) were utilized for baseline values.

³ Baseline Age Groups include all drivers involved in crashes, whereas intersection-specific ages are listed for at-fault drivers only.



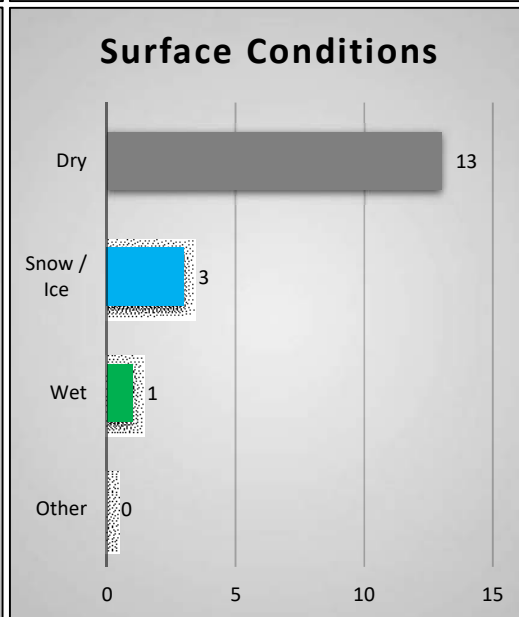
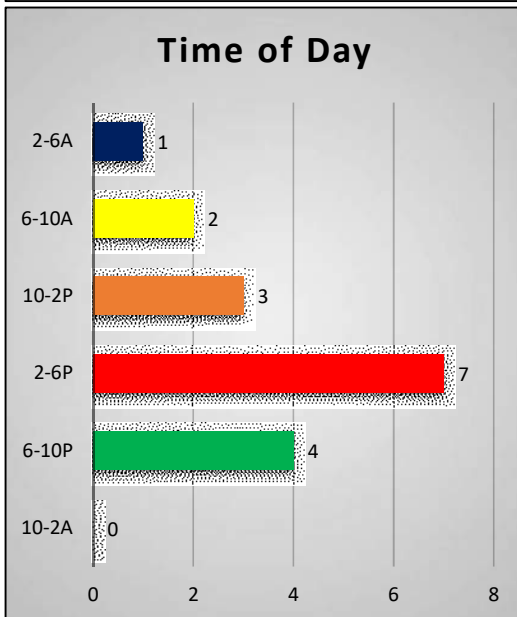
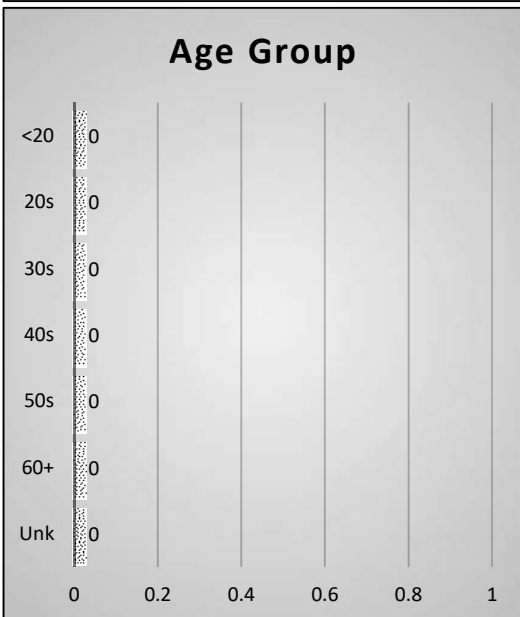
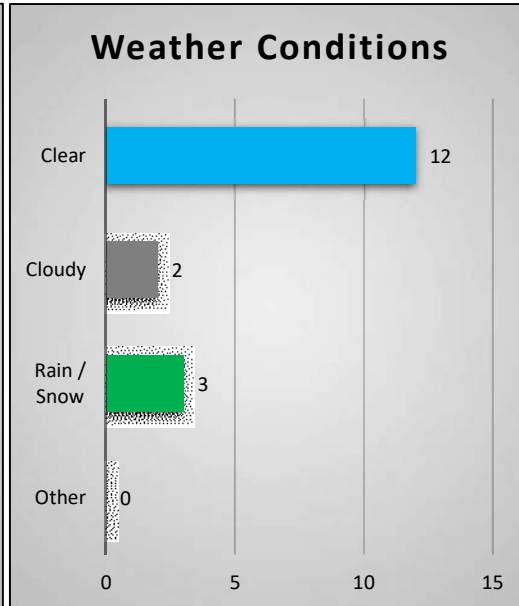
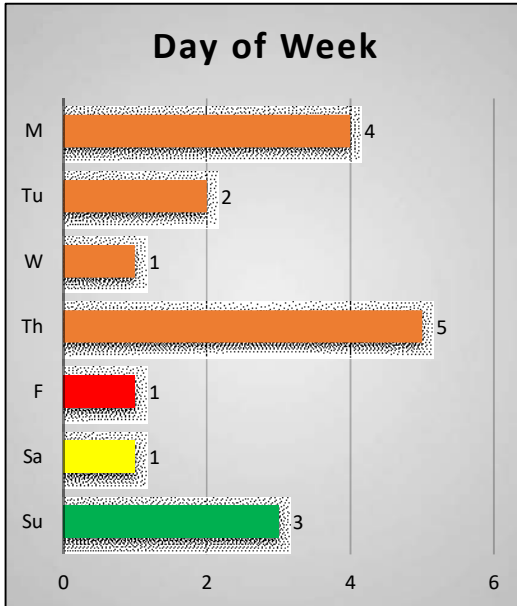
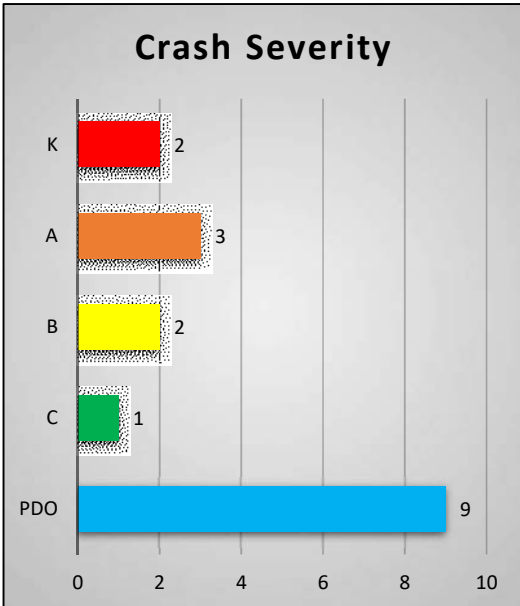
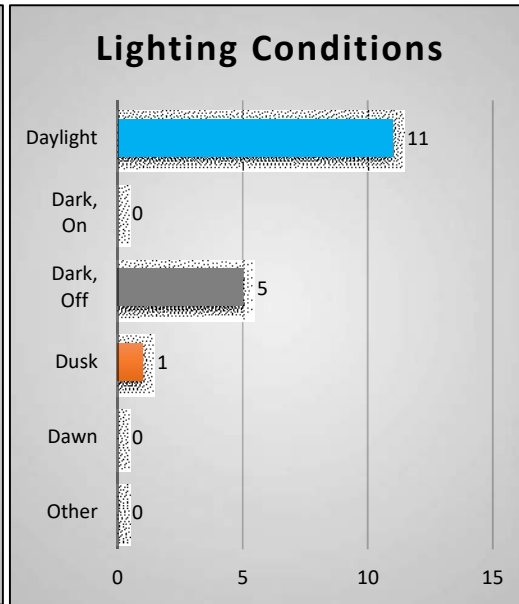
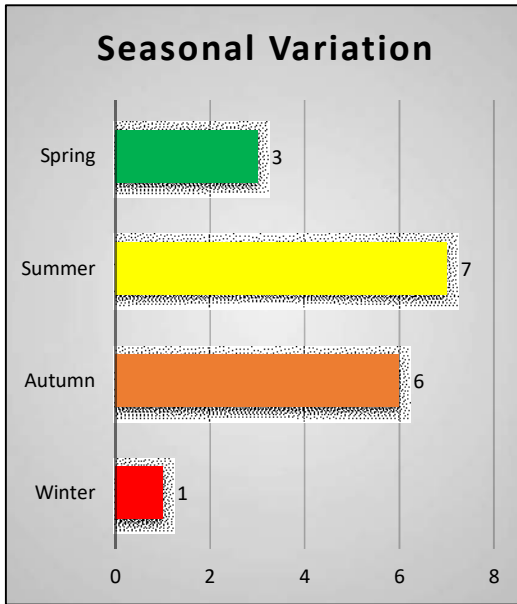
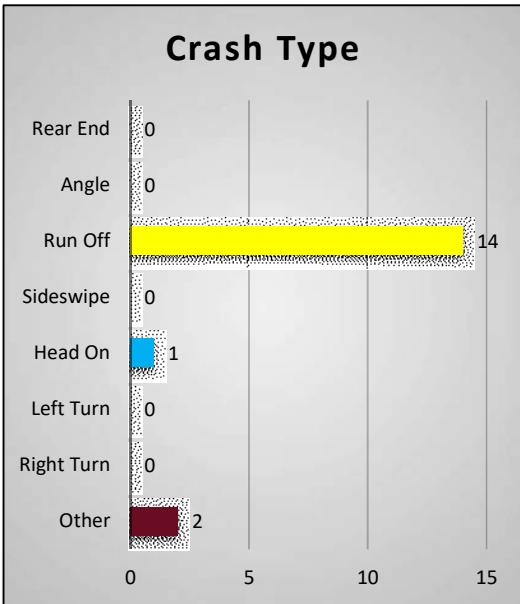
Note: Known categories in the first two columns are color-coded highest to lowest according to baseline values as follows: red, orange, yellow, green, blue, indigo.



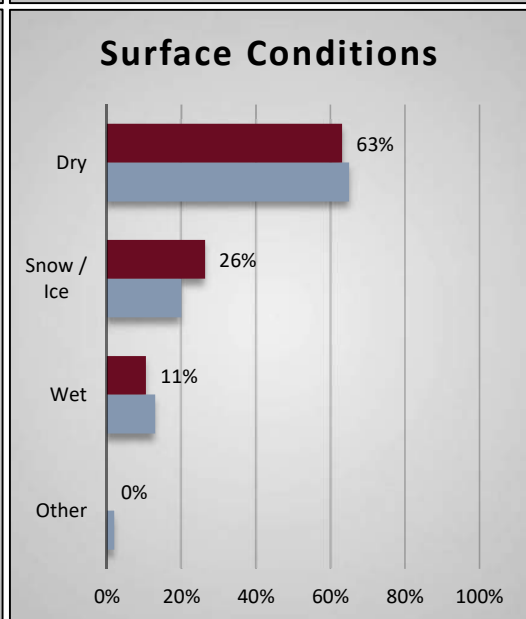
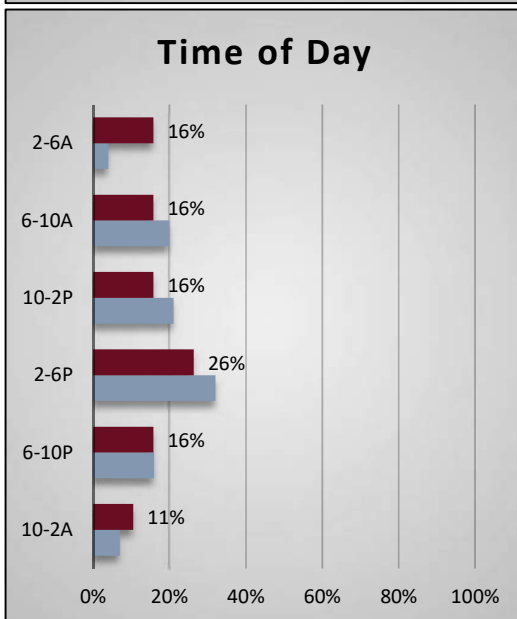
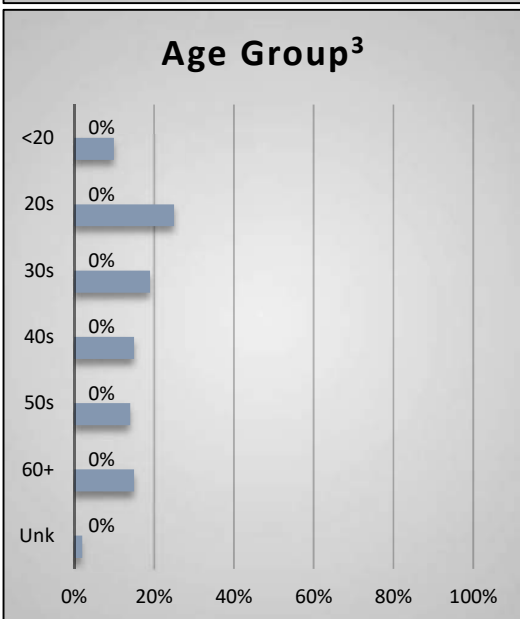
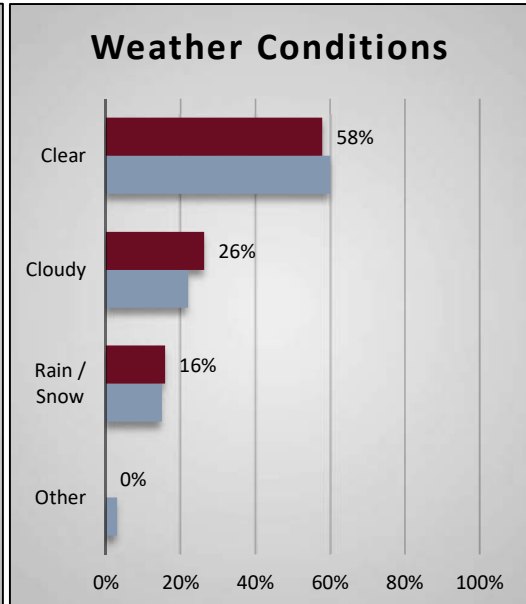
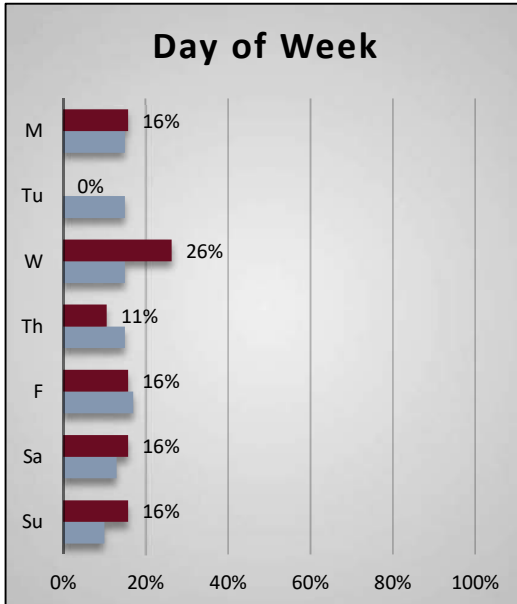
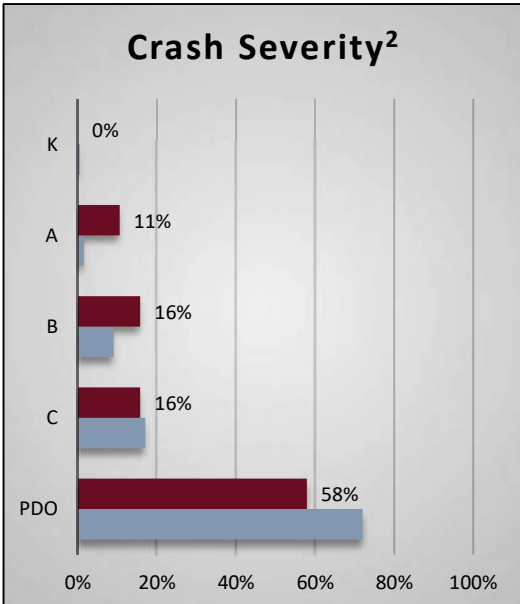
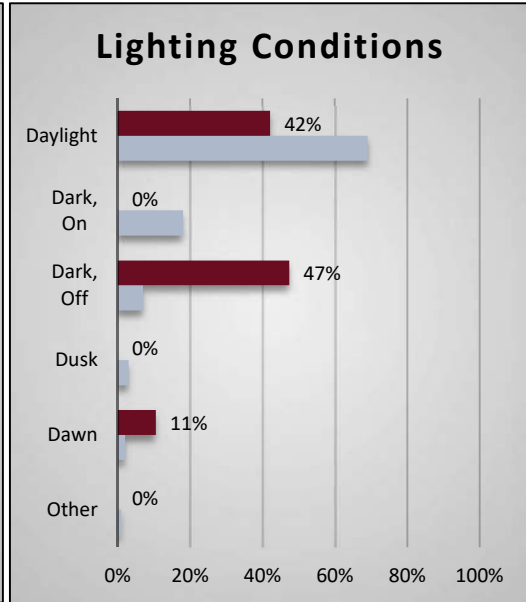
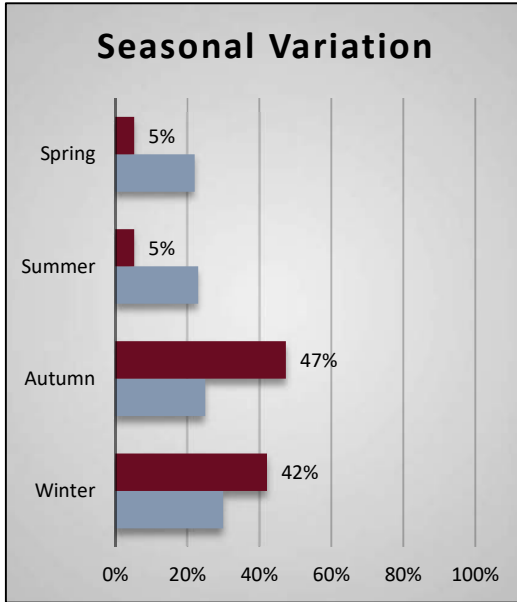
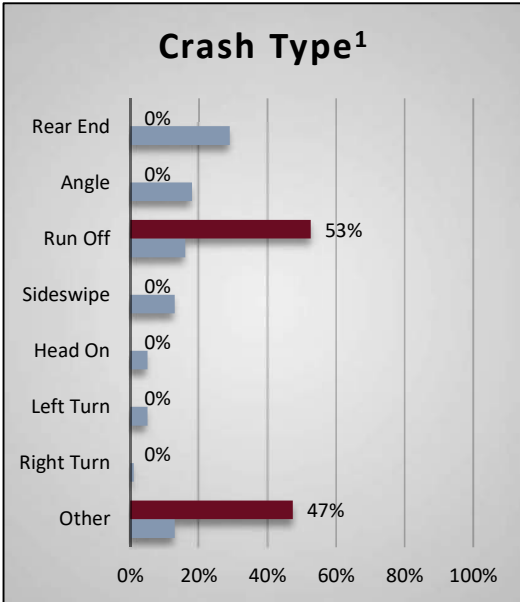
¹ Baseline Crash Type values were calculated using 2004-2015 data as recorded categories changed starting in 2016.

² Definitions for Crash Severity were changed starting in 2016, all years (2004-2019) were utilized for baseline values.

³ Baseline Age Groups include all drivers involved in crashes, whereas intersection-specific ages are listed for at-fault drivers only.



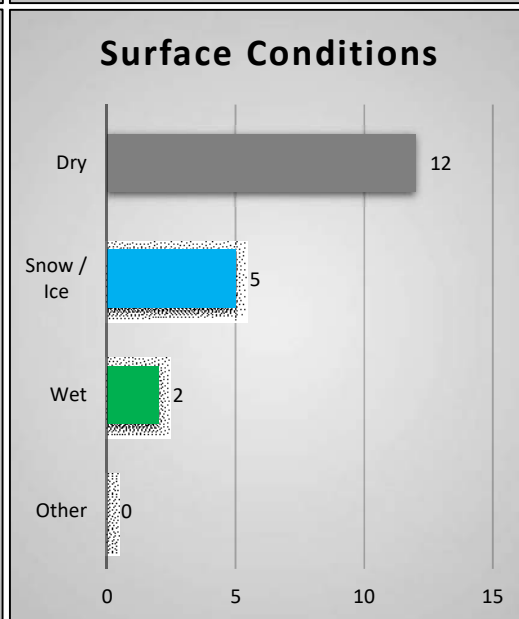
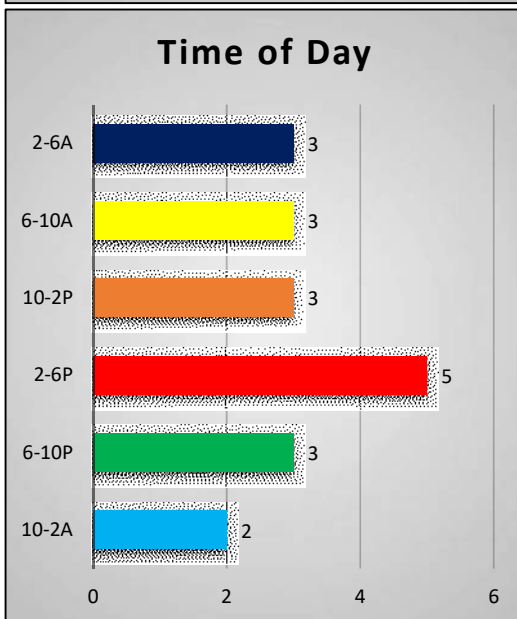
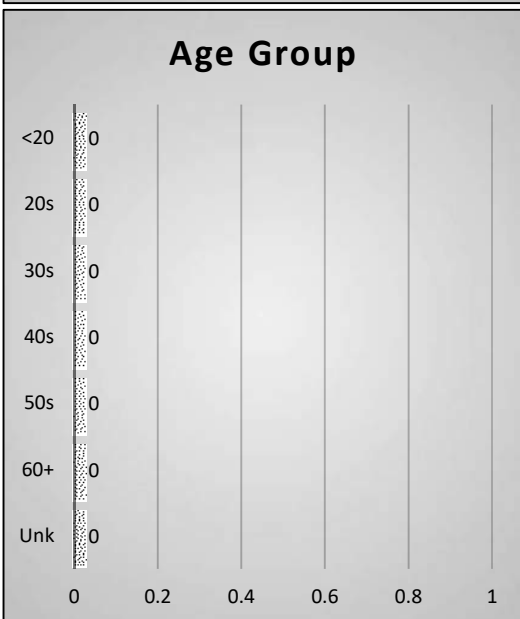
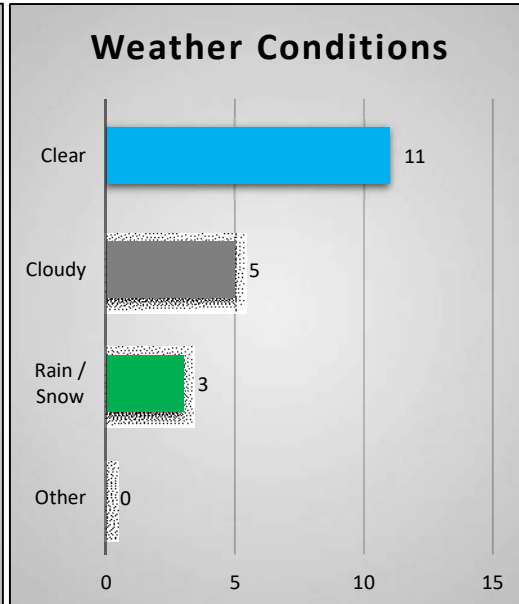
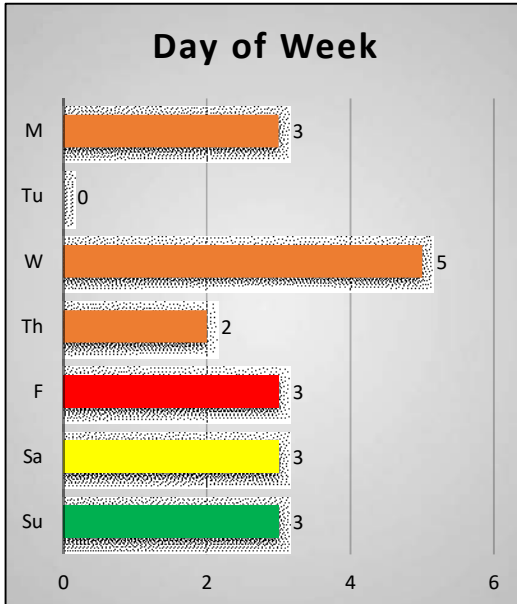
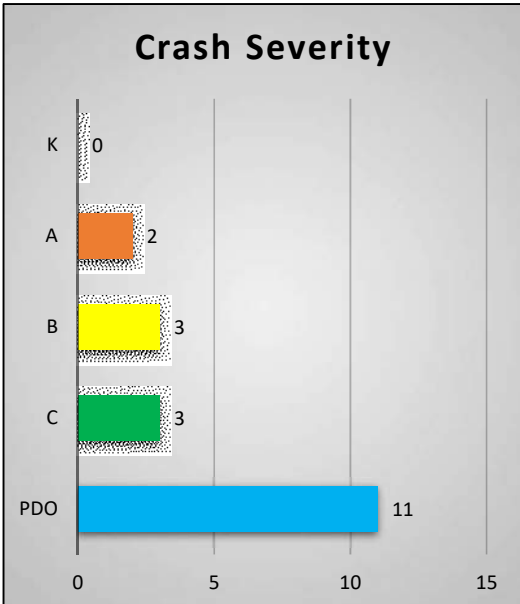
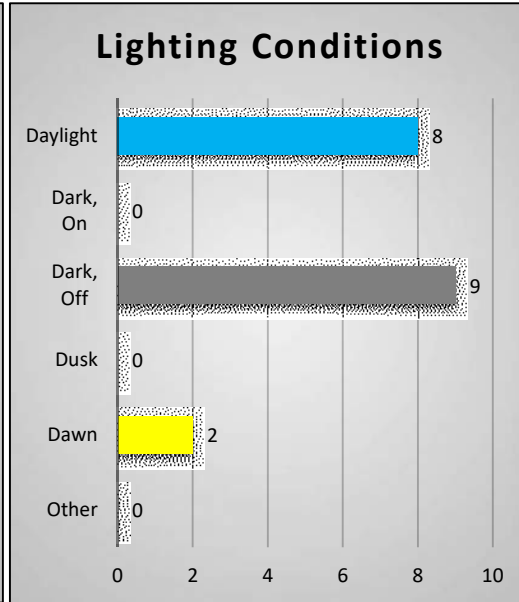
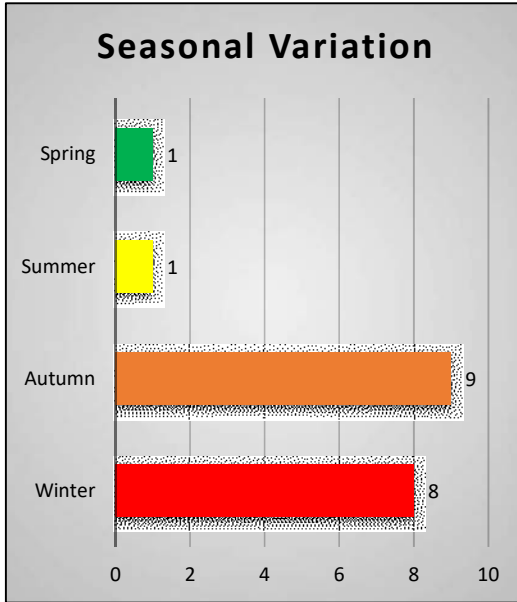
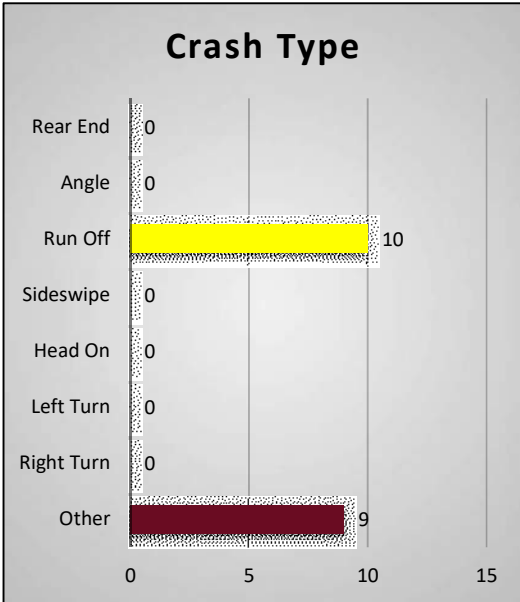
Note: Known categories in the first two columns are color-coded highest to lowest according to baseline values as follows: red, orange, yellow, green, blue, indigo.



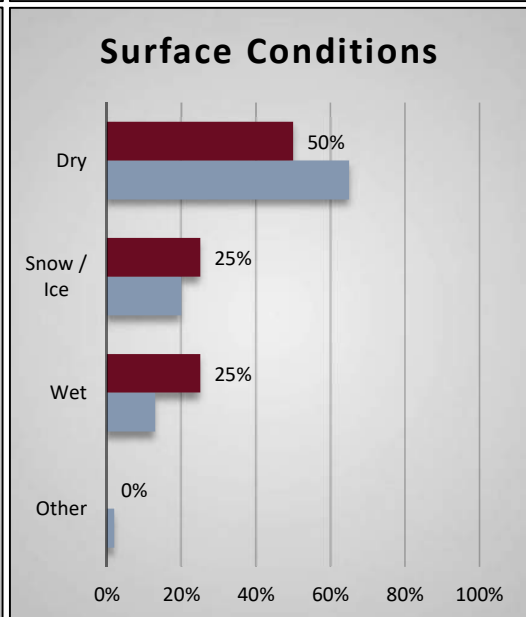
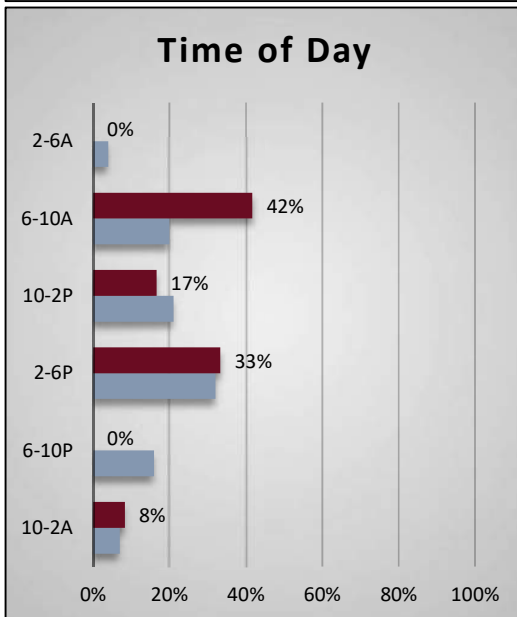
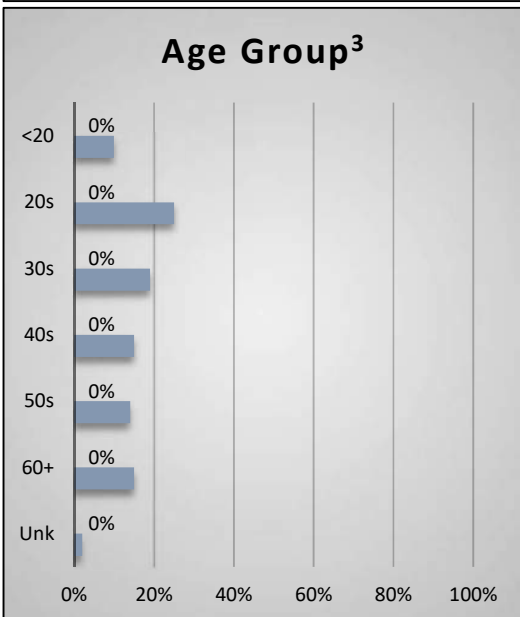
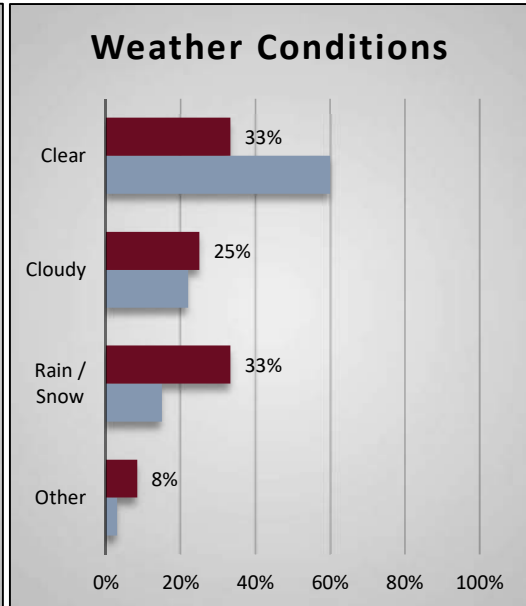
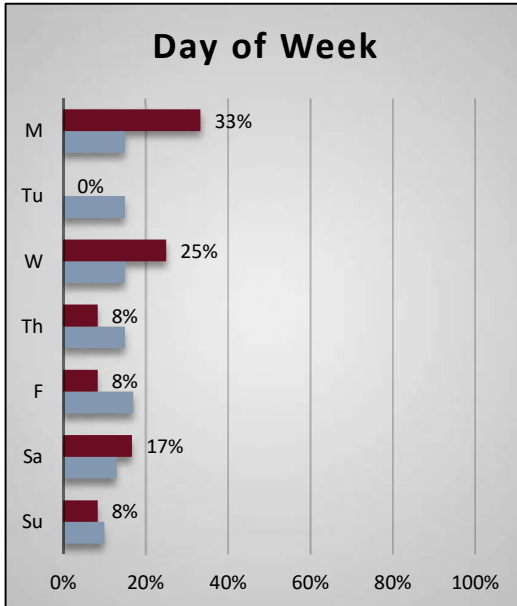
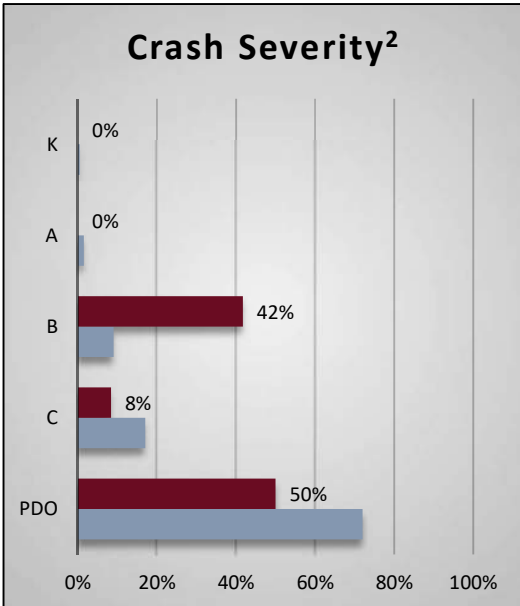
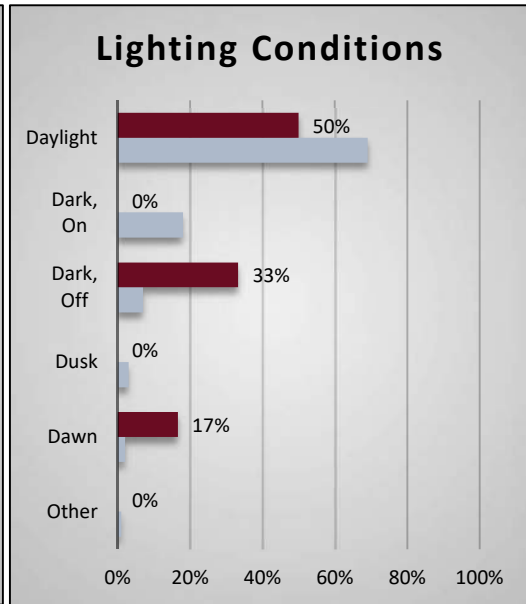
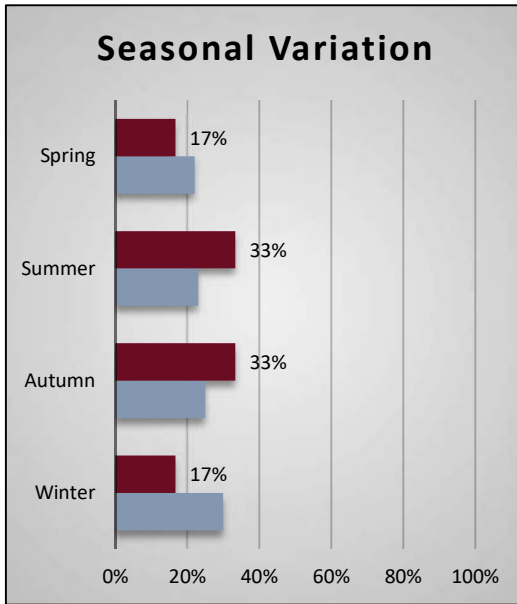
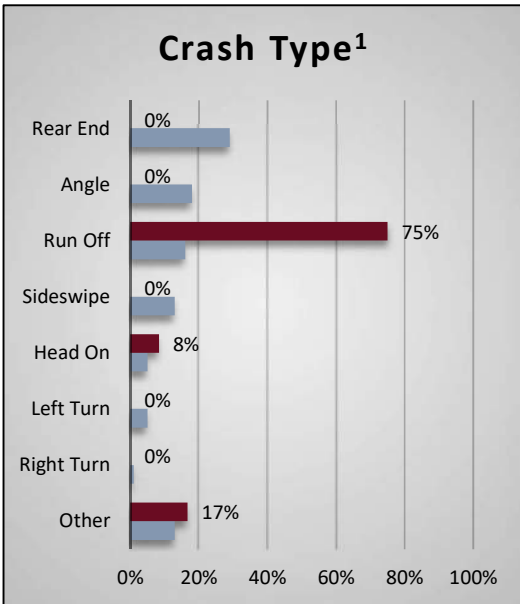
¹ Baseline Crash Type values were calculated using 2004-2015 data as recorded categories changed starting in 2016.

² Definitions for Crash Severity were changed starting in 2016, all years (2004-2019) were utilized for baseline values.

³ Baseline Age Groups include all drivers involved in crashes, whereas intersection-specific ages are listed for at-fault drivers only.



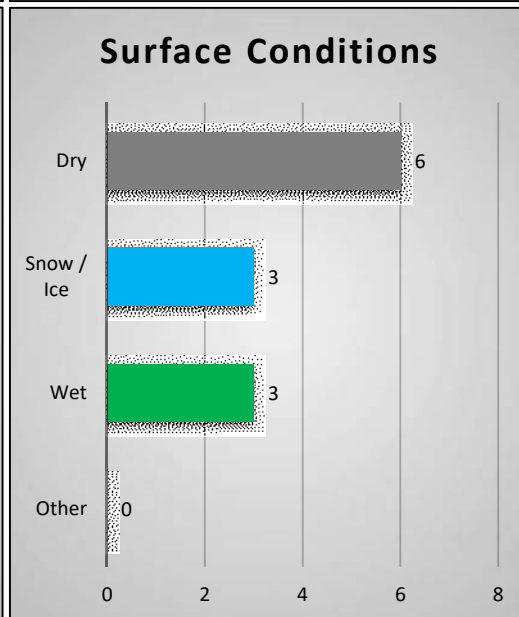
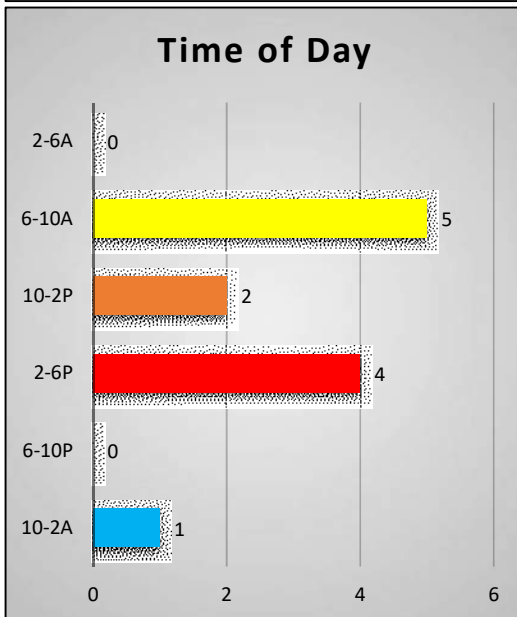
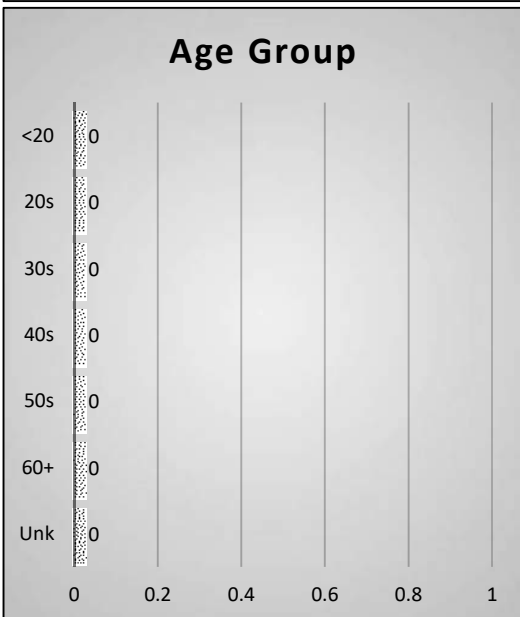
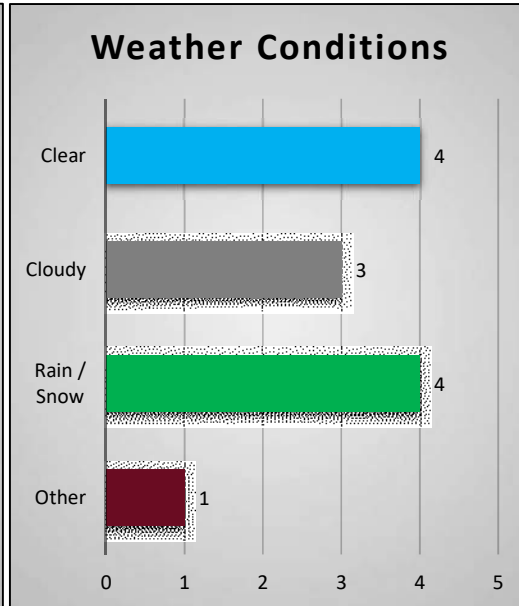
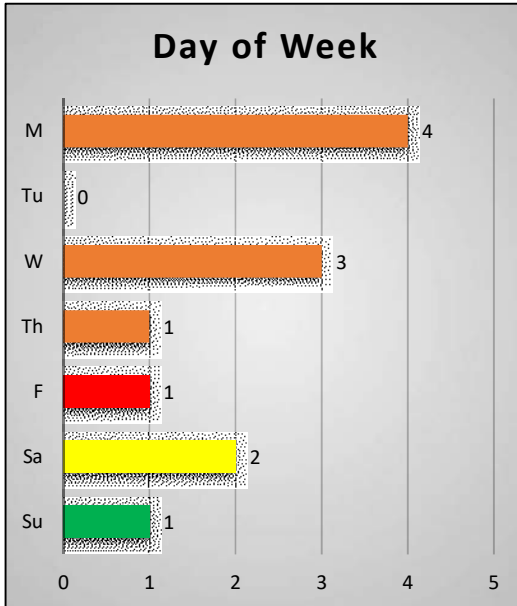
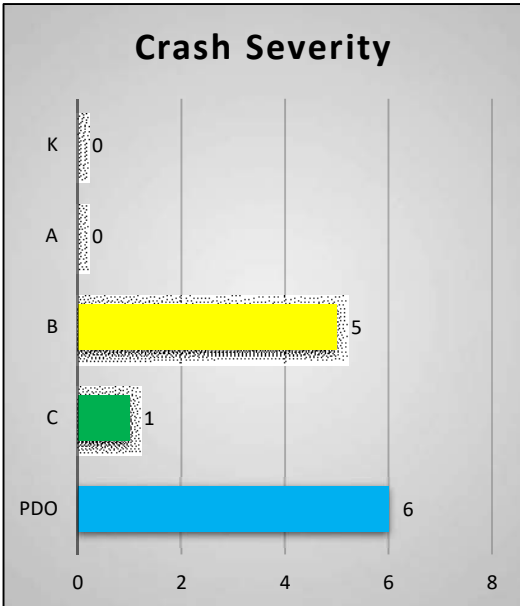
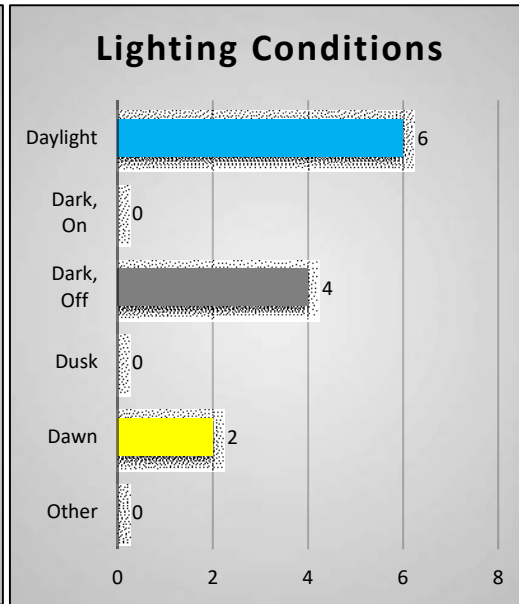
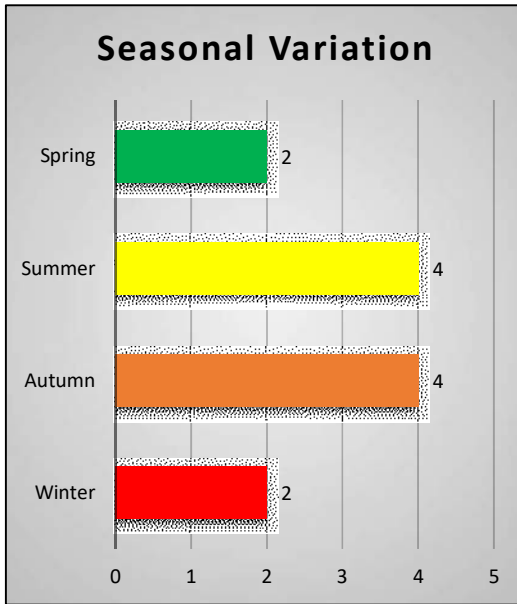
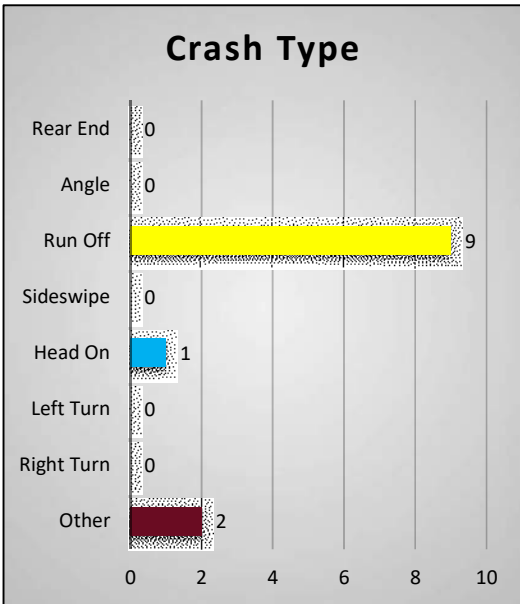
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