



TRAFFIC IMPACT ANALYSIS

COFFEE SHOP – SIBLEY PLAZA

SAINT PAUL, MINNESOTA

Prepared for:

Paster Properties

5320 West 23rd Street
St. Louis Park, MN 55416

Prepared By:

Kimley-Horn and Associates, Inc.

767 N Eustis Street, Suite 100
St. Paul, MN 55114

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Kimley»»Horn



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REPORT CERTIFICATION

I hereby certify that this report was prepared by me or under my direct supervision and that I am a duly Licensed Professional Engineer under the laws of the State of Minnesota.



Douglas M. Arnold, P.E.

License No. 52721

October 28, 2019

Date

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APPENDIX

- A. Exhibits**
- B. Raw Turning Movement Counts**
- C. Site Layout Exhibit & Sight Distance Exhibit**
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INTRODUCTION

Paster Properties is proposing a 2,200-square foot coffee shop with a drive-through at the northeast corner of the intersection of West 7th Street and Davern Street in Saint Paul, MN. The site is currently a gas station with four full access driveways. The site is an approximately 0.52 acre outparcel of Sibley Plaza. Sibley Plaza is an approximately 96,430 square foot retail center. **Exhibit 1** in **Appendix A** shows the proposed project location.

EXISTING ROADWAY CONDITIONS

The proposed development is located adjacent to in Sibley Plaza in Saint Paul, Minnesota. Sibley Plaza is an existing retail shopping center with access driveways on Davern Street and West 7th Street. The following study intersections are included in the traffic analysis.

- Davern Street and Sheridan Avenue/Sibley Plaza Driveway
- West 7th Street and Davern Street
- West 7th Street and W Maynard Drive/Sibley Plaza Driveway

The study intersections listed above are shown in **Exhibit 1** in **Appendix A**.

EXISTING ROADWAYS

The coffee shop site access will be internal to Sibley Plaza with access to Sibley Plaza on Davern Street and West 7th Street. Coffee Shop customers are anticipated to use the Sibley Plaza full access driveway on Davern Street north of the proposed site and the signalized full access driveway on West 7th Street east of the proposed site. Sibley Plaza has additional access points throughout the center which are unlikely to be utilized by the coffee shop customers. Following provides a detailed description of West 7th Street and Davern Street.

West 7th Street is a southwest-northeast five-lane roadway with two lanes in each direction and a center left turn lane. West 7th Street connects downtown Saint Paul to areas along the Mississippi River and MN Highway 5. The City of Saint Paul 2040 Comprehensive Plan and the MnDOT Functional Classification System Map classify West 7th Street as an A-Minor Augmentor. The MnDOT Traffic Mapping Application reports an annual average daily traffic (AADT) of 30,000 vehicles per day on West 7th Street west of Davern Street and 31,500 vehicles per day on West 7th Street east of Davern Street. The posted speed limit on West 7th Street is 35 miles per hour. In the vicinity of the proposed development and within this report, West 7th Street is referred to as the east-west roadway.

Davern Street is a two lane north-south roadway with left-turn lanes at major intersections including the intersection of West 7th Street. Davern Street is classified as a Major Collector according to the MnDOT Functional Classification System Map and the City of Saint Paul 2040 Comprehensive Plan. The MnDOT Traffic Mapping Application reports the AADT on Davern Street north of West 7th Street as 5,500 vehicles per day. The current posted speed limit on Davern Street is 30 miles per hour (mph) which will be changed to 25 mph soon based on a recently passed City Ordinance. Davern Street was analyzed with the recently approved speed limit of 25 mph.

Exhibit 2 in **Appendix A** provides the existing intersection geometry and intersection control for the study intersections.

EXISTING TRAFFIC VOLUMES

To analyze the traffic operations at the study intersections, weekday peak period turning movement counts were collected on Wednesday October 9, 2019. **Exhibit 3** in **Appendix A** provides a summary of the weekday AM and PM peak hour turning traffic volumes. The raw turning movement count data is provided in **Appendix B**.

The network AM peak hour was determined to be 7:30 AM to 8:30 AM and the network PM peak hour was determined to be 4:30 PM to 5:30 PM. The network peak hour factors for the AM and PM peak hours were calculated to be 0.93 and 0.97 respectively. These peak hour factors were applied to all the study intersections in the traffic analysis as appropriate for the AM and PM analysis periods.

The turning movement counts included crosswalk counts at all the study intersections. The crosswalk volumes were included in the capacity analysis at the study intersections. Following provides a summary of the crosswalk counts:

- **Davern Street and Sheridan Avenue/Sibley Plaza Driveway** – There are no marked crosswalks at this intersection but there are pedestrian curb ramps for crossing the west leg and the north leg. The east leg is a sidewalk across the Sibley Plaza driveway. The east leg of the intersection, where all site traffic would cross the pedestrian facility, the AM peak hour pedestrian volume was 3 pedestrians and the PM peak hour was 11 pedestrians. There were 8 total pedestrians at the intersection in AM peak hour and 37* total pedestrians during the PM peak hour.
- **West 7th Street and Davern Street** – There are marked crosswalks on all four legs of the intersection and there are pedestrian push buttons on all crosswalks. The largest pedestrian volume was crossing the west leg during the PM peak hour. Based on the turning movement counts, there were 12 total pedestrians at the intersection in AM peak hour and 65* total pedestrians during the PM peak hour. There are bus stops on both sides of Davern Street south of West 7th Street that serve bus route 84.
- **West 7th Street and W Maynard Drive/Sibley Plaza Driveway** – The largest pedestrian volume was crossing the east leg. Based on the turning movement counts, there were 33 total pedestrians at the intersection in AM peak hour and 82 total pedestrians during the PM peak hour. There are bus stops on the both sides of West 7th Street that serve bus routes 54 and 84.

*The pedestrian counts were adjusted due to irregular pedestrian activity during data collection on October 9, 2019.

BACKGROUND GROWTH AND COMMITTED TRAFFIC

The proposed development is anticipated to be completed and open by 2020. Historical AADT data provided by MnDOT's Interactive Traffic Data Application was reviewed to develop a background growth rate to develop forecast peak hour volumes at the study intersections for Opening Year (2020) and Horizon Year (2040).

Table 1 provides a summary of the AADT information and the resultant growth rate. Based on the growth rates, a 0.5% annual growth rate was applied to the Existing (2019) traffic volumes to develop the Opening Year No-Build (2020) and Horizon Year No-Build (2040) turning movement volumes.

Table 1 – Annual Growth Rate Calculation

Street Segment	Most Recent AADT		Comparison AADT		Annual Growth Rate
	Volume	Year	Volume	Year	
West 7th St, West of Davern Street	2018	30,000	2014	31,000	-0.5%
West 7th St, East of Davern Street	2018	31,500	2012	31,000	1.0%
Davern Street, North of West 7th Street	2017	5,500	2012	5,300	0.2%

When the traffic counts were collected in October 2019, Sibley Plaza was 35% vacant and the grocery store was under construction and was not generating trips to the site. To account for the additional committed site traffic from Sibley Plaza, a trip generation calculation was performed for the portion of Sibley Plaza not generating traffic and the trips were assigned to the site driveways.

The average trip rate for Land Use Code 820 (Shopping Center) was used to calculate the trip generation potential of the 58,600 square feet of vacancy at Sibley Plaza. The trip rates were obtained from the Institute of Transportation Engineers (ITE) *Trip Generation Manual, Tenth Edition*. The site is expected to generate an additional 55 trips during the AM peak hour (34 entering, 21 exiting) and 223 trips during the PM peak hour (107 entering, 116 exiting). These trips were assigned to the roadway network and included in the No-Build volumes for Opening Year 2020 and Horizon Year 2040.

Exhibit 4 in Appendix A shows the Opening Year No-Build (2020) turning movement volumes and **Exhibit 5 in Appendix A** shows the Horizon Year No-Build (2040) turning movement volumes.

PROPOSED DEVELOPMENT

SITE TRIP GENERATION

The trip-generating potential of the proposed development was calculated using the Institute of Transportation Engineers (ITE) *Trip Generation Manual, Tenth Edition*. Standard ITE trip rates were used to develop the total trips generated by the site. A pass-by reduction was applied to the total site generated trips to account for trips that are already on the roadway network. Based on information from the developer, an 80 percent pass-by reduction was applied to the site trips.

The average rate for ITE Land Use Code 937 (Coffee Shop w/ Drive-Through Window) was used to calculate the trip generation potential of the site. **Table 2** provides a summary of the number of trips anticipated to be generated during the weekday AM and PM peak hours. As shown, the site is anticipated to generate 38 new trips during the AM peak hour (21 entering, 17 exiting) and 19 new trips during the PM peak hour (10 entering, 9 exiting). At the project driveways, the site is expected to generate 196 trips during the AM peak hour (100 entering, 96 exiting) and 95 trips during the PM peak hour (48 entering, 47 exiting).

Table 2 – Site Trip Generation

Land Use Description	Intensity	AM Peak Hour			PM Peak Hour		
		In	Out	Total	In	Out	Total
Coffee/Donut Shop w/ Drive-Through (ITE 937)	2,200 Sq. Ft.	100	96	196	48	47	95
Total Site Generated Trips		100	96	196	48	47	95
Pass-By Trip Reduction (80% Pass-By Trips)		79	79	158	38	38	76
Total Net New Traffic		21	17	38	10	9	19

SITE TRIP DISTRIBUTION AND ASSIGNMENT

The site trips were distributed to adjacent roadways based on the current traffic patterns in the area and a general assessment of the major regional roadways surrounding the study area. In general, the following global trip distribution was assumed for the development:

- 40% west on West 7th Street
- 35% east on West 7th Street
- 10% north on Davern Street
- 5% south on Davern Street
- 5% on Sheridan Avenue
- 5% on W Maynard Drive

The trip distribution for the site-generated traffic is shown in **Exhibit 6 in Appendix A**.

Site access is proposed to include a two-lane entrance only driveway and a one lane exit only driveway from the Sibley Plaza parking lot on the north side of the site. The proposed site access will eliminate four existing driveways on the existing site, two to West 7th Street and two to Davern Street. The removal of four driveways will reduce the number of vehicle conflict points by 36 within the influence area of the West 7th Street and Davern Street intersection as well as remove the pedestrian conflicts at the four driveways. The proposed site plan is included in **Appendix C**. The Sibley Plaza parking lot has a full access driveway on Davern Street north of the proposed site, a signalized full access driveway across from W Maynard Drive on West 7th Street east of the proposed site as well as an unsignalized driveway further east across from E Maynard Drive. The site trips were assigned to the study intersections as shown in **Exhibit 7 in Appendix A**. **Exhibit 7** shows total site generated traffic which includes the total net new traffic as well as the pass-by reductions.

SITE CIRCULATION AND DRIVE-THROUGH QUEUE ANALYSIS

As mentioned, the site is proposed to include one two-lane entrance only driveway and a one single-lane exit only driveway from the Sibley Plaza parking lot. The entrance only driveway will allow patrons to gain access to the drive-through to the left and to on-site parking to the right. There are 15 parking stalls provided

on-site which includes two ADA stalls. This is a net parking gain of 11 stalls from the current site. The parking stalls on-site are angled parking consistent with the one-way traffic flow.

The drive-through provides storage for 14 vehicles without impacting the Sibley Plaza parking lot. Based on data collection at a similar site in the City of Saint Paul and summarized in a technical memorandum dated May 17, 2018, observations showed a maximum queue of 12 vehicles and an average queue of 7 vehicles during the Friday AM peak hour. For the proposed site it is not anticipated that the drive-through queue will exceed the on-site storage. If the on-site storage becomes insufficient the additional queued vehicles would queue in the Sibley Plaza parking lot before impacting an adjacent roadway which is located approximately 150 feet to the west.

Vehicle queuing was reviewed at the study intersections to understand if there are any anticipated queuing issues from site traffic. The southbound approach at the intersection of West 7th Street and Davern Street is expected to have the most site trips added to it. The shared through-right turn lane storage is measured at 175 feet from the stop bar to the northern intersection of Sheridan Avenue/Sibley Plaza Driveway and the left turn lane storage is 75 feet plus the taper length. The queues are anticipated to be longer in the PM peak hour than the AM peak hour and are not anticipated to exceed the storage length by more than one vehicle (25 feet).

INTERSECTION SIGHT DISTANCE

The building is proposed to be located on the northeast corner of the West 7th Street and Davern Street intersection. The building will include an approximately 400 square foot patio on the west side of the building. The intersection sight distance was analyzed considering the proposed site plan to check for sight distance concerns. The intersection sight distance exhibit shown in **Appendix C** shows the sight distance for drivers turning right on red from Davern Street onto West 7th Street.

The required sight distance for the westbound right turn movement is 335 feet which is achieved as shown in the exhibit. This calculation includes the following assumptions: driver location is 12 feet from the curb and 10 feet from the stop bar. Based upon this review there is not anticipated to be a sight distance issue at the intersection of West 7th Street and Davern Street due to the proposed development.

CAPACITY ANALYSIS

A capacity analysis was performed to quantify the delay and level of service at the study intersections during the weekday AM and PM peak hours. The capacity analysis was performed using Synchro/SimTraffic. Peak hour factors were based on the overall study area. Existing signal timings used in the analysis were provided by the City of Saint Paul.

The capacity of an intersection quantifies its ability to accommodate traffic volumes and is measured in average delay per vehicle. It is expressed in terms of level of service (LOS) which ranges from A to F, with LOS A as the highest (best traffic flow and least delay), LOS E as saturated or at-capacity conditions, and LOS F as the lowest (oversaturated conditions). The LOS grades shown below, which are provided in the Transportation Research Board's Highway Capacity Manual (HCM), quantify and categorize the driver's discomfort, frustration, fuel consumption, and travel times experienced as a result of intersection control and the resulting traffic queuing. A detailed description of each LOS rating can be found in **Table 3**. The range of control delay for each rating (as detailed in the HCM) is also shown in Table 3. Because signalized intersections are expected to carry a larger volume of vehicles and stopping is required during red time, higher delays are tolerated for the corresponding LOS ratings.

Table 3 – Level of Service Information

Level of Service	Average Control Delay (seconds/vehicle)	Description
A	0-10 (Unsignalized); 0-10 (Signalized)	Minimal control delay; traffic operates at primarily free-flow conditions; unimpeded movement within traffic stream.
B	>10-15 (Unsignalized); >10-20 (Signalized)	Minor control delay at signalized intersections; traffic operates at a fairly unimpeded level with slightly restricted movement within traffic stream.
C	>15-25 (Unsignalized); >20-35 (Signalized)	Moderate control delay; movement within traffic stream more restricted than at LOS B; formation of queues contributes to lower average travel speeds.
D	>25-35 (Unsignalized); >35-55 (Signalized)	Considerable control delay that may be substantially increased by small increases in flow; average travel speeds continue to decrease.
E	>35-50 (Unsignalized); >55-80 (Signalized)	High control delay; average travel speed no more than 33 percent of free flow speed.
F	>50 (Unsignalized); >80 (Signalized)	Extremely high control delay; extensive queuing and high volumes create exceedingly restricted traffic flow.

Traffic models for each scenario were developed using Synchro, and the delay and queuing were evaluated for each scenario. The scenarios that were analyzed are as follows:

- Existing (2019)
- Opening Year No-Build (2020)
- Opening Year Build (2020)
- Horizon Year No-Build (2040)
- Horizon Year Build (2040)

EXISTING YEAR (2019) CONDITIONS

The traffic volumes shown in **Exhibit 3** in **Appendix A** were used in the Existing Year (2019) analysis. **Table 4** shows the LOS and delay for the study intersections under Existing (2019) conditions during the AM and PM peak hour.

Based on the analysis, the study intersections are currently operating at a LOS B or better during the AM peak hour and LOS C or better in the PM peak hour. Additionally, all individual movements operate at a LOS D or better. The SimTraffic reports are provided in **Appendix D**. Some of the delay on the northbound and southbound movements at West 7th Street and W Maynard Drive/Sibley Plaza Driveway are due to the 100 second cycle length in the AM peak hour and 90 second cycle length in the PM peak hour with a side street green time of 32 seconds for both the AM and the PM peak hours.

Table 4 – Existing (2019) Intersection Analysis

Intersection			Left		Through		Right		Intersection	
			Delay (s/veh)	LOS	Delay (s/veh)	LOS	Delay (s/veh)	LOS	Delay (s/veh)	LOS
AM Peak Hour										
Davern Street and Sheridan Avenue/Sibley Plaza Driveway	East-West Stop Controlled	EB	7.0	A	0.0	A	3.4	A	1.5	A
		WB	7.7	A	0.0	A	3.5	A		
		NB	3.3	A	1.6	A	1.1	A		
		SB	3.3	A	0.6	A	0.5	A		
West 7th Street and Davern Street	Signalized	EB	15.1	B	10.6	B	7.5	A	14.8	B
		WB	19.9	B	15.7	B	13.1	B		
		NB	33.8	C	28.1	C	13.8	B		
		SB	29.5	C	26.9	C	13.1	B		
West 7th Street and W Maynard Drive/Sibley Plaza Driveway	Signalized	EB	18.5	B	8.5	A	5.5	A	7.2	A
		WB	12.8	B	4.6	A	1.5	A		
		NB	40.2	D	43.5	D	14.9	B		
		SB	40.6	D	36.6	D	6.2	A		
PM Peak Hour										
Davern Street and Sheridan Avenue/Sibley Plaza Driveway	East-West Stop Controlled	EB	6.8	A	9.4	A	7.9	A	3.0	A
		WB	15.7	C	8.4	A	12.6	B		
		NB	3.6	A	1.6	A	1.2	A		
		SB	3.4	A	2.1	A	0.2	A		
West 7th Street and Davern Street	Signalized	EB	18.0	B	17.6	B	13.6	B	20.1	C
		WB	27.7	C	19.3	B	15.1	B		
		NB	43.5	D	28.5	C	17.5	B		
		SB	36.5	D	34.8	C	22.6	C		
West 7th Street and W Maynard Drive/Sibley Plaza Driveway	Signalized	EB	22.6	C	14.7	B	11.6	B	12.1	B
		WB	29.6	C	6.7	A	2.8	A		
		NB	37.1	D	34.2	C	15.7	B		
		SB	34.3	C	36.5	D	7.3	A		

OPENING YEAR NO-BUILD (2020) CONDITIONS

A capacity analysis was performed for Opening Year No-Build (2020) conditions in order to develop baseline operating conditions for the opening year. The analysis was performed using Synchro/SimTraffic with existing intersection geometry and control, existing peak hour factors and signal timing information and the traffic volumes in **Exhibit 4 in Appendix A**.

The results of the analysis are provided in **Table 5** for the weekday AM and PM peak hours. Based on the Opening Year No-Build (2020) capacity analysis, the study intersections are anticipated to operate at LOS B or better in the AM peak hour and LOS C or better in the PM peak hour. Additionally, all individual movements operate at a LOS D or better. The SimTraffic reports are provided in **Appendix D**.

Table 5 – Opening Year No-Build (2020) Intersection Analysis

Intersection			Left		Through		Right		Intersection	
			Delay (s/veh)	LOS	Delay (s/veh)	LOS	Delay (s/veh)	LOS	Delay (s/veh)	LOS
AM Peak Hour										
Davern Street and Sheridan Avenue/Sibley Plaza Driveway	East-West Stop Controlled	EB	7.1	A	6.6	A	3.6	A	1.7	A
		WB	9.9	A	8.5	A	3.2	A		
		NB	3.4	A	1.5	A	1.1	A		
		SB	2.1	A	0.7	A	0.3	A		
West 7th Street and Davern Street	Signalized	EB	15.4	B	10.8	B	6.6	A	14.9	B
		WB	19.7	B	15.9	B	12.5	B		
		NB	34.2	C	31.0	C	15.3	B		
		SB	31.1	C	28.2	C	12.9	B		
West 7th Street and W Maynard Drive/Sibley Plaza Driveway	Signalized	EB	17.5	B	8.3	A	5.5	A	7.2	A
		WB	15.1	B	4.5	A	3.9	A		
		NB	31.6	C	41.9	D	10.8	B		
		SB	41.2	D	34.4	C	6.8	A		
PM Peak Hour										
Davern Street and Sheridan Avenue/Sibley Plaza Driveway	East-West Stop Controlled	EB	8.5	A	9.7	A	7.6	A	3.8	A
		WB	16.3	C	10.2	B	7.3	A		
		NB	3.4	A	1.6	A	1.3	A		
		SB	3.9	A	3.4	A	2.4	A		
West 7th Street and Davern Street	Signalized	EB	17.6	B	18.9	B	15.0	B	21.8	C
		WB	30.7	C	21.2	C	16.0	B		
		NB	50.0	D	33.1	C	21.2	C		
		SB	36.9	D	38.1	D	23.5	C		
West 7th Street and W Maynard Drive/Sibley Plaza Driveway	Signalized	EB	24.3	C	15.4	B	12.7	B	13.1	B
		WB	23.1	C	7.5	A	4.3	A		
		NB	30.7	C	32.7	C	17.4	B		
		SB	39.2	D	33.5	C	8.1	A		

OPENING YEAR BUILD (2020) CONDITIONS

Opening Year Build (2020) conditions were analyzed to determine any traffic impacts from the addition of the site traffic. Opening Year Build (2020) turning movement volumes were developed by adding the site trips in **Exhibit 7** in **Appendix A** to the Opening Year No-Build (2020) turning movement volumes in **Exhibit 4** in **Appendix A**. The Opening Year Build (2020) turning movement volumes are shown in **Exhibit 8** in **Appendix A**.

The results of the analysis are provided in **Table 6** for the weekday AM and PM peak hours. Based on the Opening Year Build (2020) capacity analysis, the study intersections are anticipated to operate at LOS B or better in the AM peak hour and LOS C or better in the PM peak hour. Additionally, all individual movements operate at a LOS D or better. The SimTraffic reports are provided in **Appendix D**.

Table 6 – Opening Year Build (2020) Intersection Analysis

Intersection			Left		Through		Right		Intersection	
			Delay (s/veh)	LOS	Delay (s/veh)	LOS	Delay (s/veh)	LOS	Delay (s/veh)	LOS
AM Peak Hour										
Davern Street and Sheridan Avenue/Sibley Plaza Driveway	East-West Stop Controlled	EB	6.7	A	8.0	A	5.5	A	3.0	A
		WB	10.4	B	12.4	B	4.7	A		
		NB	2.8	A	1.7	A	1.0	A		
		SB	2.2	A	1.2	A	0.9	A		
West 7th Street and Davern Street	Signalized	EB	16.5	B	11.9	B	8.7	A	16.5	B
		WB	19.6	B	18.9	B	14.2	B		
		NB	29.7	C	26.3	C	13.5	B		
		SB	33.0	C	27.9	C	14.4	B		
West 7th Street and W Maynard Drive/Sibley Plaza Driveway	Signalized	EB	22.2	C	9.1	A	7.2	A	8.2	A
		WB	11.9	B	5.1	A	3.4	A		
		NB	30.1	C	36.1	D	10.3	B		
		SB	36.1	D	40.9	D	6.8	A		
PM Peak Hour										
Davern Street and Sheridan Avenue/Sibley Plaza Driveway	East-West Stop Controlled	EB	13.6	B	23.6	C	21.2	C	7.2	A
		WB	22.2	C	17.6	C	22.9	C		
		NB	3.6	A	1.9	A	1.2	A		
		SB	5.6	A	5.5	A	1.1	A		
West 7th Street and Davern Street	Signalized	EB	18.7	B	21.7	C	15.6	B	24.4	C
		WB	30.8	C	24.5	C	20.8	C		
		NB	41.1	D	29.8	C	23.0	C		
		SB	42.1	D	43.2	D	29.0	C		
West 7th Street and W Maynard Drive/Sibley Plaza Driveway	Signalized	EB	25.9	C	15.4	B	11.7	B	13.4	B
		WB	23.2	C	7.3	A	4.4	A		
		NB	39.7	D	28.3	C	20.7	C		
		SB	39.6	D	35.1	D	7.7	A		

The West 7th Street and W Maynard Drive/Sibley Plaza Driveway intersection is anticipated to operate with a LOS D on the northbound and southbound approaches. Similar to the existing conditions, some of the delay on the northbound/southbound movements at West 7th Street and W Maynard Drive/Sibley Plaza Driveway are due to the 100 second cycle length in the AM peak hour and 90 second cycle length in the PM peak hour with a side street green time of 32 seconds for both the AM and the PM peak hours.

HORIZON YEAR NO-BUILD (2040) CONDITIONS

A capacity analysis was performed for Horizon Year No-Build (2040) conditions in order to develop baseline operating conditions for the horizon year. The analysis was performed using Synchro/SimTraffic with existing intersection geometry and control, existing peak hour factors and signal timing information and the traffic volumes in **Exhibit 5** in **Appendix A**.

The results of the analysis are provided in **Table 7** for the weekday AM and PM peak hours. Based on the Horizon Year No-Build (2040) capacity analysis, the study intersections are anticipated to operate at LOS B or better in the AM peak hour and LOS C or better in the PM peak hour. Additionally, all individual movements operate at a LOS D or better. The SimTraffic reports are provided in **Appendix D**.

Table 7 – Horizon Year No-Build (2040) Intersection Analysis

Intersection			Left		Through		Right		Intersection	
			Delay (s/veh)	LOS	Delay (s/veh)	LOS	Delay (s/veh)	LOS	Delay (s/veh)	LOS
AM Peak Hour										
Davern Street and Sheridan Avenue/Sibley Plaza Driveway	East-West Stop Controlled	EB	7.6	A	6.7	A	3.7	A	1.6	A
		WB	6.9	A	13.3	B	4.5	A		
		NB	3.2	A	1.5	A	1.1	A		
		SB	2.8	A	0.6	A	0.3	A		
West 7th Street and Davern Street	Signalized	EB	17.6	B	11.4	B	7.3	A	16.3	B
		WB	21.5	C	18.6	B	15.6	B		
		NB	33.3	C	28.8	C	16.0	B		
		SB	33.1	C	27.6	C	14.6	B		
West 7th Street and W Maynard Drive/Sibley Plaza Driveway	Signalized	EB	21.5	C	10.0	A	7.3	A	8.4	A
		WB	17.5	B	5.3	A	2.3	A		
		NB	42.8	D	42.5	D	18.5	B		
		SB	41.2	D	36.2	D	8.2	A		
PM Peak Hour										
Davern Street and Sheridan Avenue/Sibley Plaza Driveway	East-West Stop Controlled	EB	12.9	B	14.7	B	17.3	C	5.6	A
		WB	22.0	C	11.9	B	7.4	A		
		NB	4.1	A	1.7	A	1.1	A		
		SB	7.1	A	6.3	A	0.6	A		
West 7th Street and Davern Street	Signalized	EB	23.2	C	35.3	D	30.4	C	31.4	C
		WB	32.9	C	26.8	C	22.2	C		
		NB	46.1	D	31.5	C	23.1	C		
		SB	32.6	C	39.8	D	27.7	C		
West 7th Street and W Maynard Drive/Sibley Plaza Driveway	Signalized	EB	29.7	C	16.6	B	15.0	B	14.3	B
		WB	27.3	C	8.7	A	3.6	A		
		NB	38.0	D	28.6	C	15.9	B		
		SB	38.8	D	33.6	C	9.8	A		

HORIZON YEAR BUILD (2040) CONDITIONS

The Horizon Year Build (2040) traffic volumes were developed from the addition of the Horizon Year No-Build (2040) volumes in **Exhibit 5 in Appendix A** and the Site Trips in **Exhibit 7 in Appendix A**. **Exhibit 9 in Appendix A** shows the Horizon Year Build (2040) turning movement volumes. The analysis was performed using Synchro/SimTraffic with existing intersection geometry and control, existing peak hour factors and signal timing information.

The results of the analysis are provided in **Table 8** for the weekday AM and PM peak hours. Based on the Opening Year No-Build (2020) capacity analysis, the study intersections are anticipated to operate at LOS B or better in the AM peak hour and LOS C or better in the PM peak hour. The SimTraffic reports are provided in **Appendix D**.

Table 8 – Horizon Year Build (2040) Intersection Analysis

Intersection			Left		Through		Right		Intersection	
			Delay (s/veh)	LOS	Delay (s/veh)	LOS	Delay (s/veh)	LOS	Delay (s/veh)	LOS
AM Peak Hour										
Davern Street and Sheridan Avenue/Sibley Plaza Driveway	East-West Stop Controlled	EB	8.1	A	17.8	C	4.7	A	2.8	A
		WB	10.8	B	6.6	A	4.1	A		
		NB	3.5	A	1.8	A	1.1	A		
		SB	2.6	A	1.1	A	0.4	A		
West 7th Street and Davern Street	Signalized	EB	18.0	B	13.3	B	8.1	A	18.6	B
		WB	24.9	C	22.4	C	18.1	B		
		NB	32.7	C	26.3	C	14.4	B		
		SB	30.2	C	29.0	C	15.7	B		
West 7th Street and W Maynard Drive/Sibley Plaza Driveway	Signalized	EB	26.7	C	9.3	A	7.1	A	8.9	A
		WB	19.0	B	6.1	A	3.8	A		
		NB	34.6	C	39.8	D	14.2	B		
		SB	40.4	D	44.4	D	8.0	A		
PM Peak Hour										
Davern Street and Sheridan Avenue/Sibley Plaza Driveway	East-West Stop Controlled	EB	14.0	B	14.4	B	13.0	B	6.3	A
		WB	26.8	D	18.4	C	13.9	B		
		NB	3.4	A	1.8	A	1.3	A		
		SB	6.1	A	4.4	A	3.5	A		
West 7th Street and Davern Street	Signalized	EB	22.7	C	27.3	C	22.4	C	27.5	C
		WB	32.5	C	26.4	C	23.1	C		
		NB	39.0	D	30.5	C	22.1	C		
		SB	41.8	D	40.3	D	27.4	C		
West 7th Street and W Maynard Drive/Sibley Plaza Driveway	Signalized	EB	33.7	C	15.7	B	13.0	B	14.1	B
		WB	25.2	C	8.6	A	4.8	A		
		NB	33.8	C	29.2	C	19.4	B		
		SB	41.2	D	41.7	D	10.0	A		

CONCLUSIONS AND RECOMMENDATIONS

Paster Properties is proposing a 2,200-square foot coffee shop with a drive-through at the northeast corner of the intersection of West 7th Street and Davern Street in Saint Paul, MN. The site is anticipated to generate 38 new trips during the AM peak hour (21 entering, 17 exiting) and 19 new trips during the PM peak hour (10 entering, 9 exiting). At the project driveways, the site is expected to generate 196 trips during the AM peak hour (100 entering, 96 exiting) and 95 trips during the PM peak hour (48 entering, 47 exiting).

Site access is proposed to include a two-lane entrance only driveway and a one lane exit only driveway from the Sibley Plaza parking lot. The proposed site access will eliminate four existing driveways on the site. The removal of four driveways will reduce the number of conflict points within the influence area of the West 7th Street and Davern Street intersection. The Sibley Plaza parking lot has a full access driveway on Davern Street north of the proposed site, a signalized full access driveway across from W Maynard Drive on West 7th Street and a full access driveway across from E Maynard Drive.

The site layout includes storage space for up to 14 vehicles queueing in the drive-through line and includes 15 parking stalls of which two are ADA stalls. For the proposed site it is not anticipated that the drive-through queue will exceed the on-site storage. If the on-site storage becomes insufficient the additional queued vehicles would queue in the Sibley Plaza parking lot before impacting an adjacent roadway which is located approximately 150 feet to the west. Based upon a sight distance review, there is not anticipated to be a sight distance issue at the intersection of West 7th Street and Davern Street due to the proposed development.

A capacity analysis was performed for Existing (2019), Opening Year No-Build (2020), Opening Year Build (2020), Horizon Year No-Build (2040) and Horizon Year Build (2040). In all five scenarios the three study intersections are anticipated to operate at LOS C or better in the AM and PM peak hours. Individual intersection movements are anticipated to operate at LOS D or better in the AM and PM peak hours.

Based on the preceding traffic analysis, no off-site mitigation is necessary to provide acceptable LOS at the study intersections with the addition of the Sibley Plaza Coffee Shop traffic.

APPENDIX

- A. Exhibits**
- B. Raw Turning Movement Counts**
- C. Sight Distance Exhibit**
- D. SimTraffic Analysis Results**



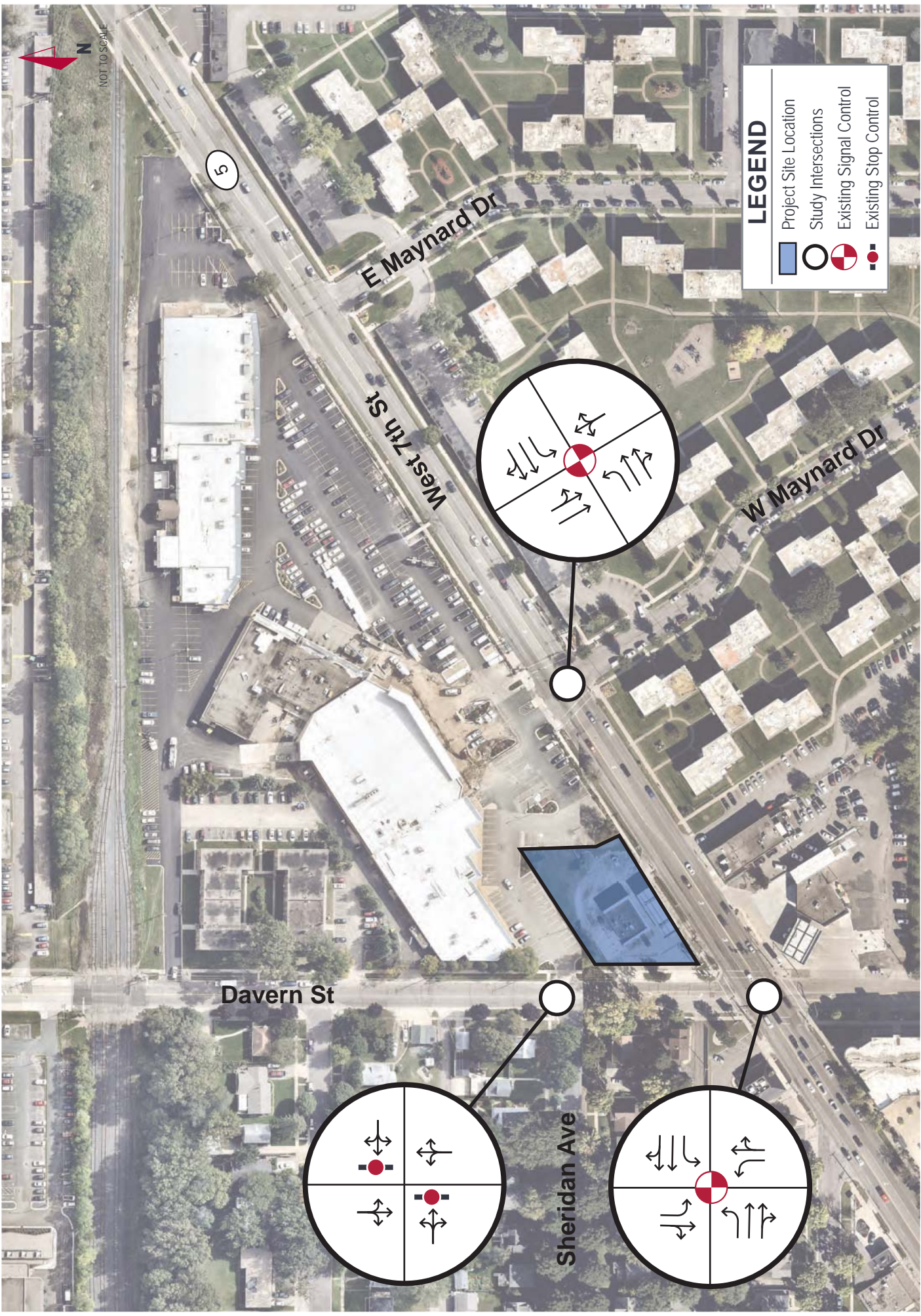
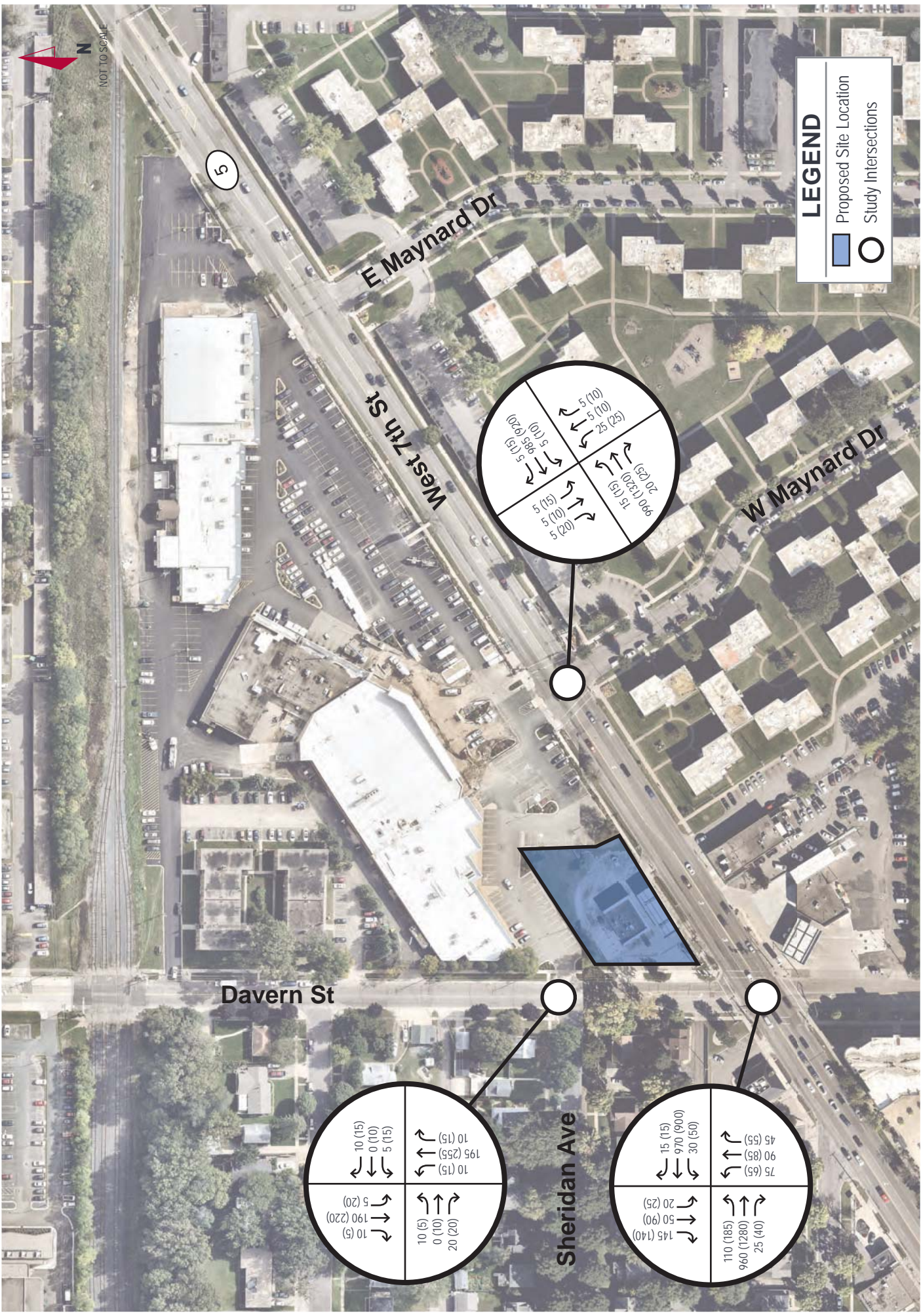
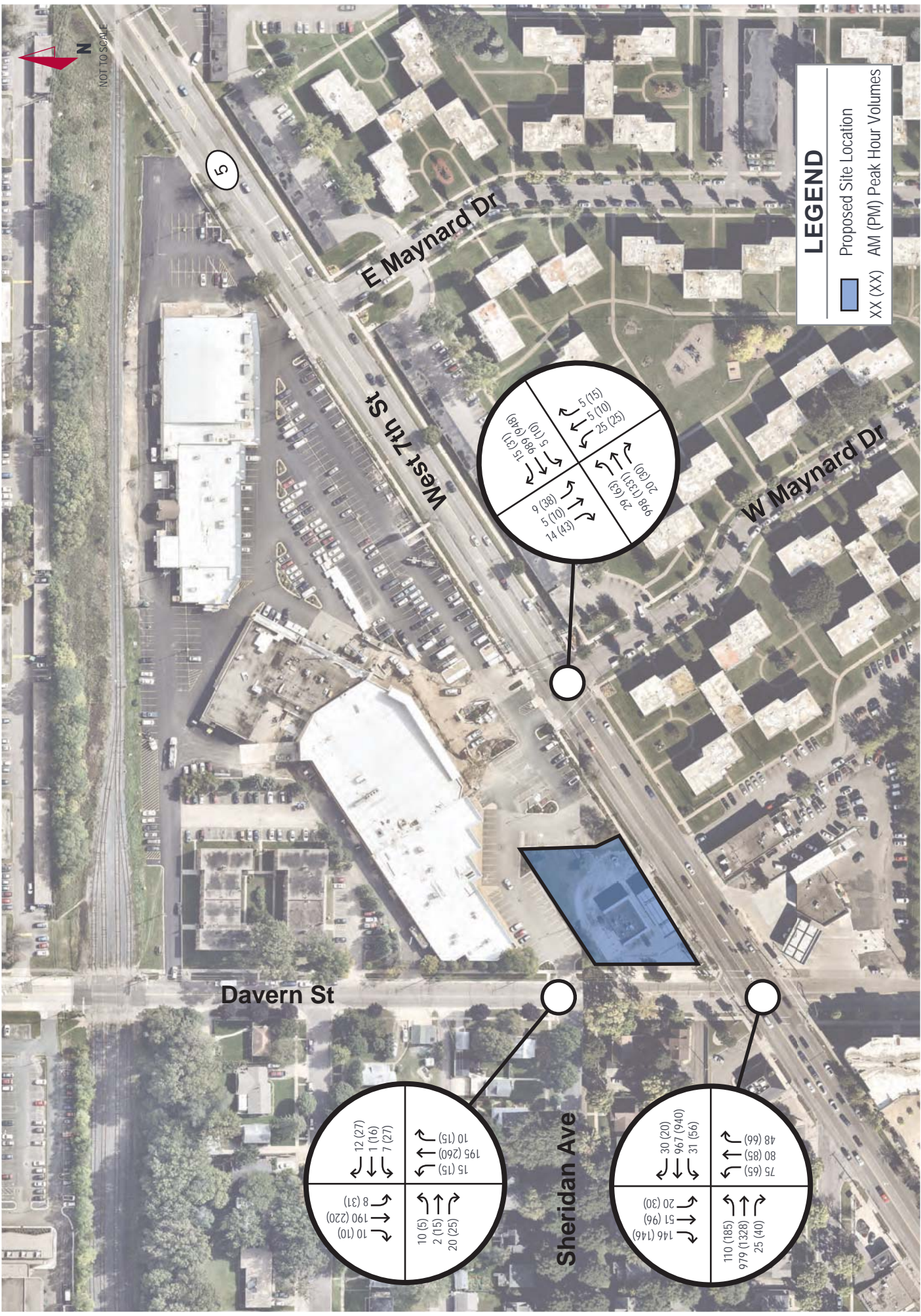
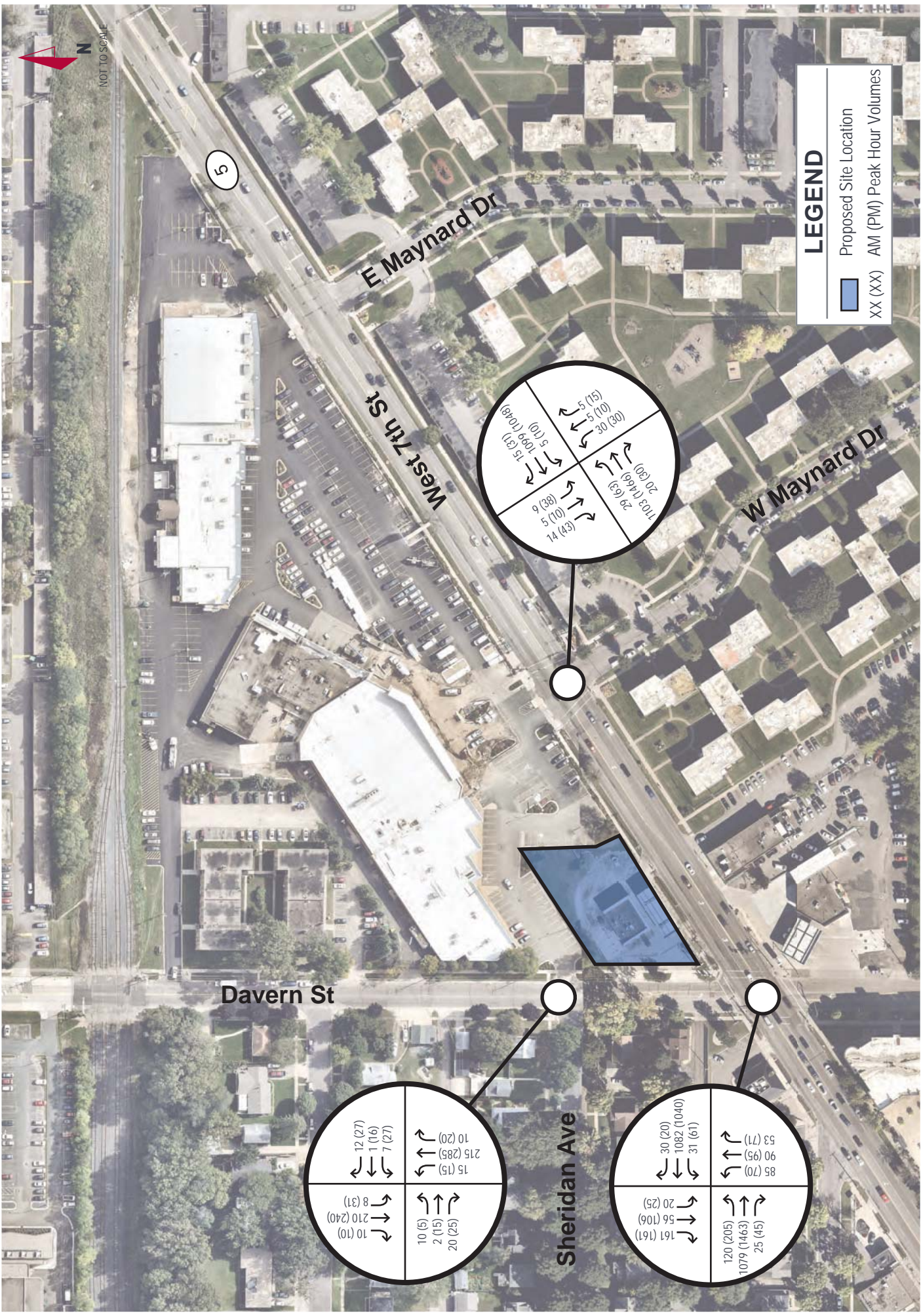
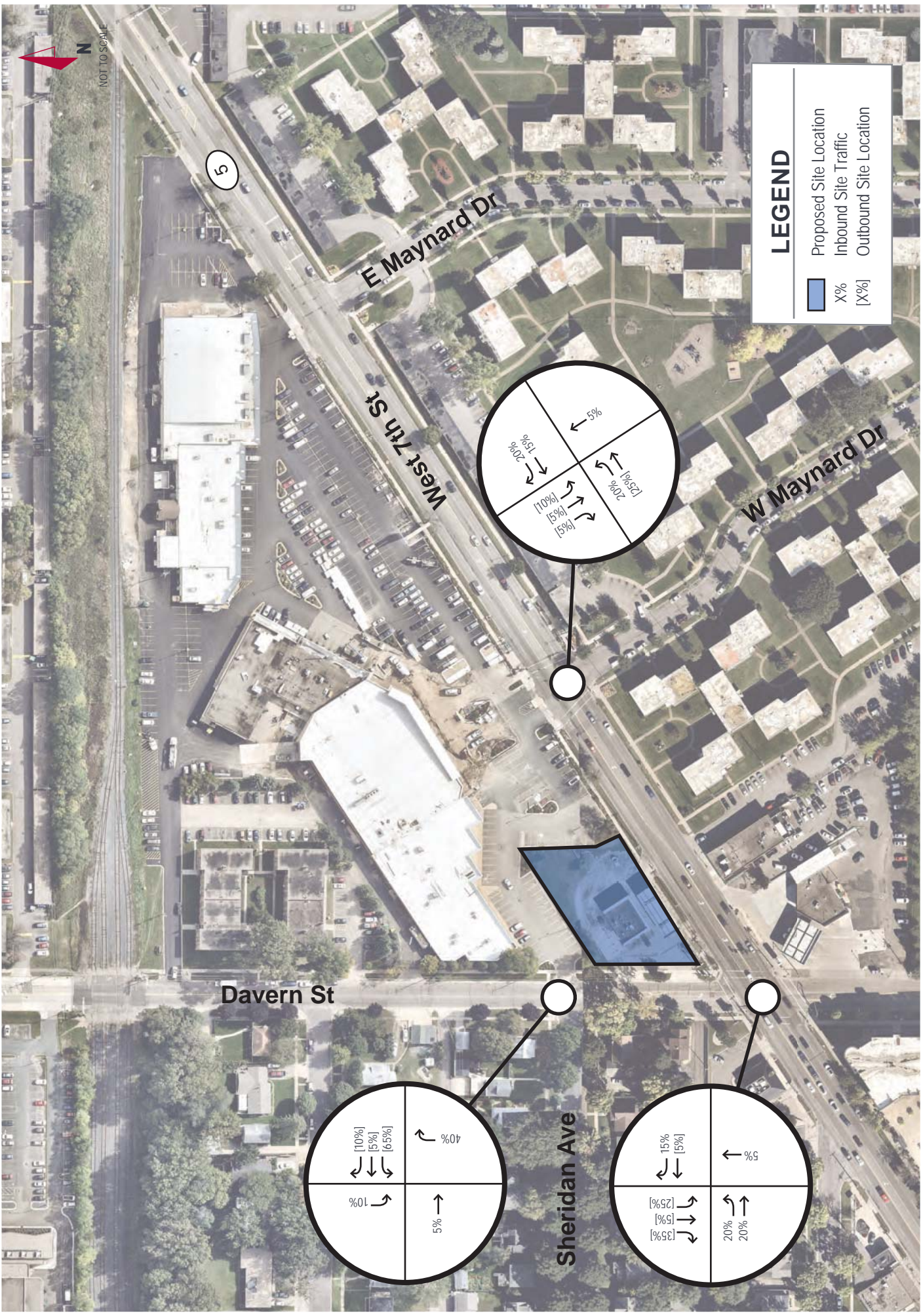


EXHIBIT 2
EXISTING GEOMETRY AND INTERSECTION CONTROL









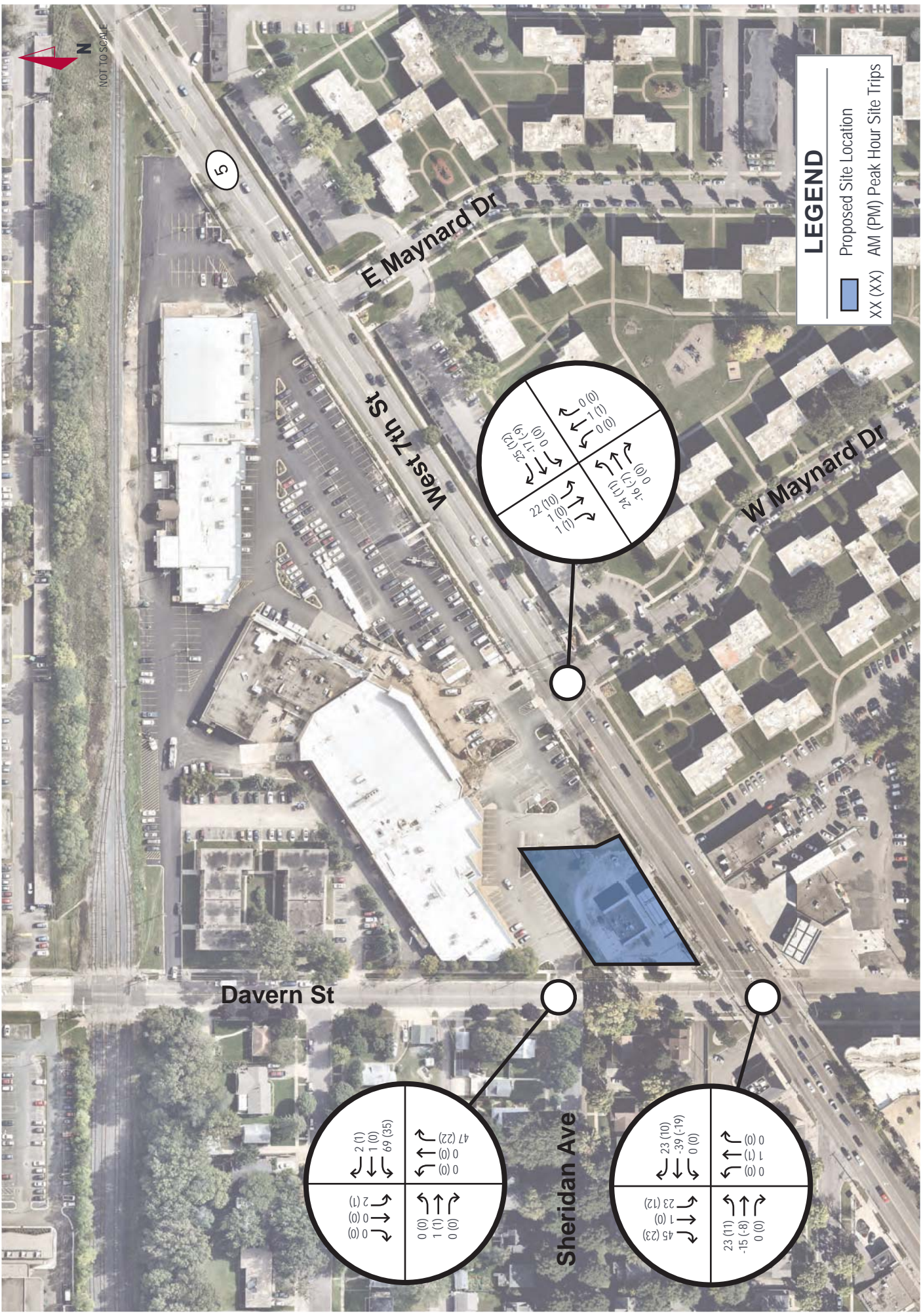
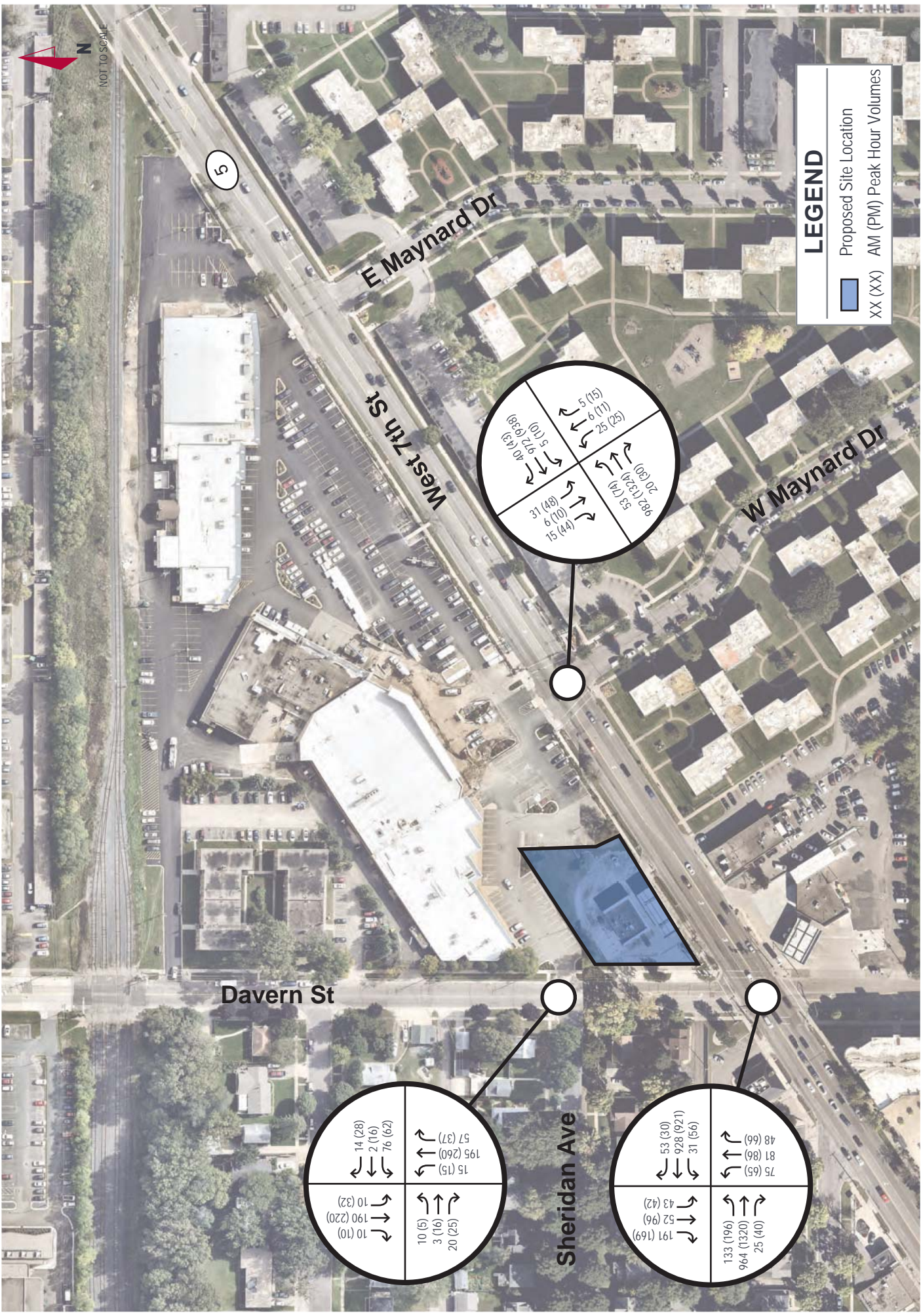
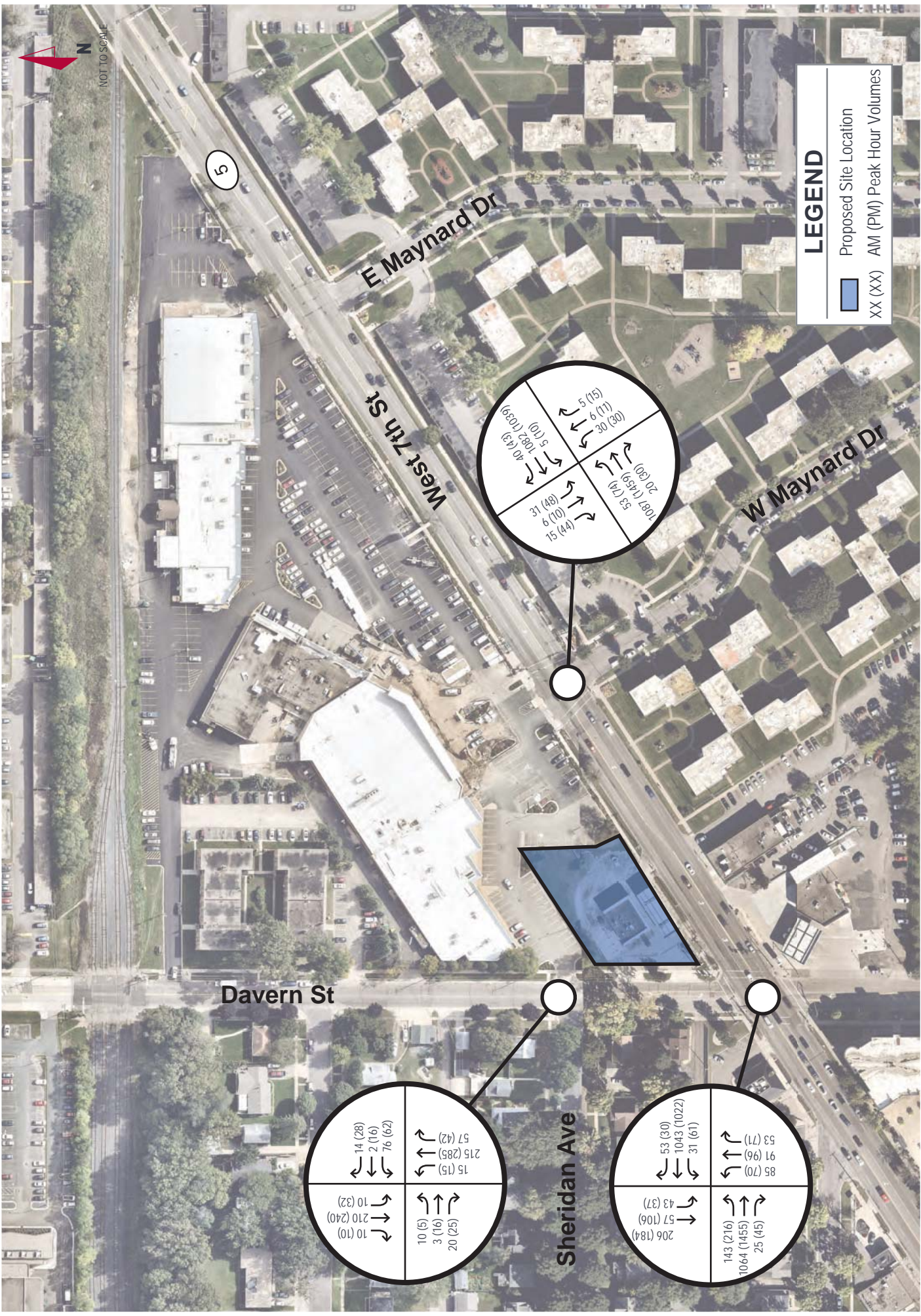


EXHIBIT 7
SITE TRIP ASSIGNMENT
PEAK HOUR TRAFFIC VOLUMES





Kimley-Horn : Lisle (IL)
 1001 Warrenville Road, Suite 350
 Lisle, Illinois, United States 60532
 331.481.7332 jack.olsson@kimley-horn.com

Count Name: Davern Street & Sheridan Avenue
 Site Code:
 Start Date: 10/09/2019
 Page No: 1

Turning Movement Data

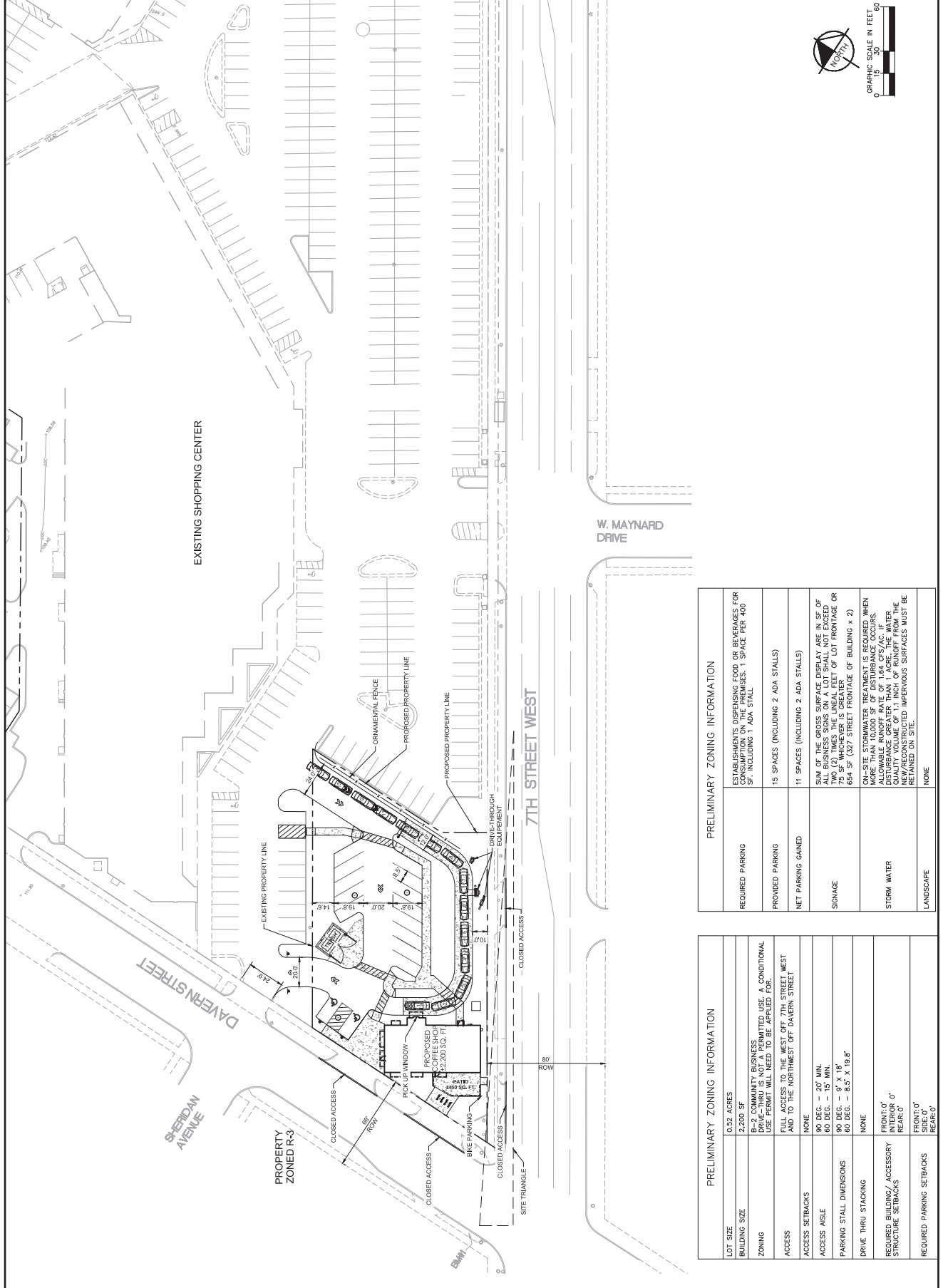
Start Time	Sibley Plaza Driveway						Sheridan Avenue						Davern Street						Int. Total								
	Westbound			Eastbound			Eastbound			Southbound			Northbound			App. Total											
	Left	Thru	Right	U-Turn	Peds	App. Total	Left	Thru	Right	U-Turn	Peds	App. Total	Left	Thru	Right		U-Turn	Peds									
7:00 AM	0	0	0	0	1	0	1	0	2	0	1	3	0	43	0	0	0	0	0	0	43	1	20	1	0	1	22
7:15 AM	0	0	0	0	1	0	0	0	3	0	2	3	0	55	1	0	1	0	1	0	56	3	39	3	0	1	45
7:30 AM	1	0	0	0	2	1	1	0	7	0	0	8	0	72	2	0	0	0	0	0	74	2	34	0	0	0	36
7:45 AM	1	0	2	0	1	3	2	0	3	0	0	5	0	64	2	0	0	0	0	0	66	0	52	0	0	1	52
Hourly Total	2	0	2	0	5	4	4	0	15	0	3	19	0	234	5	0	1	239	6	145	4	0	3	155	417		
8:00 AM	0	0	2	0	0	2	2	0	5	0	1	7	0	51	2	0	0	53	4	52	2	0	0	56	120		
8:15 AM	0	0	1	0	0	1	3	0	2	0	1	5	1	49	4	0	0	54	2	46	1	0	0	49	109		
8:30 AM	1	0	3	0	0	4	1	0	7	0	1	8	1	40	1	0	0	42	1	41	2	0	0	44	98		
8:45 AM	3	0	1	0	3	4	1	0	3	0	1	4	1	42	2	0	1	45	3	52	2	0	0	57	110		
Hourly Total	4	0	7	0	3	11	7	0	17	0	4	24	3	182	9	0	1	194	10	191	7	0	0	208	437		
*** BREAK ***	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
4:00 PM	1	3	9	0	0	13	2	1	18	0	0	21	5	59	4	0	0	68	6	73	6	0	1	85	187		
4:15 PM	4	2	4	0	0	10	0	0	2	0	4	2	4	63	3	0	0	70	2	61	7	0	1	70	152		
4:30 PM	4	3	6	0	2	13	1	3	5	0	5	9	2	54	6	0	0	62	3	74	10	0	3	87	171		
4:45 PM	8	2	4	0	0	14	3	1	8	0	1	12	4	69	5	0	0	78	2	65	6	0	1	73	177		
Hourly Total	17	10	23	0	2	50	6	5	33	0	10	44	15	245	18	0	0	278	13	273	29	0	6	315	687		
5:00 PM	3	3	3	0	0	9	1	3	4	0	55	8	5	47	1	0	2	53	4	77	1	0	0	82	152		
5:15 PM	2	2	3	0	0	7	0	0	7	0	2	7	4	59	0	0	0	63	5	48	5	0	0	58	135		
5:30 PM	4	1	5	0	8	10	1	2	4	0	1	7	7	50	1	0	0	58	1	67	3	0	1	71	146		
5:45 PM	3	0	0	0	3	3	1	1	5	0	4	7	2	60	3	0	0	65	2	63	5	0	0	70	145		
Hourly Total	12	6	11	0	11	29	3	6	20	0	62	29	18	216	5	0	2	239	12	255	14	0	1	281	578		
Grand Total	35	16	43	0	21	94	20	11	85	0	79	116	36	877	37	0	4	950	41	864	54	0	10	959	2119		
Approach %	37.2	17.0	45.7	0.0	-	-	17.2	9.5	73.3	0.0	-	-	3.8	92.3	3.9	0.0	-	-	4.3	90.1	5.6	0.0	-	-	-		
Total %	1.7	0.8	2.0	0.0	-	4.4	0.9	0.5	4.0	0.0	-	5.5	1.7	41.4	1.7	0.0	-	44.8	1.9	40.8	2.5	0.0	-	45.3	-		
Lights	34	16	40	0	-	90	19	11	69	0	-	99	34	854	34	0	-	922	39	836	54	0	-	929	2040		
% Lights	97.1	100.0	93.0	-	-	95.7	95.0	100.0	81.2	-	-	85.3	94.4	97.4	91.9	-	-	97.1	95.1	96.8	100.0	-	-	96.9	96.3		
Mediums	1	0	3	0	-	4	0	0	16	0	-	16	2	23	3	0	-	28	2	27	0	0	-	29	77		
% Mediums	2.9	0.0	7.0	-	-	4.3	0.0	0.0	18.8	-	-	13.8	5.6	2.6	8.1	-	-	2.9	4.9	3.1	0.0	-	-	3.0	3.6		
Articulated Trucks	0	0	0	0	-	0	1	0	0	0	-	1	0	0	0	0	-	0	0	1	0	0	-	1	2		
% Articulated Trucks	0.0	0.0	0.0	-	-	0.0	5.0	0.0	0.0	-	-	0.9	0.0	0.0	0.0	-	-	0.0	0.0	0.1	0.0	-	-	0.1	0.1		
Bicycles on Crosswalk	-	-	-	-	0	-	-	-	-	-	12	-	-	-	-	-	0	-	-	-	-	-	0	-	-		
% Bicycles on Crosswalk	-	-	-	-	0.0	-	-	-	-	-	15.2	-	-	-	-	-	0.0	-	-	-	-	-	0.0	-	-		
Pedestrians	-	-	-	-	21	-	-	-	-	-	67	-	-	-	-	-	4	-	-	-	-	-	10	-	-		
% Pedestrians	-	-	-	-	100.0	-	-	-	-	-	84.8	-	-	-	-	-	100.0	-	-	-	-	-	100.0	-	-		

Turning Movement Data

Start Time	7th Street Westbound						7th Street Eastbound						Davern Street Southbound						Davern Street Northbound						
	Left		Right		U-Turn		Left		Right		U-Turn		Left		Right		U-Turn		Left		Right		U-Turn		
	Thru	Peds	Thru	Peds	Thru	Peds	Thru	Peds	Thru	Peds	Thru	Peds	Thru	Peds	Thru	Peds	Thru	Peds	Thru	Peds	Thru	Peds	Thru	Peds	
7:00 AM	8	222	1	0	0	3	231	10	201	4	0	0	215	4	5	38	0	0	47	20	9	8	0	1	37
7:15 AM	3	245	3	0	1	251	282	33	244	5	0	1	282	4	12	40	0	1	56	26	9	19	0	1	54
7:30 AM	3	306	1	0	2	310	304	22	276	6	0	0	304	10	13	62	0	0	85	32	15	6	0	3	53
7:45 AM	3	250	0	0	1	253	304	31	268	5	0	0	304	4	14	49	0	0	67	14	19	18	0	3	51
Hourly Total	17	1023	5	0	7	1045	1105	96	989	20	0	1	1105	22	44	189	0	1	255	92	52	51	0	8	195
8:00 AM	2	281	4	0	0	287	279	37	236	6	0	3	279	4	13	34	0	0	51	20	15	8	0	0	43
8:15 AM	10	261	1	0	1	272	299	29	265	5	0	2	299	3	13	37	0	0	53	22	19	12	0	1	53
8:30 AM	10	216	5	0	0	231	289	19	246	4	0	1	289	5	11	36	0	0	52	14	17	9	0	2	40
8:45 AM	5	194	3	0	0	202	237	22	209	6	0	0	237	8	10	34	0	2	52	17	26	15	0	0	58
Hourly Total	27	952	13	0	1	992	1084	107	956	21	0	6	1084	20	47	141	0	2	208	73	77	44	0	3	194
*** BREAK ***	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
4:00 PM	4	231	8	0	2	243	349	50	285	14	0	1	349	11	36	35	0	1	82	23	24	9	0	2	56
4:15 PM	8	213	2	0	2	223	275	52	311	12	0	6	275	9	29	32	0	2	70	24	14	11	0	1	49
4:30 PM	7	233	5	0	1	245	370	63	310	6	0	4	370	9	23	28	0	7	60	20	18	18	0	1	56
4:45 PM	6	261	4	0	2	271	370	49	307	14	0	5	370	12	34	38	0	3	84	13	17	12	0	0	42
Hourly Total	25	938	19	0	7	982	1473	214	1213	46	0	16	1473	41	122	133	0	13	296	80	73	50	0	4	203
5:00 PM	12	265	4	0	0	281	376	60	311	5	0	67	376	5	24	32	0	0	61	10	21	12	0	0	43
5:15 PM	14	227	3	0	2	244	377	35	328	14	0	3	377	7	25	35	0	1	67	15	22	15	0	11	52
5:30 PM	9	215	3	0	0	227	391	51	331	9	0	4	391	3	18	37	0	7	58	16	13	14	0	3	43
5:45 PM	11	187	4	0	0	202	354	36	308	10	0	5	354	10	21	35	0	0	66	20	28	12	0	2	60
Hourly Total	46	894	14	0	2	954	1498	182	1278	38	0	79	1498	25	88	139	0	8	252	61	84	53	0	16	198
Grand Total	115	3807	51	0	17	3973	5160	599	4436	125	0	102	5160	108	301	602	0	24	1011	306	286	198	0	31	790
Approach %	2.9	95.8	1.3	0.0	-	-	-	11.6	86.0	2.4	0.0	-	-	10.7	29.8	59.5	0.0	-	-	38.7	36.2	25.1	0.0	-	-
Total %	1.1	34.8	0.5	0.0	-	36.3	47.2	5.5	40.6	1.1	0.0	-	47.2	1.0	2.8	5.5	0.0	-	9.2	2.8	2.6	1.8	0.0	-	7.2
Lights	100	3738	51	0	-	3889	5067	589	4355	123	0	-	5067	102	275	593	0	-	970	298	266	182	0	-	746
% Lights	87.0	98.2	100.0	0	-	97.9	98.4	98.3	98.2	98.4	0	-	98.2	94.4	91.4	98.5	0	-	95.9	97.4	93.0	91.9	-	-	94.4
Mediums	14	59	0	0	-	73	78	8	69	1	0	-	78	6	26	9	0	-	41	6	20	14	0	-	40
% Mediums	12.2	1.5	0.0	0	-	1.8	1.5	1.3	1.6	0.8	-	-	1.5	5.6	8.6	1.5	-	4.1	4.1	2.0	7.0	7.1	-	-	5.1
Articulated Trucks	1	10	0	0	-	11	15	2	12	1	0	-	15	0	0	0	0	-	0	2	0	2	0	-	4
% Articulated Trucks	0.9	0.3	0.0	0	-	0.3	0.3	0.3	0.3	0.8	-	-	0.3	0.0	0.0	0.0	-	-	0.0	0.7	0.0	1.0	-	-	0.5
Bicycles on Crosswalk	-	-	-	-	2	-	22	-	-	-	-	-	-	-	-	-	-	-	0	-	-	-	-	-	4
% Bicycles on Crosswalk	-	-	-	-	11.8	-	21.6	-	-	-	-	-	-	-	-	-	-	-	0.0	-	-	-	-	-	12.9
Pedestrians	-	-	-	-	15	-	80	-	-	-	-	-	-	-	-	-	-	-	24	-	-	-	-	-	27
% Pedestrians	-	-	-	-	88.2	-	78.4	-	-	-	-	-	-	-	-	-	-	-	100.0	-	-	-	-	-	87.1

Turning Movement Data

Start Time	7th Street Westbound					7th Street Eastbound					Sibley Plaza Driveway Southbound					Maynard Drive Northbound										
	Left	Thru	Right	U-Turn	Peds	App. Total	Left	Thru	Right	U-Turn	Peds	App. Total	Left	Thru	Right	U-Turn	Peds	App. Total	Left	Thru	Right	U-Turn	Peds	App. Total		
																									Int. Total	
7:00 AM	1	236	0	0	12	237	0	215	3	0	0	218	0	0	0	0	0	3	0	1	0	0	0	0	1	456
7:15 AM	1	246	1	0	4	248	0	259	3	0	0	262	0	0	1	0	4	1	5	1	2	0	0	3	8	
7:30 AM	0	317	0	0	4	317	2	289	1	0	0	292	0	0	1	0	0	1	7	1	3	0	0	4	11	
7:45 AM	2	255	0	0	5	257	3	292	2	0	2	297	1	0	1	0	2	2	3	1	2	0	0	3	6	
Hourly Total	4	1054	1	0	25	1059	5	1055	9	0	2	1069	1	0	3	0	9	4	16	3	7	0	0	16	26	
8:00 AM	2	281	2	0	4	285	2	236	6	0	0	244	1	0	1	0	3	2	4	0	0	0	0	0	4	
8:15 AM	0	271	1	0	4	272	3	278	1	0	0	282	1	0	2	0	4	3	11	0	2	0	0	0	13	
8:30 AM	0	229	1	0	3	230	3	251	4	0	1	258	2	1	1	0	0	4	5	1	0	0	0	5	6	
8:45 AM	1	202	1	0	7	204	3	223	7	0	0	233	0	1	1	0	2	2	3	0	1	0	0	0	4	
Hourly Total	3	983	5	0	18	991	11	988	18	0	1	1017	4	2	5	0	9	11	23	1	3	0	0	5	27	
*** BREAK ***	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
4:00 PM	0	240	3	0	9	243	5	290	3	0	2	298	4	2	3	0	8	9	3	3	0	0	0	5	6	
4:15 PM	5	221	1	0	10	227	2	325	5	0	3	332	4	3	3	0	7	10	9	2	5	0	0	2	16	
4:30 PM	4	236	4	0	5	244	6	317	11	0	2	334	5	1	4	0	5	10	10	4	5	0	0	4	19	
4:45 PM	4	262	4	0	12	270	3	317	5	0	2	325	8	2	6	0	10	16	8	3	1	0	0	6	12	
Hourly Total	13	959	12	0	36	984	16	1249	24	0	9	1289	21	8	16	0	30	45	30	12	11	0	0	17	53	
5:00 PM	2	267	4	1	4	274	4	320	5	0	3	329	3	2	9	0	4	14	4	3	1	0	0	4	8	
5:15 PM	1	231	0	0	18	232	6	337	7	0	0	350	3	0	3	0	1	6	5	1	4	0	0	10	10	
5:30 PM	4	225	1	0	14	230	3	333	6	0	2	342	2	3	2	0	2	7	8	1	1	0	0	6	10	
5:45 PM	0	196	6	0	6	202	2	320	7	0	0	329	3	3	4	0	4	10	7	1	4	0	0	4	12	
Hourly Total	7	919	11	1	42	938	15	1310	25	0	5	1350	11	8	18	0	11	37	24	6	10	0	0	24	40	
Grand Total	27	3915	29	1	121	3972	47	4602	76	0	17	4725	37	18	42	0	59	97	93	22	31	0	0	62	146	
Approach %	0.7	98.6	0.7	0.0	-	-	1.0	97.4	1.6	0.0	-	-	38.1	18.6	43.3	0.0	-	-	63.7	15.1	21.2	0.0	-	-	-	
Total %	0.3	43.8	0.3	0.0	-	44.4	0.5	51.5	0.9	0.0	-	52.9	0.4	0.2	0.5	0.0	-	1.1	1.0	0.2	0.3	0.0	-	1.6	-	
Lights	27	3838	27	1	-	3893	46	4503	75	0	-	4624	36	18	41	0	-	95	91	22	26	0	-	139	8751	
% Lights	100.0	98.0	93.1	100.0	-	98.0	97.9	97.8	98.7	-	-	97.9	97.3	100.0	97.6	-	-	97.9	97.8	100.0	83.9	-	-	95.2	97.9	
Mediums	0	69	1	0	-	70	1	85	1	0	-	87	1	0	1	0	-	2	2	0	5	0	-	7	166	
% Mediums	0.0	1.8	3.4	0.0	-	1.8	2.1	1.8	1.3	-	-	1.8	2.7	0.0	2.4	-	-	2.1	2.2	0.0	16.1	-	-	4.8	1.9	
Articulated Trucks	0	8	1	0	-	9	0	14	0	0	-	14	0	0	0	0	-	0	0	0	0	0	-	0	0	
% Articulated Trucks	0.0	0.2	3.4	0.0	-	0.2	0.0	0.3	0.0	-	-	0.3	0.0	0.0	0.0	-	-	0.0	0.0	0.0	0.0	-	-	0.0	0.3	
Bicycles on Crosswalk	-	-	-	-	1	-	-	-	-	-	0	-	-	-	-	-	1	-	-	-	-	-	-	7	-	
% Bicycles on Crosswalk	-	-	-	-	0.8	-	-	-	-	-	0.0	-	-	-	-	-	1.7	-	-	-	-	-	-	11.3	-	
Pedestrians	-	-	-	-	120	-	-	-	-	-	17	-	-	-	-	-	58	-	-	-	-	-	-	55	-	
% Pedestrians	-	-	-	-	99.2	-	-	-	-	-	100.0	-	-	-	-	-	98.3	-	-	-	-	-	-	88.7	-	



PRELIMINARY ZONING INFORMATION	
LOT SIZE	0.52 ACRES
BUILDING SIZE	2,200 SF
ZONING	B-2 COMMUNITY BUSINESS
ACCESS	DRIVE-THRU IS NOT A PERMITTED USE. A CONDITIONAL USE PERMIT WILL NEED TO BE APPLIED FOR.
ACCESS SETBACKS	NONE
ACCESS AISLE	90 DEG. - 20' MIN. 60 DEG. - 15' MIN. 30 DEG. - 8' 4" X 19' 8"
PARKING STALL DIMENSIONS	NONE
DRIVE THRU STACKING	NONE
REQUIRED BUILDING/ ACCESSORY STRUCTURE SETBACKS	FRONT: 0' INTERIOR: 0' REAR: 0'
REQUIRED PARKING SETBACKS	FRONT: 0' SIDE: 0' REAR: 0'

PRELIMINARY ZONING INFORMATION	
REQUIRED PARKING	ESTABLISHMENTS DISPENSING FOOD OR BEVERAGES FOR CONSUMPTION ON THE PREMISES: 1 SPACE PER 400 SF, INCLUDING 1 ADA STALL
PROVIDED PARKING	15 SPACES (INCLUDING 2 ADA STALLS)
NET PARKING GAINED	11 SPACES (INCLUDING 2 ADA STALLS)
SIGNAGE	SUM OF THE GROSS SURFACE DISPLAY AREA IN SF OF THE SIGNAGE SHALL NOT EXCEED 10% OF THE GROSS AREA OF THE SIGNAGE. THE SIGNAGE SHALL BE TWO (2) TIMES THE LINEAL FEET OF LOT FRONTAGE OR 75 SF, WHICHEVER IS GREATER
STORM WATER	654 SF (327 STREET FRONTAGE OF BUILDING x 2)
LANDSCAPE	ON-SITE STORMWATER TREATMENT IS REQUIRED WHEN DISTURBANCE OF 10% OR MORE OF THE LOT OCCURS. ALLOWABLE RUNOFF SHALL BE LIMITED TO A DISTURBANCE GREATER THAN 1 ACRE. THE WATER QUALITY SHALL BE MAINTAINED TO THE SAME LEVEL AS THE EXISTING ADJACENT AREAS. NEWLY RECONSTRUCTED IMPERVIOUS SURFACES MUST BE RETAINED ON SITE.
	NONE

PRELIMINARY ZONING INFORMATION	
REQUIRED PARKING	ESTABLISHMENTS DISPENSING FOOD OR BEVERAGES FOR CONSUMPTION ON THE PREMISES: 1 SPACE PER 400 SF, INCLUDING 1 ADA STALL
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	NONE

GRAPHIC SCALE IN FEET
 0 15 30 60
 NORTH

RMA PROJECT
 DATE 10/20/2019
 SCALE AS SHOWN
 CHECKED BY: [REDACTED]
 DRAWN BY: [REDACTED]
 REVISIONS: [REDACTED]
 DATE: [REDACTED]
 BY: [REDACTED]

KIMLEY-HORN AND ASSOCIATES, INC.
 4019 KIMLEY-HORN AND ASSOCIATES, INC.
 787 EUSTIS ST., SUITE 100, ST. PAUL, MN 55114
 WWW.KIMLEY-HORN.COM
 PHONE: 651-454-4197

NO.	REVISIONS	DATE	BY

Kimley-Horn

• 6019 KIMLEY-HORN AND ASSOCIATES, INC.
787 EUSTIS ST., SUITE 100, ST. PAUL, MN 55114
PHONE: 651-645-4197
WWW.KIMLEY-HORN.COM

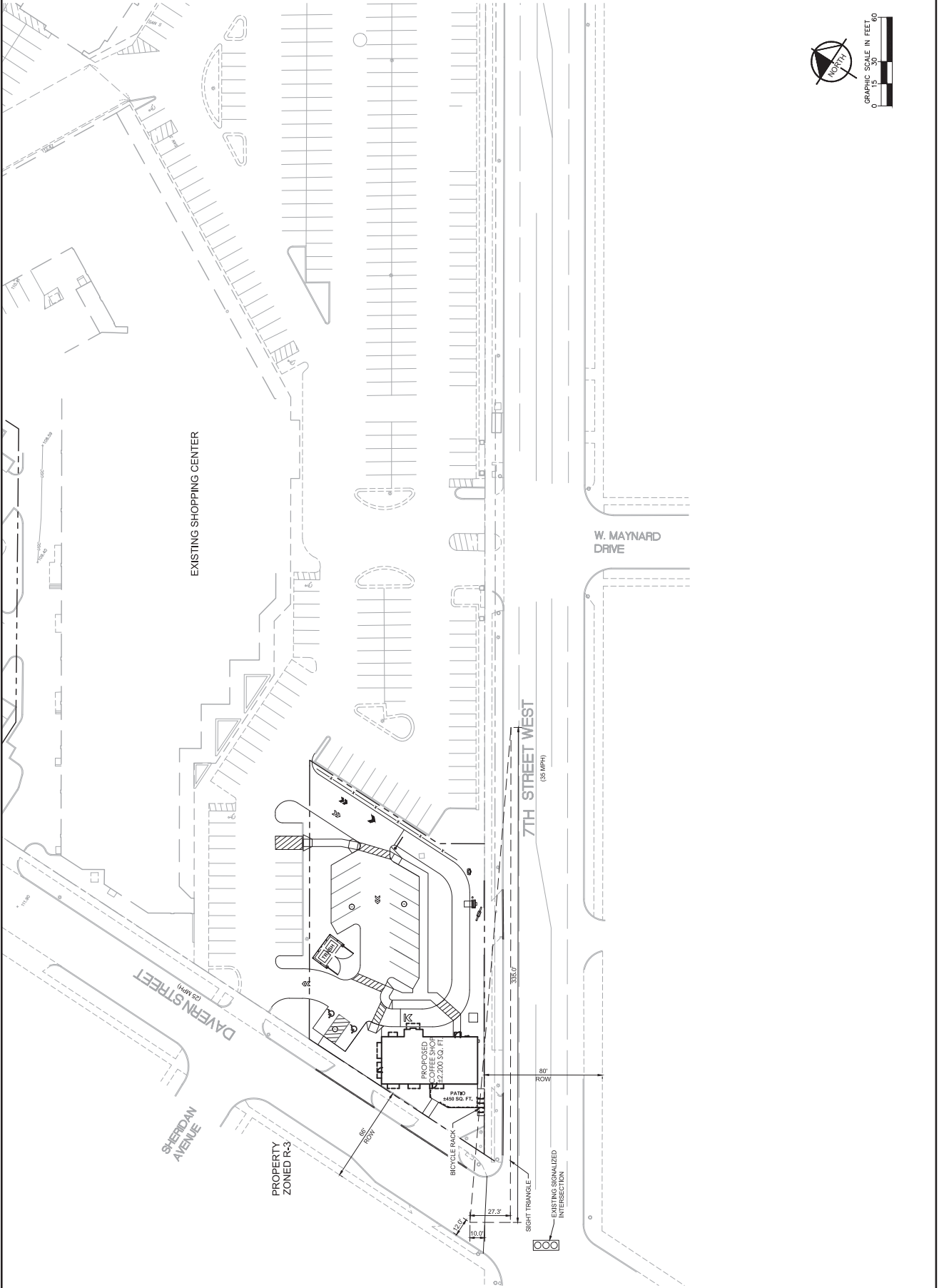
CHKD BY	RE
DRWN BY	ACL
DESIGNED BY	ACL
SCALE	AS SHOWN
DATE	10/17/2019
RHA PROJECT	

**SIBLEY PLAZA
ST. PAUL,
MINNESOTA**

**INTERSECTION SIGHT
DISTANCE EXHIBIT**

SHEET NUMBER
EX-1

PRELIMINARY - NOT FOR CONSTRUCTION



K:\TWC\LDV\PASTER ENTERPRISES\STARBUCKS SIBLEY PLAZA\3 Design\CAD\Exhibits\Exhibits\2019-1017 Site Triangle Exhibit\Site Triangle Exhibit.dwg October 17, 2019 - 3:53pm

1: Davern Street & Sheridan Avenue/Site Access Performance by movement

Movement	EBL	EBR	WBL	WBR	NBL	NBT	NBR	SBL	SBT	SBR	All
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Denied Del/Veh (s)	0.1	0.1	0.1	0.1	0.0	0.0	0.0	0.1	0.2	0.1	0.1
Total Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.2
Total Del/Veh (s)	7.0	3.4	7.7	3.5	3.3	1.6	1.1	3.3	0.6	0.5	1.5

2: Davern Street & 7th Street Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Denied Delay (hr)	0.1	0.1	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0
Denied Del/Veh (s)	2.2	0.2	0.3	0.0	0.0	0.0	3.4	0.4	0.4	0.0	0.0	0.0
Total Delay (hr)	0.4	2.8	0.1	0.2	4.2	0.1	0.7	0.7	0.2	0.2	0.4	0.5
Total Del/Veh (s)	15.1	10.6	7.5	19.9	15.7	13.1	33.8	28.1	13.8	29.5	26.9	13.1

2: Davern Street & 7th Street Performance by movement

Movement	All
Denied Delay (hr)	0.2
Denied Del/Veh (s)	0.3
Total Delay (hr)	10.5
Total Del/Veh (s)	14.8

3: Maynard Drive/Site Access & 7th Street Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Denied Del/Veh (s)	0.0	0.0	0.0	0.2	0.2	0.1	0.1	0.1	0.2	0.1	0.2	4.0
Total Delay (hr)	0.1	2.4	0.0	0.0	1.3	0.0	0.3	0.1	0.0	0.1	0.0	0.0
Total Del/Veh (s)	18.5	8.5	5.5	12.8	4.6	1.5	40.2	43.5	14.9	40.6	36.6	6.2

3: Maynard Drive/Site Access & 7th Street Performance by movement

Movement	All
Denied Delay (hr)	0.1
Denied Del/Veh (s)	0.1
Total Delay (hr)	4.2
Total Del/Veh (s)	7.2

Total Network Performance

Denied Delay (hr)	0.3
Denied Del/Veh (s)	0.4
Total Delay (hr)	16.8
Total Del/Veh (s)	22.8

Intersection: 1: Davern Street & Sheridan Avenue/Site Access

Movement	EB	WB	NB	SB
Directions Served	LTR	LTR	LTR	LTR
Maximum Queue (ft)	36	37	49	28
Average Queue (ft)	21	12	4	2
95th Queue (ft)	44	35	23	12
Link Distance (ft)	820	220	143	700
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 2: Davern Street & 7th Street

Movement	EB	EB	EB	WB	WB	WB	NB	NB	SB	SB
Directions Served	L	T	TR	L	T	TR	L	TR	L	TR
Maximum Queue (ft)	78	228	231	72	283	263	92	142	79	146
Average Queue (ft)	27	113	106	9	147	147	36	46	10	53
95th Queue (ft)	64	197	197	40	248	243	81	113	43	113
Link Distance (ft)		1313	1313		375	375		1044		143
Upstream Blk Time (%)										1
Queuing Penalty (veh)										1
Storage Bay Dist (ft)	600			175			80		75	
Storage Blk Time (%)					4		2	2		5
Queuing Penalty (veh)					1		3	2		1

Intersection: 3: Maynard Drive/Site Access & 7th Street

Movement	EB	EB	EB	WB	WB	NB	SB	SB
Directions Served	L	T	TR	LT	TR	LTR	LT	R
Maximum Queue (ft)	41	250	268	179	149	96	44	31
Average Queue (ft)	8	98	104	76	52	27	9	4
95th Queue (ft)	29	225	236	158	125	69	32	21
Link Distance (ft)		375	375	1313	1313	727	319	
Upstream Blk Time (%)								
Queuing Penalty (veh)								
Storage Bay Dist (ft)	175							50
Storage Blk Time (%)		2					1	0
Queuing Penalty (veh)		0					0	0

Network Summary

Network wide Queuing Penalty: 8

1: Davern Street & Sheridan Avenue/Site Access Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Denied Del/Veh (s)	0.1	0.1	0.1	0.1	0.1	0.1	0.0	0.0	0.0	0.3	0.2	0.2
Total Delay (hr)	0.0	0.0	0.1	0.1	0.0	0.0	0.0	0.1	0.0	0.0	0.1	0.0
Total Del/Veh (s)	6.8	9.4	7.9	15.7	8.4	12.6	3.6	1.6	1.2	3.4	2.1	0.2

1: Davern Street & Sheridan Avenue/Site Access Performance by movement

Movement	All
Denied Delay (hr)	0.0
Denied Del/Veh (s)	0.1
Total Delay (hr)	0.5
Total Del/Veh (s)	3.0

2: Davern Street & 7th Street Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Denied Delay (hr)	0.1	0.1	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0
Denied Del/Veh (s)	2.0	0.3	0.4	0.0	0.0	0.0	3.5	0.3	0.4	0.0	0.1	0.0
Total Delay (hr)	0.9	6.4	0.2	0.4	5.0	0.1	0.8	0.6	0.2	0.3	1.0	0.9
Total Del/Veh (s)	18.0	17.6	13.6	27.7	19.3	15.1	43.5	28.5	17.5	36.5	34.8	22.6

2: Davern Street & 7th Street Performance by movement

Movement	All
Denied Delay (hr)	0.3
Denied Del/Veh (s)	0.4
Total Delay (hr)	16.6
Total Del/Veh (s)	20.1

3: Maynard Drive/Site Access & 7th Street Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Denied Del/Veh (s)	0.0	0.0	0.0	0.4	0.2	0.2	0.1	0.1	0.1	0.2	0.1	4.1
Total Delay (hr)	0.1	5.4	0.1	0.1	1.8	0.0	0.3	0.1	0.0	0.1	0.1	0.0
Total Del/Veh (s)	22.6	14.7	11.6	29.6	6.7	2.8	37.1	34.2	15.7	34.3	36.5	7.3

3: Maynard Drive/Site Access & 7th Street Performance by movement

Movement	All
Denied Delay (hr)	0.1
Denied Del/Veh (s)	0.1
Total Delay (hr)	8.1
Total Del/Veh (s)	12.1

Total Network Performance

Denied Delay (hr)	0.4
Denied Del/Veh (s)	0.5
Total Delay (hr)	28.0
Total Del/Veh (s)	32.2

Intersection: 1: Davern Street & Sheridan Avenue/Site Access

Movement	EB	WB	NB	SB
Directions Served	LTR	LTR	LTR	LTR
Maximum Queue (ft)	56	74	58	92
Average Queue (ft)	25	21	6	10
95th Queue (ft)	51	54	30	52
Link Distance (ft)	820	220	143	700
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 2: Davern Street & 7th Street

Movement	EB	EB	EB	WB	WB	WB	NB	NB	SB	SB
Directions Served	L	T	TR	L	T	TR	L	TR	L	TR
Maximum Queue (ft)	143	358	339	199	296	288	99	150	114	158
Average Queue (ft)	51	198	194	23	167	167	38	47	20	89
95th Queue (ft)	110	325	317	97	268	265	81	108	73	158
Link Distance (ft)		1313	1313		375	375		1044		143
Upstream Blk Time (%)										4
Queuing Penalty (veh)										9
Storage Bay Dist (ft)	600			175			80		75	
Storage Blk Time (%)					6		2	3	1	18
Queuing Penalty (veh)					3		3	2	1	5

Intersection: 3: Maynard Drive/Site Access & 7th Street

Movement	EB	EB	EB	WB	WB	NB	SB	SB
Directions Served	L	T	TR	LT	TR	LTR	LT	R
Maximum Queue (ft)	165	368	364	220	176	89	64	60
Average Queue (ft)	23	197	206	109	75	33	21	16
95th Queue (ft)	106	351	358	192	154	75	54	48
Link Distance (ft)		375	375	1313	1313	727	319	
Upstream Blk Time (%)		0	0					
Queuing Penalty (veh)		0	1					
Storage Bay Dist (ft)	175							50
Storage Blk Time (%)		7					3	0
Queuing Penalty (veh)		1					1	0

Network Summary

Network wide Queuing Penalty: 27

1: Davern Street & Sheridan Avenue/Site Access Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Denied Del/Veh (s)	0.1	0.1	0.1	0.1	0.1	0.1	0.0	0.0	0.0	0.2	0.2	0.2
Total Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0
Total Del/Veh (s)	7.1	6.6	3.6	9.9	8.5	3.2	3.4	1.5	1.1	2.1	0.7	0.3

1: Davern Street & Sheridan Avenue/Site Access Performance by movement

Movement	All
Denied Delay (hr)	0.0
Denied Del/Veh (s)	0.1
Total Delay (hr)	0.2
Total Del/Veh (s)	1.7

2: Davern Street & 7th Street Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Denied Delay (hr)	0.1	0.1	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0
Denied Del/Veh (s)	2.0	0.2	0.3	0.0	0.0	0.0	3.6	0.3	0.3	0.0	0.0	0.0
Total Delay (hr)	0.5	3.0	0.0	0.2	4.3	0.1	0.7	0.7	0.2	0.2	0.3	0.5
Total Del/Veh (s)	15.4	10.8	6.6	19.7	15.9	12.5	34.2	31.0	15.3	31.1	28.2	12.9

2: Davern Street & 7th Street Performance by movement

Movement	All
Denied Delay (hr)	0.2
Denied Del/Veh (s)	0.3
Total Delay (hr)	10.8
Total Del/Veh (s)	14.9

3: Maynard Drive/Site Access & 7th Street Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Denied Del/Veh (s)	0.0	0.0	0.0	0.2	0.2	0.3	0.1	0.1	0.2	0.2	0.1	4.1
Total Delay (hr)	0.1	2.4	0.0	0.0	1.2	0.0	0.2	0.0	0.0	0.1	0.0	0.0
Total Del/Veh (s)	17.5	8.3	5.5	15.1	4.5	3.9	31.6	41.9	10.8	41.2	34.4	6.8

3: Maynard Drive/Site Access & 7th Street Performance by movement

Movement	All
Denied Delay (hr)	0.1
Denied Del/Veh (s)	0.1
Total Delay (hr)	4.3
Total Del/Veh (s)	7.2

Total Network Performance

Denied Delay (hr)	0.3
Denied Del/Veh (s)	0.4
Total Delay (hr)	17.2
Total Del/Veh (s)	22.7

Intersection: 1: Davern Street & Sheridan Avenue/Site Access

Movement	EB	WB	NB	SB
Directions Served	LTR	LTR	LTR	LTR
Maximum Queue (ft)	48	37	48	24
Average Queue (ft)	23	14	4	1
95th Queue (ft)	47	37	25	8
Link Distance (ft)	820	220	143	700
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 2: Davern Street & 7th Street

Movement	EB	EB	EB	WB	WB	WB	NB	NB	SB	SB
Directions Served	L	T	TR	L	T	TR	L	TR	L	TR
Maximum Queue (ft)	81	233	227	134	287	280	99	147	37	137
Average Queue (ft)	26	122	110	12	148	147	35	48	8	53
95th Queue (ft)	63	212	202	66	253	247	76	108	26	114
Link Distance (ft)		1313	1313		375	375		1044		143
Upstream Blk Time (%)					0					1
Queuing Penalty (veh)					0					1
Storage Bay Dist (ft)	600			175			80		75	
Storage Blk Time (%)					4		2	3		6
Queuing Penalty (veh)					1		2	2		1

Intersection: 3: Maynard Drive/Site Access & 7th Street

Movement	EB	EB	EB	WB	WB	NB	SB	SB
Directions Served	L	T	TR	LT	TR	LTR	LT	R
Maximum Queue (ft)	140	243	258	170	158	58	56	42
Average Queue (ft)	21	101	108	71	50	23	13	12
95th Queue (ft)	72	227	233	148	125	54	43	38
Link Distance (ft)		375	375	1313	1313	727	319	
Upstream Blk Time (%)								
Queuing Penalty (veh)								
Storage Bay Dist (ft)	175							50
Storage Blk Time (%)		2					2	0
Queuing Penalty (veh)		1					0	0

Network Summary

Network wide Queuing Penalty: 9

1: Davern Street & Sheridan Avenue/Site Access Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Denied Del/Veh (s)	0.1	0.1	0.1	0.1	0.1	0.1	0.0	0.0	0.0	0.2	0.2	0.3
Total Delay (hr)	0.0	0.0	0.1	0.1	0.0	0.1	0.0	0.1	0.0	0.0	0.2	0.0
Total Del/Veh (s)	8.5	9.7	7.6	16.3	10.2	7.3	3.4	1.6	1.3	3.9	3.4	2.4

1: Davern Street & Sheridan Avenue/Site Access Performance by movement

Movement	All
Denied Delay (hr)	0.0
Denied Del/Veh (s)	0.1
Total Delay (hr)	0.7
Total Del/Veh (s)	3.8

2: Davern Street & 7th Street Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Denied Delay (hr)	0.1	0.1	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0
Denied Del/Veh (s)	2.1	0.4	0.4	0.0	0.0	0.0	3.4	0.3	0.4	0.0	0.0	0.0
Total Delay (hr)	0.9	7.0	0.2	0.5	5.5	0.1	0.9	0.8	0.4	0.3	1.1	1.0
Total Del/Veh (s)	17.6	18.9	15.0	30.7	21.2	16.0	50.0	33.1	21.2	36.9	38.1	23.5

2: Davern Street & 7th Street Performance by movement

Movement	All
Denied Delay (hr)	0.3
Denied Del/Veh (s)	0.4
Total Delay (hr)	18.7
Total Del/Veh (s)	21.8

3: Maynard Drive/Site Access & 7th Street Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1
Denied Del/Veh (s)	0.0	0.0	0.0	0.4	0.2	0.3	0.1	0.1	0.2	0.3	0.2	4.0
Total Delay (hr)	0.4	5.7	0.1	0.1	2.0	0.0	0.2	0.1	0.1	0.4	0.1	0.1
Total Del/Veh (s)	24.3	15.4	12.7	23.1	7.5	4.3	30.7	32.7	17.4	39.2	33.5	8.1

3: Maynard Drive/Site Access & 7th Street Performance by movement

Movement	All
Denied Delay (hr)	0.1
Denied Del/Veh (s)	0.2
Total Delay (hr)	9.2
Total Del/Veh (s)	13.1

Total Network Performance

Denied Delay (hr)	0.4
Denied Del/Veh (s)	0.5
Total Delay (hr)	31.5
Total Del/Veh (s)	34.1

Intersection: 1: Davern Street & Sheridan Avenue/Site Access

Movement	EB	WB	NB	SB
Directions Served	LTR	LTR	LTR	LTR
Maximum Queue (ft)	68	92	59	144
Average Queue (ft)	26	31	5	21
95th Queue (ft)	54	66	24	82
Link Distance (ft)	820	220	143	700
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 2: Davern Street & 7th Street

Movement	EB	EB	EB	WB	WB	WB	NB	NB	SB	SB
Directions Served	L	T	TR	L	T	TR	L	TR	L	TR
Maximum Queue (ft)	125	377	357	200	320	308	104	195	88	158
Average Queue (ft)	46	216	210	40	180	177	36	67	19	97
95th Queue (ft)	101	339	328	143	288	278	84	159	66	173
Link Distance (ft)		1313	1313		375	375		1044		143
Upstream Blk Time (%)										6
Queuing Penalty (veh)										18
Storage Bay Dist (ft)	600			175			80		75	
Storage Blk Time (%)					9		5	4	1	22
Queuing Penalty (veh)					5		8	3	1	7

Intersection: 3: Maynard Drive/Site Access & 7th Street

Movement	EB	EB	EB	WB	WB	NB	SB	SB
Directions Served	L	T	TR	LT	TR	LTR	LT	R
Maximum Queue (ft)	199	388	396	202	180	88	104	75
Average Queue (ft)	48	206	215	110	85	29	39	31
95th Queue (ft)	146	377	377	181	159	69	83	69
Link Distance (ft)		375	375	1313	1313	727	319	
Upstream Blk Time (%)		1	0					
Queuing Penalty (veh)		4	3					
Storage Bay Dist (ft)	175							50
Storage Blk Time (%)		7					11	1
Queuing Penalty (veh)		5					5	0

Network Summary

Network wide Queuing Penalty: 57

1: Davern Street & Sheridan Avenue/Site Access Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Denied Del/Veh (s)	0.1	0.1	0.1	0.2	0.1	0.1	0.0	0.0	0.0	0.3	0.2	0.2
Total Delay (hr)	0.0	0.0	0.0	0.2	0.0	0.0	0.0	0.1	0.0	0.0	0.1	0.0
Total Del/Veh (s)	6.7	8.0	5.5	10.4	12.4	4.7	2.8	1.7	1.0	2.2	1.2	0.9

1: Davern Street & Sheridan Avenue/Site Access Performance by movement

Movement	All
Denied Delay (hr)	0.0
Denied Del/Veh (s)	0.1
Total Delay (hr)	0.5
Total Del/Veh (s)	3.0

2: Davern Street & 7th Street Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Denied Delay (hr)	0.1	0.1	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0
Denied Del/Veh (s)	2.1	0.3	0.2	0.0	0.0	0.0	3.5	0.4	0.4	0.0	0.0	0.0
Total Delay (hr)	0.6	3.3	0.1	0.2	4.9	0.2	0.6	0.6	0.2	0.4	0.3	0.8
Total Del/Veh (s)	16.5	11.9	8.7	19.6	18.9	14.2	29.7	26.3	13.5	33.0	27.9	14.4

2: Davern Street & 7th Street Performance by movement

Movement	All
Denied Delay (hr)	0.2
Denied Del/Veh (s)	0.3
Total Delay (hr)	12.2
Total Del/Veh (s)	16.5

3: Maynard Drive/Site Access & 7th Street Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Denied Del/Veh (s)	0.0	0.0	0.0	0.5	0.2	0.3	0.1	0.1	0.1	0.2	0.1	4.0
Total Delay (hr)	0.3	2.5	0.1	0.0	1.4	0.0	0.2	0.1	0.0	0.3	0.0	0.0
Total Del/Veh (s)	22.2	9.1	7.2	11.9	5.1	3.4	30.1	36.1	10.3	36.1	40.9	6.8

3: Maynard Drive/Site Access & 7th Street Performance by movement

Movement	All
Denied Delay (hr)	0.1
Denied Del/Veh (s)	0.1
Total Delay (hr)	5.0
Total Del/Veh (s)	8.2

Total Network Performance

Denied Delay (hr)	0.3
Denied Del/Veh (s)	0.4
Total Delay (hr)	19.6
Total Del/Veh (s)	25.0

Intersection: 1: Davern Street & Sheridan Avenue/Site Access

Movement	EB	WB	NB	SB
Directions Served	LTR	LTR	LTR	LTR
Maximum Queue (ft)	54	89	40	49
Average Queue (ft)	22	38	3	3
95th Queue (ft)	49	67	21	23
Link Distance (ft)	820	220	143	700
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 2: Davern Street & 7th Street

Movement	EB	EB	EB	WB	WB	WB	NB	NB	SB	SB
Directions Served	L	T	TR	L	T	TR	L	TR	L	TR
Maximum Queue (ft)	101	257	248	131	293	290	93	116	114	157
Average Queue (ft)	33	132	122	12	163	160	32	38	24	68
95th Queue (ft)	74	231	222	66	257	255	71	93	70	143
Link Distance (ft)		1313	1313		375	375		1044		143
Upstream Blk Time (%)										2
Queuing Penalty (veh)										6
Storage Bay Dist (ft)	600			175			80		75	
Storage Blk Time (%)					5		1	2	0	9
Queuing Penalty (veh)					2		1	1	1	4

Intersection: 3: Maynard Drive/Site Access & 7th Street

Movement	EB	EB	EB	WB	WB	NB	SB	SB
Directions Served	L	T	TR	LT	TR	LTR	LT	R
Maximum Queue (ft)	129	227	241	159	156	68	93	63
Average Queue (ft)	34	101	111	77	59	22	31	14
95th Queue (ft)	81	218	233	152	130	53	72	47
Link Distance (ft)		375	375	1313	1313	727	319	
Upstream Blk Time (%)								
Queuing Penalty (veh)								
Storage Bay Dist (ft)	175							50
Storage Blk Time (%)		2					8	0
Queuing Penalty (veh)		1					1	0

Network Summary

Network wide Queuing Penalty: 16

1: Davern Street & Sheridan Avenue/Site Access Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Denied Del/Veh (s)	0.1	0.1	0.1	0.7	0.6	0.3	0.0	0.0	0.0	0.3	0.3	0.2
Total Delay (hr)	0.0	0.1	0.2	0.4	0.1	0.2	0.0	0.1	0.0	0.1	0.3	0.0
Total Del/Veh (s)	13.6	23.6	21.2	22.2	17.6	22.9	3.6	1.9	1.2	5.6	5.5	1.1

1: Davern Street & Sheridan Avenue/Site Access Performance by movement

Movement	All
Denied Delay (hr)	0.0
Denied Del/Veh (s)	0.2
Total Delay (hr)	1.5
Total Del/Veh (s)	7.2

2: Davern Street & 7th Street Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Denied Delay (hr)	0.1	0.1	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0
Denied Del/Veh (s)	2.0	0.4	0.4	0.0	0.0	0.0	3.4	0.3	0.4	0.0	0.0	0.0
Total Delay (hr)	1.0	8.2	0.2	0.5	6.3	0.2	0.8	0.8	0.4	0.5	1.2	1.4
Total Del/Veh (s)	18.7	21.7	15.6	30.8	24.5	20.8	41.1	29.8	23.0	42.1	43.2	29.0

2: Davern Street & 7th Street Performance by movement

Movement	All
Denied Delay (hr)	0.3
Denied Del/Veh (s)	0.4
Total Delay (hr)	21.4
Total Del/Veh (s)	24.4

3: Maynard Drive/Site Access & 7th Street Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1
Denied Del/Veh (s)	0.0	0.0	0.0	0.3	0.2	0.2	0.1	0.1	0.1	0.3	0.3	4.0
Total Delay (hr)	0.5	5.8	0.1	0.1	1.9	0.1	0.3	0.1	0.1	0.6	0.1	0.1
Total Del/Veh (s)	25.9	15.4	11.7	23.2	7.3	4.4	39.7	28.3	20.7	39.6	35.1	7.7

3: Maynard Drive/Site Access & 7th Street Performance by movement

Movement	All
Denied Delay (hr)	0.1
Denied Del/Veh (s)	0.2
Total Delay (hr)	9.6
Total Del/Veh (s)	13.4

Total Network Performance

Denied Delay (hr)	0.5
Denied Del/Veh (s)	0.5
Total Delay (hr)	35.5
Total Del/Veh (s)	37.3

Intersection: 1: Davern Street & Sheridan Avenue/Site Access

Movement	EB	WB	NB	SB
Directions Served	LTR	LTR	LTR	LTR
Maximum Queue (ft)	111	125	61	195
Average Queue (ft)	33	47	7	29
95th Queue (ft)	76	109	34	115
Link Distance (ft)	820	220	143	700
Upstream Blk Time (%)	1			
Queuing Penalty (veh)	0			
Storage Bay Dist (ft)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 2: Davern Street & 7th Street

Movement	EB	EB	EB	WB	WB	WB	NB	NB	SB	SB
Directions Served	L	T	TR	L	T	TR	L	TR	L	TR
Maximum Queue (ft)	120	398	376	199	334	322	100	176	115	158
Average Queue (ft)	51	240	234	35	194	196	37	64	31	106
95th Queue (ft)	97	372	361	135	293	292	80	136	90	184
Link Distance (ft)	1313		1313	375		375	1044		143	
Upstream Blk Time (%)					0	0	11			
Queuing Penalty (veh)					0	0	34			
Storage Bay Dist (ft)	600		175				80	75		
Storage Blk Time (%)					11		2	5	0	31
Queuing Penalty (veh)					6		2	3	0	13

Intersection: 3: Maynard Drive/Site Access & 7th Street

Movement	EB	EB	EB	WB	WB	NB	SB	SB
Directions Served	L	T	TR	LT	TR	LTR	LT	R
Maximum Queue (ft)	200	391	403	203	200	100	119	73
Average Queue (ft)	67	203	217	105	83	32	48	32
95th Queue (ft)	174	386	395	183	171	72	98	70
Link Distance (ft)	375		375	1313	1313	727	319	
Upstream Blk Time (%)	1		1					
Queuing Penalty (veh)	4		5					
Storage Bay Dist (ft)	175						50	
Storage Blk Time (%)	0	7					16	1
Queuing Penalty (veh)	0	5					7	0

Network Summary

Network wide Queuing Penalty: 81

1: Davern Street & Sheridan Avenue/Site Access Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Denied Del/Veh (s)	0.1	0.1	0.1	0.1	0.1	0.1	0.0	0.0	0.0	0.2	0.2	0.2
Total Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0
Total Del/Veh (s)	7.6	6.7	3.7	6.9	13.3	4.5	3.2	1.5	1.1	2.8	0.6	0.3

1: Davern Street & Sheridan Avenue/Site Access Performance by movement

Movement	All
Denied Delay (hr)	0.0
Denied Del/Veh (s)	0.1
Total Delay (hr)	0.2
Total Del/Veh (s)	1.6

2: Davern Street & 7th Street Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Denied Delay (hr)	0.1	0.1	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0
Denied Del/Veh (s)	2.1	0.2	0.3	0.0	0.0	0.0	3.4	0.4	0.3	0.0	0.0	0.0
Total Delay (hr)	0.6	3.5	0.0	0.2	5.6	0.1	0.7	0.6	0.2	0.2	0.4	0.6
Total Del/Veh (s)	17.6	11.4	7.3	21.5	18.6	15.6	33.3	28.8	16.0	33.1	27.6	14.6

2: Davern Street & 7th Street Performance by movement

Movement	All
Denied Delay (hr)	0.2
Denied Del/Veh (s)	0.3
Total Delay (hr)	12.9
Total Del/Veh (s)	16.3

3: Maynard Drive/Site Access & 7th Street Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Denied Del/Veh (s)	0.0	0.0	0.0	0.6	0.2	0.2	0.1	0.1	0.1	0.1	0.3	4.1
Total Delay (hr)	0.2	3.1	0.0	0.0	1.6	0.0	0.3	0.0	0.0	0.1	0.1	0.0
Total Del/Veh (s)	21.5	10.0	7.3	17.5	5.3	2.3	42.8	42.5	18.5	41.2	36.2	8.2

3: Maynard Drive/Site Access & 7th Street Performance by movement

Movement	All
Denied Delay (hr)	0.1
Denied Del/Veh (s)	0.1
Total Delay (hr)	5.5
Total Del/Veh (s)	8.4

Total Network Performance

Denied Delay (hr)	0.3
Denied Del/Veh (s)	0.4
Total Delay (hr)	20.9
Total Del/Veh (s)	25.5

Intersection: 1: Davern Street & Sheridan Avenue/Site Access

Movement	EB	WB	NB	SB
Directions Served	LTR	LTR	LTR	LTR
Maximum Queue (ft)	48	44	38	24
Average Queue (ft)	23	16	4	1
95th Queue (ft)	47	40	23	11
Link Distance (ft)	820	220	143	700
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 2: Davern Street & 7th Street

Movement	EB	EB	EB	WB	WB	WB	NB	NB	SB	SB
Directions Served	L	T	TR	L	T	TR	L	TR	L	TR
Maximum Queue (ft)	93	250	254	199	309	319	99	151	82	143
Average Queue (ft)	31	132	124	17	183	183	38	48	11	61
95th Queue (ft)	71	221	224	92	291	291	81	108	44	124
Link Distance (ft)		1313	1313		375	375		1044		143
Upstream Blk Time (%)					0	0				0
Queuing Penalty (veh)					0	1				1
Storage Bay Dist (ft)	600			175			80		75	
Storage Blk Time (%)					8		2	2		6
Queuing Penalty (veh)					3		3	2		1

Intersection: 3: Maynard Drive/Site Access & 7th Street

Movement	EB	EB	EB	WB	WB	NB	SB	SB
Directions Served	L	T	TR	LT	TR	LTR	LT	R
Maximum Queue (ft)	119	281	306	208	186	75	51	35
Average Queue (ft)	22	127	133	86	68	27	12	11
95th Queue (ft)	81	262	273	174	153	63	37	35
Link Distance (ft)		375	375	1313	1313	727	319	
Upstream Blk Time (%)				0				
Queuing Penalty (veh)				0				
Storage Bay Dist (ft)	175							50
Storage Blk Time (%)		3					1	0
Queuing Penalty (veh)		1					0	0

Network Summary

Network wide Queuing Penalty: 12

1: Davern Street & Sheridan Avenue/Site Access Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Denied Del/Veh (s)	0.2	0.1	0.1	0.2	0.1	0.1	0.0	0.0	0.0	0.3	0.3	0.2
Total Delay (hr)	0.0	0.1	0.1	0.1	0.0	0.1	0.0	0.1	0.0	0.1	0.4	0.0
Total Del/Veh (s)	12.9	14.7	17.3	22.0	11.9	7.4	4.1	1.7	1.1	7.1	6.3	0.6

1: Davern Street & Sheridan Avenue/Site Access Performance by movement

Movement	All
Denied Delay (hr)	0.0
Denied Del/Veh (s)	0.1
Total Delay (hr)	1.1
Total Del/Veh (s)	5.6

2: Davern Street & 7th Street Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Denied Delay (hr)	0.1	0.2	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0
Denied Del/Veh (s)	2.0	0.5	0.5	0.0	0.0	0.0	3.4	0.3	0.4	0.0	0.0	0.0
Total Delay (hr)	1.3	15.0	0.4	0.5	8.1	0.1	0.9	0.8	0.5	0.2	1.2	1.3
Total Del/Veh (s)	23.2	35.3	30.4	32.9	26.8	22.2	46.1	31.5	23.1	32.6	39.8	27.7

2: Davern Street & 7th Street Performance by movement

Movement	All
Denied Delay (hr)	0.4
Denied Del/Veh (s)	0.4
Total Delay (hr)	30.3
Total Del/Veh (s)	31.4

3: Maynard Drive/Site Access & 7th Street Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Denied Del/Veh (s)	0.0	0.0	0.0	0.3	0.2	0.3	0.1	0.2	0.1	0.2	0.4	4.0
Total Delay (hr)	0.5	6.9	0.1	0.1	2.6	0.0	0.3	0.1	0.1	0.5	0.1	0.1
Total Del/Veh (s)	29.7	16.6	15.0	27.3	8.7	3.6	38.0	28.6	15.9	38.8	33.6	9.8

3: Maynard Drive/Site Access & 7th Street Performance by movement

Movement	All
Denied Delay (hr)	0.1
Denied Del/Veh (s)	0.1
Total Delay (hr)	11.4
Total Del/Veh (s)	14.3

Total Network Performance

Denied Delay (hr)	0.5
Denied Del/Veh (s)	0.5
Total Delay (hr)	46.3
Total Del/Veh (s)	44.8

Intersection: 1: Davern Street & Sheridan Avenue/Site Access

Movement	EB	WB	NB	SB
Directions Served	LTR	LTR	LTR	LTR
Maximum Queue (ft)	79	80	82	172
Average Queue (ft)	29	32	10	35
95th Queue (ft)	60	60	45	127
Link Distance (ft)	820	220	143	700
Upstream Blk Time (%)			0	
Queuing Penalty (veh)			0	
Storage Bay Dist (ft)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 2: Davern Street & 7th Street

Movement	EB	EB	EB	WB	WB	WB	NB	NB	SB	SB
Directions Served	L	T	TR	L	T	TR	L	TR	L	TR
Maximum Queue (ft)	452	607	597	200	359	371	104	238	114	159
Average Queue (ft)	94	344	347	48	237	239	40	67	21	107
95th Queue (ft)	318	598	594	162	352	351	90	156	80	182
Link Distance (ft)		1313	1313		375	375		1044		143
Upstream Blk Time (%)					0	0				11
Queuing Penalty (veh)					1	1				32
Storage Bay Dist (ft)	600			175			80		75	
Storage Blk Time (%)		1		0	18		4	6		28
Queuing Penalty (veh)		3		0	11		7	4		7

Intersection: 3: Maynard Drive/Site Access & 7th Street

Movement	EB	EB	EB	WB	WB	NB	SB	SB
Directions Served	L	T	TR	LT	TR	LTR	LT	R
Maximum Queue (ft)	200	406	406	246	228	104	104	74
Average Queue (ft)	60	227	245	134	100	32	42	29
95th Queue (ft)	164	414	429	218	194	75	85	70
Link Distance (ft)		375	375	1313	1313	727	319	
Upstream Blk Time (%)		1	1					
Queuing Penalty (veh)		7	9					
Storage Bay Dist (ft)	175							50
Storage Blk Time (%)		8					13	2
Queuing Penalty (veh)		5					6	1

Network Summary

Network wide Queuing Penalty: 94

1: Davern Street & Sheridan Avenue/Site Access Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Denied Del/Veh (s)	0.1	0.5	0.1	0.1	0.1	0.1	0.0	0.0	0.0	0.2	0.2	0.2
Total Delay (hr)	0.0	0.0	0.0	0.2	0.0	0.0	0.0	0.1	0.0	0.0	0.1	0.0
Total Del/Veh (s)	8.1	17.8	4.7	10.8	6.6	4.1	3.5	1.8	1.1	2.6	1.1	0.4

1: Davern Street & Sheridan Avenue/Site Access Performance by movement

Movement	All
Denied Delay (hr)	0.0
Denied Del/Veh (s)	0.1
Total Delay (hr)	0.5
Total Del/Veh (s)	2.8

2: Davern Street & 7th Street Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Denied Delay (hr)	0.1	0.1	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0
Denied Del/Veh (s)	2.0	0.3	0.3	0.0	0.0	0.0	3.3	0.3	0.4	0.0	0.0	0.0
Total Delay (hr)	0.7	4.0	0.1	0.2	6.5	0.2	0.7	0.7	0.2	0.4	0.4	0.9
Total Del/Veh (s)	18.0	13.3	8.1	24.9	22.4	18.1	32.7	26.3	14.4	30.2	29.0	15.7

2: Davern Street & 7th Street Performance by movement

Movement	All
Denied Delay (hr)	0.3
Denied Del/Veh (s)	0.3
Total Delay (hr)	15.1
Total Del/Veh (s)	18.6

3: Maynard Drive/Site Access & 7th Street Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Denied Del/Veh (s)	0.0	0.0	0.0	0.4	0.2	0.2	0.1	0.1	0.1	0.1	0.2	4.1
Total Delay (hr)	0.4	2.8	0.0	0.0	1.8	0.0	0.3	0.1	0.0	0.3	0.1	0.0
Total Del/Veh (s)	26.7	9.3	7.1	19.0	6.1	3.8	34.6	39.8	14.2	40.4	44.4	8.0

3: Maynard Drive/Site Access & 7th Street Performance by movement

Movement	All
Denied Delay (hr)	0.1
Denied Del/Veh (s)	0.1
Total Delay (hr)	5.9
Total Del/Veh (s)	8.9

Total Network Performance

Denied Delay (hr)	0.3
Denied Del/Veh (s)	0.4
Total Delay (hr)	23.8
Total Del/Veh (s)	27.8

Intersection: 1: Davern Street & Sheridan Avenue/Site Access

Movement	EB	WB	NB	SB
Directions Served	LTR	LTR	LTR	LTR
Maximum Queue (ft)	48	90	61	45
Average Queue (ft)	21	35	5	4
95th Queue (ft)	46	64	30	21
Link Distance (ft)	820	220	143	700
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 2: Davern Street & 7th Street

Movement	EB	EB	EB	WB	WB	WB	NB	NB	SB	SB
Directions Served	L	T	TR	L	T	TR	L	TR	L	TR
Maximum Queue (ft)	94	291	272	169	351	362	98	138	113	154
Average Queue (ft)	38	145	144	22	199	201	40	47	26	79
95th Queue (ft)	80	251	246	109	317	316	86	109	73	151
Link Distance (ft)		1313	1313		375	375		1044		143
Upstream Blk Time (%)					0	0				2
Queuing Penalty (veh)					1	1				5
Storage Bay Dist (ft)	600			175			80		75	
Storage Blk Time (%)				0	12		3	2	1	12
Queuing Penalty (veh)				0	4		4	2	2	5

Intersection: 3: Maynard Drive/Site Access & 7th Street

Movement	EB	EB	EB	WB	WB	NB	SB	SB
Directions Served	L	T	TR	LT	TR	LTR	LT	R
Maximum Queue (ft)	199	254	249	204	198	79	74	47
Average Queue (ft)	36	112	116	94	76	27	28	11
95th Queue (ft)	97	244	244	180	169	63	65	38
Link Distance (ft)		375	375	1313	1313	727	319	
Upstream Blk Time (%)								
Queuing Penalty (veh)								
Storage Bay Dist (ft)	175							50
Storage Blk Time (%)		2					7	0
Queuing Penalty (veh)		1					1	0

Network Summary

Network wide Queuing Penalty: 26

1: Davern Street & Sheridan Avenue/Site Access Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Denied Del/Veh (s)	0.2	0.1	0.1	0.1	0.2	0.1	0.0	0.0	0.0	0.2	0.2	0.2
Total Delay (hr)	0.0	0.1	0.1	0.5	0.1	0.1	0.0	0.1	0.0	0.1	0.3	0.0
Total Del/Veh (s)	14.0	14.4	13.0	26.8	18.4	13.9	3.4	1.8	1.3	6.1	4.4	3.5

1: Davern Street & Sheridan Avenue/Site Access Performance by movement

Movement	All
Denied Delay (hr)	0.0
Denied Del/Veh (s)	0.1
Total Delay (hr)	1.4
Total Del/Veh (s)	6.3

2: Davern Street & 7th Street Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Denied Delay (hr)	0.1	0.2	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0
Denied Del/Veh (s)	2.0	0.4	0.6	0.0	0.0	0.0	3.4	0.3	0.4	0.0	0.0	0.0
Total Delay (hr)	1.4	11.2	0.3	0.6	7.5	0.2	0.7	0.8	0.5	0.5	1.2	1.4
Total Del/Veh (s)	22.7	27.3	22.4	32.5	26.4	23.1	39.0	30.5	22.1	41.8	40.3	27.4

2: Davern Street & 7th Street Performance by movement

Movement	All
Denied Delay (hr)	0.4
Denied Del/Veh (s)	0.4
Total Delay (hr)	26.2
Total Del/Veh (s)	27.5

3: Maynard Drive/Site Access & 7th Street Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.1
Denied Del/Veh (s)	0.0	0.0	0.0	0.5	0.2	0.2	0.1	0.2	0.2	0.4	0.3	4.0
Total Delay (hr)	0.7	6.3	0.1	0.1	2.5	0.1	0.3	0.1	0.1	0.6	0.1	0.1
Total Del/Veh (s)	33.7	15.7	13.0	25.2	8.6	4.8	33.8	29.2	19.4	41.2	41.7	10.0

3: Maynard Drive/Site Access & 7th Street Performance by movement

Movement	All
Denied Delay (hr)	0.1
Denied Del/Veh (s)	0.2
Total Delay (hr)	11.1
Total Del/Veh (s)	14.1

Total Network Performance

Denied Delay (hr)	0.5
Denied Del/Veh (s)	0.5
Total Delay (hr)	42.0
Total Del/Veh (s)	40.7

Intersection: 1: Davern Street & Sheridan Avenue/Site Access

Movement	EB	WB	NB	SB
Directions Served	LTR	LTR	LTR	LTR
Maximum Queue (ft)	77	169	52	120
Average Queue (ft)	31	50	7	27
95th Queue (ft)	61	107	31	86
Link Distance (ft)	820	220	143	700
Upstream Blk Time (%)	0			
Queuing Penalty (veh)	0			
Storage Bay Dist (ft)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 2: Davern Street & 7th Street

Movement	EB	EB	EB	WB	WB	WB	NB	NB	SB	SB	
Directions Served	L	T	TR	L	T	TR	L	TR	L	TR	
Maximum Queue (ft)	159	454	454	200	354	356	104	171	115	161	
Average Queue (ft)	67	290	287	50	221	225	38	70	34	113	
95th Queue (ft)	130	434	433	166	342	343	89	140	100	185	
Link Distance (ft)		1313	1313		375	375		1044		143	
Upstream Blk Time (%)					0	0					11
Queuing Penalty (veh)					1	2					36
Storage Bay Dist (ft)	600			175			80			75	
Storage Blk Time (%)				0	15			2	7	1	30
Queuing Penalty (veh)				0	9			3	5	3	11

Intersection: 3: Maynard Drive/Site Access & 7th Street

Movement	EB	EB	EB	WB	WB	NB	SB	SB
Directions Served	L	T	TR	LT	TR	LTR	LT	R
Maximum Queue (ft)	199	405	413	220	204	90	134	73
Average Queue (ft)	69	220	233	127	101	33	51	32
95th Queue (ft)	175	408	418	204	190	71	108	71
Link Distance (ft)		375	375	1313	1313	727	319	
Upstream Blk Time (%)			1	1				
Queuing Penalty (veh)			8	9				
Storage Bay Dist (ft)	175							50
Storage Blk Time (%)	0	7					18	1
Queuing Penalty (veh)	0	5					8	1

Network Summary

Network wide Queuing Penalty: 100
