



TRAFFIC IMPACT ANALYSIS

325 BLAKE ROAD DEVELOPMENT

HOPKINS, MINNESOTA

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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.



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APPENDIX

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INTRODUCTION

Alatus, LLC is proposing a mixed-use development that includes townhomes and five multifamily housing buildings varying in height from 3 stories to 14 stories, with up to 875 dwelling units on site. There will also be a 9,000 square feet of standalone restaurant space and 8,000 square feet of retail on site. The development is located on the southeast corner of Blake Road (CSAH 20) and Lake Street in Hopkins, MN. The site was previously occupied by a cold storage facility. **Exhibit 1** shows the proposed project location. All exhibits referenced in this report are provided in **Appendix A**. The proposed site plan is included in **Appendix B**.

EXISTING ROADWAY CONDITIONS

The proposed development is in the southeast corner of Blake Road & Lake Street in Hopkins, MN. The following study intersections are included in the traffic analysis.

- Blake Road (CSAH 20) & Excelsior Boulevard (CSAH 3)
- Blake Road (CSAH 20) & 2nd Street
- Blake Road (CSAH 20) & Lake Street
- Blake Road (CSAH 20) & Cambridge Street
- Blake Road (CSAH 20) & Trunk Highway 7 (TH 7)

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

EXISTING ROADWAYS

The key surrounding roadway network consists of Blake Road, Lake Street, Excelsior Boulevard, and TH 7. The redevelopment will have site accesses on Blake Road and Lake Street. The following provides a detailed description of roads in the study network.

Blake Road (CSAH 20) is a four lane north-south roadway with left turn lanes at accesses. Blake Road was reconstructed in 2018 and 2019 and there is ongoing construction at the Cedar Lake Trail crossing, freight rail crossing, and future Southwest Light Rail (SWLRT) crossing. Blake Road is classified as a Major Collector according to the Hennepin County 2040 Comprehensive Plan. The MnDOT Traffic Mapping Application reports the 2016 Annual Average Daily Traffic (AADT) on Blake Road as 12,200 vehicles per day (vpd) north of Excelsior Boulevard. South of TH 7 the 2014 AADT is reported as 16,200 vpd. The current posted speed limit on Blake Road is 30 miles per hour (mph).

Lake Street is a two-lane east-west roadway with a westbound left turn lane at Blake Road. Lake Street is classified as a Local Road according to the City of Hopkins 2040 Comprehensive Plan. There is no reported AADT for Lake Street on the MnDOT Traffic Mapping Application. The current posted speed limit on Lake Street is 30 mph.

Excelsior Boulevard (CSAH 3) is a four-lane divided east-west roadway with left turn lanes at intersecting streets. Excelsior Boulevard is classified as an A-Minor Reliever according to the Hennepin County 2040 Comprehensive Plan. The MnDOT Traffic Mapping Application reports the 2016 AADT of Excelsior Boulevard as 19,100 vpd west of Blake Road and 20,300 vpd east of Blake

Road. The current posted speed limit on Excelsior Boulevard is 35 miles per hour west of Blake Road and 40 miles per hour east of Blake Road.

TH 7 is a four-lane divided east-west highway with turn lanes at roadway intersections. TH 7 is classified as an A-Principal Arterial according to the MnDOT functional classification map. The MnDOT Traffic Mapping Application reports the AADT Excelsior Boulevard as 37,500 vpd west of Blake Road and 36,000 vpd east of Blake Road. The current posted speed limit on Excelsior Boulevard is 50 mph in the study area.

Exhibit 2 provides the lane 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 compiled from various sources. The following list provides the date of data collection and agency that provided the data:

- Blake Road & TH 7 – Wednesday, March 7, 2018; MnDOT
- Blake Road & Cambridge Street – Wednesday, March 7, 2018; MnDOT
- Blake Road & 2nd Street – Wednesday, February 26, 2020; Blake & Excelsior Redevelopment, Traffic Impact Analysis
- Blake Road & Excelsior Boulevard – Tuesday, March 10, 2020; Blake & Excelsior Redevelopment, Traffic Impact Analysis

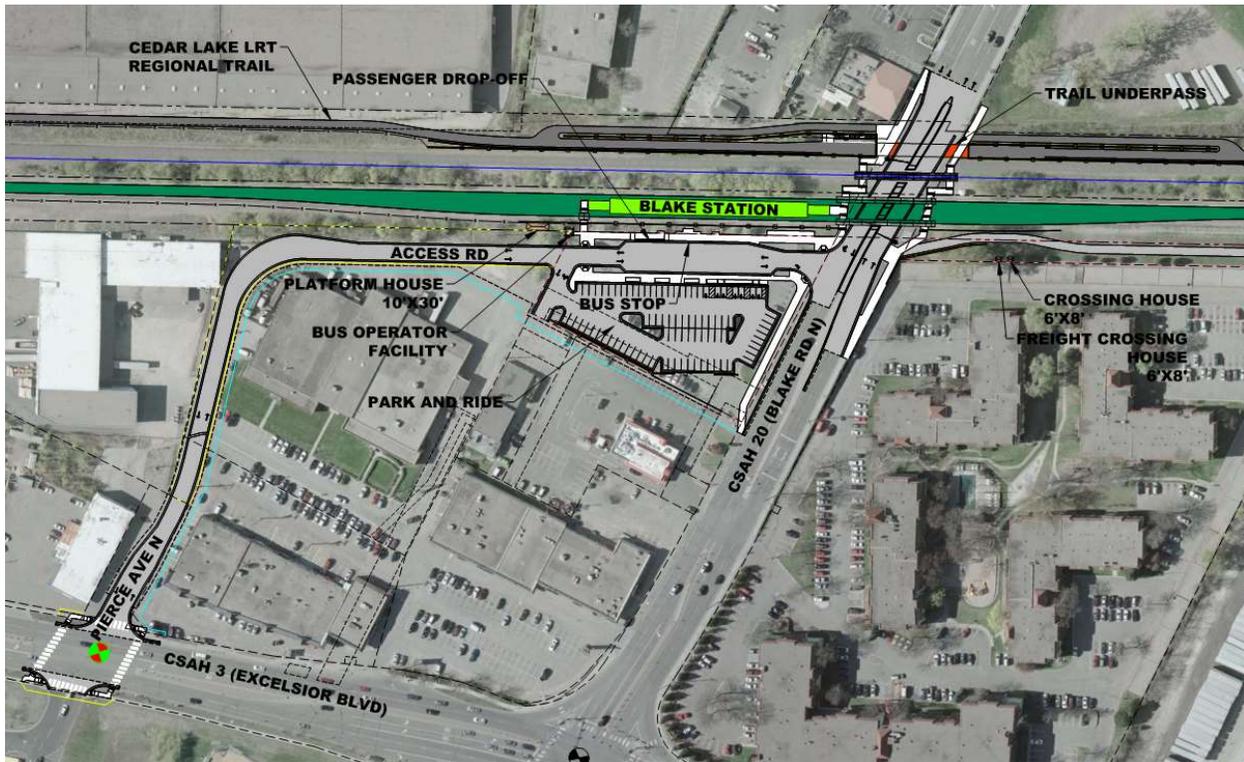
The final intersection, Blake Road & Lake Street, did not have any recent Turning Movement Counts (TMCs) so new count data was collected on Thursday, August 12, 2021. During the 2021 data collection, southbound Blake Road was closed at the Cedar Lake Regional Trail. Due to the road closure, volumes on Blake Road were balanced with the previous counts taken at Blake Road & 2nd Street to account for traffic that rerouted to avoid construction. All TMCs collected prior to 2021 were grown to Existing Year (2021) conditions using the same factors that were used to grow existing volumes to future volumes; these factors are outlined in the background growth section. The COVID-19 pandemic was not believed to have any effects on the traffic volumes based on the dates of the previous counts, so no adjustments were made.

Exhibit 3 provides a summary of the adjusted existing weekday AM and PM peak hour turning traffic volumes used in the analysis. The raw turning movement count data is provided in **Appendix C**. 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.

ROADWAY IMPROVEMENTS

The Cedar Lake Trail crossing at Blake Road is being reconstructed as an underpass with ramps from the trail providing access to Blake Road. Blake Station will be constructed as part of the Southwest LRT project, southwest of the proposed development site. Additionally, the Access Road will be reconstructed and connect to Blake road just south of Blake Station. The geometric changes to Pierce Avenue and the Access Road will not impact this study. **Figure 1** below shows the Metro Transit plan for the improvements to be completed in conjunction with the Southwest light rail project (SWLRT). These improvements were included in the opening year and horizon year analysis.

Figure 1 – Metro Transit Blake Station SWLRT Improvements



BACKGROUND GROWTH

The first phase of the proposed development is anticipated to be completed and open by 2025 with the complete buildout of the site completed by 2040. The City of Hopkins Comprehensive Plan was reviewed to identify a background growth rate for Blake Road and Excelsior Boulevard. The Blake Road Corridor Study was reviewed to determine a background growth rate for TH 7, the study projected AADTs for TH 7 to 2035. These rates were used to develop forecast peak hour volumes at the study intersections for Opening Year (2025) and Horizon Year (2040).

Table 1 provides a summary of the AADT and the proposed annual growth rates. These growth rates were applied to the adjusted Existing (2021) TMCs to develop the Opening Year No-Build (2025) and Horizon Year No-Build (2040) turning movement volumes.

Table 1 – Annual Growth Rate Calculation

Street Segment	Most Recent AADT		Projected AADT		Calculated Background Annual Growth Rate
	Year	Volume	Year	Volume	
Excelsior Boulevard	2018	19,100	2040	22,000	0.6%
Blake Road	2018	12,200	2040	13,400	0.4%
TH 7, West of Blake Road	2019	37,500	2035	39,000	0.2%
TH 7, East of Blake Road	2019	36,000	2035	38,900	0.5%

In addition to the background growth rate, the Blake & Excelsior Redevelopment phase 1 traffic was added to the 2025 background growth and the Full Buildout traffic was added to the 2040 background growth. The Blake & Excelsior Redevelopment is located in the northwest quadrant of the Blake Rd & Excelsior Blvd intersection. Additionally, the future LRT Park N Ride trips were added to the background growth, separate from the growth rates. The trip generation 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.

A 0.6% annual growth rate was applied to Blake Road and Excelsior Boulevard. The growth rate on Excelsior Boulevard and Blake Road was used to be consistent with previous studies and be conservative based on calculations in Table 1. A 0.4% annual growth rate was applied to TH 7. The growth rate along TH 7 was averaged based on the two calculated growth rates. Growth Rates used are consistent with previous the Blake Road Corridor Study and the Hennepin County Comprehensive Plan.

Exhibits 4 and 5 shows the Opening Year No-Build (2025) & Horizon Year No-Build (2040) turning movement volumes, respectively.

PROPOSED DEVELOPMENT

SITE TRIP GENERATION

The trip-generating potential of the proposed 325 Blake Road development was calculated using the Institute of Transportation Engineers (ITE) *Trip Generation Manual, Tenth Edition*. ITE average trip rates for each land use were used to develop the total trips generated by the site. **Table 2** provides the proposed new land uses for each building on the site. The site plan is currently fluctuating between 801 and 875 units; therefore 875 dwelling units were analyzed to account for the highest trip generation, the actual unit count in each building may vary as the site plan continues to evolve. The proposed retail in building III does not have a known tenant, so for the purposes of the analysis it was assumed that the space would be a restaurant because that is a more conservative trip generator.

Table 2 – Proposed Site Development

Building	Height	Intensity/Units	Parking (Stalls)
Building I	3 Story	126 Dwelling Units	114
Building II (Senior Living)	5 Story	115 Dwelling Units	183
Building III	14 Story	173 Dwelling Units/ 8,000 SF Retail	482
Building IV	5 Story	191 Dwelling Units	
Building V	5 Story	163 Dwelling Units	276
Townhomes	-	33 Dwelling Units	66
Standalone Restaurant	-	9,000 SF	48
Surface Parking	-	-	22

The studies completed by the Metropolitan Council for the SWLRT project forecasts that Blake Station, adjacent to the proposed site, will serve 1,300 riders per day in 2040 and that most riders are expected to walk to the station. Based on its proximity and density, this development will likely have a significant portion of trips via transit. This analysis assumed a transit mode share of 10% due to the proximity of Blake Station to the proposed site.

Construction is expected to happen in two phases. For the purposes of this traffic study, Phase 1 will include Building II, Building III, Building IV, the townhomes, and restaurant and is expected to be completed prior to 2025. Phase 2 will include the entire buildout of the site (adding Building I and Building V) and is expected to be complete prior to 2040. All on-site infrastructure will be built as part of Phase 1.

From the data in **Table 3**, the Opening Year (2025) site is anticipated to generate 3,505 daily vehicle trips, 225 vehicle trips in the AM Peak Hour (85 entering and 140 exiting), and 285 vehicle trips in the PM Peak Hour (180 entering and 105 exiting). The additional units not shown on the site plan were assumed to be constructed in Phase 2. The Horizon Year (2040) site is anticipated to generate 4,870 daily vehicle trips, 320 vehicle trips in the AM Peak Hour (110 entering and 210 exiting), and 385 vehicle trips in PM Peak Hour (245 entering and 140 exiting).

Table 3 – Proposed Site Trip Generation

Land Use Description	ITE Land Use Code (LUC)	Intensity/ Units	Daily Trips	AM Peak Hour			PM Peak Hour		
				In	Out	Total	In	Out	Total
Opening Year (2025) Development (Partial Build Out)									
Multifamily Housing (Low-Rise) (Townhomes)	220	33 Dwelling Units	220	5	10	15	10	5	15
Multifamily Housing (Mid-Rise) (Building IV)	221	191 Dwelling Units	1,370	25	65	90	70	45	115
Multifamily Housing (High-Rise) (Building III)	222	173 Dwelling Units	700	15	35	50	35	20	55
Senior Adult Housing-Attached (Building II)	252	115 Dwelling Units	390	10	15	25	15	10	25
Quality Restaurant	931	8 KSF	575	5	0	5	35	15	50
High-Turnover (Sit-Down) Restaurant	932	9 KSF	860	40	40	80	45	25	70
Total Trips After Internal Capture			3,895	95	155	250	200	115	315
Total Trips with Internal Capture and 10% Transit Mode Share			3,505	85	140	225	180	105	285
Horizon Year (2040) Development (Full Build Out)									
Multifamily Housing (Low-Rise) (Townhomes)	220	33 Dwelling Units	230	5	10	15	10	5	15
Multifamily Housing (Mid-Rise) (Building I, IV, V, & 74 additional units)	221	554 Dwelling Units	2,845	50	140	190	140	85	225
Multifamily Housing (High-Rise) (Building III)	222	173 Dwelling Units	725	15	40	55	35	20	55
Senior Adult Housing-Attached (Building II)	252	115 Dwelling Units	405	10	15	25	15	10	25
Quality Restaurant	931	8 KSF	575	5	0	5	35	15	50
High-Turnover (Sit-Down) Restaurant	932	9 KSF	860	40	40	80	45	25	70
Total Trips After Internal Capture			5,410	120	235	355	270	155	425
Total Trips with Internal Capture and 10% Transit Mode Share			4,870	110	210	320	245	140	385

SITE TRIP DISTRIBUTION AND ACCESS

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:

- 20% west on TH 7
- 35% east on TH 7 (20% utilize Texas Avenue/Lake Street to access the site)
- 20% east on Excelsior Boulevard
- 5% south on Blake Road
- 15% west on Excelsior Boulevard

- 5% west on 2nd Street

Based on discussions with the City of Hopkins and Hennepin County, it was determined that while some traffic would likely use the Texas Avenue & TH 7 to get to the site, the intersection does not require analysis due to the amount of trips anticipated to use the intersection.

The trip distribution for the site-generated traffic used the same overall distribution pattern for the Opening Year (2025) and the Horizon Year (2040) conditions. **Exhibit 6** shows the distributions for both Build conditions and **Exhibits 7 & 8** show the Opening Year (2025) trip assignment and Horizon Year (2040) trip assignment, respectively.

The site will have two site accesses, which are listed below:

- Blake Road & 2nd Street/Site Access 1
- Lake Street & Site Access 2

Site Access 1 will be at Blake Road at 2nd Street, this access is signalized. Site Access 2 is proposed to be on Lake Street, approximately 90 feet east of Blake Road, this site access cannot be moved further to the east due to the Minnehaha Creek. The proposed site plan is included in **Appendix B**.

PARKING

Per the City of Hopkins code of Ordinances sec. 102-365 on mixed-use development parking, “A minimum of one and maximum of 1.5 parking spaces per multifamily unit is permitted; one guest space per 15 units is permitted. All uses other than residential shall require a parking study to determine the necessary parking required.” The parking needs for the restaurant space could vary greatly based on the tenant. Because the site is a mixed-use development, a parking study should be completed to determine if the 48 provided stalls will be adequate for the stand-alone restaurant space. It is assumed that adequate parking will be provided for the retail space located in Building III.

The proposed parking ratios for the five multifamily buildings are shown in **Table 4**. Overall, the entire development has a ratio of 1.40 parking spaces per multifamily unit and meets City of Hopkins requirements. The townhomes are proposed to have a higher parking ratio because they are considered to be more similar with parking needs for one and two family homes. It was also noted that Buildings III & IV will use the same parking structure, so the two buildings have a combined parking ratio.

Table 4 – Residential Parking Ratios

Building	Dwelling Units	Parking Stalls	Parking Ratio
Building I	126	114	0.90
Building II	115	183	1.59
Building III	173	482	1.32
Building IV	191		
Building V	163	276	1.69
Townhomes	33	66	2.00
Total	801	1,121	1.40

PEDESTRIAN, BICYCLE, AND TRANSIT INFRASTRUCTURE

The site is in a predominately industrial and residential area in the east part of Hopkins. The site is surrounded by mainly residential with some industrial developments southeast of the site. The site is bordered by the Cedar Lake Trail and Canadian Pacific (CP) Railroad on the south side of the site. Blake Road provides trails on both sides of the roadway and provides access to the Cedar Lake Trail which will have a grade separated crossing under Blake Road. Blake Road & 2nd Street NE also has a pedestrian crossing at the signal. Excelsior Boulevard provides sidewalks on both sides of the roadway west of Blake Road and has pedestrian crossings at the signals. The proposed development site will have sidewalks along interior roadways, which connect to Blake Road and the Cedar Lake Regional Trail.

The site is well connected to promote bicycling as a viable mode of transportation as there is access to the regional trail system along the south side of the site, there are on-street bike lanes on Blake Road south of Excelsior Boulevard, and there are existing trails on Blake Road north of Excelsior Boulevard.

This is a transit-oriented development as it will be located adjacent to a SWLRT station. As previously stated, the adjacent Blake Station is projected to serve 1,300 riders per day in 2040 and a significant portion of development trips are expected to use transit. The addition of a bus stop near the SWLRT station will provide more options to utilize transit.

CAPACITY ANALYSIS

A capacity analysis was performed to quantify the vehicle 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.

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 and the range of control delays for each rating can be found in **Table 5**. 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. For side street stop intersections, the intersection LOS is reported as the worst individual movement.

Table 5 – 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/SimTraffic, and the delay and queuing were evaluated for each scenario. The scenarios that were analyzed are as follows:

- Existing Year (2021)
- Opening Year (2025) No-Build
- Horizon Year (2040) No-Build
- Opening Year (2025) Build
- Horizon Year (2040) Build

EXISTING YEAR (2021) CONDITIONS

The Existing Year (2021) Condition analysis was completed to develop an understanding of the baseline operating conditions for the study area and calibrate the model compared to observed conditions. The traffic volumes shown in **Exhibit 3** were used in the Existing Year (2021) analysis. As previously discussed, the raw traffic counts were adjusted to all be based on year 2021. The existing signal timings supplied by MnDOT and Hennepin County were used for analysis.

Tables 6 and **7** provide a summary of the average delay (seconds per vehicle) and LOS under Existing Year (2021) Conditions for each movement at the study intersections during the AM peak hour and PM peak hour, respectively. The movements that are anticipated to operate at LOS E are shown in yellow and the movements that are anticipated to operate at LOS F are shown in red. The full SimTraffic reports are included in **Appendix D**.

Table 6 – Existing Year (2021) AM Peak Hour Intersection Analysis

Intersection	Control	Approach	Operations by Movement						Overall Intersection	
			Left		Through		Right		Delay (sec/veh)	LOS
			Delay (sec/veh)	LOS	Delay (sec/veh)	LOS	Delay (sec/veh)	LOS		
Blake Road & TH 7	Signal	EB	83.5	F	48.2	D	16.1	B	44.8	D
		WB	74.0	E	28.7	C	6.7	A		
		NB	71.4	E	68.7	E	40.2	D		
		SB	97.4	F	91.2	F	2.9	A		
Blake Road & Cambridge Street	Signal	EB	36.2	D	38.4	D	6.7	A	13.7	B
		WB	36.1	D	27.8	C	5.0	A		
		NB	42.5	D	6.0	A	4.1	A		
		SB	63.8	E	6.0	A	4.2	A		
Blake Road & Lake Street	Side Street Stop	EB	11.8	B	11.7	B	5.3	A	12.0	B
		WB	12.0	B	11.5	B	4.4	A		
		NB	6.5	A	1.1	A	0.8	A		
		SB	4.1	A	0.4	A	0.2	A		
Blake Road & 2nd Street	Signal	EB	18.5	B	-	-	10.2	B	12.2	B
		WB	-	-	-	-	-	-		
		NB	25.1	C	7.9	A	-	-		
		SB	-	-	11.0	B	8.2	A		
Blake Road & Excelsior Boulevard	Signal	EB	44.3	D	18.9	B	4.0	A	26.1	C
		WB	47.3	D	22.0	C	4.1	A		
		NB	40.8	D	35.1	D	12.0	B		
		SB	40.6	D	38.0	D	28.8	C		

Table 7 – Existing Year (2021) PM Peak Hour Intersection Analysis

Intersection	Control	Approach	Operations by Movement						Overall Intersection	
			Left		Through		Right		Delay (sec/veh)	LOS
			Delay (sec/veh)	LOS	Delay (sec/veh)	LOS	Delay (sec/veh)	LOS		
Blake Road & TH 7	Signal	EB	82.0	F	51.4	D	17.4	B	62.1	E
		WB	95.5	F	43.8	D	11.9	B		
		NB	68.9	E	83.7	F	65.3	E		
		SB	100+	F	100+	F	14.3	B		
Blake Road & Cambridge Street	Signal	EB	36.8	D	38.8	D	6.9	A	16.8	B
		WB	29.9	C	29.3	C	6.2	A		
		NB	47.7	D	11.1	B	11.3	B		
		SB	54.4	D	11.3	B	8.8	A		
Blake Road & Lake Street	Side Street Stop	EB	19.4	C	19.1	C	8.8	A	20.1	C
		WB	20.1	C	26.3	D	7.7	A		
		NB	5.9	A	2.1	A	2.1	A		
		SB	8.5	A	0.7	A	0.6	A		
Blake Road & 2nd Street	Signal	EB	20.6	C	-	-	12.9	B	14.1	B
		WB	-	-	-	-	-	-		
		NB	29.3	C	10.5	B	-	-		
		SB	-	-	14.8	B	9.8	A		
Blake Road & Excelsior Boulevard	Signal	EB	49.2	D	19.3	B	5.8	A	26.8	C
		WB	57.7	E	20.4	C	7.1	A		
		NB	53.6	D	44.5	D	25.9	C		
		SB	56.9	E	45.0	D	35.2	D		

Note: delays in excess of 100 seconds per vehicle are reported as "100+"

Based on the analysis, the study intersections are currently operating at LOS D or better during the AM peak hour. In the PM peak hour, Blake Road & TH 7 operates at LOS E. Under Existing Year (2021) Conditions, all intersection movements are anticipated to operate at LOS D or better except for the following:

- AM Peak Hour
 - **Blake Road & TH 7** – the eastbound left, southbound left, and southbound through movements are expected to operate at LOS F. Additionally, the westbound left, northbound left, and northbound through are expected to operate at LOS E. The projected delays are not unexpected, considering the high volumes and long cycle length (190 s).
 - **Blake Road & Cambridge Street** – the southbound left movement operates at LOS E; this is due to the movement being low volume and the coordination of the signals.
- PM Peak Hour
 - **Blake Road & TH 7** – the eastbound left, westbound left, southbound left, northbound through, and southbound through movements are expected to operate at LOS F. Additionally, the northbound left and northbound right are expected to operate at LOS E. The projected delays are not unexpected, considering the high volumes and long cycle length (200 s).
 - **Blake Road & Excelsior Boulevard** – the westbound left and southbound left movements are expected to operate at LOS E, this is due to priority being given to the high east-west volumes on Excelsior Boulevard.

The 95th percentile queues were reviewed at the study intersections. The 95th percentile queues for the movements that have extended queues or have high levels of delay are listed below.

- PM Peak Hour
 - **Blake Road & TH 7** – The southbound left 95th percentile queue is expected to extend approximately 130 feet outside the storage bay. The southbound through queues may impact the upstream intersection of Aquilas Avenue & West 37th Street, these queues are the result of heavy traffic volumes through the intersection and are a known issue.

It should be noted that SimTraffic reports longer queues than the actual 95th percentile queues for turn lanes if the through lane queues on that approach extend beyond the provided turn lane storage bay. The traffic models were observed to determine which queues were actually extending out of storage bays. Only the actual queuing issues are documented above.

The capacity analysis results for Existing Year (2021) Conditions are consistent with the findings in the Blake Road Corridor Study conducted in 2015, with undesirable delays at the intersection of Blake Road & TH 7.

OPENING YEAR (2025) NO-BUILD CONDITIONS

The Opening Year (2025) No-Build Condition analysis was completed to develop an understanding of the baseline operating conditions for the study area without the addition of the development traffic. The traffic volumes shown in **Exhibit 4** were used in the Opening Year (2025) No-Build analysis. As previously discussed, these volumes were developed based on traffic projections from the City of Hopkins Comprehensive Plan and the Blake Road Corridor Study, which are consistent with Hennepin County growth rates.

The signal timings used in Existing (2021) were used for Opening Year (2025) No-Build conditions. Signal timings were not adjusted for background growth.

Tables 8 and 9 provide a summary of the average delay (seconds per vehicle) and LOS under Opening Year (2025) No-Build Conditions for each movement at the study intersections during the AM peak hour and PM peak hour, respectively. The movements that are anticipated to operate at LOS E are shown in yellow and the movements that are anticipated to operate at LOS F are shown in red. The full SimTraffic reports are included in **Appendix D**.

Table 8 – Opening Year (2025) No-Build AM Peak Hour Intersection Analysis

Intersection	Control	Approach	Operations by Movement						Overall Intersection	
			Left		Through		Right		Delay (sec/veh)	LOS
			Delay (sec/veh)	LOS	Delay (sec/veh)	LOS	Delay (sec/veh)	LOS		
Blake Road & TH 7	Signal	EB	83.0	F	53.0	D	19.1	B	46.5	D
		WB	71.3	E	27.9	C	7.6	A		
		NB	72.7	E	70.6	E	39.7	D		
		SB	100+	F	88.6	F	3.2	A		
Blake Road & Cambridge Street	Signal	EB	37.3	D	37.8	D	6.6	A	14.2	B
		WB	30.2	C	30.7	C	5.3	A		
		NB	44.4	D	6.9	A	4.2	A		
		SB	64.4	E	6.3	A	4.8	A		
Blake Road & Lake Street	Side Street Stop	EB	14.6	B	16.1	C	6.7	A	16.1	C
		WB	11.2	B	11.7	B	4.6	A		
		NB	5.1	A	1.2	A	1.1	A		
		SB	4.4	A	0.5	A	0.4	A		
Blake Road & 2nd Street	Signal	EB	18.5	B	-	-	10.9	B	13.1	B
		WB	-	-	-	-	-	-		
		NB	27.9	C	8.3	A	-	-		
		SB	-	-	12.5	B	8.7	A		
Blake Road & Excelsior Boulevard	Signal	EB	42.7	D	20.2	C	4.0	A	26.5	C
		WB	47.3	D	22.3	C	4.3	A		
		NB	39.0	D	33.4	C	12.3	B		
		SB	45.1	D	37.0	D	30.2	C		

Note: delays in excess of 100 seconds per vehicle are reported as "100+"

Table 9 – Opening Year (2025) No-Build PM Peak Hour Intersection Analysis

Intersection	Control	Approach	Operations by Movement						Overall Intersection	
			Left		Through		Right		Delay (sec/veh)	LOS
			Delay (sec/veh)	LOS	Delay (sec/veh)	LOS	Delay (sec/veh)	LOS		
Blake Road & TH 7	Signal	EB	88.9	F	65.4	E	25.8	C	67.5	E
		WB	97.0	F	45.2	D	12.7	B		
		NB	74.3	E	87.4	F	70.5	E		
		SB	100+	F	100+	F	10.4	B		
Blake Road & Cambridge Street	Signal	EB	37.0	D	39.2	D	6.9	A	18.1	B
		WB	30.6	C	33.6	C	7.7	A		
		NB	46.0	D	12.7	B	14.2	B		
		SB	58.2	E	12.5	B	10.5	B		
Blake Road & Lake Street	Side Street Stop	EB	22.2	C	25.4	D	10.8	B	25.4	D
		WB	21.4	C	24.3	C	8.9	A		
		NB	6.7	A	2.1	A	2.0	A		
		SB	5.9	A	0.8	A	0.6	A		
Blake Road & 2nd Street	Signal	EB	21.9	C	-	-	14.4	B	14.2	B
		WB	-	-	-	-	-	-		
		NB	29.9	C	10.4	B	-	-		
		SB	-	-	13.8	B	9.6	A		
Blake Road & Excelsior Boulevard	Signal	EB	52.4	D	20.1	C	6.5	A	27.7	C
		WB	57.4	E	20.3	C	7.7	A		
		NB	56.6	E	43.8	D	29.0	C		
		SB	56.1	E	45.9	D	40.6	D		

Note: delays in excess of 100 seconds per vehicle are reported as "100+"

Based on the analysis, the study intersections are expected to operate at LOS D or better during the AM peak hour. In the PM peak hour, Blake Road & TH 7 operates at LOS E. Under Opening Year (2025) No-Build Conditions, all intersection movements are anticipated to operate at LOS D or better except for the following:

- AM Peak Hour
 - **Blake Road & TH 7** – the eastbound left, southbound left, and southbound through movements are expected to operate at LOS F. Additionally, the westbound left, northbound left, and northbound through are expected to operate at LOS E. The projected delays are not unexpected, considering the high volumes and long cycle length (190 seconds).
 - **Blake Road & Cambridge Street** – the southbound left movement is expected to operate at LOS E; this is due to the movement being low volume and the coordination of the signals.
- PM Peak Hour
 - **Blake Road & TH 7** – the eastbound left, westbound left, southbound left, northbound through, and southbound through movements are expected to operate at LOS F. Additionally, the northbound left, eastbound through, and northbound right are expected to operate at LOS E. The projected delays are not unexpected, considering the high volumes and long cycle length (200 seconds).
 - **Blake Road & Cambridge Street** – the southbound left movement is expected to operate at LOS E; this is due to the movement being low volume and the coordination of the signals.
 - **Blake Road & Excelsior Boulevard** – the westbound left, northbound left, and southbound left movements are expected to operate at LOS E, this is due to priority being given to the high east-west volumes on Excelsior Boulevard.

The 95th percentile queues were reviewed at the study intersections. The 95th percentile queues for the movements that have extended queues or have high levels of delay are listed below.

- AM Peak Hour
 - **Blake Road & TH 7** – the southbound left 95th percentile queue is expected to fill the storage bay, but queues will be accommodated in the taper of the turn lane.
 - **Blake Road & Excelsior Boulevard** – the northbound left 95th percentile queue is anticipated to extend past the storage bay by 17 feet, this will be accommodated within the taper of the turn lane.
- PM Peak Hour
 - **Blake Road & TH 7** – the westbound left and northbound left 95th percentile queues are expected to fill their respective storage bays, but queues will be accommodated in the taper of the turn lanes. The southbound left 95th percentile queue is expected to extend approximately 130 feet outside the storage bay. The southbound through queues may impact the upstream intersection of Aquilas Avenue & West 37th Street, these queues are the result of heavy traffic volumes through the intersection and are a known issue.

It should be noted that SimTraffic reports longer queues than the actual 95th percentile queues for turn lanes if the through lane queues on that approach extend beyond the provided turn lane storage bay. The traffic models were observed to determine which queues were actually extending out of storage bays. Only the actual queuing issues are documented above.

The capacity analysis results for Opening Year (2025) No-Build Conditions are consistent with the findings in the Blake Road Corridor Study conducted in 2015 and the Existing Year (2021) analysis.

HORIZON YEAR (2040) NO-BUILD CONDITIONS

The Horizon Year (2040) No-Build Condition analysis was completed to develop an understanding of the baseline horizon year operating conditions for the study area without the addition of the development traffic. The traffic volumes shown in **Exhibit 5** were used in the Horizon Year (2040) No-Build analysis. As previously discussed, these volumes were developed based on traffic projections from the City of Hopkins Comprehensive Plan and the Blake Road Corridor Study.

The signal timings used in Existing (2021) and Opening Year (2025) No-Build conditions were optimized for Horizon Year analysis because it is anticipated signal timings at all intersections will be modified prior to 2040.

Tables 10 and 11 provide a summary of the average delay (seconds per vehicle) and LOS under Horizon Year (2040) Conditions for each movement at the study intersections during the AM peak hour and PM peak hour, respectively. The movements that are anticipated to operate at LOS E are shown in yellow and the movements that are anticipated to operate at LOS F are shown in red. The full SimTraffic reports are included in **Appendix D**.

Table 10 – Horizon Year (2040) No Build AM Peak Hour Intersection Analysis

Intersection	Control	Approach	Operations by Movement						Overall Intersection	
			Left		Through		Right		Delay (sec/veh)	LOS
			Delay (sec/veh)	LOS	Delay (sec/veh)	LOS	Delay (sec/veh)	LOS		
Blake Road & TH 7	Signal	EB	87.9	F	49.9	D	19.3	B	47.7	D
		WB	97.2	F	30.1	C	8.1	A		
		NB	71.0	E	65.2	E	45.7	D		
		SB	96.1	F	85.9	F	2.6	A		
Blake Road & Cambridge Street	Signal	EB	35.7	D	34.3	C	7.5	A	14.7	B
		WB	28.0	C	30.3	C	5.0	A		
		NB	40.8	D	7.6	A	6.3	A		
		SB	66.3	E	8.0	A	6.4	A		
Blake Road & Lake Street	Side Street Stop	EB	16.9	C	17.6	C	6.5	A	18.6	C
		WB	13.1	B	18.6	C	6.1	A		
		NB	3.9	A	1.2	A	0.7	A		
		SB	4.8	A	0.6	A	0.4	A		
Blake Road & 2nd Street	Signal	EB	20.1	C	-	-	12.7	B	14.8	B
		WB	-	-	-	-	-	-		
		NB	30.7	C	8.9	A	-	-		
		SB	-	-	15.0	B	11.2	B		
Blake Road & Excelsior Boulevard	Signal	EB	41.4	D	21.5	C	4.3	A	28.2	C
		WB	45.5	D	23.0	C	4.5	A		
		NB	40.1	D	34.7	C	14.7	B		
		SB	47.8	D	43.4	D	37.3	D		

Table 11 – Horizon Year (2040) No Build PM Peak Hour Intersection Analysis

Intersection	Control	Approach	Operations by Movement						Overall Intersection	
			Left		Through		Right		Delay (sec/veh)	LOS
			Delay (sec/veh)	LOS	Delay (sec/veh)	LOS	Delay (sec/veh)	LOS		
Blake Road & TH 7	Signal	EB	100+	F	99.6	F	57.1	E	84.6	F
		WB	100+	F	53.7	D	16.9	B		
		NB	76.2	E	86.1	F	82.6	F		
		SB	100+	F	85.3	F	3.4	A		
Blake Road & Cambridge Street	Signal	EB	61.5	E	56.3	E	10.2	B	28.6	C
		WB	27.3	C	32.1	C	15.7	B		
		NB	45.8	D	30.5	C	45.0	D		
		SB	58.9	E	14.2	B	12.3	B		
Blake Road & Lake Street	Side Street Stop	EB	28.1	D	34.2	D	17.5	C	41.7	E
		WB	23.0	C	41.7	E	9.9	A		
		NB	8.6	A	2.2	A	2.2	A		
		SB	11.2	B	0.9	A	0.7	A		
Blake Road & 2nd Street	Signal	EB	24.1	C	-	-	16.5	B	16.2	B
		WB	-	-	-	-	-	-		
		NB	34.5	C	12.0	B	-	-		
		SB	-	-	15.6	B	11.8	B		
Blake Road & Excelsior Boulevard	Signal	EB	48.2	D	21.7	C	7.7	A	29.8	C
		WB	62.2	E	23.3	C	8.6	A		
		NB	63.6	E	45.4	D	30.0	C		
		SB	55.2	E	48.3	D	47.2	D		

Note: delays in excess of 100 seconds per vehicle are reported as "100+"

Based on the analysis, all study intersections are anticipated to operate at LOS C or better except for the intersection of Blake Road & TH 7, which operates at LOS F in the PM Peak Hour and the intersection of Blake Road & Lake Street, which operates at LOS E in the PM Peak. Under Horizon Year (2040) No-Build Conditions, all intersection movements are anticipated to operate at LOS D or better except for the following:

- AM Peak Hour
 - **Blake Road & TH 7** – the eastbound left, westbound left, southbound left, and southbound through movements are expected to operate at LOS F. Additionally, northbound left, and northbound through are expected to operate at LOS E. The projected delays are not unexpected, considering the high volumes and long cycle length (190 seconds).
 - **Blake Road & Cambridge Street** – the southbound left movement is expected to operate at LOS E; this is due to the movement being low volume and the coordination of the signals.
- PM Peak Hour
 - **Blake Road & TH 7** – the eastbound left, westbound left, southbound left, eastbound through, northbound through, southbound through, and northbound right movements are all expected to operate at LOS F. Additionally, the northbound left and eastbound right are expected to operate at LOS E. The projected delays are not unexpected, considering the high volumes and long cycle length (200 seconds). Delays should be monitored in the future to determine the feasibility of mitigation options.
 - **Blake Road & Cambridge Street** – the eastbound left, southbound left, and eastbound through movements are expected to operate at LOS E; this is due to the signal prioritizing the higher volume Blake Road movements. The northbound right, eastbound left, and eastbound through turn

movements operates at LOS E due to northbound right movement from Blake Road & TH 7 queuing into the intersection and blocking the right turn movement at Blake Road & Cambridge Street.

- **Blake Road & Lake Street** – the westbound left movement is anticipated to operate at LOS E; this is not uncommon for a side street stop-controlled intersection with a high-volume main street such as Blake Road.
- **Blake Road & Excelsior Boulevard** – the westbound left, northbound left, and southbound left movements are expected to operate at LOS E, this is due to priority being given to the high east-west volumes on Excelsior Boulevard.

The 95th percentile queues were reviewed at the study intersections. The 95th percentile queues for the movements that have extended queues or have high levels of delay are listed below.

- AM Peak Hour
 - **Blake Road & TH 7** – The westbound left 95th percentile queue is anticipated to fill the provided storage bays, again this can be accommodated within the taper of the dual left turn lanes.
 - **Blake Road & Excelsior Boulevard** – The northbound left 95th percentile queue is anticipated to extend past the storage bay by approximately 20 feet, this queue is not expected to affect the upstream intersection.
- PM Peak Hour
 - **Blake Road & TH 7** – The northbound left 95th percentile queue is expected to extend approximately 40 feet past the provided storage bay, this queue will be accommodated in the taper of the dual left-turn lanes. The southbound left 95th percentile queue is expected to extend approximately 125 feet outside the storage bay. The southbound queues are expected to impact the upstream intersection of Aquilas Avenue & West 37th Street. Queues should be monitored in the future to determine the feasibility of mitigation options.

It should be noted that SimTraffic reports longer queues than the actual 95th percentile queues for turn lanes if the through lane queues on that approach extend beyond the provided turn lane storage bay. The traffic models were observed to determine which queues were actually extending out of storage bays. Only the actual queuing issues are documented above.

The capacity analysis results for Horizon Year (2040) No-Build Conditions are consistent with the findings in the Blake Road Corridor Study future year (2035) analysis.

OPENING YEAR (2025) BUILD CONDITIONS

The Opening Year (2025) Build Condition analysis was completed to develop an understanding of the impact of site traffic to operating conditions for the study area. The traffic volumes shown in **Exhibit 9** were used in the Opening Year (2025) Build analysis. As previously discussed, these volumes were calculated by adding the Opening Year (2025) trips generated by the site to the Opening Year (2025) No-Build volumes.

Site access 1 ties into the signalized intersection of Blake Road & 2nd Street and was assumed to have a dedicated left-turn lane and a shared through/right lane on the site. Site Access 2, on Lake Street, was assumed to be side street stop controlled and have a single shared left/right lane on the site. Both accesses were assumed to have a single inbound lane.

The signal timings used in Existing (2021) and Opening Year (2025) No-Build conditions were used for Opening Year (2025) Build conditions. Signal timings were not adjusted for the Opening Year (2025) Build condition except the addition of a couple of seconds of green time to the westbound approach at Blake Road & 2nd Street/Site Access 1.

Tables 12 and 13 provide a summary of the average delay (seconds per vehicle) and LOS under Opening Year (2025) Build Conditions for each movement at the study intersections during the AM peak hour and PM peak hour, respectively. The movements that are anticipated to operate at LOS E are shown in yellow and the movements that are anticipated to operate at LOS F are shown in red. The full SimTraffic reports are included in **Appendix D**.

Table 12 – Opening Year (2025) Build AM Peak Hour Intersection Analysis

Intersection	Control	Approach	Operations by Movement						Overall Intersection	
			Left		Through		Right		Delay (sec/veh)	LOS
			Delay (sec/veh)	LOS	Delay (sec/veh)	LOS	Delay (sec/veh)	LOS		
Blake Road & TH 7	Signal	EB	87.0	F	57.6	E	21.5	C	48.4	D
		WB	73.8	E	29.1	C	7.1	A		
		NB	71.8	E	67.3	E	39.2	D		
		SB	89.6	F	88.1	F	2.5	A		
Blake Road & Cambridge Street	Signal	EB	37.8	D	34.2	C	7.0	A	14.0	B
		WB	33.1	C	29.3	C	5.9	A		
		NB	41.7	D	6.7	A	4.6	A		
		SB	68.1	E	6.9	A	5.2	A		
Blake Road & Lake Street	Side Street Stop	EB	14.0	B	16.8	C	5.9	A	16.8	C
		WB	11.5	B	10.3	B	5.5	A		
		NB	6.3	A	1.3	A	0.9	A		
		SB	3.3	A	0.5	A	0.3	A		
Blake Road & 2nd Street/Site Access 1	Signal	EB	19.2	B	22.5	C	12.5	B	14.5	B
		WB	26.0	C	25.5	C	5.3	A		
		NB	30.1	C	10.7	B	7.6	A		
		SB	35.7	D	12.8	B	8.9	A		
Blake Road & Excelsior Boulevard	Signal	EB	41.0	D	22.6	C	4.6	A	27.1	C
		WB	48.5	D	23.5	C	4.5	A		
		NB	41.4	D	32.8	C	14.0	B		
		SB	41.4	D	35.9	D	27.9	C		
Lake Street & Site Access 2	Side Street Stop	EB	-	-	0.6	A	0.7	A	4.5	A
		WB	2.1	A	0.3	A	-	-		
		NB	4.5	A	-	-	2.9	A		
		SB	-	-	-	-	-	-		

Table 13 – Opening Year (2025) Build PM Peak Hour Intersection Analysis

Intersection	Control	Approach	Operations by Movement						Overall Intersection	
			Left		Through		Right		Delay (sec/veh)	LOS
			Delay (sec/veh)	LOS	Delay (sec/veh)	LOS	Delay (sec/veh)	LOS		
Blake Road & TH 7	Signal	EB	88.7	F	62.1	E	23.9	C	66.8	E
		WB	100+	F	46.0	D	13.2	B		
		NB	73.8	E	87.1	F	76.8	E		
		SB	99.2	F	100+	F	4.2	A		
Blake Road & Cambridge Street	Signal	EB	42.6	D	44.0	D	8.0	A	20.4	C
		WB	33.5	C	28.3	C	9.9	A		
		NB	45.7	D	16.4	B	20.1	C		
		SB	57.4	E	13.2	B	10.0	A		
Blake Road & Lake Street	Side Street Stop	EB	26.5	D	27.7	D	12.9	B	27.7	D
		WB	26.7	D	22.7	C	10.1	B		
		NB	7.5	A	2.3	A	2.3	A		
		SB	7.6	A	0.8	A	0.7	A		
Blake Road & 2nd Street/Site Access 1	Signal	EB	23.8	C	24.8	C	16.5	B	18.3	B
		WB	30.5	C	27.8	C	6.5	A		
		NB	37.8	D	16.1	B	13.6	B		
		SB	45.1	D	15.5	B	11.2	B		
Blake Road & Excelsior Boulevard	Signal	EB	52.4	D	20.3	C	6.7	A	28.2	C
		WB	54.0	D	21.2	C	8.0	A		
		NB	53.8	D	45.2	D	29.7	C		
		SB	56.3	E	44.9	D	43.6	D		
Lake Street & Site Access 2	Side Street Stop	EB	-	-	0.6	A	0.5	A	6.5	A
		WB	3.5	A	0.4	A	-	-		
		NB	6.5	A	-	-	5.9	A		
		SB	-	-	-	-	-	-		

Note: delays in excess of 100 seconds per vehicle are reported as "100+"

Based on the analysis, the study intersections are expected to operate at LOS D or better during the AM peak hour. In the PM peak hour, Blake Road & TH 7 is expected to operate at LOS E under Opening Year (2025) Build Conditions. Additionally, both site accesses are anticipated to operate at LOS B or better in the AM & PM Peak Hours. All intersection movements are anticipated to operate at LOS D or better except for the following:

- AM Peak Hour
 - **Blake Road & TH 7** – the eastbound left, southbound left, and southbound through movements are expected to operate at LOS F. Additionally, the westbound left, northbound left, eastbound through, and northbound through are expected to operate at LOS E. The projected delays are not unexpected, considering the high volumes and long cycle length (190 s). These are the same movements that were shown to operate at LOS E or F in the Opening Year (2025) No-Build analysis, with the exception of the eastbound through which operated at LOS D in the Opening Year (2025) No-Build Analysis.
 - **Blake Road & Cambridge Street** – the southbound left movement operates at LOS E; this is due to the movement being low volume and the coordination of the signals. The same movement operated at LOS E the Opening Year (2025) No-Build analysis.
- PM Peak Hour

- **Blake Road & TH 7** – the eastbound left, westbound left, southbound left, northbound through, and southbound through movements are expected to operate at LOS F. Additionally, the northbound left, eastbound through, and northbound right are expected to operate at LOS E. The projected delays are not unexpected, considering the high volumes and long cycle length (200 s). These are the same movements that were shown to operate at LOS E or F in the Opening Year (2025) No-Build analysis.
- **Blake Road & Cambridge Street** – the southbound left movement is expected to operate at LOS E; this is due to the movement being low volume and the coordination of the signals. The same movement operated at LOS E the Opening Year (2025) No-Build analysis.
- **Blake Road & Excelsior Boulevard** – the southbound left movement is expected to operate at LOS E, this is due to priority being given to the high east-west volumes on Excelsior Boulevard. In the Opening Year (2025) No-Build Analysis the westbound left and northbound left, as well as the southbound left, operated at LOS E. The westbound left and northbound left movements improve due to the random seeding in the SimTraffic model.

The 95th percentile queues were reviewed at the study intersections. The 95th percentile queues for the movements that have extended queues or have high levels of delay are listed below.

- AM Peak Hour
 - **Blake Road & TH 7** – the southbound left 95th percentile queue is expected to remain within the storage bay.
 - **Blake Road & 2nd Street/Site Access 1** – All 95th percentile queues are within their respective storage bays. The westbound left and westbound through/right 95th percentile queues are approximately 65 feet and 55 feet, respectively.
 - **Blake Road & Excelsior Boulevard** – the northbound left 95th percentile queue is anticipated to extend past the storage bay by approximately 20 feet, this will be accommodated within the taper of the turn lane.
- PM Peak Hour
 - **Blake Road & TH 7** – the westbound left 95th percentile queue is expected to extend past the storage bay by approximately 43 feet, this queue will be accommodated in the taper of the turn lane. The northbound left 95th percentile queue is expected to extend approximately 20 feet past the provided storage bay, this queue will be accommodated in the taper of the turn lane. The southbound left 95th percentile queue is expected to extend approximately 130 feet outside the storage bay. The southbound through queues are expected to impact the upstream intersection of Aquilas Avenue & West 37th Street, this is consistent with Opening Year (2025) No-Build Conditions.
 - **Blake Road & 2nd Street/Site Access 1** – All 95th percentile queues are within their respective storage bays. The westbound left and westbound through/right 95th percentile queues are 50 feet and 40 feet, respectively.

It should be noted that SimTraffic reports longer queues than the actual 95th percentile queues for turn lanes if the through lane queues on that approach extend beyond the provided turn lane storage bay. The traffic models were observed to determine which queues were actually extending out of storage bays. Only the actual queuing issues are documented above.

The capacity analysis results for Opening Year (2025) Build Conditions are consistent with the results of the Opening Year (2025) No-Build analysis. The site traffic did not have a significant impact on operations at the study area intersections.

With the recent reconstruction of Blake Road, a northbound right turn lane was not constructed at 2nd Street/Site Access 1, this is consistent along the Blake Road corridor. By not including right turn lanes, it allows for a more pedestrian/bicycle friendly corridor. At the time, there was not a known 325 Blake road redevelopment, therefore a right turn lane has also been analyzed to determine the operational impacts with the proposed development. **Table 14** shows both the AM and PM Peak hour results at the site access.

Table 14 – Opening Year (2025) Build Peak Hour Intersection Analysis with NBR Turn Lane

Intersection	Control	Approach	Operations by Movement						Overall Intersection	
			Left		Through		Right		Delay (sec/veh)	LOS
			Delay (sec/veh)	LOS	Delay (sec/veh)	LOS	Delay (sec/veh)	LOS		
AM Peak Hour										
Blake Road & 2nd Street/Site Access 1	Signal	EB	20.1	C	21.5	C	13.6	B	15.1	B
		WB	26.1	C	19.5	B	4.9	A		
		NB	30.4	C	10.4	B	4.0	A		
		SB	37.5	D	13.9	B	9.9	A		
AM Peak Hour										
Blake Road & 2nd Street/Site Access 1	Signal	EB	23.0	C	23.2	C	16.6	B	17.5	B
		WB	32.1	C	25.1	C	7.0	A		
		NB	36.2	D	15.7	B	4.9	A		
		SB	40.3	D	14.9	B	10.4	B		

The northbound right turn does not have a significant impact on delay or LOS. In both peak hours, the northbound right turn movement improves by a few seconds. In the AM Peak Hour, the overall intersection delay increases by less than a second. In the PM Peak Hour, the overall intersection delay decreases by less than a second. While the turn lane doesn't have a significant impact on operations Hennepin County has expressed their desire for the install of a northbound right turn lane as they have proven safety benefits for vehicles.

HORIZON YEAR (2040) BUILD CONDITIONS

The Horizon Year (2040) Build Condition analysis was completed to develop an understanding of the impact of site traffic to operating conditions for the study area. The traffic volumes shown in **Exhibit 10** were used in the Horizon Year (2040) Build analysis. As previously discussed, these volumes were calculated by adding the Horizon Year (2040) No-Build volumes to the Horizon Year (2040) trips generated by the site.

The same geometry and intersection control devices were assumed for the accesses as in the Opening Year (2025) Build analysis. As previously discussed, site access 1 was assumed to be signalized and have a dedicated left-turn lane and a shared through/right lane on the site. Site Access 2 was assumed to be side street stop controlled and have a single shared left/right lane on the site.

The signal timings used in Existing (2021) and Opening Year (2025) Build conditions were optimized for Horizon Year analysis because it is anticipated signal timings at all intersections will be modified prior to 2040.

Tables 15 and **16** provide a summary of the average delay (seconds per vehicle) and LOS under Horizon Year (2040) Build Conditions for each movement at the study intersections during the AM peak hour and PM peak hour, respectively. The movements that are anticipated to operate at LOS E are shown in yellow and the movements that are anticipated to operate at LOS F are shown in red. The full SimTraffic reports are included in **Appendix D**.

Table 15 – Horizon Year (2040) Build AM Peak Hour Intersection Analysis

Intersection	Control	Approach	Operations by Movement						Overall Intersection	
			Left		Through		Right		Delay (sec/veh)	LOS
			Delay (sec/veh)	LOS	Delay (sec/veh)	LOS	Delay (sec/veh)	LOS		
Blake Road & TH 7	Signal	EB	92.6	F	85.2	F	47.7	D	60.6	E
		WB	77.2	E	30.9	C	9.1	A		
		NB	72.6	E	61.8	E	40.9	D		
		SB	98.2	F	92.0	F	3.3	A		
Blake Road & Cambridge Street	Signal	EB	36.6	D	33.3	C	7.2	A	15.0	B
		WB	29.2	C	34.2	C	5.2	A		
		NB	44.8	D	8.6	A	6.6	A		
		SB	64.8	E	8.4	A	7.3	A		
Blake Road & Lake Street	Side Street Stop	EB	17.3	C	21.2	C	9.6	A	21.2	C
		WB	16.0	C	12.6	B	6.3	A		
		NB	6.8	A	1.5	A	1.2	A		
		SB	5.1	A	0.7	A	0.5	A		
Blake Road & 2nd Street/Site Access 1	Signal	EB	21.7	C	22.2	C	14.0	B	16.8	B
		WB	25.1	C	24.5	C	5.8	A		
		NB	33.3	C	12.9	B	6.4	A		
		SB	41.4	D	15.3	B	12.4	B		
Blake Road & Excelsior Boulevard	Signal	EB	41.9	D	22.1	C	5.1	A	28.3	C
		WB	47.6	D	24.7	C	4.9	A		
		NB	40.6	D	31.4	C	14.6	B		
		SB	43.1	D	39.5	D	32.7	C		
Lake Street & Site Access 2	Side Street Stop	EB	-	-	0.8	A	0.5	A	4.6	A
		WB	2.1	A	0.3	A	-	-		
		NB	4.6	A	-	-	3.1	A		
		SB	-	-	-	-	-	-		

Table 16 – Horizon Year (2040) Build PM Peak Hour Intersection Analysis

Intersection	Control	Approach	Operations by Movement						Overall Intersection	
			Left		Through		Right		Delay (sec/veh)	LOS
			Delay (sec/veh)	LOS	Delay (sec/veh)	LOS	Delay (sec/veh)	LOS		
Blake Road & TH 7	Signal	EB	100+	F	100+	F	63.5	E	100+	F
		WB	100+	F	51.1	D	16.6	B		
		NB	76.6	E	99.0	F	86.9	F		
		SB	100+	F	100+	F	20.8	C		
Blake Road & Cambridge Street	Signal	EB	51.4	D	54.9	D	10.9	B	24.2	C
		WB	28.0	C	25.8	C	14.8	B		
		NB	48.3	D	22.5	C	35.3	D		
		SB	53.3	D	15.2	B	12.6	B		
Blake Road & Lake Street	Side Street Stop	EB	31.1	D	38.9	E	18.1	C	38.9	E
		WB	28.9	D	26.2	D	10.1	B		
		NB	9.9	A	2.5	A	2.4	A		
		SB	9.1	A	0.9	A	0.8	A		
Blake Road & 2nd Street/Site Access 1	Signal	EB	28.2	C	27.4	C	19.9	B	21.8	C
		WB	31.1	C	25.0	C	8.6	A		
		NB	42.8	D	18.7	B	16.0	B		
		SB	47.0	D	18.4	B	14.6	B		
Blake Road & Excelsior Boulevard	Signal	EB	55.2	E	22.2	C	8.1	A	30.8	C
		WB	58.5	E	22.6	C	10.0	A		
		NB	55.4	E	45.7	D	32.6	C		
		SB	61.9	E	49.6	D	51.2	D		
Lake Street & Site Access 2	Side Street Stop	EB	-	-	0.6	A	0.5	A	7.2	A
		WB	3.5	A	0.5	A	-	-		
		NB	7.2	A	-	-	6.1	A		
		SB	-	-	-	-	-	-		

Note: delays in excess of 100 seconds per vehicle are reported as "100+"

Based on the analysis, all study intersections are anticipated to operate LOS C or better except for the intersection of Blake Road & TH 7, which operates at an LOS E in the AM Peak Hour and LOS F in the PM Peak Hour and the intersection of Blake Road & Lake Street, which operates at LOS E in the PM Peak. Additionally, both site accesses are anticipated to operate at LOS C or better in the AM & PM Peak Hours. Under Horizon Year (2040) Build Conditions, all intersection movements are anticipated to operate at LOS D or better except for the following:

- AM Peak Hour
 - **Blake Road & TH 7** – the eastbound left, westbound left, southbound left, and southbound through movements are expected to operate at LOS F. Additionally, the northbound left, eastbound through, and northbound through are expected to operate at LOS E. The projected delays are not unexpected, considering the high volumes and long cycle length (190 s). These results are similar to the Horizon Year (2040) No-Build analysis.
 - **Blake Road & Cambridge Street** – the southbound left movement is expected to operate at LOS E; this is due to the movement being low volume and the coordination of the signals. The same movement operated at LOS E the Horizon Year (2040) No-Build analysis.
- PM Peak Hour
 - **Blake Road & TH 7** – the eastbound left, westbound left, southbound left, eastbound through, northbound through, southbound through, eastbound right, and northbound right movements are all expected to operate at LOS F. Additionally, the northbound left is expected to operate at LOS

E. The projected delays are not unexpected, considering the high volumes and long cycle length (200 s). These are the same movements that were shown to operate at LOS E or F in the Horizon Year (2040) No-Build analysis. Delays should be monitored in the future to determine the feasibility of mitigation options.

- **Blake Road & Lake Street** – the eastbound through movement is anticipated to operate at LOS E; this is not uncommon for a side street stop-controlled intersection with a high-volume main street such as Blake Road. In the Horizon Year (2040) No-Build model, the westbound left movement also operated at LOS E and not the eastbound left.
- **Blake Road & Excelsior Boulevard** – the eastbound left, westbound left, northbound left and southbound left movements are expected to operate at LOS E, this is due to priority being given to the high east-west volumes on Excelsior Boulevard. In the Horizon Year (2040) No-Build model the westbound left, northbound left, and southbound left also operated at LOS E, but the eastbound left operated at LOS D and degraded to LOS E with the addition of site traffic.

The 95th percentile queues were reviewed at the study intersections. The 95th percentile queues for the movements that have extended queues or have high levels of delay are listed below.

- AM Peak Hour
 - **Blake Road & TH 7** – The westbound left is anticipated to extend beyond the provided storage bay by approximately 40 feet, the queue can be accommodated within the taper of the dual left turn lanes. The northbound left 95th percentile queue is expected to extend past the storage bay by approximately 30 feet, the queue can be accommodated within the taper of the dual left-turn lanes. The southbound left turn 95th percentile queue extends past the provided storage bay by 15 feet, this can be accommodated within the taper of the turn lane.
 - **Blake Road & 2nd Street/Site Access 1** – All 95th percentile queues are within their respective storage bays. The westbound left and westbound through/right 95th percentile queues are 85 feet and 65 feet, respectively.
 - **Blake Road & Excelsior Boulevard** – the northbound left 95th percentile queue is anticipated to extend past the storage bay by approximately 23 feet, this queue is not expected to affect the upstream intersection. The southbound left 95th percentile queue is anticipated to extend past the storage bay by approximately 3 feet; this queue can be accommodated within the taper of the turn lane.
- PM Peak Hour
 - **Blake Road & TH 7** – The northbound left 95th percentile queue is expected to extend 70 feet past the provided storage bay, this queue will be accommodated in the taper of the dual left-turn lanes. The southbound left 95th percentile queue is expected to extend approximately 110 feet outside the storage bay. The southbound queues are expected to impact operations at the upstream intersection of Aquilas Avenue & West 37th Street. Queues should be monitored in the future to determine the feasibility of mitigation options.
 - **Blake Road & 2nd Street/Site Access 1** – All 95th percentile queues are within their respective storage bays. The westbound left and westbound through/right 95th percentile queues are 75 feet and 60 feet, respectively.
 - **Blake Road & Excelsior Boulevard** – The northbound left 95th percentile queue is anticipated to extend approximately 20 feet beyond the storage bay; this can be accommodated within the taper of the turn lane. The southbound left 95th percentile queue is expected to fill the storage bay.

It should be noted that SimTraffic reports longer queues than the actual 95th percentile queues for turn lanes if the through lane queues on that approach extend beyond the provided turn lane storage bay. The

traffic models were observed to determine which queues were actually extending out of storage bays. Only the actual queuing issues are documented above.

The capacity analysis results for Horizon Year (2040) Build Conditions are consistent with the results from the Horizon Year (2040) No-Build conditions. The site traffic did not have a significant impact on operations at any intersections within the study network.

As previously discussed, a northbound right turn lane was not constructed at 2nd Street/Site Access 1 with the reconstruction of Blake Road. This is consistent with other roadway connections along the Blake Road corridor. By not including right turn lanes, it allows for a more pedestrian/bicycle friendly corridor. At the time, there was not a known 325 Blake Road redevelopment, therefore a right turn lane has also been analyzed to determine the operational impacts with the proposed development. **Table 14** shows both the AM and PM Peak hour results at the site access

Table 17 – Horizon Year (2040) Build Peak Hour Intersection Analysis with NBR Turn Lane

Intersection	Control	Approach	Operations by Movement						Overall Intersection	
			Left		Through		Right		Delay (sec/veh)	LOS
			Delay (sec/veh)	LOS	Delay (sec/veh)	LOS	Delay (sec/veh)	LOS		
AM Peak Hour										
Blake Road & 2nd Street/Site Access 1	Signal	EB	21.7	C	19.3	B	14.6	B	17.4	B
		WB	26.9	C	21.0	C	4.8	A		
		NB	33.7	C	13.7	B	3.8	A		
		SB	43.4	D	16.1	B	13.1	B		
PM Peak Hour										
Blake Road & 2nd Street/Site Access 1	Signal	EB	26.5	C	27.1	C	18.5	B	20.8	C
		WB	28.5	C	24.1	C	8.8	A		
		NB	38.0	D	19.7	B	6.3	A		
		SB	45.4	D	17.9	B	13.6	B		

The northbound right turn does not have a big impact on Delay or LOS. In both peak hours, the northbound right turn movement improves by a few seconds. In the AM Peak Hour, the overall intersection delay increases by a second. In the PM Peak Hour, the overall intersection delay decreases by a second. A northbound turn lane doesn't have a significant impact on operations and maintaining the existing geometry is in line with the vision for the Blake Road corridor.

CONCLUSIONS AND RECOMMENDATIONS

Alatus, LLC is proposing a mixed-use development that includes townhomes and five multifamily housing buildings varying in height from 3 stories to 14 stories, with up to 875 dwelling units on site. There will also be a 9,000 square feet of standalone restaurant space and 8,000 square feet of retail on site. The development is located on the southeast corner of Blake Road (CSAH 20) and Lake Street in Hopkins, MN. The site was previously occupied by a cold storage facility.

In the Opening Year, Buildings II, III, IV, the townhomes, and the restaurant space is expected to be constructed and open. With that assumed development, the Site is anticipated to generate 225 new trips during the AM peak hour (85 entering, 140 exiting) and 285 new trips during the PM peak hour (180 entering, 105 exiting).

In the Horizon Year, full buildout of the site was assumed (Opening Year development plus the construction of Buildings I & V). In the Horizon Year, the site is anticipated to generate 320 new trips during the AM peak hour (110 entering, 210 exiting) and 385 new trips during the PM peak hour (245 entering, 140 exiting).

The site will have two accesses. Site Access 1 will be at Blake Road at 2nd Street, which is signalized. Site Access 2 is proposed to be on Lake Street approximately 90 feet east of Blake Road. Access 1 is anticipated to have two outbound lanes, a dedicated left-turn lane, and a shared through/right lane on the site. Access 2 is anticipated to have 1 outbound lane that is a shared left/right lane on the site.

Existing year (2021), Opening Year (2025) No-Build, and Horizon Year (2040) No-Build are anticipated to have similar operations, with slight increases in vehicle delays due to background growth. The intersection of Blake Road & TH 7 consistently has movements with LOS E or F operations and the other study intersections generally operate acceptably. The movements that get significantly worse with the addition of background growth are the left-turning and through movements at the intersection of Blake Road & TH 7 and the eastbound leg at the intersection of Blake Road & Lake Street.

Opening Year (2025) Build and Horizon Year (2040) Build operations are very similar to their No-Build counterparts. The Opening Year No-Build & Build models generally have the same results with LOS E/F operations for the same movements. The Horizon Year models showed that the eastbound through movement at the intersection of Blake Road & TH 7 changed from LOS D in No-Build AM Peak Hour model to LOS E in the Build AM Peak Hour model. Additionally, four movements changed from LOS D in the No-Build PM Peak Hour to LOS E in the Build PM Peak Hour. Overall, the No-Build models were consistent with their respective Build models. It should be noted that delays and queues at Blake Road & TH 7 will be extensive in all Horizon Year (2040) analysis conditions. These should be monitored in the future to determine the feasibility of mitigation options.

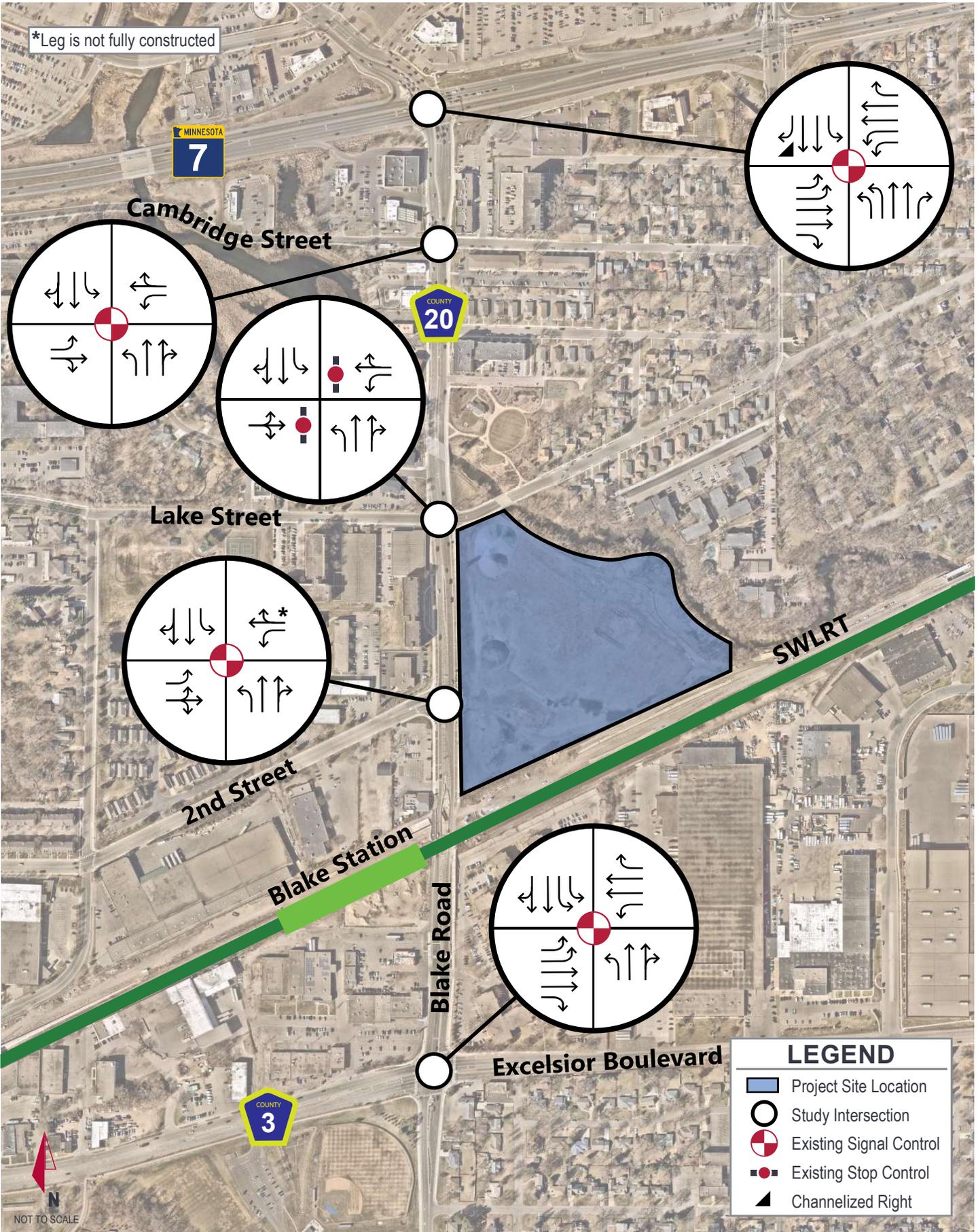
As seen across the five analysis conditions, the background growth caused overall vehicle delays to increase. In comparison to the background growth, site traffic didn't have a significant impact on the intersection LOS. Based on the analysis results, the following mitigation is recommended:

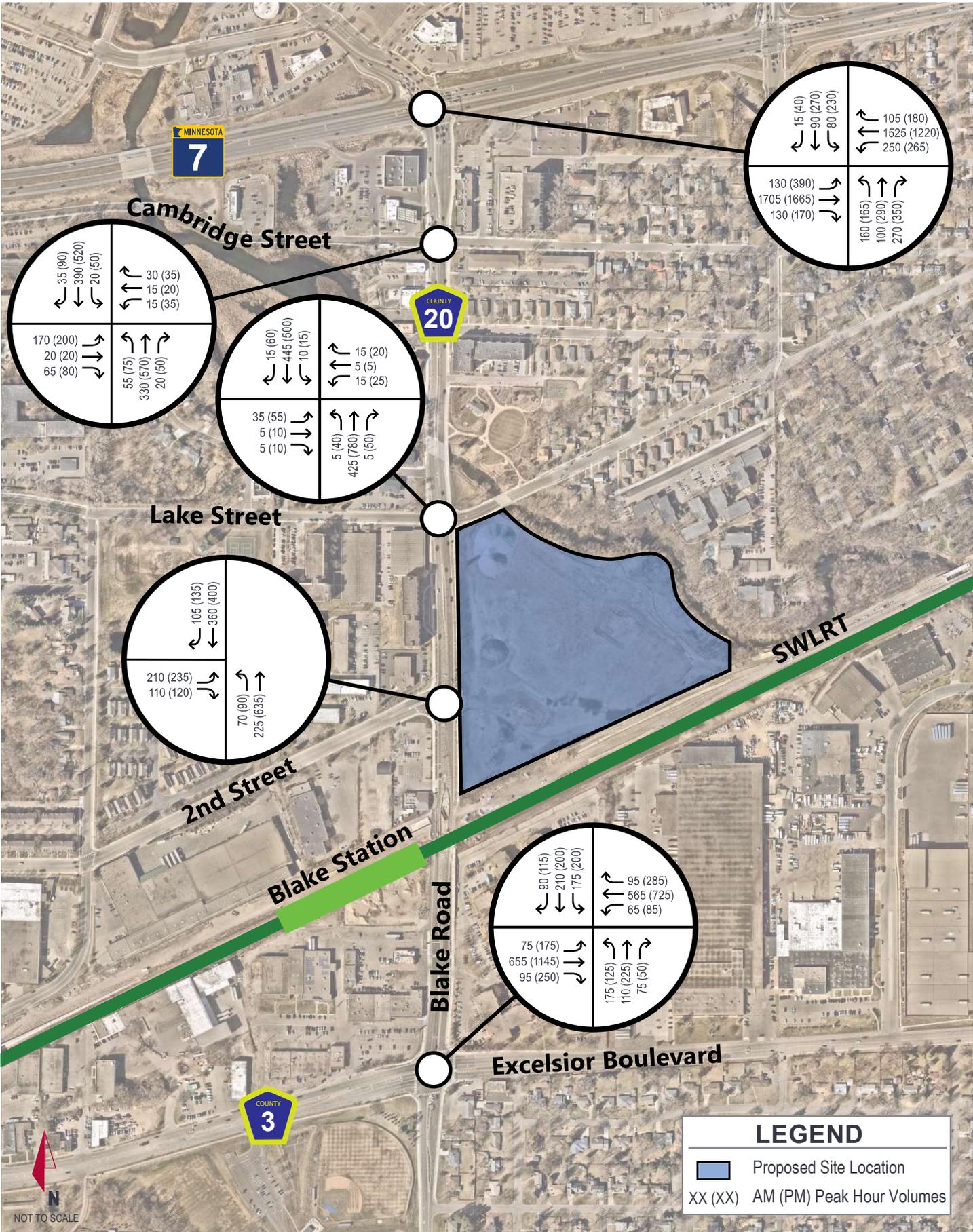
- Site access 1 should have a dedicated left turn lane and a shared through/right lane. The left-turn lane should have a storage bay length of at least 100 feet based on the 95th percentile queue of 85 feet.
- The signal at Blake Road & 2nd Street/Access 1 should be optimized for the additional approach. Cycle Length at Blake Road & 2nd Street/Access 1 should be kept consistent with the corridor but provide adequate time for development and 2nd street traffic to operate acceptably.
- Site access 2 should have a shared left/right turn lane and be side street stop controlled.
- The eastbound queue at the intersection of Blake Road and Lake Street should be monitored to ensure it does not affect operations at site access 2.

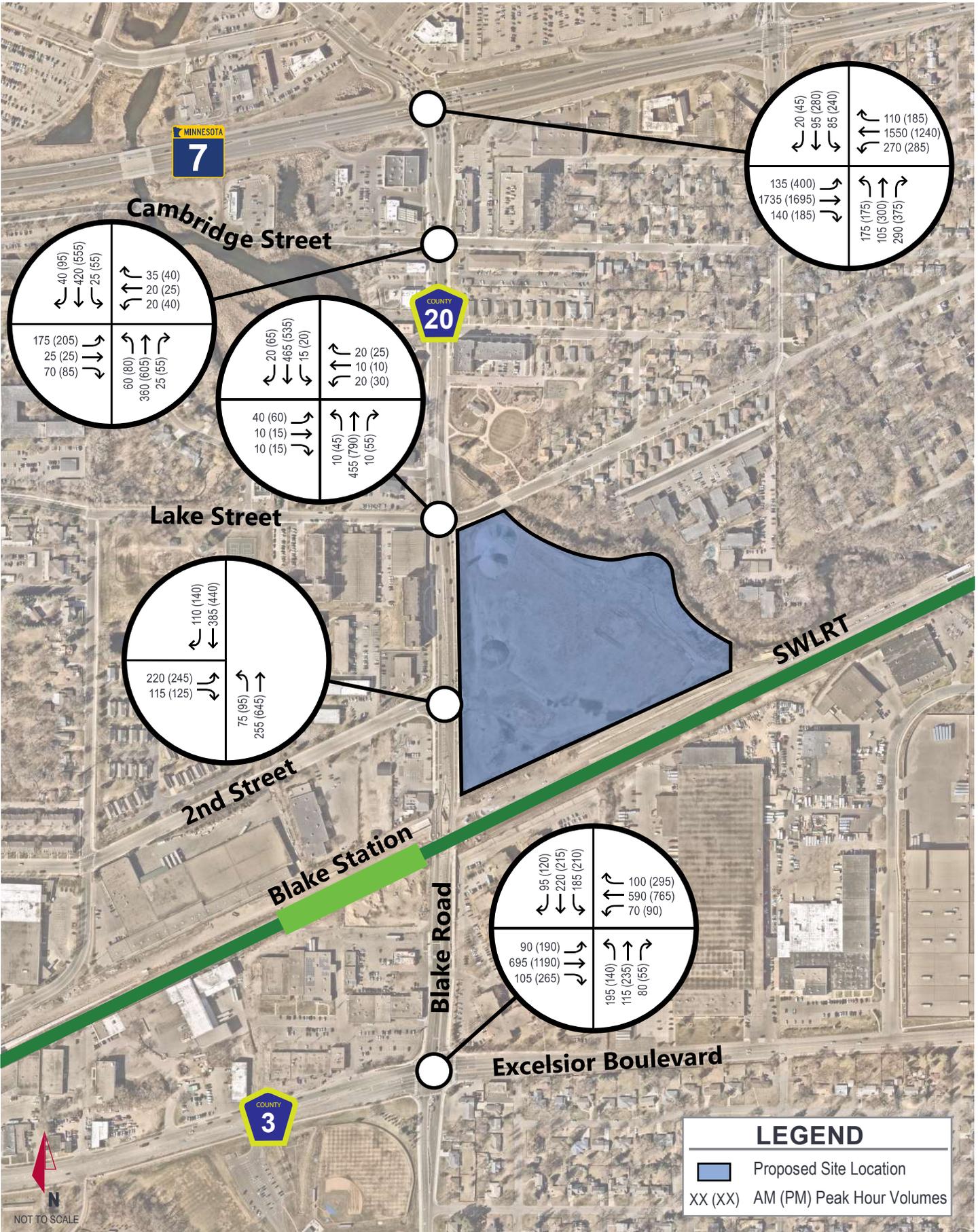
APPENDIX

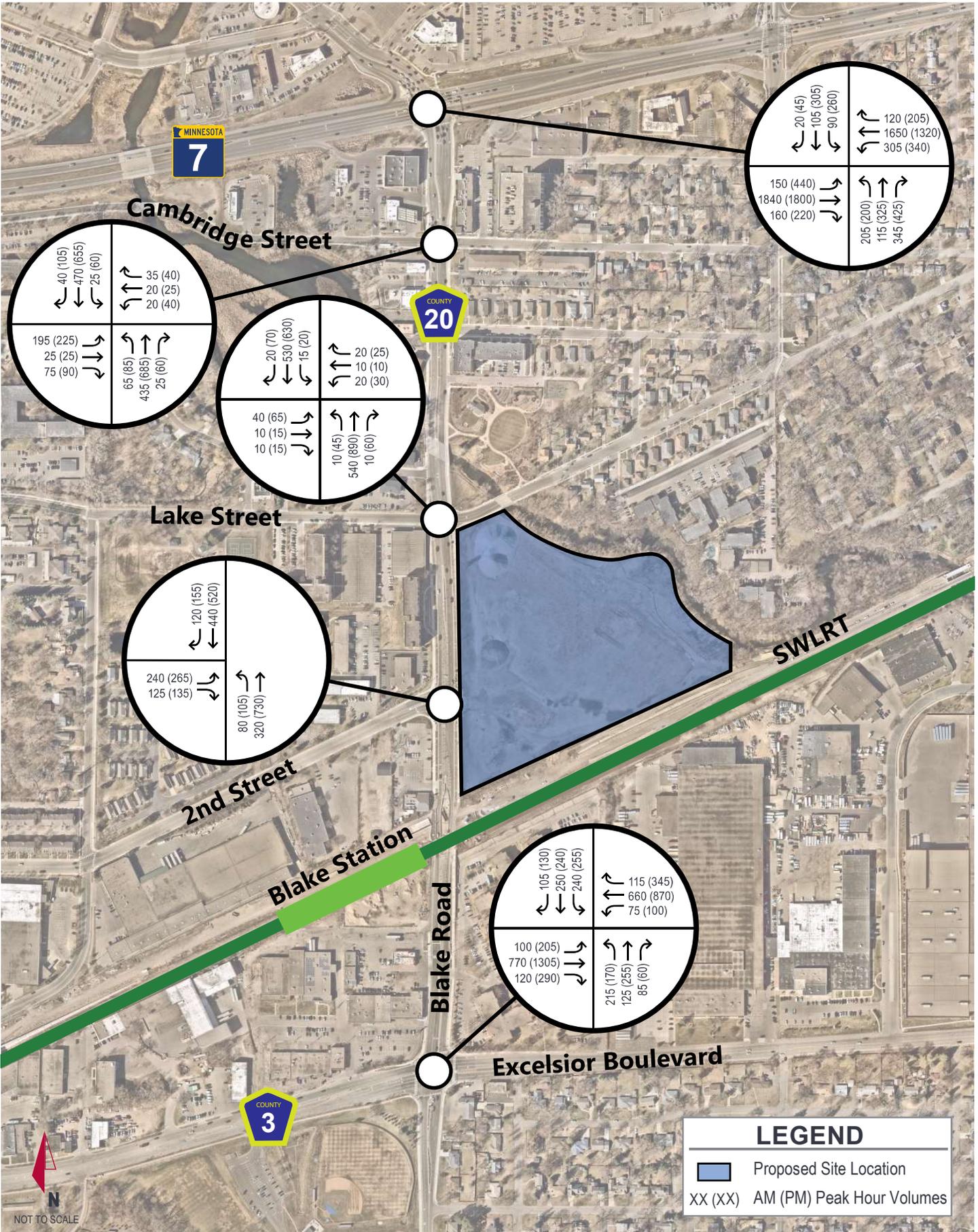
- A. Exhibits**
- B. Site Plan**
- C. Raw Turning Movement Counts**
- D. SimTraffic Analysis Results**

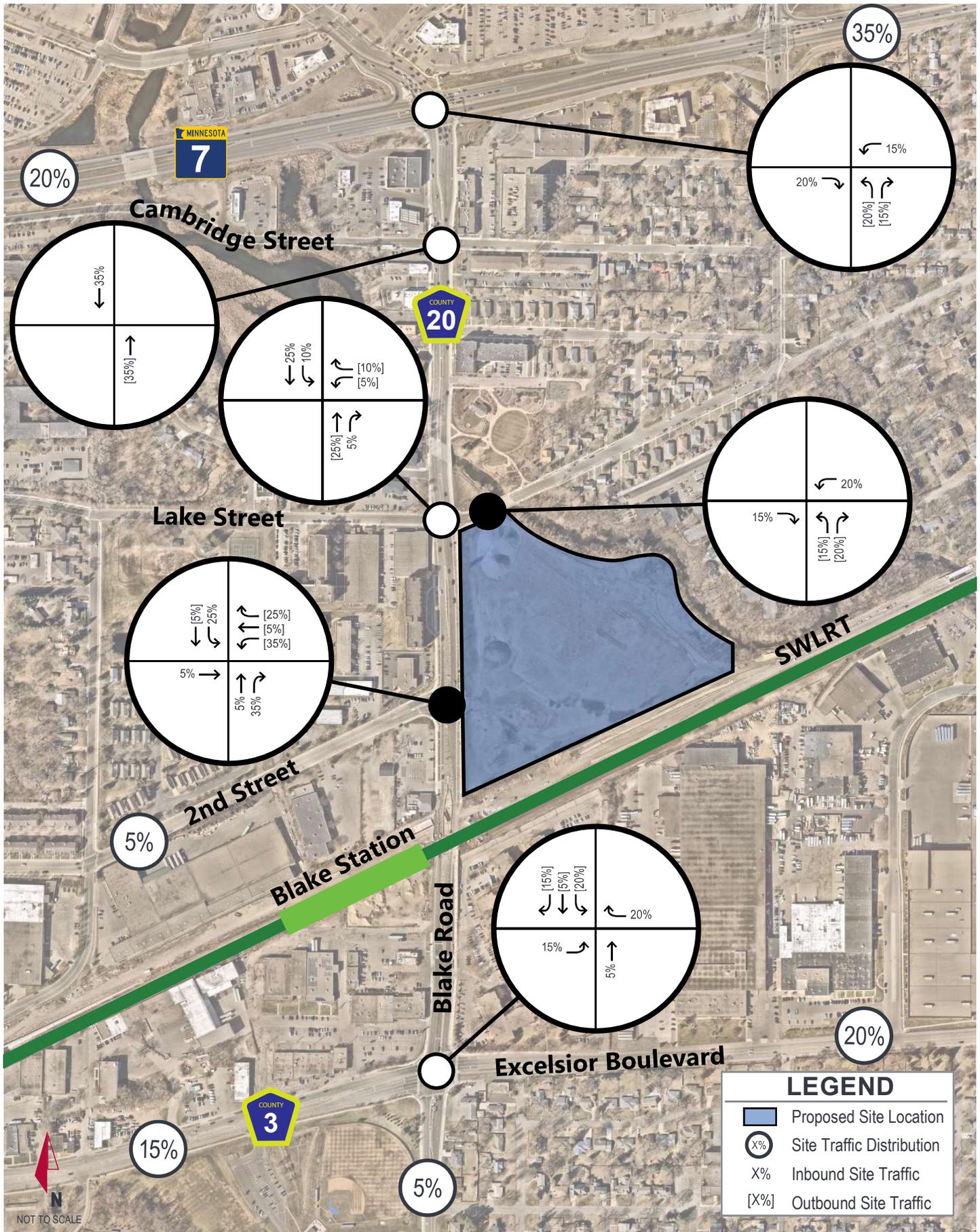


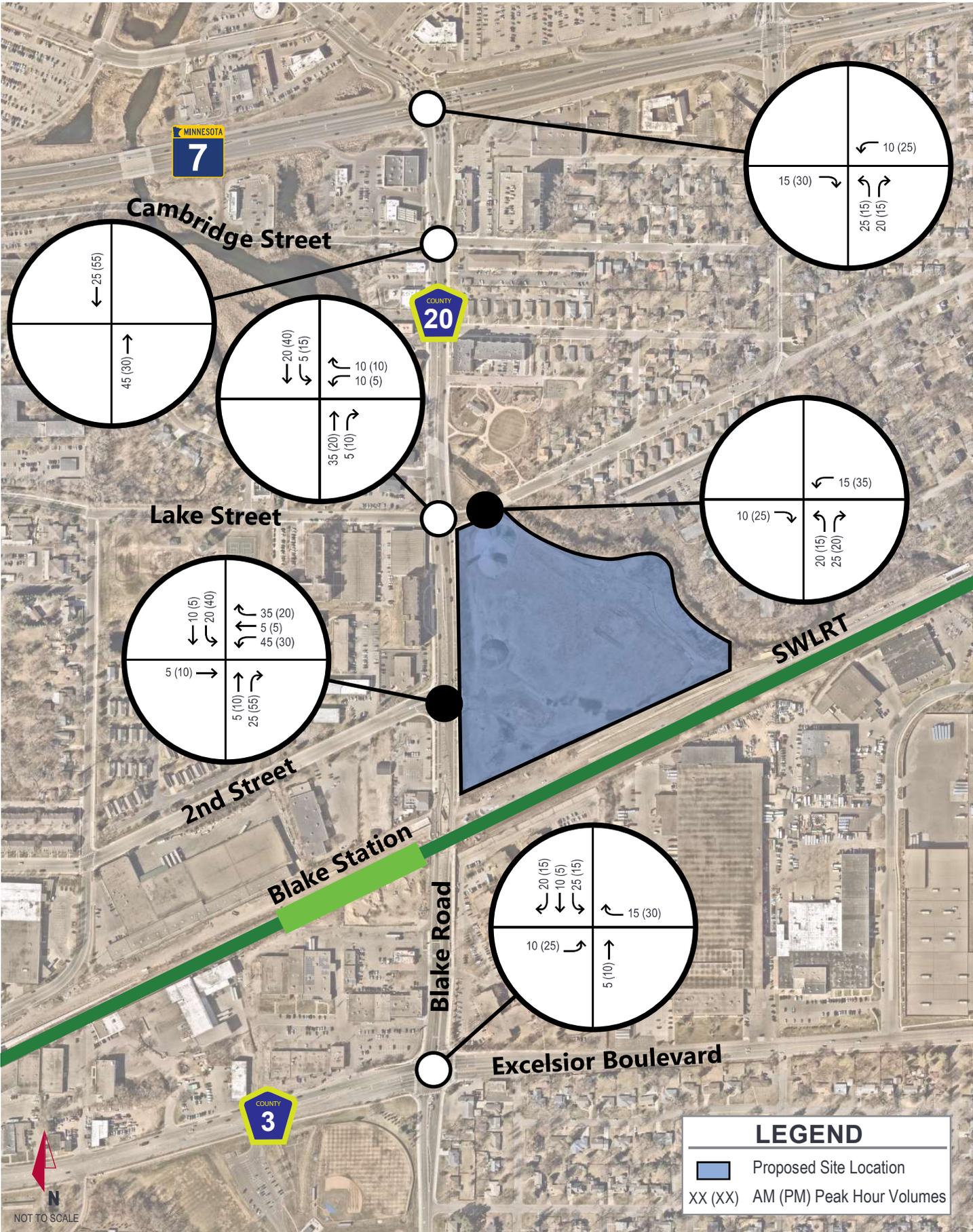


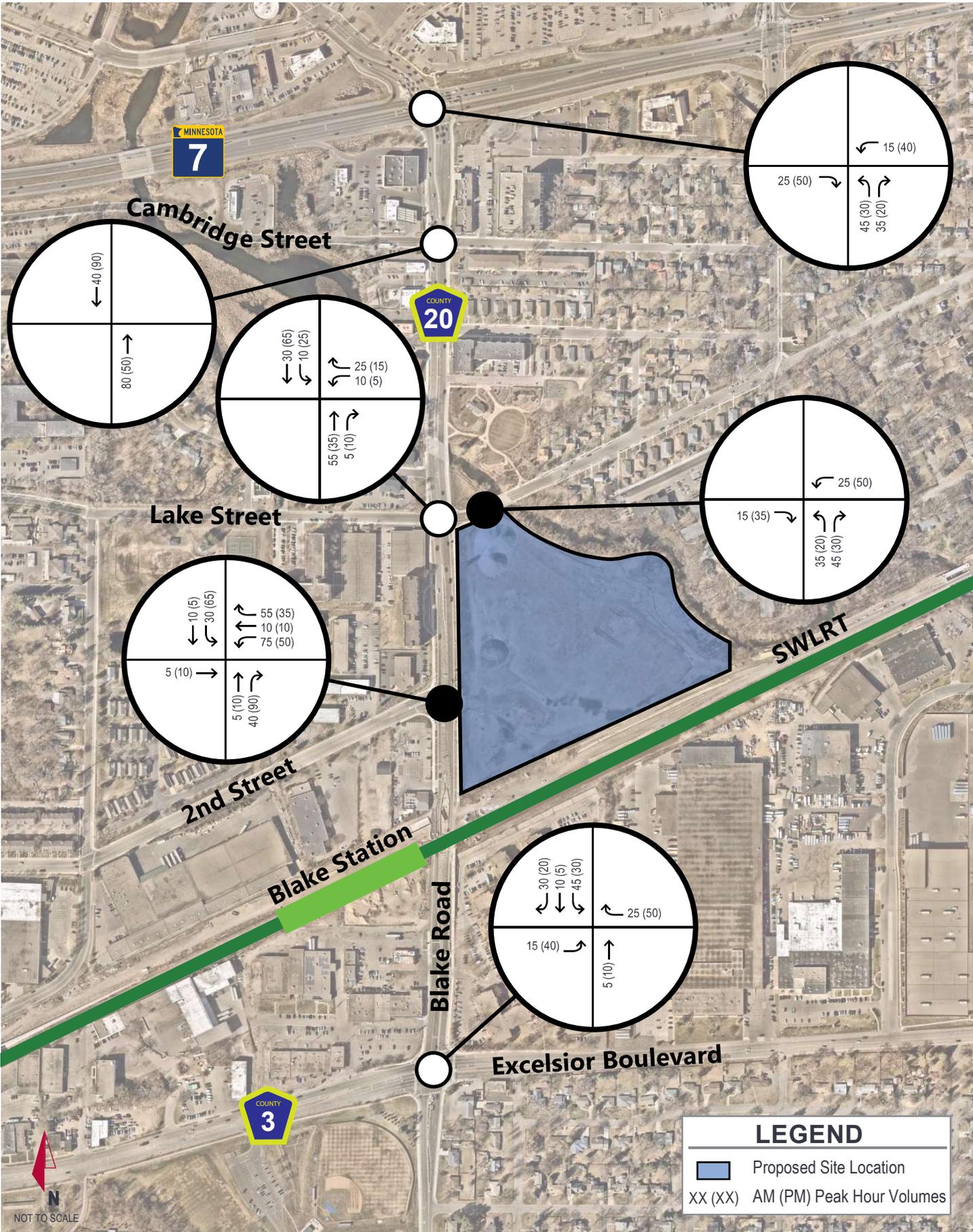


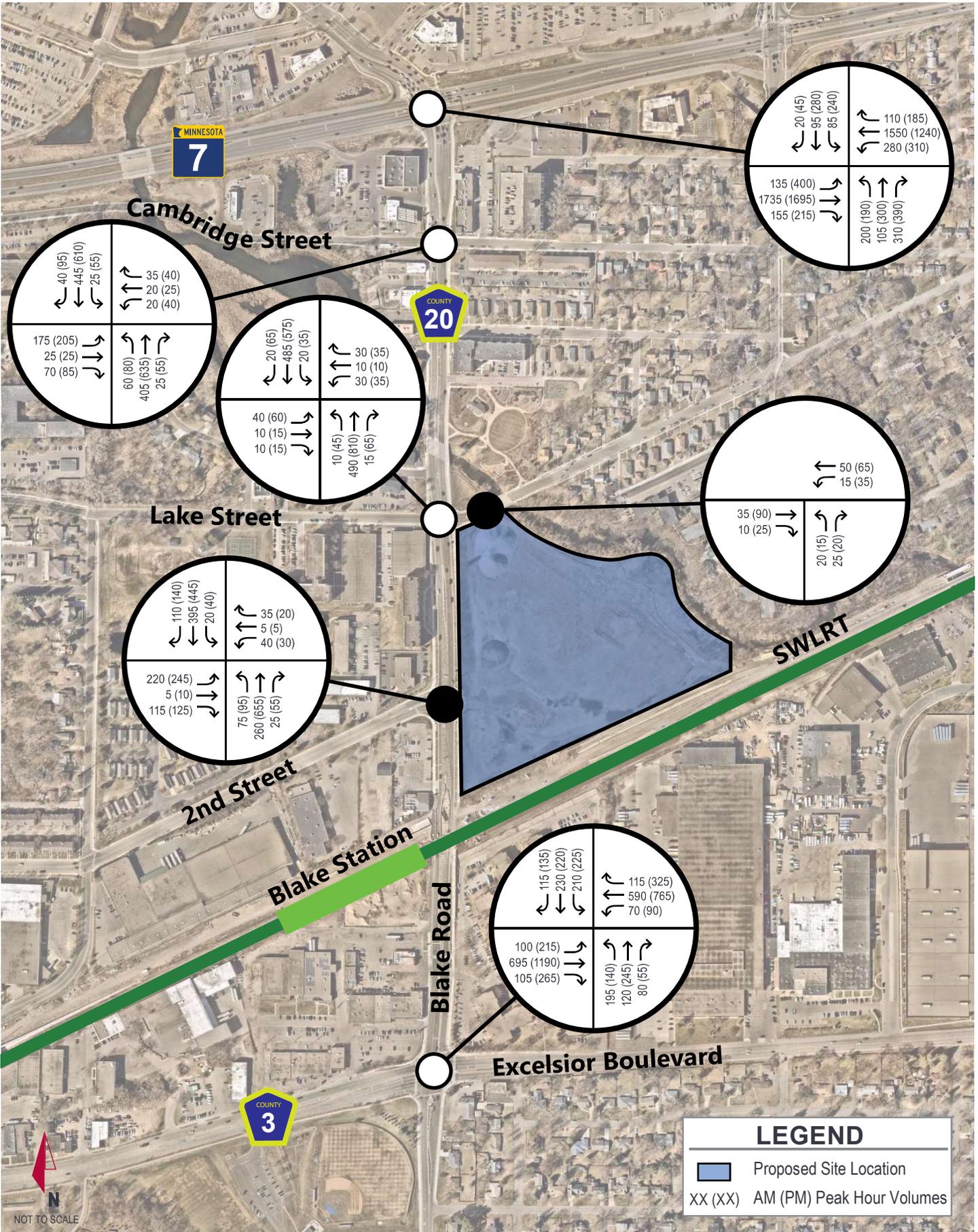


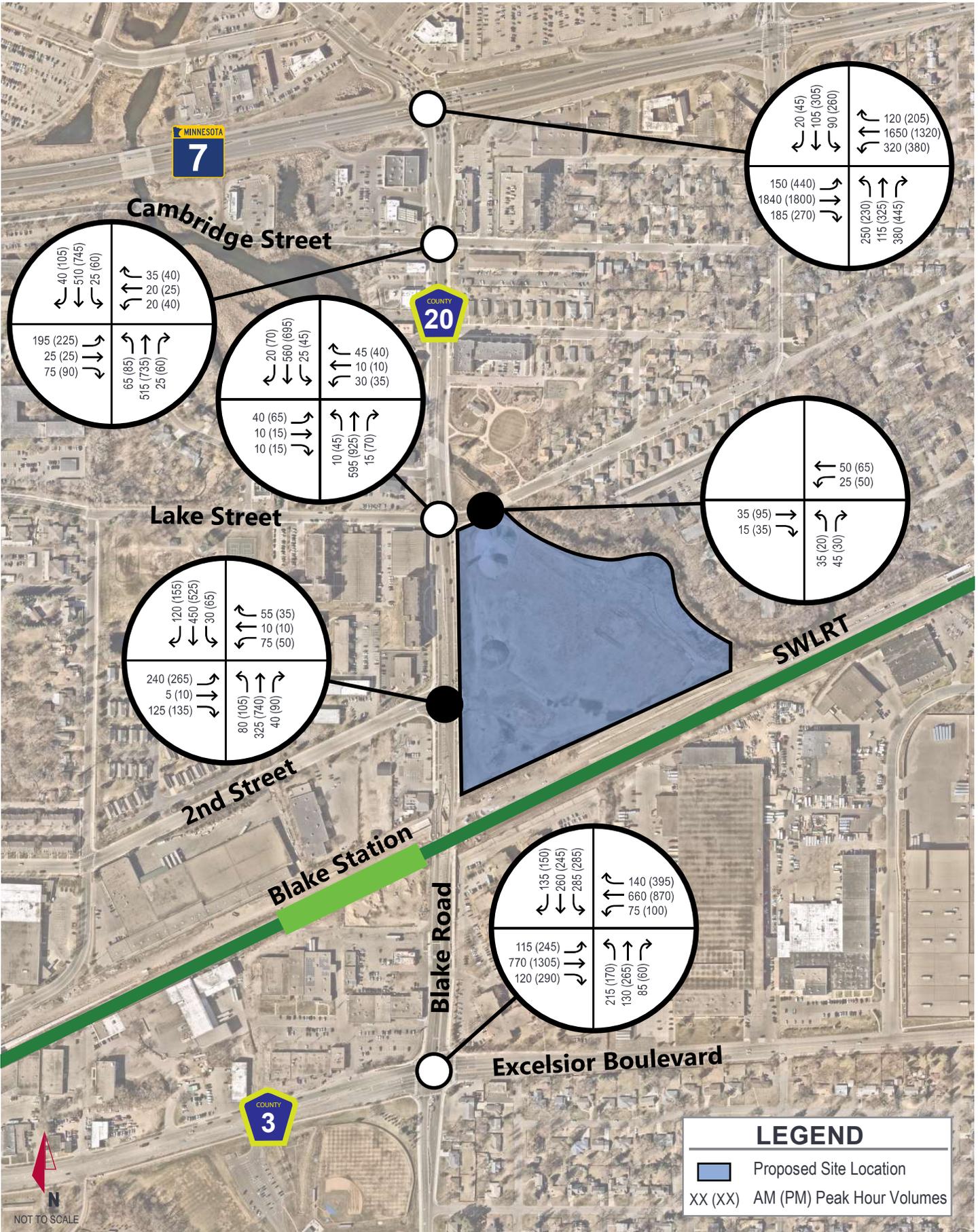




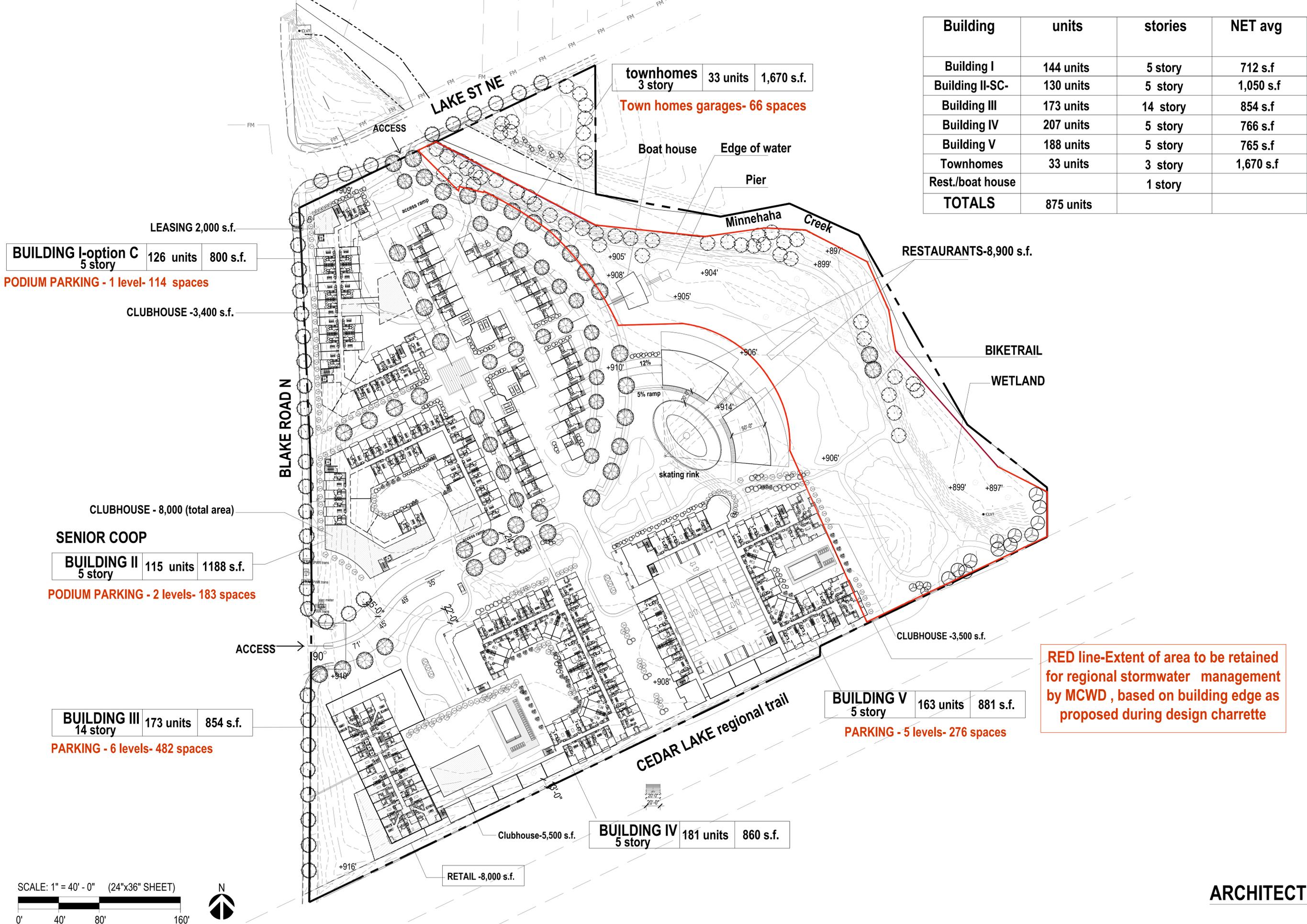








Building	units	stories	NET avg
Building I	144 units	5 story	712 s.f
Building II-SC-	130 units	5 story	1,050 s.f
Building III	173 units	14 story	854 s.f
Building IV	207 units	5 story	766 s.f
Building V	188 units	5 story	765 s.f
Townhomes	33 units	3 story	1,670 s.f
Rest./boat house		1 story	
TOTALS	875 units		



townhomes
3 story 33 units 1,670 s.f.
Town homes garages- 66 spaces

BUILDING I-option C
5 story 126 units 800 s.f.

PODIUM PARKING - 1 level- 114 spaces

CLUBHOUSE -3,400 s.f.

LEASING 2,000 s.f.

RESTAURANTS-8,900 s.f.

BIKETRAIL

WETLAND

CLUBHOUSE - 8,000 (total area)

SENIOR COOP

BUILDING II
5 story 115 units 1188 s.f.

PODIUM PARKING - 2 levels- 183 spaces

CLUBHOUSE -3,500 s.f.

RED line-Extent of area to be retained for regional stormwater management by MCWD , based on building edge as proposed during design charrette

BUILDING III
14 story 173 units 854 s.f.

PARKING - 6 levels- 482 spaces

BUILDING V
5 story 163 units 881 s.f.

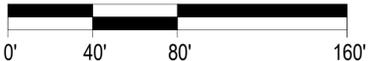
PARKING - 5 levels- 276 spaces

BUILDING IV
5 story 181 units 860 s.f.

Clubhouse-5,500 s.f.

RETAIL -8,000 s.f.

SCALE: 1" = 40' - 0" (24"x36" SHEET)



ARCHITECTURAL SITEPLAN

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Intersection Traffic Counts

Intersection: #21 MN7 & Aquila Ave
Count Date(s): Wed, Mar 7, 2018
Peaks: 6-9:30AM, 11AM-1PM, 2:30-6PM

Prepared by: Associated Consulting Services LLC
 www.acsteam.com
 (612) 568-3227

All Vehicles_Entire Duration (6:9:30AM, 11AM-1PM, 2:30-6PM) at #21 MN7 & Aquila Ave																											
Start Time	From North (Southbound)						From East (Westbound)						From South (Northbound)						From West (Eastbound)						15-min Veh Total	15-min Ped Total	
	U	L	T	R	App	Ped*	U	L	T	R	App	Ped*	U	L	T	R	App	Ped*	U	L	T	R	App	Ped*			
6:00	-	7	6	2	15	-	-	23	49	8	80	-	-	22	6	21	49	-	-	9	115	4	128	-	272	-	
6:15	1	3	-	-	4	-	-	25	98	12	135	-	-	22	6	29	57	-	-	8	179	14	201	1	397	1	
6:30	-	9	12	2	23	-	-	22	147	13	182	-	1	34	6	19	60	-	-	19	229	16	264	-	529	-	
6:45	-	11	12	-	23	-	-	43	174	18	235	-	-	28	19	40	87	-	1	11	220	15	247	-	592	-	
7:00	-	10	18	3	31	-	-	31	258	15	304	-	-	38	12	52	102	-	1	14	286	18	319	1	756	1	
7:15	-	14	15	2	31	-	-	55	297	19	371	-	-	30	22	50	102	1	-	23	424	25	472	1	976	2	
7:30	-	19	15	1	35	-	-	48	378	25	451	1	-	42	14	64	120	-	1	15	421	21	458	-	1064	1	
7:45	-	16	25	5	46	-	-	54	444	21	519	-	-	40	30	47	117	-	-	37	462	38	537	1	1219	1	
8:00	-	22	23	2	47	-	-	59	363	27	449	-	1	33	21	68	123	-	-	33	445	32	510	-	1129	-	
8:15	-	17	22	2	41	-	-	83	321	30	434	-	-	42	32	82	156	-	-	42	354	34	430	-	1061	-	
8:30	-	25	22	1	48	-	-	47	338	31	416	-	-	39	22	62	123	1	-	40	336	31	407	2	994	3	
8:45	-	19	29	4	52	-	-	36	247	26	309	-	-	46	31	48	125	-	-	61	283	31	375	-	861	-	
9:00	-	26	23	2	51	1	-	39	165	33	237	1	-	37	24	49	110	-	-	48	274	32	354	2	752	4	
9:15	-	15	27	4	46	-	-	29	154	27	210	-	-	26	34	39	99	-	2	62	242	24	330	-	685	-	
9:30	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
9:45	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
10:00	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
10:15	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
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10:45	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
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13:15	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
13:30	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
13:45	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
14:00	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
14:15	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
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14:45	-	40	58	11	109	-	-	58	199	37	294	-	2	37	52	47	138	-	2	72	177	44	295	-	836	-	
15:00	-	45	62	6	113	-	-	50	240	31	321	2	1	38	49	58	146	-	-	70	221	27	318	2	898	4	
15:15	-	45	54	9	108	-	-	56	256	52	364	1	-	38	62	54	154	-	2	78	252	35	367	3	993	4	
15:30	-	33	54	14	101	-	-	63	277	37	377	3	-	45	63	72	180	-	-	101	284	43	428	-	1086	3	
15:45	-	48	53	8	109	-	-	66	236	42	344	1	-	49	54	59	162	2	-	70	317	44	431	1	1046	4	
16:00	-	66	44	11	121	1	-	49	267	46	362	3	-	38	48	60	146	2	-	104	372	31	507	5	1136	11	
16:15	-	51	74	10	135	-	-	55	275	35	365	2	-	43	56	74	173	-	1	113	400	36	550	1	1223	3	
16:30	1	56	76	8	141	-	-	50	321	35	406	2	-	44	75	87	206	-	-	81	417	35	533	4	1286	6	
16:45	-	47	44	10	101	1	-	78	300	44	422	4	-	33	57	87	177	-	-	102	419	46	567	1	1267	6	
17:00	-	66	72	14	152	1	-	51	294	43	388	2	1	41	66	79	187	-	1	92	411	39	543	-	1270	3	
17:15	-	56	71	7	134	-	2	79	290	51	422	1	-	40	82	90	212	-	-	104	395	43	542	1	1310	2	
17:30	-	42	67	4	113	-	-	57	278	44	379	-	-	49	80	89	218	-	-	85	382	45	512	5	1222	5	
17:45	-	46	59	3	108	1	-	69	257	41	367	5	-	35	63	74	172	-	-	92	342	48	482	2	1129	8	
Total	2	1251	1515	238	3006	12	6	1827	8303	1242	11378	39	6	1355	1535	2038	4934	8	14	2332	10053	1154	13553	46	32871	105	
% App	0%	42%	50%	8%	100%	-	0%	16%	73%	11%	100%	-	0%	27%	31%	41%	100%	-	0%	17%	74%	9%	100%	-	-	-	
% Total	0%	4%	5%	1%	9%	11%	0%	6%	25%	4%	35%	37%	0%	4%	5%	6%	15%	8%	0%	7%	31%	4%	41%	44%	100%	100%	
Passenger Vehicles	1	1244	1480	236	2961	-	5	1773	8114	1219	11111	-	6	1298	1504	2004	4812	-	14	2311	9885	1092	13302	-	32186	-	
Passenger Vehicles %	50%	99%	98%	99%	99%	-	83%	97%	98%	98%	98%	-	100%	96%	98%	98%	98%	-	100%	99%	98%	95%	98%	-	98%	-	
HC Vehicles	1	7	35	2	45	-	1	54	189	23	267	-	-	57	31	34	122	-	-	21	168	62	251	-	685	-	
HC Vehicles %	50%	1%	2%	1%	1%	-	17%	3%	2%	2%	2%	-	-	4%	2%	2%	2%	-	-	1%	2%	5%	2%	-	2%	-	

U = U-Turn, L = Left, T = Thru, R = Right, App = Approach Total
 asterisk (*) indicates pedestrians and bicyclists on crosswalk
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 % App = percentage of specific movement total in relation to its approach total
 % Total = percentage of specific movement total in relation to its intersection total
 Passenger Vehicles % = percentage of passenger vehicle total in a specific movement
 HC Vehicles % = percentage of heavy commercial vehicle total in a specific movement

Intersection Traffic Counts

Intersection: #21 MN7 & Aquila Ave
Count Date(s): Wed, Mar 7, 2018
Peaks: 6-9:30AM, 11AM-1PM, 2:30-6PM

Prepared by: Associated Consulting Services LLC
 www.acsteam.com
 (612) 568-3227

All Vehicles_AM Peak (7:30AM-8:30AM) at #21 MN7 & Aquila Ave																										
Start Time	From North (Southbound)						From East (Westbound)						From South (Northbound)						From West (Eastbound)						15-min Veh Total	15-min Ped Total
	U	L	T	R	App	Ped*	U	L	T	R	App	Ped*	U	L	T	R	App	Ped*	U	L	T	R	App	Ped*		
7:30	-	19	15	1	35	-	-	48	378	25	451	1	-	42	14	64	120	-	1	15	421	21	458	-	1064	1
7:45	-	16	25	5	46	-	-	54	444	21	519	-	-	40	30	47	117	-	-	37	462	38	537	1	1219	1
8:00	-	22	23	2	47	-	-	59	363	27	449	-	1	33	21	68	123	-	-	33	445	32	510	-	1129	-
8:15	-	17	22	2	41	-	-	83	321	30	434	-	-	42	32	82	156	-	-	42	354	34	430	-	1061	-
Total	-	74	85	10	169	-	-	244	1506	103	1853	1	1	157	97	261	516	-	1	127	1682	125	1935	1	4473	2
% App	-	44%	50%	6%	100%	-	-	13%	81%	6%	100%	-	0%	30%	19%	51%	100%	-	0%	7%	87%	6%	100%	-	-	-
% Total	-	2%	2%	0%	4%	-	-	5%	34%	2%	41%	50%	0%	4%	2%	6%	12%	-	0%	3%	38%	3%	43%	50%	100%	100%
PHF	-	0.841	0.850	0.500	0.899	-	-	0.735	0.848	0.858	0.893	-	0.250	0.935	0.758	0.796	0.827	-	0.250	0.756	0.910	0.822	0.901	-	0.917	-
Passenger Vehicles	-	73	82	10	165	-	-	239	1478	99	1816	-	1	150	96	258	505	-	1	123	1662	115	1901	-	4387	-
Passenger Vehicles %	-	99%	96%	100%	98%	-	-	98%	98%	96%	98%	-	100%	96%	99%	99%	98%	-	100%	97%	99%	92%	98%	-	98%	-
HC Vehicles	-	1	3	-	4	-	-	5	28	4	37	-	-	7	1	3	11	-	-	4	20	10	34	-	86	-
HC Vehicles %	-	1%	4%	-	2%	-	-	2%	2%	4%	2%	-	-	4%	1%	1%	2%	-	-	3%	1%	8%	2%	-	2%	-

All Vehicles_Midday Peak (12:00PM-1:00PM) at #21 MN7 & Aquila Ave																										
Start Time	From North (Southbound)						From East (Westbound)						From South (Northbound)						From West (Eastbound)						15-min Veh Total	15-min Ped Total
	U	L	T	R	App	Ped*	U	L	T	R	App	Ped*	U	L	T	R	App	Ped*	U	L	T	R	App	Ped*		
12:00	-	34	52	7	93	2	1	50	152	52	255	1	-	48	55	54	157	-	1	95	154	36	286	-	791	3
12:15	-	46	65	10	121	2	-	56	160	48	264	-	-	40	44	46	130	-	2	93	161	36	292	4	807	6
12:30	-	53	67	6	126	-	-	60	161	41	262	1	-	37	51	70	158	-	-	83	164	34	281	-	827	1
12:45	-	43	43	12	98	1	-	58	143	38	239	2	-	45	57	59	161	2	-	84	152	38	274	2	772	7
Total	-	176	227	35	438	5	1	224	616	179	1020	4	-	170	207	229	606	2	3	355	631	144	1133	6	3197	17
% App	-	40%	52%	8%	100%	-	0%	22%	60%	18%	100%	-	-	28%	34%	38%	100%	-	0%	31%	56%	13%	100%	-	-	-
% Total	-	6%	7%	1%	14%	29%	0%	7%	19%	6%	32%	24%	-	5%	6%	7%	19%	12%	0%	11%	20%	5%	35%	35%	100%	100%
PHF	-	0.830	0.847	0.729	0.869	-	0.250	0.933	0.957	0.861	0.966	-	-	0.885	0.908	0.818	0.941	-	0.375	0.934	0.962	0.947	0.970	-	0.966	-
Passenger Vehicles	-	176	219	35	430	-	1	213	597	177	988	-	-	164	204	222	590	-	3	354	610	139	1106	-	3114	-
Passenger Vehicles %	-	100%	96%	100%	98%	-	100%	95%	97%	99%	97%	-	-	96%	99%	97%	97%	-	100%	100%	97%	97%	98%	-	97%	-
HC Vehicles	-	-	8	-	8	-	-	11	19	2	32	-	-	6	3	7	16	-	-	1	21	5	27	-	83	-
HC Vehicles %	-	-	4%	-	2%	-	-	5%	3%	1%	3%	-	-	4%	1%	3%	3%	-	-	0%	3%	3%	2%	-	3%	-

All Vehicles_PM Peak (4:30PM-5:30PM) at #21 MN7 & Aquila Ave																										
Start Time	From North (Southbound)						From East (Westbound)						From South (Northbound)						From West (Eastbound)						15-min Veh Total	15-min Ped Total
	U	L	T	R	App	Ped*	U	L	T	R	App	Ped*	U	L	T	R	App	Ped*	U	L	T	R	App	Ped*		
16:30	1	56	76	8	141	-	-	50	321	35	406	2	-	44	75	87	206	-	-	81	417	35	533	4	1286	6
16:45	-	47	44	10	101	1	-	78	300	44	422	4	-	33	57	87	177	-	-	102	419	46	567	1	1267	6
17:00	-	66	72	14	152	1	-	51	294	43	388	2	1	41	66	79	187	-	1	92	411	39	543	-	1270	3
17:15	-	56	71	7	134	-	2	79	290	51	422	1	-	40	82	90	212	-	-	104	395	43	542	1	1310	2
Total	1	225	263	39	528	2	2	258	1205	173	1638	9	1	158	280	343	782	-	1	379	1642	163	2185	6	5133	17
% App	0%	43%	50%	7%	100%	-	0%	16%	74%	11%	100%	-	0%	20%	36%	44%	100%	-	0%	17%	75%	7%	100%	-	-	-
% Total	0%	4%	5%	1%	10%	12%	0%	5%	23%	3%	32%	53%	0%	3%	5%	7%	15%	-	0%	7%	32%	3%	43%	35%	100%	100%
PHF	0.250	0.852	0.865	0.696	0.868	-	0.250	0.816	0.938	0.848	0.970	-	0.250	0.898	0.854	0.953	0.922	-	0.250	0.911	0.980	0.886	0.963	-	0.980	-
Passenger Vehicles	1	224	260	39	524	-	2	254	1194	170	1620	-	1	152	276	341	770	-	1	379	1626	160	2166	-	5080	-
Passenger Vehicles %	100%	100%	99%	100%	99%	-	100%	98%	99%	98%	99%	-	100%	96%	99%	99%	98%	-	100%	100%	99%	98%	99%	-	99%	-
HC Vehicles	-	1	3	-	4	-	-	4	11	3	18	-	-	6	4	2	12	-	-	-	16	3	19	-	53	-
HC Vehicles %	-	0%	1%	-	1%	-	-	2%	1%	2%	1%	-	-	4%	1%	1%	2%	-	-	-	1%	2%	1%	-	1%	-

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 asterisk (*) indicates pedestrians and bicyclists on crosswalk
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 % App = percentage of specific movement total in relation to its approach total
 % Total = percentage of specific movement total in relation to its intersection total
 Passenger Vehicles % = percentage of passenger vehicle total in a specific movement
 HC Vehicles % = percentage of heavy commercial vehicle total in a specific movement

Intersection Traffic Counts

Intersection: #21 MN7 & Aquila Ave
Count Date(s): Wed, Mar 7, 2018
Peaks: 6-9:30AM, 11AM-1PM, 2:30-6PM

Prepared by: Associated Consulting Services LLC
 www.acsteam.com
 (612) 568-3227

Passenger Vehicles_Entire Duration (6-9:30AM, 11AM-1PM, 2:30-6PM) at #21 MN7 & Aquila Ave																				
Start Time	From North (Southbound)					From East (Westbound)					From South (Northbound)					From West (Eastbound)				
	U	L	T	R	Ped*	U	L	T	R	Ped*	U	L	T	R	Ped*	U	L	T	R	Ped*
6:00	-	7	6	1	-	-	22	44	8	-	-	22	6	20	-	-	9	115	3	-
6:15	-	3	-	-	-	-	24	94	12	-	-	21	5	29	-	-	8	176	12	1
6:30	-	9	12	2	-	-	22	144	13	-	1	34	6	19	-	-	17	225	12	-
6:45	-	11	12	-	-	-	42	165	17	-	-	27	18	39	-	1	10	216	13	-
7:00	-	10	18	2	-	-	30	255	14	-	-	36	12	51	-	1	14	281	14	1
7:15	-	14	15	2	-	-	52	289	18	-	-	27	20	50	1	-	23	419	25	1
7:30	-	19	15	1	-	-	47	375	24	1	-	41	14	63	-	1	13	416	17	-
7:45	-	16	24	5	-	-	53	438	21	-	-	39	30	47	-	-	35	457	35	1
8:00	-	22	21	2	-	-	58	353	25	-	1	30	21	66	-	-	33	442	31	-
8:15	-	16	22	2	-	-	81	312	29	-	-	40	31	82	-	-	42	347	32	-
8:30	-	25	19	1	-	-	44	324	30	-	-	38	22	61	1	-	38	329	29	2
8:45	-	19	29	4	-	-	35	242	26	-	-	42	30	47	-	-	59	279	27	-
9:00	-	25	21	2	1	-	34	158	32	1	-	37	24	48	-	-	47	267	29	2
9:15	-	14	26	4	-	-	29	147	27	-	-	24	31	39	-	2	61	234	24	-
9:30	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
9:45	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
10:00	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
10:15	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
10:30	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
10:45	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
11:00	-	49	37	14	-	-	35	124	45	1	-	32	43	43	-	-	79	123	23	1
11:15	-	35	41	12	-	-	38	144	38	-	-	22	59	48	-	-	68	142	43	2
11:30	-	32	58	10	2	-	58	141	52	-	-	38	43	35	-	-	79	143	29	3
11:45	-	47	47	10	-	2	40	143	38	5	-	42	47	45	-	-	80	162	40	1
12:00	-	34	50	7	2	1	49	149	51	1	-	46	54	51	-	1	95	146	35	-
12:15	-	46	62	10	2	-	54	156	48	-	-	38	42	44	-	2	93	161	36	4
12:30	-	53	65	6	-	-	54	151	41	1	-	35	51	69	-	-	82	158	32	-
12:45	-	43	42	12	1	-	56	141	37	2	-	45	57	58	2	-	84	145	36	2
13:00	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
13:15	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
13:30	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
13:45	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
14:00	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
14:15	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
14:30	-	57	59	12	-	-	54	184	44	1	-	34	46	34	-	-	82	167	20	-
14:45	-	40	58	11	-	-	55	193	36	-	2	37	51	45	-	2	72	170	36	-
15:00	-	45	60	6	-	-	49	234	29	2	1	38	47	57	-	-	69	219	26	2
15:15	-	45	54	9	-	-	53	249	52	1	-	37	59	53	-	2	77	245	35	3
15:30	-	33	53	14	-	-	59	271	36	3	-	44	62	71	-	-	100	279	37	-
15:45	-	48	52	8	-	-	66	232	42	1	-	44	54	57	2	-	70	316	43	1
16:00	-	66	42	11	1	-	48	264	44	3	-	35	46	58	2	-	103	368	29	5
16:15	-	50	74	10	-	-	55	273	35	2	-	39	55	73	-	1	113	393	36	1
16:30	1	56	75	8	-	-	49	319	34	2	-	41	74	86	-	-	81	411	35	4
16:45	-	47	44	10	1	-	77	298	43	4	-	32	56	87	-	-	102	415	45	1
17:00	-	65	70	14	1	-	49	289	43	2	1	40	66	79	-	1	92	407	38	-
17:15	-	56	71	7	-	2	79	288	50	1	-	39	80	89	-	-	104	393	42	1
17:30	-	41	67	4	-	-	57	276	44	-	-	47	79	88	-	-	85	379	45	5
17:45	-	46	59	3	1	-	66	255	41	5	-	35	63	73	-	-	92	340	48	2

U = U-Turn, L = Left, T = Thru, R = Right
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 dash (-) in the table indicates zero or not applicable

Intersection Traffic Counts

Intersection: #21 MN7 & Aquila Ave
Count Date(s): Wed, Mar 7, 2018
Peaks: 6-9:30AM, 11AM-1PM, 2:30-6PM

Prepared by: Associated Consulting Services LLC
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HC Vehicles_Entire Duration (6-9:30AM, 11AM-1PM, 2:30-6PM) at #21 MN7 & Aquila Ave																
Start Time	From North (Southbound)				From East (Westbound)				From South (Northbound)				From West (Eastbound)			
	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
6:00	-	-	-	1	-	1	5	-	-	-	-	1	-	-	-	1
6:15	1	-	-	-	-	1	4	-	-	1	1	-	-	-	3	2
6:30	-	-	-	-	-	-	3	-	-	-	-	-	-	2	4	4
6:45	-	-	-	-	-	1	9	1	-	1	1	1	-	1	4	2
7:00	-	-	-	1	-	1	3	1	-	2	-	1	-	-	5	4
7:15	-	-	-	-	-	3	8	1	-	3	2	-	-	-	5	-
7:30	-	-	-	-	-	1	3	1	-	1	-	1	-	2	5	4
7:45	-	-	1	-	-	1	6	-	-	1	-	-	-	2	5	3
8:00	-	-	2	-	-	1	10	2	-	3	-	2	-	-	3	1
8:15	-	1	-	-	-	2	9	1	-	2	1	-	-	-	7	2
8:30	-	-	3	-	-	3	14	1	-	1	-	1	-	2	7	2
8:45	-	-	-	-	-	1	5	-	-	4	1	1	-	2	4	4
9:00	-	1	2	-	-	5	7	1	-	-	-	1	-	1	7	3
9:15	-	1	1	-	-	-	7	-	-	2	3	-	-	1	8	-
9:30	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
9:45	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
10:00	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
10:15	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
10:30	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
10:45	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
11:00	-	-	3	-	-	1	4	-	-	4	1	1	-	-	2	1
11:15	-	-	2	-	-	-	7	1	-	1	3	1	-	-	8	-
11:30	-	1	1	-	-	1	3	1	-	2	-	-	-	1	6	2
11:45	-	-	1	-	1	-	6	1	-	-	-	1	-	1	3	1
12:00	-	-	2	-	-	1	3	1	-	2	1	3	-	-	8	1
12:15	-	-	3	-	-	2	4	-	-	2	2	2	-	-	-	-
12:30	-	-	2	-	-	6	10	-	-	2	-	1	-	1	6	2
12:45	-	-	1	-	-	2	2	1	-	-	-	1	-	-	7	2
13:00	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
13:15	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
13:30	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
13:45	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
14:00	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
14:15	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
14:30	-	-	2	-	-	1	8	-	-	1	-	1	-	1	7	-
14:45	-	-	-	-	-	3	6	1	-	-	1	2	-	-	7	8
15:00	-	-	2	-	-	1	6	2	-	-	2	1	-	1	2	1
15:15	-	-	-	-	-	3	7	-	-	1	3	1	-	1	7	-
15:30	-	-	1	-	-	4	6	1	-	1	1	1	-	1	5	6
15:45	-	-	1	-	-	-	4	-	-	5	-	2	-	-	1	1
16:00	-	-	2	-	-	1	3	2	-	3	2	2	-	1	4	2
16:15	-	1	-	-	-	-	2	-	-	4	1	1	-	-	7	-
16:30	-	-	1	-	-	1	2	1	-	3	1	1	-	-	6	-
16:45	-	-	-	-	-	1	2	1	-	1	1	-	-	-	4	1
17:00	-	1	2	-	-	2	5	-	-	1	-	-	-	-	4	1
17:15	-	-	-	-	-	-	2	1	-	1	2	1	-	-	2	1
17:30	-	1	-	-	-	-	2	-	-	2	1	1	-	-	3	-
17:45	-	-	-	-	-	3	2	-	-	-	-	1	-	-	2	-

U = U-Turn, L = Left, T = Thru, R = Right
 dash (-) in the table indicates zero or not applicable

Intersection Traffic Counts

Intersection: #23 Blake Rd & Cambridge
Count Date(s): Wed, Mar 7, 2018
Peaks: 6-9:30AM, 11AM-1PM, 2:30-6PM

Prepared by: Associated Consulting Services LLC
 www.acsteam.com
 (612) 568-3227

All Vehicles_Entire Duration (6-9:30AM, 11AM-1PM, 2:30-6PM) at #23 Blake Rd & Cambridge																											
Start Time	From North (Southbound)						From East (Westbound)						From South (Northbound)						From West (Eastbound)						15-min Veh Total	15-min Ped Total	
	U	L	T	R	App	Ped*	U	L	T	R	App	Ped*	U	L	T	R	App	Ped*	U	L	T	R	App	Ped*			
6:00	1	-	29	2	32	-	-	-	1	4	5	-	-	6	27	1	34	1	-	25	-	4	29	1	100	2	
6:15	2	2	33	6	43	1	-	2	1	5	8	1	-	3	28	2	33	1	-	23	-	9	32	-	116	3	
6:30	1	-	59	4	64	1	-	3	-	3	6	1	-	3	61	2	66	1	-	22	7	12	41	-	177	3	
6:45	-	3	55	9	67	3	-	7	3	6	16	-	-	3	68	2	73	1	-	38	2	10	50	-	206	4	
7:00	-	2	67	9	78	-	-	4	4	6	14	1	-	6	70	-	76	-	-	30	2	16	48	-	216	1	
7:15	3	-	75	3	81	2	-	8	1	10	19	2	-	9	72	3	84	-	-	38	4	20	62	-	246	4	
7:30	1	6	91	10	108	1	-	7	6	9	22	-	-	9	74	4	87	2	-	30	8	17	55	1	272	4	
7:45	-	2	93	7	102	-	-	1	3	2	6	-	-	16	81	7	104	2	-	44	2	16	62	1	274	3	
8:00	2	4	117	8	131	-	-	2	1	7	10	-	-	11	75	2	88	-	-	48	1	15	64	-	293	-	
8:15	1	4	81	7	93	2	-	3	2	7	12	2	-	14	90	2	106	-	-	44	4	14	62	1	273	5	
8:30	-	3	75	9	87	2	-	2	3	5	10	-	-	5	75	5	85	2	-	44	2	16	62	-	244	4	
8:45	-	5	74	9	88	1	-	2	4	4	10	2	1	10	71	2	84	2	-	36	3	8	47	2	229	7	
9:00	1	4	64	3	72	1	-	3	2	5	10	2	1	10	49	2	62	-	-	40	3	8	51	-	195	3	
9:15	1	2	56	5	64	1	-	-	3	2	5	1	-	11	63	2	76	2	-	28	5	7	40	-	185	4	
9:30	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
9:45	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
10:00	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
10:15	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
10:30	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
10:45	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
11:00	1	20	75	15	111	1	-	4	5	6	15	1	-	12	86	10	108	2	-	35	3	14	52	-	286	4	
11:15	3	15	94	21	133	2	-	4	5	16	25	3	1	20	67	6	94	6	-	41	3	20	64	1	316	12	
11:30	1	21	93	7	122	-	-	5	3	14	22	2	-	13	88	9	110	3	-	33	6	25	64	3	318	8	
11:45	-	17	88	14	119	1	-	8	4	19	31	2	-	20	97	10	127	3	-	43	4	20	67	-	344	6	
12:00	1	9	104	27	141	2	-	8	4	14	26	3	-	17	70	13	100	2	-	44	4	16	64	2	331	9	
12:15	4	15	112	23	154	1	-	12	3	22	37	-	-	21	81	9	111	-	-	48	3	22	73	-	375	1	
12:30	1	14	87	18	120	-	-	8	5	8	21	1	-	11	84	11	106	-	-	63	7	11	81	2	328	3	
12:45	1	13	101	27	142	1	-	9	3	10	22	-	-	21	97	9	127	2	-	54	5	16	75	1	366	4	
13:00	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
13:15	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
13:30	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
13:45	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
14:00	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
14:15	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
14:30	2	9	119	20	150	-	-	4	3	7	14	1	-	14	76	4	94	1	-	50	1	18	69	-	327	2	
14:45	2	8	106	15	131	1	-	6	7	12	25	2	1	13	87	2	103	2	-	41	5	15	61	2	320	7	
15:00	1	14	103	9	127	-	-	5	2	6	13	1	-	11	106	6	123	2	-	46	6	11	63	1	326	4	
15:15	3	15	119	16	153	1	-	8	3	5	16	-	-	13	129	6	148	1	-	41	4	15	60	-	377	2	
15:30	2	9	128	18	157	2	-	4	3	15	22	3	-	16	106	12	134	4	-	40	5	27	72	1	385	10	
15:45	1	9	102	16	128	3	-	8	3	8	19	4	-	16	123	16	155	6	-	33	2	21	56	2	358	15	
16:00	-	11	93	21	125	-	-	8	2	6	16	3	1	18	110	10	139	5	-	48	5	23	76	1	356	9	
16:15	2	8	114	13	137	1	-	9	4	12	25	-	-	19	133	12	164	2	-	45	7	30	82	3	408	6	
16:30	3	8	129	26	166	-	-	7	6	8	21	4	-	21	139	20	180	1	-	40	5	17	62	1	429	6	
16:45	1	20	118	22	161	3	-	9	3	9	21	-	1	12	133	8	154	6	-	52	5	18	75	4	411	13	
17:00	2	7	130	27	166	2	-	5	8	7	20	3	1	19	148	11	179	4	-	47	5	18	70	1	435	10	
17:15	5	14	130	13	162	1	-	10	-	10	20	4	-	17	134	9	160	1	-	54	1	25	80	4	422	10	
17:30	2	15	111	23	151	-	-	5	5	10	20	4	2	15	142	11	170	1	-	38	4	17	59	2	400	7	
17:45	2	20	110	24	156	-	-	9	4	10	23	3	1	23	124	9	157	-	-	56	8	28	92	-	428	3	
Total	53	328	3335	506	4222	37	-	199	119	309	627	56	10	478	3264	249	4001	68	-	1482	141	599	2222	37	11072	198	
% App	1%	8%	79%	12%	100%	-	-	32%	19%	49%	100%	-	0%	12%	82%	6%	100%	-	-	67%	6%	27%	100%	-	-	-	
% Total	0%	3%	30%	5%	38%	19%	-	2%	1%	3%	6%	28%	0%	4%	29%	2%	36%	34%	-	13%	1%	5%	20%	19%	100%	100%	
Passenger Vehicles	53	318	3207	480	4058	-	-	195	115	302	612	-	10	471	3191	241	3913	-	-	1433	138	573	2144	-	10727	-	
Passenger Vehicles %	100%	97%	96%	95%	96%	-	-	98%	97%	98%	98%	-	100%	99%	98%	97%	98%	-	-	97%	98%	96%	96%	-	97%	-	
HC Vehicles	-	10	128	26	164	-	-	4	4	7	15	-	-	7	73	8	88	-	-	49	3	26	78	-	345	-	
HC Vehicles %	-	3%	4%	5%	4%	-	-	2%	3%	2%	2%	-	-	1%	2%	3%	2%	-	-	3%	2%	4%	4%	-	3%	-	

U = U-Turn, L = Left, T = Thru, R = Right, App = Approach Total
 asterisk (*) indicates pedestrians and bicyclists on crosswalk
 dash (-) in the table indicates zero or not applicable
 % App = percentage of specific movement total in relation to its approach total
 % Total = percentage of specific movement total in relation to its intersection total
 Passenger Vehicles % = percentage of passenger vehicle total in a specific movement
 HC Vehicles % = percentage of heavy commercial vehicle total in a specific movement

Intersection Traffic Counts

Intersection: #23 Blake Rd & Cambridge
Count Date(s): Wed, Mar 7, 2018
Peaks: 6-9:30AM, 11AM-1PM, 2:30-6PM

Prepared by: Associated Consulting Services LLC
 www.acsteam.com
 (612) 568-3227

All Vehicles_AM Peak (7:30AM-8:30AM) at #23 Blake Rd & Cambridge																										
Start Time	From North (Southbound)						From East (Westbound)						From South (Northbound)						From West (Eastbound)						15-min Veh Total	15-min Ped Total
	U	L	T	R	App	Ped*	U	L	T	R	App	Ped*	U	L	T	R	App	Ped*	U	L	T	R	App	Ped*		
7:30	1	6	91	10	108	1	-	7	6	9	22	-	-	9	74	4	87	2	-	30	8	17	55	1	272	4
7:45	-	2	93	7	102	-	-	1	3	2	6	-	-	16	81	7	104	2	-	44	2	16	62	1	274	3
8:00	2	4	117	8	131	-	-	2	1	7	10	-	-	11	75	2	88	-	-	48	1	15	64	-	293	-
8:15	1	4	81	7	93	2	-	3	2	7	12	2	-	14	90	2	106	-	-	44	4	14	62	1	273	5
Total	4	16	382	32	434	3	-	13	12	25	50	2	-	50	320	15	385	4	-	166	15	62	243	3	1112	12
% App	1%	4%	88%	7%	100%	-	-	26%	24%	50%	100%	-	-	13%	83%	4%	100%	-	-	68%	6%	26%	100%	-	-	-
% Total	0%	1%	34%	3%	39%	25%	-	1%	1%	2%	4%	17%	-	4%	29%	1%	35%	33%	-	15%	1%	6%	22%	25%	100%	100%
PHF	0.500	0.667	0.816	0.800	0.828	-	-	0.464	0.500	0.694	0.568	-	-	0.781	0.889	0.536	0.908	-	-	0.865	0.469	0.912	0.949	-	0.949	-
Passenger Vehicles	4	15	362	29	410	-	-	13	11	25	49	-	-	49	313	14	376	-	-	159	15	56	230	-	1065	-
Passenger Vehicles %	100%	94%	95%	91%	94%	-	-	100%	92%	100%	98%	-	-	98%	98%	93%	98%	-	-	96%	100%	90%	95%	-	96%	-
HC Vehicles	-	1	20	3	24	-	-	-	1	-	1	-	-	1	7	1	9	-	-	7	-	6	13	-	47	-
HC Vehicles %	-	6%	5%	9%	6%	-	-	-	8%	-	2%	-	-	2%	2%	7%	2%	-	-	4%	-	10%	5%	-	4%	-

All Vehicles_Midday Peak (12:00PM-1:00PM) at #23 Blake Rd & Cambridge																										
Start Time	From North (Southbound)						From East (Westbound)						From South (Northbound)						From West (Eastbound)						15-min Veh Total	15-min Ped Total
	U	L	T	R	App	Ped*	U	L	T	R	App	Ped*	U	L	T	R	App	Ped*	U	L	T	R	App	Ped*		
12:00	1	9	104	27	141	2	-	8	4	14	26	3	-	17	70	13	100	2	-	44	4	16	64	2	331	9
12:15	4	15	112	23	154	1	-	12	3	22	37	-	-	21	81	9	111	-	-	48	3	22	73	-	375	1
12:30	1	14	87	18	120	-	-	8	5	8	21	1	-	11	84	11	106	-	-	63	7	11	81	2	328	3
12:45	1	13	101	27	142	1	-	9	3	10	22	-	-	21	97	9	127	2	-	54	5	16	75	1	366	4
Total	7	51	404	95	557	4	-	37	15	54	106	4	-	70	332	42	444	4	-	209	19	65	293	5	1400	17
% App	1%	9%	73%	17%	100%	-	-	35%	14%	51%	100%	-	-	16%	75%	9%	100%	-	-	71%	6%	22%	100%	-	-	-
% Total	1%	4%	29%	7%	40%	24%	-	3%	1%	4%	8%	24%	-	5%	24%	3%	32%	24%	-	15%	1%	5%	21%	29%	100%	100%
PHF	0.438	0.850	0.902	0.880	0.904	-	-	0.771	0.750	0.614	0.716	-	-	0.833	0.856	0.808	0.874	-	-	0.829	0.679	0.739	0.904	-	0.933	-
Passenger Vehicles	7	50	383	93	533	-	-	36	13	54	103	-	-	67	324	40	431	-	-	201	18	63	282	-	1349	-
Passenger Vehicles %	100%	98%	95%	98%	96%	-	-	97%	87%	100%	97%	-	-	96%	98%	95%	97%	-	-	96%	95%	97%	96%	-	96%	-
HC Vehicles	-	1	21	2	24	-	-	1	2	-	3	-	-	3	8	2	13	-	-	8	1	2	11	-	51	-
HC Vehicles %	-	2%	5%	2%	4%	-	-	3%	13%	-	3%	-	-	4%	2%	5%	3%	-	-	4%	5%	3%	4%	-	4%	-

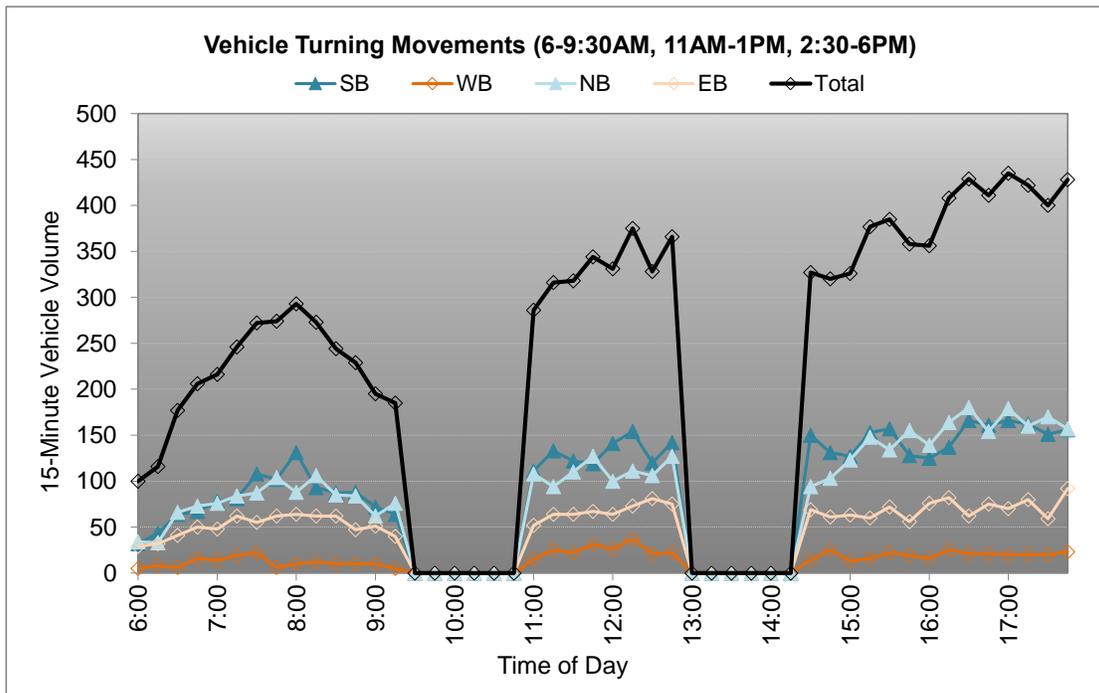
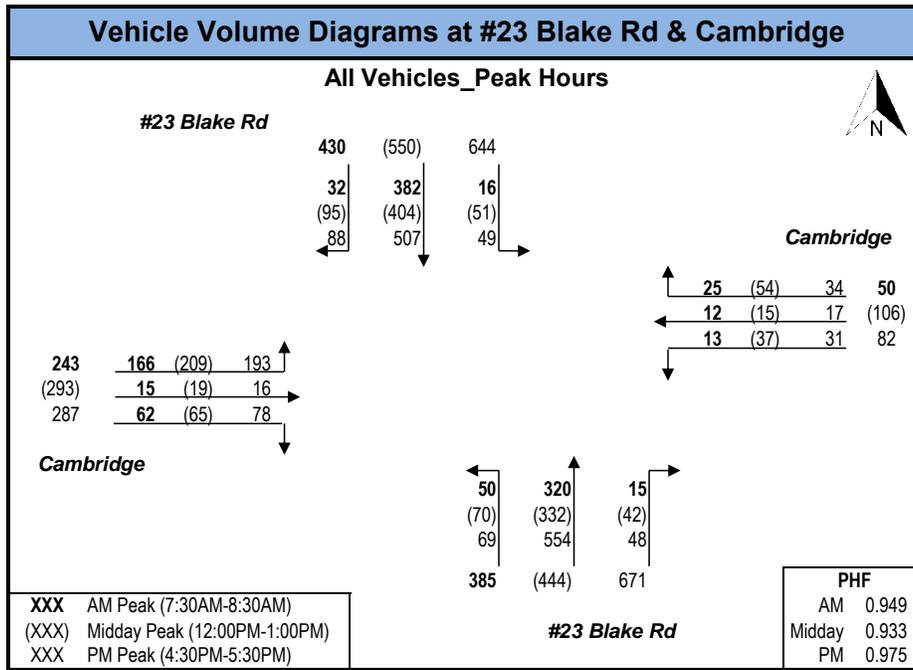
All Vehicles_PM Peak (4:30PM-5:30PM) at #23 Blake Rd & Cambridge																										
Start Time	From North (Southbound)						From East (Westbound)						From South (Northbound)						From West (Eastbound)						15-min Veh Total	15-min Ped Total
	U	L	T	R	App	Ped*	U	L	T	R	App	Ped*	U	L	T	R	App	Ped*	U	L	T	R	App	Ped*		
16:30	3	8	129	26	166	-	-	7	6	8	21	4	-	21	139	20	180	1	-	40	5	17	62	1	429	6
16:45	1	20	118	22	161	3	-	9	3	9	21	-	-	12	133	8	154	6	-	52	5	18	75	4	411	13
17:00	2	7	130	27	166	2	-	5	8	7	20	3	-	19	148	11	179	4	-	47	5	18	70	1	435	10
17:15	5	14	130	13	162	1	-	10	-	10	20	4	-	17	134	9	160	1	-	54	1	25	80	4	422	10
Total	11	49	507	88	655	6	-	31	17	34	82	11	-	69	554	48	673	12	-	193	16	78	287	10	1697	39
% App	2%	7%	77%	13%	100%	-	-	38%	21%	41%	100%	-	0%	10%	82%	7%	100%	-	-	67%	6%	27%	100%	-	-	-
% Total	1%	3%	30%	5%	39%	15%	-	2%	1%	2%	5%	28%	0%	4%	33%	3%	40%	31%	-	11%	1%	5%	17%	26%	100%	100%
PHF	0.550	0.613	0.975	0.815	0.986	-	-	0.775	0.531	0.850	0.976	-	0.500	0.821	0.936	0.600	0.935	-	-	0.894	0.800	0.780	0.897	-	0.975	-
Passenger Vehicles	11	48	500	87	646	-	-	31	17	34	82	-	-	69	549	48	668	-	-	186	16	77	279	-	1675	-
Passenger Vehicles %	100%	98%	99%	99%	99%	-	-	100%	100%	100%	100%	-	100%	100%	99%	100%	99%	-	-	96%	100%	99%	97%	-	99%	-
HC Vehicles	-	1	7	1	9	-	-	-	-	-	-	-	-	-	5	-	5	-	-	7	-	1	8	-	22	-
HC Vehicles %	-	2%	1%	1%	1%	-	-	-	-	-	-	-	-	-	1%	-	1%	-	-	4%	-	1%	3%	-	1%	-

U = U-Turn, L = Left, T = Thru, R = Right, App = Approach Total
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Intersection Traffic Counts

Intersection: #23 Blake Rd & Cambridge
Count Date(s): Wed, Mar 7, 2018
Peaks: 6-9:30AM, 11AM-1PM, 2:30-6PM

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Intersection Traffic Counts

Intersection: #23 Blake Rd & Cambridge
Count Date(s): Wed, Mar 7, 2018
Peaks: 6-9:30AM, 11AM-1PM, 2:30-6PM

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Passenger Vehicles_Entire Duration (6-9:30AM, 11AM-1PM, 2:30-6PM) at #23 Blake Rd & Cambridge																				
Start Time	From North (Southbound)					From East (Westbound)					From South (Northbound)					From West (Eastbound)				
	U	L	T	R	Ped*	U	L	T	R	Ped*	U	L	T	R	Ped*	U	L	T	R	Ped*
6:00	1	-	28	1	-	-	-	1	3	-	-	6	27	-	1	-	24	-	3	1
6:15	2	2	31	5	1	-	1	1	5	1	-	3	28	2	1	-	23	-	9	-
6:30	1	-	56	2	1	-	3	-	3	1	-	3	58	2	1	-	22	7	12	-
6:45	-	2	50	8	3	-	7	3	5	-	-	3	67	2	1	-	37	2	8	-
7:00	-	2	65	8	-	-	4	4	5	1	-	6	66	-	-	-	29	2	14	-
7:15	3	-	72	1	2	-	8	1	10	2	-	9	71	3	-	-	36	4	18	-
7:30	1	5	86	9	1	-	7	6	9	-	-	9	74	4	2	-	29	8	15	1
7:45	-	2	91	5	-	-	1	3	2	-	-	15	78	7	2	-	42	2	15	1
8:00	2	4	112	8	-	-	2	1	7	-	-	11	74	1	-	-	46	1	12	-
8:15	1	4	73	7	2	-	3	1	7	2	-	14	87	2	-	-	42	4	14	1
8:30	-	3	70	9	2	-	2	3	5	-	-	5	74	4	2	-	42	2	15	-
8:45	-	5	65	8	1	-	2	4	3	2	1	9	71	2	2	-	36	3	6	2
9:00	1	4	64	3	1	-	2	2	5	2	1	10	47	2	-	-	37	2	6	-
9:15	1	2	51	4	1	-	-	3	2	1	-	11	61	2	2	-	28	5	7	-
9:30	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
9:45	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
10:00	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
10:15	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
10:30	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
10:45	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
11:00	1	18	73	14	1	-	4	5	6	1	-	11	85	9	2	-	32	3	14	-
11:15	3	15	92	21	2	-	4	5	16	3	1	20	66	6	6	-	39	3	18	1
11:30	1	21	88	7	-	-	5	3	14	2	-	13	87	7	3	-	33	6	25	3
11:45	-	16	86	11	1	-	8	4	17	2	-	20	94	10	3	-	42	4	20	-
12:00	1	9	101	27	2	-	8	3	14	3	-	17	68	12	2	-	40	4	16	2
12:15	4	14	104	23	1	-	12	3	22	-	-	19	79	8	-	-	46	2	20	-
12:30	1	14	83	18	-	-	7	4	8	1	-	11	83	11	-	-	63	7	11	2
12:45	1	13	95	25	1	-	9	3	10	-	-	20	94	9	2	-	52	5	16	1
13:00	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
13:15	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
13:30	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
13:45	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
14:00	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
14:15	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
14:30	2	8	111	17	-	-	4	3	7	1	-	14	73	4	1	-	49	1	18	-
14:45	2	7	103	14	1	-	6	7	12	2	1	13	86	2	2	-	39	5	15	2
15:00	1	14	99	9	-	-	5	2	6	1	-	11	102	6	2	-	44	6	11	1
15:15	3	15	111	16	1	-	8	3	5	-	-	13	124	6	1	-	40	4	15	-
15:30	2	8	125	18	2	-	4	3	14	3	-	16	100	12	4	-	40	4	26	1
15:45	1	9	98	15	3	-	7	3	8	4	-	16	116	16	6	-	32	2	20	2
16:00	-	11	93	21	-	-	8	2	6	3	1	18	107	10	5	-	46	5	22	1
16:15	2	8	113	13	1	-	9	3	12	-	-	18	130	12	2	-	44	7	30	3
16:30	3	8	128	26	-	-	7	6	8	4	-	21	138	20	1	-	38	5	17	1
16:45	1	20	113	21	3	-	9	3	9	-	1	12	133	8	6	-	51	5	18	4
17:00	2	7	129	27	2	-	5	8	7	3	1	19	147	11	4	-	44	5	18	1
17:15	5	13	130	13	1	-	10	-	10	4	-	17	131	9	1	-	53	1	24	4
17:30	2	15	109	23	-	-	5	5	10	4	2	15	141	11	1	-	38	4	17	2
17:45	2	20	109	23	-	-	9	4	10	3	1	23	124	9	-	-	55	8	28	-

U = U-Turn, L = Left, T = Thru, R = Right
 asterisk (*) indicates pedestrians and bicyclists on crosswalk
 dash (-) in the table indicates zero or not applicable

Intersection Traffic Counts

Intersection: #23 Blake Rd & Cambridge
Count Date(s): Wed, Mar 7, 2018
Peaks: 6-9:30AM, 11AM-1PM, 2:30-6PM

Prepared by: Associated Consulting Services LLC
 www.acsteam.com
 (612) 568-3227

HC Vehicles_Entire Duration (6-9:30AM, 11AM-1PM, 2:30-6PM) at #23 Blake Rd & Cambridge																
Start Time	From North (Southbound)				From East (Westbound)				From South (Northbound)				From West (Eastbound)			
	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
6:00	-	-	1	1	-	-	-	1	-	-	-	1	-	1	-	1
6:15	-	-	2	1	-	1	-	-	-	-	-	-	-	-	-	-
6:30	-	-	3	2	-	-	-	-	-	-	3	-	-	-	-	-
6:45	-	1	5	1	-	-	-	1	-	-	1	-	-	1	-	2
7:00	-	-	2	1	-	-	-	1	-	-	4	-	-	1	-	2
7:15	-	-	3	2	-	-	-	-	-	-	1	-	-	2	-	2
7:30	-	1	5	1	-	-	-	-	-	-	-	-	-	1	-	2
7:45	-	-	2	2	-	-	-	-	-	1	3	-	-	2	-	1
8:00	-	-	5	-	-	-	-	-	-	-	1	1	1	2	-	3
8:15	-	-	8	-	-	-	1	-	-	-	3	-	-	2	-	-
8:30	-	-	5	-	-	-	-	-	-	-	1	1	-	2	-	1
8:45	-	-	9	1	-	-	-	1	-	1	-	-	-	-	-	2
9:00	-	-	-	-	-	1	-	-	-	-	2	-	-	3	1	2
9:15	-	-	5	1	-	-	-	-	-	-	2	-	-	-	-	-
9:30	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
9:45	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
10:00	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
10:15	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
10:30	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
10:45	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
11:00	-	2	2	1	-	-	-	-	-	1	1	1	-	3	-	-
11:15	-	-	2	-	-	-	-	-	-	-	1	-	-	2	-	2
11:30	-	-	5	-	-	-	-	-	-	-	1	2	-	-	-	-
11:45	-	1	2	3	-	-	-	2	-	-	3	-	-	1	-	-
12:00	-	-	3	-	-	-	1	-	-	-	2	1	-	4	-	-
12:15	-	1	8	-	-	-	-	-	-	2	2	1	-	2	1	2
12:30	-	-	4	-	-	1	1	-	-	-	1	-	-	-	-	-
12:45	-	-	6	2	-	-	-	-	-	1	3	-	-	2	-	-
13:00	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
13:15	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
13:30	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
13:45	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
14:00	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
14:15	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
14:30	-	1	8	3	-	-	-	-	-	-	3	-	-	1	-	-
14:45	-	1	3	1	-	-	-	-	-	-	1	-	-	2	-	-
15:00	-	-	4	-	-	-	-	-	-	-	4	-	-	2	-	-
15:15	-	-	8	-	-	-	-	-	-	-	5	-	-	1	-	-
15:30	-	1	3	-	-	-	-	1	-	-	6	-	-	-	1	1
15:45	-	-	4	1	-	1	-	-	-	-	7	-	-	1	-	1
16:00	-	-	-	-	-	-	-	-	-	-	3	-	-	2	-	1
16:15	-	-	1	-	-	-	1	-	-	1	3	-	-	1	-	-
16:30	-	-	1	-	-	-	-	-	-	-	1	-	-	2	-	-
16:45	-	-	5	1	-	-	-	-	-	-	-	-	-	1	-	-
17:00	-	-	1	-	-	-	-	-	-	-	1	-	-	3	-	-
17:15	-	1	-	-	-	-	-	-	-	-	3	-	-	1	-	1
17:30	-	-	2	-	-	-	-	-	-	-	1	-	-	-	-	-
17:45	-	-	1	1	-	-	-	-	-	-	-	-	-	1	-	-

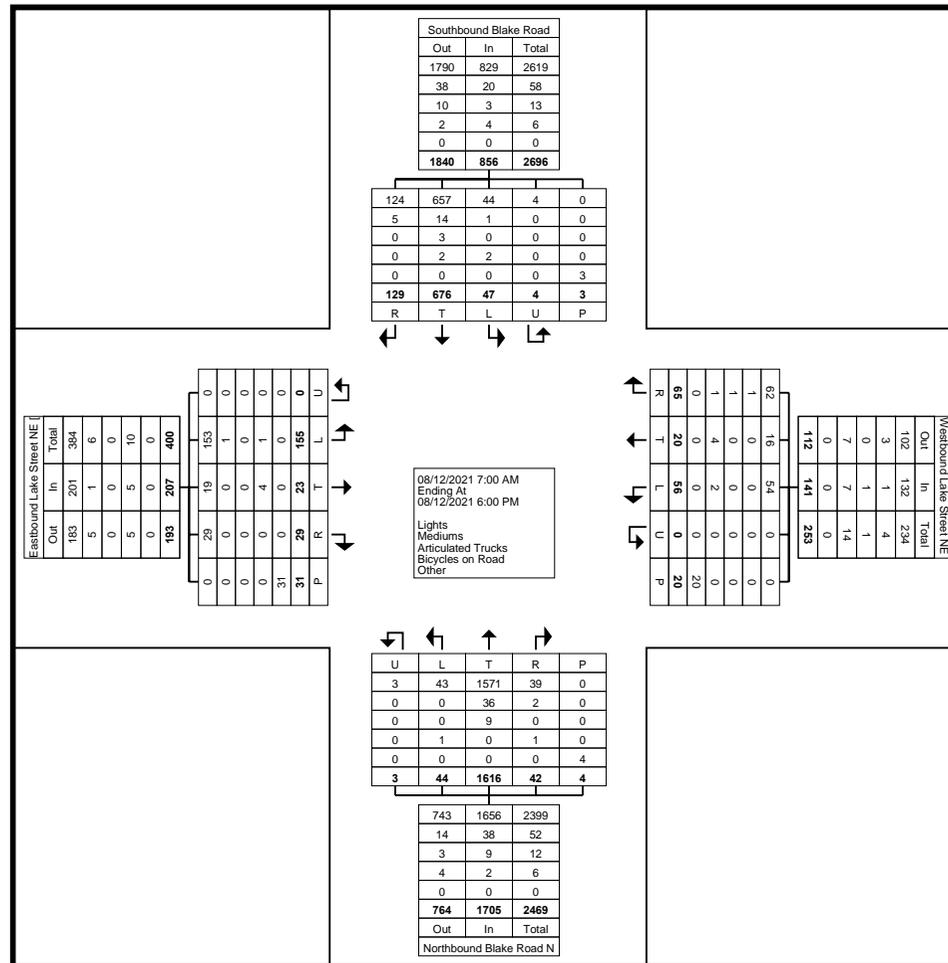
U = U-Turn, L = Left, T = Thru, R = Right
 dash (-) in the table indicates zero or not applicable

Turning Movement Data

Start Time	Eastbound Lake Street NE Eastbound						Westbound Lake Street NE Westbound						Northbound Blake Road N Northbound						Southbound Blake Road N Southbound						Int. 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	Left	Thru	Right	U-Turn	Peds	App. Total		
	7:00 AM	8	1	1	0	1	10	1	1	2	0	0	4	0	44	3	0	0	47	0	22	0	0	0		22
7:15 AM	10	1	0	0	2	11	1	3	2	0	0	6	1	40	1	0	0	42	2	26	1	0	1	29	88	
7:30 AM	13	0	1	0	0	14	3	1	2	0	1	6	0	57	1	0	0	58	0	30	3	0	0	33	111	
7:45 AM	4	1	1	0	0	6	2	1	1	0	2	4	1	63	0	1	0	65	1	44	3	0	0	48	123	
Hourly Total	35	3	3	0	3	41	7	6	7	0	3	20	2	204	5	1	0	212	3	122	7	0	1	132	405	
8:00 AM	10	1	2	0	1	13	3	0	2	0	0	5	1	76	0	0	0	77	4	23	5	0	0	32	127	
8:15 AM	5	1	1	0	0	7	3	0	6	0	1	9	2	83	2	2	0	89	5	22	4	1	0	32	137	
8:30 AM	5	1	1	0	2	7	0	0	6	0	1	6	2	67	3	0	1	72	1	34	5	0	0	40	125	
8:45 AM	11	0	0	0	3	11	2	0	3	0	0	5	0	73	0	0	0	73	4	34	4	0	0	42	131	
Hourly Total	31	3	4	0	6	38	8	0	17	0	2	25	5	299	5	2	1	311	14	113	18	1	0	146	520	
*** BREAK ***	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
4:00 PM	7	1	4	0	4	12	4	3	5	0	1	12	2	140	4	0	2	146	7	52	13	0	1	72	242	
4:15 PM	10	2	2	0	0	14	5	4	7	0	4	16	3	138	3	0	0	144	2	45	11	0	0	58	232	
4:30 PM	17	2	2	0	2	21	8	2	3	0	2	13	6	144	2	0	0	152	4	54	14	0	0	72	258	
4:45 PM	12	3	2	0	3	17	6	0	4	0	2	10	7	135	8	0	0	150	4	65	17	1	0	87	264	
Hourly Total	46	8	10	0	9	64	23	9	19	0	9	51	18	557	17	0	2	592	17	216	55	1	1	289	996	
5:00 PM	13	2	3	0	1	18	5	2	3	0	0	10	6	150	5	0	0	161	1	61	11	1	0	74	263	
5:15 PM	9	1	3	0	2	13	5	0	8	0	1	13	4	132	4	0	0	140	4	53	14	1	0	72	238	
5:30 PM	14	3	3	0	6	20	1	2	4	0	5	7	3	133	3	0	0	139	5	68	10	0	0	83	249	
5:45 PM	7	3	3	0	4	13	7	1	7	0	0	15	6	141	3	0	1	150	3	43	14	0	1	60	238	
Hourly Total	43	9	12	0	13	64	18	5	22	0	6	45	19	556	15	0	1	590	13	225	49	2	1	289	988	
Grand Total	155	23	29	0	31	207	56	20	65	0	20	141	44	1616	42	3	4	1705	47	676	129	4	3	856	2909	
Approach %	74.9	11.1	14.0	0.0	-	-	39.7	14.2	46.1	0.0	-	-	2.6	94.8	2.5	0.2	-	-	5.5	79.0	15.1	0.5	-	-	-	
Total %	5.3	0.8	1.0	0.0	-	7.1	1.9	0.7	2.2	0.0	-	4.8	1.5	55.6	1.4	0.1	-	58.6	1.6	23.2	4.4	0.1	-	29.4	-	
Lights	153	19	29	0	-	201	54	16	62	0	-	132	43	1571	39	3	-	1656	44	657	124	4	-	829	2818	
% Lights	98.7	82.6	100.0	-	-	97.1	96.4	80.0	95.4	-	-	93.6	97.7	97.2	92.9	100.0	-	97.1	93.6	97.2	96.1	100.0	-	-	96.8	96.9
Mediums	1	0	0	0	-	1	0	0	1	0	-	1	0	36	2	0	-	38	1	14	5	0	-	20	60	
% Mediums	0.6	0.0	0.0	-	-	0.5	0.0	0.0	1.5	-	-	0.7	0.0	2.2	4.8	0.0	-	2.2	2.1	2.1	3.9	0.0	-	2.3	2.1	
Articulated Trucks	0	0	0	0	-	0	0	0	1	0	-	1	0	9	0	0	-	9	0	3	0	0	-	3	13	
% Articulated Trucks	0.0	0.0	0.0	-	-	0.0	0.0	0.0	1.5	-	-	0.7	0.0	0.6	0.0	0.0	-	0.5	0.0	0.4	0.0	0.0	-	0.4	0.4	
Bicycles on Road	1	4	0	0	-	5	2	4	1	0	-	7	1	0	1	0	-	2	2	2	0	0	-	4	18	
% Bicycles on Road	0.6	17.4	0.0	-	-	2.4	3.6	20.0	1.5	-	-	5.0	2.3	0.0	2.4	0.0	-	0.1	4.3	0.3	0.0	0.0	-	0.5	0.6	
Bicycles on Crosswalk	-	-	-	-	5	-	-	-	-	-	1	-	-	-	-	-	1	-	-	-	-	-	1	-	-	
% Bicycles on Crosswalk	-	-	-	-	16.1	-	-	-	-	-	5.0	-	-	-	-	-	25.0	-	-	-	-	-	33.3	-	-	
Pedestrians	-	-	-	-	26	-	-	-	-	-	19	-	-	-	-	-	3	-	-	-	-	-	2	-	-	
% Pedestrians	-	-	-	-	83.9	-	-	-	-	-	95.0	-	-	-	-	-	75.0	-	-	-	-	-	66.7	-	-	

Kimley - Horn and Associates, Inc.
 4201 Winfield Road Suite 600
 Warrenville, Illinois, United States 60555
 (630) 487-5550 riley.mitts@kimley-horn.com

Count Name: Blake Road North & Lake Street
 Northeast
 Site Code:
 Start Date: 08/12/2021
 Page No: 2



Turning Movement Data Plot

Kimley - Horn and Associates, Inc.
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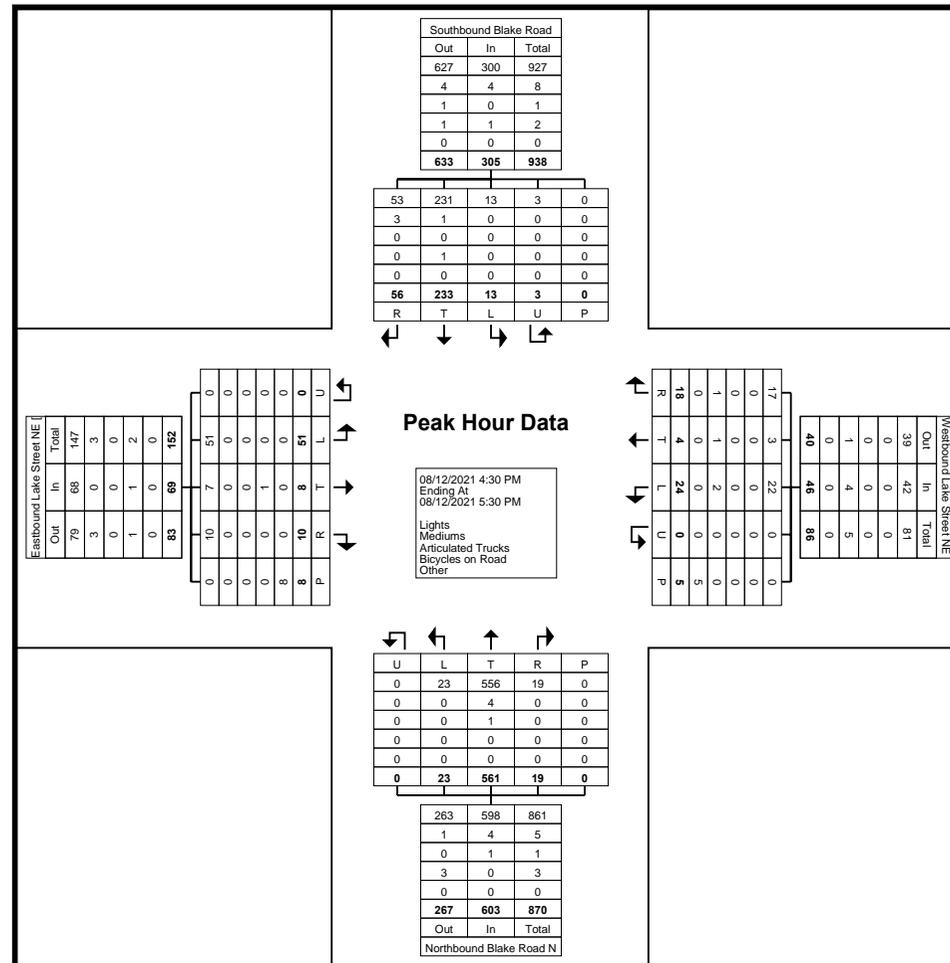
Count Name: Blake Road North & Lake Street
 Northeast
 Site Code:
 Start Date: 08/12/2021
 Page No: 3

Turning Movement Peak Hour Data (8:00 AM)

Start Time	Eastbound Lake Street NE Eastbound						Westbound Lake Street NE Westbound						Northbound Blake Road N Northbound						Southbound Blake Road N Southbound						Int. 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	Left	Thru	Right	U-Turn	Peds	App. Total	
8:00 AM	10	1	2	0	1	13	3	0	2	0	0	5	1	76	0	0	0	77	4	23	5	0	0	32	127
8:15 AM	5	1	1	0	0	7	3	0	6	0	1	9	2	83	2	2	0	89	5	22	4	1	0	32	137
8:30 AM	5	1	1	0	2	7	0	0	6	0	1	6	2	67	3	0	1	72	1	34	5	0	0	40	125
8:45 AM	11	0	0	0	3	11	2	0	3	0	0	5	0	73	0	0	0	73	4	34	4	0	0	42	131
Total	31	3	4	0	6	38	8	0	17	0	2	25	5	299	5	2	1	311	14	113	18	1	0	146	520
Approach %	81.6	7.9	10.5	0.0	-	-	32.0	0.0	68.0	0.0	-	-	1.6	96.1	1.6	0.6	-	-	9.6	77.4	12.3	0.7	-	-	-
Total %	6.0	0.6	0.8	0.0	-	7.3	1.5	0.0	3.3	0.0	-	4.8	1.0	57.5	1.0	0.4	-	59.8	2.7	21.7	3.5	0.2	-	28.1	-
PHF	0.705	0.750	0.500	0.000	-	0.731	0.667	0.000	0.708	0.000	-	0.694	0.625	0.901	0.417	0.250	-	0.874	0.700	0.831	0.900	0.250	-	0.869	0.949
Lights	30	2	4	0	-	36	8	0	17	0	-	25	4	282	5	2	-	293	12	111	17	1	-	141	495
% Lights	96.8	66.7	100.0	-	-	94.7	100.0	-	100.0	-	-	100.0	80.0	94.3	100.0	100.0	-	94.2	85.7	98.2	94.4	100.0	-	96.6	95.2
Mediums	1	0	0	0	-	1	0	0	0	0	-	0	0	14	0	0	-	14	1	2	1	0	-	4	19
% Mediums	3.2	0.0	0.0	-	-	2.6	0.0	-	0.0	-	-	0.0	0.0	4.7	0.0	0.0	-	4.5	7.1	1.8	5.6	0.0	-	2.7	3.7
Articulated Trucks	0	0	0	0	-	0	0	0	0	0	-	0	0	3	0	0	-	3	0	0	0	0	-	0	3
% Articulated Trucks	0.0	0.0	0.0	-	-	0.0	0.0	-	0.0	-	-	0.0	0.0	1.0	0.0	0.0	-	1.0	0.0	0.0	0.0	0.0	-	0.0	0.6
Bicycles on Road	0	1	0	0	-	1	0	0	0	0	-	0	1	0	0	0	-	1	1	0	0	0	-	1	3
% Bicycles on Road	0.0	33.3	0.0	-	-	2.6	0.0	-	0.0	-	-	0.0	20.0	0.0	0.0	0.0	-	0.3	7.1	0.0	0.0	0.0	-	0.7	0.6
Bicycles on Crosswalk	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	1	-	-	-	-	-	0	-	-
% Bicycles on Crosswalk	-	-	-	-	0.0	-	-	-	-	-	0.0	-	-	-	-	-	100.0	-	-	-	-	-	-	-	-
Pedestrians	-	-	-	-	6	-	-	-	-	-	2	-	-	-	-	-	0	-	-	-	-	-	0	-	-
% Pedestrians	-	-	-	-	100.0	-	-	-	-	-	100.0	-	-	-	-	-	0.0	-	-	-	-	-	-	-	-

Turning Movement Peak Hour Data (4:30 PM)

Start Time	Eastbound Lake Street NE Eastbound						Westbound Lake Street NE Westbound						Northbound Blake Road N Northbound						Southbound Blake Road N Southbound						Int. 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	Left	Thru	Right	U-Turn	Peds	App. Total	
4:30 PM	17	2	2	0	2	21	8	2	3	0	2	13	6	144	2	0	0	152	4	54	14	0	0	72	258
4:45 PM	12	3	2	0	3	17	6	0	4	0	2	10	7	135	8	0	0	150	4	65	17	1	0	87	264
5:00 PM	13	2	3	0	1	18	5	2	3	0	0	10	6	150	5	0	0	161	1	61	11	1	0	74	263
5:15 PM	9	1	3	0	2	13	5	0	8	0	1	13	4	132	4	0	0	140	4	53	14	1	0	72	238
Total	51	8	10	0	8	69	24	4	18	0	5	46	23	561	19	0	0	603	13	233	56	3	0	305	1023
Approach %	73.9	11.6	14.5	0.0	-	-	52.2	8.7	39.1	0.0	-	-	3.8	93.0	3.2	0.0	-	-	4.3	76.4	18.4	1.0	-	-	-
Total %	5.0	0.8	1.0	0.0	-	6.7	2.3	0.4	1.8	0.0	-	4.5	2.2	54.8	1.9	0.0	-	58.9	1.3	22.8	5.5	0.3	-	29.8	-
PHF	0.750	0.667	0.833	0.000	-	0.821	0.750	0.500	0.563	0.000	-	0.885	0.821	0.935	0.594	0.000	-	0.936	0.813	0.896	0.824	0.750	-	0.876	0.969
Lights	51	7	10	0	-	68	22	3	17	0	-	42	23	556	19	0	-	598	13	231	53	3	-	300	1008
% Lights	100.0	87.5	100.0	-	-	98.6	91.7	75.0	94.4	-	-	91.3	100.0	99.1	100.0	-	-	99.2	100.0	99.1	94.6	100.0	-	98.4	98.5
Mediums	0	0	0	0	-	0	0	0	0	0	-	0	0	4	0	0	-	4	0	1	3	0	-	4	8
% Mediums	0.0	0.0	0.0	-	-	0.0	0.0	0.0	0.0	-	-	0.0	0.0	0.7	0.0	-	-	0.7	0.0	0.4	5.4	0.0	-	1.3	0.8
Articulated Trucks	0	0	0	0	-	0	0	0	0	0	-	0	0	1	0	0	-	1	0	0	0	0	-	0	1
% Articulated Trucks	0.0	0.0	0.0	-	-	0.0	0.0	0.0	0.0	-	-	0.0	0.0	0.2	0.0	-	-	0.2	0.0	0.0	0.0	0.0	-	0.0	0.1
Bicycles on Road	0	1	0	0	-	1	2	1	1	0	-	4	0	0	0	0	-	0	0	1	0	0	-	1	6
% Bicycles on Road	0.0	12.5	0.0	-	-	1.4	8.3	25.0	5.6	-	-	8.7	0.0	0.0	0.0	-	-	0.0	0.0	0.4	0.0	0.0	-	0.3	0.6
Bicycles on Crosswalk	-	-	-	-	2	-	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	0	-	-
% Bicycles on Crosswalk	-	-	-	-	25.0	-	-	-	-	-	0.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Pedestrians	-	-	-	-	6	-	-	-	-	-	5	-	-	-	-	-	0	-	-	-	-	-	0	-	-
% Pedestrians	-	-	-	-	75.0	-	-	-	-	-	100.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Turning Movement Peak Hour Data Plot (4:30 PM)

Turning Movement Data

Start Time	2nd Street Westbound					2nd Street Eastbound					Blake Road Southbound					Blake Road Northbound					Int. Total
	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	
7:00 AM	0	0	0	1	0	12	0	13	0	25	0	20	31	0	51	7	28	0	0	35	111
7:15 AM	0	0	0	1	0	23	0	26	0	49	0	42	37	0	79	14	31	0	0	45	173
7:30 AM	0	0	0	0	0	28	0	21	0	49	0	53	55	0	108	15	31	0	0	46	203
7:45 AM	0	0	0	0	0	35	0	13	0	48	0	46	64	0	110	23	58	0	0	81	239
Hourly Total	0	0	0	2	0	98	0	73	0	171	0	161	187	0	348	59	148	0	0	207	726
8:00 AM	0	0	0	0	0	24	0	20	0	44	0	67	40	0	107	21	54	0	0	75	226
8:15 AM	0	0	0	0	0	19	0	11	0	30	0	61	41	0	102	8	65	0	1	73	205
8:30 AM	0	0	0	0	0	11	0	18	0	29	0	48	34	0	82	11	41	0	0	52	163
8:45 AM	0	0	0	0	0	10	0	14	0	24	0	41	36	0	77	20	41	0	1	61	162
Hourly Total	0	0	0	0	0	64	0	63	0	127	0	217	151	0	368	60	201	0	2	261	756
*** BREAK ***	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
4:00 PM	0	0	0	0	0	38	0	25	2	63	2	56	24	0	82	20	103	0	1	123	268
4:15 PM	0	0	0	3	0	44	0	32	0	76	0	62	28	1	90	17	108	0	0	125	291
4:30 PM	0	0	0	1	0	61	0	28	0	89	0	72	34	2	106	18	120	0	0	138	333
4:45 PM	0	0	0	1	0	50	0	30	1	80	0	73	29	1	102	24	99	0	0	123	305
Hourly Total	0	0	0	5	0	193	0	115	3	308	2	263	115	4	380	79	430	0	1	509	1197
5:00 PM	0	0	0	1	0	61	0	29	0	90	0	76	28	0	104	24	119	0	0	143	337
5:15 PM	0	0	0	3	0	58	0	32	0	90	0	49	40	2	89	20	103	0	0	123	302
5:30 PM	0	0	0	2	0	36	0	27	0	63	0	73	26	0	99	19	110	0	1	129	291
5:45 PM	0	0	0	0	0	38	0	21	0	59	0	68	31	0	99	14	70	0	0	84	242
Hourly Total	0	0	0	6	0	193	0	109	0	302	0	266	125	2	391	77	402	0	1	479	1172
Grand Total	0	0	0	13	0	548	0	360	3	908	2	907	578	6	1487	275	1181	0	4	1456	3851
Approach %	0.0	0.0	0.0	-	-	60.4	0.0	39.6	-	-	0.1	61.0	38.9	-	-	18.9	81.1	0.0	-	-	-
Total %	0.0	0.0	0.0	-	0.0	14.2	0.0	9.3	-	23.6	0.1	23.6	15.0	-	38.6	7.1	30.7	0.0	-	37.8	-
Lights	0	0	0	-	0	532	0	345	-	877	2	882	557	-	1441	265	1146	0	-	1411	3729
% Lights	-	-	-	-	-	97.1	-	95.8	-	96.6	100.0	97.2	96.4	-	96.9	96.4	97.0	-	-	96.9	96.8
Mediums	0	0	0	-	0	15	0	12	-	27	0	22	20	-	42	8	29	0	-	37	106
% Mediums	-	-	-	-	-	2.7	-	3.3	-	3.0	0.0	2.4	3.5	-	2.8	2.9	2.5	-	-	2.5	2.8
Articulated Trucks	0	0	0	-	0	1	0	3	-	4	0	3	1	-	4	2	6	0	-	8	16
% Articulated Trucks	-	-	-	-	-	0.2	-	0.8	-	0.4	0.0	0.3	0.2	-	0.3	0.7	0.5	-	-	0.5	0.4
Bicycles on Crosswalk	-	-	-	4	-	-	-	-	0	-	-	-	-	1	-	-	-	-	0	-	-
% Bicycles on Crosswalk	-	-	-	30.8	-	-	-	-	0.0	-	-	-	-	16.7	-	-	-	-	0.0	-	-
Pedestrians	-	-	-	9	-	-	-	-	3	-	-	-	-	5	-	-	-	-	4	-	-
% Pedestrians	-	-	-	69.2	-	-	-	-	100.0	-	-	-	-	83.3	-	-	-	-	100.0	-	-

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Count Name: 7_Blake Road & 2nd Street
 Site Code:
 Start Date: 02/26/2020
 Page No: 3

Turning Movement Peak Hour Data (7:30 AM)

Start Time	2nd Street Westbound					2nd Street Eastbound					Blake Road Southbound					Blake Road Northbound					Int. Total
	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	
7:30 AM	0	0	0	0	0	28	0	21	0	49	0	53	55	0	108	15	31	0	0	46	203
7:45 AM	0	0	0	0	0	35	0	13	0	48	0	46	64	0	110	23	58	0	0	81	239
8:00 AM	0	0	0	0	0	24	0	20	0	44	0	67	40	0	107	21	54	0	0	75	226
8:15 AM	0	0	0	0	0	19	0	11	0	30	0	61	41	0	102	8	65	0	1	73	205
Total	0	0	0	0	0	106	0	65	0	171	0	227	200	0	427	67	208	0	1	275	873
Approach %	0.0	0.0	0.0	-	-	62.0	0.0	38.0	-	-	0.0	53.2	46.8	-	-	24.4	75.6	0.0	-	-	-
Total %	0.0	0.0	0.0	-	0.0	12.1	0.0	7.4	-	19.6	0.0	26.0	22.9	-	48.9	7.7	23.8	0.0	-	31.5	-
PHF	0.000	0.000	0.000	-	0.000	0.757	0.000	0.774	-	0.872	0.000	0.847	0.781	-	0.970	0.728	0.800	0.000	-	0.849	0.913
Lights	0	0	0	-	0	101	0	62	-	163	0	218	196	-	414	66	199	0	-	265	842
% Lights	-	-	-	-	-	95.3	-	95.4	-	95.3	-	96.0	98.0	-	97.0	98.5	95.7	-	-	96.4	96.4
Mediums	0	0	0	-	0	4	0	3	-	7	0	7	4	-	11	1	7	0	-	8	26
% Mediums	-	-	-	-	-	3.8	-	4.6	-	4.1	-	3.1	2.0	-	2.6	1.5	3.4	-	-	2.9	3.0
Articulated Trucks	0	0	0	-	0	1	0	0	-	1	0	2	0	-	2	0	2	0	-	2	5
% Articulated Trucks	-	-	-	-	-	0.9	-	0.0	-	0.6	-	0.9	0.0	-	0.5	0.0	1.0	-	-	0.7	0.6
Bicycles on Crosswalk	-	-	-	0	-	-	-	-	0	-	-	-	-	0	-	-	-	-	0	-	-
% Bicycles on Crosswalk	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.0	-	-
Pedestrians	-	-	-	0	-	-	-	-	0	-	-	-	-	0	-	-	-	-	1	-	-
% Pedestrians	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	100.0	-	-

Turning Movement Peak Hour Data (4:30 PM)

Start Time	2nd Street Westbound					2nd Street Eastbound					Blake Road Southbound					Blake Road Northbound					Int. Total
	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	
4:30 PM	0	0	0	1	0	61	0	28	0	89	0	72	34	2	106	18	120	0	0	138	333
4:45 PM	0	0	0	1	0	50	0	30	1	80	0	73	29	1	102	24	99	0	0	123	305
5:00 PM	0	0	0	1	0	61	0	29	0	90	0	76	28	0	104	24	119	0	0	143	337
5:15 PM	0	0	0	3	0	58	0	32	0	90	0	49	40	2	89	20	103	0	0	123	302
Total	0	0	0	6	0	230	0	119	1	349	0	270	131	5	401	86	441	0	0	527	1277
Approach %	0.0	0.0	0.0	-	-	65.9	0.0	34.1	-	-	0.0	67.3	32.7	-	-	16.3	83.7	0.0	-	-	-
Total %	0.0	0.0	0.0	-	0.0	18.0	0.0	9.3	-	27.3	0.0	21.1	10.3	-	31.4	6.7	34.5	0.0	-	41.3	-
PHF	0.000	0.000	0.000	-	0.000	0.943	0.000	0.930	-	0.969	0.000	0.888	0.819	-	0.946	0.896	0.919	0.000	-	0.921	0.947
Lights	0	0	0	-	0	224	0	119	-	343	0	267	127	-	394	83	434	0	-	517	1254
% Lights	-	-	-	-	-	97.4	-	100.0	-	98.3	-	98.9	96.9	-	98.3	96.5	98.4	-	-	98.1	98.2
Mediums	0	0	0	-	0	6	0	0	-	6	0	3	3	-	6	3	6	0	-	9	21
% Mediums	-	-	-	-	-	2.6	-	0.0	-	1.7	-	1.1	2.3	-	1.5	3.5	1.4	-	-	1.7	1.6
Articulated Trucks	0	0	0	-	0	0	0	0	-	0	0	0	1	-	1	0	1	0	-	1	2
% Articulated Trucks	-	-	-	-	-	0.0	-	0.0	-	0.0	-	0.0	0.8	-	0.2	0.0	0.2	-	-	0.2	0.2
Bicycles on Crosswalk	-	-	-	1	-	-	-	-	0	-	-	-	-	1	-	-	-	-	0	-	-
% Bicycles on Crosswalk	-	-	-	16.7	-	-	-	-	0.0	-	-	-	-	20.0	-	-	-	-	-	-	-
Pedestrians	-	-	-	5	-	-	-	-	1	-	-	-	-	4	-	-	-	-	0	-	-
% Pedestrians	-	-	-	83.3	-	-	-	-	100.0	-	-	-	-	80.0	-	-	-	-	-	-	-

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Count Name: 7_Blake Road & 2nd Street
Site Code:
Start Date: 02/26/2020
Page No: 7

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Count Name: 3_Blake Road & Excelsior
 Boulevard
 Site Code:
 Start Date: 03/10/2020
 Page No: 1

Turning Movement Data

Start Time	Excelsior Boulevard Westbound					Excelsior Boulevard Eastbound					Blake Road Southbound					Blake Road Northbound					Int. Total
	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	
7:00 AM	4	44	11	0	59	12	67	8	0	87	14	10	7	0	31	13	11	13	0	37	214
7:15 AM	7	66	14	0	87	15	95	12	0	122	22	22	12	0	56	8	11	14	0	33	298
7:30 AM	11	98	20	0	129	15	104	15	1	134	29	13	17	0	59	14	24	18	1	56	378
7:45 AM	21	134	23	0	178	10	143	18	2	171	35	21	20	1	76	28	21	16	0	65	490
Hourly Total	43	342	68	0	453	52	409	53	3	514	100	66	56	1	222	63	67	61	1	191	1380
8:00 AM	17	131	38	0	186	20	147	24	0	191	24	17	29	0	70	40	28	21	0	89	536
8:15 AM	12	127	11	0	150	26	134	33	0	193	23	13	19	0	55	24	34	16	0	74	472
8:30 AM	12	67	28	0	107	12	113	24	0	149	24	12	11	0	47	17	30	15	0	62	365
8:45 AM	9	96	23	0	128	8	97	6	0	111	22	20	19	0	61	20	9	11	0	40	340
Hourly Total	50	421	100	0	571	66	491	87	0	644	93	62	78	0	233	101	101	63	0	265	1713
*** BREAK ***	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
4:00 PM	12	141	39	0	192	25	130	24	1	179	33	23	17	0	73	16	19	6	0	41	485
4:15 PM	18	132	44	3	194	21	149	38	0	208	39	23	18	1	80	29	28	5	4	62	544
4:30 PM	31	150	50	1	231	26	149	34	2	209	29	31	15	6	75	18	38	9	0	65	580
4:45 PM	22	121	54	0	197	22	158	31	5	211	32	17	21	0	70	21	35	10	0	66	544
Hourly Total	83	544	187	4	814	94	586	127	8	807	133	94	71	7	298	84	120	30	4	234	2153
5:00 PM	14	138	51	3	203	23	167	37	1	227	25	42	20	0	87	20	38	16	0	74	591
5:15 PM	17	99	40	0	156	26	164	36	0	226	38	34	23	0	95	28	43	14	0	85	562
5:30 PM	16	111	36	0	163	29	122	22	0	173	34	32	21	0	87	16	24	10	0	50	473
5:45 PM	14	69	36	0	119	24	83	21	3	128	30	25	19	0	74	26	30	13	0	69	390
Hourly Total	61	417	163	3	641	102	536	116	4	754	127	133	83	0	343	90	135	53	0	278	2016
Grand Total	237	1724	518	7	2479	314	2022	383	15	2719	453	355	288	8	1096	338	423	207	5	968	7262
Approach %	9.6	69.5	20.9	-	-	11.5	74.4	14.1	-	-	41.3	32.4	26.3	-	-	34.9	43.7	21.4	-	-	-
Total %	3.3	23.7	7.1	-	34.1	4.3	27.8	5.3	-	37.4	6.2	4.9	4.0	-	15.1	4.7	5.8	2.9	-	13.3	-
Lights	223	1674	498	-	2395	310	1971	380	-	2661	439	343	284	-	1066	334	412	201	-	947	7069
% Lights	94.1	97.1	96.1	-	96.6	98.7	97.5	99.2	-	97.9	96.9	96.6	98.6	-	97.3	98.8	97.4	97.1	-	97.8	97.3
Mediums	14	40	17	-	71	4	40	2	-	46	9	11	4	-	24	4	11	5	-	20	161
% Mediums	5.9	2.3	3.3	-	2.9	1.3	2.0	0.5	-	1.7	2.0	3.1	1.4	-	2.2	1.2	2.6	2.4	-	2.1	2.2
Articulated Trucks	0	10	3	-	13	0	11	1	-	12	5	1	0	-	6	0	0	1	-	1	32
% Articulated Trucks	0.0	0.6	0.6	-	0.5	0.0	0.5	0.3	-	0.4	1.1	0.3	0.0	-	0.5	0.0	0.0	0.5	-	0.1	0.4
Bicycles on Crosswalk	-	-	-	0	-	-	-	-	0	-	-	-	-	0	-	-	-	-	0	-	-
% Bicycles on Crosswalk	-	-	-	0.0	-	-	-	-	0.0	-	-	-	-	0.0	-	-	-	-	0.0	-	-
Pedestrians	-	-	-	7	-	-	-	-	15	-	-	-	-	8	-	-	-	-	5	-	-
% Pedestrians	-	-	-	100.0	-	-	-	-	100.0	-	-	-	-	100.0	-	-	-	-	100.0	-	-

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 331.481.7332 jack.olsson@kimley-horn.com

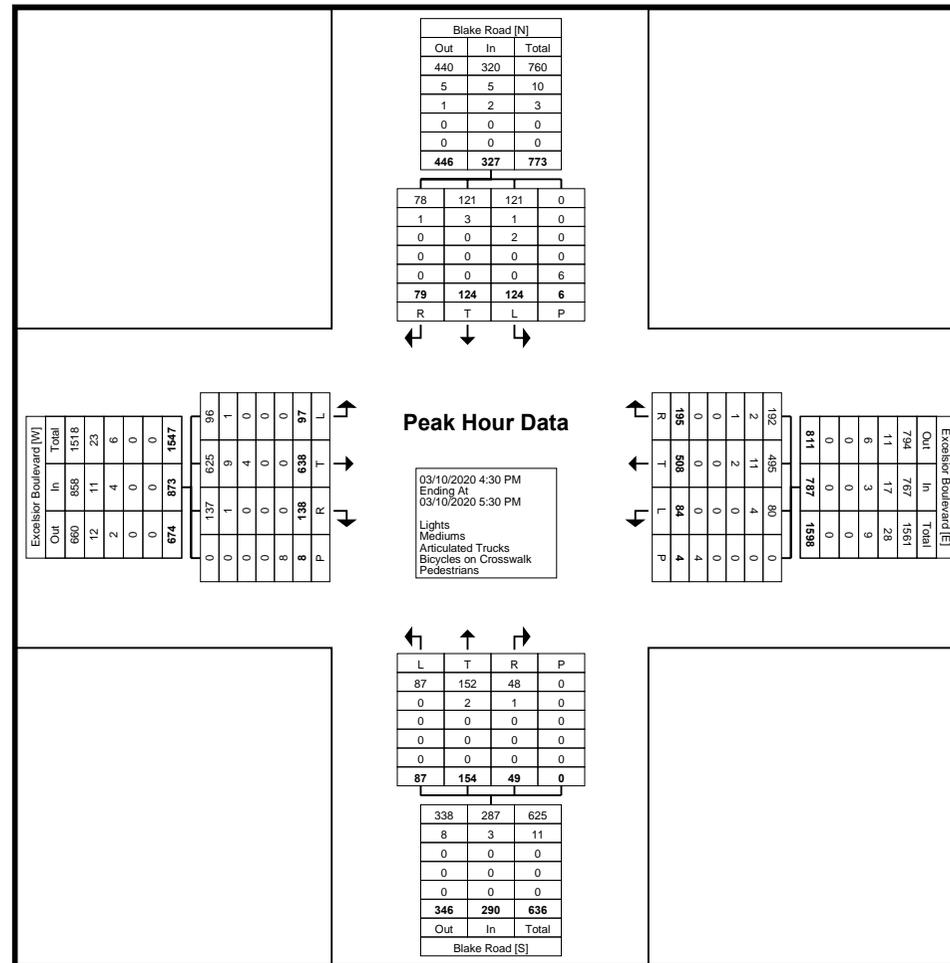
Count Name: 3_Blake Road & Excelsior
 Boulevard
 Site Code:
 Start Date: 03/10/2020
 Page No: 3

Turning Movement Peak Hour Data (7:30 AM)

Start Time	Excelsior Boulevard Westbound					Excelsior Boulevard Eastbound					Blake Road Southbound					Blake Road Northbound					Int. Total
	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	
7:30 AM	11	98	20	0	129	15	104	15	1	134	29	13	17	0	59	14	24	18	1	56	378
7:45 AM	21	134	23	0	178	10	143	18	2	171	35	21	20	1	76	28	21	16	0	65	490
8:00 AM	17	131	38	0	186	20	147	24	0	191	24	17	29	0	70	40	28	21	0	89	536
8:15 AM	12	127	11	0	150	26	134	33	0	193	23	13	19	0	55	24	34	16	0	74	472
Total	61	490	92	0	643	71	528	90	3	689	111	64	85	1	260	106	107	71	1	284	1876
Approach %	9.5	76.2	14.3	-	-	10.3	76.6	13.1	-	-	42.7	24.6	32.7	-	-	37.3	37.7	25.0	-	-	-
Total %	3.3	26.1	4.9	-	34.3	3.8	28.1	4.8	-	36.7	5.9	3.4	4.5	-	13.9	5.7	5.7	3.8	-	15.1	-
PHF	0.726	0.914	0.605	-	0.864	0.683	0.898	0.682	-	0.892	0.793	0.762	0.733	-	0.855	0.663	0.787	0.845	-	0.798	0.875
Lights	57	475	83	-	615	70	516	90	-	676	104	58	83	-	245	103	105	70	-	278	1814
% Lights	93.4	96.9	90.2	-	95.6	98.6	97.7	100.0	-	98.1	93.7	90.6	97.6	-	94.2	97.2	98.1	98.6	-	97.9	96.7
Mediums	4	12	8	-	24	1	10	0	-	11	5	6	2	-	13	3	2	1	-	6	54
% Mediums	6.6	2.4	8.7	-	3.7	1.4	1.9	0.0	-	1.6	4.5	9.4	2.4	-	5.0	2.8	1.9	1.4	-	2.1	2.9
Articulated Trucks	0	3	1	-	4	0	2	0	-	2	2	0	0	-	2	0	0	0	-	0	8
% Articulated Trucks	0.0	0.6	1.1	-	0.6	0.0	0.4	0.0	-	0.3	1.8	0.0	0.0	-	0.8	0.0	0.0	0.0	-	0.0	0.4
Bicycles on Crosswalk	-	-	-	0	-	-	-	-	0	-	-	-	-	0	-	-	-	-	0	-	-
% Bicycles on Crosswalk	-	-	-	-	-	-	-	-	0.0	-	-	-	-	0.0	-	-	-	-	0.0	-	-
Pedestrians	-	-	-	0	-	-	-	-	3	-	-	-	-	1	-	-	-	-	1	-	-
% Pedestrians	-	-	-	-	-	-	-	-	100.0	-	-	-	-	100.0	-	-	-	-	100.0	-	-

Turning Movement Peak Hour Data (4:30 PM)

Start Time	Excelsior Boulevard Westbound					Excelsior Boulevard Eastbound					Blake Road Southbound					Blake Road Northbound					Int. Total
	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	
4:30 PM	31	150	50	1	231	26	149	34	2	209	29	31	15	6	75	18	38	9	0	65	580
4:45 PM	22	121	54	0	197	22	158	31	5	211	32	17	21	0	70	21	35	10	0	66	544
5:00 PM	14	138	51	3	203	23	167	37	1	227	25	42	20	0	87	20	38	16	0	74	591
5:15 PM	17	99	40	0	156	26	164	36	0	226	38	34	23	0	95	28	43	14	0	85	562
Total	84	508	195	4	787	97	638	138	8	873	124	124	79	6	327	87	154	49	0	290	2277
Approach %	10.7	64.5	24.8	-	-	11.1	73.1	15.8	-	-	37.9	37.9	24.2	-	-	30.0	53.1	16.9	-	-	-
Total %	3.7	22.3	8.6	-	34.6	4.3	28.0	6.1	-	38.3	5.4	5.4	3.5	-	14.4	3.8	6.8	2.2	-	12.7	-
PHF	0.677	0.847	0.903	-	0.852	0.933	0.955	0.932	-	0.961	0.816	0.738	0.859	-	0.861	0.777	0.895	0.766	-	0.853	0.963
Lights	80	495	192	-	767	96	625	137	-	858	121	121	78	-	320	87	152	48	-	287	2232
% Lights	95.2	97.4	98.5	-	97.5	99.0	98.0	99.3	-	98.3	97.6	97.6	98.7	-	97.9	100.0	98.7	98.0	-	99.0	98.0
Mediums	4	11	2	-	17	1	9	1	-	11	1	3	1	-	5	0	2	1	-	3	36
% Mediums	4.8	2.2	1.0	-	2.2	1.0	1.4	0.7	-	1.3	0.8	2.4	1.3	-	1.5	0.0	1.3	2.0	-	1.0	1.6
Articulated Trucks	0	2	1	-	3	0	4	0	-	4	2	0	0	-	2	0	0	0	-	0	9
% Articulated Trucks	0.0	0.4	0.5	-	0.4	0.0	0.6	0.0	-	0.5	1.6	0.0	0.0	-	0.6	0.0	0.0	0.0	-	0.0	0.4
Bicycles on Crosswalk	-	-	-	0	-	-	-	-	0	-	-	-	-	0	-	-	-	-	0	-	-
% Bicycles on Crosswalk	-	-	-	0.0	-	-	-	-	0.0	-	-	-	-	0.0	-	-	-	-	-	-	-
Pedestrians	-	-	-	4	-	-	-	-	8	-	-	-	-	6	-	-	-	-	0	-	-
% Pedestrians	-	-	-	100.0	-	-	-	-	100.0	-	-	-	-	100.0	-	-	-	-	-	-	-



Turning Movement Peak Hour Data Plot (4:30 PM)

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

Count Name: 3_Blake Road & Excelsior
Boulevard
Site Code:
Start Date: 03/10/2020
Page No: 7

1: Blake Rd/Aquila Ave & TH 7 Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Denied Del/Veh (s)	2.0	0.5	2.0	2.1	0.5	2.1	0.1	0.0	0.0	3.9	1.0	3.8
Total Del/Veh (s)	83.5	48.2	16.1	74.0	28.7	6.7	71.4	68.7	40.2	97.4	91.2	2.9

1: Blake Rd/Aquila Ave & TH 7 Performance by movement

Movement	All
Denied Del/Veh (s)	0.8
Total Del/Veh (s)	44.8

2: Blake Rd & Cambridge St Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Denied Del/Veh (s)	0.4	0.4	3.7	0.2	0.2	3.7	0.0	0.0	0.0	0.0	0.0	0.0
Total Del/Veh (s)	36.2	38.4	6.7	36.1	27.8	5.0	42.5	6.0	4.1	63.8	6.0	4.2

2: Blake Rd & Cambridge St Performance by movement

Movement	All
Denied Del/Veh (s)	0.3
Total Del/Veh (s)	13.7

3: Blake Road & Lake Street Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Denied Del/Veh (s)	0.1	0.1	0.1	4.1	0.2	0.1	0.0	0.0	0.0	0.1	0.0	0.0
Total Del/Veh (s)	11.8	11.7	5.3	12.0	11.5	4.4	6.5	1.1	0.8	4.1	0.4	0.2

3: Blake Road & Lake Street Performance by movement

Movement	All
Denied Del/Veh (s)	0.1
Total Del/Veh (s)	1.6

4: Blake Road & 2nd Street Performance by movement

Movement	EBL	EBR	NBL	NBT	SBT	SBR	All
Denied Del/Veh (s)	1.3	0.4	0.3	0.0	0.0	0.0	0.3
Total Del/Veh (s)	18.5	10.2	25.1	7.9	11.0	8.2	12.2

5: Blake Road & Excelsior Boulevard Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Denied Del/Veh (s)	0.0	0.0	0.0	2.8	0.2	2.6	3.6	0.3	0.3	0.1	0.0	0.0
Total Del/Veh (s)	44.3	18.9	4.0	47.3	22.0	4.1	40.8	35.1	12.0	40.6	38.0	28.8

5: Blake Road & Excelsior Boulevard Performance by movement

Movement	All
Denied Del/Veh (s)	0.5
Total Del/Veh (s)	26.1

Total Zone Performance

Denied Del/Veh (s)	0.9
Total Del/Veh (s)	1099.8

Intersection: 1: Blake Rd/Aquila Ave & TH 7

Movement	EB	EB	EB	EB	EB	WB	WB	WB	WB	WB	NB	NB
Directions Served	L	L	T	T	R	L	L	T	T	R	L	L
Maximum Queue (ft)	152	328	840	848	420	189	369	538	557	190	178	183
Average Queue (ft)	47	96	521	516	112	104	137	315	295	15	77	97
95th Queue (ft)	119	234	786	794	416	177	253	511	511	129	144	155
Link Distance (ft)			1614	1614				1315	1315			
Upstream Blk Time (%)												
Queuing Penalty (veh)												
Storage Bay Dist (ft)	675	675			300	300	300			300	190	190
Storage Blk Time (%)			3	24				11	9		0	0
Queuing Penalty (veh)			5	32				28	9		0	0

Intersection: 1: Blake Rd/Aquila Ave & TH 7

Movement	NB	NB	NB	SB	SB	SB
Directions Served	T	T	R	L	T	T
Maximum Queue (ft)	98	123	321	186	202	146
Average Queue (ft)	43	61	176	86	78	35
95th Queue (ft)	84	108	285	156	150	101
Link Distance (ft)	410	410	410		525	
Upstream Blk Time (%)			0			
Queuing Penalty (veh)			0			
Storage Bay Dist (ft)				160		250
Storage Blk Time (%)				2	1	
Queuing Penalty (veh)				2	2	

Intersection: 2: Blake Rd & Cambridge St

Movement	EB	EB	WB	WB	NB	NB	NB	SB	SB	SB
Directions Served	LT	R	LT	R	L	T	TR	L	T	TR
Maximum Queue (ft)	234	82	72	61	99	77	125	54	123	147
Average Queue (ft)	116	33	20	20	41	26	44	18	19	31
95th Queue (ft)	189	66	52	49	85	64	98	47	75	92
Link Distance (ft)	738		1036			652	652		410	410
Upstream Blk Time (%)										
Queuing Penalty (veh)										
Storage Bay Dist (ft)		200		100	200			140		
Storage Blk Time (%)	1		0						0	
Queuing Penalty (veh)	1		0						0	

Intersection: 3: Blake Road & Lake Street

Movement	EB	WB	WB	NB	SB
Directions Served	LTR	L	TR	L	L
Maximum Queue (ft)	58	37	59	21	44
Average Queue (ft)	26	11	14	2	4
95th Queue (ft)	49	35	41	12	24
Link Distance (ft)	794		874		
Upstream Blk Time (%)					
Queuing Penalty (veh)					
Storage Bay Dist (ft)		100		85	100
Storage Blk Time (%)					
Queuing Penalty (veh)					

Intersection: 4: Blake Road & 2nd Street

Movement	EB	EB	NB	NB	NB	SB	SB
Directions Served	L	LTR	L	T	TR	T	TR
Maximum Queue (ft)	111	171	101	84	90	184	226
Average Queue (ft)	42	85	40	27	35	67	74
95th Queue (ft)	87	144	79	67	79	153	172
Link Distance (ft)		544		1263	1263	619	619
Upstream Blk Time (%)							
Queuing Penalty (veh)							
Storage Bay Dist (ft)	160		200				
Storage Blk Time (%)	0	0				1	
Queuing Penalty (veh)	0	0				0	

Intersection: 5: Blake Road & Excelsior Boulevard

Movement	EB	EB	EB	EB	EB	WB	WB	WB	WB	NB	NB	NB
Directions Served	L	L	T	T	R	L	T	T	R	L	T	TR
Maximum Queue (ft)	65	66	246	194	132	129	226	215	68	190	98	112
Average Queue (ft)	16	23	135	106	34	52	140	109	32	100	35	31
95th Queue (ft)	43	54	210	178	93	108	208	188	62	174	80	81
Link Distance (ft)	184	184	184	184			1140	1140			607	607
Upstream Blk Time (%)			2	0	0							
Queuing Penalty (veh)			5	1	0							
Storage Bay Dist (ft)					185	280			350	175		
Storage Blk Time (%)					0	0				1		
Queuing Penalty (veh)					0	0				1		

Intersection: 5: Blake Road & Excelsior Boulevard

Movement	SB	SB	SB	SB
Directions Served	L	L	T	TR
Maximum Queue (ft)	138	147	163	202
Average Queue (ft)	49	65	68	98
95th Queue (ft)	106	124	142	179
Link Distance (ft)			1263	1263
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)	165	165		
Storage Blk Time (%)		0	0	
Queuing Penalty (veh)		0	0	

Zone Summary

Zone wide Queuing Penalty: 86

1: Blake Rd/Aquila Ave & TH 7 Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Denied Del/Veh (s)	2.1	0.8	2.0	2.2	0.5	2.1	0.0	0.0	0.0	11.2	7.6	9.1
Total Del/Veh (s)	82.0	51.4	17.4	95.5	43.8	11.9	68.9	83.7	65.3	116.8	131.4	14.3

1: Blake Rd/Aquila Ave & TH 7 Performance by movement

Movement	All
Denied Del/Veh (s)	1.7
Total Del/Veh (s)	62.1

2: Blake Rd & Cambridge St Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Denied Del/Veh (s)	0.5	0.5	3.5	0.2	0.2	3.7	0.0	0.0	0.0	0.0	0.0	0.0
Total Del/Veh (s)	36.8	38.8	6.9	29.9	29.3	6.2	47.7	11.1	11.3	54.4	11.3	8.8

2: Blake Rd & Cambridge St Performance by movement

Movement	All
Denied Del/Veh (s)	0.3
Total Del/Veh (s)	16.8

3: Blake Road & Lake Street Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Denied Del/Veh (s)	0.1	0.2	0.1	4.1	0.2	0.2	0.1	0.0	0.0	0.0	0.0	0.0
Total Del/Veh (s)	19.4	19.1	8.8	20.1	26.3	7.7	5.9	2.1	2.1	8.5	0.7	0.6

3: Blake Road & Lake Street Performance by movement

Movement	All
Denied Del/Veh (s)	0.1
Total Del/Veh (s)	2.8

4: Blake Road & 2nd Street Performance by movement

Movement	EBL	EBR	NBL	NBT	SBT	SBR	All
Denied Del/Veh (s)	1.1	0.5	0.3	0.0	0.0	0.0	0.2
Total Del/Veh (s)	20.6	12.9	29.3	10.5	14.8	9.8	14.1

5: Blake Road & Excelsior Boulevard Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Denied Del/Veh (s)	0.0	0.1	0.0	2.7	0.3	2.6	3.5	0.2	0.2	0.0	0.0	0.0
Total Del/Veh (s)	49.2	19.3	5.8	57.7	20.4	7.1	53.6	44.5	25.9	56.9	45.0	35.2

5: Blake Road & Excelsior Boulevard Performance by movement

Movement	All
Denied Del/Veh (s)	0.5
Total Del/Veh (s)	26.8

Total Zone Performance

Denied Del/Veh (s)	1.7
Total Del/Veh (s)	953.1

Intersection: 1: Blake Rd/Aquila Ave & TH 7

Movement	EB	EB	EB	EB	EB	WB	WB	WB	WB	WB	NB	NB
Directions Served	L	L	T	T	R	L	L	T	T	R	L	L
Maximum Queue (ft)	289	312	794	834	420	224	501	566	571	420	154	206
Average Queue (ft)	173	199	519	520	197	129	169	344	328	55	72	103
95th Queue (ft)	267	293	791	810	539	218	302	527	523	250	139	167
Link Distance (ft)			1614	1614				1315	1315			
Upstream Blk Time (%)												
Queuing Penalty (veh)												
Storage Bay Dist (ft)	675	675			300	300	300			300	190	190
Storage Blk Time (%)			3	26		0	0	18	15		0	0
Queuing Penalty (veh)			11	45		0	2	49	27		0	0

Intersection: 1: Blake Rd/Aquila Ave & TH 7

Movement	NB	NB	NB	SB	SB	SB	SB
Directions Served	T	T	R	L	T	T	R
Maximum Queue (ft)	258	266	420	250	541	340	118
Average Queue (ft)	152	158	293	225	347	235	6
95th Queue (ft)	230	238	438	292	587	384	76
Link Distance (ft)	410	410	410		525		
Upstream Blk Time (%)			3		12		
Queuing Penalty (veh)			7		0		
Storage Bay Dist (ft)				160		250	250
Storage Blk Time (%)	6			47	33	2	
Queuing Penalty (veh)	9			144	134	7	

Intersection: 2: Blake Rd & Cambridge St

Movement	EB	EB	WB	WB	NB	NB	NB	SB	SB	SB
Directions Served	LT	R	LT	R	L	T	TR	L	T	TR
Maximum Queue (ft)	261	113	77	64	125	172	277	94	190	240
Average Queue (ft)	136	36	30	20	55	62	115	37	47	71
95th Queue (ft)	225	81	66	49	98	132	224	76	129	166
Link Distance (ft)	738		1036			652	652		410	410
Upstream Blk Time (%)										
Queuing Penalty (veh)										
Storage Bay Dist (ft)		200		100	200			140		
Storage Blk Time (%)	2		0	0		0			1	
Queuing Penalty (veh)	2		0	0		0			0	

Intersection: 3: Blake Road & Lake Street

Movement	EB	WB	WB	NB	NB	SB	SB
Directions Served	LTR	L	TR	L	TR	L	TR
Maximum Queue (ft)	81	66	53	47	26	48	9
Average Queue (ft)	37	18	17	12	1	10	1
95th Queue (ft)	71	49	42	37	14	35	6
Link Distance (ft)	794		874		619		251
Upstream Blk Time (%)							
Queuing Penalty (veh)							
Storage Bay Dist (ft)		100		85		100	
Storage Blk Time (%)			0	0			
Queuing Penalty (veh)			0	0			

Intersection: 4: Blake Road & 2nd Street

Movement	EB	EB	NB	NB	NB	SB	SB
Directions Served	L	LTR	L	T	TR	T	TR
Maximum Queue (ft)	146	202	111	197	211	182	217
Average Queue (ft)	44	103	51	79	89	77	91
95th Queue (ft)	107	168	95	153	163	150	177
Link Distance (ft)		544		1263	1263	619	619
Upstream Blk Time (%)							
Queuing Penalty (veh)							
Storage Bay Dist (ft)	160		200				
Storage Blk Time (%)	0	2		0		2	
Queuing Penalty (veh)	0	2		0		0	

Intersection: 5: Blake Road & Excelsior Boulevard

Movement	EB	EB	EB	EB	EB	WB	WB	WB	WB	NB	NB	NB
Directions Served	L	L	T	T	R	L	T	T	R	L	T	TR
Maximum Queue (ft)	113	135	268	270	184	144	278	246	164	174	149	166
Average Queue (ft)	44	64	226	206	125	71	169	147	61	80	79	66
95th Queue (ft)	90	113	295	281	238	131	245	223	117	146	136	136
Link Distance (ft)	184	184	184	184			1140	1140			607	607
Upstream Blk Time (%)		0	15	9	1							
Queuing Penalty (veh)		0	60	37	0							
Storage Bay Dist (ft)					185	280		350	175			
Storage Blk Time (%)				9	1		0			1	0	
Queuing Penalty (veh)				24	5		0			1	0	

Intersection: 5: Blake Road & Excelsior Boulevard

Movement	SB	SB	SB	SB
Directions Served	L	L	T	TR
Maximum Queue (ft)	141	159	163	221
Average Queue (ft)	60	80	57	97
95th Queue (ft)	115	133	128	182
Link Distance (ft)			1263	1263
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)	165	165		
Storage Blk Time (%)	0	0	0	
Queuing Penalty (veh)	0	0	1	

Zone Summary

Zone wide Queuing Penalty: 568

1: Blake Rd/Aquila Ave & TH 7 Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Denied Del/Veh (s)	2.0	0.5	1.9	2.1	0.6	2.0	0.0	0.0	0.0	3.9	0.8	3.9
Total Del/Veh (s)	83.0	53.0	19.1	71.3	27.9	7.6	72.7	70.6	39.7	102.8	88.6	3.2

1: Blake Rd/Aquila Ave & TH 7 Performance by movement

Movement	All
Denied Del/Veh (s)	0.8
Total Del/Veh (s)	46.5

2: Blake Rd & Cambridge St Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Denied Del/Veh (s)	0.4	0.5	3.6	0.2	0.2	3.7	0.0	0.0	0.0	0.1	0.0	0.0
Total Del/Veh (s)	37.3	37.8	6.6	30.2	30.7	5.3	44.4	6.9	4.2	64.4	6.3	4.8

2: Blake Rd & Cambridge St Performance by movement

Movement	All
Denied Del/Veh (s)	0.3
Total Del/Veh (s)	14.2

3: Blake Road & Lake Street Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Denied Del/Veh (s)	0.2	0.1	0.1	4.2	0.2	0.1	0.0	0.0	0.0	0.2	0.0	0.0
Total Del/Veh (s)	14.6	16.1	6.7	11.2	11.7	4.6	5.1	1.2	1.1	4.4	0.5	0.4

3: Blake Road & Lake Street Performance by movement

Movement	All
Denied Del/Veh (s)	0.1
Total Del/Veh (s)	1.9

4: Blake Road & 2nd Street Performance by movement

Movement	EBL	EBR	NBL	NBT	SBT	SBR	All
Denied Del/Veh (s)	1.3	0.4	0.5	0.0	0.0	0.0	0.3
Total Del/Veh (s)	18.5	10.9	27.9	8.3	12.5	8.7	13.1

5: Blake Road & Excelsior Boulevard Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Denied Del/Veh (s)	0.0	0.0	0.0	2.6	0.2	2.5	3.5	0.3	0.2	0.1	0.0	0.0
Total Del/Veh (s)	42.7	20.2	4.0	47.3	22.3	4.3	39.0	33.4	12.3	45.1	37.0	30.2

5: Blake Road & Excelsior Boulevard Performance by movement

Movement	All
Denied Del/Veh (s)	0.5
Total Del/Veh (s)	26.5

Total Zone Performance

Denied Del/Veh (s)	0.9
Total Del/Veh (s)	1018.2

Intersection: 1: Blake Rd/Aquila Ave & TH 7

Movement	EB	EB	EB	EB	EB	WB	WB	WB	WB	WB	NB	NB
Directions Served	L	L	T	T	R	L	L	T	T	R	L	L
Maximum Queue (ft)	141	648	1033	1017	420	226	250	528	500	344	187	196
Average Queue (ft)	47	104	552	535	107	112	135	313	293	27	86	105
95th Queue (ft)	115	325	887	872	405	202	218	498	483	177	157	169
Link Distance (ft)			1614	1614				1315	1315			
Upstream Blk Time (%)												
Queuing Penalty (veh)												
Storage Bay Dist (ft)	675	675			300	300	300			300	190	190
Storage Blk Time (%)			6	27		0	0	10	8		0	1
Queuing Penalty (veh)			9	38		0	0	28	9		0	0

Intersection: 1: Blake Rd/Aquila Ave & TH 7

Movement	NB	NB	NB	SB	SB	SB
Directions Served	T	T	R	L	T	T
Maximum Queue (ft)	151	119	324	196	185	135
Average Queue (ft)	57	68	184	92	84	36
95th Queue (ft)	112	114	307	166	157	98
Link Distance (ft)	410	410	410		525	
Upstream Blk Time (%)			0			
Queuing Penalty (veh)			0			
Storage Bay Dist (ft)				160		250
Storage Blk Time (%)	0			3	1	
Queuing Penalty (veh)	0			3	1	

Intersection: 2: Blake Rd & Cambridge St

Movement	EB	EB	WB	WB	NB	NB	NB	SB	SB	SB
Directions Served	LT	R	LT	R	L	T	TR	L	T	TR
Maximum Queue (ft)	240	79	83	50	101	92	134	88	106	141
Average Queue (ft)	128	31	25	18	38	34	53	24	21	34
95th Queue (ft)	207	67	63	45	79	77	112	65	72	91
Link Distance (ft)	738		1036			652	652		410	410
Upstream Blk Time (%)										
Queuing Penalty (veh)										
Storage Bay Dist (ft)		200		100	200			140		
Storage Blk Time (%)	2		0						0	
Queuing Penalty (veh)	1		0						0	

Intersection: 3: Blake Road & Lake Street

Movement	EB	WB	WB	NB	NB	SB	SB
Directions Served	LTR	L	TR	L	TR	L	TR
Maximum Queue (ft)	83	33	64	26	8	40	4
Average Queue (ft)	32	14	22	3	0	4	0
95th Queue (ft)	62	38	50	18	4	26	3
Link Distance (ft)	794		874		619		251
Upstream Blk Time (%)							
Queuing Penalty (veh)							
Storage Bay Dist (ft)		100		85		100	
Storage Blk Time (%)							
Queuing Penalty (veh)							

Intersection: 4: Blake Road & 2nd Street

Movement	EB	EB	NB	NB	NB	SB	SB
Directions Served	L	LTR	L	T	TR	T	TR
Maximum Queue (ft)	122	219	105	92	91	202	231
Average Queue (ft)	38	97	40	32	38	71	83
95th Queue (ft)	86	173	80	75	78	154	182
Link Distance (ft)		544		1263	1263	619	619
Upstream Blk Time (%)							
Queuing Penalty (veh)							
Storage Bay Dist (ft)	160		200				
Storage Blk Time (%)	0	1				1	
Queuing Penalty (veh)	0	1				0	

Intersection: 5: Blake Road & Excelsior Boulevard

Movement	EB	EB	EB	EB	EB	WB	WB	WB	WB	NB	NB	NB
Directions Served	L	L	T	T	R	L	T	T	R	L	T	TR
Maximum Queue (ft)	72	88	255	222	162	124	240	208	91	192	91	97
Average Queue (ft)	20	28	146	117	41	49	146	113	36	109	31	35
95th Queue (ft)	51	67	228	193	112	97	215	189	73	181	72	84
Link Distance (ft)	184	184	184	184			1140	1140			607	607
Upstream Blk Time (%)			3	1	0							
Queuing Penalty (veh)			8	2	0							
Storage Bay Dist (ft)					185	280			350	175		
Storage Blk Time (%)				1	0		0			1		
Queuing Penalty (veh)				1	0		0			0		

Intersection: 5: Blake Road & Excelsior Boulevard

Movement	SB	SB	SB	SB
Directions Served	L	L	T	TR
Maximum Queue (ft)	160	166	176	211
Average Queue (ft)	52	74	72	104
95th Queue (ft)	120	138	148	186
Link Distance (ft)			1263	1263
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)	165	165		
Storage Blk Time (%)	0	1	0	
Queuing Penalty (veh)	0	1	1	

Zone Summary

Zone wide Queuing Penalty: 104

1: Blake Rd/Aquila Ave & TH 7 Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Denied Del/Veh (s)	2.3	0.9	2.0	2.2	0.5	2.2	0.0	0.0	0.0	4.7	3.1	5.3
Total Del/Veh (s)	88.9	65.4	25.8	97.0	45.2	12.7	74.3	87.4	70.5	107.1	124.5	10.4

1: Blake Rd/Aquila Ave & TH 7 Performance by movement

Movement	All
Denied Del/Veh (s)	1.3
Total Del/Veh (s)	67.5

2: Blake Rd & Cambridge St Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Denied Del/Veh (s)	0.5	0.4	3.6	0.3	0.2	3.5	0.0	0.0	0.0	0.0	0.0	0.0
Total Del/Veh (s)	37.0	39.2	6.9	30.6	33.6	7.7	46.0	12.7	14.2	58.2	12.5	10.5

2: Blake Rd & Cambridge St Performance by movement

Movement	All
Denied Del/Veh (s)	0.3
Total Del/Veh (s)	18.1

3: Blake Road & Lake Street Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Denied Del/Veh (s)	0.2	0.1	0.1	4.1	0.2	0.1	0.1	0.0	0.0	0.0	0.0	0.0
Total Del/Veh (s)	22.2	25.4	10.8	21.4	24.3	8.9	6.7	2.1	2.0	5.9	0.8	0.6

3: Blake Road & Lake Street Performance by movement

Movement	All
Denied Del/Veh (s)	0.1
Total Del/Veh (s)	3.1

4: Blake Road & 2nd Street Performance by movement

Movement	EBL	EBR	NBL	NBT	SBT	SBR	All
Denied Del/Veh (s)	1.2	0.5	0.1	0.0	0.0	0.0	0.2
Total Del/Veh (s)	21.9	14.4	29.9	10.4	13.8	9.6	14.2

5: Blake Road & Excelsior Boulevard Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Denied Del/Veh (s)	0.0	0.1	0.0	2.5	0.4	2.5	3.5	0.3	0.2	0.0	0.0	0.0
Total Del/Veh (s)	52.4	20.1	6.5	57.4	20.3	7.7	56.6	43.8	29.0	56.1	45.9	40.6

5: Blake Road & Excelsior Boulevard Performance by movement

Movement	All
Denied Del/Veh (s)	0.5
Total Del/Veh (s)	27.7

Total Zone Performance

Denied Del/Veh (s)	1.4
Total Del/Veh (s)	1026.4

Intersection: 1: Blake Rd/Aquila Ave & TH 7

Movement	EB	EB	EB	EB	EB	WB	WB	WB	WB	WB	NB	NB
Directions Served	L	L	T	T	R	L	L	T	T	R	L	L
Maximum Queue (ft)	304	597	1072	1092	420	275	465	558	584	420	189	236
Average Queue (ft)	182	283	660	665	192	142	184	358	340	81	89	116
95th Queue (ft)	272	657	1129	1125	528	231	321	554	550	319	161	196
Link Distance (ft)			1614	1614				1315	1315			
Upstream Blk Time (%)			0	0								
Queuing Penalty (veh)			0	0								
Storage Bay Dist (ft)	675	675			300	300	300			300	190	190
Storage Blk Time (%)			9	31		0	0	19	16		0	1
Queuing Penalty (veh)			36	58		0	2	54	29		0	1

Intersection: 1: Blake Rd/Aquila Ave & TH 7

Movement	NB	NB	NB	SB	SB	SB	SB
Directions Served	T	T	R	L	T	T	R
Maximum Queue (ft)	260	261	422	250	547	340	60
Average Queue (ft)	159	166	309	222	333	227	3
95th Queue (ft)	247	253	454	288	582	381	34
Link Distance (ft)	410	410	410		525		
Upstream Blk Time (%)			4		5		
Queuing Penalty (veh)			11		0		
Storage Bay Dist (ft)				160		250	250
Storage Blk Time (%)	7			47	35	2	
Queuing Penalty (veh)	12			151	151	7	

Intersection: 2: Blake Rd & Cambridge St

Movement	EB	EB	WB	WB	NB	NB	NB	SB	SB	SB
Directions Served	LT	R	LT	R	L	T	TR	L	T	TR
Maximum Queue (ft)	295	108	94	61	123	188	280	131	202	218
Average Queue (ft)	141	34	37	22	56	68	126	41	55	76
95th Queue (ft)	231	78	75	50	106	147	236	91	142	158
Link Distance (ft)	738		1036			652	652		410	410
Upstream Blk Time (%)										
Queuing Penalty (veh)										
Storage Bay Dist (ft)		200		100	200			140		
Storage Blk Time (%)	3		0			0		0	1	
Queuing Penalty (veh)	2		0			0		0	0	

Intersection: 3: Blake Road & Lake Street

Movement	EB	WB	WB	NB	NB	NB	SB	SB
Directions Served	LTR	L	TR	L	T	TR	L	TR
Maximum Queue (ft)	93	64	80	52	7	20	47	9
Average Queue (ft)	43	18	23	17	0	1	12	1
95th Queue (ft)	77	47	54	44	5	8	37	7
Link Distance (ft)	794		874		619	619		251
Upstream Blk Time (%)								
Queuing Penalty (veh)								
Storage Bay Dist (ft)		100		85			100	
Storage Blk Time (%)		0	0	0				
Queuing Penalty (veh)		0	0	0				

Intersection: 4: Blake Road & 2nd Street

Movement	EB	EB	NB	NB	NB	SB	SB
Directions Served	L	LTR	L	T	TR	T	TR
Maximum Queue (ft)	168	228	144	194	175	185	219
Average Queue (ft)	49	113	53	79	92	79	95
95th Queue (ft)	117	192	102	156	164	162	186
Link Distance (ft)		544		1263	1263	619	619
Upstream Blk Time (%)							
Queuing Penalty (veh)							
Storage Bay Dist (ft)	160		200				
Storage Blk Time (%)	0	2		0		1	
Queuing Penalty (veh)	0	3		0		0	

Intersection: 5: Blake Road & Excelsior Boulevard

Movement	EB	EB	EB	EB	EB	WB	WB	WB	WB	NB	NB	NB
Directions Served	L	L	T	T	R	L	T	T	R	L	T	TR
Maximum Queue (ft)	115	132	285	276	184	178	291	276	138	184	214	179
Average Queue (ft)	55	70	237	220	128	73	182	160	67	99	90	71
95th Queue (ft)	107	121	301	295	239	140	265	240	116	172	175	148
Link Distance (ft)	184	184	184	184			1140	1140			607	607
Upstream Blk Time (%)			19	12	1							
Queuing Penalty (veh)			77	51	0							
Storage Bay Dist (ft)					185	280			350	175		
Storage Blk Time (%)				12	1		0			1	0	
Queuing Penalty (veh)				33	4		0			1	0	

Intersection: 5: Blake Road & Excelsior Boulevard

Movement	SB	SB	SB	SB
Directions Served	L	L	T	TR
Maximum Queue (ft)	146	157	229	228
Average Queue (ft)	62	79	80	108
95th Queue (ft)	120	139	176	198
Link Distance (ft)			1263	1263
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)	165	165		
Storage Blk Time (%)	0	0	1	
Queuing Penalty (veh)	0	0	1	

Zone Summary

Zone wide Queuing Penalty: 687

1: Blake Rd/Aquila Ave & TH 7 Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Denied Del/Veh (s)	1.9	0.5	1.9	2.1	0.6	2.0	0.0	0.1	0.1	3.7	0.2	3.7
Total Del/Veh (s)	87.9	49.9	19.3	97.2	30.1	8.1	71.0	65.2	45.7	96.1	85.9	2.6

1: Blake Rd/Aquila Ave & TH 7 Performance by movement

Movement	All
Denied Del/Veh (s)	0.8
Total Del/Veh (s)	47.7

2: Blake Rd & Cambridge St Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Denied Del/Veh (s)	0.5	0.4	3.6	0.2	0.2	3.6	0.0	0.0	0.0	0.1	0.0	0.0
Total Del/Veh (s)	35.7	34.3	7.5	28.0	30.3	5.0	40.8	7.6	6.3	66.3	8.0	6.4

2: Blake Rd & Cambridge St Performance by movement

Movement	All
Denied Del/Veh (s)	0.3
Total Del/Veh (s)	14.7

3: Blake Road & Lake Street Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Denied Del/Veh (s)	0.1	0.1	0.1	4.1	0.1	0.1	0.0	0.0	0.1	0.1	0.0	0.0
Total Del/Veh (s)	16.9	17.6	6.5	13.1	18.6	6.1	3.9	1.2	0.7	4.8	0.6	0.4

3: Blake Road & Lake Street Performance by movement

Movement	All
Denied Del/Veh (s)	0.1
Total Del/Veh (s)	2.1

4: Blake Road & 2nd Street Performance by movement

Movement	EBL	EBR	NBL	NBT	SBT	SBR	All
Denied Del/Veh (s)	1.4	0.5	0.6	0.0	0.0	0.0	0.4
Total Del/Veh (s)	20.1	12.7	30.7	8.9	15.0	11.2	14.8

5: Blake Road & Excelsior Boulevard Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Denied Del/Veh (s)	0.0	0.1	0.0	2.5	0.2	2.6	3.4	0.3	0.2	0.2	0.0	0.0
Total Del/Veh (s)	41.4	21.5	4.3	45.5	23.0	4.5	40.1	34.7	14.7	47.8	43.4	37.3

5: Blake Road & Excelsior Boulevard Performance by movement

Movement	All
Denied Del/Veh (s)	0.5
Total Del/Veh (s)	28.2

Total Zone Performance

Denied Del/Veh (s)	1.0
Total Del/Veh (s)	1112.3

Intersection: 1: Blake Rd/Aquila Ave & TH 7

Movement	EB	EB	EB	EB	EB	WB	WB	WB	WB	WB	NB	NB
Directions Served	L	L	T	T	R	L	L	T	T	R	L	L
Maximum Queue (ft)	136	493	1031	986	420	272	359	570	542	420	189	202
Average Queue (ft)	58	128	557	550	118	143	169	345	321	37	96	115
95th Queue (ft)	131	403	934	931	422	246	305	528	519	222	168	186
Link Distance (ft)			1614	1614				1315	1315			
Upstream Blk Time (%)												
Queuing Penalty (veh)												
Storage Bay Dist (ft)	675	675			300	300	300			300	190	190
Storage Blk Time (%)			6	24		0	1	13	11		0	1
Queuing Penalty (veh)			9	39		2	5	41	13		0	0

Intersection: 1: Blake Rd/Aquila Ave & TH 7

Movement	NB	NB	NB	SB	SB	SB
Directions Served	T	T	R	L	T	T
Maximum Queue (ft)	135	138	412	207	169	140
Average Queue (ft)	56	68	228	83	77	47
95th Queue (ft)	110	117	375	156	147	110
Link Distance (ft)	410	410	410		634	634
Upstream Blk Time (%)			1			
Queuing Penalty (veh)			1			
Storage Bay Dist (ft)				160		
Storage Blk Time (%)	0			3	1	
Queuing Penalty (veh)	0			1	1	

Intersection: 2: Blake Rd & Cambridge St

Movement	EB	EB	WB	WB	NB	NB	NB	SB	SB	SB
Directions Served	LT	R	LT	R	L	T	TR	L	T	TR
Maximum Queue (ft)	257	123	78	45	114	104	187	74	117	115
Average Queue (ft)	129	33	24	17	52	37	69	24	27	39
95th Queue (ft)	213	64	59	41	96	83	144	59	80	87
Link Distance (ft)	738		1036			652	652		410	410
Upstream Blk Time (%)										
Queuing Penalty (veh)										
Storage Bay Dist (ft)		200		100	200			140		
Storage Blk Time (%)	2		0						0	
Queuing Penalty (veh)	2		0						0	

Intersection: 3: Blake Road & Lake Street

Movement	EB	WB	WB	NB	NB	SB	SB
Directions Served	LTR	L	TR	L	TR	L	T
Maximum Queue (ft)	77	45	65	29	6	42	11
Average Queue (ft)	34	12	21	2	0	7	0
95th Queue (ft)	63	38	52	16	4	31	8
Link Distance (ft)	794		874		631		251
Upstream Blk Time (%)							
Queuing Penalty (veh)							
Storage Bay Dist (ft)		100		85		100	
Storage Blk Time (%)							
Queuing Penalty (veh)							

Intersection: 4: Blake Road & 2nd Street

Movement	EB	EB	NB	NB	NB	SB	SB
Directions Served	L	LTR	L	T	TR	T	TR
Maximum Queue (ft)	182	250	117	123	117	298	309
Average Queue (ft)	57	113	50	37	46	104	106
95th Queue (ft)	127	198	94	88	99	234	237
Link Distance (ft)		544		1263	1263	631	631
Upstream Blk Time (%)							
Queuing Penalty (veh)							
Storage Bay Dist (ft)	160		200				
Storage Blk Time (%)	0	2				5	
Queuing Penalty (veh)	0	2				0	

Intersection: 5: Blake Road & Excelsior Boulevard

Movement	EB	EB	EB	EB	EB	WB	WB	WB	WB	NB	NB	NB
Directions Served	L	L	T	T	R	L	T	T	R	L	T	TR
Maximum Queue (ft)	73	84	266	228	182	135	267	229	85	198	234	111
Average Queue (ft)	22	28	163	137	46	55	151	122	38	122	52	43
95th Queue (ft)	55	64	244	213	116	107	234	203	68	196	146	92
Link Distance (ft)	184	184	184	184			1140	1140			607	607
Upstream Blk Time (%)			5	2	0							
Queuing Penalty (veh)			13	4	0							
Storage Bay Dist (ft)					185	280			350	175		
Storage Blk Time (%)				2	0		0			3		
Queuing Penalty (veh)				2	0		0			2		

Intersection: 5: Blake Road & Excelsior Boulevard

Movement	SB	SB	SB	SB
Directions Served	L	L	T	TR
Maximum Queue (ft)	170	184	233	238
Average Queue (ft)	75	92	85	118
95th Queue (ft)	152	164	182	210
Link Distance (ft)			1263	1263
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)	165	165		
Storage Blk Time (%)	0	1	1	
Queuing Penalty (veh)	0	1	3	

Zone Summary

Zone wide Queuing Penalty: 142

1: Blake Rd/Aquila Ave & TH 7 Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Denied Del/Veh (s)	7.2	5.9	7.7	2.2	0.6	2.1	0.0	0.0	0.1	3.3	0.5	3.1
Total Del/Veh (s)	105.8	99.6	57.1	156.5	53.7	16.9	76.2	86.1	82.6	109.9	85.3	3.4

1: Blake Rd/Aquila Ave & TH 7 Performance by movement

Movement	All
Denied Del/Veh (s)	3.2
Total Del/Veh (s)	84.6

2: Blake Rd & Cambridge St Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Denied Del/Veh (s)	0.5	0.4	3.6	0.2	0.2	3.6	0.0	0.0	0.0	0.0	0.0	0.0
Total Del/Veh (s)	61.5	56.3	10.2	27.3	32.1	15.7	45.8	30.5	45.0	58.9	14.2	12.3

2: Blake Rd & Cambridge St Performance by movement

Movement	All
Denied Del/Veh (s)	0.3
Total Del/Veh (s)	28.6

3: Blake Road & Lake Street Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Denied Del/Veh (s)	0.1	0.2	0.2	4.1	0.2	0.2	0.1	0.0	0.0	0.0	0.0	0.0
Total Del/Veh (s)	28.1	34.2	17.5	23.0	41.7	9.9	8.6	2.2	2.2	11.2	0.9	0.7

3: Blake Road & Lake Street Performance by movement

Movement	All
Denied Del/Veh (s)	0.1
Total Del/Veh (s)	3.8

4: Blake Road & 2nd Street Performance by movement

Movement	EBL	EBR	NBL	NBT	SBT	SBR	All
Denied Del/Veh (s)	1.2	0.6	0.2	0.0	0.0	0.0	0.2
Total Del/Veh (s)	24.1	16.5	34.5	12.0	15.6	11.8	16.2

5: Blake Road & Excelsior Boulevard Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Denied Del/Veh (s)	0.0	0.1	0.0	2.4	0.4	2.5	3.4	0.3	0.2	0.0	0.0	0.0
Total Del/Veh (s)	48.2	21.7	7.7	62.2	23.3	8.6	63.6	45.4	30.0	55.2	48.3	47.2

5: Blake Road & Excelsior Boulevard Performance by movement

Movement	All
Denied Del/Veh (s)	0.5
Total Del/Veh (s)	29.8

Total Zone Performance

Denied Del/Veh (s)	2.8
Total Del/Veh (s)	1138.8

Intersection: 1: Blake Rd/Aquila Ave & TH 7

Movement	EB	EB	EB	EB	EB	WB	WB	WB	WB	WB	NB	NB
Directions Served	L	L	T	T	R	L	L	T	T	R	L	L
Maximum Queue (ft)	338	974	1533	1528	420	373	552	757	717	420	207	266
Average Queue (ft)	199	449	1003	1010	226	228	275	432	428	166	96	135
95th Queue (ft)	311	1032	1608	1595	557	360	459	680	676	483	172	227
Link Distance (ft)			1614	1614				1315	1315			
Upstream Blk Time (%)			6	5								
Queuing Penalty (veh)			0	0								
Storage Bay Dist (ft)	675	675			300	300	300			300	190	190
Storage Blk Time (%)			27	43		7	10	26	24		0	2
Queuing Penalty (veh)			119	95		46	67	90	49		0	3

Intersection: 1: Blake Rd/Aquila Ave & TH 7

Movement	NB	NB	NB	SB	SB	SB
Directions Served	T	T	R	L	T	T
Maximum Queue (ft)	320	281	426	250	561	519
Average Queue (ft)	185	179	382	227	318	236
95th Queue (ft)	276	260	482	283	560	457
Link Distance (ft)	410	410	410		634	634
Upstream Blk Time (%)	0		20		1	0
Queuing Penalty (veh)	0		64		0	0
Storage Bay Dist (ft)				160		
Storage Blk Time (%)	9			50	12	1
Queuing Penalty (veh)	18			75	31	0

Intersection: 2: Blake Rd & Cambridge St

Movement	EB	EB	WB	WB	NB	NB	NB	B8	SB	SB	SB
Directions Served	LT	R	LT	R	L	T	TR	T	L	T	TR
Maximum Queue (ft)	408	213	106	72	170	420	543	33	186	294	303
Average Queue (ft)	192	52	39	23	59	123	272	3	48	94	113
95th Queue (ft)	379	163	78	57	114	282	577	28	105	227	253
Link Distance (ft)	738		1036			652	652	251		410	410
Upstream Blk Time (%)						0	1				
Queuing Penalty (veh)						0	5				
Storage Bay Dist (ft)		200		100	200				140		
Storage Blk Time (%)	14		1	0		1			0	2	
Queuing Penalty (veh)	12		0	0		1			0	1	

Intersection: 3: Blake Road & Lake Street

Movement	EB	WB	WB	NB	NB	SB	SB
Directions Served	LTR	L	TR	L	TR	L	TR
Maximum Queue (ft)	112	62	67	61	10	47	22
Average Queue (ft)	50	22	26	15	0	11	1
95th Queue (ft)	92	52	56	45	6	36	10
Link Distance (ft)	794		874		631		251
Upstream Blk Time (%)							
Queuing Penalty (veh)							
Storage Bay Dist (ft)		100		85		100	
Storage Blk Time (%)			0	0			
Queuing Penalty (veh)			0	0			

Intersection: 4: Blake Road & 2nd Street

Movement	EB	EB	NB	NB	NB	SB	SB
Directions Served	L	LTR	L	T	TR	T	TR
Maximum Queue (ft)	184	282	165	200	223	239	278
Average Queue (ft)	65	134	66	93	107	107	122
95th Queue (ft)	149	228	124	171	193	205	233
Link Distance (ft)		544		1263	1263	631	631
Upstream Blk Time (%)							
Queuing Penalty (veh)							
Storage Bay Dist (ft)	160		200				
Storage Blk Time (%)	0	5		0		5	
Queuing Penalty (veh)	0	7		0		0	

Intersection: 5: Blake Road & Excelsior Boulevard

Movement	EB	EB	EB	EB	EB	WB	WB	WB	WB	NB	NB	NB
Directions Served	L	L	T	T	R	L	T	T	R	L	T	TR
Maximum Queue (ft)	129	141	288	292	184	254	342	297	173	195	285	233
Average Queue (ft)	57	75	253	242	142	92	221	191	75	117	108	79
95th Queue (ft)	110	124	299	303	242	184	315	277	135	194	225	171
Link Distance (ft)	184	184	184	184			1140	1140			607	607
Upstream Blk Time (%)		0	24	18	1							
Queuing Penalty (veh)		0	110	80	0							
Storage Bay Dist (ft)					185	280			350	175		
Storage Blk Time (%)				18	1		2			6	0	
Queuing Penalty (veh)				52	6		2			7	1	

Intersection: 5: Blake Road & Excelsior Boulevard

Movement	SB	SB	SB	SB
Directions Served	L	L	T	TR
Maximum Queue (ft)	160	176	244	254
Average Queue (ft)	86	102	98	133
95th Queue (ft)	151	168	188	220
Link Distance (ft)			1263	1263
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)	165	165		
Storage Blk Time (%)	0	1	1	
Queuing Penalty (veh)	0	1	3	

Zone Summary

Zone wide Queuing Penalty: 948

1: Blake Rd/Aquila Ave & TH 7 Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Denied Del/Veh (s)	2.0	0.5	1.9	2.1	0.5	2.0	0.0	0.0	0.0	3.8	0.2	3.6
Total Del/Veh (s)	87.0	57.6	21.5	73.8	29.1	7.1	71.8	67.3	39.2	89.6	88.1	2.5

1: Blake Rd/Aquila Ave & TH 7 Performance by movement

Movement	All
Denied Del/Veh (s)	0.7
Total Del/Veh (s)	48.4

2: Blake Rd & Cambridge St Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Denied Del/Veh (s)	0.4	0.3	3.8	0.1	0.3	3.6	0.0	0.0	0.0	0.0	0.0	0.0
Total Del/Veh (s)	37.8	34.2	7.0	33.1	29.3	5.9	41.7	6.7	4.6	68.1	6.9	5.2

2: Blake Rd & Cambridge St Performance by movement

Movement	All
Denied Del/Veh (s)	0.3
Total Del/Veh (s)	14.0

3: Blake Road & Lake Street Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Denied Del/Veh (s)	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Del/Veh (s)	14.0	16.8	5.9	11.5	10.3	5.5	6.3	1.3	0.9	3.3	0.5	0.3

3: Blake Road & Lake Street Performance by movement

Movement	All
Denied Del/Veh (s)	0.0
Total Del/Veh (s)	2.1

4: Blake Road & 2nd Street/Site Access 1 Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Denied Del/Veh (s)	1.4	0.3	0.5	4.1	0.6	0.2	0.4	0.0	0.0	0.1	0.0	0.0
Total Del/Veh (s)	19.2	22.5	12.5	26.0	25.5	5.3	30.1	10.7	7.6	35.7	12.8	8.9

4: Blake Road & 2nd Street/Site Access 1 Performance by movement

Movement	All
Denied Del/Veh (s)	0.5
Total Del/Veh (s)	14.5

5: Blake Road & Excelsior Boulevard Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Denied Del/Veh (s)	0.0	0.0	0.0	2.4	0.2	2.7	3.5	0.3	0.3	0.1	0.0	0.0
Total Del/Veh (s)	41.0	22.6	4.6	48.5	23.5	4.5	41.4	32.8	14.0	41.4	35.9	27.9

5: Blake Road & Excelsior Boulevard Performance by movement

Movement	All
Denied Del/Veh (s)	0.5
Total Del/Veh (s)	27.1

6: Site Access 2 & Lake Street Performance by movement

Movement	EBT	EBR	WBL	WBT	NBL	NBR	All
Denied Del/Veh (s)	0.0	0.0	0.1	0.1	0.1	0.1	0.1
Total Del/Veh (s)	0.6	0.7	2.1	0.3	4.5	2.9	1.5

Total Zone Performance

Denied Del/Veh (s)	0.9
Total Del/Veh (s)	1055.6

Intersection: 1: Blake Rd/Aquila Ave & TH 7

Movement	EB	EB	EB	EB	EB	WB	WB	WB	WB	WB	NB	NB
Directions Served	L	L	T	T	R	L	L	T	T	R	L	L
Maximum Queue (ft)	152	495	1044	1013	420	236	367	614	554	420	182	194
Average Queue (ft)	55	145	588	585	144	111	137	332	309	19	95	112
95th Queue (ft)	133	488	987	993	468	201	250	534	509	147	165	173
Link Distance (ft)			1614	1614				1315	1315			
Upstream Blk Time (%)												
Queuing Penalty (veh)												
Storage Bay Dist (ft)	675	675			300	300	300			300	190	190
Storage Blk Time (%)			8	28			0	12	9		0	0
Queuing Penalty (veh)			11	44			0	33	10		0	0

Intersection: 1: Blake Rd/Aquila Ave & TH 7

Movement	NB	NB	NB	SB	SB	SB
Directions Served	T	T	R	L	T	T
Maximum Queue (ft)	112	119	351	158	172	145
Average Queue (ft)	45	63	189	86	72	39
95th Queue (ft)	96	110	305	149	137	97
Link Distance (ft)	410	410	410		525	525
Upstream Blk Time (%)			0			
Queuing Penalty (veh)			0			
Storage Bay Dist (ft)				160		
Storage Blk Time (%)				1	1	
Queuing Penalty (veh)				0	0	

Intersection: 2: Blake Rd & Cambridge St

Movement	EB	EB	WB	WB	NB	NB	NB	SB	SB	SB
Directions Served	LT	R	LT	R	L	T	TR	L	T	TR
Maximum Queue (ft)	207	77	85	55	108	96	146	67	132	151
Average Queue (ft)	120	33	26	19	41	30	59	24	24	38
95th Queue (ft)	197	65	65	45	87	72	124	57	78	102
Link Distance (ft)	738		1036			652	652		410	410
Upstream Blk Time (%)										
Queuing Penalty (veh)										
Storage Bay Dist (ft)		200		100	200			140		
Storage Blk Time (%)	1		0						0	
Queuing Penalty (veh)	1		0						0	

Intersection: 3: Blake Road & Lake Street

Movement	EB	WB	WB	NB	NB	NB	SB	
Directions Served	LTR	L	TR	L	T	TR	L	
Maximum Queue (ft)	74	56	67	32	4	8	40	
Average Queue (ft)	31	23	25	3	0	0	7	
95th Queue (ft)	59	51	54	17	3	4	28	
Link Distance (ft)	794	136	136		634	634		
Upstream Blk Time (%)								
Queuing Penalty (veh)								
Storage Bay Dist (ft)				85				100
Storage Blk Time (%)								
Queuing Penalty (veh)								

Intersection: 4: Blake Road & 2nd Street/Site Access 1

Movement	EB	EB	WB	WB	NB	NB	NB	SB	SB	SB
Directions Served	L	LTR	L	TR	L	T	TR	L	T	TR
Maximum Queue (ft)	141	197	69	65	98	113	118	109	200	221
Average Queue (ft)	43	96	33	24	42	37	50	20	81	92
95th Queue (ft)	100	172	63	52	80	81	96	64	173	182
Link Distance (ft)		544		464		1263	1263		634	634
Upstream Blk Time (%)										
Queuing Penalty (veh)										
Storage Bay Dist (ft)	160		100		200			140		
Storage Blk Time (%)	0	1	0	0					2	
Queuing Penalty (veh)	0	2	0	0					0	

Intersection: 5: Blake Road & Excelsior Boulevard

Movement	EB	EB	EB	EB	EB	WB	WB	WB	WB	NB	NB	NB
Directions Served	L	L	T	T	R	L	T	T	R	L	T	TR
Maximum Queue (ft)	67	86	277	244	182	124	252	225	82	197	184	112
Average Queue (ft)	16	31	157	131	48	53	148	118	36	115	36	38
95th Queue (ft)	46	67	239	211	127	107	226	206	68	192	101	87
Link Distance (ft)	184	184	184	184			1140	1140			607	607
Upstream Blk Time (%)			4	1	0							
Queuing Penalty (veh)			10	3	0							
Storage Bay Dist (ft)					185	280			350	175		
Storage Blk Time (%)				1	0		0			2		
Queuing Penalty (veh)				1	0		0			1		

Intersection: 5: Blake Road & Excelsior Boulevard

Movement	SB	SB	SB	SB
Directions Served	L	L	T	TR
Maximum Queue (ft)	154	156	198	200
Average Queue (ft)	56	76	75	103
95th Queue (ft)	122	135	165	181
Link Distance (ft)			1263	1263
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)	165	165		
Storage Blk Time (%)	0	0	1	
Queuing Penalty (veh)	0	0	1	

Intersection: 6: Site Access 2 & Lake Street

Movement	WB	NB
Directions Served	LT	LR
Maximum Queue (ft)	31	45
Average Queue (ft)	2	26
95th Queue (ft)	18	47
Link Distance (ft)	1022	340
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Zone Summary

Zone wide Queuing Penalty: 119

1: Blake Rd/Aquila Ave & TH 7 Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Denied Del/Veh (s)	2.1	0.8	2.1	2.2	0.5	2.1	0.0	0.0	0.0	3.9	0.9	4.1
Total Del/Veh (s)	88.7	62.1	23.9	108.3	46.0	13.2	73.8	87.1	76.8	99.2	117.0	4.2

1: Blake Rd/Aquila Ave & TH 7 Performance by movement

Movement	All
Denied Del/Veh (s)	1.1
Total Del/Veh (s)	66.8

2: Blake Rd & Cambridge St Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Denied Del/Veh (s)	0.5	0.6	3.6	0.2	0.2	3.7	0.0	0.0	0.0	0.0	0.0	0.0
Total Del/Veh (s)	42.6	44.0	8.0	33.5	28.3	9.9	45.7	16.4	20.1	57.4	13.2	10.0

2: Blake Rd & Cambridge St Performance by movement

Movement	All
Denied Del/Veh (s)	0.3
Total Del/Veh (s)	20.4

3: Blake Road & Lake Street Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Denied Del/Veh (s)	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Del/Veh (s)	26.5	27.7	12.9	26.7	22.7	10.1	7.5	2.3	2.3	7.6	0.8	0.7

3: Blake Road & Lake Street Performance by movement

Movement	All
Denied Del/Veh (s)	0.0
Total Del/Veh (s)	3.8

4: Blake Road & 2nd Street/Site Access 1 Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Denied Del/Veh (s)	1.2	0.4	0.5	4.1	0.3	0.2	0.1	0.0	0.0	0.0	0.0	0.0
Total Del/Veh (s)	23.8	24.8	16.5	30.5	27.8	6.5	37.8	16.1	13.6	45.1	15.5	11.2

4: Blake Road & 2nd Street/Site Access 1 Performance by movement

Movement	All
Denied Del/Veh (s)	0.3
Total Del/Veh (s)	18.3

5: Blake Road & Excelsior Boulevard Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Denied Del/Veh (s)	0.0	0.1	0.0	2.5	0.4	2.6	3.4	0.3	0.3	0.0	0.0	0.0
Total Del/Veh (s)	52.4	20.3	6.7	54.0	21.2	8.0	53.8	45.2	29.7	56.3	44.9	43.6

5: Blake Road & Excelsior Boulevard Performance by movement

Movement	All
Denied Del/Veh (s)	0.5
Total Del/Veh (s)	28.2

6: Site Access 2 & Lake Street Performance by movement

Movement	EBT	EBR	WBL	WBT	NBL	NBR	All
Denied Del/Veh (s)	0.0	0.0	0.1	0.1	0.1	0.1	0.1
Total Del/Veh (s)	0.6	0.5	3.5	0.4	6.5	5.9	1.8

Total Zone Performance

Denied Del/Veh (s)	1.2
Total Del/Veh (s)	1032.0

Intersection: 1: Blake Rd/Aquila Ave & TH 7

Movement	EB	EB	EB	EB	EB	WB	WB	WB	WB	WB	NB	NB
Directions Served	L	L	T	T	R	L	L	T	T	R	L	L
Maximum Queue (ft)	301	457	994	996	420	289	572	650	607	420	195	246
Average Queue (ft)	178	253	632	637	186	168	203	373	351	81	93	119
95th Queue (ft)	277	578	1039	1046	525	265	343	575	555	318	171	207
Link Distance (ft)			1614	1614				1315	1315			
Upstream Blk Time (%)			0									
Queuing Penalty (veh)			0									
Storage Bay Dist (ft)	675	675			300	300	300			300	190	190
Storage Blk Time (%)			8	30		0	0	19	17		0	2
Queuing Penalty (veh)			31	66		2	2	60	32		1	2

Intersection: 1: Blake Rd/Aquila Ave & TH 7

Movement	NB	NB	NB	SB	SB	SB	SB
Directions Served	T	T	R	L	T	T	R
Maximum Queue (ft)	291	282	423	250	486	419	68
Average Queue (ft)	159	160	345	223	296	207	7
95th Queue (ft)	244	241	486	288	504	376	88
Link Distance (ft)	410	410	410		525	525	
Upstream Blk Time (%)			9		3	0	
Queuing Penalty (veh)			28		0	0	
Storage Bay Dist (ft)				160			250
Storage Blk Time (%)	5			43	28	4	
Queuing Penalty (veh)	9			61	66	2	

Intersection: 2: Blake Rd & Cambridge St

Movement	EB	EB	WB	WB	NB	NB	NB	SB	SB	SB
Directions Served	LT	R	LT	R	L	T	TR	L	T	TR
Maximum Queue (ft)	305	165	97	68	135	206	291	175	249	290
Average Queue (ft)	161	42	42	24	58	80	150	49	72	88
95th Queue (ft)	275	119	86	56	110	165	272	119	183	204
Link Distance (ft)	738		1036			652	652		410	410
Upstream Blk Time (%)										
Queuing Penalty (veh)										
Storage Bay Dist (ft)		200		100	200			140		
Storage Blk Time (%)	5		1	0		0			1	
Queuing Penalty (veh)	5		0	0		0			1	

Intersection: 3: Blake Road & Lake Street

Movement	EB	WB	WB	NB	NB	SB	SB
Directions Served	LTR	L	TR	L	TR	L	TR
Maximum Queue (ft)	111	83	91	50	21	62	18
Average Queue (ft)	46	28	30	14	1	18	1
95th Queue (ft)	89	63	65	40	8	48	8
Link Distance (ft)	794	136	136		634		251
Upstream Blk Time (%)			0				
Queuing Penalty (veh)			0				
Storage Bay Dist (ft)				85		100	
Storage Blk Time (%)							
Queuing Penalty (veh)							

Intersection: 4: Blake Road & 2nd Street/Site Access 1

Movement	EB	EB	WB	WB	NB	NB	NB	SB	SB	SB
Directions Served	L	LTR	L	TR	L	T	TR	L	T	TR
Maximum Queue (ft)	180	267	62	44	150	241	263	124	204	247
Average Queue (ft)	55	126	22	14	58	102	130	36	88	109
95th Queue (ft)	132	219	50	40	116	195	229	83	181	211
Link Distance (ft)		544		464		1263	1263		634	634
Upstream Blk Time (%)										
Queuing Penalty (veh)										
Storage Bay Dist (ft)	160		100		200			140		
Storage Blk Time (%)	0	4	0			1			3	
Queuing Penalty (veh)	0	5	0			1			1	

Intersection: 5: Blake Road & Excelsior Boulevard

Movement	EB	EB	EB	EB	EB	WB	WB	WB	WB	NB	NB	NB
Directions Served	L	L	T	T	R	L	T	T	R	L	T	TR
Maximum Queue (ft)	137	155	287	276	184	216	330	295	160	173	182	170
Average Queue (ft)	60	83	236	219	133	78	179	157	67	91	79	73
95th Queue (ft)	114	140	295	295	241	150	267	247	124	155	148	146
Link Distance (ft)	184	184	184	184			1140	1140			607	607
Upstream Blk Time (%)		0	18	11	1							
Queuing Penalty (veh)		0	75	48	0							
Storage Bay Dist (ft)					185	280			350	175		
Storage Blk Time (%)				11	1		1	0		0	0	
Queuing Penalty (veh)				30	5		1	0		0	0	

Intersection: 5: Blake Road & Excelsior Boulevard

Movement	SB	SB	SB	SB
Directions Served	L	L	T	TR
Maximum Queue (ft)	149	150	172	262
Average Queue (ft)	74	89	80	121
95th Queue (ft)	128	143	156	213
Link Distance (ft)			1263	1263
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)	165	165		
Storage Blk Time (%)	0	0	0	
Queuing Penalty (veh)	0	0	1	

Intersection: 6: Site Access 2 & Lake Street

Movement	WB	NB
Directions Served	LT	LR
Maximum Queue (ft)	30	35
Average Queue (ft)	4	22
95th Queue (ft)	23	45
Link Distance (ft)	1022	340
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Zone Summary

Zone wide Queuing Penalty: 536

1: Blake Rd/Aquila Ave & TH 7 Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Denied Del/Veh (s)	2.0	0.6	2.0	2.1	0.7	2.0	0.0	0.0	0.1	3.7	0.2	3.9
Total Del/Veh (s)	84.5	59.7	26.8	107.3	33.8	9.8	70.5	62.5	45.1	106.8	84.7	2.5

1: Blake Rd/Aquila Ave & TH 7 Performance by movement

Movement	All
Denied Del/Veh (s)	0.8
Total Del/Veh (s)	53.7

2: Blake Rd & Cambridge St Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Denied Del/Veh (s)	0.5	0.6	3.6	0.2	0.2	3.4	0.0	0.0	0.0	0.0	0.0	0.0
Total Del/Veh (s)	36.8	33.8	7.0	33.0	26.8	6.9	45.3	8.8	6.1	63.0	8.0	5.9

2: Blake Rd & Cambridge St Performance by movement

Movement	All
Denied Del/Veh (s)	0.3
Total Del/Veh (s)	14.7

3: Blake Road & Lake Street Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Denied Del/Veh (s)	0.1	0.2	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0
Total Del/Veh (s)	18.5	19.9	13.1	14.8	10.2	5.7	4.7	1.4	1.2	5.6	0.7	0.5

3: Blake Road & Lake Street Performance by movement

Movement	All
Denied Del/Veh (s)	0.0
Total Del/Veh (s)	2.4

4: Blake Road & 2nd Street/Site Access 1 Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Denied Del/Veh (s)	1.4	0.5	0.6	3.9	0.3	0.3	0.6	0.0	0.0	0.2	0.0	0.0
Total Del/Veh (s)	21.6	22.4	14.2	25.6	19.7	5.9	30.9	12.6	8.5	39.5	14.3	11.2

4: Blake Road & 2nd Street/Site Access 1 Performance by movement

Movement	All
Denied Del/Veh (s)	0.5
Total Del/Veh (s)	16.4

5: Blake Road & Excelsior Boulevard Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Denied Del/Veh (s)	0.0	0.1	0.0	2.4	0.2	2.5	3.4	0.3	0.2	0.2	0.0	0.0
Total Del/Veh (s)	42.7	22.8	5.0	48.9	25.0	5.1	41.8	32.4	14.4	42.6	39.2	30.9

5: Blake Road & Excelsior Boulevard Performance by movement

Movement	All
Denied Del/Veh (s)	0.6
Total Del/Veh (s)	28.4

6: Site Access 2 & Lake Street Performance by movement

Movement	EBT	EBR	WBL	WBT	NBL	NBR	All
Denied Del/Veh (s)	0.0	0.0	0.1	0.1	0.2	0.1	0.1
Total Del/Veh (s)	1.0	0.8	2.2	0.4	4.6	2.9	2.0

Total Zone Performance

Denied Del/Veh (s)	1.0
Total Del/Veh (s)	1109.5

Intersection: 1: Blake Rd/Aquila Ave & TH 7

Movement	EB	EB	EB	EB	EB	WB	WB	WB	WB	WB	NB	NB
Directions Served	L	L	T	T	R	L	L	T	T	R	L	L
Maximum Queue (ft)	150	814	1147	1184	420	276	504	707	686	420	216	232
Average Queue (ft)	58	139	656	661	182	173	197	378	362	82	124	142
95th Queue (ft)	130	460	1059	1074	517	269	338	603	596	348	204	219
Link Distance (ft)			1614	1614				1315	1315			
Upstream Blk Time (%)												
Queuing Penalty (veh)												
Storage Bay Dist (ft)	675	675			300	300	300			300	190	190
Storage Blk Time (%)			10	30		0	1	16	15		1	3
Queuing Penalty (veh)			15	55		4	5	52	18		0	2

Intersection: 1: Blake Rd/Aquila Ave & TH 7

Movement	NB	NB	NB	SB	SB	SB
Directions Served	T	T	R	L	T	T
Maximum Queue (ft)	143	129	419	203	183	147
Average Queue (ft)	51	64	248	100	84	48
95th Queue (ft)	107	112	387	175	157	111
Link Distance (ft)	410	410	410		525	525
Upstream Blk Time (%)			1			
Queuing Penalty (veh)			2			
Storage Bay Dist (ft)				160		
Storage Blk Time (%)				4	1	
Queuing Penalty (veh)				2	1	

Intersection: 2: Blake Rd & Cambridge St

Movement	EB	EB	WB	WB	NB	NB	NB	SB	SB	SB
Directions Served	LT	R	LT	R	L	T	TR	L	T	TR
Maximum Queue (ft)	258	122	83	55	120	137	178	82	150	148
Average Queue (ft)	132	31	26	18	49	50	82	21	30	41
95th Queue (ft)	220	62	63	47	98	111	160	57	90	101
Link Distance (ft)	738		1036			652	652		410	410
Upstream Blk Time (%)										
Queuing Penalty (veh)										
Storage Bay Dist (ft)		200		100	200			140		
Storage Blk Time (%)	2		0			0		0	0	
Queuing Penalty (veh)	2		0			0		1	0	

Intersection: 3: Blake Road & Lake Street

Movement	EB	WB	WB	NB	SB	SB
Directions Served	LTR	L	TR	L	L	TR
Maximum Queue (ft)	102	56	76	28	59	4
Average Queue (ft)	36	21	34	3	12	0
95th Queue (ft)	73	50	63	18	43	3
Link Distance (ft)	794	136	136			251
Upstream Blk Time (%)						
Queuing Penalty (veh)						
Storage Bay Dist (ft)				85	100	
Storage Blk Time (%)						
Queuing Penalty (veh)						

Intersection: 4: Blake Road & 2nd Street/Site Access 1

Movement	EB	EB	WB	WB	NB	NB	NB	SB	SB	SB
Directions Served	L	LTR	L	TR	L	T	TR	L	T	TR
Maximum Queue (ft)	166	241	105	85	117	126	153	145	266	283
Average Queue (ft)	50	115	44	32	51	51	64	35	95	105
95th Queue (ft)	111	195	85	65	99	107	122	89	201	219
Link Distance (ft)		544		464		1263	1263		634	634
Upstream Blk Time (%)										
Queuing Penalty (veh)										
Storage Bay Dist (ft)	160		100		200			140		
Storage Blk Time (%)	0	2	1	0					3	
Queuing Penalty (veh)	0	2	1	0					1	

Intersection: 5: Blake Road & Excelsior Boulevard

Movement	EB	EB	EB	EB	EB	WB	WB	WB	WB	NB	NB	NB
Directions Served	L	L	T	T	R	L	T	T	R	L	T	TR
Maximum Queue (ft)	80	99	268	252	183	179	263	243	92	192	161	112
Average Queue (ft)	23	36	178	151	61	59	165	138	41	126	40	41
95th Queue (ft)	59	74	266	230	159	125	243	222	78	198	109	90
Link Distance (ft)	184	184	184	184			1140	1140			607	607
Upstream Blk Time (%)			7	2	0							
Queuing Penalty (veh)			17	6	0							
Storage Bay Dist (ft)					185	280			350	175		
Storage Blk Time (%)				2	0		0			4		
Queuing Penalty (veh)				3	1		0			3		

Intersection: 5: Blake Road & Excelsior Boulevard

Movement	SB	SB	SB	SB
Directions Served	L	L	T	TR
Maximum Queue (ft)	166	174	191	209
Average Queue (ft)	89	103	83	120
95th Queue (ft)	161	168	162	199
Link Distance (ft)			1263	1263
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)	165	165		
Storage Blk Time (%)	0	1	0	
Queuing Penalty (veh)	0	1	1	

Intersection: 6: Site Access 2 & Lake Street

Movement	WB	NB
Directions Served	LT	LR
Maximum Queue (ft)	29	63
Average Queue (ft)	1	34
95th Queue (ft)	13	53
Link Distance (ft)	1022	340
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Zone Summary

Zone wide Queuing Penalty: 194

1: Blake Rd/Aquila Ave & TH 7 Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Denied Del/Veh (s)	13.0	11.5	12.4	2.3	0.8	2.2	0.0	0.0	0.0	70.3	66.4	59.6
Total Del/Veh (s)	117.2	106.3	63.5	252.7	51.1	16.6	76.6	99.0	86.9	194.9	178.3	20.8

1: Blake Rd/Aquila Ave & TH 7 Performance by movement

Movement	All
Denied Del/Veh (s)	12.5
Total Del/Veh (s)	104.2

2: Blake Rd & Cambridge St Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Denied Del/Veh (s)	0.5	0.6	3.6	0.2	0.2	3.5	0.0	0.0	0.0	0.0	0.0	0.0
Total Del/Veh (s)	51.4	54.9	10.9	28.0	25.8	14.8	48.3	22.5	35.3	53.3	15.2	12.6

2: Blake Rd & Cambridge St Performance by movement

Movement	All
Denied Del/Veh (s)	0.3
Total Del/Veh (s)	24.2

3: Blake Road & Lake Street Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Denied Del/Veh (s)	0.1	0.1	0.1	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0
Total Del/Veh (s)	31.1	38.9	18.1	28.9	26.2	10.1	9.9	2.5	2.4	9.1	0.9	0.8

3: Blake Road & Lake Street Performance by movement

Movement	All
Denied Del/Veh (s)	0.0
Total Del/Veh (s)	4.1

4: Blake Road & 2nd Street/Site Access 1 Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Denied Del/Veh (s)	1.3	0.6	0.5	4.0	0.2	0.2	0.1	0.0	0.0	0.1	0.0	0.0
Total Del/Veh (s)	28.2	27.4	19.9	31.1	25.0	8.6	42.8	18.7	16.0	47.0	18.4	14.6

4: Blake Road & 2nd Street/Site Access 1 Performance by movement

Movement	All
Denied Del/Veh (s)	0.3
Total Del/Veh (s)	21.8

5: Blake Road & Excelsior Boulevard Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Denied Del/Veh (s)	0.0	0.1	0.0	2.4	0.4	2.4	3.4	0.3	0.2	0.0	0.0	0.0
Total Del/Veh (s)	55.2	22.2	8.1	58.5	22.6	10.0	55.4	45.7	32.6	61.9	49.6	51.2

5: Blake Road & Excelsior Boulevard Performance by movement

Movement	All
Denied Del/Veh (s)	0.5
Total Del/Veh (s)	30.8

6: Site Access 2 & Lake Street Performance by movement

Movement	EBT	EBR	WBL	WBT	NBL	NBR	All
Denied Del/Veh (s)	0.0	0.0	0.1	0.1	0.2	0.1	0.1
Total Del/Veh (s)	0.6	0.5	3.5	0.5	7.2	6.1	2.1

Total Zone Performance

Denied Del/Veh (s)	9.6
Total Del/Veh (s)	1261.7

Intersection: 1: Blake Rd/Aquila Ave & TH 7

Movement	EB	EB	EB	EB	EB	WB	WB	WB	WB	WB	NB	NB
Directions Served	L	L	T	T	R	L	L	T	T	R	L	L
Maximum Queue (ft)	350	975	1583	1574	420	427	598	1003	925	420	233	279
Average Queue (ft)	206	517	1102	1099	268	358	431	538	487	129	114	151
95th Queue (ft)	306	1128	1842	1828	589	516	659	992	918	418	195	257
Link Distance (ft)			1614	1614				1315	1315			
Upstream Blk Time (%)			11	8				1	0			
Queuing Penalty (veh)			0	0				0	0			
Storage Bay Dist (ft)	675	675			300	300	300			300	190	190
Storage Blk Time (%)			28	42		46	54	20	20		0	3
Queuing Penalty (veh)			123	114		304	358	77	41		0	4

Intersection: 1: Blake Rd/Aquila Ave & TH 7

Movement	NB	NB	NB	SB	SB	SB	SB
Directions Served	T	T	R	L	T	T	R
Maximum Queue (ft)	374	349	425	250	552	526	204
Average Queue (ft)	195	193	393	243	496	386	34
95th Queue (ft)	327	310	479	269	648	613	198
Link Distance (ft)	410	410	410		525	525	
Upstream Blk Time (%)	1	0	19		48	4	
Queuing Penalty (veh)	2	0	64		0	0	
Storage Bay Dist (ft)				160			250
Storage Blk Time (%)	13			75	44	23	
Queuing Penalty (veh)	30			113	115	10	

Intersection: 2: Blake Rd & Cambridge St

Movement	EB	EB	WB	WB	NB	NB	NB	SB	SB	SB
Directions Served	LT	R	LT	R	L	T	TR	L	T	TR
Maximum Queue (ft)	365	168	109	67	150	307	493	179	314	324
Average Queue (ft)	178	49	36	22	59	110	211	41	104	125
95th Queue (ft)	329	147	79	53	120	235	414	104	247	277
Link Distance (ft)	738		1036			652	652		410	410
Upstream Blk Time (%)							0			
Queuing Penalty (veh)							1			
Storage Bay Dist (ft)		200		100	200			140		
Storage Blk Time (%)	10		0	0	0	1		0	2	
Queuing Penalty (veh)	9		0	0	0	0		0	1	

Intersection: 3: Blake Road & Lake Street

Movement	EB	WB	WB	NB	NB	NB	SB	SB
Directions Served	LTR	L	TR	L	T	TR	L	TR
Maximum Queue (ft)	101	82	65	62	8	39	69	17
Average Queue (ft)	50	26	30	15	0	2	21	1
95th Queue (ft)	89	61	57	44	6	15	53	11
Link Distance (ft)	794	136	136		634	634		251
Upstream Blk Time (%)								
Queuing Penalty (veh)								
Storage Bay Dist (ft)				85			100	
Storage Blk Time (%)				0			0	
Queuing Penalty (veh)				0			0	

Intersection: 4: Blake Road & 2nd Street/Site Access 1

Movement	EB	EB	WB	WB	NB	NB	NB	SB	SB	SB
Directions Served	L	LTR	L	TR	L	T	TR	L	T	TR
Maximum Queue (ft)	185	331	85	66	181	281	281	151	254	281
Average Queue (ft)	70	149	36	26	77	127	152	54	118	130
95th Queue (ft)	159	252	73	59	149	223	248	116	226	250
Link Distance (ft)		544		464		1263	1263		634	634
Upstream Blk Time (%)										
Queuing Penalty (veh)										
Storage Bay Dist (ft)	160		100		200			140		
Storage Blk Time (%)	0	6	0		0	1		0	7	
Queuing Penalty (veh)	0	8	0		0	1		1	5	

Intersection: 5: Blake Road & Excelsior Boulevard

Movement	EB	EB	EB	EB	EB	WB	WB	WB	WB	NB	NB	NB
Directions Served	L	L	T	T	R	L	T	T	R	L	T	TR
Maximum Queue (ft)	154	162	284	292	184	207	303	287	184	198	240	196
Average Queue (ft)	73	88	252	244	145	87	207	188	90	116	97	86
95th Queue (ft)	133	143	301	308	242	158	295	278	151	191	187	160
Link Distance (ft)	184	184	184	184			1140	1140			607	607
Upstream Blk Time (%)	0	0	25	19	1							
Queuing Penalty (veh)	0	0	114	87	0							
Storage Bay Dist (ft)					185	280			350	175		
Storage Blk Time (%)				19	1		1			3	0	
Queuing Penalty (veh)				54	7		1			4	0	

Intersection: 5: Blake Road & Excelsior Boulevard

Movement	SB	SB	SB	SB
Directions Served	L	L	T	TR
Maximum Queue (ft)	174	188	236	260
Average Queue (ft)	99	112	100	144
95th Queue (ft)	169	176	188	233
Link Distance (ft)			1263	1263
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)	165	165		
Storage Blk Time (%)	0	2	2	
Queuing Penalty (veh)	1	3	5	

Intersection: 6: Site Access 2 & Lake Street

Movement	WB	NB
Directions Served	LT	LR
Maximum Queue (ft)	40	55
Average Queue (ft)	4	27
95th Queue (ft)	23	49
Link Distance (ft)	1022	340
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Zone Summary

Zone wide Queuing Penalty: 1660

4: Blake Road & 2nd Street/Site Access 1 Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Denied Del/Veh (s)	1.5	0.5	0.5	4.0	0.3	0.2	0.4	0.0	0.2	0.2	0.0	0.0
Total Del/Veh (s)	20.1	21.5	13.6	26.1	19.5	4.9	30.4	10.4	4.0	37.5	13.9	9.9

4: Blake Road & 2nd Street/Site Access 1 Performance by movement

Movement	All
Denied Del/Veh (s)	0.5
Total Del/Veh (s)	15.1

Intersection: 4: Blake Road & 2nd Street/Site Access 1

Movement	EB	EB	WB	WB	NB	NB	NB	NB	SB	SB	SB
Directions Served	L	LTR	L	TR	L	T	T	R	L	T	TR
Maximum Queue (ft)	168	216	77	44	105	109	134	38	119	233	235
Average Queue (ft)	48	99	27	15	43	36	43	9	18	89	96
95th Queue (ft)	110	172	61	35	83	84	91	29	55	180	196
Link Distance (ft)		544		452		1263	1263			634	634
Upstream Blk Time (%)											
Queuing Penalty (veh)											
Storage Bay Dist (ft)	160		100		200			100	140		
Storage Blk Time (%)	0	2	0				1			2	
Queuing Penalty (veh)	0	2	0				0			0	

4: Blake Road & 2nd Street/Site Access 1 Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Denied Del/Veh (s)	1.1	0.4	0.5	4.1	0.2	0.2	0.1	0.0	0.1	0.0	0.0	0.0
Total Del/Veh (s)	23.0	23.2	16.6	32.1	25.1	7.0	36.2	15.7	4.9	40.3	14.9	10.4

4: Blake Road & 2nd Street/Site Access 1 Performance by movement

Movement	All
Denied Del/Veh (s)	0.3
Total Del/Veh (s)	17.5

Intersection: 4: Blake Road & 2nd Street/Site Access 1

Movement	EB	EB	WB	WB	NB	NB	NB	NB	SB	SB	SB
Directions Served	L	LTR	L	TR	L	T	T	R	L	T	TR
Maximum Queue (ft)	180	257	76	41	132	189	225	118	123	193	214
Average Queue (ft)	54	128	22	14	59	107	121	17	34	93	105
95th Queue (ft)	134	215	57	34	107	172	198	64	83	166	188
Link Distance (ft)		544		452		1263	1263			634	634
Upstream Blk Time (%)											
Queuing Penalty (veh)											
Storage Bay Dist (ft)	160		100		200			100	140		
Storage Blk Time (%)	0	5	0			0	10			3	
Queuing Penalty (veh)	0	6	0			0	6			1	

4: Blake Road & 2nd Street/Site Access 1 Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Denied Del/Veh (s)	1.4	0.5	0.5	3.9	0.3	0.3	0.5	0.0	0.7	0.1	0.0	0.0
Total Del/Veh (s)	21.7	19.3	14.6	26.9	21.0	4.8	33.7	13.7	3.8	43.4	16.1	13.1

4: Blake Road & 2nd Street/Site Access 1 Performance by movement

Movement	All
Denied Del/Veh (s)	0.5
Total Del/Veh (s)	17.4

Total Zone Performance

Denied Del/Veh (s)	1.3
Total Del/Veh (s)	814.8

Intersection: 4: Blake Road & 2nd Street/Site Access 1

Movement	EB	EB	WB	WB	NB	NB	NB	NB	SB	SB	SB
Directions Served	L	LTR	L	TR	L	T	T	R	L	T	TR
Maximum Queue (ft)	164	229	100	80	121	132	129	47	124	281	269
Average Queue (ft)	51	115	42	22	47	54	62	12	35	102	120
95th Queue (ft)	117	190	83	51	98	109	110	35	95	218	245
Link Distance (ft)		544		452		1263	1263			634	634
Upstream Blk Time (%)											
Queuing Penalty (veh)											
Storage Bay Dist (ft)	160		100		200			100	140		
Storage Blk Time (%)	0	2	1	0			1			5	
Queuing Penalty (veh)	0	3	0	0			1			1	

Zone Summary

Zone wide Queuing Penalty: 5

4: Blake Road & 2nd Street/Site Access 1 Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Denied Del/Veh (s)	1.3	0.7	0.6	4.0	0.4	0.2	0.1	0.0	0.2	0.1	0.0	0.0
Total Del/Veh (s)	26.5	27.1	18.5	28.5	24.1	8.8	38.0	19.7	6.3	45.4	17.9	13.6

4: Blake Road & 2nd Street/Site Access 1 Performance by movement

Movement	All
Denied Del/Veh (s)	0.3
Total Del/Veh (s)	20.8

Total Zone Performance

Denied Del/Veh (s)	1.3
Total Del/Veh (s)	1257.4

Intersection: 4: Blake Road & 2nd Street/Site Access 1

Movement	EB	EB	WB	WB	NB	NB	NB	NB	SB	SB	SB
Directions Served	L	LTR	L	TR	L	T	T	R	L	T	TR
Maximum Queue (ft)	185	277	76	82	209	253	258	220	146	248	268
Average Queue (ft)	70	146	28	18	75	131	147	37	51	119	133
95th Queue (ft)	159	242	63	54	146	225	241	127	112	221	244
Link Distance (ft)		544		452		1263	1263			634	634
Upstream Blk Time (%)											
Queuing Penalty (veh)											
Storage Bay Dist (ft)	160		100		200			100	140		
Storage Blk Time (%)	0	6	0	0	0	1	16		0	7	
Queuing Penalty (veh)	0	8	0	0	0	2	15		0	4	

Zone Summary

Zone wide Queuing Penalty: 29