

Traffic Impact Study

Proposed Residential Development

Naperville, Illinois



Prepared For:



September 14, 2022

1. Introduction

This report summarizes the methodologies, results, and findings of a traffic impact study conducted by Kenig, Lindgren, O'Hara, Aboona, Inc. (KLOA, Inc.) for a proposed residential development to be located in Naperville, Illinois. The site, which is partially utilized by the Galaxy soccer club with 13 soccer fields, is located on the north side of 119th Street west of Book Road. As proposed, the site will be developed with 252 single-family homes and 149 townhomes. In addition, two soccer fields to be dedicated to the park district will be located on the east side of the site. Access to the site will be provided via three full access roads off 119th Street and via a connection to the north with Hawkweed Drive. **Figure 1** shows the location of the site in relation to the area roadway system. **Figure 2** shows an aerial view of the site.

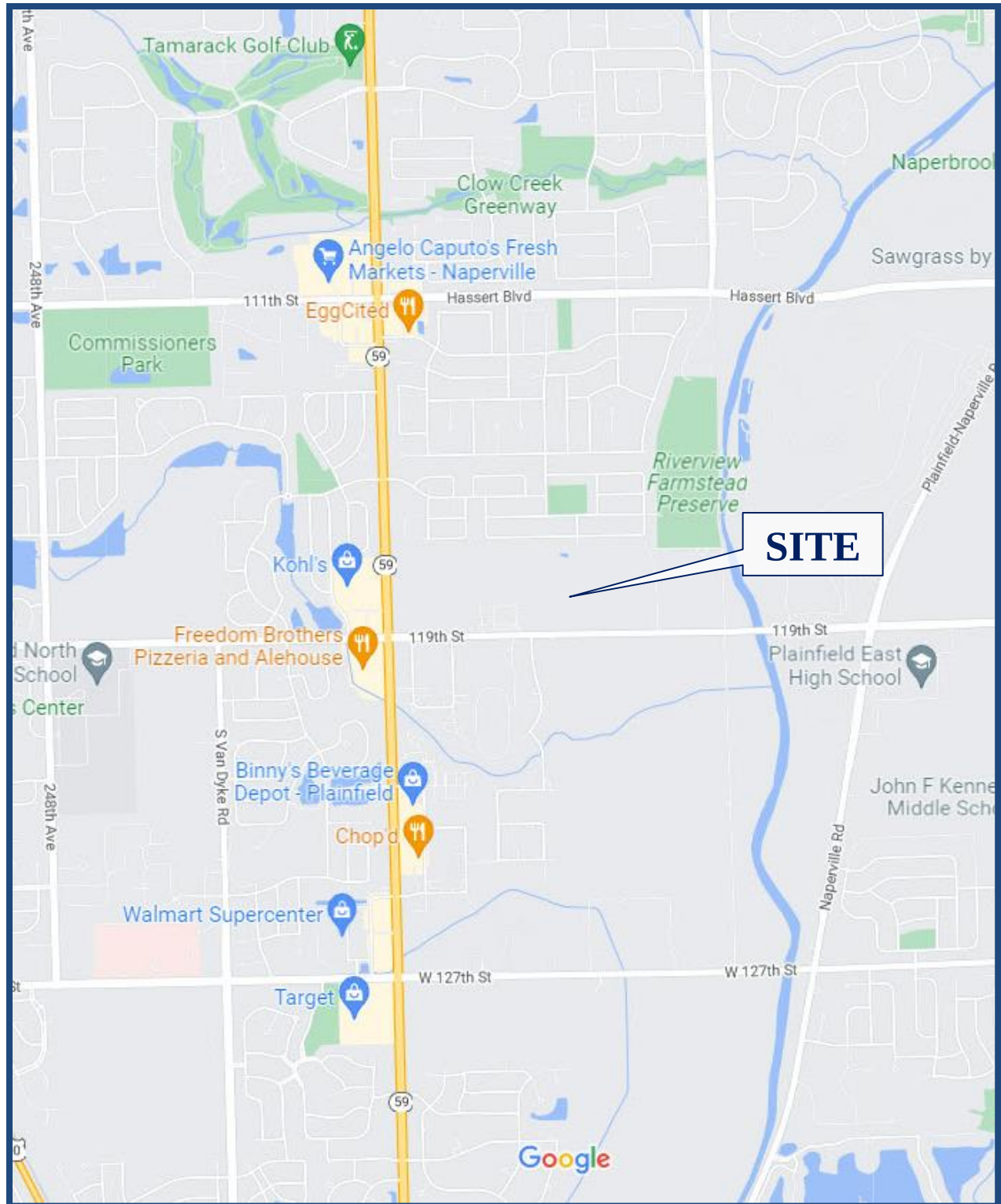
The purpose of this study was to examine background traffic conditions, assess the impact that the proposed development will have on traffic conditions in the area, and determine if any roadway or access improvements are necessary to accommodate traffic generated by the proposed development.

The sections of this report present the following:

- Existing roadway conditions
- A description of the proposed development
- Directional distribution of the development traffic
- Vehicle trip generation for the development
- Future traffic conditions including access to the development
- Traffic analyses for the weekday morning and evening peak hours
- Recommendations with respect to adequacy of the site access and adjacent roadway system

Traffic capacity analyses were conducted for the weekday morning and weekday evening peak hours for the following conditions:

1. Year 2022 Base Conditions – Analyzes the capacity of the existing roadway system using peak hour traffic volumes conducted in 2022 and adjusted with historical 2019 traffic counts to represent pre-pandemic conditions.
2. Year 2030 No-Build Conditions – Analyzes the capacity of the future roadway system using Year 2022 base traffic volumes increased by an ambient area growth factor and includes traffic from other nearby developments either recently approved or under construction.
3. Year 2030 Total Projected Conditions – Analyzes the capacity of the future roadway system using Year 2030 no-build traffic volumes increased by the traffic estimated to be generated by the proposed development.



Site Location

Figure 1



Aerial View of Site

Figure 2

2. Existing Conditions

Existing transportation conditions in the vicinity of the site were documented based on field visits conducted by KLOA, Inc. in order to obtain a database for projecting future conditions. The following provides a description of the geographical location of the site, physical characteristics of the area roadway system including lane usage and traffic control devices, and existing peak hour traffic volumes.

Site Location

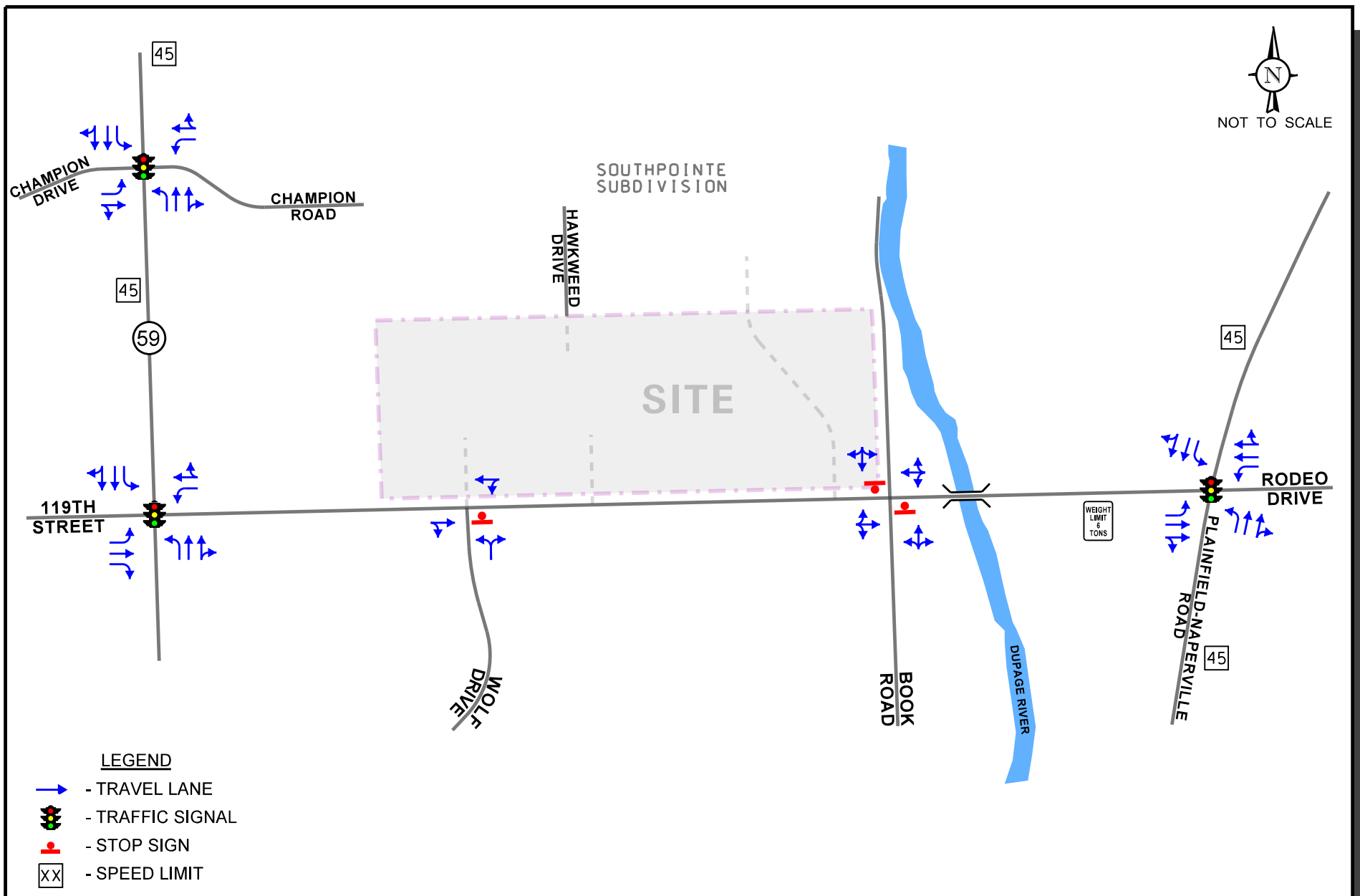
The development site is located on the north side of 119th Street west of Book Road and is currently utilized by the Galaxy Soccer Club with 12 soccer fields. Land uses in the vicinity of the site are primarily single-family residential to the north and south with vacant land to the west. The DuPage River is located to the east.

Existing Roadway System Characteristics

The characteristics of the existing roadways near the development are described below and illustrated in **Figure 3**.

IL Route 59 is a north-south other principal arterial roadway that in the vicinity of the site provides two travel lanes in each direction separated by a raised landscaped median. At its signalized intersections with 119th Street and Champion Drive, IL Route 59 provides an exclusive left-turn lane, a through lane and a shared through/right-turn lane in both directions. It is important to note that IL Route 59 has been designed and constructed to provide dual left-turn lanes on both approaches at its intersection with 119th Street. However, given that 119th Street only provides one lane in each direction, the outside lane of the southbound and northbound left-turn lanes is striped out. IL Route 59 is designated as a Strategic Regional Arterial (SRA, is under the jurisdiction of the Illinois Department of Transportation (IDOT), carries an annual average daily traffic (AADT) volume of 30,100 vehicles north of 119th Street increasing to 30,600 vehicles south of 119th Street (IDOT 2021), and has a posted speed limit of 45 miles per hour.

119th Street is an east-west two-lane road in the vicinity of the site that is designated as a major collector west of IL Route 59 and as a minor arterial east of IL Route 59. At its signalized intersection with IL 59, 119th Street provides an exclusive left-turn lane, a through lane and an exclusive right-turn lane in the eastbound approach. The westbound approach provides an exclusive left-turn lane and a shared through/right-turn lane. At its signalized intersection with Plainfield-Naperville Road, 119th Street provides an exclusive left-turn lane, a through lane and a shared through/right-turn lane on both approaches. No exclusive turn lanes are provided on either approach of its unsignalized intersection with Wolf Drive and Book Road. 119th Street is under the jurisdiction of Wheatland Township between IL Route 59 and Plainfield-Naperville Road, carries an AADT volume of 9,550 (IDOT 2019) east of IL Route 59 increasing to 12,900 vehicles (IDOT 2019) west of IL Route 59. 119th Street is classified as an SRA (WIKADUKE) and generally has a posted speed limit of 35 mph increasing to 50 mph approximately 3,200 feet east of IL Route 59. The posted speed decreases to 45 mph approximately 1,000 feet east of Book Road.



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Existing Roadway Characteristics

Plainfield-Naperville Road is a north-south roadway that generally provides one lane in each direction. At its signalized intersection with 119th Street, Plainfield-Naperville Road is widened to provide an exclusive left-turn lane, a through lane and a shared through/right-turn lane on both approaches. Plainfield-Naperville Road is under the jurisdiction of the Will County Department of Transportation (WCDOT) and is not designated as an SRA. Plainfield-Naperville Road is designated as a major collector roadway, carries an AADT volume of 12,100 vehicles (IDOT 2019), and has a posted speed limit of 55 mph.

Book Road is a north-south roadway that extends from 127th Street north to its terminus approximately 1,275 feet north of 119th Street. The road generally provides one lane in each direction. The road is under stop sign control at its unsignalized intersection with 119th Street and provides a shared left/through/right-turn lane on both approaches. Book Road south of 119th Street is designated as a major collector on IDOT's Functional Classification Map.

Wolf Drive is a north-south local dead-end road that provides one lane in each direction. The road is under stop sign control at its unsignalized "T" intersection with 119th Street and provides a shared left/right-turn lane.

Champion Drive is an east-west local road that serves the South Pointe residential development to the east and the Champion Creek residential development to the west. At its signalized intersection with IL Route 59, Champion Drive provides an exclusive left-turn lane and a shared through/right-turn lane on both approaches. Champion Drive has a posted speed limit of 25 mph and is under the jurisdiction of the City of Naperville.

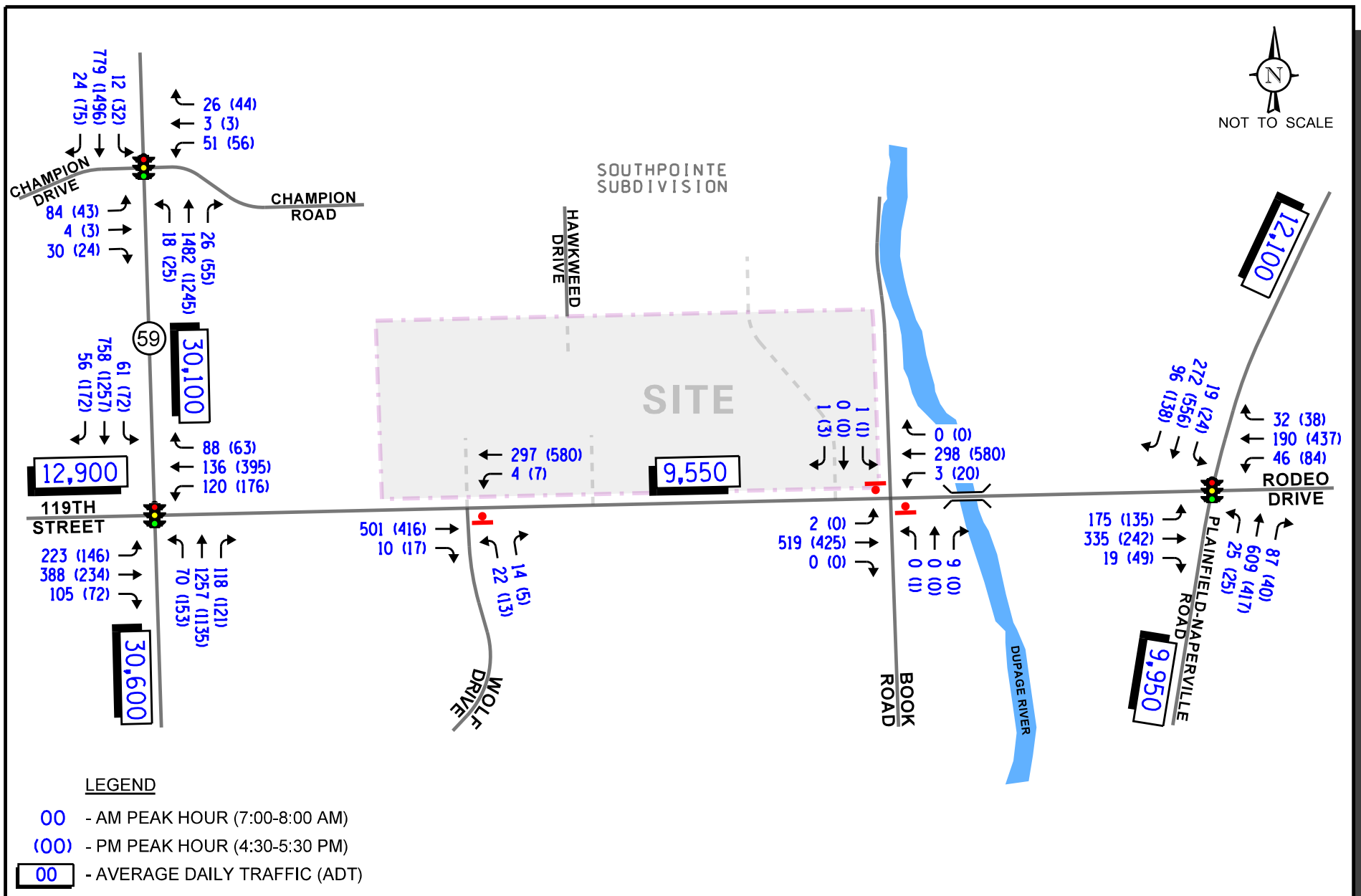
Existing Traffic Volumes

In order to determine current traffic conditions within the study area, KLOA, Inc. conducted peak period traffic counts utilizing Miovision Scout Collection Units at the following intersections:

- IL Route 59 with Champion Drive
- 119th Street with:
 - IL Route 59
 - Wolf Drive
 - Book Road
 - Plainfield-Naperville Road

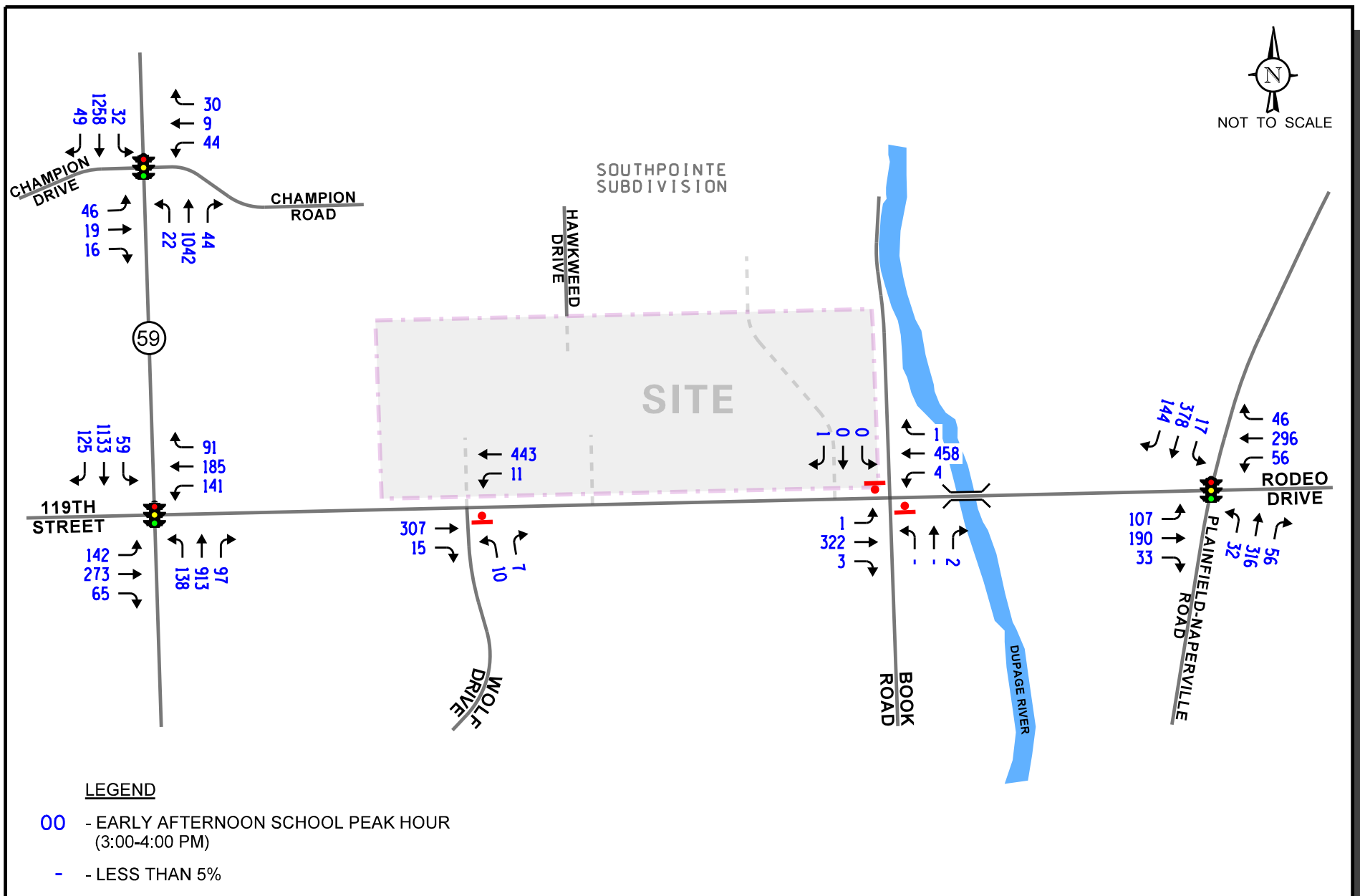
The traffic counts were conducted on Thursday, May 5, 2022 during the weekday morning (7:00 A.M. to 9:00 A.M.) and weekday evening (2:00 P.M. to 6:00 P.M.) peak periods. The results of the traffic counts show that the peak hours of traffic generally occur between 7:00 A.M. and 8:00 A.M. during the weekday morning peak period and between 4:30 P.M. and 5:30 P.M. during the weekday evening peak period. In order to ensure that the traffic counts represent normal traffic conditions, the traffic volumes were compared with hourly traffic counts conducted by IDOT and previous turning movement traffic counts conducted in the area in 2019. Based on this comparison, the east-west traffic on 119th Street was increased by 18 percent and 27 percent during the weekday morning and evening peak hours, respectively. The north-south traffic along IL 59 was increased by seven (7) percent during the weekday morning peak hour to reflect pre pandemic traffic conditions. The weekday evening peak hour volumes along IL 59 were not increased as they were higher than during pre-pandemic conditions. The Year 2022 base traffic volumes are illustrated in **Figure 4**. Copies of the traffic count summary sheets are included in the Appendix.

Given that there are two high schools along 119th Street (one east of Plainfield-Naperville Road and another west of IL Route 59), KLOA, Inc. also reviewed the peak traffic volumes between 2:00 P.M. and 4:00 P.M. Based on a review of the traffic volumes, the early afternoon peak hour occurred from 3:00 P.M. to 4:00 P.M. Further inspection of the traffic volumes indicated that the early afternoon intersection peak hour volumes were approximately 16 percent lower than the weekday evening peak hour. Furthermore, the eastbound and westbound traffic volumes on 119th Street were 26 and 35 percent lower, respectively, than during the weekday evening peak hour. As such, the early afternoon weekday peak hour was not included in the analysis. The Year 2022 early afternoon peak hour volumes are illustrated in **Figure 5**. Copies of the traffic count summary sheets are included in the Appendix.



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Year 2022 Base Traffic Volumes



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Year 2022 Base Traffic Volumes
(School Peak Hour)

Existing Roadway Operation Observations

The following summarizes KLOA, Inc. observations of operational issues noted at the intersection of 119th Street with IL Route 59.

- Typical of any intersection with a major arterial such as IL Route 59, the majority of the green time is allocated to IL Route 59. Based on our observations and a review of the signal timings, the intersection has a cycle length of 140 seconds during the morning peak period and 160 seconds during the evening peak period. Approximately 65 percent of the time is allocated to IL 59, leaving only 35 percent to 119th Street.
- The long cycle length coupled with the lower amount of green time increases the delay and queues 119th Street experiences.
- Further contributing to the poor operation of this intersection is the lack of an exclusive westbound to northbound right-turn lane on 119th Street.
- The cycle length during the weekday evening peak period at this intersection was recently increased from 140 seconds to 160 seconds and the splits were adjusted to provide additional green time to IL 59. These changes have contributed to additional delays to all of the east-west intersections with IL Route 59 along its corridor including 119th Street.

Crash Analysis

KLOA, Inc. obtained crash data for the most recent available past five years (2017 to 2021) at all of the studied intersections. A review of the crash data revealed no fatalities were reported at any of the study area intersections during the review period. A summary of the crash data for the intersections is shown in **Tables 1** through **5**.¹

Table 1
IL ROUTE 59 WITH 119th STREET
CRASH SUMMARY

Year	Type of Accident Frequency						
	Angle	Object	Rear End	Sideswipe	Turning	Cyclist	Total
2017	0	1	11	0	1	0	13
2018	0	0	9	0	2	0	11
2019	2	0	7	2	6	0	17
2020	0	1	4	0	1	0	6
2021	<u>1</u>	<u>0</u>	<u>4</u>	<u>0</u>	<u>1</u>	<u>0</u>	<u>6</u>
Total	3	2	35	2	11	0	53
Average/Year	<1.0	<1.0	7.0	<1.0	2.2	0.0	10.6

Table 2
119th STREET WITH PLAINFIELD-NAPERVILLE ROAD
CRASH SUMMARY

Year	Type of Accident Frequency						
	Angle	Object	Rear End	Sideswipe	Turning	Other	Total
2017	0	0	0	0	3	0	3
2018	2	1	0	0	2	0	5
2019	1	0	0	0	0	0	1
2020	0	0	1	0	1	0	2
2021	<u>1</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>1</u>	<u>0</u>	<u>2</u>
Total	3	1	1	0	7	0	13
Average/Year	<1.0	<1.0	<1.0	0	1.4	0	2.6

¹ IDOT DISCLAIMER: The motor vehicle crash data referenced herein was provided by the Illinois Department of Transportation. Any conclusions drawn from analysis of the aforementioned data are the sole responsibility of the data recipient(s). Additionally, for coding years 2015 to present, the Bureau of Data Collection uses the exact latitude/longitude supplied by the investigating law enforcement agency to locate crashes. Therefore, location data may vary in previous years since data prior to 2015 was physically located by bureau personnel.

Table 3
IL ROUTE 59 WITH CHAMPION DRIVE
CRASH SUMMARY

Year	Type of Accident Frequency						
	Angle	Object	Rear End	Sideswipe	Turning	Other	Total
2017	0	0	0	0	0	0	0
2018	0	0	0	0	0	0	0
2019	0	0	0	0	0	0	0
2020	0	0	0	0	0	0	0
2021	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>
Total	0	0	0	0	0	0	0
Average/Year	0	0	0	0	0	0	0

Table 4
119th STREET WITH WOLF DRIVE
CRASH SUMMARY

Year	Type of Accident Frequency						
	Angle	Object	Rear End	Sideswipe	Turning	Other	Total
2017	0	0	2	0	0	0	2
2018	0	0	0	0	0	0	0
2019	0	0	0	0	0	0	0
2020	0	0	0	0	0	0	0
2021	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>
Total	0	0	2	0	0	0	2
Average/Year	0	0	<1.0	0	0	0	<1.0

Table 5
119th STREET WITH BOOK ROAD
CRASH SUMMARY

Year	Type of Accident Frequency						
	Angle	Object	Rear End	Sideswipe	Turning	Other	Total
2017	1	0	0	0	0	0	1
2018	0	0	1	0	0	0	1
2019	0	0	0	0	0	2	2
2020	0	0	0	0	0	0	0
2021	<u>0</u>	<u>0</u>	<u>0</u>	<u>1</u>	<u>0</u>	<u>0</u>	<u>1</u>
Total	1	0	1	1	0	2	5
Average/Year	<1.0	0	<1.0	<1.0	0	<1.0	1.0

3. Traffic Characteristics of the Proposed Development

In order to properly evaluate future traffic conditions in the surrounding area, it was necessary to determine the traffic characteristics of the proposed development, including the directional distribution and volumes of traffic that it will generate.

Proposed Site and Development Plan

As proposed, the site will be developed with 252 single-family homes and 149 townhomes. In addition, two soccer fields to be dedicated to the park district will be located on the east side of the site. The soccer fields will provide approximately 75 off-street parking spaces.

Access to the site will be provided via three full access roads off 119th Street and via a connection to the north with the existing Hawkweed Drive stub. Below is a description of these access drives:

- The western access road will be located opposite Wolf Drive. The access drive will provide one inbound lane and one outbound lane under stop sign control. As part of the development, 119th Street will be widened to provide an exclusive left-turn lane on both approaches. These left-turn lanes will provide 145 feet of storage and 175 feet of taper.
- The middle access road will be located approximately 890 feet east of the western access road and will provide one inbound lane and two outbound lanes striped for an exclusive left-turn lane and an exclusive right-turn lane with outbound movements under stop sign control. As part of the development, 119th Street will be widened to provide for an exclusive eastbound to northbound left-turn lane. The turn lane will provide 145 feet of storage and 175 feet of taper.
- The eastern access road will be located approximately 1,735 feet east of the middle access road and will be the new Book Road northern alignment. The access road will provide one inbound lane and two outbound lanes striped for an exclusive left-turn lane and an exclusive right-turn lane with outbound movements under stop sign control. As part of the development, 119th Street will be widened to provide for an exclusive eastbound to northbound left-turn lane. The turn lane will provide 145 feet of storage and 175 feet of taper. It is important to note that this new road will extend up to the property limits of the site and this new alignment is critical to the City of Naperville's future planned roadway network as the city currently has limited north-south connections and the dedication and improvement of this new leg will be an important long-term community benefit.
- A connection to the north with the existing Hawkweed Drive stub will be provided thus providing a connection to the north and to the west with the existing traffic signal on Champion Drive at IL Route 59. The connection will match the existing cross-section of Hawkweed Drive. However, this connection will be gated until regional improvements to 119th Street are implemented.

All of these access improvements will be beneficial to the traffic flow and operations along 119th Street by removing left-turning traffic from the through movements. A copy of the site plan is included in the Appendix.

Directional Distribution

The directions from which residents will approach and depart the development were estimated based on existing travel patterns, as determined from the traffic counts. **Figures 6** illustrates the directional distribution of the development-generated traffic.

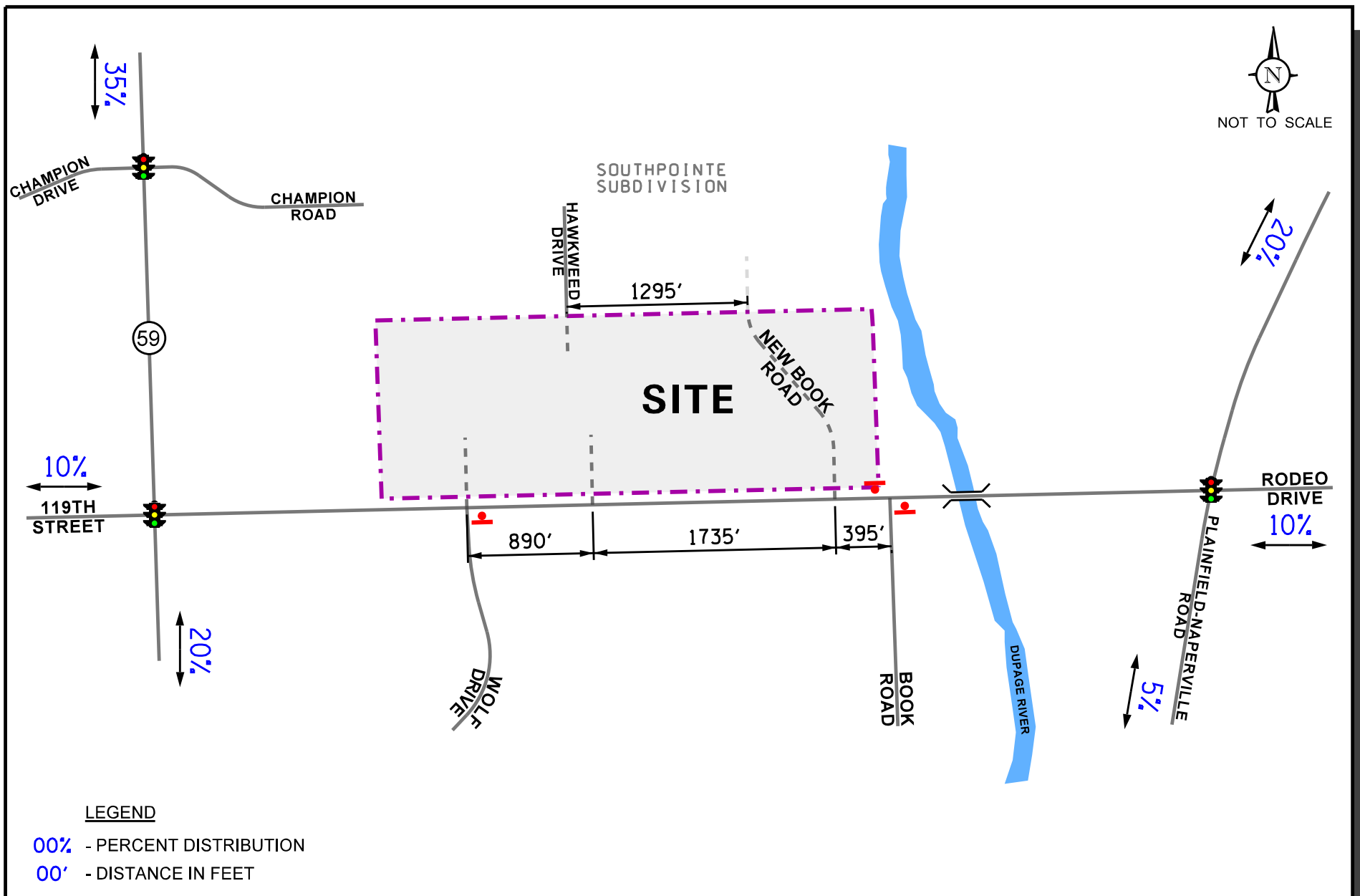
Estimated Site Traffic Generation

The estimates of traffic to be generated by the development was based upon the proposed land use type and size using data published in the Institute of Transportation Engineers' (ITE) *Trip Generation Manual*, 11th Edition. Land Use Code 210 (Single Family Detached Housing) and 220 (Multi-Family Housing Low Rise) were utilized for the proposed residential development. In addition, Land Use Code 488 was utilized to estimate the trips that will be generated by the two soccer fields. The projected peak hour estimated to be generated by the development are shown in **Table 6**.

It is important to note that the proposed development will reduce the number of soccer fields from 12 to two thus having a positive impact in the amount of traffic generated by the existing facility during tournaments and practices when all fields are being utilized.

Table 6
ESTIMATED PEAK HOUR VEHICLE TRIP GENERATION

ITE Land Use Code	Type/Size	Weekday Morning Peak Hour			Weekday Evening Peak Hour		
		In	Out	Total	In	Out	Total
210	Single Family Homes (252 Homes)	45	148	173	149	88	237
220	Townhomes (149 units)	17	52	69	54	31	85
488	Soccer Fields (Two)	--	--	--	42	21	63
Total		62	200	262	245	140	385



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Directional Distribution

4. Proposed Roadway Improvements

The following provides a summary of the proposed improvements on 119th Street at its intersection with IL Route 59 by the development in order to improve the existing and future traffic operations of the area.

- 119th Street at its intersection with IL 59 will be widened to provide for an exclusive westbound to northbound right-turn lane. This right-turn lane will provide 300 feet of storage and 175 feet of taper
- The existing westbound to southbound left-turn lane on 119th Street will be restriped to provide 185 feet of storage and 140 feet of taper thus increasing the storage length over existing conditions by approximately 60 feet.
- The traffic signal at 119th Street an IL 59 will be modified to provide for a westbound to northbound right-turn overlap phase.

As discussed under Chapter 3, the following improvements will be provided along 119th Street as part of the development.

- At its intersection with Wolf Drive, 119th Street will be widened to provide exclusive left-turn lanes on both approaches. These left-turn lanes will provide 145 feet of storage and 175 feet of taper.
- Exclusive left-turn lanes will also be provided on 119th Street at its intersections with the proposed middle access road and the new Book Road north leg alignment.
- A 60-foot right-of-way dedication on the north side of 119th Street along the site's frontage will be provided to accommodate future widening/improvements.
- A new east-west multi-use path will be provided on the north side of 119th Street along the site's frontage.

5. Projected Traffic Conditions

The total projected traffic volumes take into consideration the existing traffic volumes, increase in background traffic due to growth, and the traffic estimated to be generated by the proposed subject development.

Development Traffic Assignment

The estimated weekday morning and weekday evening traffic volumes that will be generated by the proposed development were assigned to the roadway system in accordance with the previously described directional distribution (Figure 6). **Figure 7** illustrates the site traffic assignment.

Year 2030 No-Build Traffic Volumes

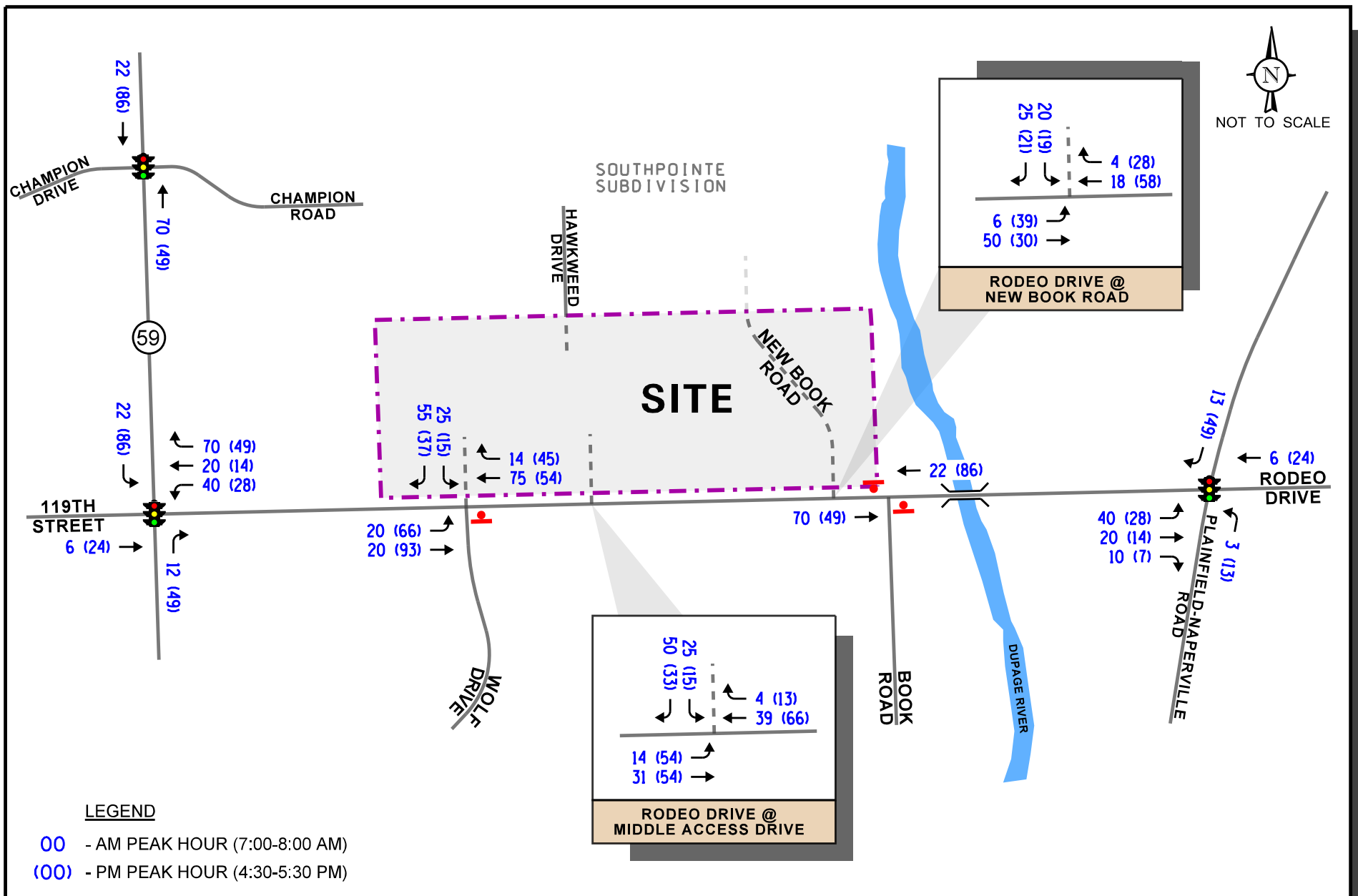
The Year 2022 base traffic volumes (Figure 4) were increased by a regional growth factor to account for the increase in existing traffic related to regional growth in the area (i.e., not attributable to any particular planned development). Based on AADT projections provided by the Chicago Metropolitan Agency for Planning (CMAP), the existing traffic volumes were increased by an annually compounded growth rate of 0.9 percent per year for eight years (buildout year plus five years) for a total of eight percent. Furthermore, the Year 2030 no-build conditions take into consideration the traffic generated by the following three developments:

- The Wagner Farm residential development located in the northeast quadrant of the intersection of IL Route 59 with 103rd Street which has some of the proposed residential homes currently under construction.
- A proposed residential development located on the north side of 111th Street, approximately 1,600 feet west of IL Route 59.
- The recently approved Townes at Sawgrass residential development in Bolingbrook located on the east side of Plainfield-Naperville Road between 119th Street/Rodeo Drive and Hassert Boulevard.

The projected Year 2030 no-build traffic volumes are illustrated in **Figure 8**.

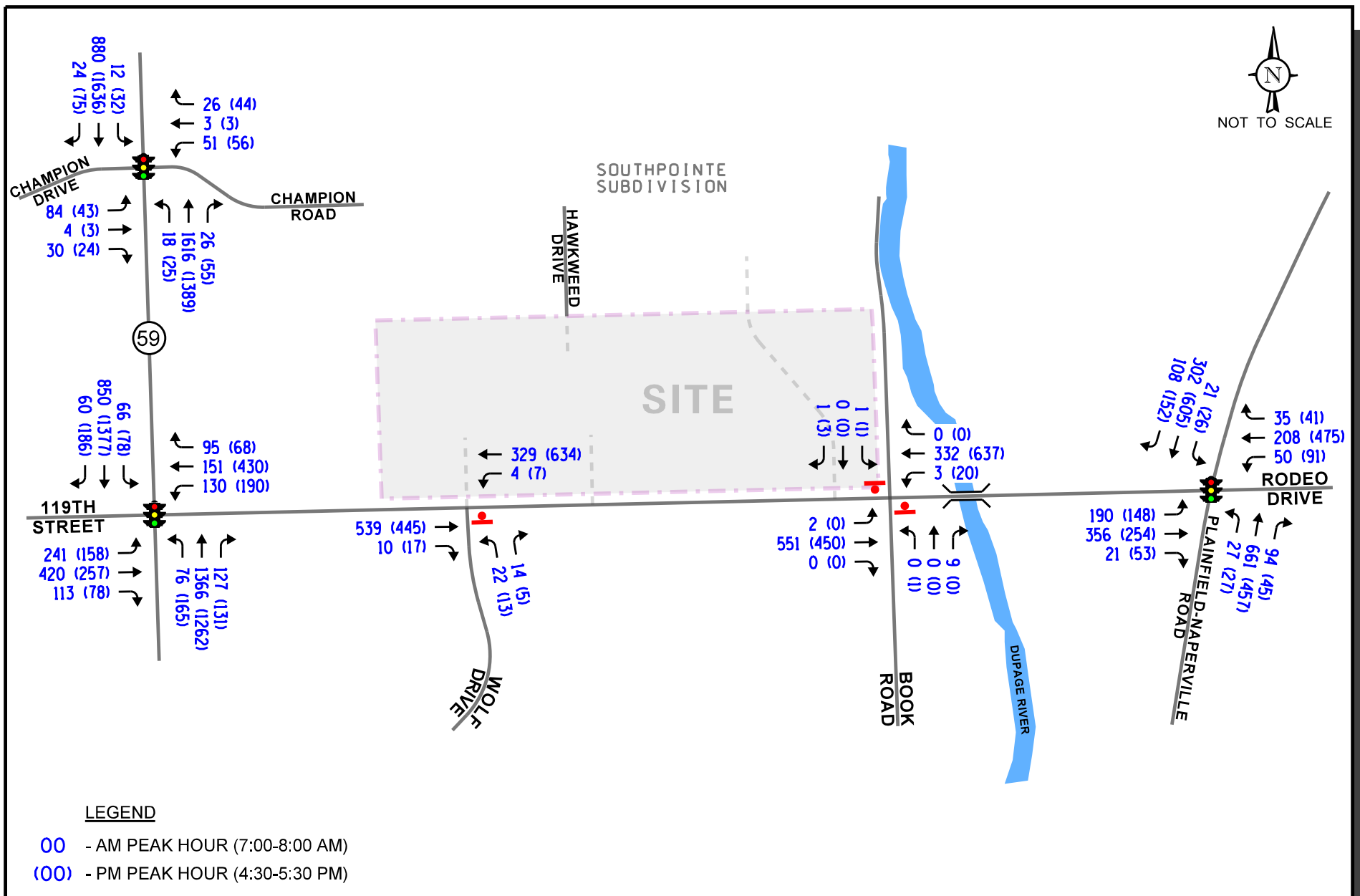
Year 2030 Total Projected Conditions

The Year 2030 total projected traffic volumes include the Year 2030 no-build traffic volumes plus the traffic estimated to be generated by the proposed development, which are illustrated in **Figure 9**. It is important to note that included in these projections is the reassignment of a portion of the existing traffic turning left onto IL Route 59 from Champion Drive and then turning left onto 119th Street to exit onto 119th Street via the proposed middle access drive and vice versa.



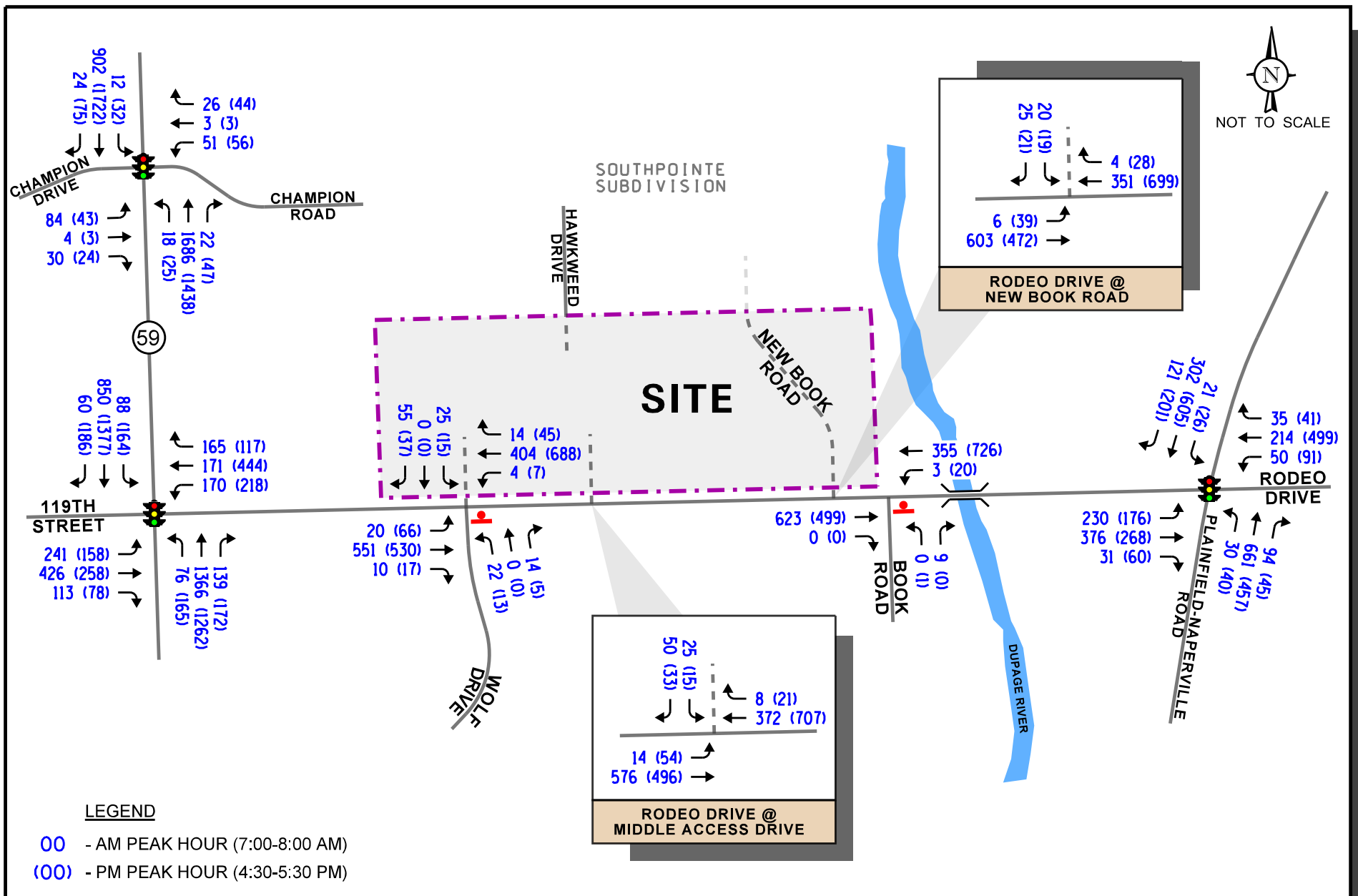
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Site-Generated Traffic Volumes



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Year 2030 No-Build Traffic Volumes



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Year 2030 Total Projected Traffic Volumes

6. Traffic Analysis and Recommendations

The following provides an evaluation conducted for the weekday morning and evening peak hours. The analysis includes conducting capacity analyses to determine how well the roadway system and access drives are projected to operate and whether any roadway improvements or modifications are required.

Traffic Analyses

Roadway and adjacent or nearby intersection analyses were performed for the weekday morning and evening peak hours for the Year 2022 base, Year 2030 no-build, and Year 2030 total projected conditions.

The traffic analyses were performed using the methodologies outlined in the Transportation Research Board's *Highway Capacity Manual* (HCM), 6th Edition and analyzed using Synchro/SimTraffic 11 software. The analysis for the traffic-signal controlled intersections were accomplished using actual cycle lengths and phasings from the timing plans to determine the average overall vehicle delay and levels of service. Copies of the timing sheets are included in the Appendix.

The analyses for the unsignalized intersections determine the average control delay to vehicles at an intersection. Control delay is the elapsed time from a vehicle joining the queue at a stop sign (includes the time required to decelerate to a stop) until its departure from the stop sign and resumption of free flow speed. The methodology analyzes each intersection approach controlled by a stop sign and considers traffic volumes on all approaches and lane characteristics.

The ability of an intersection to accommodate traffic flow is expressed in terms of level of service, which is assigned a letter from A to F based on the average control delay experienced by vehicles passing through the intersection. The *Highway Capacity Manual* definitions for levels of service and the corresponding control delay for signalized intersections and unsignalized intersections are included in the Appendix of this report.

Summaries of the traffic analysis results showing the level of service and overall intersection delay (measured in seconds) for the projected Year 2022 base, Year 2030 no-build, and Year 2030 total projected conditions are presented in **Tables 7** through **12**.

A discussion of each intersection follows. Summary sheets for the capacity analyses are included in the Appendix.

Table 7

CAPACITY ANALYSIS RESULTS – 119th STREET WITH IL ROUTE 59 - SIGNALIZED

2022 Base Conditions	Peak Hour	Eastbound			Westbound			Northbound		Southbound		Overall		
		L	T	R	L	T	R	L	T/R	L	T/R			
	Weekday Morning	D 46.0	E 77.5	D 47.2	E 66.0	F 83.2		F 95.9	D 35.7		E 78.7	C 22.3	D 44.6	
		E – 63.3			E – 77.2			D – 38.6		C – 26.3				
	Weekday Evening	F 88.7	E 68.9	A 5.5	D 49.9	F 152.4		F 102.1	D 35.1		E 76.8	D 44.3	E 59.2	
		E – 65.2			F – 124.0			D – 42.4		D – 45.9				
	2030 No-Build Conditions	Weekday Morning	D 50.0	F 82.5	B 16.0	E 76.2	E 80.0		F 103.2	D 42.2		F 82.4	C 23.5	D 47.6
			E – 62.6			E – 78.7			D – 45.2		C – 27.5			
		Weekday Evening	F 137.8	E 77.2	A 7.3	E 58.5	F 190.1		F 107.3	D 38.0		E 76.4	D 54.8	E 70.8
			F – 85.5			F – 153.8			D – 45.4		E – 55.8			
2030 Projected Conditions ¹	Weekday Morning	D 42.9	F 83.7	B 15.9	F 145.1	E 57.9	C 23.0	F 103.2	D 49.5		F 100.0	C 23.4	D 51.4	
		E – 61.3			E – 75.8			D – 52.1		C – 30.2				
	Weekday Evening	F 136.8	E 77.3	A 7.3	E 59.9	F 104.3	C 22.9	F 123.1	D 44.8		F 143.0	D 51.9	E 63.7	
		F – 85.3			E – 79.7			D – 52.9		E – 60.2				
Letter denotes Level of Service Delay is measured in seconds.		L – Left Turn T – Through		R – Right Turn 1 – Assuming geometric improvements and the provision of a westbound right-turn overlap phase.										

Table 8

CAPACITY ANALYSIS RESULTS – 119th STREET WITH PLAINFIELD-NAPERVILLE ROAD - SIGNALIZED

2022 Base Conditions	Peak Hour	Eastbound		Westbound		Northbound		Southbound		Overall
		L	T/R	L	T/R	L	T/R	L	T/R	
	Weekday Morning	C 30.8	D 35.3	C 26.3	D 47.5	B 11.0	B 17.0	B 11.1	B 15.0	C 24.9
		C – 33.8		D – 43.9		B – 16.8		B – 14.8		
	Weekday Evening	C 25.6	C 28.8	C 22.1	D 42.3	B 12.3	B 17.1	B 12.0	B 19.8	C 25.6
C – 27.7		D – 39.3		B – 16.8		B – 19.5				
2030 No-Build Conditions	Weekday Morning	C 31.2	C 34.8	C 26.3	D 48.9	B 12.0	B 18.7	B 12.1	B 16.4	C 25.9
		C – 33.6		D – 45.0		B – 18.5		B – 16.2		
	Weekday Evening	C 26.5	C 28.6	C 22.0	D 43.1	B 12.9	B 19.3	B 12.5	C 21.3	C 26.7
		C – 27.9		D – 39.9		B – 19.0		C – 21.0		
2030 Projected Conditions	Weekday Morning	C 32.7	C 33.9	C 26.2	D 50.6	B 13.1	C 20.4	B 13.3	B 17.6	C 27.1
		C – 33.5		D – 46.6		C – 20.1		B – 17.4		
	Weekday Evening	C 29.0	C 28.4	C 22.0	D 44.0	B 13.7	B 19.9	B 12.8	C 22.3	C 27.5
		C – 28.6		D – 40.8		B – 19.4		C – 22.0		
Letter denotes Level of Service Delay is measured in seconds.		L – Left Turn T – Through		R – Right Turn						

Table 9

CAPACITY ANALYSIS RESULTS – IL ROUTE 59 WITH CHAMPION DRIVE - SIGNALIZED

2022 Base Conditions	Peak Hour	Eastbound		Westbound		Northbound		Southbound		Overall
		L	T/R	L	T/R	L	T/R	L	T/R	
	Weekday Morning	E 62.7	C 31.8	E 57.4	C 31.1	F 90.1	A 5.5	E 68.0	A 8.3	B 10.8
		D – 53.7		D – 47.9		A – 6.5		A – 9.2		
	Weekday Evening	E 65.8	D 36.4	E 66.7	C 31.7	E 63.2	B 10.1	F 82.5	B 10.6	B 13.9
D – 54.6		D – 50.7		B – 11.1		B – 12.0				
2030 No-Build Conditions	Weekday Morning	E 62.7	C 31.8	E 57.4	C 31.1	F 88.4	A 5.4	E 68.0	A 8.7	B 10.6
		D – 53.7		D – 47.9		A – 6.3		A – 9.5		
	Weekday Evening	E 65.8	D 36.4	E 66.7	C 31.7	E 59.1	B 11.6	F 82.5	B 10.9	B 14.4
		D – 54.6		D – 50.7		B – 12.5		B – 12.2		
2030 Projected Conditions	Weekday Morning	E 62.7	C 31.9	E 57.8	C 32.6	F 87.0	A 6.9	E 68.0	A 8.8	B 11.4
		D – 53.8		D – 48.7		A – 7.8		A – 9.6		
	Weekday Evening	E 65.7	D 36.1	E 66.6	C 32.9	E 58.5	B 15.1	F 82.5	B 12.5	B 16.5
		D – 54.4		D – 51.2		B – 15.8		B – 13.7		
Letter denotes Level of Service L – Left Turn R – Right Turn Delay is measured in seconds. T – Through										

Table 10

CAPACITY ANALYSIS RESULTS – YEAR 2022 BASE CONDITIONS – UNSIGNALIZED

Intersection	Weekday Morning Peak Hour		Weekday Evening Peak Hour	
	LOS	Delay	LOS	Delay
119th Street with Book Road				
• Northbound Approach	B	12.8	C	24.5
• Southbound Approach	C	15.3	C	15.4
• Eastbound Left Turn	A	7.9	A	0.0
• Westbound Left Turn	A	8.7	A	8.3
119th Street with Wolf Drive				
• Northbound Approach	C	16.7	C	18.5
• Westbound Left Turn	A	8.6	A	8.2
LOS = Level of Service Delay is measured in seconds.				

Table 11

CAPACITY ANALYSIS RESULTS – YEAR 2030 NO-BUILD CONDITIONS
UNSIGNALIZED

Intersection	Weekday Morning Peak Hour		Weekday Evening Peak Hour	
	LOS	Delay	LOS	Delay
119th Street with Book Road				
• Northbound Approach	B	13.2	D	27.5
• Southbound Approach	C	16.4	C	16.5
• Eastbound Left Turn	A	8.0	A	0.0
• Westbound Left Turn	A	8.8	A	8.3
119th Street with Wolf Drive				
• Northbound Approach	C	18.1	C	20.2
• Westbound Left Turn	A	8.8	A	8.3
LOS = Level of Service Delay is measured in seconds.				

Table 12
CAPACITY ANALYSIS RESULTS – YEAR 2030 PROJECTED CONDITIONS
UNSIGNALIZED

Intersection	Weekday Morning Peak Hour		Weekday Evening Peak Hour	
	LOS	Delay	LOS	Delay
119th Street with Book Road				
• Northbound Approach	B	14.2	C	17.0
• Westbound Left Turn	A	9.0	A	8.5
119th Street with Wolf Drive and West Access Drive				
• Northbound Approach	C	17.9	C	23.0
• Southbound Approach	C	15.0	C	18.4
• Eastbound Left Turn	A	8.4	A	9.7
• Westbound Left Turn	A	8.8	A	8.6
119th Street with Middle Access Drive				
• Southbound Approach	B	12.5	C	16.2
• Eastbound Left Turn	A	8.1	A	9.6
119th Street with New Book Road				
• Southbound Approach	B	12.6	C	16.3
• Eastbound Left Turn	A	8.1	A	9.5
LOS = Level of Service Delay is measured in seconds.				

Discussion and Recommendations

The following summarizes how the intersections are projected to operate and identifies any roadway and traffic control improvements necessary to accommodate the development-generated traffic.

119th Street with IL Route 59

The results of the capacity analysis indicate that this intersection currently operates at an overall Level of Service (LOS) D during the weekday morning and at LOS E during the evening peak hours. Further inspection of the capacity analyses indicate that the westbound approach operates at LOS D and F during the weekday morning and evening peak hours, respectively. This, as previously indicated is primarily due to the limited amount of green time 119th Street receives as well as the lack of an exclusive westbound to northbound right-turn lane. It is also important to note that based on our observations, the results of the capacity analyses and the simulation runs, westbound traffic experiences long queues particularly during the weekday evening peak hour.

Assuming the Year 2030 no-build traffic volumes, this intersection is projected to continue to operate at the same overall LOS as under existing conditions. However, inspection of the capacity analyses indicate that the westbound approach will experience an almost 50 percent increase in delay.

As previously indicated and in order to mitigate the development's impact, an exclusive westbound to northbound right-turn lane is proposed to be provided on 119th Street and the exclusive left-turn lane will be extended to provide 180 feet of storage (an increase of approximately 60 feet). In addition, a westbound to northbound right-turn overlap phase is proposed to be provided. Assuming the Year 2030 total traffic volumes as well as the proposed geometric and traffic signal modifications, the intersection is projected to continue to operate at an overall LOS D and E during the weekday morning and evening peak hours, respectively with overall delays similar to those under existing conditions. However, it is important to note that the westbound approach delays are reduced significantly when compared to the Year 2030 no build conditions. A review of the capacity analyses indicates that the westbound approach delays will be reduced by approximately 2.9 seconds during the weekday morning peak hour and by approximately 74 seconds during the weekday evening peak hour. The reductions in delay equate to approximately three percent and 47 percent during the weekday morning and evening peak hours, respectively. Based on inspection of the traffic simulation runs, the westbound queues will also be reduced substantially over existing conditions and over the projected Year 2030 no build conditions. **Table 13** shows a summary of the 95th percentile Synchro and Sim Traffic queues for each scenario. **Exhibits 1** and **2** illustrate graphically the 95th percentile Sim Traffic queue reductions.

Table 13

OBSERVED SYNCHRO/SIM TRAFFIC QUEUE LENGTHS – WESTBOUND APPROACH

Time Period	Existing Conditions		2030 No-Build Conditions		2030 Projected Conditions with Improvements ¹	
	A.M.	P.M.	A.M.	P.M.	A.M.	P.M.
Synchro 95 th Percentile Queue	356'	829'	402' [+46']	930' [+101]	228' (-174)	740' (-190)
SimTraffic 95 th Percentile Queue	309'	2,086'	446' [+137']	2,597' [+511']	372' (-74')	1,707' (-890)

Note: Queue lengths measured in feet

[XX] – Denotes change in feet compared to existing conditions

(XX) – Denotes change in feet compared to 2030 no-build conditions

1 – Improvements include the provision of a westbound right-turn lane and a westbound right-turn overlap phase

Exhibit 1 - Observed SimTraffic Queue Lengths
Weekday Morning Peak Hour

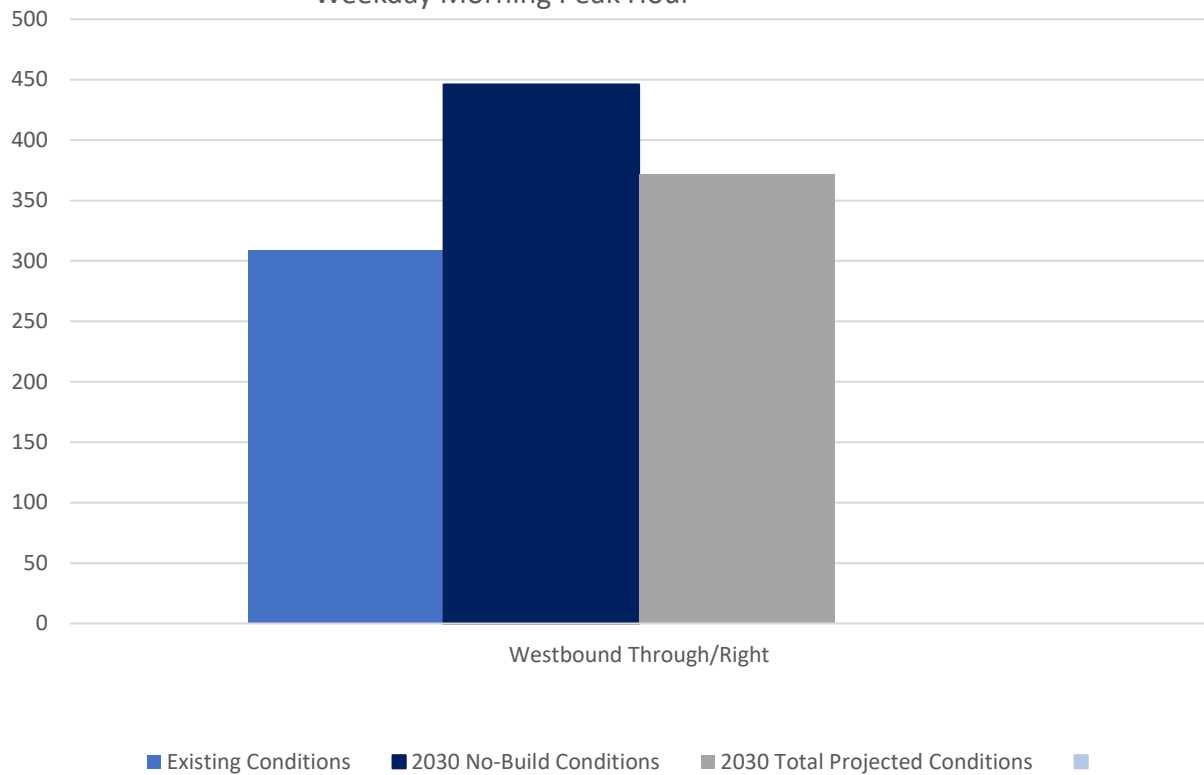
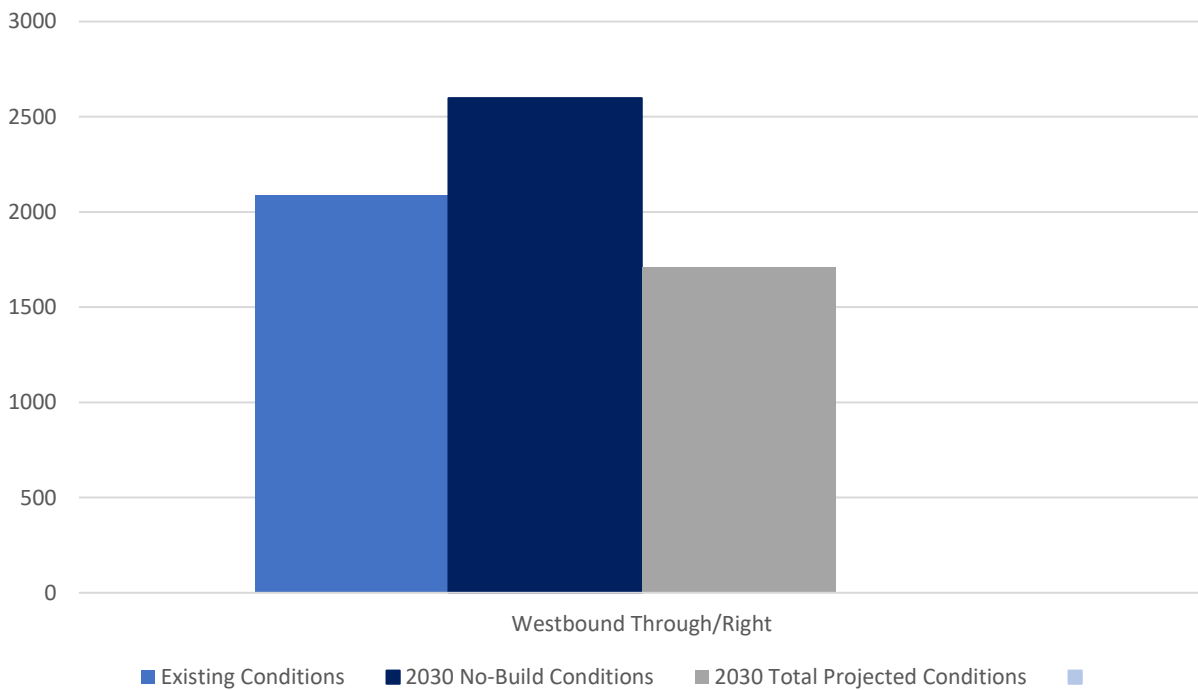


Exhibit 2 - Observed SimTraffic Queue Lengths
Weekday Evening Peak Hour



As can be seen, the proposed addition of an exclusive westbound to northbound right-turn lane on 119th Street at its intersection with IL Route 59 coupled with a westbound right-turn overlap phase and the restriping of the existing westbound to southbound exclusive left-turn lane to provide additional storage length will reduce the queues experienced on 119th Street during the weekday morning and evening peak hours by approximately 75 feet and 890 feet over the projected 2030 no build queues, respectively. This is approximately a 17 and 35 percent reduction in the projected queues during the weekday morning and evening peak hours, respectively. **Exhibits 3 and 4** illustrate graphically the westbound approach traffic volume comparison.

It is important to note that the Year 2030 no build traffic projections, which include an eight percent growth and the traffic to be generated by three other adjacent developments will result in an increase of over 37 seconds in delay for the through/right movement during the weekday evening peak hour. This translates into an approximate 25 percent increase over existing conditions.

Therefore and in summary, the proposed improvements to the intersection of 119th Street with IL 59 will have the following effects:

- It will improve the existing and Year 2030 no-build conditions traffic operation by providing much needed additional capacity.
- The overall delay at the intersection under Year 2030 conditions assuming the proposed improvements will be similar to that under existing conditions.
- The westbound through delay on 119th Street will be reduced by approximately 48 seconds over existing conditions during the weekday evening peak hour.
- The reduction in delay equates to approximately 39 percent during the weekday evening peak hour.
- The westbound queues experienced on 119th Street during the weekday morning and evening peak hours (based on Sim Traffic) will be reduced by approximately 75 feet and 890 feet over the projected 2030 no build queues, respectively. This is approximately a 17 and 35 percent reduction in the projected queues during the weekday morning and evening peak hours, respectively.

Recognizing that 119th Street is currently deficient from a geometric perspective based on the existing traffic volumes and its functional classification as a minor arterial, consideration should be given to providing for a jurisdictional transfer and placing the road under the jurisdiction of Naperville and Plainfield. The development in Naperville, in partnership with Pulte Homes, will facilitate federal funding of multi-jurisdictional regional improvements which are ultimately necessary to support the existing traffic volumes and future growth regardless of whether the subject parcel is developed or not. As such, no additional geometric or traffic signal modifications will be necessary in conjunction with the proposed development.

Exhibit 3 -Westbound Approach Traffic Volume Comparison
Weekday Morning

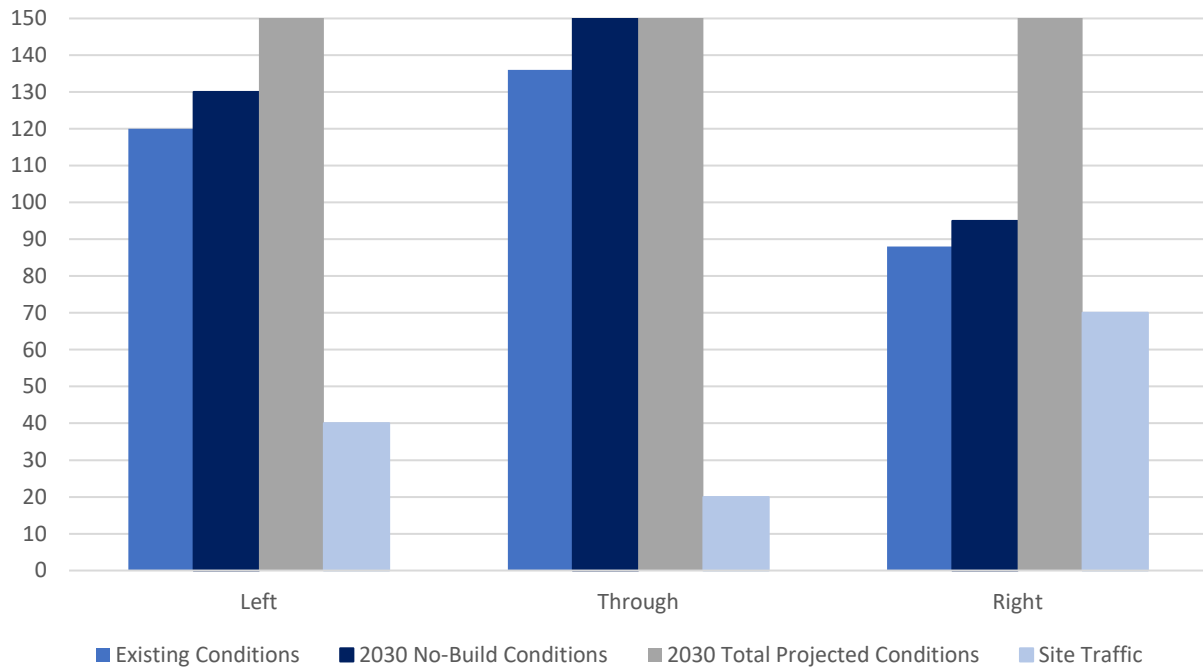
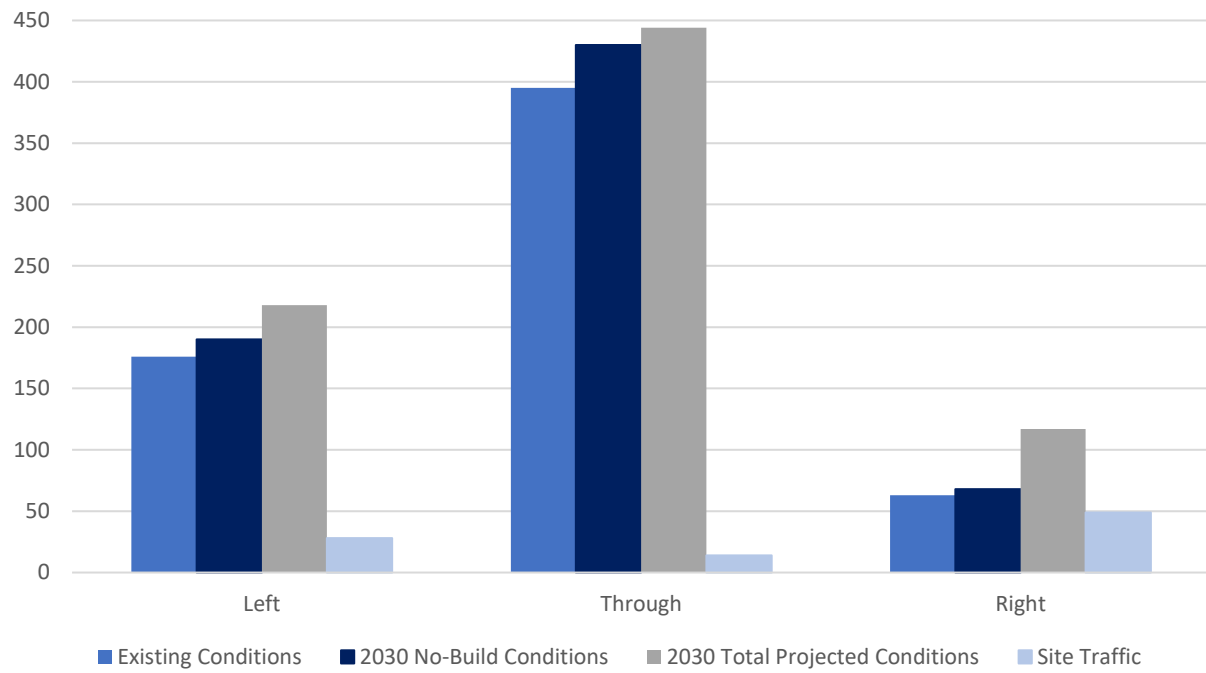


Exhibit 4 - Westbound Approach Traffic Volume Comparison
Weekday Evening



119th Street with Plainfield-Naperville Road

The results of the capacity analysis indicate that overall this intersection currently operates at LOS C during the weekday morning and evening peak hours. Further, all movements operate at LOS D or better during both peak hours. Under Year 2030 no-build traffic conditions, this intersection is projected to continue to operate at an overall LOS C during both peak hours with increases in delay of less than two seconds. All approaches are projected to continue operating at the same LOS.

Under Year 2030 total projected traffic conditions, this intersection is projected to continue to operate at the same levels of service during the weekday morning and weekday evening peak hours as no-build conditions with increases in delay of approximately one second or less. Further, all approaches are projected to continue to operate at the same levels of service. In addition, the development is projected to increase traffic traversing the intersection by less than one percent. As such, the traffic estimated to be generated by the proposed development will have a limited impact on the operations of this intersection and no geometric or traffic control improvements will be required as part of the development.

IL Route 59 with Champion Drive

The results of the capacity analysis indicate that this intersection is currently operating at an overall LOS B during the weekday morning and evening peak hours. It is important to note that some of the left-turning movements operate below an acceptable LOS. However, this is not due to capacity deficiencies but rather the long waiting time this movements have to wait for the green phase given the long cycle lengths. Assuming the Year 2030 no-build traffic volumes, the intersection is projected to continue operating at an acceptable LOS with all approaches operating at LOS D or better. Assuming the Year 2030 total traffic volumes, the intersection will continue operating at an acceptable LOS with minimal increases in delay. Furthermore, all approaches will continue operating at the same LOS as under Year 2030 no-build conditions. As such, the proposed development will have a minimal impact on the operation of the intersection and no geometric or traffic control improvements/modifications will be necessary in conjunction with the proposed development.

119th Street with Wolf Drive/Proposed West Access Road

The results of the capacity analysis indicate that the northbound approach of this intersection is operating at LOS C during the weekday morning and evening peak hours. Assuming the Year 2030 no-build traffic volumes, the intersection is projected to continue operating at the same LOS with minimal increases in delay. Assuming the Year 2030 total traffic volumes and the proposed provision of exclusive left-turn lanes on both approaches of 119th Street, the northbound and southbound approaches will operate at LOS C or better during the weekday morning and evening peak hours. Furthermore, the eastbound and westbound left-turn movements will operate at LOS A with minimal queues that can be accommodated by the proposed storage lengths. As such, no additional geometric or traffic control improvements will be necessary in conjunction with the proposed development.

119th Street with Middle Access Road

The results of the capacity analysis indicate that the southbound approach of this intersection will operate at LOS B and C during the weekday morning and evening peak hours, respectively. Furthermore, the eastbound left-turn movement will operate at LOS A with minimal queues that can be accommodated by the proposed left-turn lane. As such, no additional geometric or traffic control improvements will be necessary in conjunction with the proposed development.

119th Street with New Book Road (East Access Road)

The results of the capacity analysis indicate that the southbound approach of this intersection will operate at LOS B and C during the weekday morning and evening peak hours, respectively. Furthermore, the eastbound left-turn movement will operate at LOS A with minimal queues that can be accommodated by the proposed left-turn lane. As such, no additional geometric or traffic control improvements will be necessary in conjunction with the proposed development.

119th Street with Book Road

The results of the capacity analysis indicate that the northbound and southbound approaches of this intersection are currently operating at LOS C or better. Under Year 2030 no build conditions, the northbound and southbound approaches will operate at LOS D or better. Under Year 2030 future conditions, the north approach of Book Road will be vacated and the intersection will become a “T” intersection. Based on the results of the capacity analyses, the northbound approach will operate at LOS C or better during the weekday morning and evening peak hours. As such, no additional geometric or traffic control improvements will be necessary in conjunction with the proposed development.

7. Conclusion

Based on the preceding analyses and recommendations, the following conclusions have been made:

- Access to the development will be provided via three access roads off 119th Street and via a connection to the north with the existing Hawkweed Drive stub.
- The western access road will be located opposite Wolf Drive. The access road will provide one inbound lane and one outbound lane with outbound lanes under stop sign control. As part of the development, 119th Street will be widened to provide exclusive left-turn lanes in the eastbound and westbound approaches.
- The middle access road will be located approximately 1,735 feet east of the western access road and will provide one inbound lane and two outbound lanes striped for an exclusive left-turn lane and an exclusive right-turn lane with outbound movements under stop sign control. 119th Street will be widened to provide an exclusive eastbound to westbound left-turn lane.
- The eastern access road will be the new Book Road north leg and will provide one inbound lane and two outbound lanes striped for an exclusive left-turn lane and an exclusive right-turn lane with outbound movements under stop sign control. 119th Street will be widened to provide an exclusive eastbound to westbound left-turn lane.
- The connection to the north with the existing Hawkweed Drive stub will be gated until regional improvements to 119th Street are implemented. However, once 119th Street is improved regionally the connection will be open and will provide additional accessibility to the proposed development as well as to the existing South Pointe residential subdivision to the north. This connection will provide the South Pointe subdivision residents with new accessibility to 119th Street without having to exit onto IL Route 59 or Hassert Boulevard.

In order to improve the existing and future traffic operations of the area, the following improvements will be implemented by the development:

- 119th Street at its intersection with IL 59 will be widened to provide for an exclusive westbound to northbound right-turn lane. This right-turn lane will provide 300 feet of storage and 175 feet of taper.
- The existing westbound to southbound left-turn lane on 119th Street will be restriped to provide 185 feet of storage and 140 feet of taper, increasing the storage length over existing conditions by approximately 60 feet.
- The traffic signal at 119th Street an IL 59, pending IDOT approval, will be modified to provide for a westbound to northbound right-turn overlap phase.
- A 60-foot right-of-way dedication on the north side of 119th Street along the site's frontage will be provided to accommodate future widening/improvements.

- A new east-west multi-use path will be provided on the north side of 119th Street along the site's frontage.

Based on the results of the capacity analyses and the traffic simulations, the proposed improvements to the intersection of 119th Street with IL 59 will have the following positive impact:

- The overall delay of the intersection under Year 2030 conditions which includes an eight percent background growth adjustment as well as traffic from other recently approved/currently under construction developments in the area and the traffic from the proposed development will be similar to that under existing conditions.
- The westbound delay on 119th Street will be reduced by approximately 48 seconds during the weekday evening peak hour. This reductions in delay equates to approximately 35 percent.
- The westbound queues experienced on 119th Street during the weekday morning and evening peak hours will be reduced by approximately 75 feet and 890 feet over the projected 2030 no build queues, respectively. This is approximately a 17 and 35 percent reduction in the projected queues during the weekday morning and evening peak hours, respectively.

Appendix

Traffic Count Summary Sheets
Preliminary Site Plan
ITE Trip Generation Worksheets
CMAP Projections
Level of Service Criteria
Timing Sheets
Capacity Analysis Summary Sheets

Traffic Count Summary Sheets



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Count Name: IL 59 with 119th St TMC
Site Code:
Start Date: 05/05/2022
Page No: 1

Turning Movement Data

Start Time	119th Street Eastbound						119th Street Westbound						IL 59 Northbound						IL 59 Southbound						Int. Total
	U-Turn	Left	Thru	Right	Peds	App. Total	U-Turn	Left	Thru	Right	Peds	App. Total	U-Turn	Left	Thru	Right	Peds	App. Total	U-Turn	Left	Thru	Right	Peds	App. Total	
7:00 AM	0	50	49	21	0	120	0	37	21	16	0	74	1	15	313	26	0	355	0	18	153	9	0	180	729
7:15 AM	0	53	101	23	0	177	0	14	35	27	0	76	0	23	273	24	0	320	0	15	195	18	0	228	801
7:30 AM	0	48	85	32	0	165	0	24	27	18	0	69	0	14	302	27	0	343	0	17	205	16	0	238	815
7:45 AM	0	72	94	29	0	195	0	45	32	27	0	104	0	18	287	41	0	346	0	11	155	13	0	179	824
Hourly Total	0	223	329	105	0	657	0	120	115	88	0	323	1	70	1175	118	0	1364	0	61	708	56	0	825	3169
8:00 AM	0	43	77	22	0	142	0	22	33	22	0	77	0	13	223	23	0	259	0	13	175	13	0	201	679
8:15 AM	0	51	62	14	0	127	0	23	27	15	0	65	0	21	240	23	0	284	0	9	145	14	0	168	644
8:30 AM	0	43	63	16	0	122	0	25	32	18	0	75	0	18	209	14	0	241	0	21	151	17	0	189	627
8:45 AM	0	50	62	25	0	137	0	20	28	24	0	72	0	21	228	20	0	269	0	14	202	16	0	232	710
Hourly Total	0	187	264	77	0	528	0	90	120	79	0	289	0	73	900	80	0	1053	0	57	673	60	0	790	2660
*** BREAK ***	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2:00 PM	0	32	31	19	0	82	0	26	46	18	0	90	0	29	185	22	0	236	0	21	215	9	0	245	653
2:15 PM	0	25	32	28	0	85	0	52	42	20	0	114	0	29	205	25	0	259	1	17	259	20	0	297	755
2:30 PM	0	38	34	27	0	99	0	30	59	16	0	105	0	26	224	30	0	280	0	16	229	21	0	266	750
2:45 PM	0	30	42	26	0	98	0	32	63	24	0	119	0	33	231	23	0	287	0	16	272	22	0	310	814
Hourly Total	0	125	139	100	0	364	0	140	210	78	0	428	0	117	845	100	0	1062	1	70	975	72	0	1118	2972
3:00 PM	0	40	38	27	0	105	0	36	57	18	0	111	0	20	232	23	0	275	0	15	289	26	0	330	821
3:15 PM	0	43	46	24	0	113	0	39	63	11	0	113	0	34	223	27	0	284	1	18	287	25	0	331	841
3:30 PM	0	31	55	13	0	99	0	37	82	16	0	135	0	37	208	23	0	268	0	10	238	36	0	284	786
3:45 PM	0	27	46	27	0	100	0	30	71	20	0	121	0	47	250	24	0	321	1	16	319	38	0	374	916
Hourly Total	0	141	185	91	0	417	0	142	273	65	0	480	0	138	913	97	0	1148	2	59	1133	125	0	1319	3364
4:00 PM	0	44	44	29	0	117	0	56	81	23	0	160	0	44	241	20	0	305	0	15	295	34	0	344	926
4:15 PM	0	47	51	24	0	122	0	48	74	23	1	145	0	33	252	23	0	308	1	17	317	30	0	365	940
4:30 PM	0	29	44	12	0	85	0	28	68	18	0	114	0	36	284	29	0	349	0	16	328	40	0	384	932
4:45 PM	0	42	39	18	0	99	0	62	85	18	0	165	0	41	257	33	0	331	0	11	292	40	0	343	938
Hourly Total	0	162	178	83	0	423	0	194	308	82	1	584	0	154	1034	105	0	1293	1	59	1232	144	0	1436	3736
5:00 PM	0	43	49	24	0	116	0	40	74	12	0	126	0	39	306	34	0	379	0	24	323	50	0	397	1018
5:15 PM	0	26	52	18	0	96	0	46	84	15	0	145	0	37	288	25	0	350	0	21	314	42	0	377	968
5:30 PM	0	38	41	26	0	105	0	34	81	20	0	135	0	36	225	21	0	282	0	12	334	34	0	380	902
5:45 PM	0	41	29	21	0	91	0	35	66	16	0	117	0	35	241	18	0	294	0	16	374	49	0	439	941
Hourly Total	0	148	171	89	0	408	0	155	305	63	0	523	0	147	1060	98	0	1305	0	73	1345	175	0	1593	3829
Grand Total	0	986	1266	545	0	2797	0	841	1331	455	1	2627	1	699	5927	598	0	7225	4	379	6066	632	0	7081	19730
Approach %	0.0	35.3	45.3	19.5	-	-	0.0	32.0	50.7	17.3	-	-	0.0	9.7	82.0	8.3	-	-	0.1	5.4	85.7	8.9	-	-	-
Total %	0.0	5.0	6.4	2.8	-	14.2	0.0	4.3	6.7	2.3	-	13.3	0.0	3.5	30.0	3.0	-	36.6	0.0	1.9	30.7	3.2	-	35.9	-
Lights	0	969	1233	523	-	2725	0	798	1293	437	-	2528	1	676	5636	556	-	6869	3	353	5807	621	-	6784	18906

[illegible]

[illegible]

Start Time	119th Street Eastbound						119th Street Westbound						IL 59 Northbound						IL 59 Southbound						Int. Total
	U-Turn	Left	Thru	Right	Peds	App. Total	U-Turn	Left	Thru	Right	Peds	App. Total	U-Turn	Left	Thru	Right	Peds	App. Total	U-Turn	Left	Thru	Right	Peds	App. Total	
4:30 PM	0	29	44	12	0	85	0	28	68	18	0	114	0	36	284	29	0	349	0	16	328	40	0	384	932
4:45 PM	0	42	39	18	0	99	0	62	85	18	0	165	0	41	257	33	0	331	0	11	292	40	0	343	938
5:00 PM	0	43	49	24	0	116	0	40	74	12	0	126	0	39	306	34	0	379	0	24	323	50	0	397	1018
5:15 PM	0	26	52	18	0	96	0	46	84	15	0	145	0	37	288	25	0	350	0	21	314	42	0	377	968
Total	0	140	184	72	0	396	0	176	311	63	0	550	0	153	1135	121	0	1409	0	72	1257	172	0	1501	3856
Approach %	0.0	35.4	46.5	18.2	-	-	0.0	32.0	56.5	11.5	-	-	0.0	10.9	80.6	8.6	-	-	0.0	4.8	83.7	11.5	-	-	-
Total %	0.0	3.6	4.8	1.9	-	10.3	0.0	4.6	8.1	1.6	-	14.3	0.0	4.0	29.4	3.1	-	36.5	0.0	1.9	32.6	4.5	-	38.9	-
PHF	0.000	0.814	0.885	0.750	-	0.853	0.000	0.710	0.915	0.875	-	0.833	0.000	0.933	0.927	0.890	-	0.929	0.000	0.750	0.958	0.860	-	0.945	0.947
Lights	0	139	178	72	-	389	0	171	306	63	-	540	0	152	1111	114	-	1377	0	70	1237	172	-	1479	3785
% Lights	-	99.3	96.7	100.0	-	98.2	-	97.2	98.4	100.0	-	98.2	-	99.3	97.9	94.2	-	97.7	-	97.2	98.4	100.0	-	98.5	98.2
Buses	0	1	2	0	-	3	0	1	1	0	-	2	0	0	1	0	-	1	0	0	2	0	-	2	8
% Buses	-	0.7	1.1	0.0	-	0.8	-	0.6	0.3	0.0	-	0.4	-	0.0	0.1	0.0	-	0.1	-	0.0	0.2	0.0	-	0.1	0.2
Single-Unit Trucks	0	0	4	0	-	4	0	4	4	0	-	8	0	1	12	4	-	17	0	2	5	0	-	7	36
% Single-Unit Trucks	-	0.0	2.2	0.0	-	1.0	-	2.3	1.3	0.0	-	1.5	-	0.7	1.1	3.3	-	1.2	-	2.8	0.4	0.0	-	0.5	0.9
Articulated Trucks	0	0	0	0	-	0	0	0	0	0	-	0	0	0	11	3	-	14	0	0	13	0	-	13	27
% Articulated Trucks	-	0.0	0.0	0.0	-	0.0	-	0.0	0.0	0.0	-	0.0	-	0.0	1.0	2.5	-	1.0	-	0.0	1.0	0.0	-	0.9	0.7
Bicycles on Road	0	0	0	0	-	0	0	0	0	0	-	0	0	0	0	0	-	0	0	0	0	0	-	0	0
% Bicycles on Road	-	0.0	0.0	0.0	-	0.0	-	0.0	0.0	0.0	-	0.0	-	0.0	0.0	0.0	-	0.0	-	0.0	0.0	0.0	-	0.0	0.0
Pedestrians	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	0	-	-
% Pedestrians	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-</

119th St with Book Rd TMC - TMC

Thu May 5, 2022

Full Length (7 AM-9 AM, 2 PM-6 PM)

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

All Movements

ID: 946145, Location: 41.666403, -88.184785



Provided by: Kenig Lindgren O'Hara Aboona, Inc.

9575 W. Higgins Rd., Suite 400,
Rosemont, IL, 60018, US

Leg Direction	Book Rd Southbound						119th St Westbound						Book Rd Northbound						119th St Eastbound						
Time	R	T	L	U	App	Ped*	R	T	L	U	App	Ped*	R	T	L	U	App	Ped*	R	T	L	U	App	Ped*	Int
2022-05-05 7:00AM	0	0	0	0	0	1	0	61	0	0	61	0	4	0	0	0	4	0	0	90	0	0	90	0	155
7:15AM	0	0	0	0	0	0	0	65	2	0	67	0	1	0	0	0	1	0	0	107	2	0	109	0	177
7:30AM	1	0	1	0	2	0	0	54	1	0	55	0	1	0	0	0	1	0	0	136	0	0	136	0	194
7:45AM	0	0	0	0	0	0	0	97	0	0	97	0	3	0	0	0	3	0	0	127	0	0	127	0	227
Hourly Total	1	0	1	0	2	1	0	277	3	0	280	0	9	0	0	0	9	0	0	460	2	0	462	0	753
8:00AM	0	0	0	0	0	1	0	75	0	0	75	0	0	0	1	0	1	0	0	115	0	0	115	0	191
8:15AM	0	0	0	0	0	0	0	59	0	0	59	0	0	0	0	0	0	0	0	89	0	0	89	0	148
8:30AM	0	0	0	0	0	0	0	58	1	0	59	0	0	0	0	0	0	0	2	82	0	0	84	0	143
8:45AM	0	0	0	0	0	0	0	74	0	0	74	0	0	0	0	0	0	0	0	91	0	0	91	0	165
Hourly Total	0	0	0	0	0	1	0	266	1	0	267	0	0	0	1	0	1	0	2	377	0	0	379	0	647
2:00PM	0	0	0	0	0	0	0	84	1	0	85	0	0	0	1	0	1	0	1	57	1	0	59	0	145
2:15PM	0	0	1	0	1	0	1	123	5	0	129	0	0	0	2	0	2	0	1	58	0	0	59	0	191
2:30PM	2	0	0	0	2	0	0	91	0	0	91	0	0	0	1	0	1	0	0	78	2	0	80	0	174
2:45PM	0	0	0	0	0	0	0	94	1	0	95	0	0	0	1	0	1	0	0	56	0	0	56	0	152
Hourly Total	2	0	1	0	3	0	1	392	7	0	400	0	0	0	5	0	5	0	2	249	3	0	254	0	662
3:00PM	0	0	0	0	0	0	1	101	0	0	102	0	0	0	0	0	0	0	1	75	0	0	76	0	178
3:15PM	0	0	0	0	0	0	0	100	1	0	101	0	2	0	0	0	2	0	1	74	1	0	76	0	179
3:30PM	0	0	0	0	0	0	0	123	2	0	125	0	0	0	0	0	0	0	0	81	0	0	81	0	206
3:45PM	0	0	0	0	0	0	0	134	1	0	135	0	0	1	1	0	2	0	1	92	0	0	93	0	230
Hourly Total	0	0	0	0	0	0	1	458	4	0	463	0	2	1	1	0	4	0	3	322	1	0	326	0	793
4:00PM	0	0	0	0	0	0	0	114	1	0	115	0	1	0	0	0	1	0	0	81	0	0	81	0	197
4:15PM	1	0	1	0	2	0	0	104	6	0	110	0	2	0	1	0	3	0	2	70	1	0	73	0	188
4:30PM	1	0	0	0	1	0	0	126	7	0	133	0	0	0	0	0	0	0	0	86	0	0	86	0	220
4:45PM	2	0	1	0	3	0	0	139	2	0	141	0	0	0	0	0	0	0	0	80	0	0	80	0	224
Hourly Total	4	0	2	0	6	0	0	483	16	0	499	0	3	0	1	0	4	0	2	317	1	0	320	0	829
5:00PM	0	0	0	0	0	0	0	110	6	0	116	0	0	0	1	0	1	0	0	119	0	0	119	0	236
5:15PM	0	0	0	0	0	0	0	121	5	0	126	0	0	0	0	0	0	0	0	90	0	0	90	0	216
5:30PM	0	0	0	0	0	0	0	117	4	0	121	0	0	0	0	0	0	0	1	68	0	0	69	0	190
5:45PM	0	0	0	0	0	0	0	115	1	0	116	0	0	0	0	0	0	0	1	64	0	0	65	0	181
Hourly Total	0	0	0	0	0	0	0	463	16	0	479	0	0	0	1	0	1	0	2	341	0	0	343	0	823
Total	7	0	4	0	11	2	2	2339	47	0	2388	0	14	1	9	0	24	0	11	2066	7	0	2084	0	4507
% Approach	63.6%	0%	36.4%	0%	-	-	0.1%	97.9%	2.0%	0%	-	-	58.3%	4.2%	37.5%	0%	-	-	0.5%	99.1%	0.3%	0%	-	-	-
% Total	0.2%	0%	0.1%	0%	0.2%	-	0%	51.9%	1.0%	0%	53.0%	-	0.3%	0%	0.2%	0%	0.5%	-	0.2%	45.8%	0.2%	0%	46.2%	-	-
Lights	7	0	4	0	11	-	2	2279	46	0	2327	-	12	1	7	0	20	-	9	1987	7	0	2003	-	4361
% Lights	100%	0%	100%	0%	100%	-	100%	97.4%	97.9%	0%	97.4%	-	85.7%	100%	77.8%	0%	83.3%	-	81.8%	96.2%	100%	0%	96.1%	-	96.8%
Single-Unit Trucks	0	0	0	0	0	-	0	34	1	0	35	-	2	0	2	0	4	-	0	45	0	0	45	-	84
% Single-Unit Trucks	0%	0%	0%	0%	0%	-	0%	1.5%	2.1%	0%	1.5%	-	14.3%	0%	22.2%	0%	16.7%	-	0%	2.2%	0%	0%	2.2%	-	1.9%
Articulated Trucks	0	0	0	0	0	-	0	10	0	0	10	-	0	0	0	0	0	-	0	15	0	0	15	-	25
% Articulated Trucks	0%	0%	0%	0%	0%	-	0%	0.4%	0%	0%	0.4%	-	0%	0%	0%	0%	0%	-	0%	0.7%	0%	0%	0.7%	-	0.6%
Buses	0	0	0	0	0	-	0	15	0	0	15	-	0	0	0	0	0	-	2	19	0	0	21	-	36
% Buses	0%	0%	0%	0%	0%	-	0%	0.6%	0%	0%	0.6%	-	0%	0%	0%	0%	0%	-	18.2%	0.9%	0%	0%	1.0%	-	0.8%
Bicycles on Road	0	0	0	0	0	-	0	1	0	0	1	-	0	0	0	0	0	-	0	0	0	0	0	-	1
% Bicycles on Road	0%	0%	0%	0%	0%	-	0%	0%	0%	0%	0%	-	0%	0%	0%	0%	0%	-	0%	0%	0%	0%	0%	-	0%
Pedestrians	-	-	-	-	-	2	-	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	0	-
% Pedestrians	-	-	-	-	-	100%	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

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

119th St with Book Rd TMC - TMC

Thu May 5, 2022

Full Length (7 AM-9 AM, 2 PM-6 PM)

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

All Movements

ID: 946145, Location: 41.666403, -88.184785



Provided by: Kenig Lindgren O'Hara Aboona, Inc.

9575 W. Higgins Rd., Suite 400,
Rosemont, IL, 60018, US

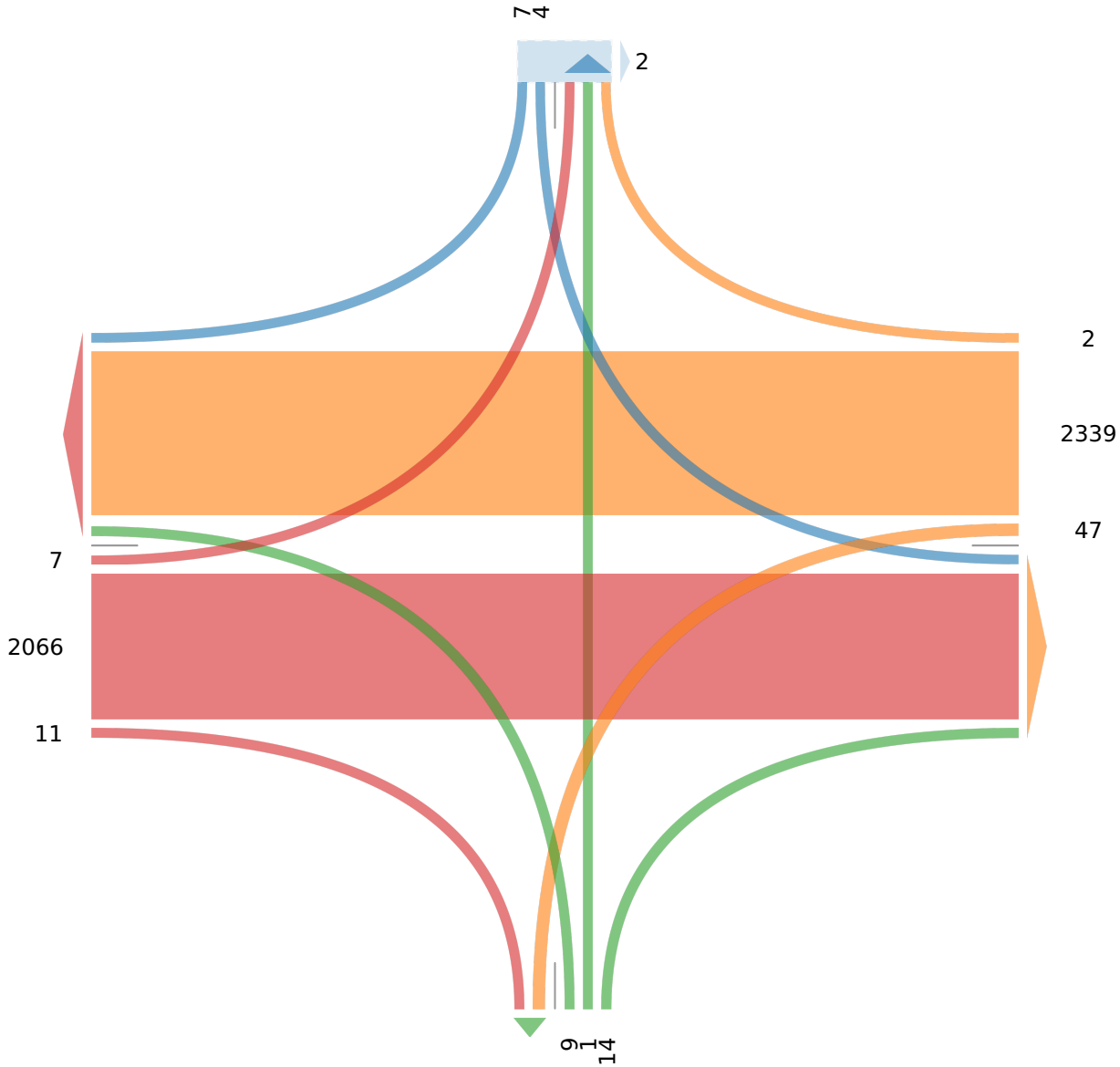
[N] Book Rd

Total: 21

In: 11 Out: 10



[W] 119th St
Total: 4439
In: 2084 Out: 2355



[E] 119th St
Total: 4472
In: 2388 Out: 2084

Out: 58 In: 24

Total: 82

[S] Book Rd

119th St with Book Rd TMC - TMC

Thu May 5, 2022

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

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

All Movements

ID: 946145, Location: 41.666403, -88.184785



Provided by: Kenig Lindgren O'Hara Aboona, Inc.

9575 W. Higgins Rd., Suite 400,
Rosemont, IL, 60018, US

Leg Direction	Book Rd Southbound						119th St Westbound						Book Rd Northbound						119th St Eastbound						
Time	R	T	L	U	App	Ped*	R	T	L	U	App	Ped*	R	T	L	U	App	Ped*	R	T	L	U	App	Ped*	Int
2022-05-05 7:15AM	0	0	0	0	0	0	0	65	2	0	67	0	1	0	0	0	1	0	0	107	2	0	109	0	177
7:30AM	1	0	1	0	2	0	0	54	1	0	55	0	1	0	0	0	1	0	0	136	0	0	136	0	194
7:45AM	0	0	0	0	0	0	0	97	0	0	97	0	3	0	0	0	3	0	0	127	0	0	127	0	227
8:00AM	0	0	0	0	0	1	0	75	0	0	75	0	0	0	1	0	1	0	0	115	0	0	115	0	191
Total	1	0	1	0	2	1	0	291	3	0	294	0	5	0	1	0	6	0	0	485	2	0	487	0	789
% Approach	50.0%	0%	50.0%	0%	-	-	0%	99.0%	1.0%	0%	-	-	83.3%	0%	16.7%	0%	-	-	0%	99.6%	0.4%	0%	-	-	-
% Total	0.1%	0%	0.1%	0%	0.3%	-	0%	36.9%	0.4%	0%	37.3%	-	0.6%	0%	0.1%	0%	0.8%	-	0%	61.5%	0.3%	0%	61.7%	-	-
PHF	0.250	-	0.250	-	0.250	-	-	0.750	0.375	-	0.758	-	0.417	-	0.250	-	0.500	-	-	0.892	0.250	-	0.895	-	0.869
Lights	1	0	1	0	2	-	0	280	3	0	283	-	4	0	1	0	5	-	0	457	2	0	459	-	749
% Lights	100%	0%	100%	0%	100%	-	0%	96.2%	100%	0%	96.3%	-	80.0%	0%	100%	0%	83.3%	-	0%	94.2%	100%	0%	94.3%	-	94.9%
Single-Unit Trucks	0	0	0	0	0	-	0	11	0	0	11	-	1	0	0	0	1	-	0	16	0	0	16	-	28
% Single-Unit Trucks	0%	0%	0%	0%	0%	-	0%	3.8%	0%	0%	3.7%	-	20.0%	0%	0%	0%	16.7%	-	0%	3.3%	0%	0%	3.3%	-	3.5%
Articulated Trucks	0	0	0	0	0	-	0	0	0	0	0	-	0	0	0	0	0	-	0	9	0	0	9	-	9
% Articulated Trucks	0%	0%	0%	0%	0%	-	0%	0%	0%	0%	0%	-	0%	0%	0%	0%	0%	-	0%	1.9%	0%	0%	1.8%	-	1.1%
Buses	0	0	0	0	0	-	0	0	0	0	0	-	0	0	0	0	0	-	0	3	0	0	3	-	3
% Buses	0%	0%	0%	0%	0%	-	0%	0%	0%	0%	0%	-	0%	0%	0%	0%	0%	-	0%	0.6%	0%	0%	0.6%	-	0.4%
Bicycles on Road	0	0	0	0	0	-	0	0	0	0	0	-	0	0	0	0	0	-	0	0	0	0	0	-	0
% Bicycles on Road	0%	0%	0%	0%	0%	-	0%	0%	0%	0%	0%	-	0%	0%	0%	0%	0%	-	0%	0%	0%	0%	0%	-	0%
Pedestrians	-	-	-	-	-	1	-	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	0	-
% Pedestrians	-	-	-	-	-	100%	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

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

119th St with Book Rd TMC - TMC

Thu May 5, 2022

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

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

All Movements

ID: 946145, Location: 41.666403, -88.184785



Provided by: Kenig Lindgren O'Hara Aboona, Inc.

9575 W. Higgins Rd., Suite 400,
Rosemont, IL, 60018, US

[N] Book Rd

Total: 4

In: 2 Out: 2

1-1

1

[W] 119th St

Total: 780

Out: 293

In: 487

2

485

291

3

Out: 491 In: 294

Total: 785

[E] 119th St

Out: 3 In: 6
Total: 9

[S] Book Rd

119th St with Book Rd TMC - TMC

Thu May 5, 2022

PM Peak (4:30 PM - 5:30 PM) - Overall Peak Hour

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

All Movements

ID: 946145, Location: 41.666403, -88.184785



Provided by: Kenig Lindgren O'Hara Aboona, Inc.

9575 W. Higgins Rd., Suite 400,
Rosemont, IL, 60018, US

Leg Direction	Book Rd Southbound						119th St Westbound						Book Rd Northbound						119th St Eastbound						
Time	R	T	L	U	App	Ped*	R	T	L	U	App	Ped*	R	T	L	U	App	Ped*	R	T	L	U	App	Ped*	Int
2022-05-05 4:30PM	1	0	0	0	1	0	0	126	7	0	133	0	0	0	0	0	0	0	0	86	0	0	86	0	220
4:45PM	2	0	1	0	3	0	0	139	2	0	141	0	0	0	0	0	0	0	0	80	0	0	80	0	224
5:00PM	0	0	0	0	0	0	0	110	6	0	116	0	0	0	1	0	1	0	0	119	0	0	119	0	236
5:15PM	0	0	0	0	0	0	0	121	5	0	126	0	0	0	0	0	0	0	0	90	0	0	90	0	216
Total	3	0	1	0	4	0	0	496	20	0	516	0	0	0	1	0	1	0	0	375	0	0	375	0	896
% Approach	75.0%	0%	25.0%	0%	-	-	0%	96.1%	3.9%	0%	-	-	0%	0%	100%	0%	-	-	0%	100%	0%	0%	-	-	-
% Total	0.3%	0%	0.1%	0%	0.4%	-	0%	55.4%	2.2%	0%	57.6%	-	0%	0%	0.1%	0%	0.1%	-	0%	41.9%	0%	0%	41.9%	-	-
PHF	0.375	-	0.250	-	0.333	-	-	0.892	0.714	-	0.915	-	-	-	0.250	-	0.250	-	-	0.788	-	-	0.788	-	0.949
Lights	3	0	1	0	4	-	0	488	20	0	508	-	0	0	1	0	1	-	0	367	0	0	367	-	880
% Lights	100%	0%	100%	0%	100%	-	0%	98.4%	100%	0%	98.4%	-	0%	0%	100%	0%	100%	-	0%	97.9%	0%	0%	97.9%	-	98.2%
Single-Unit Trucks	0	0	0	0	0	-	0	6	0	0	6	-	0	0	0	0	0	-	0	5	0	0	5	-	11
% Single-Unit Trucks	0%	0%	0%	0%	0%	-	0%	1.2%	0%	0%	1.2%	-	0%	0%	0%	0%	0%	-	0%	1.3%	0%	0%	1.3%	-	1.2%
Articulated Trucks	0	0	0	0	0	-	0	0	0	0	0	-	0	0	0	0	0	-	0	0	0	0	0	-	0
% Articulated Trucks	0%	0%	0%	0%	0%	-	0%	0%	0%	0%	0%	-	0%	0%	0%	0%	0%	-	0%	0%	0%	0%	0%	-	0%
Buses	0	0	0	0	0	-	0	2	0	0	2	-	0	0	0	0	0	-	0	3	0	0	3	-	5
% Buses	0%	0%	0%	0%	0%	-	0%	0.4%	0%	0%	0.4%	-	0%	0%	0%	0%	0%	-	0%	0.8%	0%	0%	0.8%	-	0.6%
Bicycles on Road	0	0	0	0	0	-	0	0	0	0	0	-	0	0	0	0	0	-	0	0	0	0	0	-	0
% Bicycles on Road	0%	0%	0%	0%	0%	-	0%	0%	0%	0%	0%	-	0%	0%	0%	0%	0%	-	0%	0%	0%	0%	0%	-	0%
Pedestrians	-	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	0	-
% Pedestrians	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

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

119th St with Book Rd TMC - TMC

Thu May 5, 2022

PM Peak (4:30 PM - 5:30 PM) - Overall Peak Hour

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

All Movements

ID: 946145, Location: 41.666403, -88.184785



Provided by: Kenig Lindgren O'Hara Aboona, Inc.

9575 W. Higgins Rd., Suite 400,
Rosemont, IL, 60018, US

[N] Book Rd

Total: 4

In: 4 Out: 0

31

[W] 119th St
Total: 875
In: 375 Out: 500

375

496 In: 516

20

Out: 376
Total: 892
[E] 119th St

Out: 20 In: 1
Total: 21

[S] Book Rd

119th St with Plainfield-Naperville Rd TMC - TMC

Thu May 5, 2022

Full Length (7 AM-9 AM, 2 PM-6 PM)

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

All Movements

ID: 946147, Location: 41.666601, -88.176443



Provided by: Kenig Lindgren O'Hara Aboona, Inc.
9575 W. Higgins Rd., Suite 400,
Rosemont, IL, 60018, US

Leg Direction	Plainfield-Naperville Rd Southbound						119th St Westbound						Plainfield-Naperville Rd Northbound						119th St Eastbound						
Time	R	T	L	U	App	Ped*	R	T	L	U	App	Ped*	R	T	L	U	App	Ped*	R	T	L	U	App	Ped*	Int
2022-05-05																									
7:00AM	26	39	3	0	68	0	5	35	23	0	63	0	34	94	10	1	139	0	4	55	38	0	97	0	367
7:15AM	20	30	4	0	54	0	7	43	7	0	57	0	14	93	4	0	111	0	5	65	41	0	111	0	333
7:30AM	17	50	6	0	73	0	7	50	6	0	63	0	18	125	3	0	146	0	9	87	50	0	146	0	428
7:45AM	33	62	6	0	101	0	13	62	10	0	85	0	21	94	8	0	123	0	1	85	46	0	132	0	441
Hourly Total	96	181	19	0	296	0	32	190	46	0	268	0	87	406	25	1	519	0	19	292	175	0	486	0	1569
8:00AM	27	52	4	0	83	0	8	48	11	0	67	0	20	97	6	0	123	0	6	73	42	0	121	0	394
8:15AM	28	61	4	0	93	0	7	37	5	0	49	0	7	89	4	0	100	0	4	59	34	0	97	0	339
8:30AM	27	42	3	0	72	0	8	34	10	0	52	0	10	77	7	0	94	0	5	51	35	0	91	0	309
8:45AM	28	45	4	0	77	0	9	45	13	0	67	0	12	86	9	0	107	0	4	56	33	0	93	0	344
Hourly Total	110	200	15	0	325	0	32	164	39	0	235	0	49	349	26	0	424	0	19	239	144	0	402	0	1386
2:00PM	10	41	7	0	58	0	14	53	16	0	83	0	23	47	10	0	80	0	6	37	17	0	60	0	281
2:15PM	0	52	7	0	59	0	26	59	20	0	105	0	51	101	28	22	202	0	10	32	34	0	76	0	442
2:30PM	18	49	0	0	67	0	13	67	18	0	98	0	11	76	6	0	93	0	7	37	28	0	72	0	330
2:45PM	21	52	4	0	77	0	17	67	11	0	95	0	11	78	9	0	98	0	3	32	25	0	60	0	330
Hourly Total	49	194	18	0	261	0	70	246	65	0	381	0	96	302	53	22	473	0	26	138	104	0	268	0	1383
3:00PM	23	75	5	0	103	0	11	70	13	0	94	0	15	66	8	0	89	0	11	38	27	0	76	0	362
3:15PM	34	98	6	0	138	0	9	67	10	0	86	0	11	75	6	0	92	0	7	45	27	0	79	0	395
3:30PM	46	101	3	0	150	0	9	68	16	0	93	0	19	87	8	0	114	0	8	47	23	0	78	0	435
3:45PM	41	104	3	0	148	0	17	91	17	0	125	0	11	88	10	0	109	0	7	60	30	0	97	0	479
Hourly Total	144	378	17	0	539	0	46	296	56	0	398	0	56	316	32	0	404	0	33	190	107	0	330	0	1671
4:00PM	26	95	3	0	124	0	16	85	11	0	112	0	14	66	7	0	87	0	5	52	25	0	82	0	405
4:15PM	34	92	5	0	131	0	8	62	14	0	84	0	11	70	6	0	87	0	6	48	21	0	75	0	377
4:30PM	39	90	5	0	134	0	12	88	21	0	121	0	12	69	3	0	84	0	7	58	30	0	95	0	434
4:45PM	36	132	5	0	173	0	12	95	29	0	136	0	8	71	9	0	88	0	10	35	39	0	84	0	481
Hourly Total	135	409	18	0	562	0	48	330	75	0	453	0	45	276	25	0	346	0	28	193	115	0	336	0	1697
5:00PM	32	104	11	0	147	0	6	74	19	0	99	0	7	100	7	0	114	0	21	57	39	0	117	0	477
5:15PM	31	89	3	0	123	0	8	89	15	0	112	0	13	71	6	0	90	0	11	58	27	0	96	0	421
5:30PM	38	93	6	0	137	0	13	77	18	0	108	0	7	80	7	0	94	0	3	38	24	0	65	0	404
5:45PM	39	118	7	0	164	0	10	73	12	0	95	0	13	65	6	0	84	0	4	44	15	0	63	0	406
Hourly Total	140	404	27	0	571	0	37	313	64	0	414	0	40	316	26	0	382	0	39	197	105	0	341	0	1708
Total	674	1766	114	0	2554	0	265	1539	345	0	2149	0	373	1965	187	23	2548	0	164	1249	750	0	2163	0	9414
% Approach	26.4%	69.1%	4.5%	0%	-	-	12.3%	71.6%	16.1%	0%	-	-	14.6%	77.1%	7.3%	0.9%	-	-	7.6%	57.7%	34.7%	0%	-	-	-
% Total	7.2%	18.8%	1.2%	0%	27.1%	-	2.8%	16.3%	3.7%	0%	22.8%	-	4.0%	20.9%	2.0%	0.2%	27.1%	-	1.7%	13.3%	8.0%	0%	23.0%	-	-
Lights	584	1744	111	0	2439	-	259	1501	335	0	2095	-	360	1948	180	23	2511	-	157	1210	653	0	2020	-	9065
% Lights	86.6%	98.8%	97.4%	0%	95.5%	-	97.7%	97.5%	97.1%	0%	97.5%	-	96.5%	99.1%	96.3%	100%	98.5%	-	95.7%	96.9%	87.1%	0%	93.4%	-	96.3%
Single-Unit Trucks	30	14	2	0	46	-	1	24	1	0	26	-	6	7	1	0	14	-	2	22	28	0	52	-	138
% Single-Unit Trucks	4.5%	0.8%	1.8%	0%	1.8%	-	0.4%	1.6%	0.3%	0%	1.2%	-	1.6%	0.4%	0.5%	0%	0.5%	-	1.2%	1.8%	3.7%	0%	2.4%	-	1.5%
Articulated Trucks	59	3	1	0	63	-	1	5	1	0	7	-	0	3	0	0	3	-	1	2	68	0	71	-	144
% Articulated Trucks	8.8%	0.2%	0.9%	0%	2.5%	-	0.4%	0.3%	0.3%	0%	0.3%	-	0%	0.2%	0%	0%	0.1%	-	0.6%	0.2%	9.1%	0%	3.3%	-	1.5%
Buses	1	5	0	0	6	-	4	9	8	0	21	-	7	7	5	0	19	-	4	15	1	0	20	-	66
% Buses	0.1%	0.3%	0%	0%	0.2%	-	1.5%	0.6%	2.3%	0%	1.0%	-	1.9%	0.4%	2.7%	0%	0.7%	-	2.4%	1.2%	0.1%	0%	0.9%	-	0.7%
Bicycles on Road	0	0	0	0	0	-	0	0	0	0	0	-	0	0	1	0	1	-	0	0	0	0	0	-	1
% Bicycles on Road	0%	0%	0%	0%	0%	-	0%	0%	0%	0%	0%	-	0%	0%	0.5%	0%	0%	-	0%	0%	0%	0%	0%	-	0%
Pedestrians	-	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	0	-
% Pedestrians	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

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

119th St with Plainfield-Naperville Rd TMC - TMC

Thu May 5, 2022

Full Length (7 AM-9 AM, 2 PM-6 PM)

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

All Movements

ID: 946147, Location: 41.666601, -88.176443



Provided by: Kenig Lindgren O'Hara Aboona, Inc.

9575 W. Higgins Rd., Suite 400,
Rosemont, IL, 60018, US

[N] Plainfield-Naperville Rd

Total: 5534

In: 2554

Out: 2980

674

1766

114

[W] 119th St

Total: 4563

Out: 2400

In: 2163

750
1249
164

265
1539
345

Out: 1736 In: 2149

Total: 3885

[E] 119th St

Out: 2298

In: 2548

Total: 4846

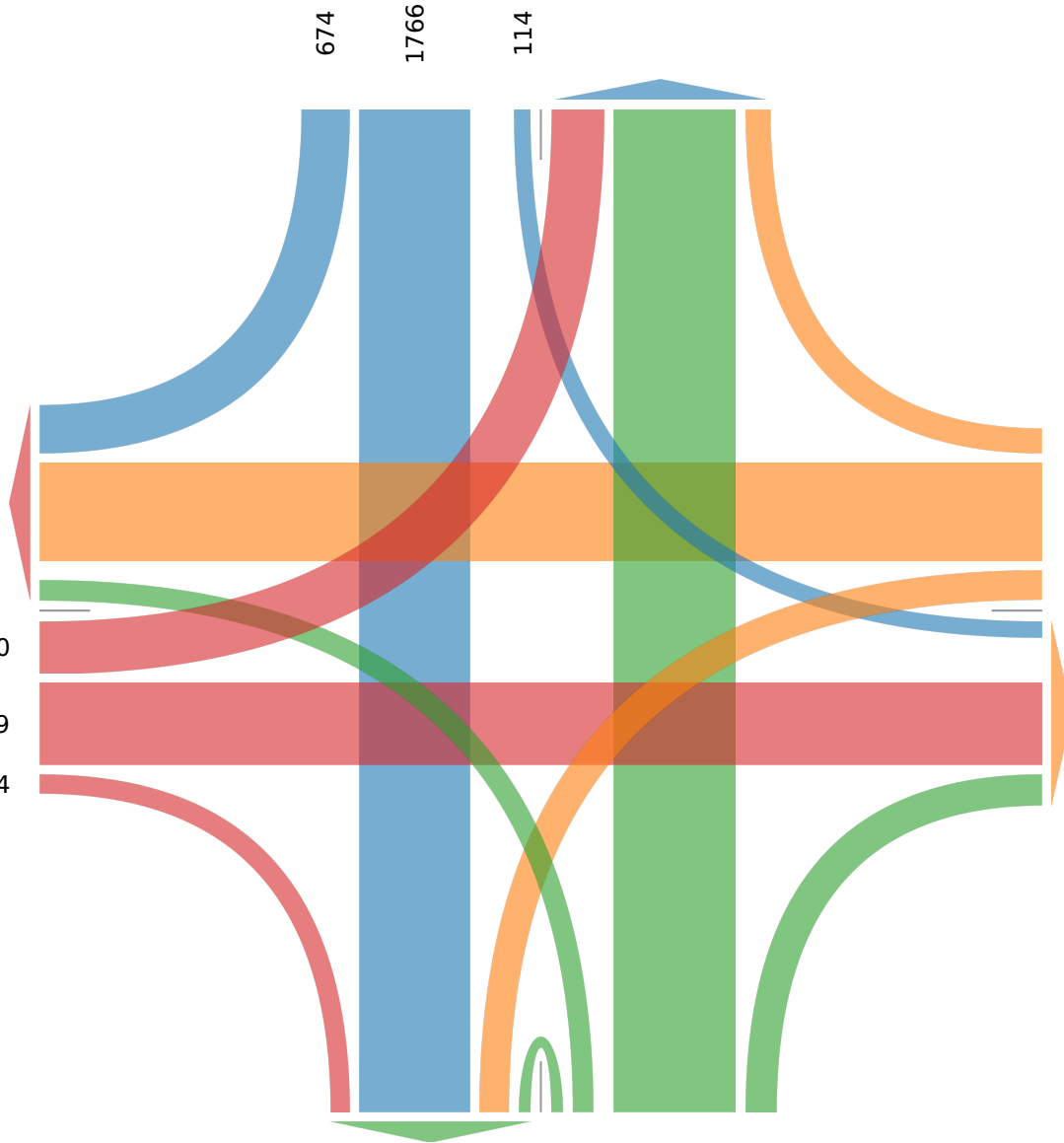
[S] Plainfield-Naperville Rd

23

187

1965

373



119th St with Plainfield-Naperville Rd TMC - TMC

Thu May 5, 2022

AM Peak (7:30 AM - 8:30 AM)

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

All Movements

ID: 946147, Location: 41.666601, -88.176443



Provided by: Kenig Lindgren O'Hara Aboona, Inc.

9575 W. Higgins Rd., Suite 400,
Rosemont, IL, 60018, US

Leg Direction	Plainfield-Naperville Rd Southbound						119th St Westbound						Plainfield-Naperville Rd Northbound						119th St Eastbound						
Time	R	T	L	U	App	Ped*	R	T	L	U	App	Ped*	R	T	L	U	App	Ped*	R	T	L	U	App	Ped*	Int
2022-05-05 7:30AM	17	50	6	0	73	0	7	50	6	0	63	0	18	125	3	0	146	0	9	87	50	0	146	0	428
7:45AM	33	62	6	0	101	0	13	62	10	0	85	0	21	94	8	0	123	0	1	85	46	0	132	0	441
8:00AM	27	52	4	0	83	0	8	48	11	0	67	0	20	97	6	0	123	0	6	73	42	0	121	0	394
8:15AM	28	61	4	0	93	0	7	37	5	0	49	0	7	89	4	0	100	0	4	59	34	0	97	0	339
Total	105	225	20	0	350	0	35	197	32	0	264	0	66	405	21	0	492	0	20	304	172	0	496	0	1602
% Approach	30.0%	64.3%	5.7%	0%	-	-	13.3%	74.6%	12.1%	0%	-	-	13.4%	82.3%	4.3%	0%	-	-	4.0%	61.3%	34.7%	0%	-	-	-
% Total	6.6%	14.0%	1.2%	0%	21.8%	-	2.2%	12.3%	2.0%	0%	16.5%	-	4.1%	25.3%	1.3%	0%	30.7%	-	1.2%	19.0%	10.7%	0%	31.0%	-	-
PHF	0.795	0.907	0.833	-	0.866	-	0.673	0.794	0.727	-	0.776	-	0.786	0.810	0.656	-	0.842	-	0.556	0.874	0.860	-	0.849	-	0.908
Lights	73	220	20	0	313	-	33	187	32	0	252	-	62	400	20	0	482	-	19	297	140	0	456	-	1503
% Lights	69.5%	97.8%	100%	0%	89.4%	-	94.3%	94.9%	100%	0%	95.5%	-	93.9%	98.8%	95.2%	0%	98.0%	-	95.0%	97.7%	81.4%	0%	91.9%	-	93.8%
Single-Unit Trucks	4	2	0	0	6	-	0	9	0	0	9	-	2	2	0	0	4	-	0	5	8	0	13	-	32
% Single-Unit Trucks	3.8%	0.9%	0%	0%	1.7%	-	0%	4.6%	0%	0%	3.4%	-	3.0%	0.5%	0%	0%	0.8%	-	0%	1.6%	4.7%	0%	2.6%	-	2.0%
Articulated Trucks	28	1	0	0	29	-	0	1	0	0	1	-	0	1	0	0	1	-	1	0	24	0	25	-	56
% Articulated Trucks	26.7%	0.4%	0%	0%	8.3%	-	0%	0.5%	0%	0%	0.4%	-	0%	0.2%	0%	0%	0.2%	-	5.0%	0%	14.0%	0%	5.0%	-	3.5%
Buses	0	2	0	0	2	-	2	0	0	0	2	-	2	2	1	0	5	-	0	2	0	0	2	-	11
% Buses	0%	0.9%	0%	0%	0.6%	-	5.7%	0%	0%	0%	0.8%	-	3.0%	0.5%	4.8%	0%	1.0%	-	0%	0.7%	0%	0%	0.4%	-	0.7%
Bicycles on Road	0	0	0	0	0	-	0	0	0	0	0	-	0	0	0	0	0	-	0	0	0	0	0	-	0
% Bicycles on Road	0%	0%	0%	0%	0%	-	0%	0%	0%	0%	0%	-	0%	0%	0%	0%	0%	-	0%	0%	0%	0%	0%	-	0%
Pedestrians	-	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	0	-
% Pedestrians	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

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

119th St with Plainfield-Naperville Rd TMC - TMC

Thu May 5, 2022

AM Peak (7:30 AM - 8:30 AM)

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

All Movements

ID: 946147, Location: 41.666601, -88.176443



Provided by: Kenig Lindgren O'Hara Aboona,
Inc.

9575 W. Higgins Rd., Suite 400,
Rosemont, IL, 60018, US

[N] Plainfield-Naperville Rd

Total: 962

In: 350

Out: 612

105

225

20

[W] 119th St

Total: 819

In: 496

Out: 323

172

304

20

35

197

32

Out: 390

In: 264

Total: 654

[E] 119th St

21

405

66

Out: 277

In: 492

Total: 769

[S] Plainfield-Naperville Rd

119th St with Plainfield-Naperville Rd TMC - TMC

Thu May 5, 2022

PM Peak (4:30 PM - 5:30 PM) - Overall Peak Hour

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

All Movements

ID: 946147, Location: 41.666601, -88.176443



Provided by: Kenig Lindgren O'Hara Aboona, Inc.

9575 W. Higgins Rd., Suite 400,
Rosemont, IL, 60018, US

Leg Direction	Plainfield-Naperville Rd Southbound						119th St Westbound						Plainfield-Naperville Rd Northbound						119th St Eastbound						
Time	R	T	L	U	App	Ped*	R	T	L	U	App	Ped*	R	T	L	U	App	Ped*	R	T	L	U	App	Ped*	Int
2022-05-05 4:30PM	39	90	5	0	134	0	12	88	21	0	121	0	12	69	3	0	84	0	7	58	30	0	95	0	434
4:45PM	36	132	5	0	173	0	12	95	29	0	136	0	8	71	9	0	88	0	10	35	39	0	84	0	481
5:00PM	32	104	11	0	147	0	6	74	19	0	99	0	7	100	7	0	114	0	21	57	39	0	117	0	477
5:15PM	31	89	3	0	123	0	8	89	15	0	112	0	13	71	6	0	90	0	11	58	27	0	96	0	421
Total	138	415	24	0	577	0	38	346	84	0	468	0	40	311	25	0	376	0	49	208	135	0	392	0	1813
% Approach	23.9%	71.9%	4.2%	0%	-	-	8.1%	73.9%	17.9%	0%	-	-	10.6%	82.7%	6.6%	0%	-	-	12.5%	53.1%	34.4%	0%	-	-	-
% Total	7.6%	22.9%	1.3%	0%	31.8%	-	2.1%	19.1%	4.6%	0%	25.8%	-	2.2%	17.2%	1.4%	0%	20.7%	-	2.7%	11.5%	7.4%	0%	21.6%	-	-
PHF	0.885	0.786	0.545	-	0.834	-	0.792	0.911	0.724	-	0.860	-	0.769	0.778	0.694	-	0.825	-	0.583	0.897	0.865	-	0.838	-	0.942
Lights	136	414	24	0	574	-	38	343	84	0	465	-	38	311	23	0	372	-	49	200	130	0	379	-	1790
% Lights	98.6%	99.8%	100%	0%	99.5%	-	100%	99.1%	100%	0%	99.4%	-	95.0%	100%	92.0%	0%	98.9%	-	100%	96.2%	96.3%	0%	96.7%	-	98.7%
Single-Unit Trucks	1	1	0	0	2	-	0	3	0	0	3	-	2	0	1	0	3	-	0	4	2	0	6	-	14
% Single-Unit Trucks	0.7%	0.2%	0%	0%	0.3%	-	0%	0.9%	0%	0%	0.6%	-	5.0%	0%	4.0%	0%	0.8%	-	0%	1.9%	1.5%	0%	1.5%	-	0.8%
Articulated Trucks	0	0	0	0	0	-	0	0	0	0	0	-	0	0	0	0	0	-	0	1	3	0	4	-	4
% Articulated Trucks	0%	0%	0%	0%	0%	-	0%	0%	0%	0%	0%	-	0%	0%	0%	0%	0%	-	0%	0.5%	2.2%	0%	1.0%	-	0.2%
Buses	1	0	0	0	1	-	0	0	0	0	0	-	0	0	1	0	1	-	0	3	0	0	3	-	5
% Buses	0.7%	0%	0%	0%	0.2%	-	0%	0%	0%	0%	0%	-	0%	0%	4.0%	0%	0.3%	-	0%	1.4%	0%	0%	0.8%	-	0.3%
Bicycles on Road	0	0	0	0	0	-	0	0	0	0	0	-	0	0	0	0	0	-	0	0	0	0	0	-	0
% Bicycles on Road	0%	0%	0%	0%	0%	-	0%	0%	0%	0%	0%	-	0%	0%	0%	0%	0%	-	0%	0%	0%	0%	0%	-	0%
Pedestrians	-	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	0	
% Pedestrians	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

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

119th St with Plainfield-Naperville Rd TMC - TMC

Thu May 5, 2022

PM Peak (4:30 PM - 5:30 PM) - Overall Peak Hour

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

All Movements

ID: 946147, Location: 41.666601, -88.176443



Provided by: Kenig Lindgren O'Hara Aboona, Inc.

9575 W. Higgins Rd., Suite 400,
Rosemont, IL, 60018, US

[N] Plainfield-Naperville Rd

Total: 1061

In: 577

Out: 484

138

415

24

[W] 119th St

Total: 901

Out: 509

In: 392

135

208

49

38

346

84

Out: 272

In: 468

Total: 740

[E] 119th St

Out: 548

In: 376

Total: 924

[S] Plainfield-Naperville Rd

25

311

40

119th St with Wolf Dr TMC - TMC

Thu May 5, 2022

Full Length (7 AM-9 AM, 2 PM-6 PM)

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

All Movements

ID: 946144, Location: 41.666259, -88.195798



Provided by: Kenig Lindgren O'Hara Aboona, Inc.

9575 W. Higgins Rd., Suite 400,
Rosemont, IL, 60018, US

Leg Direction	119th St Westbound					Wolf Dr Northbound					119th St Eastbound					
Time	T	L	U	App	Ped*	R	L	U	App	Ped*	R	T	U	App	Ped*	Int
2022-05-05 7:00AM	62	3	0	65	0	4	7	0	11	0	1	77	0	78	0	154
7:15AM	64	0	0	64	0	0	5	0	5	0	4	127	0	131	0	200
7:30AM	55	0	0	55	0	6	7	0	13	0	1	114	0	115	0	183
7:45AM	95	1	0	96	0	4	3	0	7	0	4	124	0	128	0	231
Hourly Total	276	4	0	280	0	14	22	0	36	0	10	442	0	452	0	768
8:00AM	75	0	0	75	0	2	4	0	6	0	1	105	0	106	0	187
8:15AM	61	0	0	61	0	2	3	0	5	0	1	90	0	91	0	157
8:30AM	58	1	0	59	0	5	9	0	14	0	4	86	0	90	0	163
8:45AM	75	1	0	76	0	0	6	0	6	0	1	83	0	84	0	166
Hourly Total	269	2	0	271	0	9	22	0	31	0	7	364	0	371	0	673
2:00PM	83	2	0	85	0	2	2	0	4	0	5	59	0	64	0	153
2:15PM	120	8	0	128	0	1	3	0	4	0	2	64	0	66	0	198
2:30PM	90	3	0	93	0	4	3	0	7	0	3	70	0	73	0	173
2:45PM	94	1	0	95	0	3	2	0	5	0	5	58	0	63	0	163
Hourly Total	387	14	0	401	0	10	10	0	20	0	15	251	0	266	0	687
3:00PM	92	3	0	95	0	2	3	0	5	0	2	72	0	74	0	174
3:15PM	97	3	0	100	0	2	3	0	5	0	4	70	0	74	0	179
3:30PM	125	2	0	127	0	1	1	0	2	0	4	81	0	85	0	214
3:45PM	129	3	0	132	0	2	3	0	5	0	5	84	0	89	0	226
Hourly Total	443	11	0	454	0	7	10	0	17	0	15	307	0	322	0	793
4:00PM	116	3	0	119	0	2	4	0	6	0	7	75	0	82	0	207
4:15PM	102	4	0	106	0	1	3	0	4	0	7	81	0	88	0	198
4:30PM	120	3	0	123	0	2	3	0	5	0	8	81	0	89	0	217
4:45PM	144	1	0	145	0	0	5	0	5	0	2	79	0	81	0	231
Hourly Total	482	11	0	493	0	5	15	0	20	0	24	316	0	340	0	853
5:00PM	111	2	0	113	0	1	4	0	5	0	5	114	0	119	0	237
5:15PM	121	1	0	122	0	2	1	0	3	0	2	92	0	94	0	219
5:30PM	116	0	0	116	0	3	2	0	5	0	5	71	0	76	0	197
5:45PM	110	0	0	110	0	1	4	0	5	0	7	55	0	62	0	177
Hourly Total	458	3	0	461	0	7	11	0	18	0	19	332	0	351	0	830
Total	2315	45	0	2360	0	52	90	0	142	0	90	2012	0	2102	0	4604
% Approach	98.1%	1.9%	0%	-	-	36.6%	63.4%	0%	-	-	4.3%	95.7%	0%	-	-	-
% Total	50.3%	1.0%	0%	51.3%	-	1.1%	2.0%	0%	3.1%	-	2.0%	43.7%	0%	45.7%	-	-
Lights	2251	45	0	2296	-	48	85	0	133	-	84	1938	0	2022	-	4451
% Lights	97.2%	100%	0%	97.3%	-	92.3%	94.4%	0%	93.7%	-	93.3%	96.3%	0%	96.2%	-	96.7%
Single-Unit Trucks	39	0	0	39	-	0	3	0	3	-	0	39	0	39	-	81
% Single-Unit Trucks	1.7%	0%	0%	1.7%	-	0%	3.3%	0%	2.1%	-	0%	1.9%	0%	1.9%	-	1.8%
Articulated Trucks	10	0	0	10	-	0	1	0	1	-	1	17	0	18	-	29
% Articulated Trucks	0.4%	0%	0%	0.4%	-	0%	1.1%	0%	0.7%	-	1.1%	0.8%	0%	0.9%	-	0.6%
Buses	15	0	0	15	-	4	1	0	5	-	5	18	0	23	-	43
% Buses	0.6%	0%	0%	0.6%	-	7.7%	1.1%	0%	3.5%	-	5.6%	0.9%	0%	1.1%	-	0.9%
Bicycles on Road	0	0	0	0	-	0	0	0	0	-	0	0	0	0	-	0
% Bicycles on Road	0%	0%	0%	0%	-	0%	0%	0%	0%	-	0%	0%	0%	0%	-	0%
Pedestrians	-	-	-	-	0	-	-	-	-	0	-	-	-	-	0	-
% Pedestrians	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

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

119th St with Wolf Dr TMC - TMC

Thu May 5, 2022

Full Length (7 AM-9 AM, 2 PM-6 PM)

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

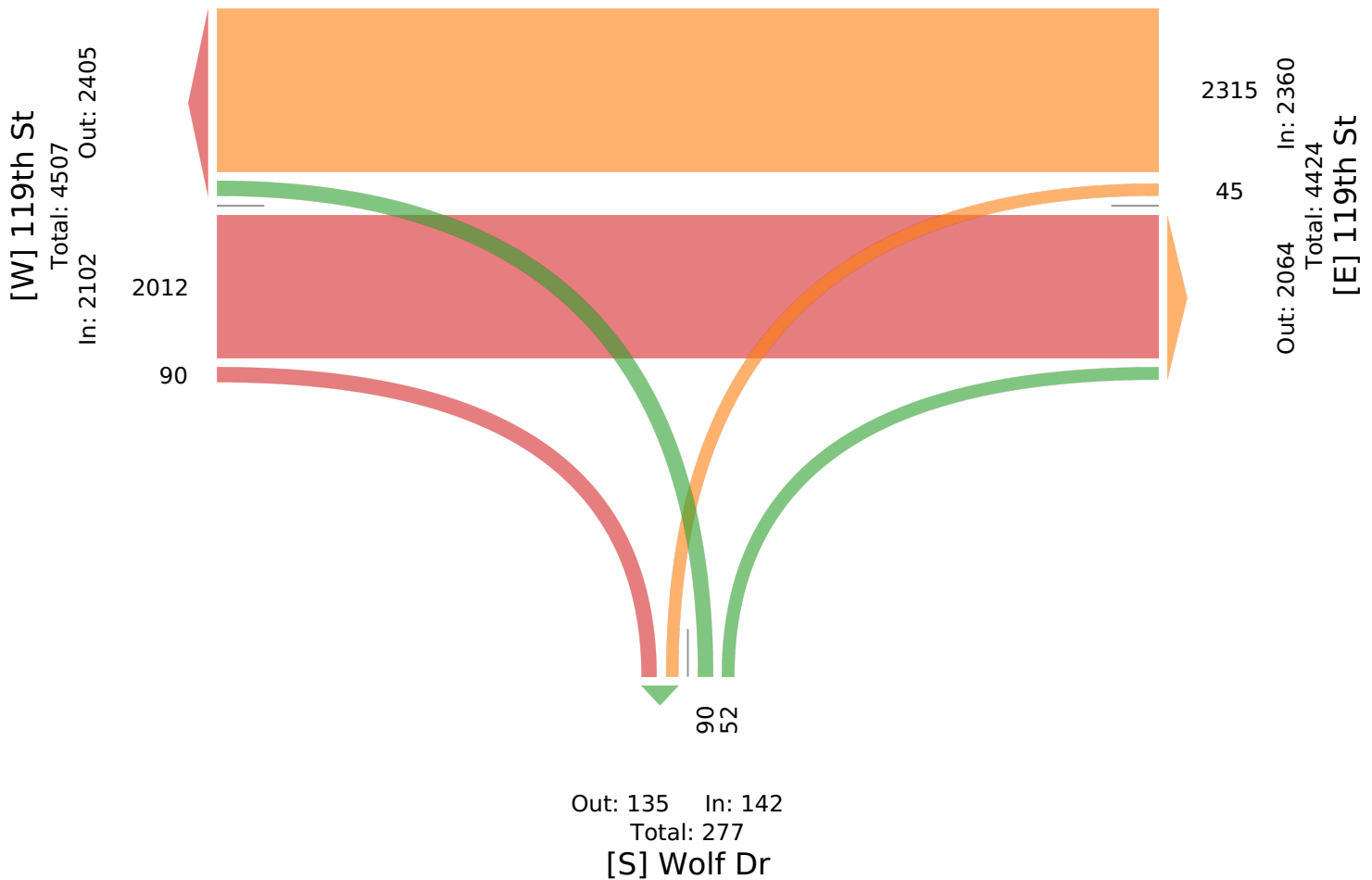
All Movements

ID: 946144, Location: 41.666259, -88.195798



Provided by: Kenig Lindgren O'Hara Aboona, Inc.

9575 W. Higgins Rd., Suite 400,
Rosemont, IL, 60018, US



119th St with Wolf Dr TMC - TMC

Thu May 5, 2022

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

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

All Movements

ID: 946144, Location: 41.666259, -88.195798



Provided by: Kenig Lindgren O'Hara Aboona, Inc.

9575 W. Higgins Rd., Suite 400,
Rosemont, IL, 60018, US

Leg Direction	119th St Westbound					Wolf Dr Northbound					119th St Eastbound					
Time	T	L	U	App	Ped*	R	L	U	App	Ped*	R	T	U	App	Ped*	Int
2022-05-05 7:15AM	64	0	0	64	0	0	5	0	5	0	4	127	0	131	0	200
7:30AM	55	0	0	55	0	6	7	0	13	0	1	114	0	115	0	183
7:45AM	95	1	0	96	0	4	3	0	7	0	4	124	0	128	0	231
8:00AM	75	0	0	75	0	2	4	0	6	0	1	105	0	106	0	187
Total	289	1	0	290	0	12	19	0	31	0	10	470	0	480	0	801
% Approach	99.7%	0.3%	0%	-	-	38.7%	61.3%	0%	-	-	2.1%	97.9%	0%	-	-	-
% Total	36.1%	0.1%	0%	36.2%	-	1.5%	2.4%	0%	3.9%	-	1.2%	58.7%	0%	59.9%	-	-
PHF	0.761	0.250	-	0.755	-	0.500	0.679	-	0.596	-	0.625	0.925	-	0.916	-	0.867
Lights	276	1	0	277	-	12	18	0	30	-	8	447	0	455	-	762
% Lights	95.5%	100%	0%	95.5%	-	100%	94.7%	0%	96.8%	-	80.0%	95.1%	0%	94.8%	-	95.1%
Single-Unit Trucks	11	0	0	11	-	0	0	0	0	-	0	10	0	10	-	21
% Single-Unit Trucks	3.8%	0%	0%	3.8%	-	0%	0%	0%	0%	-	0%	2.1%	0%	2.1%	-	2.6%
Articulated Trucks	2	0	0	2	-	0	0	0	0	-	1	9	0	10	-	12
% Articulated Trucks	0.7%	0%	0%	0.7%	-	0%	0%	0%	0%	-	10.0%	1.9%	0%	2.1%	-	1.5%
Buses	0	0	0	0	-	0	1	0	1	-	1	4	0	5	-	6
% Buses	0%	0%	0%	0%	-	0%	5.3%	0%	3.2%	-	10.0%	0.9%	0%	1.0%	-	0.7%
Bicycles on Road	0	0	0	0	-	0	0	0	0	-	0	0	0	0	-	0
% Bicycles on Road	0%	0%	0%	0%	-	0%	0%	0%	0%	-	0%	0%	0%	0%	-	0%
Pedestrians	-	-	-	-	0	-	-	-	-	0	-	-	-	-	0	-
% Pedestrians	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

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

119th St with Wolf Dr TMC - TMC

Thu May 5, 2022

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

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

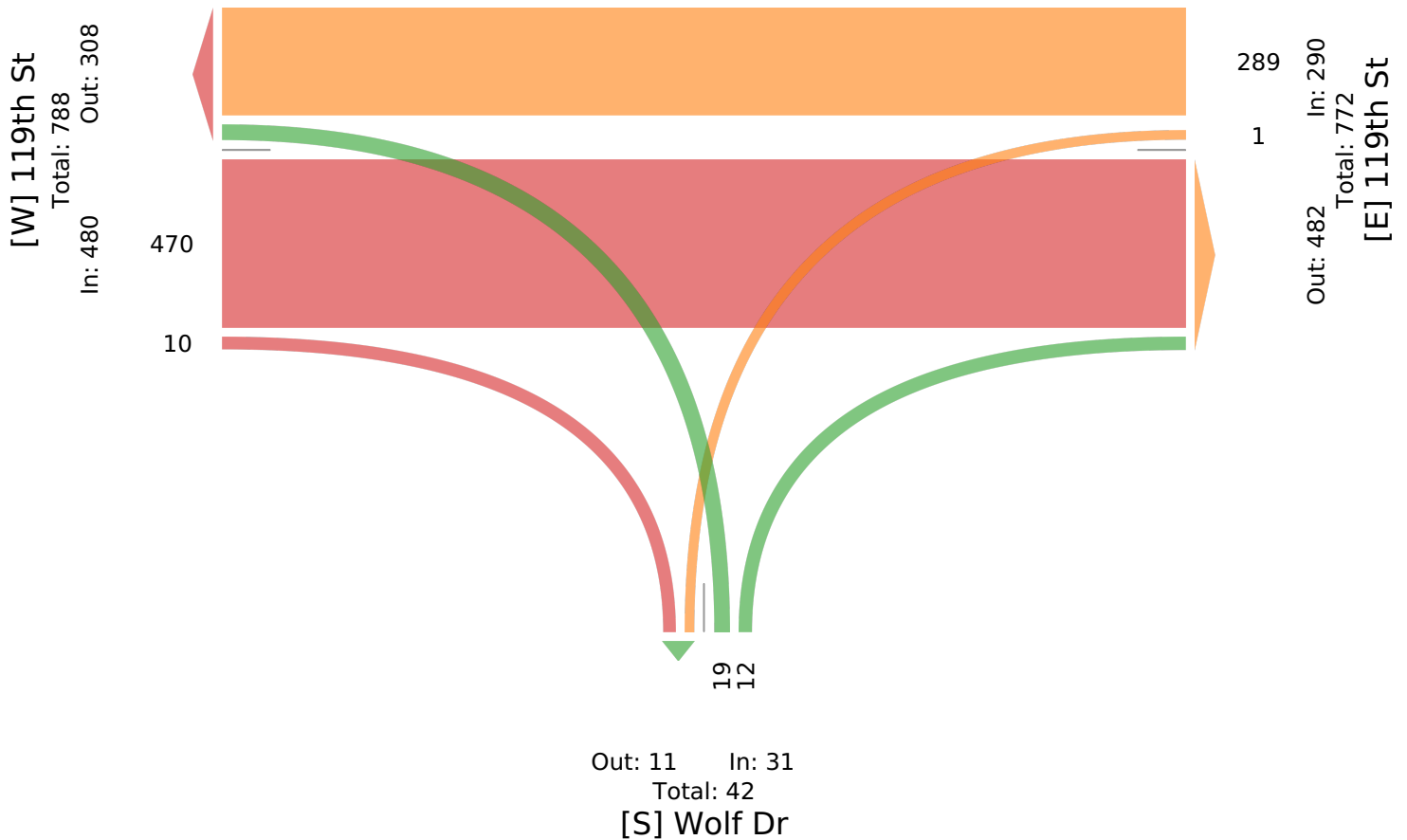
All Movements

ID: 946144, Location: 41.666259, -88.195798



Provided by: Kenig Lindgren O'Hara Aboona, Inc.

9575 W. Higgins Rd., Suite 400,
Rosemont, IL, 60018, US



119th St with Wolf Dr TMC - TMC

Thu May 5, 2022

PM Peak (4:30 PM - 5:30 PM) - Overall Peak Hour

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

All Movements

ID: 946144, Location: 41.666259, -88.195798



Provided by: Kenig Lindgren O'Hara Aboona, Inc.

9575 W. Higgins Rd., Suite 400,
Rosemont, IL, 60018, US

Leg Direction	119th St Westbound					Wolf Dr Northbound					119th St Eastbound					
Time	T	L	U	App	Ped*	R	L	U	App	Ped*	R	T	U	App	Ped*	Int
2022-05-05 4:30PM	120	3	0	123	0	2	3	0	5	0	8	81	0	89	0	217
4:45PM	144	1	0	145	0	0	5	0	5	0	2	79	0	81	0	231
5:00PM	111	2	0	113	0	1	4	0	5	0	5	114	0	119	0	237
5:15PM	121	1	0	122	0	2	1	0	3	0	2	92	0	94	0	219
Total	496	7	0	503	0	5	13	0	18	0	17	366	0	383	0	904
% Approach	98.6%	1.4%	0%	-	-	27.8%	72.2%	0%	-	-	4.4%	95.6%	0%	-	-	-
% Total	54.9%	0.8%	0%	55.6%	-	0.6%	1.4%	0%	2.0%	-	1.9%	40.5%	0%	42.4%	-	-
PHF	0.861	0.583	-	0.867	-	0.625	0.650	-	0.900	-	0.531	0.803	-	0.805	-	0.954
Lights	488	7	0	495	-	5	12	0	17	-	17	359	0	376	-	888
% Lights	98.4%	100%	0%	98.4%	-	100%	92.3%	0%	94.4%	-	100%	98.1%	0%	98.2%	-	98.2%
Single-Unit Trucks	5	0	0	5	-	0	1	0	1	-	0	5	0	5	-	11
% Single-Unit Trucks	1.0%	0%	0%	1.0%	-	0%	7.7%	0%	5.6%	-	0%	1.4%	0%	1.3%	-	1.2%
Articulated Trucks	1	0	0	1	-	0	0	0	0	-	0	0	0	0	-	1
% Articulated Trucks	0.2%	0%	0%	0.2%	-	0%	0%	0%	0%	-	0%	0%	0%	0%	-	0.1%
Buses	2	0	0	2	-	0	0	0	0	-	0	2	0	2	-	4
% Buses	0.4%	0%	0%	0.4%	-	0%	0%	0%	0%	-	0%	0.5%	0%	0.5%	-	0.4%
Bicycles on Road	0	0	0	0	-	0	0	0	0	-	0	0	0	0	-	0
% Bicycles on Road	0%	0%	0%	0%	-	0%	0%	0%	0%	-	0%	0%	0%	0%	-	0%
Pedestrians	-	-	-	-	0	-	-	-	-	0	-	-	-	-	0	-
% Pedestrians	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

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

119th St with Wolf Dr TMC - TMC

Thu May 5, 2022

PM Peak (4:30 PM - 5:30 PM) - Overall Peak Hour

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

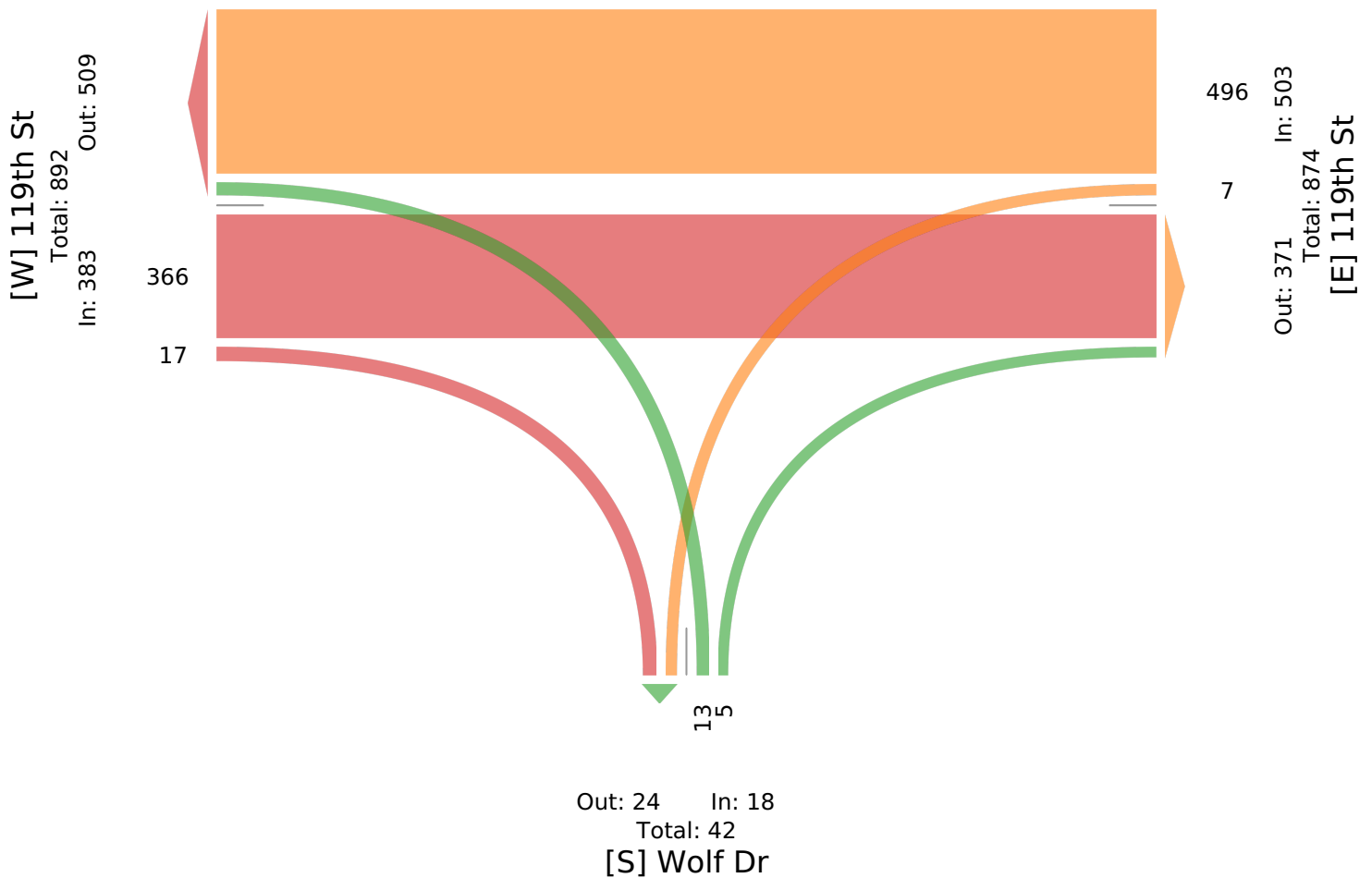
All Movements

ID: 946144, Location: 41.666259, -88.195798



Provided by: Kenig Lindgren O'Hara Aboona, Inc.

9575 W. Higgins Rd., Suite 400,
Rosemont, IL, 60018, US



IL 59 with Champion Dr TMC - TMC

Thu May 5, 2022

Full Length (7 AM-9 AM, 2 PM-6 PM)

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

All Movements

ID: 946139, Location: 41.672927, -88.204381



Provided by: Kenig Lindgren O'Hara Aboona, Inc.
9575 W. Higgins Rd., Suite 400,
Rosemont, IL, 60018, US

Leg Direction	IL 59 Southbound						Champion Rd Westbound						IL 59 Northbound						Champion Dr Eastbound						
Time	R	T	L	U	App	Ped*	R	T	L	U	App	Ped*	R	T	L	U	App	Ped*	R	T	L	U	App	Ped*	Int
2022-05-05																									
7:00AM	3	152	2	0	157	0	5	0	13	0	18	0	4	362	2	0	368	0	5	2	21	0	28	0	571
7:15AM	4	203	5	1	213	0	6	2	11	0	19	0	6	333	4	0	343	0	3	0	19	0	22	0	597
7:30AM	6	223	3	1	233	0	6	1	15	0	22	0	3	356	5	0	364	0	14	1	21	0	36	0	655
7:45AM	11	151	2	0	164	0	9	0	12	0	21	0	13	349	7	0	369	0	8	1	23	0	32	0	586
Hourly Total	24	729	12	2	767	0	26	3	51	0	80	0	26	1400	18	0	1444	0	30	4	84	0	118	0	2409
8:00AM	4	180	10	0	194	0	11	1	5	0	17	0	13	242	5	0	260	0	8	0	11	0	19	0	490
8:15AM	12	152	4	0	168	0	8	1	6	0	15	0	3	322	2	0	327	0	5	0	10	0	15	0	525
8:30AM	6	170	9	3	188	0	14	5	8	0	27	0	6	260	1	0	267	0	8	1	17	0	26	0	508
8:45AM	8	206	3	2	219	0	10	8	4	0	22	0	9	293	2	0	304	0	15	8	30	0	53	0	598
Hourly Total	30	708	26	5	769	0	43	15	23	0	81	0	31	1117	10	0	1158	0	36	9	68	0	113	0	2121
2:00PM	8	246	9	3	266	0	6	1	8	0	15	0	4	224	5	0	233	0	3	1	8	0	12	0	526
2:15PM	5	268	6	0	279	0	5	1	6	0	12	0	15	232	4	0	251	0	4	1	9	0	14	0	556
2:30PM	7	257	5	3	272	0	4	3	14	0	21	0	17	242	2	0	261	0	7	4	8	0	19	0	573
2:45PM	10	310	10	2	332	0	7	2	8	0	17	0	7	255	6	0	268	0	8	2	7	0	17	0	634
Hourly Total	30	1081	30	8	1149	0	22	7	36	0	65	0	43	953	17	0	1013	0	22	8	32	0	62	0	2289
3:00PM	13	287	10	4	314	0	11	5	6	0	22	0	16	262	7	0	285	0	4	4	4	0	12	0	633
3:15PM	14	358	6	2	380	0	4	2	6	0	12	0	11	270	3	1	285	0	2	0	5	0	7	0	684
3:30PM	17	290	7	2	316	0	9	0	9	0	18	0	8	241	4	0	253	0	1	2	13	0	16	0	603
3:45PM	5	323	9	6	343	0	6	2	23	0	31	0	9	269	8	0	286	0	9	13	24	0	46	0	706
Hourly Total	49	1258	32	14	1353	0	30	9	44	0	83	0	44	1042	22	1	1109	0	16	19	46	0	81	0	2626
4:00PM	14	349	8	4	375	0	11	2	9	0	22	1	10	302	3	0	315	0	6	0	9	0	15	0	727
4:15PM	13	361	3	5	382	0	12	0	10	0	22	0	13	290	8	1	312	0	5	0	15	0	20	0	736
4:30PM	17	391	4	1	413	0	11	3	17	0	31	0	14	325	2	0	341	0	7	0	5	0	12	0	797
4:45PM	17	367	7	1	392	0	10	0	14	0	24	0	11	291	9	0	311	0	7	3	17	0	27	0	754
Hourly Total	61	1468	22	11	1562	0	44	5	50	0	99	1	48	1208	22	1	1279	0	25	3	46	0	74	0	3014
5:00PM	15	373	10	2	400	0	11	0	13	0	24	0	12	326	8	1	347	0	4	0	13	0	17	0	788
5:15PM	26	365	11	5	407	0	12	0	12	0	24	0	18	303	6	0	327	0	6	0	8	0	14	0	772
5:30PM	14	361	11	7	393	0	10	2	10	0	22	0	16	255	6	0	277	0	10	0	13	0	23	0	715
5:45PM	16	413	10	3	442	0	5	1	12	0	18	0	18	264	8	0	290	0	6	0	13	0	19	0	769
Hourly Total	71	1512	42	17	1642	0	38	3	47	0	88	0	64	1148	28	1	1241	0	26	0	47	0	73	0	3044
Total	265	6756	164	57	7242	0	203	42	251	0	496	1	256	6868	117	3	7244	0	155	43	323	0	521	0	15503
% Approach	3.7%	93.3%	2.3%	0.8%	-	-	40.9%	8.5%	50.6%	0%	-	-	3.5%	94.8%	1.6%	0%	-	-	29.8%	8.3%	62.0%	0%	-	-	-
% Total	1.7%	43.6%	1.1%	0.4%	46.7%	-	1.3%	0.3%	1.6%	0%	3.2%	-	1.7%	44.3%	0.8%	0%	46.7%	-	1.0%	0.3%	2.1%	0%	3.4%	-	-
Lights	260	6464	160	56	6940	-	196	40	245	0	481	-	247	6541	112	3	6903	-	147	39	320	0	506	-	14830
% Lights	98.1%	95.7%	97.6%	98.2%	95.8%	-	96.6%	95.2%	97.6%	0%	97.0%	-	96.5%	95.2%	95.7%	100%	95.3%	-	94.8%	90.7%	99.1%	0%	97.1%	-	95.7%
Single-Unit Trucks	2	108	0	1	111	-	2	0	2	0	4	-	1	127	4	0	132	-	2	1	1	0	4	-	251
% Single-Unit Trucks	0.8%	1.6%	0%	1.8%	1.5%	-	1.0%	0%	0.8%	0%	0.8%	-	0.4%	1.8%	3.4%	0%	1.8%	-	1.3%	2.3%	0.3%	0%	0.8%	-	1.6%
Articulated Trucks	0	174	2	0	176	-	1	0	0	0	1	-	1	190	0	0	191	-	0	0	0	0	0	-	368
% Articulated Trucks	0%	2.6%	1.2%	0%	2.4%	-	0.5%	0%	0%	0%	0.2%	-	0.4%	2.8%	0%	0%	2.6%	-	0%	0%	0%	0%	0%	-	2.4%
Buses	3	10	2	0	15	-	4	2	4	0	10	-	7	10	1	0	18	-	6	3	2	0	11	-	54
% Buses	1.1%	0.1%	1.2%	0%	0.2%	-	2.0%	4.8%	1.6%	0%	2.0%	-	2.7%	0.1%	0.9%	0%	0.2%	-	3.9%	7.0%	0.6%	0%	2.1%	-	0.3%
Bicycles on Road	0	0	0	0	0	-	0	0	0	0	0	-	0	0	0	0	0	-	0	0	0	0	0	-	0
% Bicycles on Road	0%	0%	0%	0%	0%	-	0%	0%	0%	0%	0%	-	0%	0%	0%	0%	0%	-	0%	0%	0%	0%	0%	-	0%
Pedestrians	-	-	-	-	-	0	-	-	-	-	-	1	-	-	-	-	-	0	-	-	-	-	-	0	
% Pedestrians	-	-	-	-	-	-	-	-	-	-	-	100%	-	-	-	-	-	-	-	-	-	-	-	-	

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

IL 59 with Champion Dr TMC - TMC

Thu May 5, 2022

Full Length (7 AM-9 AM, 2 PM-6 PM)

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

All Movements

ID: 946139, Location: 41.672927, -88.204381



Provided by: Kenig Lindgren O'Hara Aboona, Inc.

9575 W. Higgins Rd., Suite 400,
Rosemont, IL, 60018, US

[N] IL 59

Total: 14693

In: 7242

Out: 7451

265

6756

164

57

[W] Champion Dr

Total: 945

In: 521 Out: 424

323
43
155

203
42
251

Out: 463 In: 496

Total: 959

[E] Champion Rd

Out: 7165

In: 7244

Total: 14409

[S] IL 59

3
117

6868

256

IL 59 with Champion Dr TMC - TMC

Thu May 5, 2022

AM Peak (7 AM - 8 AM)

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

All Movements

ID: 946139, Location: 41.672927, -88.204381



Provided by: Kenig Lindgren O'Hara Aboona, Inc.
9575 W. Higgins Rd., Suite 400,
Rosemont, IL, 60018, US

Leg Direction	IL 59 Southbound						Champion Rd Westbound						IL 59 Northbound						Champion Dr Eastbound						
Time	R	T	L	U	App	Ped*	R	T	L	U	App	Ped*	R	T	L	U	App	Ped*	R	T	L	U	App	Ped*	Int
2022-05-05 7:00AM	3	152	2	0	157	0	5	0	13	0	18	0	4	362	2	0	368	0	5	2	21	0	28	0	571
7:15AM	4	203	5	1	213	0	6	2	11	0	19	0	6	333	4	0	343	0	3	0	19	0	22	0	597
7:30AM	6	223	3	1	233	0	6	1	15	0	22	0	3	356	5	0	364	0	14	1	21	0	36	0	655
7:45AM	11	151	2	0	164	0	9	0	12	0	21	0	13	349	7	0	369	0	8	1	23	0	32	0	586
Total	24	729	12	2	767	0	26	3	51	0	80	0	26	1400	18	0	1444	0	30	4	84	0	118	0	2409
% Approach	3.1%	95.0%	1.6%	0.3%	-	-	32.5%	3.8%	63.8%	0%	-	-	1.8%	97.0%	1.2%	0%	-	-	25.4%	3.4%	71.2%	0%	-	-	-
% Total	1.0%	30.3%	0.5%	0.1%	31.8%	-	1.1%	0.1%	2.1%	0%	3.3%	-	1.1%	58.1%	0.7%	0%	59.9%	-	1.2%	0.2%	3.5%	0%	4.9%	-	-
PHF	0.545	0.817	0.600	0.500	0.823	-	0.722	0.375	0.850	-	0.909	-	0.500	0.967	0.643	-	0.978	-	0.536	0.500	0.913	-	0.819	-	0.919
Lights	22	666	11	2	701	-	26	2	50	0	78	-	23	1313	16	0	1352	-	28	4	83	0	115	-	2246
% Lights	91.7%	91.4%	91.7%	100%	91.4%	-	100%	66.7%	98.0%	0%	97.5%	-	88.5%	93.8%	88.9%	0%	93.6%	-	93.3%	100%	98.8%	0%	97.5%	-	93.2%
Single-Unit Trucks	1	22	0	0	23	-	0	0	0	0	0	-	0	33	2	0	35	-	0	0	1	0	1	-	59
% Single-Unit Trucks	4.2%	3.0%	0%	0%	3.0%	-	0%	0%	0%	0%	0%	-	0%	2.4%	11.1%	0%	2.4%	-	0%	0%	1.2%	0%	0.8%	-	2.4%
Articulated Trucks	0	41	1	0	42	-	0	0	0	0	0	-	0	53	0	0	53	-	0	0	0	0	0	-	95
% Articulated Trucks	0%	5.6%	8.3%	0%	5.5%	-	0%	0%	0%	0%	0%	-	0%	3.8%	0%	0%	3.7%	-	0%	0%	0%	0%	0%	-	3.9%
Buses	1	0	0	0	1	-	0	1	1	0	2	-	3	1	0	0	4	-	2	0	0	0	2	-	9
% Buses	4.2%	0%	0%	0%	0.1%	-	0%	33.3%	2.0%	0%	2.5%	-	11.5%	0.1%	0%	0%	0.3%	-	6.7%	0%	0%	0%	1.7%	-	0.4%
Bicycles on Road	0	0	0	0	0	-	0	0	0	0	0	-	0	0	0	0	0	-	0	0	0	0	0	-	0
% Bicycles on Road	0%	0%	0%	0%	0%	-	0%	0%	0%	0%	0%	-	0%	0%	0%	0%	0%	-	0%	0%	0%	0%	0%	-	0%
Pedestrians	-	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	0	
% Pedestrians	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

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

IL 59 with Champion Dr TMC - TMC

Thu May 5, 2022

AM Peak (7 AM - 8 AM)

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

All Movements

ID: 946139, Location: 41.672927, -88.204381



Provided by: Kenig Lindgren O'Hara Aboona,
Inc.

9575 W. Higgins Rd., Suite 400,
Rosemont, IL, 60018, US

[N] IL 59

Total: 2279

In: 767

Out: 1512

24 729 12 2

[W] Champion Dr

Total: 163

In: 118 Out: 45

84
4
30

26
3
51

Out: 42 In: 80

Total: 122

[E] Champion Rd

18

1400

26

Out: 810

In: 1444

Total: 2254

[S] IL 59

IL 59 with Champion Dr TMC - TMC

Thu May 5, 2022

PM Peak (4:30 PM - 5:30 PM) - Overall Peak Hour

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

All Movements

ID: 946139, Location: 41.672927, -88.204381



Provided by: Kenig Lindgren O'Hara Aboona, Inc.

9575 W. Higgins Rd., Suite 400,
Rosemont, IL, 60018, US

Leg Direction	IL 59 Southbound						Champion Rd Westbound						IL 59 Northbound						Champion Dr Eastbound						
Time	R	T	L	U	App	Ped*	R	T	L	U	App	Ped*	R	T	L	U	App	Ped*	R	T	L	U	App	Ped*	Int
2022-05-05 4:30PM	17	391	4	1	413	0	11	3	17	0	31	0	14	325	2	0	341	0	7	0	5	0	12	0	797
4:45PM	17	367	7	1	392	0	10	0	14	0	24	0	11	291	9	0	311	0	7	3	17	0	27	0	754
5:00PM	15	373	10	2	400	0	11	0	13	0	24	0	12	326	8	1	347	0	4	0	13	0	17	0	788
5:15PM	26	365	11	5	407	0	12	0	12	0	24	0	18	303	6	0	327	0	6	0	8	0	14	0	772
Total	75	1496	32	9	1612	0	44	3	56	0	103	0	55	1245	25	1	1326	0	24	3	43	0	70	0	3111
% Approach	4.7%	92.8%	2.0%	0.6%	-	-	42.7%	2.9%	54.4%	0%	-	-	4.1%	93.9%	1.9%	0.1%	-	-	34.3%	4.3%	61.4%	0%	-	-	-
% Total	2.4%	48.1%	1.0%	0.3%	51.8%	-	1.4%	0.1%	1.8%	0%	3.3%	-	1.8%	40.0%	0.8%	0%	42.6%	-	0.8%	0.1%	1.4%	0%	2.3%	-	-
PHF	0.721	0.957	0.727	0.450	0.976	-	0.917	0.250	0.824	-	0.831	-	0.764	0.955	0.694	0.250	0.955	-	0.857	0.250	0.632	-	0.648	-	0.976
Lights	75	1471	32	9	1587	-	43	3	55	0	101	-	55	1219	25	1	1300	-	23	3	43	0	69	-	3057
% Lights	100%	98.3%	100%	100%	98.4%	-	97.7%	100%	98.2%	0%	98.1%	-	100%	97.9%	100%	100%	98.0%	-	95.8%	100%	100%	0%	98.6%	-	98.3%
Single-Unit Trucks	0	9	0	0	9	-	1	0	1	0	2	-	0	13	0	0	13	-	1	0	0	0	1	-	25
% Single-Unit Trucks	0%	0.6%	0%	0%	0.6%	-	2.3%	0%	1.8%	0%	1.9%	-	0%	1.0%	0%	0%	1.0%	-	4.2%	0%	0%	0%	1.4%	-	0.8%
Articulated Trucks	0	16	0	0	16	-	0	0	0	0	0	-	0	12	0	0	12	-	0	0	0	0	0	-	28
% Articulated Trucks	0%	1.1%	0%	0%	1.0%	-	0%	0%	0%	0%	0%	-	0%	1.0%	0%	0%	0.9%	-	0%	0%	0%	0%	0%	-	0.9%
Buses	0	0	0	0	0	-	0	0	0	0	0	-	0	1	0	0	1	-	0	0	0	0	0	-	1
% Buses	0%	0%	0%	0%	0%	-	0%	0%	0%	0%	0%	-	0%	0.1%	0%	0%	0.1%	-	0%	0%	0%	0%	0%	-	0%
Bicycles on Road	0	0	0	0	0	-	0	0	0	0	0	-	0	0	0	0	0	-	0	0	0	0	0	-	0
% Bicycles on Road	0%	0%	0%	0%	0%	-	0%	0%	0%	0%	0%	-	0%	0%	0%	0%	0%	-	0%	0%	0%	0%	0%	-	0%
Pedestrians	-	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	0	-
% Pedestrians	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

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

IL 59 with Champion Dr TMC - TMC

Thu May 5, 2022

PM Peak (4:30 PM - 5:30 PM) - Overall Peak Hour

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

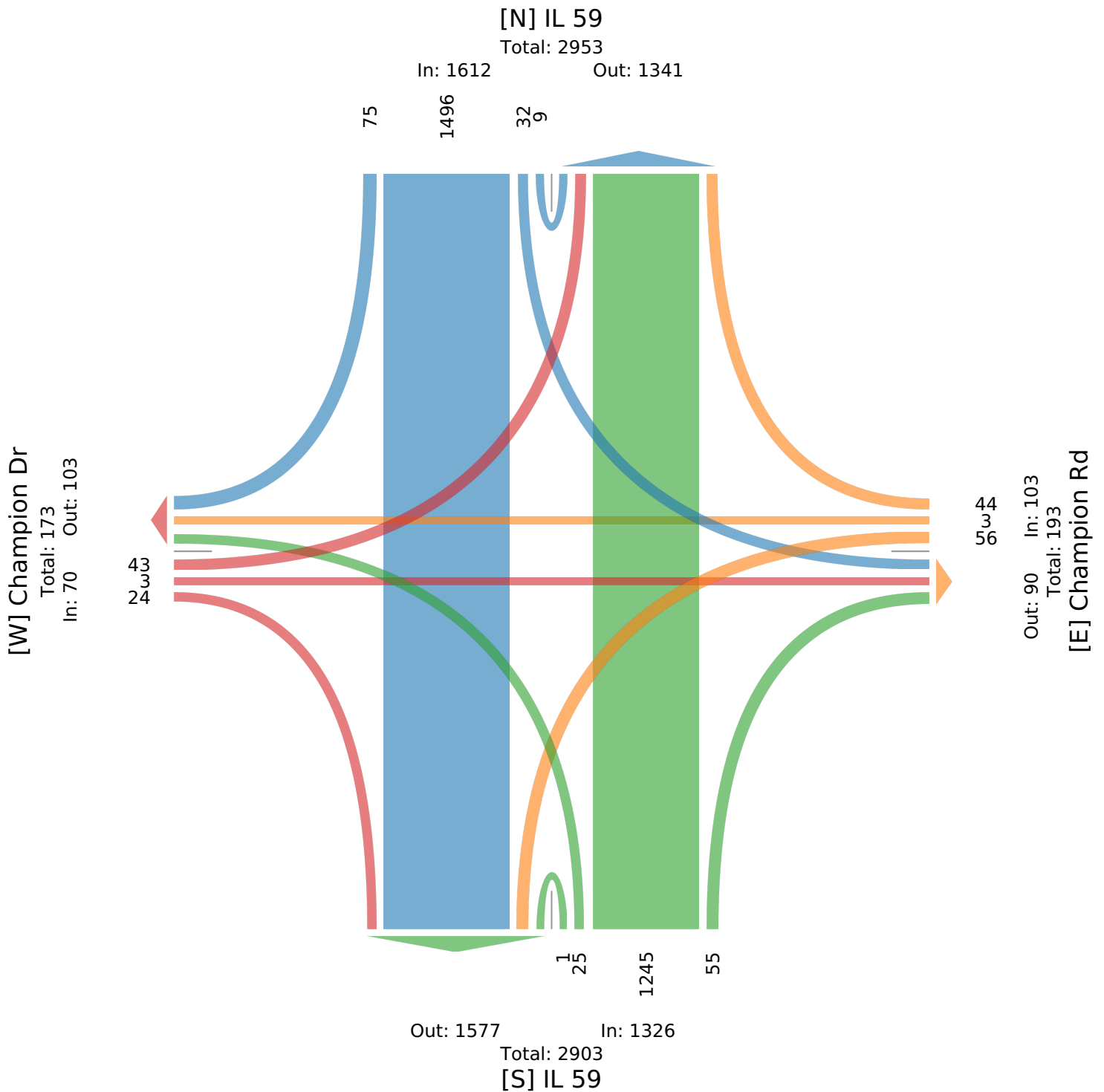
All Movements

ID: 946139, Location: 41.672927, -88.204381



Provided by: Kenig Lindgren O'Hara Aboona, Inc.

9575 W. Higgins Rd., Suite 400,
Rosemont, IL, 60018, US



Preliminary Site Plan

ITE Trip Generation Worksheets

Single-Family Detached Housing (210)

Vehicle Trip Ends vs: Dwelling Units

On a: Weekday,
Peak Hour of Adjacent Street Traffic,
One Hour Between 7 and 9 a.m.

Setting/Location: General Urban/Suburban

Number of Studies: 192

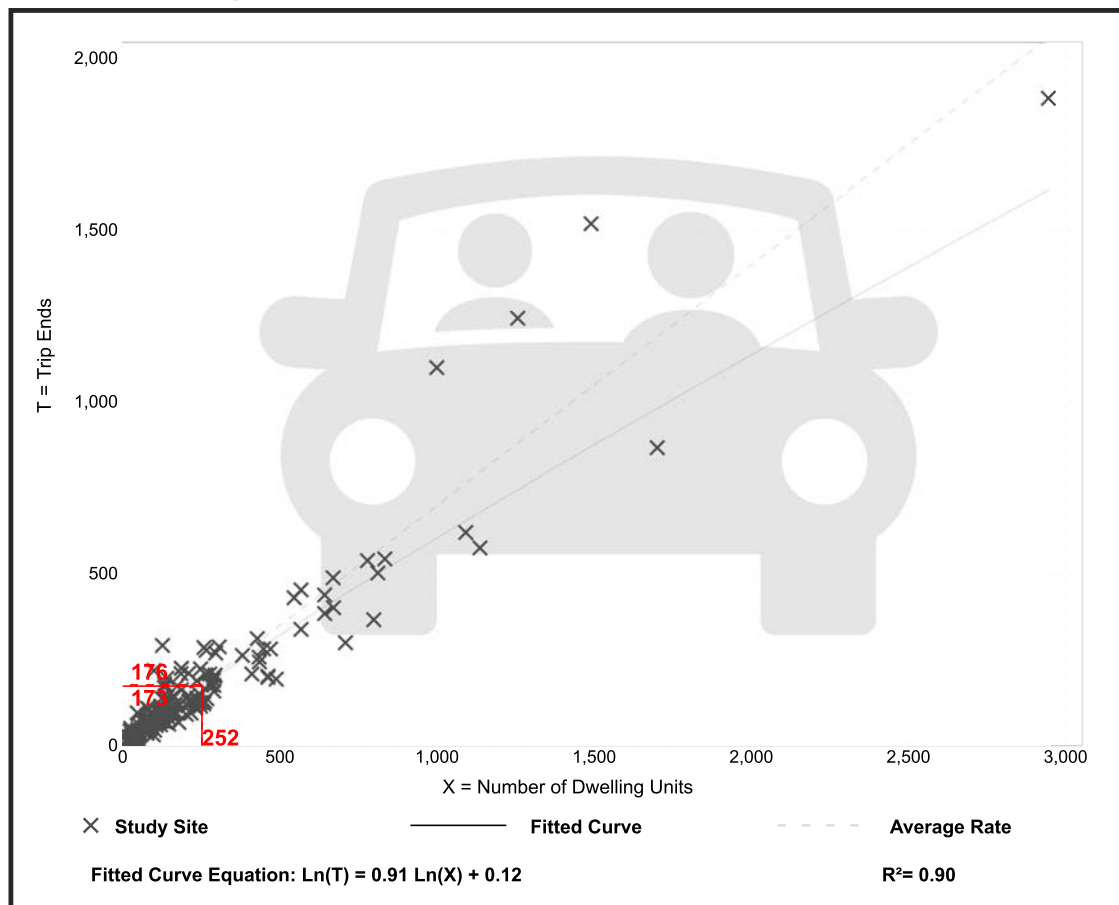
Avg. Num. of Dwelling Units: 226

Directional Distribution: 26% entering, 74% exiting

Vehicle Trip Generation per Dwelling Unit

Average Rate	Range of Rates	Standard Deviation
0.70	0.27 - 2.27	0.24

Data Plot and Equation



Trip Gen Manual, 11th Edition

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Single-Family Detached Housing

(210)

Vehicle Trip Ends vs: Dwelling Units

On a: Weekday,
Peak Hour of Adjacent Street Traffic,
One Hour Between 4 and 6 p.m.

Setting/Location: General Urban/Suburban

Number of Studies: 208

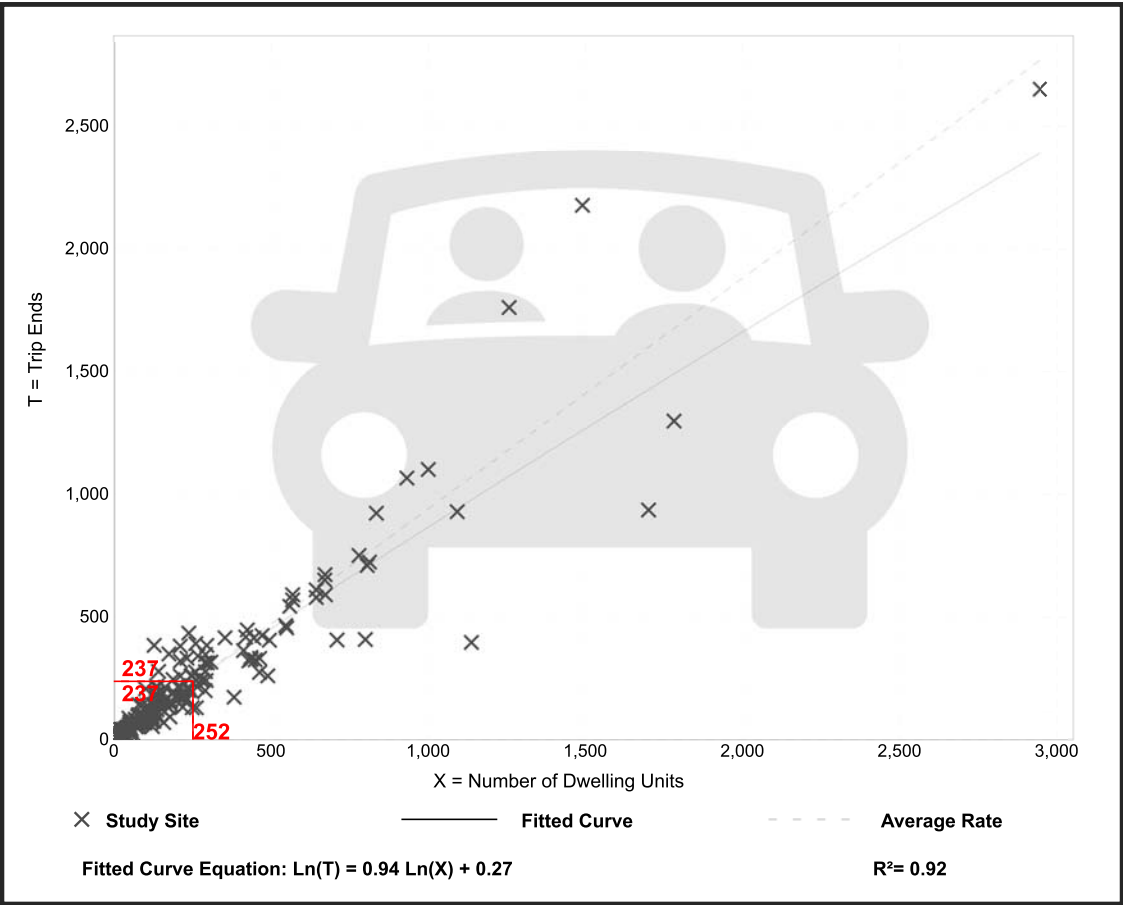
Avg. Num. of Dwelling Units: 248

Directional Distribution: 63% entering, 37% exiting

Vehicle Trip Generation per Dwelling Unit

Average Rate	Range of Rates	Standard Deviation
0.94	0.35 - 2.98	0.31

Data Plot and Equation



Multifamily Housing (Low-Rise) Not Close to Rail Transit (220)

Vehicle Trip Ends vs: Dwelling Units

On a: Weekday,
Peak Hour of Adjacent Street Traffic,
One Hour Between 7 and 9 a.m.

Setting/Location: General Urban/Suburban

Number of Studies: 49

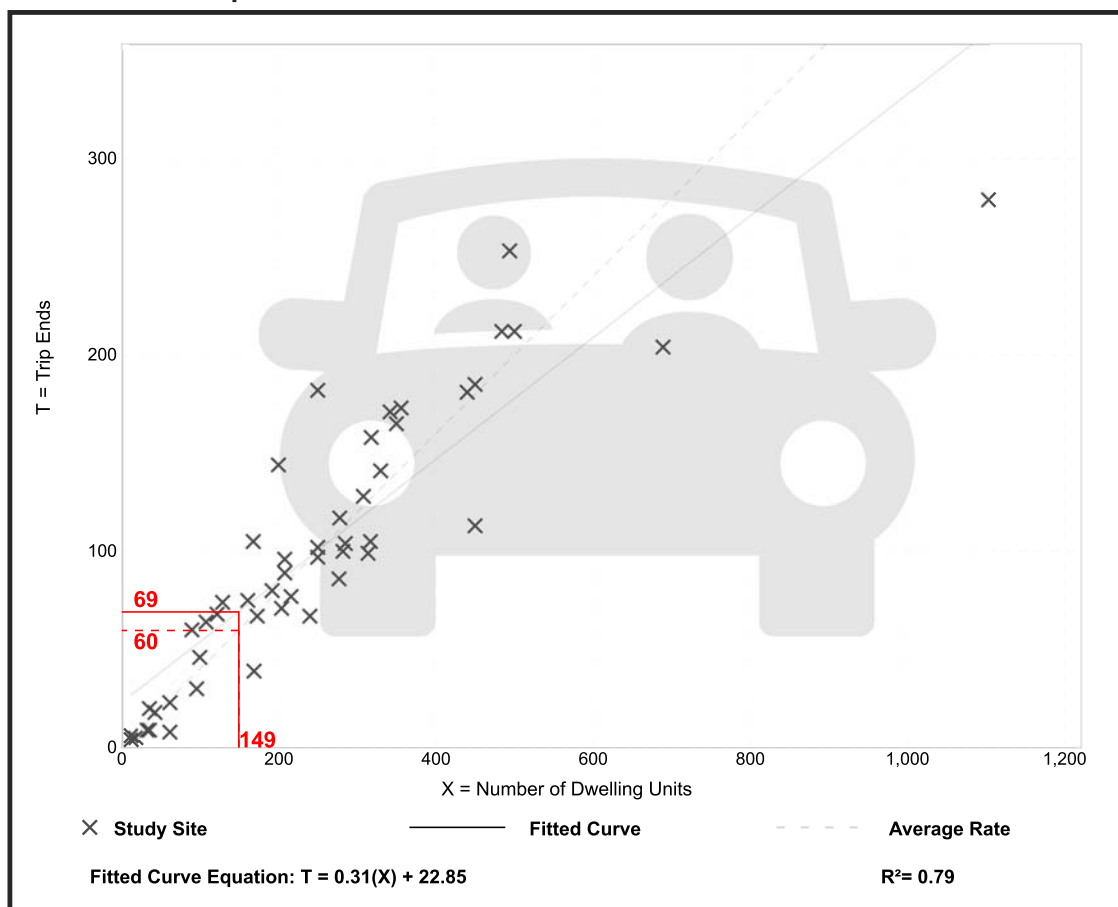
Avg. Num. of Dwelling Units: 249

Directional Distribution: 24% entering, 76% exiting

Vehicle Trip Generation per Dwelling Unit

Average Rate	Range of Rates	Standard Deviation
0.40	0.13 - 0.73	0.12

Data Plot and Equation



Trip Gen Manual, 11th Edition

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Multifamily Housing (Low-Rise) Not Close to Rail Transit (220)

Vehicle Trip Ends vs: Dwelling Units

On a: Weekday,
Peak Hour of Adjacent Street Traffic,
One Hour Between 4 and 6 p.m.

Setting/Location: General Urban/Suburban

Number of Studies: 59

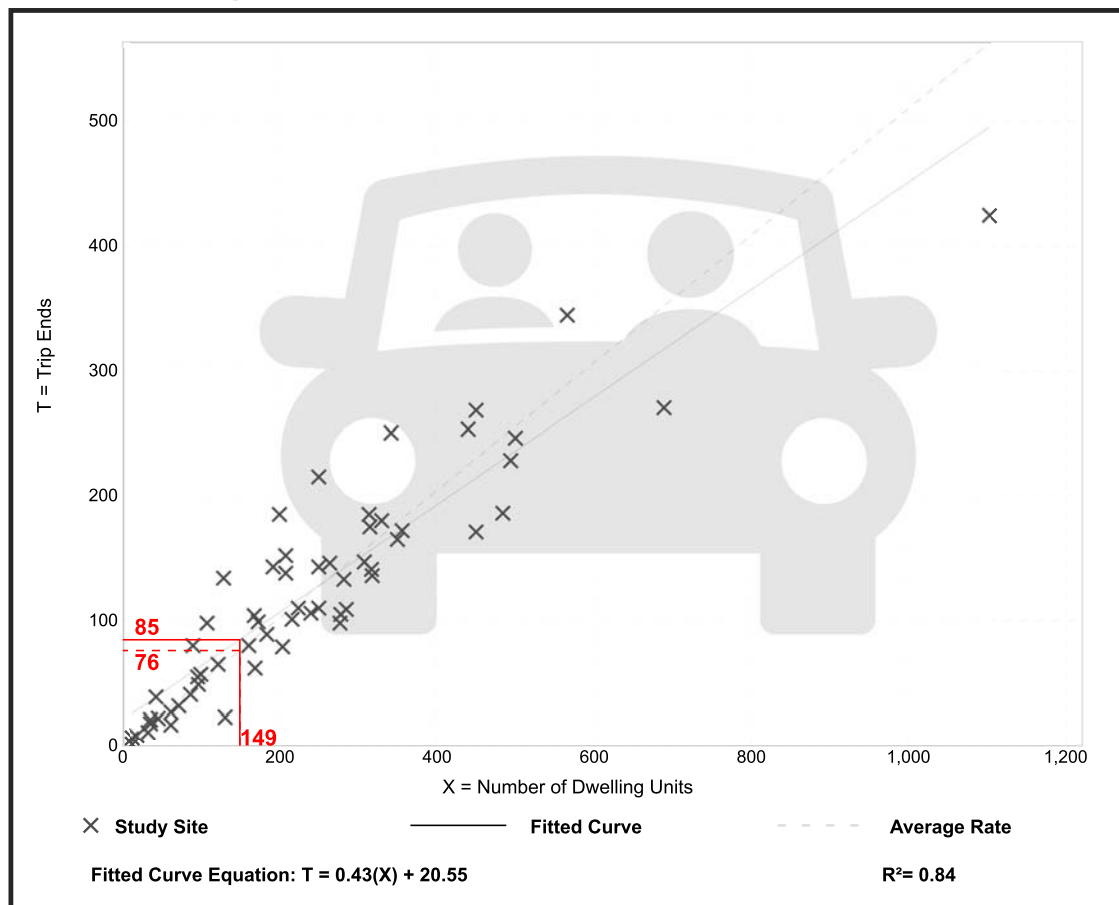
Avg. Num. of Dwelling Units: 241

Directional Distribution: 63% entering, 37% exiting

Vehicle Trip Generation per Dwelling Unit

Average Rate	Range of Rates	Standard Deviation
0.51	0.08 - 1.04	0.15

Data Plot and Equation



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Soccer Complex (488)

Vehicle Trip Ends vs: Fields

On a: Weekday,
Peak Hour of Adjacent Street Traffic,
One Hour Between 7 and 9 a.m.

Setting/Location: General Urban/Suburban

Number of Studies: 5

Avg. Num. of Fields: 14

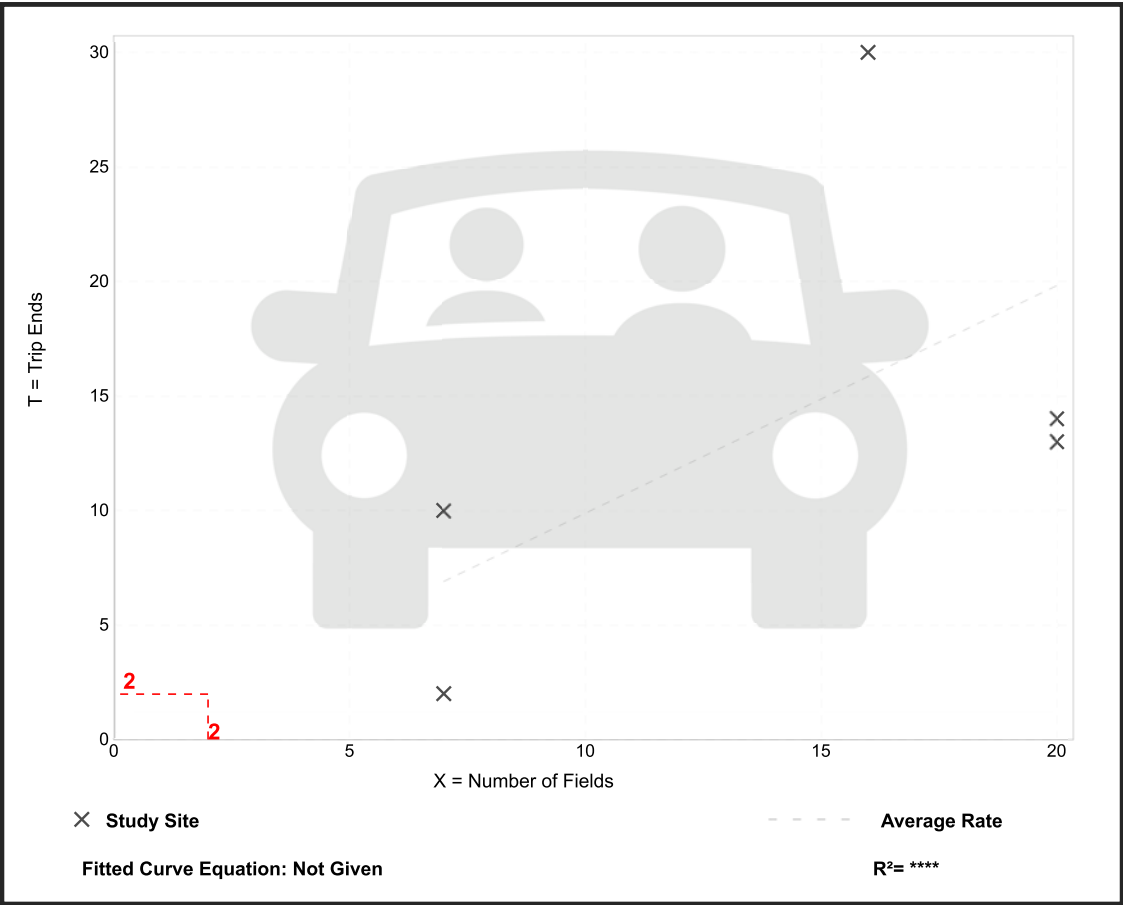
Directional Distribution: 61% entering, 39% exiting

Vehicle Trip Generation per Field

Average Rate	Range of Rates	Standard Deviation
0.99	0.29 - 1.88	0.62

Data Plot and Equation

Caution – Small Sample Size



Soccer Complex (488)

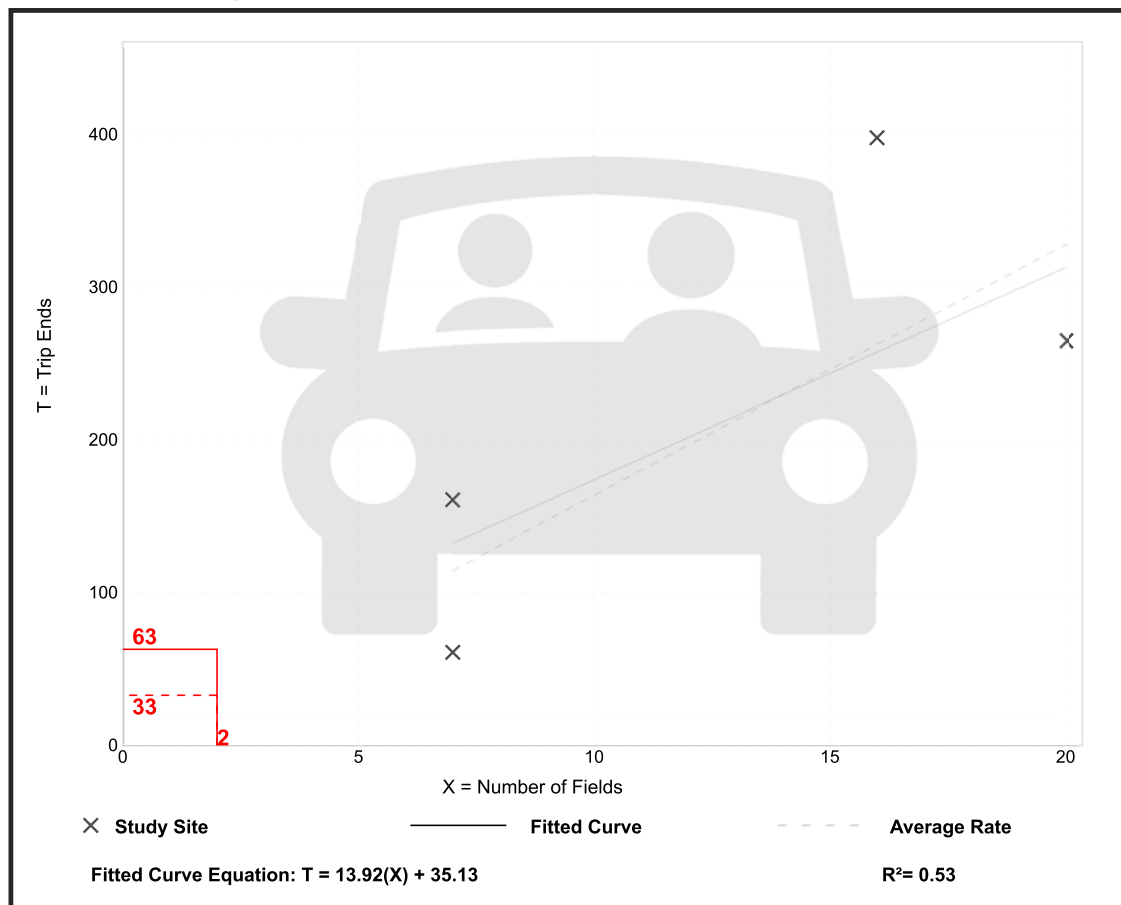
Vehicle Trip Ends vs: Fields
On a: Weekday,
Peak Hour of Adjacent Street Traffic,
One Hour Between 4 and 6 p.m.
Setting/Location: General Urban/Suburban
 Number of Studies: 5
 Avg. Num. of Fields: 14
 Directional Distribution: 66% entering, 34% exiting

Vehicle Trip Generation per Field

Average Rate	Range of Rates	Standard Deviation
16.43	8.71 - 24.88	6.36

Data Plot and Equation

Caution – Small Sample Size



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CMAP Projections



Chicago Metropolitan
Agency for Planning

433 West Van Buren Street
Suite 450
Chicago, IL 60607

312-454-0400
cmap.illinois.gov

June 6, 2022

Javier Millan
Senior Consultant
Kenig, Lindgren, O'Hara and Aboona, Inc.
9575 West Higgins Road
Suite 400
Rosemont, IL 60018

Subject: IL 59 @ 119th Street/ Plainfield-Naperville Road @ 119th Street
IDOT

Dear Mr. Millan:

In response to a request made on your behalf and dated June 3, 2022, we have developed year 2050 average daily traffic (ADT) projections for the subject location.

ROAD SEGMENT	Current ADT	Year 2050 ADT
IL 59 north of 119th Street	30,100	35,400
IL 59 south of 119th Street	30,600	35,550
119th Street east of IL 59	9,550	14,350
119th Street west of IL 59	12,900	17,800
Plainfield-Naperville Road north of 119th Street	12,100	15,700
Plainfield-Naperville Road south of 119th Street	9,950	14,200

Traffic projections are developed using existing ADT data provided in the request letter and the results from the December 2021 CMAP Travel Demand Analysis. The regional travel model uses CMAP 2050 socioeconomic projections and assumes the implementation of the ON TO 2050 Comprehensive Regional Plan for the Northeastern Illinois area. The provision of this data in support of your request does not constitute a CMAP endorsement of the proposed development or any subsequent developments. If you have any questions, please call me at (312) 386-8806.

Sincerely,

Jose Rodriguez, PTP, AICP
Senior Planner, Research & Analysis

cc: RIOS (IDOT)
S:\AdminGroups\ResearchAnalysis\2022_ForecastTraffic\Plainfield\wi-21-22\wi-21-22.docx

Level of Service Criteria

LEVEL OF SERVICE CRITERIA

Signalized Intersections		
Level of Service	Interpretation	Average Control Delay (seconds per vehicle)
A	Favorable progression. Most vehicles arrive during the green indication and travel through the intersection without stopping.	≤ 10
B	Good progression, with more vehicles stopping than for Level of Service A.	$> 10 - 20$
C	Individual cycle failures (i.e., one or more queued vehicles are not able to depart as a result of insufficient capacity during the cycle) may begin to appear. Number of vehicles stopping is significant, although many vehicles still pass through the intersection without stopping.	$> 20 - 35$
D	The volume-to-capacity ratio is high and either progression is ineffective or the cycle length is too long. Many vehicles stop and individual cycle failures are noticeable.	$> 35 - 55$
E	Progression is unfavorable. The volume-to-capacity ratio is high and the cycle length is long. Individual cycle failures are frequent.	$> 55 - 80$
F	The volume-to-capacity ratio is very high, progression is very poor, and the cycle length is long. Most cycles fail to clear the queue.	> 80.0
Unsignalized Intersections		
Level of Service		Average Total Delay (SEC/VEH)
A		0 - 10
B		$> 10 - 15$
C		$> 15 - 25$
D		$> 25 - 35$
E		$> 35 - 50$
F		> 50
Source: <i>Highway Capacity Manual</i> , 2010.		

Timing Sheets

Coordination Patterns

Pattern 1

Cycle Length . . 120 COS 111

Offset 94

Vehicle Permissive . . [1] 0 [2] 0

Vehicle Perm 2 Displacement 0 Phase Reservice. . NO

Splits: Phase 1- 13 2- 53 3- 11 4- 23

Phase 5- 15 6- 51 7- 11 8- 23

Phase 9- 0 10- 0 11- 0 12- 0 Split Sum: 0

Split Extension/Ring [1] 0 [2] 0

Split Demand Pattern [1] 0 [2] 0

XRT Pattern. . . 0

Phase Number: 1 2 3 4 5 6 7 8 9 10 11 12

Coord Phases . . . X . . . X

Veh Recall . . . X . . . X

Veh Max Recall

Ped Recall

Veh Omit

Alt Sequence . . A: . B: . C: . D: . E: . F: .

Pattern 2

Cycle Length . . 140 COS 211

Offset 25

Vehicle Permissive . . [1] 0 [2] 0

Vehicle Perm 2 Displacement 0 Phase Reservice. . NO

Splits: Phase 1- 10 2- 52 3- 9 4- 29

Phase 5- 10 6- 52 7- 19 8- 19

Phase 9- 0 10- 0 11- 0 12- 0 Split Sum: 0

Split Extension/Ring [1] 0 [2] 0

Split Demand Pattern [1] 0 [2] 0

XRT Pattern. . . 0

Phase Number: 1 2 3 4 5 6 7 8 9 10 11 12

Coord Phases . . . X . . . X

Veh Recall . . . X . . . X

Veh Max Recall

Ped Recall

Veh Omit

Alt Sequence . . A: . B: . C: . D: . E: . F: .

Pattern 3

Cycle Length . . 160 COS 311

Offset 29

Vehicle Permissive . . [1] 0 [2] 0

Vehicle Perm 2 Displacement 0 Phase Reservice. . NO

Splits: Phase 1- 13 2- 52 3- 13 4- 22

Phase 5- 14 6- 51 7- 8 8- 27

Phase 9- 0 10- 0 11- 0 12- 0 Split Sum: 0

Split Extension/Ring [1] 0 [2] 0

Split Demand Pattern [1] 0 [2] 0

XRT Pattern. . . 0

Phase Number: 1 2 3 4 5 6 7 8 9 10 11 12

Coord Phases . . . X . . . X

Veh Recall . . . X . . . X

Veh Max Recall

Ped Recall

Veh Omit

Alt Sequence . . A: . B: . C: . D: . E: . F: .

IL 59 & 95th St - IL 59 & Champion Dr

Coordination Pattern Data
Pattern Data (MM)3-2**Pattern - 1**

Split Pattern	1	TS2 (Pat-Off)	0-1	Splits in	Percent
Cycle	120	Std (COS)	111	Offsets in	Percent
Offset Value	25%	Dwell/Add Time	0		
Actuated Coord	Yes	Timing Plan	0		
Actuated Walk Rest	No	Sequence	0		
Phase Reservice	No	Action Plan	0		
Max Select	None	Force Off	None		

Split Preference Phases

Phase	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Description																
Splits (Split Pat 1)	11	60	11	18	11	60	11	18	0	0	0	0	0	0	0	0
Preference 1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Preference 2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Ring	1	2	3	4
Ring Split Ext	0	0	0	0
Ring Disp.	-	0	0	0
Split Sum	100%	100%	0%	0%

Misc. Data

Veh. Permissive 1	0	Veh. Permissive 2	0	Veh. Permissive 2 Disp.	0
Split Demand Pat 1	0	Split Demand Pat 2	0	Crossing Arterial Pat	0

Split Pattern Data

Phase	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Coordinated Phases		X				X										
Vehicle Recalls		X				X										
Ped Recalls																
Max Recalls																
Phase Omit									X	X	X	X	X	X	X	X
Special Function Output																

Pattern - 2

Split Pattern	2	TS2 (Pat-Off)	0-2	Splits in	Percent
Cycle	140	Std (COS)	211	Offsets in	Percent
Offset Value	68%	Dwell/Add Time	0		
Actuated Coord	Yes	Timing Plan	0		
Actuated Walk Rest	No	Sequence	0		
Phase Reservice	No	Action Plan	0		
Max Select	None	Force Off	None		

Split Preference Phases

Phase	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Description																
Splits (Split Pat 2)	9	69	9	13	9	69	9	13	0	0	0	0	0	0	0	0
Preference 1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Preference 2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Ring	1	2	3	4
Ring Split Ext	0	0	0	0
Ring Disp.	-	0	0	0
Split Sum	100%	100%	0%	0%

Misc. Data

Veh. Permissive 1	0	Veh. Permissive 2	0	Veh. Permissive 2 Disp.	0
Split Demand Pat 1	0	Split Demand Pat 2	0	Crossing Arterial Pat	0

Split Pattern Data

Phase	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Coordinated Phases		X				X										
Vehicle Recalls		X				X										
Ped Recalls																
Max Recalls																
Phase Omit									X	X	X	X	X	X	X	X
Special Function Output																

Pattern - 3

Split Pattern	3	TS2 (Pat-Off)	0-3	Splits in	Percent
Cycle	160	Std (COS)	311	Offsets in	Percent
Offset Value	28%	Dwell/Add Time	0		
Actuated Coord	Yes	Timing Plan	0		
Actuated Walk Rest	No	Sequence	0		
Phase Reservice	No	Action Plan	0		
Max Select	None	Force Off	None		

Split Preference Phases

Phase	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Description																
Splits (Split Pat 3)	11	65	9	15	11	65	9	15	0	0	0	0	0	0	0	0
Preference 1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Preference 2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Ring	1	2	3	4
Ring Split Ext	0	0	0	0
Ring Disp.	-	0	0	0
Split Sum	100%	100%	0%	0%

Misc. Data

Veh. Permissive 1	0	Veh. Permissive 2	0	Veh. Permissive 2 Disp.	0
Split Demand Pat 1	0	Split Demand Pat 2	0	Crossing Arterial Pat	0

Split Pattern Data

Phase	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Coordinated Phases		X				X										
Vehicle Recalls		X				X										
Ped Recalls																
Max Recalls																
Phase Omit									X	X	X	X	X	X	X	X
Special Function Output																

Pattern - 4

Split Pattern	4	TS2 (Pat-Off)	1-1	Splits in	Percent
Cycle	140	Std (COS)	411	Offsets in	Percent
Offset Value	97%	Dwell/Add Time	0		
Actuated Coord	Yes	Timing Plan	0		
Actuated Walk Rest	No	Sequence	0		
Phase Reservice	No	Action Plan	0		
Max Select	None	Force Off	None		

Split Preference Phases

Phase	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Description																
Splits (Split Pat 4)	11	55	9	25	11	55	16	18	0	0	0	0	0	0	0	0
Preference 1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Preference 2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Ring	1	2	3	4
Ring Split Ext	0	0	0	0
Ring Disp.	-	0	0	0
Split Sum	100%	100%	0%	0%

Misc. Data

Veh. Permissive 1	0	Veh. Permissive 2	0	Veh. Permissive 2 Disp.	0
Split Demand Pat 1	0	Split Demand Pat 2	0	Crossing Arterial Pat	0

Split Pattern Data

Phase	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Coordinated Phases		X				X										
Vehicle Recalls		X				X										
Ped Recalls																
Max Recalls																
Phase Omit									X	X	X	X	X	X	X	X
Special Function Output																

Capacity Analysis Summary Sheets
Weekday Morning Peak Hour – Base Conditions

Lanes, Volumes, Timings

3: Plainfield-Naperville Road & 119th Street

06/09/2022

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	175	335	19	46	190	32	25	609	87	19	272	96
Future Volume (vph)	175	335	19	46	190	32	25	609	87	19	272	96
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	185		0	175		0	185		0	195		0
Storage Lanes	1		0	1		0	1		0	1		0
Taper Length (ft)	180			190			190			190		
Lane Util. Factor	1.00	0.95	0.95	1.00	0.95	0.95	1.00	0.95	0.95	1.00	0.95	0.95
Frt		0.992			0.978			0.981			0.961	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1517	3505	0	1805	3358	0	1719	3485	0	1805	3175	0
Flt Permitted	0.439			0.524			0.494			0.315		
Satd. Flow (perm)	701	3505	0	996	3358	0	894	3485	0	598	3175	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		5			13			12			42	
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		1390			1382			647			700	
Travel Time (s)		31.6			31.4			14.7			15.9	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	19%	2%	5%	0%	5%	6%	5%	1%	6%	0%	2%	30%
Shared Lane Traffic (%)												
Lane Group Flow (vph)	190	385	0	50	242	0	27	757	0	21	400	0
Turn Type	pm+pt	NA		pm+pt	NA		pm+pt	NA		pm+pt	NA	
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases	4			8			2			6		
Detector Phase	7	4		3	8		5	2		1	6	
Switch Phase												
Minimum Initial (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	
Minimum Split (s)	9.5	24.0		9.5	24.0		9.5	24.0		9.5	24.0	
Total Split (s)	31.0	57.0		10.0	36.0		11.0	44.0		24.0	57.0	
Total Split (%)	23.0%	42.2%		7.4%	26.7%		8.1%	32.6%		17.8%	42.2%	
Yellow Time (s)	3.5	4.0		3.5	4.0		3.5	4.0		3.5	4.0	
All-Red Time (s)	0.0	2.0		0.0	2.0		0.0	2.0		0.0	2.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)	3.5	6.0		3.5	6.0		3.5	6.0		3.5	6.0	
Lead/Lag	Lead	Lag		Lead	Lag		Lead	Lag		Lead	Lag	
Lead-Lag Optimize?	Yes	Yes		Yes	Yes		Yes	Yes		Yes	Yes	
Recall Mode	None	None		None	None		None	Max		None	Max	
Act Effect Green (s)	34.7	24.4		21.2	12.2		59.0	53.9		57.9	51.8	
Actuated g/C Ratio	0.34	0.24		0.21	0.12		0.58	0.53		0.57	0.51	
v/c Ratio	0.51	0.46		0.19	0.58		0.05	0.41		0.05	0.24	
Control Delay	30.8	35.3		26.3	47.5		11.0	17.0		11.1	15.0	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay	30.8	35.3		26.3	47.5		11.0	17.0		11.1	15.0	
LOS	C	D		C	D		B	B		B	B	
Approach Delay		33.8			43.9			16.8			14.8	
Approach LOS		C			D			B			B	
Queue Length 50th (ft)	97	120		23	77		7	133		5	71	
Queue Length 95th (ft)	159	167		50	129		23	268		20	128	

Lanes, Volumes, Timings

3: Plainfield-Naperville Road & 119th Street

06/09/2022

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Internal Link Dist (ft)	1310			1302			567			620		
Turn Bay Length (ft)	185			175			185			195		
Base Capacity (vph)	466	1784		261	1013		580	1850		599	1634	
Starvation Cap Reductn	0	0		0	0		0	0		0	0	
Spillback Cap Reductn	0	0		0	0		0	0		0	0	
Storage Cap Reductn	0	0		0	0		0	0		0	0	
Reduced v/c Ratio	0.41	0.22		0.19	0.24		0.05	0.41		0.04	0.24	

Intersection Summary

Area Type: Other

Cycle Length: 135

Actuated Cycle Length: 101.9

Natural Cycle: 70

Control Type: Actuated-Uncoordinated

Maximum v/c Ratio: 0.58

Intersection Signal Delay: 24.9

Intersection LOS: C

Intersection Capacity Utilization 50.1%

ICU Level of Service A

Analysis Period (min) 15

Splits and Phases: 3: Plainfield-Naperville Road & 119th Street

 Ø1	 Ø2	 Ø3	 Ø4
24 s	44 s	10 s	57 s
 Ø5	 Ø6	 Ø7	 Ø8
11 s	57 s	31 s	36 s

Lanes, Volumes, Timings
11: IL 59 & 119th Street

06/09/2022

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	223	388	105	120	136	88	70	1257	118	61	758	56
Future Volume (vph)	223	388	105	120	136	88	70	1257	118	61	758	56
Ideal Flow (vphpl)	1900	2000	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	210		210	125		0	480		0	480		0
Storage Lanes	1		1	1		0	1		0	1		0
Taper Length (ft)	150			130			200			200		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	1.00	0.95	0.95
Frt			0.850		0.941			0.987			0.990	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1752	1961	1509	1556	1709	0	1597	3367	0	1719	3283	0
Flt Permitted	0.261			0.176			0.950			0.950		
Satd. Flow (perm)	481	1961	1509	288	1709	0	1597	3367	0	1719	3283	0
Right Turn on Red			No			No			No			No
Satd. Flow (RTOR)												
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		1638			2249			1037			2478	
Travel Time (s)		37.2			51.1			23.6			56.3	
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Heavy Vehicles (%)	3%	2%	7%	16%	5%	4%	13%	6%	4%	5%	9%	7%
Shared Lane Traffic (%)												
Lane Group Flow (vph)	232	404	109	125	234	0	73	1432	0	64	848	0
Turn Type	pm+pt	NA	Perm	pm+pt	NA		Prot	NA		Prot	NA	
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases	4		4	8								
Detector Phase	7	4	4	3	8		5	2		1	6	
Switch Phase												
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0		5.0	5.0		5.0	5.0	
Minimum Split (s)	9.5	24.0	24.0	9.5	24.0		9.5	24.0		9.5	24.0	
Total Split (s)	27.0	40.0	40.0	13.0	26.0		14.0	73.0		14.0	73.0	
Total Split (%)	19.3%	28.6%	28.6%	9.3%	18.6%		10.0%	52.1%		10.0%	52.1%	
Yellow Time (s)	3.5	4.0	4.0	3.5	4.0		3.5	4.0		3.5	4.0	
All-Red Time (s)	0.0	2.0	2.0	0.0	2.0		1.0	2.0		1.0	2.0	
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)	3.5	6.0	6.0	3.5	6.0		4.5	6.0		4.5	6.0	
Lead/Lag	Lead	Lag	Lag	Lead	Lag		Lead	Lag		Lead	Lag	
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes		Yes	Yes		Yes	Yes	
Recall Mode	None	None	None	None	None		None	C-Min		None	C-Min	
Act Effect Green (s)	47.7	31.8	31.8	35.1	22.6		9.2	71.7		8.8	69.1	
Actuated g/C Ratio	0.34	0.23	0.23	0.25	0.16		0.07	0.51		0.06	0.49	
v/c Ratio	0.69	0.91	0.32	0.78	0.85		0.70	0.83		0.60	0.52	
Control Delay	46.0	77.5	47.2	66.0	83.2		95.9	35.7		78.7	22.3	
Queue Delay	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay	46.0	77.5	47.2	66.0	83.2		95.9	35.7		78.7	22.3	
LOS	D	E	D	E	F		F	D		E	C	
Approach Delay		63.3			77.2			38.6			26.3	
Approach LOS		E			E			D			C	
Queue Length 50th (ft)	157	353	82	80	207		66	610		58	293	
Queue Length 95th (ft)	232	#523	138	#181	#385		#143	723		#100	361	

Lanes, Volumes, Timings

11: IL 59 & 119th Street

06/09/2022

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Internal Link Dist (ft)	1558			2169			957			2398		
Turn Bay Length (ft)	210		210	125			480			480		
Base Capacity (vph)	377	476	366	162	276		110	1725		116	1621	
Starvation Cap Reductn	0	0	0	0	0		0	0		0	0	
Spillback Cap Reductn	0	0	0	0	0		0	0		0	0	
Storage Cap Reductn	0	0	0	0	0		0	0		0	0	
Reduced v/c Ratio	0.62	0.85	0.30	0.77	0.85		0.66	0.83		0.55	0.52	

Intersection Summary

Area Type: Other

Cycle Length: 140

Actuated Cycle Length: 140

Offset: 35 (25%), Referenced to phase 2:NBT and 6:SBT, Start of Green

Natural Cycle: 90

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.91

Intersection Signal Delay: 44.6

Intersection LOS: D

Intersection Capacity Utilization 85.8%

ICU Level of Service E

Analysis Period (min) 15

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

Splits and Phases: 11: IL 59 & 119th Street

 Ø1	 Ø2 (R)	 Ø3	 Ø4
14 s	73 s	13 s	40 s
 Ø5	 Ø6 (R)	 Ø7	 Ø8
14 s	73 s	27 s	26 s

Lanes, Volumes, Timings
14: IL 59 & Champion Drive

06/09/2022

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	84	4	30	51	3	26	18	1482	26	12	779	24
Future Volume (vph)	84	4	30	51	3	26	18	1482	26	12	779	24
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	85		0	80		0	265		0	250		0
Storage Lanes	1		0	1		0	1		0	1		0
Taper Length (ft)	100			90			210			205		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	1.00	0.95	0.95
Frt		0.866			0.865			0.997			0.996	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1787	1549	0	1770	1593	0	1626	3393	0	1671	3300	0
Flt Permitted	0.500			0.889			0.950			0.950		
Satd. Flow (perm)	941	1549	0	1656	1593	0	1626	3393	0	1671	3300	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		33			28			2			4	
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		390			412			2478			1195	
Travel Time (s)		8.9			9.4			56.3			27.2	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	1%	0%	7%	2%	33%	0%	11%	6%	11%	8%	9%	8%
Shared Lane Traffic (%)												
Lane Group Flow (vph)	91	37	0	55	31	0	20	1639	0	13	873	0
Turn Type	pm+pt	NA		pm+pt	NA		Prot	NA		Prot	NA	
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases	4			8								
Detector Phase	7	4		3	8		5	2		1	6	
Switch Phase												
Minimum Initial (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	
Minimum Split (s)	9.5	24.0		9.5	24.0		9.5	24.0		9.5	24.0	
Total Split (s)	13.0	17.0		13.0	17.0		13.0	97.0		13.0	97.0	
Total Split (%)	9.3%	12.1%		9.3%	12.1%		9.3%	69.3%		9.3%	69.3%	
Yellow Time (s)	3.5	4.0		3.5	4.0		3.5	4.0		3.5	4.0	
All-Red Time (s)	0.0	2.0		0.0	2.0		1.0	2.0		1.0	2.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)	3.5	6.0		3.5	6.0		4.5	6.0		4.5	6.0	
Lead/Lag	Lead	Lag		Lead	Lag		Lead	Lag		Lead	Lag	
Lead-Lag Optimize?	Yes	Yes		Yes	Yes		Yes	Yes		Yes	Yes	
Recall Mode	None	None		None	None		None	C-Max		None	C-Max	
Act Effect Green (s)	17.3	6.7		14.5	6.7		7.3	106.2		6.7	103.5	
Actuated g/C Ratio	0.12	0.05		0.10	0.05		0.05	0.76		0.05	0.74	
v/c Ratio	0.49	0.35		0.31	0.30		0.24	0.64		0.16	0.36	
Control Delay	62.7	31.8		57.4	31.1		90.1	5.6		68.0	8.3	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay	62.7	31.8		57.4	31.1		90.1	5.6		68.0	8.3	
LOS	E	C		E	C		F	A		E	A	
Approach Delay		53.7			47.9			6.6			9.2	
Approach LOS		D			D			A			A	
Queue Length 50th (ft)	75	4		45	3		19	72		12	156	
Queue Length 95th (ft)	128	41		85	36		m25	297		35	224	

Lanes, Volumes, Timings
14: IL 59 & Champion Drive

06/09/2022

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Internal Link Dist (ft)		310			332			2398			1115	
Turn Bay Length (ft)	85			80			265			250		
Base Capacity (vph)	187	152		191	150		101	2575		101	2441	
Starvation Cap Reductn	0	0		0	0		0	0		0	0	
Spillback Cap Reductn	0	0		0	0		0	0		0	0	
Storage Cap Reductn	0	0		0	0		0	0		0	0	
Reduced v/c Ratio	0.49	0.24		0.29	0.21		0.20	0.64		0.13	0.36	

Intersection Summary

Area Type: Other

Cycle Length: 140

Actuated Cycle Length: 140

Offset: 95 (68%), Referenced to phase 2:NBT and 6:SBT, Start of Green

Natural Cycle: 90

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.64

Intersection Signal Delay: 10.9

Intersection LOS: B

Intersection Capacity Utilization 63.1%

ICU Level of Service B

Analysis Period (min) 15

m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 14: IL 59 & Champion Drive

														
Ø1	Ø2 (R)					Ø3	Ø4							
13 s	97 s					13 s	17 s							
														
Ø5	Ø6 (R)					Ø7	Ø8							
13 s	97 s					13 s	17 s							

HCM 6th TWSC
6: Book Road & 119th Street

06/09/2022

Intersection												
Int Delay, s/veh	0.2											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	2	519	0	3	298	0	0	0	9	1	0	1
Future Vol, veh/h	2	519	0	3	298	0	0	0	9	1	0	1
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	87	87	87	87	87	87	87	87	87	87	87	87
Heavy Vehicles, %	0	6	0	0	4	0	0	0	20	0	0	0
Mvmt Flow	2	597	0	3	343	0	0	0	10	1	0	1
Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	343	0	0	597	0	0	951	950	597	955	950	343
Stage 1	-	-	-	-	-	-	601	601	-	349	349	-
Stage 2	-	-	-	-	-	-	350	349	-	606	601	-
Critical Hdwy	4.1	-	-	4.1	-	-	7.1	6.5	6.4	7.1	6.5	6.2
Critical Hdwy Stg 1	-	-	-	-	-	-	6.1	5.5	-	6.1	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.1	5.5	-	6.1	5.5	-
Follow-up Hdwy	2.2	-	-	2.2	-	-	3.5	4	3.48	3.5	4	3.3
Pot Cap-1 Maneuver	1227	-	-	989	-	-	242	262	471	240	262	704
Stage 1	-	-	-	-	-	-	491	493	-	671	637	-
Stage 2	-	-	-	-	-	-	671	637	-	487	493	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1227	-	-	989	-	-	241	260	471	234	260	704
Mov Cap-2 Maneuver	-	-	-	-	-	-	241	260	-	234	260	-
Stage 1	-	-	-	-	-	-	490	492	-	670	634	-
Stage 2	-	-	-	-	-	-	667	634	-	475	492	-
Approach	EB			WB			NB			SB		
HCM Control Delay, s	0			0.1			12.8			15.3		
HCM LOS							B			C		
Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1				
Capacity (veh/h)	471	1227	-	-	989	-	-	351				
HCM Lane V/C Ratio	0.022	0.002	-	-	0.003	-	-	0.007				
HCM Control Delay (s)	12.8	7.9	0	-	8.7	0	-	15.3				
HCM Lane LOS	B	A	A	-	A	A	-	C				
HCM 95th %tile O(veh)	0.1	0	-	-	0	-	-	0				

HCM 6th TWSC
9: Wolf Drive & 119th Street

06/09/2022

Intersection

Int Delay, s/veh 0.7

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	501	10	4	297	22	14
Future Vol, veh/h	501	10	4	297	22	14
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	87	87	87	87	87	87
Heavy Vehicles, %	5	10	0	4	5	0
Mvmt Flow	576	11	5	341	25	16

Major/Minor	Major1	Major2	Minor1
Conflicting Flow All	0	0	587
Stage 1	-	-	-
Stage 2	-	-	-
Critical Hdwy	-	-	4.1
Critical Hdwy Stg 1	-	-	-
Critical Hdwy Stg 2	-	-	-
Follow-up Hdwy	-	-	2.2
Pot Cap-1 Maneuver	-	-	998
Stage 1	-	-	-
Stage 2	-	-	-
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	-	-	998
Mov Cap-2 Maneuver	-	-	-
Stage 1	-	-	-
Stage 2	-	-	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0.1	16.7
HCM LOS			C

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	350	-	-	998	-
HCM Lane V/C Ratio	0.118	-	-	0.005	-
HCM Control Delay (s)	16.7	-	-	8.6	0
HCM Lane LOS	C	-	-	A	A
HCM 95th %tile Q(veh)	0.4	-	-	0	-

Capacity Analysis Summary Sheets
Weekday Evening Peak Hour – Base Conditions

Lanes, Volumes, Timings

3: Plainfield-Naperville Road & 119th Street

06/09/2022

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	135	242	49	84	437	38	25	417	40	24	556	138
Future Volume (vph)	135	242	49	84	437	38	25	417	40	24	556	138
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	185		0	175		0	185		0	195		0
Storage Lanes	1		0	1		0	1		0	1		0
Taper Length (ft)	180			190			190			190		
Lane Util. Factor	1.00	0.95	0.95	1.00	0.95	0.95	1.00	0.95	0.95	1.00	0.95	0.95
Frt		0.975			0.988			0.987			0.970	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1736	3406	0	1805	3534	0	1671	3547	0	1805	3467	0
Flt Permitted	0.242			0.564			0.292			0.459		
Satd. Flow (perm)	442	3406	0	1072	3534	0	514	3547	0	872	3467	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		22			8			11			33	
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		1390			1382			647			700	
Travel Time (s)		31.6			31.4			14.7			15.9	
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Heavy Vehicles (%)	4%	4%	0%	0%	1%	0%	8%	0%	5%	0%	1%	1%
Shared Lane Traffic (%)												
Lane Group Flow (vph)	144	309	0	89	505	0	27	487	0	26	738	0
Turn Type	pm+pt	NA		pm+pt	NA		pm+pt	NA		pm+pt	NA	
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases	4			8			2			6		
Detector Phase	7	4		3	8		5	2		1	6	
Switch Phase												
Minimum Initial (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	
Minimum Split (s)	9.5	24.0		9.5	24.0		9.5	24.0		9.5	24.0	
Total Split (s)	17.0	38.0		11.0	32.0		11.0	50.0		11.0	50.0	
Total Split (%)	15.5%	34.5%		10.0%	29.1%		10.0%	45.5%		10.0%	45.5%	
Yellow Time (s)	3.5	4.0		3.5	4.0		3.5	4.0		3.5	4.0	
All-Red Time (s)	0.0	2.0		0.0	2.0		0.0	2.0		0.0	2.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)	3.5	6.0		3.5	6.0		3.5	6.0		3.5	6.0	
Lead/Lag	Lead	Lag		Lead	Lag		Lead	Lag		Lead	Lag	
Lead-Lag Optimize?	Yes	Yes		Yes	Yes		Yes	Yes		Yes	Yes	
Recall Mode	None	None		None	None		None	Max		None	Max	
Act Effect Green (s)	36.1	25.3		28.8	19.0		51.7	46.7		50.9	44.7	
Actuated g/C Ratio	0.37	0.26		0.30	0.20		0.54	0.48		0.53	0.46	
v/c Ratio	0.46	0.34		0.24	0.72		0.08	0.28		0.05	0.45	
Control Delay	25.6	28.8		22.1	42.3		12.3	17.1		12.0	19.8	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay	25.6	28.8		22.1	42.3		12.3	17.1		12.0	19.8	
LOS	C	C		C	D		B	B		B	B	
Approach Delay		27.7			39.3			16.8			19.5	
Approach LOS		C			D			B			B	
Queue Length 50th (ft)	63	81		37	160		8	84		7	167	
Queue Length 95th (ft)	108	121		71	221		23	163		23	253	

Lanes, Volumes, Timings

3: Plainfield-Naperville Road & 119th Street

06/09/2022

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Internal Link Dist (ft)	1310			1302			567			620		
Turn Bay Length (ft)	185			175			185			195		
Base Capacity (vph)	350	1164		382	975		368	1722		538	1626	
Starvation Cap Reductn	0	0		0	0		0	0		0	0	
Spillback Cap Reductn	0	0		0	0		0	0		0	0	
Storage Cap Reductn	0	0		0	0		0	0		0	0	
Reduced v/c Ratio	0.41	0.27		0.23	0.52		0.07	0.28		0.05	0.45	

Intersection Summary

Area Type: Other

Cycle Length: 110

Actuated Cycle Length: 96.4

Natural Cycle: 70

Control Type: Actuated-Uncoordinated

Maximum v/c Ratio: 0.72

Intersection Signal Delay: 25.6

Intersection LOS: C

Intersection Capacity Utilization 54.9%

ICU Level of Service A

Analysis Period (min) 15

Splits and Phases: 3: Plainfield-Naperville Road & 119th Street

 Ø1	 Ø2	 Ø3	 Ø4
11 s	50 s	11 s	38 s
 Ø5	 Ø6	 Ø7	 Ø8
11 s	50 s	17 s	32 s

Lanes, Volumes, Timings
11: IL 59 & 119th Street

06/09/2022

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	146	234	72	176	395	63	153	1135	121	72	1257	172
Future Volume (vph)	146	234	72	176	395	63	153	1135	121	72	1257	172
Ideal Flow (vphpl)	1900	2000	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	210		210	125		0	480		0	480		0
Storage Lanes	1		1	1		0	1		0	1		0
Taper Length (ft)	150			130			200			200		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	1.00	0.95	0.95
Frt			0.850		0.979			0.986			0.982	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1752	1961	1615	1787	1813	0	1787	3477	0	1752	3484	0
Flt Permitted	0.127			0.296			0.950			0.950		
Satd. Flow (perm)	234	1961	1615	557	1813	0	1787	3477	0	1752	3484	0
Right Turn on Red			No			No			No			No
Satd. Flow (RTOR)												
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		1638			2249			1037			2478	
Travel Time (s)		37.2			51.1			23.6			56.3	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Heavy Vehicles (%)	3%	2%	0%	1%	3%	0%	1%	2%	6%	3%	2%	0%
Shared Lane Traffic (%)												
Lane Group Flow (vph)	154	246	76	185	482	0	161	1322	0	76	1504	0
Turn Type	pm+pt	NA	Perm	pm+pt	NA		Prot	NA		Prot	NA	
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases	4		4	8								
Detector Phase	7	4	4	3	8		5	2		1	6	
Switch Phase												
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0		5.0	5.0		5.0	5.0	
Minimum Split (s)	9.5	24.0	24.0	9.5	24.0		9.5	24.0		9.5	24.0	
Total Split (s)	13.0	34.0	34.0	21.0	42.0		23.0	84.0		21.0	82.0	
Total Split (%)	8.1%	21.3%	21.3%	13.1%	26.3%		14.4%	52.5%		13.1%	51.3%	
Yellow Time (s)	3.5	4.0	4.0	3.5	4.0		3.5	4.0		3.5	4.0	
All-Red Time (s)	0.0	2.0	2.0	0.0	2.0		1.0	2.0		1.0	2.0	
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)	3.5	6.0	6.0	3.5	6.0		4.5	6.0		4.5	6.0	
Lead/Lag	Lead	Lag	Lag	Lead	Lag		Lead	Lag		Lead	Lag	
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes		Yes	Yes		Yes	Yes	
Recall Mode	None	None	None	None	None		None	C-Min		None	C-Min	
Act Effect Green (s)	44.6	31.4	31.4	51.4	36.0		17.3	80.6		12.2	75.4	
Actuated g/C Ratio	0.28	0.20	0.20	0.32	0.22		0.11	0.50		0.08	0.47	
v/c Ratio	0.90	0.64	0.24	0.62	1.18		0.83	0.75		0.57	0.92	
Control Delay	90.3	69.0	58.6	50.1	157.0		102.1	35.4		76.8	44.9	
Queue Delay	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay	90.3	69.0	58.6	50.1	157.0		102.1	35.4		76.8	44.9	
LOS	F	E	E	D	F		F	D		E	D	
Approach Delay		74.3			127.3			42.7			46.4	
Approach LOS		E			F			D			D	
Queue Length 50th (ft)	~123	246	70	147	~603		167	560		78	445	
Queue Length 95th (ft)	#278	349	124	219	#832		#283	686		135	608	

Lanes, Volumes, Timings

11: IL 59 & 119th Street

06/09/2022

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Internal Link Dist (ft)	1558			2169			957			2398		
Turn Bay Length (ft)	210		210	125			480			480		
Base Capacity (vph)	171	384	316	317	407		206	1751		180	1655	
Starvation Cap Reductn	0	0	0	0	0		0	0		0	0	
Spillback Cap Reductn	0	0	0	0	0		0	0		0	0	
Storage Cap Reductn	0	0	0	0	0		0	0		0	0	
Reduced v/c Ratio	0.90	0.64	0.24	0.58	1.18		0.78	0.75		0.42	0.91	

Intersection Summary

Area Type: Other

Cycle Length: 160

Actuated Cycle Length: 160

Offset: 46 (29%), Referenced to phase 2:NBT and 6:SBT, Start of Green

Natural Cycle: 130

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 1.18

Intersection Signal Delay: 61.1

Intersection LOS: E

Intersection Capacity Utilization 98.5%

ICU Level of Service F

Analysis Period (min) 15

~ Volume exceeds capacity, queue is theoretically infinite.

Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

Splits and Phases: 11: IL 59 & 119th Street

 Ø1	 Ø2 (R)	 Ø3	 Ø4
21 s	84 s	21 s	34 s
 Ø5	 Ø6 (R)	 Ø7	 Ø8
23 s	82 s	13 s	42 s

Lanes, Volumes, Timings
14: IL 59 & Champion Drive

06/09/2022

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	43	3	24	56	3	44	25	1245	55	32	1496	75
Future Volume (vph)	43	3	24	56	3	44	25	1245	55	32	1496	75
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	85		0	80		0	265		0	250		0
Storage Lanes	1		0	1		0	1		0	1		0
Taper Length (ft)	100			90			210			205		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	1.00	0.95	0.95
Frt		0.867			0.859			0.994			0.993	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1805	1591	0	1770	1602	0	1805	3521	0	1805	3518	0
Flt Permitted	0.870			0.556			0.950			0.950		
Satd. Flow (perm)	1653	1591	0	1036	1602	0	1805	3521	0	1805	3518	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		24			45			5			6	
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		390			412			2478			1195	
Travel Time (s)		8.9			9.4			56.3			27.2	
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Heavy Vehicles (%)	0%	0%	4%	2%	0%	2%	0%	2%	0%	0%	2%	0%
Shared Lane Traffic (%)												
Lane Group Flow (vph)	44	27	0	57	48	0	26	1326	0	33	1604	0
Turn Type	pm+pt	NA		pm+pt	NA		Prot	NA		Prot	NA	
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases	4			8								
Detector Phase	7	4		3	8		5	2		1	6	
Switch Phase												
Minimum Initial (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	
Minimum Split (s)	9.5	24.0		9.5	24.0		9.5	24.0		9.5	24.0	
Total Split (s)	14.0	25.0		14.0	25.0		17.0	104.0		17.0	104.0	
Total Split (%)	8.8%	15.6%		8.8%	15.6%		10.6%	65.0%		10.6%	65.0%	
Yellow Time (s)	3.5	4.0		3.5	4.0		3.5	4.0		3.5	4.0	
All-Red Time (s)	0.0	2.0		0.0	2.0		1.0	2.0		1.0	2.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)	3.5	6.0		3.5	6.0		4.5	6.0		4.5	6.0	
Lead/Lag	Lead	Lag		Lead	Lag		Lead	Lag		Lead	Lag	
Lead-Lag Optimize?	Yes	Yes		Yes	Yes		Yes	Yes		Yes	Yes	
Recall Mode	None	None		None	None		None	C-Max		None	C-Max	
Act Effect Green (s)	14.7	6.8		17.8	7.1		7.8	123.3		8.4	126.0	
Actuated g/C Ratio	0.09	0.04		0.11	0.04		0.05	0.77		0.05	0.79	
v/c Ratio	0.28	0.30		0.34	0.42		0.30	0.49		0.35	0.58	
Control Delay	65.8	36.4		66.7	31.7		62.4	10.1		82.5	10.6	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay	65.8	36.4		66.7	31.7		62.4	10.1		82.5	10.6	
LOS	E	D		E	C		E	B		F	B	
Approach Delay		54.6			50.7			11.2			12.0	
Approach LOS		D			D			B			B	
Queue Length 50th (ft)	41	3		54	3		28	149		34	403	
Queue Length 95th (ft)	80	38		98	48		m35	m347		72	553	

Lanes, Volumes, Timings 14: IL 59 & Champion Drive

06/09/2022

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Internal Link Dist (ft)		310			332			2398			1115	
Turn Bay Length (ft)	85			80			265			250		
Base Capacity (vph)	181	210		177	229		141	2713		141	2772	
Starvation Cap Reductn	0	0		0	0		0	0		0	0	
Spillback Cap Reductn	0	0		0	0		0	0		0	0	
Storage Cap Reductn	0	0		0	0		0	0		0	0	
Reduced v/c Ratio	0.24	0.13		0.32	0.21		0.18	0.49		0.23	0.58	

Intersection Summary

Area Type: Other

Cycle Length: 160

Actuated Cycle Length: 160

Offset: 45 (28%), Referenced to phase 2:NBT and 6:SBT, Start of Green

Natural Cycle: 90

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.58

Intersection Signal Delay: 13.9

Intersection LOS: B

Intersection Capacity Utilization 63.5%

ICU Level of Service B

Analysis Period (min) 15

m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 14: IL 59 & Champion Drive

	Ø1		Ø2 (R)		Ø3		Ø4
17 s		104 s		14 s		25 s	
	Ø5		Ø6 (R)		Ø7		Ø8
17 s		104 s		14 s		25 s	

HCM 6th TWSC
6: Book Road & 119th Street

06/09/2022

Intersection												
Int Delay, s/veh	0.3											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	0	425	0	20	580	0	1	0	0	1	0	3
Future Vol, veh/h	0	425	0	20	580	0	1	0	0	1	0	3
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	95	95	95	95	95	95	95	95	95	95	95	95
Heavy Vehicles, %	0	2	0	0	2	0	0	0	0	0	0	0
Mvmt Flow	0	447	0	21	611	0	1	0	0	1	0	3
Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	611	0	0	447	0	0	1102	1100	447	1100	1100	611
Stage 1	-	-	-	-	-	-	447	447	-	653	653	-
Stage 2	-	-	-	-	-	-	655	653	-	447	447	-
Critical Hdwy	4.1	-	-	4.1	-	-	7.1	6.5	6.2	7.1	6.5	6.2
Critical Hdwy Stg 1	-	-	-	-	-	-	6.1	5.5	-	6.1	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.1	5.5	-	6.1	5.5	-
Follow-up Hdwy	2.2	-	-	2.2	-	-	3.5	4	3.3	3.5	4	3.3
Pot Cap-1 Maneuver	978	-	-	1124	-	-	191	214	616	191	214	497
Stage 1	-	-	-	-	-	-	595	577	-	460	467	-
Stage 2	-	-	-	-	-	-	458	467	-	595	577	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	978	-	-	1124	-	-	186	208	616	187	208	497
Mov Cap-2 Maneuver	-	-	-	-	-	-	186	208	-	187	208	-
Stage 1	-	-	-	-	-	-	595	577	-	460	454	-
Stage 2	-	-	-	-	-	-	442	454	-	595	577	-
Approach	EB		WB				NB		SB			
HCM Control Delay, s	0		0.3				24.5		15.4			
HCM LOS							C		C			
Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1				
Capacity (veh/h)	186	978	-	-	1124	-	-	351				
HCM Lane V/C Ratio	0.006	-	-	-	0.019	-	-	0.012				
HCM Control Delay (s)	24.5	0	-	-	8.3	0	-	15.4				
HCM Lane LOS	C	A	-	-	A	A	-	C				
HCM 95th %tile O(veh)	0	0	-	-	0.1	-	-	0				

HCM 6th TWSC
9: Wolf Drive & 119th Street

06/09/2022

Intersection

Int Delay, s/veh 0.4

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	416	17	7	580	13	5
Future Vol, veh/h	416	17	7	580	13	5
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	2	0	0	2	8	0
Mvmt Flow	438	18	7	611	14	5

Major/Minor	Major1	Major2	Minor1
Conflicting Flow All	0	0	456
Stage 1	-	-	-
Stage 2	-	-	-
Critical Hdwy	-	-	4.1
Critical Hdwy Stg 1	-	-	-
Critical Hdwy Stg 2	-	-	-
Follow-up Hdwy	-	-	2.2
Pot Cap-1 Maneuver	-	-	1115
Stage 1	-	-	-
Stage 2	-	-	-
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	-	-	1115
Mov Cap-2 Maneuver	-	-	-
Stage 1	-	-	-
Stage 2	-	-	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0.1	18.5
HCM LOS			C

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	285	-	-	1115	-
HCM Lane V/C Ratio	0.066	-	-	0.007	-
HCM Control Delay (s)	18.5	-	-	8.2	0
HCM Lane LOS	C	-	-	A	A
HCM 95th %tile Q(veh)	0.2	-	-	0	-

Capacity Analysis Summary Sheets
Weekday Morning Peak Hour – No-Build Conditions

Lanes, Volumes, Timings

3: Plainfield-Naperville Road & 119th Street

06/09/2022

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	190	356	21	50	208	35	27	661	94	21	302	108
Future Volume (vph)	190	356	21	50	208	35	27	661	94	21	302	108
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	185		0	175		0	185		0	195		0
Storage Lanes	1		0	1		0	1		0	1		0
Taper Length (ft)	180			190			190			190		
Lane Util. Factor	1.00	0.95	0.95	1.00	0.95	0.95	1.00	0.95	0.95	1.00	0.95	0.95
Frt		0.992			0.978			0.981			0.961	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1517	3505	0	1805	3358	0	1719	3485	0	1805	3172	0
Flt Permitted	0.410			0.511			0.461			0.282		
Satd. Flow (perm)	655	3505	0	971	3358	0	834	3485	0	536	3172	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		5			13			11			43	
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		1390			1382			647			700	
Travel Time (s)		31.6			31.4			14.7			15.9	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	19%	2%	5%	0%	5%	6%	5%	1%	6%	0%	2%	30%
Shared Lane Traffic (%)												
Lane Group Flow (vph)	207	410	0	54	264	0	29	820	0	23	445	0
Turn Type	pm+pt	NA		pm+pt	NA		pm+pt	NA		pm+pt	NA	
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases	4			8			2			6		
Detector Phase	7	4		3	8		5	2		1	6	
Switch Phase												
Minimum Initial (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	
Minimum Split (s)	9.5	24.0		9.5	24.0		9.5	24.0		9.5	24.0	
Total Split (s)	31.0	57.0		10.0	36.0		11.0	44.0		24.0	57.0	
Total Split (%)	23.0%	42.2%		7.4%	26.7%		8.1%	32.6%		17.8%	42.2%	
Yellow Time (s)	3.5	4.0		3.5	4.0		3.5	4.0		3.5	4.0	
All-Red Time (s)	0.0	2.0		0.0	2.0		0.0	2.0		0.0	2.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)	3.5	6.0		3.5	6.0		3.5	6.0		3.5	6.0	
Lead/Lag	Lead	Lag		Lead	Lag		Lead	Lag		Lead	Lag	
Lead-Lag Optimize?	Yes	Yes		Yes	Yes		Yes	Yes		Yes	Yes	
Recall Mode	None	None		None	None		None	Max		None	Max	
Act Effect Green (s)	36.8	26.5		22.0	13.0		59.1	54.0		58.0	51.9	
Actuated g/C Ratio	0.35	0.25		0.21	0.12		0.57	0.52		0.56	0.50	
v/c Ratio	0.55	0.46		0.21	0.61		0.05	0.45		0.06	0.28	
Control Delay	31.2	34.8		26.3	48.9		12.0	18.7		12.1	16.4	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay	31.2	34.8		26.3	48.9		12.0	18.7		12.1	16.4	
LOS	C	C		C	D		B	B		B	B	
Approach Delay		33.6			45.0			18.5			16.2	
Approach LOS		C			D			B			B	
Queue Length 50th (ft)	108	128		25	87		8	156		6	85	
Queue Length 95th (ft)	172	176		52	142		26	312		22	151	

Lanes, Volumes, Timings

3: Plainfield-Naperville Road & 119th Street

06/09/2022

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Internal Link Dist (ft)	1310			1302			567			620		
Turn Bay Length (ft)	185			175			185			195		
Base Capacity (vph)	465	1748		259	993		539	1812		563	1601	
Starvation Cap Reductn	0	0		0	0		0	0		0	0	
Spillback Cap Reductn	0	0		0	0		0	0		0	0	
Storage Cap Reductn	0	0		0	0		0	0		0	0	
Reduced v/c Ratio	0.45	0.23		0.21	0.27		0.05	0.45		0.04	0.28	

Intersection Summary

Area Type: Other

Cycle Length: 135

Actuated Cycle Length: 104.1

Natural Cycle: 70

Control Type: Actuated-Uncoordinated

Maximum v/c Ratio: 0.61

Intersection Signal Delay: 25.9

Intersection LOS: C

Intersection Capacity Utilization 53.2%

ICU Level of Service A

Analysis Period (min) 15

Splits and Phases: 3: Plainfield-Naperville Road & 119th Street

 Ø1	 Ø2	 Ø3	 Ø4
24 s	44 s	10 s	57 s
 Ø5	 Ø6	 Ø7	 Ø8
11 s	57 s	31 s	36 s

Lanes, Volumes, Timings
11: IL 59 & 119th Street

06/09/2022

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	241	420	113	130	151	95	76	1366	127	66	850	60
Future Volume (vph)	241	420	113	130	151	95	76	1366	127	66	850	60
Ideal Flow (vphpl)	1900	2000	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	210		210	125		0	480		0	480		0
Storage Lanes	1		1	1		0	1		0	1		0
Taper Length (ft)	150			130			200			200		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	1.00	0.95	0.95
Frt			0.850		0.942			0.987			0.990	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1752	1961	1509	1556	1711	0	1597	3367	0	1719	3283	0
Flt Permitted	0.232			0.168			0.950			0.950		
Satd. Flow (perm)	428	1961	1509	275	1711	0	1597	3367	0	1719	3283	0
Right Turn on Red			No			No			No			No
Satd. Flow (RTOR)												
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		1638			2249			1037			2478	
Travel Time (s)		37.2			51.1			23.6			56.3	
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Heavy Vehicles (%)	3%	2%	7%	16%	5%	4%	13%	6%	4%	5%	9%	7%
Shared Lane Traffic (%)												
Lane Group Flow (vph)	251	438	118	135	256	0	79	1555	0	69	948	0
Turn Type	pm+pt	NA	Perm	pm+pt	NA		Prot	NA		Prot	NA	
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases	4		4	8								
Detector Phase	7	4	4	3	8		5	2		1	6	
Switch Phase												
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0		5.0	5.0		5.0	5.0	
Minimum Split (s)	9.5	24.0	24.0	9.5	24.0		9.5	24.0		9.5	24.0	
Total Split (s)	27.0	40.0	40.0	13.0	26.0		14.0	73.0		14.0	73.0	
Total Split (%)	19.3%	28.6%	28.6%	9.3%	18.6%		10.0%	52.1%		10.0%	52.1%	
Yellow Time (s)	3.5	4.0	4.0	3.5	4.0		3.5	4.0		3.5	4.0	
All-Red Time (s)	0.0	2.0	2.0	0.0	2.0		1.0	2.0		1.0	2.0	
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)	3.5	6.0	6.0	3.5	6.0		4.5	6.0		4.5	6.0	
Lead/Lag	Lead	Lag	Lag	Lead	Lag		Lead	Lag		Lead	Lag	
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes		Yes	Yes		Yes	Yes	
Recall Mode	None	None	None	None	None		None	C-Min		None	C-Min	
Act Effect Green (s)	49.7	34.0	34.0	36.0	23.7		9.2	69.7		8.9	67.1	
Actuated g/C Ratio	0.36	0.24	0.24	0.26	0.17		0.07	0.50		0.06	0.48	
v/c Ratio	0.74	0.92	0.32	0.85	0.88		0.75	0.93		0.63	0.60	
Control Delay	48.0	77.5	46.5	77.0	86.9		103.2	44.3		82.4	24.3	
Queue Delay	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay	48.0	77.5	46.5	77.0	86.9		103.2	44.3		82.4	24.3	
LOS	D	E	D	E	F		F	D		F	C	
Approach Delay		63.8			83.5			47.1			28.3	
Approach LOS		E			F			D			C	
Queue Length 50th (ft)	172	392	89	87	232		72	707		60	338	
Queue Length 95th (ft)	252	#593	149	#209	#430		#158	#885		#122	414	

Lanes, Volumes, Timings

11: IL 59 & 119th Street

06/09/2022

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Internal Link Dist (ft)	1558			2169			957			2398		
Turn Bay Length (ft)	210		210	125			480			480		
Base Capacity (vph)	374	476	366	159	290		108	1675		116	1574	
Starvation Cap Reductn	0	0	0	0	0		0	0		0	0	
Spillback Cap Reductn	0	0	0	0	0		0	0		0	0	
Storage Cap Reductn	0	0	0	0	0		0	0		0	0	
Reduced v/c Ratio	0.67	0.92	0.32	0.85	0.88		0.73	0.93		0.59	0.60	

Intersection Summary

Area Type: Other

Cycle Length: 140

Actuated Cycle Length: 140

Offset: 35 (25%), Referenced to phase 2:NBT and 6:SBT, Start of Green

Natural Cycle: 90

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.93

Intersection Signal Delay: 49.3

Intersection LOS: D

Intersection Capacity Utilization 91.3%

ICU Level of Service F

Analysis Period (min) 15

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

Splits and Phases: 11: IL 59 & 119th Street

 Ø1	 Ø2 (R)	 Ø3	 Ø4
14 s	73 s	13 s	40 s
 Ø5	 Ø6 (R)	 Ø7	 Ø8
14 s	73 s	27 s	26 s

Lanes, Volumes, Timings
14: IL 59 & Champion Drive

06/09/2022

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	84	4	30	51	3	26	18	1616	26	12	880	24
Future Volume (vph)	84	4	30	51	3	26	18	1616	26	12	880	24
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	85		0	80		0	265		0	250		0
Storage Lanes	1		0	1		0	1		0	1		0
Taper Length (ft)	100			90			210			205		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	1.00	0.95	0.95
Frt		0.866			0.865			0.998			0.996	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1787	1549	0	1770	1593	0	1626	3396	0	1671	3299	0
Flt Permitted	0.500			0.889			0.950			0.950		
Satd. Flow (perm)	941	1549	0	1656	1593	0	1626	3396	0	1671	3299	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		33			28			2			4	
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		390			412			2478			1195	
Travel Time (s)		8.9			9.4			56.3			27.2	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	1%	0%	7%	2%	33%	0%	11%	6%	11%	8%	9%	8%
Shared Lane Traffic (%)												
Lane Group Flow (vph)	91	37	0	55	31	0	20	1785	0	13	983	0
Turn Type	pm+pt	NA		pm+pt	NA		Prot	NA		Prot	NA	
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases	4			8								
Detector Phase	7	4		3	8		5	2		1	6	
Switch Phase												
Minimum Initial (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	
Minimum Split (s)	9.5	24.0		9.5	24.0		9.5	24.0		9.5	24.0	
Total Split (s)	13.0	17.0		13.0	17.0		13.0	97.0		13.0	97.0	
Total Split (%)	9.3%	12.1%		9.3%	12.1%		9.3%	69.3%		9.3%	69.3%	
Yellow Time (s)	3.5	4.0		3.5	4.0		3.5	4.0		3.5	4.0	
All-Red Time (s)	0.0	2.0		0.0	2.0		1.0	2.0		1.0	2.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)	3.5	6.0		3.5	6.0		4.5	6.0		4.5	6.0	
Lead/Lag	Lead	Lag		Lead	Lag		Lead	Lag		Lead	Lag	
Lead-Lag Optimize?	Yes	Yes		Yes	Yes		Yes	Yes		Yes	Yes	
Recall Mode	None	None		None	None		None	C-Max		None	C-Max	
Act Effect Green (s)	17.3	6.7		14.5	6.7		7.3	106.2		6.7	103.5	
Actuated g/C Ratio	0.12	0.05		0.10	0.05		0.05	0.76		0.05	0.74	
v/c Ratio	0.49	0.35		0.31	0.30		0.24	0.69		0.16	0.40	
Control Delay	62.7	31.8		57.4	31.1		88.4	5.3		68.0	8.7	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay	62.7	31.8		57.4	31.1		88.4	5.3		68.0	8.7	
LOS	E	C		E	C		F	A		E	A	
Approach Delay		53.7			47.9			6.2			9.5	
Approach LOS		D			D			A			A	
Queue Length 50th (ft)	75	4		45	3		19	78		12	184	
Queue Length 95th (ft)	128	41		85	36		m22	789		35	263	

Lanes, Volumes, Timings
14: IL 59 & Champion Drive

06/09/2022

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Internal Link Dist (ft)	310			332			2398			1115		
Turn Bay Length (ft)	85			80			265			250		
Base Capacity (vph)	187	152		191	150		101	2577		101	2440	
Starvation Cap Reductn	0	0		0	0		0	0		0	0	
Spillback Cap Reductn	0	0		0	0		0	0		0	0	
Storage Cap Reductn	0	0		0	0		0	0		0	0	
Reduced v/c Ratio	0.49	0.24		0.29	0.21		0.20	0.69		0.13	0.40	

Intersection Summary

Area Type: Other

Cycle Length: 140

Actuated Cycle Length: 140

Offset: 95 (68%), Referenced to phase 2:NBT and 6:SBT, Start of Green

Natural Cycle: 100

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.69

Intersection Signal Delay: 10.5

Intersection LOS: B

Intersection Capacity Utilization 66.8%

ICU Level of Service C

Analysis Period (min) 15

m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 14: IL 59 & Champion Drive

														
Ø1	Ø2 (R)					Ø3	Ø4							
13 s	97 s					13 s	17 s							
														
Ø5	Ø6 (R)					Ø7	Ø8							
13 s	97 s					13 s	17 s							

HCM 6th TWSC
6: Book Road & 119th Street

06/09/2022

Intersection												
Int Delay, s/veh	0.2											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	2	551	0	3	328	0	0	0	9	1	0	1
Future Vol, veh/h	2	551	0	3	328	0	0	0	9	1	0	1
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	87	87	87	87	87	87	87	87	87	87	87	87
Heavy Vehicles, %	0	6	0	0	4	0	0	0	20	0	0	0
Mvmt Flow	2	633	0	3	377	0	0	0	10	1	0	1
Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	377	0	0	633	0	0	1021	1020	633	1025	1020	377
Stage 1	-	-	-	-	-	-	637	637	-	383	383	-
Stage 2	-	-	-	-	-	-	384	383	-	642	637	-
Critical Hdwy	4.1	-	-	4.1	-	-	7.1	6.5	6.4	7.1	6.5	6.2
Critical Hdwy Stg 1	-	-	-	-	-	-	6.1	5.5	-	6.1	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.1	5.5	-	6.1	5.5	-
Follow-up Hdwy	2.2	-	-	2.2	-	-	3.5	4	3.48	3.5	4	3.3
Pot Cap-1 Maneuver	1193	-	-	960	-	-	217	239	449	215	239	674
Stage 1	-	-	-	-	-	-	469	475	-	644	616	-
Stage 2	-	-	-	-	-	-	643	616	-	466	475	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1193	-	-	960	-	-	215	237	449	209	237	674
Mov Cap-2 Maneuver	-	-	-	-	-	-	215	237	-	209	237	-
Stage 1	-	-	-	-	-	-	468	474	-	642	614	-
Stage 2	-	-	-	-	-	-	639	614	-	454	474	-
Approach	EB			WB			NB			SB		
HCM Control Delay, s	0			0.1			13.2			16.4		
HCM LOS							B			C		
Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1				
Capacity (veh/h)	449	1193	-	-	960	-	-	319				
HCM Lane V/C Ratio	0.023	0.002	-	-	0.004	-	-	0.007				
HCM Control Delay (s)	13.2	8	0	-	8.8	0	-	16.4				
HCM Lane LOS	B	A	A	-	A	A	-	C				
HCM 95th %tile O(veh)	0.1	0	-	-	0	-	-	0				

HCM 6th TWSC
9: Wolf Drive & 119th Street

06/09/2022

Intersection

Int Delay, s/veh 0.7

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	539	10	4	329	22	14
Future Vol, veh/h	539	10	4	329	22	14
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	87	87	87	87	87	87
Heavy Vehicles, %	5	10	0	4	5	0
Mvmt Flow	620	11	5	378	25	16

Major/Minor	Major1	Major2	Minor1
Conflicting Flow All	0	0	631
Stage 1	-	-	-
Stage 2	-	-	-
Critical Hdwy	-	-	4.1
Critical Hdwy Stg 1	-	-	-
Critical Hdwy Stg 2	-	-	-
Follow-up Hdwy	-	-	2.2
Pot Cap-1 Maneuver	-	-	961
Stage 1	-	-	-
Stage 2	-	-	-
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	-	-	961
Mov Cap-2 Maneuver	-	-	-
Stage 1	-	-	-
Stage 2	-	-	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0.1	18.1
HCM LOS			C

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	317	-	-	961	-
HCM Lane V/C Ratio	0.131	-	-	0.005	-
HCM Control Delay (s)	18.1	-	-	8.8	0
HCM Lane LOS	C	-	-	A	A
HCM 95th %tile Q(veh)	0.4	-	-	0	-

Capacity Analysis Summary Sheets
Weekday Evening Peak Hour – No-Build Conditions

Lanes, Volumes, Timings

3: Plainfield-Naperville Road & 119th Street

06/09/2022

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	148	254	53	91	475	41	27	457	45	26	605	152
Future Volume (vph)	148	254	53	91	475	41	27	457	45	26	605	152
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	185		0	175		0	185		0	195		0
Storage Lanes	1		0	1		0	1		0	1		0
Taper Length (ft)	180			190			190			190		
Lane Util. Factor	1.00	0.95	0.95	1.00	0.95	0.95	1.00	0.95	0.95	1.00	0.95	0.95
Frt		0.974			0.988			0.987			0.970	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1736	3403	0	1805	3534	0	1671	3547	0	1805	3467	0
Flt Permitted	0.218			0.555			0.260			0.411		
Satd. Flow (perm)	398	3403	0	1054	3534	0	457	3547	0	781	3467	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		22			8			11			34	
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		1390			1382			647			700	
Travel Time (s)		31.6			31.4			14.7			15.9	
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Heavy Vehicles (%)	4%	4%	0%	0%	1%	0%	8%	0%	5%	0%	1%	1%
Shared Lane Traffic (%)												
Lane Group Flow (vph)	157	326	0	97	549	0	29	534	0	28	806	0
Turn Type	pm+pt	NA		pm+pt	NA		pm+pt	NA		pm+pt	NA	
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases	4			8			2			6		
Detector Phase	7	4		3	8		5	2		1	6	
Switch Phase												
Minimum Initial (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	
Minimum Split (s)	9.5	24.0		9.5	24.0		9.5	24.0		9.5	24.0	
Total Split (s)	17.0	38.0		11.0	32.0		11.0	50.0		11.0	50.0	
Total Split (%)	15.5%	34.5%		10.0%	29.1%		10.0%	45.5%		10.0%	45.5%	
Yellow Time (s)	3.5	4.0		3.5	4.0		3.5	4.0		3.5	4.0	
All-Red Time (s)	0.0	2.0		0.0	2.0		0.0	2.0		0.0	2.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)	3.5	6.0		3.5	6.0		3.5	6.0		3.5	6.0	
Lead/Lag	Lead	Lag		Lead	Lag		Lead	Lag		Lead	Lag	
Lead-Lag Optimize?	Yes	Yes		Yes	Yes		Yes	Yes		Yes	Yes	
Recall Mode	None	None		None	None		None	Max		None	Max	
Act Effect Green (s)	37.9	27.0		30.2	20.4		51.0	44.7		50.9	44.7	
Actuated g/C Ratio	0.39	0.28		0.31	0.21		0.52	0.46		0.52	0.46	
v/c Ratio	0.50	0.34		0.26	0.74		0.09	0.33		0.06	0.50	
Control Delay	26.5	28.6		22.0	43.1		12.9	19.3		12.5	21.3	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay	26.5	28.6		22.0	43.1		12.9	19.3		12.5	21.3	
LOS	C	C		C	D		B	B		B	C	
Approach Delay		27.9			39.9			19.0			21.0	
Approach LOS		C			D			B			C	
Queue Length 50th (ft)	69	86		41	178		9	121		8	197	
Queue Length 95th (ft)	118	127		77	242		24	180		24	282	

Lanes, Volumes, Timings

3: Plainfield-Naperville Road & 119th Street

06/09/2022

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Internal Link Dist (ft)	1310			1302			567			620		
Turn Bay Length (ft)	185			175			185			195		
Base Capacity (vph)	341	1141		386	956		333	1623		488	1597	
Starvation Cap Reductn	0	0		0	0		0	0		0	0	
Spillback Cap Reductn	0	0		0	0		0	0		0	0	
Storage Cap Reductn	0	0		0	0		0	0		0	0	
Reduced v/c Ratio	0.46	0.29		0.25	0.57		0.09	0.33		0.06	0.50	

Intersection Summary

Area Type: Other

Cycle Length: 110

Actuated Cycle Length: 98.1

Natural Cycle: 70

Control Type: Actuated-Uncoordinated

Maximum v/c Ratio: 0.74

Intersection Signal Delay: 26.7

Intersection LOS: C

Intersection Capacity Utilization 58.4%

ICU Level of Service B

Analysis Period (min) 15

Splits and Phases: 3: Plainfield-Naperville Road & 119th Street

 Ø1	 Ø2	 Ø3	 Ø4
11 s	50 s	11 s	38 s
 Ø5	 Ø6	 Ø7	 Ø8
11 s	50 s	17 s	32 s

Lanes, Volumes, Timings
11: IL 59 & 119th Street

06/09/2022

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	158	257	78	190	430	68	165	1262	131	78	1377	186
Future Volume (vph)	158	257	78	190	430	68	165	1262	131	78	1377	186
Ideal Flow (vphpl)	1900	2000	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	210		210	125		0	480		0	480		0
Storage Lanes	1		1	1		0	1		0	1		0
Taper Length (ft)	150			130			200			200		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	1.00	0.95	0.95
Frt			0.850		0.979			0.986			0.982	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1752	1961	1615	1787	1813	0	1787	3477	0	1752	3484	0
Flt Permitted	0.138			0.215			0.950			0.950		
Satd. Flow (perm)	255	1961	1615	404	1813	0	1787	3477	0	1752	3484	0
Right Turn on Red			No			No			No			No
Satd. Flow (RTOR)												
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		1638			2249			1037			2478	
Travel Time (s)		37.2			51.1			23.6			56.3	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Heavy Vehicles (%)	3%	2%	0%	1%	3%	0%	1%	2%	6%	3%	2%	0%
Shared Lane Traffic (%)												
Lane Group Flow (vph)	166	271	82	200	525	0	174	1466	0	82	1645	0
Turn Type	pm+pt	NA	Perm	pm+pt	NA		Prot	NA		Prot	NA	
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases	4		4	8								
Detector Phase	7	4	4	3	8		5	2		1	6	
Switch Phase												
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0		5.0	5.0		5.0	5.0	
Minimum Split (s)	9.5	24.0	24.0	9.5	24.0		9.5	24.0		9.5	24.0	
Total Split (s)	13.0	34.0	34.0	21.0	42.0		23.0	84.0		21.0	82.0	
Total Split (%)	8.1%	21.3%	21.3%	13.1%	26.3%		14.4%	52.5%		13.1%	51.3%	
Yellow Time (s)	3.5	4.0	4.0	3.5	4.0		3.5	4.0		3.5	4.0	
All-Red Time (s)	0.0	2.0	2.0	0.0	2.0		1.0	2.0		1.0	2.0	
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)	3.5	6.0	6.0	3.5	6.0		4.5	6.0		4.5	6.0	
Lead/Lag	Lead	Lag	Lag	Lead	Lag		Lead	Lag		Lead	Lag	
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes		Yes	Yes		Yes	Yes	
Recall Mode	None	None	None	None	None		None	C-Min		None	C-Min	
Act Effect Green (s)	41.0	29.0	29.0	51.5	36.0		17.8	81.9		12.6	76.7	
Actuated g/C Ratio	0.26	0.18	0.18	0.32	0.22		0.11	0.51		0.08	0.48	
v/c Ratio	1.08	0.76	0.28	0.74	1.29		0.87	0.82		0.60	0.99	
Control Delay	137.8	77.2	60.1	58.5	195.4		107.3	38.4		76.4	56.0	
Queue Delay	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay	137.8	77.2	60.1	58.5	195.4		107.3	38.4		76.4	56.0	
LOS	F	E	E	E	F		F	D		E	E	
Approach Delay		93.9			157.6			45.7			57.0	
Approach LOS		F			F			D			E	
Queue Length 50th (ft)	~140	275	76	160	~696		181	670		85	507	
Queue Length 95th (ft)	#299	#406	132	235	#932		#316	813		m136	#1055	

Lanes, Volumes, Timings

11: IL 59 & 119th Street

06/09/2022

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Internal Link Dist (ft)	1558			2169			957			2398		
Turn Bay Length (ft)	210		210	125			480			480		
Base Capacity (vph)	154	355	292	281	407		206	1780		180	1668	
Starvation Cap Reductn	0	0	0	0	0		0	0		0	0	
Spillback Cap Reductn	0	0	0	0	0		0	0		0	0	
Storage Cap Reductn	0	0	0	0	0		0	0		0	0	
Reduced v/c Ratio	1.08	0.76	0.28	0.71	1.29		0.84	0.82		0.46	0.99	

Intersection Summary

Area Type: Other

Cycle Length: 160

Actuated Cycle Length: 160

Offset: 46 (29%), Referenced to phase 2:NBT and 6:SBT, Start of Green

Natural Cycle: 120

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 1.29

Intersection Signal Delay: 73.0

Intersection LOS: E

Intersection Capacity Utilization 105.7%

ICU Level of Service G

Analysis Period (min) 15

~ Volume exceeds capacity, queue is theoretically infinite.

Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 11: IL 59 & 119th Street

 Ø1	 Ø2 (R)	 Ø3	 Ø4
21 s	84 s	21 s	34 s
 Ø5	 Ø6 (R)	 Ø7	 Ø8
23 s	82 s	13 s	42 s

Lanes, Volumes, Timings
14: IL 59 & Champion Drive

06/09/2022

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	43	3	24	56	3	44	25	1389	55	32	1636	75
Future Volume (vph)	43	3	24	56	3	44	25	1389	55	32	1636	75
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	85		0	80		0	265		0	250		0
Storage Lanes	1		0	1		0	1		0	1		0
Taper Length (ft)	100			90			210			205		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	1.00	0.95	0.95
Frt		0.867			0.859			0.994			0.993	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1805	1591	0	1770	1602	0	1805	3521	0	1805	3517	0
Flt Permitted	0.870			0.556			0.950			0.950		
Satd. Flow (perm)	1653	1591	0	1036	1602	0	1805	3521	0	1805	3517	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		24			45			5			5	
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		390			412			2478			1195	
Travel Time (s)		8.9			9.4			56.3			27.2	
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Heavy Vehicles (%)	0%	0%	4%	2%	0%	2%	0%	2%	0%	0%	2%	0%
Shared Lane Traffic (%)												
Lane Group Flow (vph)	44	27	0	57	48	0	26	1473	0	33	1746	0
Turn Type	pm+pt	NA		pm+pt	NA		Prot	NA		Prot	NA	
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases	4			8								
Detector Phase	7	4		3	8		5	2		1	6	
Switch Phase												
Minimum Initial (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	
Minimum Split (s)	9.5	24.0		9.5	24.0		9.5	22.5		9.5	22.5	
Total Split (s)	14.0	25.0		14.0	25.0		17.0	104.0		17.0	104.0	
Total Split (%)	8.8%	15.6%		8.8%	15.6%		10.6%	65.0%		10.6%	65.0%	
Yellow Time (s)	3.5	4.0		3.5	4.0		3.5	3.5		3.5	3.5	
All-Red Time (s)	0.0	2.0		0.0	2.0		1.0	1.0		1.0	1.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)	3.5	6.0		3.5	6.0		4.5	4.5		4.5	4.5	
Lead/Lag	Lead	Lag		Lead	Lag		Lead	Lag		Lead	Lag	
Lead-Lag Optimize?	Yes	Yes		Yes	Yes		Yes	Yes		Yes	Yes	
Recall Mode	None	None		None	None		None	C-Max		None	C-Max	
Act Effect Green (s)	14.7	6.8		17.8	7.1		7.8	124.5		8.4	127.2	
Actuated g/C Ratio	0.09	0.04		0.11	0.04		0.05	0.78		0.05	0.80	
v/c Ratio	0.28	0.30		0.34	0.42		0.30	0.54		0.35	0.62	
Control Delay	65.8	36.4		66.7	31.7		59.1	11.7		82.5	10.9	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay	65.8	36.4		66.7	31.7		59.1	11.7		82.5	10.9	
LOS	E	D		E	C		E	B		F	B	
Approach Delay		54.6			50.7			12.5			12.2	
Approach LOS		D			D			B			B	
Queue Length 50th (ft)	41	3		54	3		28	270		34	455	
Queue Length 95th (ft)	80	38		98	48		m32	m405		72	628	

Lanes, Volumes, Timings
14: IL 59 & Champion Drive

06/09/2022

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Internal Link Dist (ft)		310			332			2398			1115	
Turn Bay Length (ft)	85			80			265			250		
Base Capacity (vph)	181	210		177	229		141	2740		141	2797	
Starvation Cap Reductn	0	0		0	0		0	0		0	0	
Spillback Cap Reductn	0	0		0	0		0	0		0	0	
Storage Cap Reductn	0	0		0	0		0	0		0	0	
Reduced v/c Ratio	0.24	0.13		0.32	0.21		0.18	0.54		0.23	0.62	

Intersection Summary

Area Type: Other

Cycle Length: 160

Actuated Cycle Length: 160

Offset: 45 (28%), Referenced to phase 2:NBT and 6:SBT, Start of Green

Natural Cycle: 90

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.62

Intersection Signal Delay: 14.4

Intersection LOS: B

Intersection Capacity Utilization 66.1%

ICU Level of Service C

Analysis Period (min) 15

m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 14: IL 59 & Champion Drive

 Ø1	 Ø2 (R)	 Ø3	 Ø4
17 s	104 s	14 s	25 s
 Ø5	 Ø6 (R)	 Ø7	 Ø8
17 s	104 s	14 s	25 s

HCM 6th TWSC
6: Book Road & 119th Street

06/09/2022

Intersection												
Int Delay, s/veh	0.3											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	0	450	0	20	637	0	1	0	0	1	0	3
Future Vol, veh/h	0	450	0	20	637	0	1	0	0	1	0	3
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	95	95	95	95	95	95	95	95	95	95	95	95
Heavy Vehicles, %	0	2	0	0	2	0	0	0	0	0	0	0
Mvmt Flow	0	474	0	21	671	0	1	0	0	1	0	3
Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	671	0	0	474	0	0	1189	1187	474	1187	1187	671
Stage 1	-	-	-	-	-	-	474	474	-	713	713	-
Stage 2	-	-	-	-	-	-	715	713	-	474	474	-
Critical Hdwy	4.1	-	-	4.1	-	-	7.1	6.5	6.2	7.1	6.5	6.2
Critical Hdwy Stg 1	-	-	-	-	-	-	6.1	5.5	-	6.1	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.1	5.5	-	6.1	5.5	-
Follow-up Hdwy	2.2	-	-	2.2	-	-	3.5	4	3.3	3.5	4	3.3
Pot Cap-1 Maneuver	929	-	-	1099	-	-	166	190	595	167	190	460
Stage 1	-	-	-	-	-	-	575	561	-	426	438	-
Stage 2	-	-	-	-	-	-	425	438	-	575	561	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	929	-	-	1099	-	-	161	184	595	163	184	460
Mov Cap-2 Maneuver	-	-	-	-	-	-	161	184	-	163	184	-
Stage 1	-	-	-	-	-	-	575	561	-	426	425	-
Stage 2	-	-	-	-	-	-	409	425	-	575	561	-
Approach	EB			WB			NB			SB		
HCM Control Delay, s	0			0.3			27.5			16.5		
HCM LOS							D			C		
Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1				
Capacity (veh/h)	161	929	-	-	1099	-	-	316				
HCM Lane V/C Ratio	0.007	-	-	-	0.019	-	-	0.013				
HCM Control Delay (s)	27.5	0	-	-	8.3	0	-	16.5				
HCM Lane LOS	D	A	-	-	A	A	-	C				
HCM 95th %tile Q(veh)	0	0	-	-	0.1	-	-	0				

HCM 6th TWSC
9: Wolf Drive & 119th Street

06/09/2022

Intersection

Int Delay, s/veh 0.4

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	445	17	7	634	13	5
Future Vol, veh/h	445	17	7	634	13	5
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	2	0	0	2	8	0
Mvmt Flow	468	18	7	667	14	5

Major/Minor	Major1	Major2	Minor1
Conflicting Flow All	0	0	486
Stage 1	-	-	-
Stage 2	-	-	-
Critical Hdwy	-	-	4.1
Critical Hdwy Stg 1	-	-	-
Critical Hdwy Stg 2	-	-	-
Follow-up Hdwy	-	-	2.2
Pot Cap-1 Maneuver	-	-	1087
Stage 1	-	-	-
Stage 2	-	-	-
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	-	-	1087
Mov Cap-2 Maneuver	-	-	-
Stage 1	-	-	-
Stage 2	-	-	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0.1	20.2
HCM LOS			C

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	255	-	-	1087	-
HCM Lane V/C Ratio	0.074	-	-	0.007	-
HCM Control Delay (s)	20.2	-	-	8.3	0
HCM Lane LOS	C	-	-	A	A
HCM 95th %tile Q(veh)	0.2	-	-	0	-

Capacity Analysis Summary Sheets
Weekday Morning Peak Hour – Projected Conditions

Lanes, Volumes, Timings

3: Plainfield-Naperville Road & 119th Street

09/14/2022

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	230	376	31	50	214	35	30	661	94	21	302	121
Future Volume (vph)	230	376	31	50	214	35	30	661	94	21	302	121
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	185		0	175		0	185		0	195		0
Storage Lanes	1		0	1		0	1		0	1		0
Taper Length (ft)	180			190			190			190		
Lane Util. Factor	1.00	0.95	0.95	1.00	0.95	0.95	1.00	0.95	0.95	1.00	0.95	0.95
Frt		0.988			0.979			0.981			0.957	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1517	3489	0	1805	3361	0	1719	3485	0	1805	3140	0
Flt Permitted	0.397			0.495			0.447			0.276		
Satd. Flow (perm)	634	3489	0	940	3361	0	809	3485	0	524	3140	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		7			12			11			51	
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		1390			1382			647			700	
Travel Time (s)		31.6			31.4			14.7			15.9	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	19%	2%	5%	0%	5%	6%	5%	1%	6%	0%	2%	30%
Shared Lane Traffic (%)												
Lane Group Flow (vph)	250	443	0	54	271	0	33	820	0	23	460	0
Turn Type	pm+pt	NA		pm+pt	NA		pm+pt	NA		pm+pt	NA	
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases	4			8			2			6		
Detector Phase	7	4		3	8		5	2		1	6	
Switch Phase												
Minimum Initial (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	
Minimum Split (s)	9.5	24.0		9.5	24.0		9.5	24.0		9.5	24.0	
Total Split (s)	31.0	57.0		10.0	36.0		11.0	44.0		24.0	57.0	
Total Split (%)	23.0%	42.2%		7.4%	26.7%		8.1%	32.6%		17.8%	42.2%	
Yellow Time (s)	3.5	4.0		3.5	4.0		3.5	4.0		3.5	4.0	
All-Red Time (s)	0.0	2.0		0.0	2.0		0.0	2.0		0.0	2.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)	3.5	6.0		3.5	6.0		3.5	6.0		3.5	6.0	
Lead/Lag	Lead	Lag		Lead	Lag		Lead	Lag		Lead	Lag	
Lead-Lag Optimize?	Yes	Yes		Yes	Yes		Yes	Yes		Yes	Yes	
Recall Mode	None	None		None	None		None	Max		None	Max	
Act Effect Green (s)	39.9	29.6		22.4	13.5		59.2	54.0		58.0	51.8	
Actuated g/C Ratio	0.37	0.28		0.21	0.13		0.55	0.50		0.54	0.48	
v/c Ratio	0.62	0.46		0.22	0.63		0.07	0.47		0.06	0.30	
Control Delay	32.7	33.9		26.2	50.6		13.1	20.4		13.3	17.6	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay	32.7	33.9		26.2	50.6		13.1	20.4		13.3	17.6	
LOS	C	C		C	D		B	C		B	B	
Approach Delay		33.5			46.6			20.1			17.4	
Approach LOS		C			D			C			B	
Queue Length 50th (ft)	135	141		25	94		10	172		7	94	
Queue Length 95th (ft)	208	190		52	147		29	321		23	158	

Lanes, Volumes, Timings

3: Plainfield-Naperville Road & 119th Street

09/14/2022

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Internal Link Dist (ft)	1310			1302			567			620		
Turn Bay Length (ft)	185			175			185			195		
Base Capacity (vph)	465	1689		251	963		511	1759		542	1543	
Starvation Cap Reductn	0	0		0	0		0	0		0	0	
Spillback Cap Reductn	0	0		0	0		0	0		0	0	
Storage Cap Reductn	0	0		0	0		0	0		0	0	
Reduced v/c Ratio	0.54	0.26		0.22	0.28		0.06	0.47		0.04	0.30	

Intersection Summary

Area Type: Other

Cycle Length: 135

Actuated Cycle Length: 107.3

Natural Cycle: 70

Control Type: Actuated-Uncoordinated

Maximum v/c Ratio: 0.63

Intersection Signal Delay: 27.1

Intersection LOS: C

Intersection Capacity Utilization 58.0%

ICU Level of Service B

Analysis Period (min) 15

Splits and Phases: 3: Plainfield-Naperville Road & 119th Street

 Ø1	 Ø2	 Ø3	 Ø4
24 s	44 s	10 s	57 s
 Ø5	 Ø6	 Ø7	 Ø8
11 s	57 s	31 s	36 s

Lanes, Volumes, Timings
11: IL 59 & 119th Street

09/14/2022

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	241	426	113	170	171	165	76	1366	139	88	850	60
Future Volume (vph)	241	426	113	170	171	165	76	1366	139	88	850	60
Ideal Flow (vphpl)	1900	2000	1900	1900	2000	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	210		210	185		300	480		0	480		0
Storage Lanes	1		1	1		1	1		0	1		0
Taper Length (ft)	150			140			200			200		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	1.00	0.95	0.95
Frt			0.850			0.850		0.986			0.990	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1752	1961	1509	1556	1905	1553	1597	3364	0	1719	3283	0
Flt Permitted	0.420			0.157			0.950			0.950		
Satd. Flow (perm)	775	1961	1509	257	1905	1553	1597	3364	0	1719	3283	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			86			78		11			7	
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		1638			2249			1037			2478	
Travel Time (s)		37.2			51.1			23.6			56.3	
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Heavy Vehicles (%)	3%	2%	7%	16%	5%	4%	13%	6%	4%	5%	9%	7%
Shared Lane Traffic (%)												
Lane Group Flow (vph)	251	444	118	177	178	172	79	1568	0	92	948	0
Turn Type	pm+pt	NA	Perm	pm+pt	NA	pm+ov	Prot	NA		Prot	NA	
Protected Phases	7	4		3	8	1	5	2		1	6	
Permitted Phases	4		4	8		8						
Detector Phase	7	4	4	3	8	1	5	2		1	6	
Switch Phase												
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0		5.0	5.0	
Minimum Split (s)	9.5	24.0	24.0	9.5	24.0	9.5	9.5	24.0		9.5	24.0	
Total Split (s)	22.0	40.0	40.0	13.0	31.0	14.0	14.0	73.0		14.0	73.0	
Total Split (%)	15.7%	28.6%	28.6%	9.3%	22.1%	10.0%	10.0%	52.1%		10.0%	52.1%	
Yellow Time (s)	3.5	4.0	4.0	3.5	4.0	3.5	3.5	4.0		3.5	4.0	
All-Red Time (s)	0.0	2.0	2.0	0.0	2.0	1.0	1.0	2.0		1.0	2.0	
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Total Lost Time (s)	3.5	6.0	6.0	3.5	6.0	4.5	4.5	6.0		4.5	6.0	
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lead	Lead	Lag		Lead	Lag	
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes		Yes	Yes	
Recall Mode	None	None	None	None	None	None	None	C-Min		None	C-Min	
Act Effct Green (s)	48.9	33.3	33.3	37.5	25.4	40.8	9.2	67.8		9.4	67.9	
Actuated g/C Ratio	0.35	0.24	0.24	0.27	0.18	0.29	0.07	0.48		0.07	0.48	
v/c Ratio	0.64	0.95	0.28	1.13	0.52	0.34	0.75	0.96		0.80	0.59	
Control Delay	42.9	83.7	15.9	145.1	57.9	23.0	103.2	49.5		100.0	23.4	
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Total Delay	42.9	83.7	15.9	145.1	57.9	23.0	103.2	49.5		100.0	23.4	
LOS	D	F	B	F	E	C	F	D		F	C	
Approach Delay		61.3			75.8			52.1			30.2	
Approach LOS		E			E			D			C	
Queue Length 50th (ft)	172	399	23	~138	149	65	72	713		84	335	
Queue Length 95th (ft)	252	#604	77	#296	228	132	#158	#893		#177	411	

Lanes, Volumes, Timings

11: IL 59 & 119th Street

09/14/2022

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Internal Link Dist (ft)	1558			2169			957			2398		
Turn Bay Length (ft)	210		210	185		300	480			480		
Base Capacity (vph)	399	476	431	157	345	508	108	1633		116	1596	
Starvation Cap Reductn	0	0	0	0	0	0	0	0		0	0	
Spillback Cap Reductn	0	0	0	0	0	0	0	0		0	0	
Storage Cap Reductn	0	0	0	0	0	0	0	0		0	0	
Reduced v/c Ratio	0.63	0.93	0.27	1.13	0.52	0.34	0.73	0.96		0.79	0.59	

Intersection Summary

Area Type: Other

Cycle Length: 140

Actuated Cycle Length: 140

Offset: 35 (25%), Referenced to phase 2:NBT and 6:SBT, Start of Green

Natural Cycle: 120

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 1.13

Intersection Signal Delay: 51.4

Intersection LOS: D

Intersection Capacity Utilization 94.9%

ICU Level of Service F

Analysis Period (min) 15

~ Volume exceeds capacity, queue is theoretically infinite.

Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

Splits and Phases: 11: IL 59 & 119th Street

 Ø1	 Ø2 (R)	 Ø3	 Ø4
14 s	73 s	13 s	40 s
 Ø5	 Ø6 (R)	 Ø7	 Ø8
14 s	73 s	22 s	31 s

Lanes, Volumes, Timings
14: IL 59 & Champion Drive

09/14/2022

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	84	4	30	51	3	26	18	1686	26	12	902	24
Future Volume (vph)	84	4	30	51	3	26	18	1686	26	12	902	24
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	85		0	80		0	265		0	250		0
Storage Lanes	1		0	1		0	1		0	1		0
Taper Length (ft)	100			90			210			205		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	1.00	0.95	0.95
Frt		0.866			0.865			0.998			0.996	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1787	1549	0	1719	1441	0	1626	3396	0	1671	3299	0
Flt Permitted	0.500			0.889			0.950			0.950		
Satd. Flow (perm)	941	1549	0	1609	1441	0	1626	3396	0	1671	3299	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		33			28			2			4	
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		390			412			2478			1195	
Travel Time (s)		8.9			9.4			56.3			27.2	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	1%	0%	7%	5%	33%	12%	11%	6%	11%	8%	9%	8%
Shared Lane Traffic (%)												
Lane Group Flow (vph)	91	37	0	55	31	0	20	1861	0	13	1006	0
Turn Type	pm+pt	NA		pm+pt	NA		Prot	NA		Prot	NA	
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases	4			8								
Detector Phase	7	4		3	8		5	2		1	6	
Switch Phase												
Minimum Initial (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	
Minimum Split (s)	9.5	17.0		9.5	17.0		9.5	24.0		9.5	24.0	
Total Split (s)	13.0	17.0		13.0	17.0		13.0	97.0		13.0	97.0	
Total Split (%)	9.3%	12.1%		9.3%	12.1%		9.3%	69.3%		9.3%	69.3%	
Yellow Time (s)	3.5	4.0		3.5	4.0		3.5	4.0		3.5	4.0	
All-Red Time (s)	0.0	2.0		0.0	2.0		1.0	2.0		1.0	2.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)	3.5	6.0		3.5	6.0		4.5	6.0		4.5	6.0	
Lead/Lag	Lead	Lag		Lead	Lag		Lead	Lag		Lead	Lag	
Lead-Lag Optimize?	Yes	Yes		Yes	Yes		Yes	Yes		Yes	Yes	
Recall Mode	None	None		None	None		None	C-Max		None	C-Max	
Act Effect Green (s)	17.2	6.7		14.5	6.7		7.3	106.2		6.7	103.5	
Actuated g/C Ratio	0.12	0.05		0.10	0.05		0.05	0.76		0.05	0.74	
v/c Ratio	0.49	0.35		0.32	0.33		0.24	0.72		0.16	0.41	
Control Delay	62.7	31.9		57.8	32.6		87.0	6.9		68.0	8.8	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay	62.7	31.9		57.8	32.6		87.0	6.9		68.0	8.8	
LOS	E	C		E	C		F	A		E	A	
Approach Delay		53.8			48.7			7.8			9.6	
Approach LOS		D			D			A			A	
Queue Length 50th (ft)	75	4		45	3		19	83		12	191	
Queue Length 95th (ft)	128	41		85	37		m25	m895		35	271	

Lanes, Volumes, Timings
14: IL 59 & Champion Drive

09/14/2022

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Internal Link Dist (ft)		310			332			2398			1115	
Turn Bay Length (ft)	85			80			265			250		
Base Capacity (vph)	187	152		185	139		101	2577		101	2440	
Starvation Cap Reductn	0	0		0	0		0	0		0	0	
Spillback Cap Reductn	0	0		0	0		0	0		0	0	
Storage Cap Reductn	0	0		0	0		0	0		0	0	
Reduced v/c Ratio	0.49	0.24		0.30	0.22		0.20	0.72		0.13	0.41	

Intersection Summary

Area Type: Other

Cycle Length: 140

Actuated Cycle Length: 140

Offset: 95 (68%), Referenced to phase 2:NBT and 6:SBT, Start of Green

Natural Cycle: 90

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.72

Intersection Signal Delay: 11.4

Intersection LOS: B

Intersection Capacity Utilization 68.8%

ICU Level of Service C

Analysis Period (min) 15

m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 14: IL 59 & Champion Drive

														
Ø1	Ø2 (R)					Ø3	Ø4							
13 s	97 s					13 s	17 s							
														
Ø5	Ø6 (R)					Ø7	Ø8							
13 s	97 s					13 s	17 s							

HCM 6th TWSC
6: Book Road & 119th Street

09/14/2022

Intersection

Int Delay, s/veh 0.2

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	623	0	3	355	0	9
Future Vol, veh/h	623	0	3	355	0	9
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	87	87	87	87	87	87
Heavy Vehicles, %	6	0	0	4	0	20
Mvmt Flow	716	0	3	408	0	10

Major/Minor	Major1	Major2	Minor1
Conflicting Flow All	0	0	716
Stage 1	-	-	-
Stage 2	-	-	-
Critical Hdwy	-	-	4.1
Critical Hdwy Stg 1	-	-	-
Critical Hdwy Stg 2	-	-	-
Follow-up Hdwy	-	-	2.2
Pot Cap-1 Maneuver	-	-	894
Stage 1	-	-	-
Stage 2	-	-	-
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	-	-	894
Mov Cap-2 Maneuver	-	-	-
Stage 1	-	-	-
Stage 2	-	-	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0.1	14.2
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	401	-	-	894	-
HCM Lane V/C Ratio	0.026	-	-	0.004	-
HCM Control Delay (s)	14.2	-	-	9	0
HCM Lane LOS	B	-	-	A	A
HCM 95th %tile Q(veh)	0.1	-	-	0	-

HCM 6th TWSC
9: Wolf Drive/West Access Road & 119th Street

09/14/2022

Intersection												
Int Delay, s/veh	1.8											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	20	551	10	4	404	14	22	0	14	25	0	55
Future Vol, veh/h	20	551	10	4	404	14	22	0	14	25	0	55
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	145	-	-	145	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	1	-	-	1	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	87	87	87	87	92	87	92	87	92	92	92
Heavy Vehicles, %	2	5	10	0	4	2	5	0	2	0	0	0
Mvmt Flow	22	633	11	5	464	15	25	0	16	27	0	60
Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	479	0	0	644	0	0	1195	1172	639	1173	1170	472
Stage 1	-	-	-	-	-	-	683	683	-	482	482	-
Stage 2	-	-	-	-	-	-	512	489	-	691	688	-
Critical Hdwy	4.12	-	-	4.1	-	-	7.15	6.5	6.22	7.1	6.5	6.2
Critical Hdwy Stg 1	-	-	-	-	-	-	6.15	5.5	-	6.1	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.15	5.5	-	6.1	5.5	-
Follow-up Hdwy	2.218	-	-	2.2	-	-	3.545	4	3.318	3.5	4	3.3
Pot Cap-1 Maneuver	1083	-	-	951	-	-	161	194	476	171	195	596
Stage 1	-	-	-	-	-	-	434	452	-	569	557	-
Stage 2	-	-	-	-	-	-	539	553	-	438	450	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1083	-	-	951	-	-	142	189	476	162	190	596
Mov Cap-2 Maneuver	-	-	-	-	-	-	266	305	-	287	307	-
Stage 1	-	-	-	-	-	-	425	443	-	558	554	-
Stage 2	-	-	-	-	-	-	482	550	-	415	441	-
Approach	EB			WB			NB			SB		
HCM Control Delay, s	0.3			0.1			17.9			15		
HCM LOS							C			C		
Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1				
Capacity (veh/h)	321	1083	-	-	951	-	-	446				
HCM Lane V/C Ratio	0.129	0.02	-	-	0.005	-	-	0.195				
HCM Control Delay (s)	17.9	8.4	-	-	8.8	-	-	15				
HCM Lane LOS	C	A	-	-	A	-	-	C				
HCM 95th %tile O(veh)	0.4	0.1	-	-	0	-	-	0.7				

HCM 6th TWSC
19: 119th Street & Middle Access Road

09/14/2022

Intersection

Int Delay, s/veh 1

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	14	576	372	4	25	50
Future Vol, veh/h	14	576	372	4	25	50
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	145	-	-	-	0	0
Veh in Median Storage, #	-	0	0	-	1	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	0	2	2	0	0	0
Mvmt Flow	15	626	404	4	27	54

Major/Minor	Major1	Major2	Minor2
Conflicting Flow All	408	0	0 1062 406
Stage 1	-	-	- - 406 -
Stage 2	-	-	- - 656 -
Critical Hdwy	4.1	-	- - 6.4 6.2
Critical Hdwy Stg 1	-	-	- - 5.4 -
Critical Hdwy Stg 2	-	-	- - 5.4 -
Follow-up Hdwy	2.2	-	- - 3.5 3.3
Pot Cap-1 Maneuver	1162	-	- - 250 649
Stage 1	-	-	- - 677 -
Stage 2	-	-	- - 520 -
Platoon blocked, %		-	- -
Mov Cap-1 Maneuver	1162	-	- - 247 649
Mov Cap-2 Maneuver	-	-	- - 377 -
Stage 1	-	-	- - 668 -
Stage 2	-	-	- - 520 -

Approach	EB	WB	SB
HCM Control Delay, s	0.2	0	12.5
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	1162	-	-	-	377	649
HCM Lane V/C Ratio	0.013	-	-	-	0.072	0.084
HCM Control Delay (s)	8.1	-	-	-	15.3	11.1
HCM Lane LOS	A	-	-	-	C	B
HCM 95th %tile Q(veh)	0	-	-	-	0.2	0.3

Intersection

Int Delay, s/veh 0.6

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	6	603	351	4	20	25
Future Vol, veh/h	6	603	351	4	20	25
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	145	-	-	-	0	0
Veh in Median Storage, #	-	0	0	-	1	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	0	2	2	0	0	0
Mvmt Flow	7	655	382	4	22	27

Major/Minor	Major1	Major2	Minor2
Conflicting Flow All	386	0	0 1053 384
Stage 1	-	-	- - 384 -
Stage 2	-	-	- - 669 -
Critical Hdwy	4.1	-	- - 6.4 6.2
Critical Hdwy Stg 1	-	-	- - 5.4 -
Critical Hdwy Stg 2	-	-	- - 5.4 -
Follow-up Hdwy	2.2	-	- - 3.5 3.3
Pot Cap-1 Maneuver	1184	-	- - 253 668
Stage 1	-	-	- - 693 -
Stage 2	-	-	- - 513 -
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	1184	-	- - 251 668
Mov Cap-2 Maneuver	-	-	- - 379 -
Stage 1	-	-	- - 689 -
Stage 2	-	-	- - 513 -

Approach	EB	WB	SB
HCM Control Delay, s	0.1	0	12.6
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	1184	-	-	-	379	668
HCM Lane V/C Ratio	0.006	-	-	-	0.057	0.041
HCM Control Delay (s)	8.1	-	-	-	15.1	10.6
HCM Lane LOS	A	-	-	-	C	B
HCM 95th %tile Q(veh)	0	-	-	-	0.2	0.1

Capacity Analysis Summary Sheets
Weekday Evening Peak Hour – Projected Conditions

Lanes, Volumes, Timings

3: Plainfield-Naperville Road & 119th Street

09/14/2022

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	176	268	60	91	499	41	40	457	45	26	605	201
Future Volume (vph)	176	268	60	91	499	41	40	457	45	26	605	201
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	185		0	175		0	185		0	195		0
Storage Lanes	1		0	1		0	1		0	1		0
Taper Length (ft)	180			190			190			190		
Lane Util. Factor	1.00	0.95	0.95	1.00	0.95	0.95	1.00	0.95	0.95	1.00	0.95	0.95
Frt		0.972			0.989			0.987			0.963	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1736	3398	0	1805	3538	0	1671	3547	0	1805	3442	0
Flt Permitted	0.204			0.542			0.231			0.409		
Satd. Flow (perm)	373	3398	0	1030	3538	0	406	3547	0	777	3442	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		25			7			11			49	
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		1390			1382			647			700	
Travel Time (s)		31.6			31.4			14.7			15.9	
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Heavy Vehicles (%)	4%	4%	0%	0%	1%	0%	8%	0%	5%	0%	1%	1%
Shared Lane Traffic (%)												
Lane Group Flow (vph)	187	349	0	97	575	0	43	534	0	28	858	0
Turn Type	pm+pt	NA		pm+pt	NA		pm+pt	NA		pm+pt	NA	
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases	4			8			2			6		
Detector Phase	7	4		3	8		5	2		1	6	
Switch Phase												
Minimum Initial (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	
Minimum Split (s)	9.5	24.0		9.5	24.0		9.5	24.0		9.5	24.0	
Total Split (s)	17.0	38.0		11.0	32.0		11.0	50.0		11.0	50.0	
Total Split (%)	15.5%	34.5%		10.0%	29.1%		10.0%	45.5%		10.0%	45.5%	
Yellow Time (s)	3.5	4.0		3.5	4.0		3.5	4.0		3.5	4.0	
All-Red Time (s)	0.0	2.0		0.0	2.0		0.0	2.0		0.0	2.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)	3.5	6.0		3.5	6.0		3.5	6.0		3.5	6.0	
Lead/Lag	Lead	Lag		Lead	Lag		Lead	Lag		Lead	Lag	
Lead-Lag Optimize?	Yes	Yes		Yes	Yes		Yes	Yes		Yes	Yes	
Recall Mode	None	None		None	None		None	Max		None	Max	
Act Effect Green (s)	39.5	28.5		31.0	21.2		51.4	44.9		50.9	44.6	
Actuated g/C Ratio	0.40	0.29		0.31	0.21		0.52	0.45		0.51	0.45	
v/c Ratio	0.59	0.35		0.26	0.76		0.15	0.33		0.06	0.55	
Control Delay	29.0	28.4		22.0	44.0		13.7	19.9		12.8	22.3	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay	29.0	28.4		22.0	44.0		13.7	19.9		12.8	22.3	
LOS	C	C		C	D		B	B		B	C	
Approach Delay		28.6			40.8			19.4			22.0	
Approach LOS		C			D			B			C	
Queue Length 50th (ft)	84	93		41	191		13	124		9	219	
Queue Length 95th (ft)	138	136		77	255		33	180		24	301	

Lanes, Volumes, Timings

3: Plainfield-Naperville Road & 119th Street

09/14/2022

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Internal Link Dist (ft)	1310			1302			567			620		
Turn Bay Length (ft)	185			175			185			195		
Base Capacity (vph)	335	1122		382	940		306	1601		478	1567	
Starvation Cap Reductn	0	0		0	0		0	0		0	0	
Spillback Cap Reductn	0	0		0	0		0	0		0	0	
Storage Cap Reductn	0	0		0	0		0	0		0	0	
Reduced v/c Ratio	0.56	0.31		0.25	0.61		0.14	0.33		0.06	0.55	

Intersection Summary

Area Type: Other

Cycle Length: 110

Actuated Cycle Length: 99.7

Natural Cycle: 70

Control Type: Actuated-Uncoordinated

Maximum v/c Ratio: 0.76

Intersection Signal Delay: 27.5

Intersection LOS: C

Intersection Capacity Utilization 68.8%

ICU Level of Service C

Analysis Period (min) 15

Splits and Phases: 3: Plainfield-Naperville Road & 119th Street

 Ø1	 Ø2	 Ø3	 Ø4
11 s	50 s	11 s	38 s
 Ø5	 Ø6	 Ø7	 Ø8
11 s	50 s	17 s	32 s

Lanes, Volumes, Timings
11: IL 59 & 119th Street

09/14/2022

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	158	258	78	218	444	117	165	1262	172	156	1377	186
Future Volume (vph)	158	258	78	218	444	117	165	1262	172	156	1377	186
Ideal Flow (vphpl)	1900	2000	1900	1900	2000	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	210		210	185		300	480		0	480		0
Storage Lanes	1		1	1		1	1		0	1		0
Taper Length (ft)	150			140			200			200		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	1.00	0.95	0.95
Frt			0.850			0.850		0.982			0.982	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1752	1961	1615	1787	1942	1615	1787	3459	0	1752	3484	0
Flt Permitted	0.137			0.214			0.950			0.950		
Satd. Flow (perm)	253	1961	1615	403	1942	1615	1787	3459	0	1752	3484	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			99			44		13			13	
Link Speed (mph)		45			35			45			45	
Link Distance (ft)		1638			2249			1037			2478	
Travel Time (s)		24.8			43.8			15.7			37.5	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Heavy Vehicles (%)	3%	2%	0%	1%	3%	0%	1%	2%	6%	3%	2%	0%
Shared Lane Traffic (%)												
Lane Group Flow (vph)	166	272	82	229	467	123	174	1509	0	164	1645	0
Turn Type	pm+pt	NA	Perm	pm+pt	NA	pm+ov	Prot	NA		Prot	NA	
Protected Phases	7	4		3	8	1	5	2		1	6	
Permitted Phases	4		4	8		8						
Detector Phase	7	4	4	3	8	1	5	2		1	6	
Switch Phase												
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0		5.0	5.0	
Minimum Split (s)	9.5	24.0	24.0	9.5	24.0	9.5	9.5	24.0		9.5	24.0	
Total Split (s)	13.0	34.0	34.0	23.0	44.0	19.0	21.0	84.0		19.0	82.0	
Total Split (%)	8.1%	21.3%	21.3%	14.4%	27.5%	11.9%	13.1%	52.5%		11.9%	51.3%	
Yellow Time (s)	3.5	4.0	4.0	3.5	4.0	3.5	3.5	4.0		3.5	4.0	
All-Red Time (s)	0.0	2.0	2.0	0.0	2.0	1.0	1.0	2.0		1.0	2.0	
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Total Lost Time (s)	3.5	6.0	6.0	3.5	6.0	4.5	4.5	6.0		4.5	6.0	
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lead	Lead	Lag		Lead	Lag	
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes		Yes	Yes	
Recall Mode	None	None	None	None	None	None	None	C-Min		None	C-Min	
Act Effect Green (s)	41.1	29.1	29.1	53.5	38.0	58.5	16.5	78.0		14.5	76.0	
Actuated g/C Ratio	0.26	0.18	0.18	0.33	0.24	0.37	0.10	0.49		0.09	0.48	
v/c Ratio	1.08	0.76	0.22	0.78	1.01	0.20	0.95	0.89		1.04	0.99	
Control Delay	136.8	77.3	7.3	59.9	104.3	22.9	123.1	44.8		143.0	51.9	
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Total Delay	136.8	77.3	7.3	59.9	104.3	22.9	123.1	44.8		143.0	51.9	
LOS	F	E	A	E	F	C	F	D		F	D	
Approach Delay		85.3			79.7			52.9			60.2	
Approach LOS		F			E			D			E	
Queue Length 50th (ft)	~141	276	0	183	~504	55	184	737		~188	818	
Queue Length 95th (ft)	#300	#411	35	#275	#740	107	#340	850		#353	#1048	

Lanes, Volumes, Timings

11: IL 59 & 119th Street

09/14/2022

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Internal Link Dist (ft)	1558			2169			957			2398		
Turn Bay Length (ft)	210		210	185		300	480			480		
Base Capacity (vph)	154	356	374	303	461	618	184	1692		158	1661	
Starvation Cap Reductn	0	0	0	0	0	0	0	0		0	0	
Spillback Cap Reductn	0	0	0	0	0	0	0	0		0	0	
Storage Cap Reductn	0	0	0	0	0	0	0	0		0	0	
Reduced v/c Ratio	1.08	0.76	0.22	0.76	1.01	0.20	0.95	0.89		1.04	0.99	

Intersection Summary

Area Type: Other

Cycle Length: 160

Actuated Cycle Length: 160

Offset: 46 (29%), Referenced to phase 2:NBT and 6:SBT, Start of Green

Natural Cycle: 120

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 1.08

Intersection Signal Delay: 63.7

Intersection LOS: E

Intersection Capacity Utilization 101.2%

ICU Level of Service G

Analysis Period (min) 15

~ Volume exceeds capacity, queue is theoretically infinite.

Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

Splits and Phases: 11: IL 59 & 119th Street

 Ø1	 Ø2 (R)	 Ø3	 Ø4
19 s	84 s	23 s	34 s
 Ø5	 Ø6 (R)	 Ø7	 Ø8
21 s	82 s	13 s	44 s

Lanes, Volumes, Timings
14: IL 59 & Champion Drive

09/14/2022

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	43	3	24	56	3	44	25	1438	55	32	1722	75
Future Volume (vph)	43	3	24	56	3	44	25	1438	55	32	1722	75
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	85		0	80		0	265		0	250		0
Storage Lanes	1		0	1		0	1		0	1		0
Taper Length (ft)	100			90			210			205		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	1.00	0.95	0.95
Frt		0.867			0.859			0.994			0.994	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1805	1591	0	1770	1492	0	1805	3521	0	1805	3521	0
Flt Permitted	0.851			0.548			0.950			0.950		
Satd. Flow (perm)	1617	1591	0	1021	1492	0	1805	3521	0	1805	3521	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		24			45			4			5	
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		390			412			2478			1195	
Travel Time (s)		8.9			9.4			56.3			27.2	
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Heavy Vehicles (%)	0%	0%	4%	2%	0%	10%	0%	2%	0%	0%	2%	0%
Shared Lane Traffic (%)												
Lane Group Flow (vph)	44	27	0	57	48	0	26	1523	0	33	1834	0
Turn Type	pm+pt	NA		pm+pt	NA		Prot	NA		Prot	NA	
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases	4			8								
Detector Phase	7	4		3	8		5	2		1	6	
Switch Phase												
Minimum Initial (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	
Minimum Split (s)	9.5	24.0		9.5	24.0		9.5	24.0		9.5	24.0	
Total Split (s)	14.0	25.0		14.0	25.0		17.0	104.0		17.0	104.0	
Total Split (%)	8.8%	15.6%		8.8%	15.6%		10.6%	65.0%		10.6%	65.0%	
Yellow Time (s)	3.5	4.0		3.5	4.0		3.5	4.0		3.5	4.0	
All-Red Time (s)	0.0	2.0		0.0	2.0		1.0	2.0		1.0	2.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)	3.5	6.0		3.5	6.0		4.5	6.0		4.5	6.0	
Lead/Lag	Lead	Lag		Lead	Lag		Lead	Lag		Lead	Lag	
Lead-Lag Optimize?	Yes	Yes		Yes	Yes		Yes	Yes		Yes	Yes	
Recall Mode	None	None		None	None		None	C-Max		None	C-Max	
Act Effect Green (s)	14.8	6.9		17.8	7.2		7.8	123.2		8.4	126.0	
Actuated g/C Ratio	0.09	0.04		0.11	0.04		0.05	0.77		0.05	0.79	
v/c Ratio	0.28	0.30		0.34	0.44		0.30	0.56		0.35	0.66	
Control Delay	65.7	36.1		66.6	32.9		58.5	15.1		82.5	12.5	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay	65.7	36.1		66.6	32.9		58.5	15.1		82.5	12.5	
LOS	E	D		E	C		E	B		F	B	
Approach Delay		54.4			51.2			15.8			13.7	
Approach LOS		D			D			B			B	
Queue Length 50th (ft)	41	3		54	3		28	390		34	524	
Queue Length 95th (ft)	80	38		98	49		m31	m494		72	721	

Lanes, Volumes, Timings
14: IL 59 & Champion Drive

09/14/2022

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Internal Link Dist (ft)		310			332			2398			1115	
Turn Bay Length (ft)	85			80			265			250		
Base Capacity (vph)	180	210		176	216		141	2711		141	2772	
Starvation Cap Reductn	0	0		0	0		0	0		0	0	
Spillback Cap Reductn	0	0		0	0		0	0		0	0	
Storage Cap Reductn	0	0		0	0		0	0		0	0	
Reduced v/c Ratio	0.24	0.13		0.32	0.22		0.18	0.56		0.23	0.66	

Intersection Summary

Area Type: Other

Cycle Length: 160

Actuated Cycle Length: 160

Offset: 45 (28%), Referenced to phase 2:NBT and 6:SBT, Start of Green

Natural Cycle: 100

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.66

Intersection Signal Delay: 16.5

Intersection LOS: B

Intersection Capacity Utilization 69.8%

ICU Level of Service C

Analysis Period (min) 15

m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 14: IL 59 & Champion Drive

 Ø1	 Ø2 (R)	 Ø3	 Ø4
17 s	104 s	14 s	25 s
 Ø5	 Ø6 (R)	 Ø7	 Ø8
17 s	104 s	14 s	25 s

HCM 6th TWSC
6: Book Road & 119th Street

09/14/2022

Intersection						
Int Delay, s/veh	0.1					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	499	0	20	726	1	0
Future Vol, veh/h	499	0	20	726	1	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	2	0	0	2	0	0
Mvmt Flow	525	0	21	764	1	0
Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	525	0	1331	525
Stage 1	-	-	-	-	525	-
Stage 2	-	-	-	-	806	-
Critical Hdwy	-	-	4.1	-	6.4	6.2
Critical Hdwy Stg 1	-	-	-	-	5.4	-
Critical Hdwy Stg 2	-	-	-	-	5.4	-
Follow-up Hdwy	-	-	2.2	-	3.5	3.3
Pot Cap-1 Maneuver	-	-	1052	-	172	556
Stage 1	-	-	-	-	598	-
Stage 2	-	-	-	-	443	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1052	-	166	556
Mov Cap-2 Maneuver	-	-	-	-	300	-
Stage 1	-	-	-	-	598	-
Stage 2	-	-	-	-	427	-
Approach	EB		WB		NB	
HCM Control Delay, s	0		0.2		17	
HCM LOS					C	
Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT	
Capacity (veh/h)	300	-	-	1052	-	
HCM Lane V/C Ratio	0.004	-	-	0.02	-	
HCM Control Delay (s)	17	-	-	8.5	0	
HCM Lane LOS	C	-	-	A	A	
HCM 95th %tile Q(veh)	0	-	-	0.1	-	

HCM 6th TWSC
9: Wolf Drive/West Access Road & 119th Street

09/14/2022

Intersection												
Int Delay, s/veh	1.5											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	66	530	17	7	688	45	13	0	5	15	0	37
Future Vol, veh/h	66	530	17	7	688	45	13	0	5	15	0	37
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	145	-	-	145	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	1	-	-	1	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	95	95	95	95	92	95	92	95	92	92	92
Heavy Vehicles, %	2	2	0	0	2	2	8	2	0	2	2	2
Mvmt Flow	72	558	18	7	724	49	14	0	5	16	0	40
Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	773	0	0	576	0	0	1494	1498	567	1477	1483	749
Stage 1	-	-	-	-	-	-	711	711	-	763	763	-
Stage 2	-	-	-	-	-	-	783	787	-	714	720	-
Critical Hdwy	4.12	-	-	4.1	-	-	7.18	6.52	6.2	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.18	5.52	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.18	5.52	-	6.12	5.52	-
Follow-up Hdwy	2.218	-	-	2.2	-	-	3.572	4.018	3.3	3.518	4.018	3.318
Pot Cap-1 Maneuver	842	-	-	1007	-	-	98	122	527	104	125	412
Stage 1	-	-	-	-	-	-	415	436	-	397	413	-
Stage 2	-	-	-	-	-	-	378	403	-	422	432	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	842	-	-	1007	-	-	82	111	527	96	114	412
Mov Cap-2 Maneuver	-	-	-	-	-	-	179	214	-	212	234	-
Stage 1	-	-	-	-	-	-	379	399	-	363	410	-
Stage 2	-	-	-	-	-	-	339	400	-	382	395	-
Approach	EB			WB			NB			SB		
HCM Control Delay, s	1.1			0.1			23			18.4		
HCM LOS							C			C		
Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1				
Capacity (veh/h)	219	842	-	-	1007	-	-	324				
HCM Lane V/C Ratio	0.087	0.085	-	-	0.007	-	-	0.174				
HCM Control Delay (s)	23	9.7	-	-	8.6	-	-	18.4				
HCM Lane LOS	C	A	-	-	A	-	-	C				
HCM 95th %tile Q(veh)	0.3	0.3	-	-	0	-	-	0.6				

HCM 6th TWSC
19: 119th Street & Middle Access Road

09/14/2022

Intersection

Int Delay, s/veh 1

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	54	496	707	21	15	33
Future Vol, veh/h	54	496	707	21	15	33
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	145	-	-	-	0	0
Veh in Median Storage, #	-	0	0	-	1	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	0	2	2	0	0	0
Mvmt Flow	59	539	768	23	16	36

Major/Minor	Major1	Major2	Minor2
Conflicting Flow All	791	0	0 1437 780
Stage 1	-	-	- - 780 -
Stage 2	-	-	- - 657 -
Critical Hdwy	4.1	-	- - 6.4 6.2
Critical Hdwy Stg 1	-	-	- - 5.4 -
Critical Hdwy Stg 2	-	-	- - 5.4 -
Follow-up Hdwy	2.2	-	- - 3.5 3.3
Pot Cap-1 Maneuver	838	-	- - 148 399
Stage 1	-	-	- - 455 -
Stage 2	-	-	- - 519 -
Platoon blocked, %		-	- -
Mov Cap-1 Maneuver	838	-	- - 138 399
Mov Cap-2 Maneuver	-	-	- - 275 -
Stage 1	-	-	- - 423 -
Stage 2	-	-	- - 519 -

Approach	EB	WB	SB
HCM Control Delay, s	0.9	0	16.2
HCM LOS			C

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	838	-	-	-	275	399
HCM Lane V/C Ratio	0.07	-	-	-	0.059	0.09
HCM Control Delay (s)	9.6	-	-	-	18.9	14.9
HCM Lane LOS	A	-	-	-	C	B
HCM 95th %tile Q(veh)	0.2	-	-	-	0.2	0.3

Intersection

Int Delay, s/veh 0.8

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	39	472	699	28	19	21
Future Vol, veh/h	39	472	699	28	19	21
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	145	-	-	-	0	0
Veh in Median Storage, #	-	0	0	-	1	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	0	2	2	0	0	0
Mvmt Flow	42	513	760	30	21	23

Major/Minor	Major1	Major2	Minor2
Conflicting Flow All	790	0	0 1372 775
Stage 1	-	-	- - 775 -
Stage 2	-	-	- - 597 -
Critical Hdwy	4.1	-	- - 6.4 6.2
Critical Hdwy Stg 1	-	-	- - 5.4 -
Critical Hdwy Stg 2	-	-	- - 5.4 -
Follow-up Hdwy	2.2	-	- - 3.5 3.3
Pot Cap-1 Maneuver	839	-	- - 163 401
Stage 1	-	-	- - 458 -
Stage 2	-	-	- - 554 -
Platoon blocked, %		-	- -
Mov Cap-1 Maneuver	839	-	- - 155 401
Mov Cap-2 Maneuver	-	-	- - 292 -
Stage 1	-	-	- - 435 -
Stage 2	-	-	- - 554 -

Approach	EB	WB	SB
HCM Control Delay, s	0.7	0	16.3
HCM LOS			C

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	839	-	-	-	292	401
HCM Lane V/C Ratio	0.051	-	-	-	0.071	0.057
HCM Control Delay (s)	9.5	-	-	-	18.3	14.5
HCM Lane LOS	A	-	-	-	C	B
HCM 95th %tile Q(veh)	0.2	-	-	-	0.2	0.2