Traffic Impact Study
Proposed Data Center
Naperville, Illinois

Prepared For:

JACOB & HEFNER ASSOCIATES

KLOA
Kenig, Lindgren, O'Hara, Aboona, Inc.

March 20, 2025

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 data center development to be located in the northwest quadrant of the intersection of Naperville Road with Warrenville Road in Naperville, Illinois. As proposed, the site, which contained the former Lucent office complex, will be redeveloped with two data center buildings totaling approximately 422,500 square feet and approximately 120 surface parking spaces. Access to the development will be provided via one full-movement access drive on Lucent Lane and one emergency access drive on Lucent Lane and one emergency access drive on Weatherbee Lane.

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. **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 sections of this report present the following:

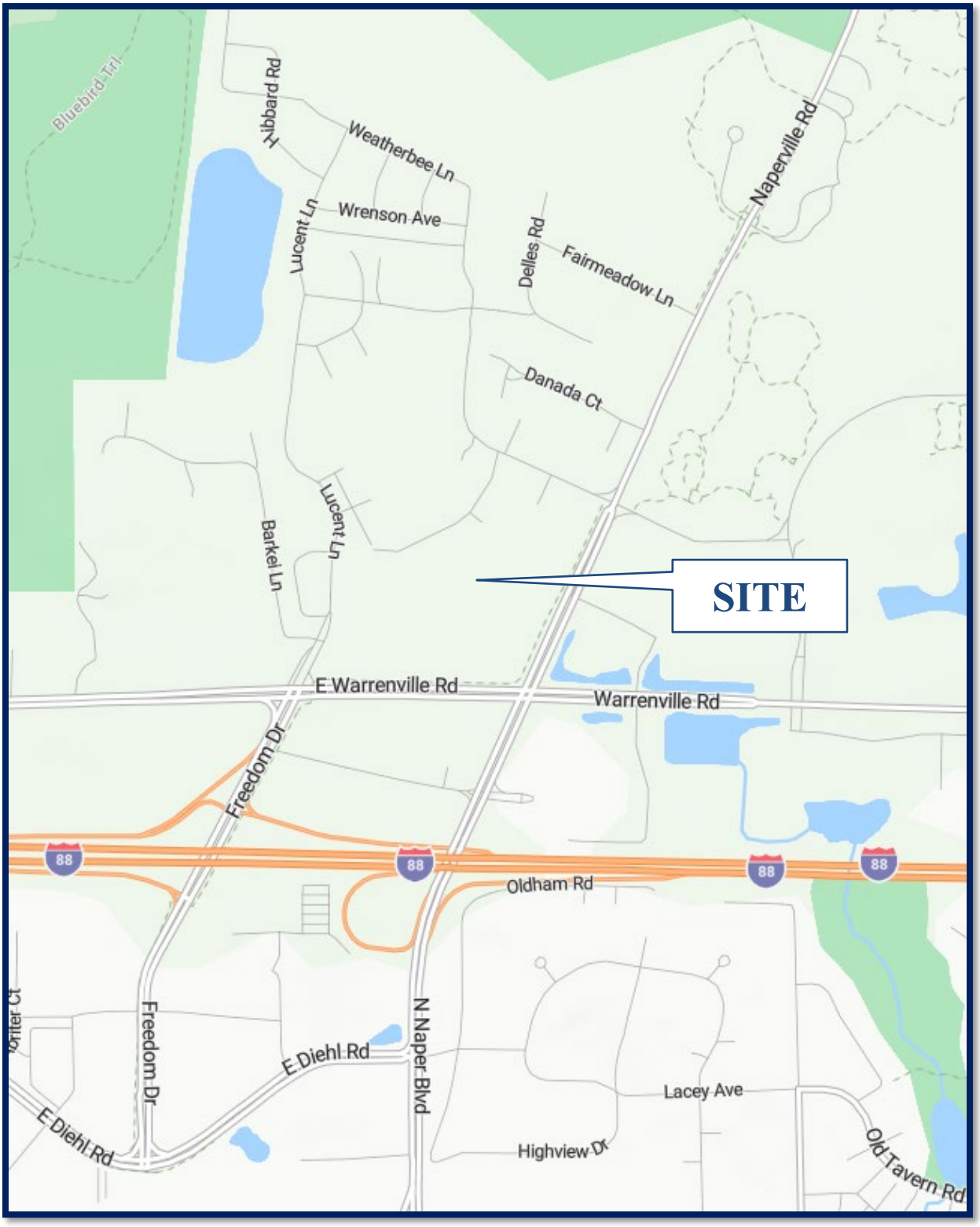
- Existing roadway conditions
- A description of the proposed development
- Directional distribution of the development
- Vehicle trip generation for the development
- Future traffic conditions including access to the development
- Traffic analyses for the weekday morning and weekday evening peak hours
- 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. Existing Conditions – Analyzes the capacity of the existing roadway system using peak hour traffic volumes obtained from the traffic counts.

2. Year 2031 No-Build Conditions – Analyzes the capacity of the existing roadway system using the existing traffic volumes increased by an ambient area growth factor not attributable to any particular development.

3. Year 2031 Total Projected Conditions – Analyzes the capacity of the future roadway system assuming the Year 2031 no-build traffic volumes and the traffic estimated to be generated by the proposed data center.



Site Location **Figure 1**

Aerial View of Site **Figure 2**

2. Existing Conditions

Existing transportation conditions in the vicinity of the site were documented 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.

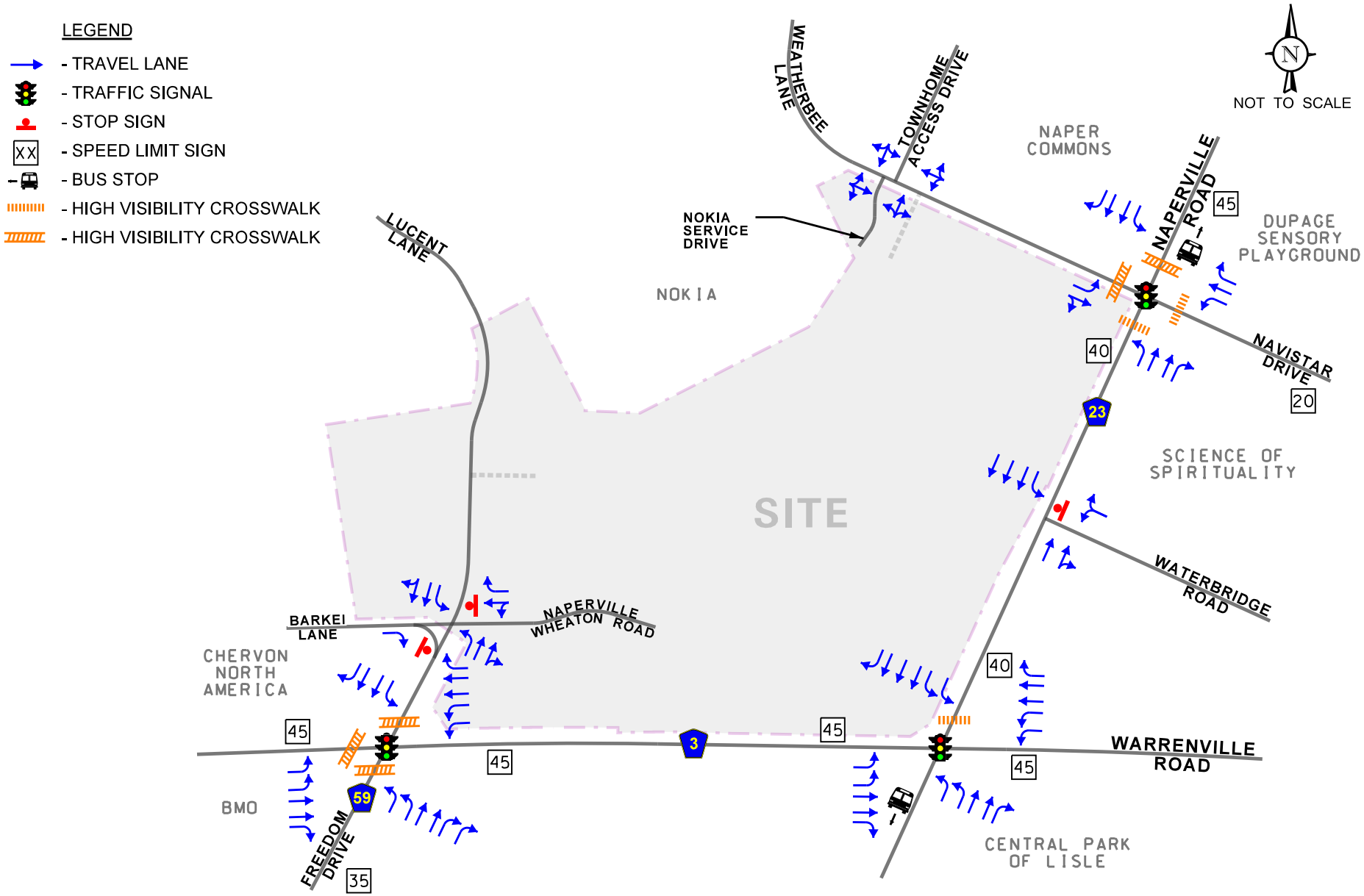
Site Location

The site formerly contained the Lucent office building which included two parking garages and a surface parking lot. Access to the former site was primarily provided via Naperville Wheaton Road that extended between Lucent Lane aligned opposite Barkei Lane to Weatherbee Lane. In addition, access to the west parking garage was provided via two full-movement access drives on Lucent Lane and access to the east parking garage was provided via one full-movement access drive on Weatherbee Lane and one full-movement access drive on Naperville Wheaton Road. The site is bounded by a vacant office building to the northwest and residential to the northeast and the southwest. Commercial uses are located, east, west and south of the site located along Naperville Road and Warrensville Road. It should be noted that I-88 is located approximately one-quarter mile south of the site with limited-access interchanges located along Freedom Drive (to/from west on I -88 and from the east on I-88) and Naperville Road (to the east of I-88).

Existing Roadway System Characteristics

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

Naperville Road (DuPage County Highway 23) is a north-south other principal arterial roadway that in the vicinity of the site generally provides three through lanes in the southbound direction and two through lanes in the northbound direction. At its signalized intersection with Warrenville Road, Naperville Road provides dual left-turn lanes, two through lanes and an exclusive right-turn lane on the northbound approach and dual left-turn lanes, three through lanes, and an exclusive right-turn lane on the southbound approach. A high-visibility crosswalk is provided on the north leg of the intersection. At its signalized intersection with Weatherbee Lane/Navistar Drive, Naperville Road provides an exclusive left-turn lane, two through lanes, and an exclusive right-turn lane on both approaches. High-visibility crosswalks are provided on the north and south legs of the intersection. At its unsignalized intersection with Waterbridge Road, Naperville Road provides a through lane and a combined through/right-turn lane on the northbound approach and a left-turn lane and three through lanes on the southbound approach. Naperville Road is under the jurisdiction of the DuPage County Division of Transportation (DuDOT), carries an annual average daily traffic (AADT) volume of 33,100 vehicles south of Warrenville Road and 28,000 vehicles north of Warrenville Road (IDOT 2016), and has a posted speed limit of 40 miles per hour increasing to 45 miles per hour north of Lucent Lane/Navistar Drive.



Data Center
Naperville, Illinois

Existing Roadway Characteristics

KLOA
Kenig,Lindgren,O'Hara,Aboona,Inc.

Job No: 25-047

Figure: 3

Warrenville Road (DuPage County Highway 3) is an east-west minor arterial roadway that provides two lanes in each direction. At its signalized intersection with Naperville Road and Lucent Lane/Freedom Drive, Warrenville Road provides dual left-turn lanes, two through lanes, and a right-turn lane on all approaches. A high-visibility crosswalk is provided on the west leg of its intersection with Lucent Lane/Freedom Drive. Warrenville Road carries an AADT volume of 10,500 vehicles east of Naperville Road and 11,000 vehicles west of Naperville Road (IDOT 2020). Warrenville Road is under the jurisdiction of DuDOT and has a posted speed limit of 45 miles per hour.

Weatherbee Lane is a local roadway that provides one through lane in each direction and is aligned opposite Navistar Drive at its intersection with Naperville Road. At its signalized intersection with Naperville Road, Weatherbee Lane provides a left-turn lane and a combined through/right-turn lane on the eastbound approach and Navistar Drive provides a left-turn lane, a through lane, and a right-turn lane on the westbound approach. A high-visibility crosswalk is provided on the east leg of the intersection. Weatherbee Lane is under the jurisdiction of the City of Naperville and Navistar Drive is under the jurisdiction of the Village of Lisle. Navistar Drive has a posted speed limit of 20 miles per hour.

Freedom Drive (DuPage County Highway 59)/Lucent Lane is a north-south roadway. Lucent Lane extends north of Warrenville Road, is classified as a local roadway, and provides one lane in each direction. Freedom Drive extends south of Warrenville Road, is classified as a major collector roadway, and generally provides two lanes in each direction. At its signalized intersection with Warrenville Road, Freedom Drive provides dual left-turn lanes, two through lanes, and dual right-turn lanes on the northbound approach and Lucent Lane provides a left-turn lane, two through lanes, and a right-turn lane on the southbound approach. High-visibility crosswalks are provided on the north and south legs of the intersection. At its unsignalized intersection with Barkei Lane/Lucent access road, Lucent Lane provides a left-turn lane, a through lane, and a combined through/right-turn lane on both approaches. Freedom Drive carries an AADT volume of 3,600 vehicles (IDOT 2020), is under the jurisdiction of DuDOT, and has a posted speed limit of 35 miles per hour. Lucent Lane is under the jurisdiction of the City of Naperville.

Waterbridge Road is an east-west local roadway that extends east from Naperville Road and provides one lane in each direction. At its unsignalized intersection with Naperville Road, Waterbridge Road provides a combined left-turn/right-turn lane on the westbound approach. The roadway is under the jurisdiction of the Village of Lisle.

Lucent Access Road/Naperville Wheaton Road are east-west private roadways that provide one lane in each direction. Naperville Wheaton Road extends east of Lucent Lane and Barkei Lane extends west of Lucent Lane. At its unsignalized intersection with Lucent Lane, Barkei Lane provides a channelized right-turn lane on the eastbound approach that is under stop sign control and Naperville Wheaton Road provides a combined left-turn/through lane and a right-turn lane on the westbound approach that are under stop sign control. It should be noted that when the study was conducted, this access drive was gated with a temporary fence for site demolition and future construction.

Vacant Office Building Access Drive/Townhome Access Drive are private access drives that serve the vacant office building north of the site and two rows of townhome buildings. Both access drives provide one lane in each direction.

Existing Traffic Volumes

In order to determine current traffic conditions within the study area, KLOA, Inc. conducted peak period traffic counts on Thursday, February 20, 2025 during the weekday morning (7:00 A.M. to 9:00 A.M.) and weekday evening (4:00 P.M. to 6:00 P.M.) peak periods at the following intersections:

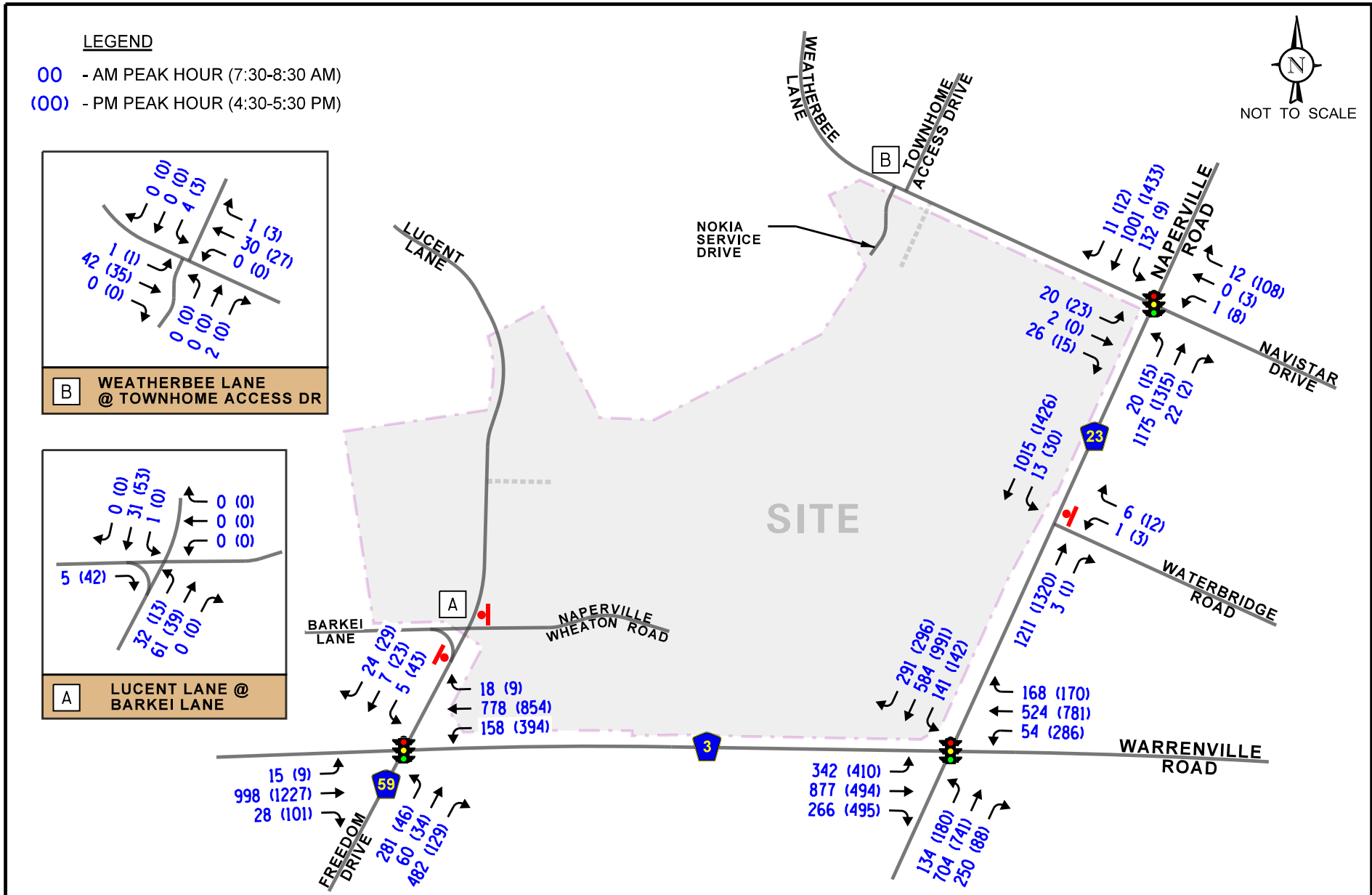
- Naperville Road with Waterbridge Road
- Lucent Lane with Naperville Wheaton Road/Barkei Lane
- Weatherbee Lane with Lucent Service Drive/Townhome Access Drive

In addition, previous traffic counts conducted in April 2024 at the following intersections were utilized for the study:

- Naperville Road with Warrenville Road
- Naperville Road with Navistar Drive/Weatherbee Lane
- Warrenville Road with Lucent Lane/Freedom Drive

The results of the traffic counts showed that the weekday morning peak hour of traffic occurs from 7:30 A.M. to 8:30 A.M. and the weekday evening peak hour of traffic occurs from 4:30 P.M. to 5:30 P.M. The 2024 traffic counts were adjusted with an annual growth rate (to be discussed later in the report) to reflect 2025 traffic volumes. Additionally, the through volumes along the various roads were balanced at all intersections.

Figure 4 illustrates the existing traffic volumes. Copies of the traffic count summary sheets are included in the Appendix.



Data Center
Naperville, Illinois

Existing Traffic Volumes

KLOA
Kenig,Lindgren,O'Hara,Aboona,Inc.

Job No: 25-047 Figure: 4

Crash Data Summary

KLOA, Inc. obtained crash data[1] from IDOT for the most recent past five years available (2019 to 2023) for the roadway intersections included in the study area. **Tables 1** through **4** summarize the crash data for the intersections. A review of the crash data indicated that one fatal crash occurred during the review period at the intersection of Naperville Road with Warrenville Road in 2020. The crash occurred at approximately midnight when weather conditions were clear and the roadway was dry and consisted of a turning crash between an SUV and a vehicle.

Table 1
NAPERVILLE ROAD WITH WARRENVILLE ROAD – CRASH SUMMARY

Year	Type of Crash Frequency							
	Angle	Head On	Object	Rear End	Sideswipe	Turning	Other	Total
2019	0	0	0	5	0	4	0	9
2020	1	0	0	4	0	6	0	11
2021	3	0	0	4	0	2	0	9
2022	0	0	1	3	1	1	0	6
2023	1	0	0	7	1	3	0	12
Total	**5**	**0**	**1**	**23**	**2**	**16**	**0**	**47**
Average	**1.0**	**0.0**	**<1.0**	**4.6**	**<1.0**	**3.2**	**0.0**	**9.4**

Table 2
NAPERVILLE ROAD WITH NAVISTAR DRIVE/WEATHERBEE LANE – CRASH SUMMARY

Year	Type of Crash Frequency							
	Angle	Head On	Object	Rear End	Sideswipe	Turning	Other	Total
2019	0	0	0	1	0	0	0	1
2020	1	0	0	1	0	0	0	2
2021	0	0	0	1	0	0	0	1
2022	0	0	1	0	0	0	0	1
2023	0	0	0	2	0	1	0	3
Total	**1**	**0**	**1**	**5**	**0**	**1**	**0**	**8**
Average	**<1.0**	**0.0**	**<1.0**	**1.0**	**0.0**	**<1.0**	**0.0**	**1.6**

[1] IDOT DISCLAIMER: The motor vehicle crash data referenced herein was provided by the Illinois Department of Transportation. The author is responsible for any data analyses and conclusions drawn.

Table 3
WARRENVILLE ROAD WITH LUCENT LANE/FREEDOM DRIVE

Year	Type of Crash Frequency							
	Angle	Head On	Object	Rear End	Sideswipe	Turning	Other	Total
2019	1	0	0	5	0	4	0	10
2020	0	0	0	0	0	2	0	2
2021	0	0	0	2	0	1	0	3
2022	0	0	1	3	0	2	0	6
2023	0	0	0	0	1	1	0	2
Total	**1**	**0**	**1**	**10**	**1**	**10**	**0**	**23**
Average	**<1.0**	**0.0**	**<1.0**	**2.0**	**<1.0**	**2.0**	**0.0**	**4.6**

Table 4
NAPERVILLE ROAD WITH WATERBRIDGE ROAD

Year	Type of Crash Frequency							
	Angle	Head On	Object	Rear End	Sideswipe	Turning	Other	Total
2019	0	0	0	0	0	0	0	0
2020	0	0	0	0	0	0	0	0
2021	0	0	0	0	0	0	0	0
2022	0	0	0	1	1	0	0	2
2023	0	0	0	0	0	0	0	0
Total	**0**	**0**	**0**	**1**	**1**	**0**	**0**	**2**
Average	**0.0**	**0.0**	**0.0**	**<1.0**	**<1.0**	**0.0**	**0.0**	**<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 development is to consist of two data center buildings totaling approximately 422,500 square feet. The development will be constructed in two phases with Phase 1 consisting of the west data center building and adjacent 60 surface parking spaces and Phase II consisting of the east data center building and adjacent 60 surface parking spaces. Each data center building will be approximately 211,160 square feet in size.

Access to the development will be provided via the following three access drives:

- Vehicle access to the development is proposed via a full-movement access drive located on the east side of Lucent Lane located opposite Barkei Lane at the location of the former Naperville Wheaton Road. This access drive will be constructed as part of Phase I and will provide one inbound lane and one outbound lane with the outbound movements under stop sign control.

- Emergency access only to the development is proposed via an access drive located on the east side of Lucent Lane approximately 390 feet north of Barkei Lane. This access drive will be constructed as part of Phase I and will provide one inbound lane and one outbound lane with the outbound movements under stop sign control. The access drive will be gated for emergency access only.

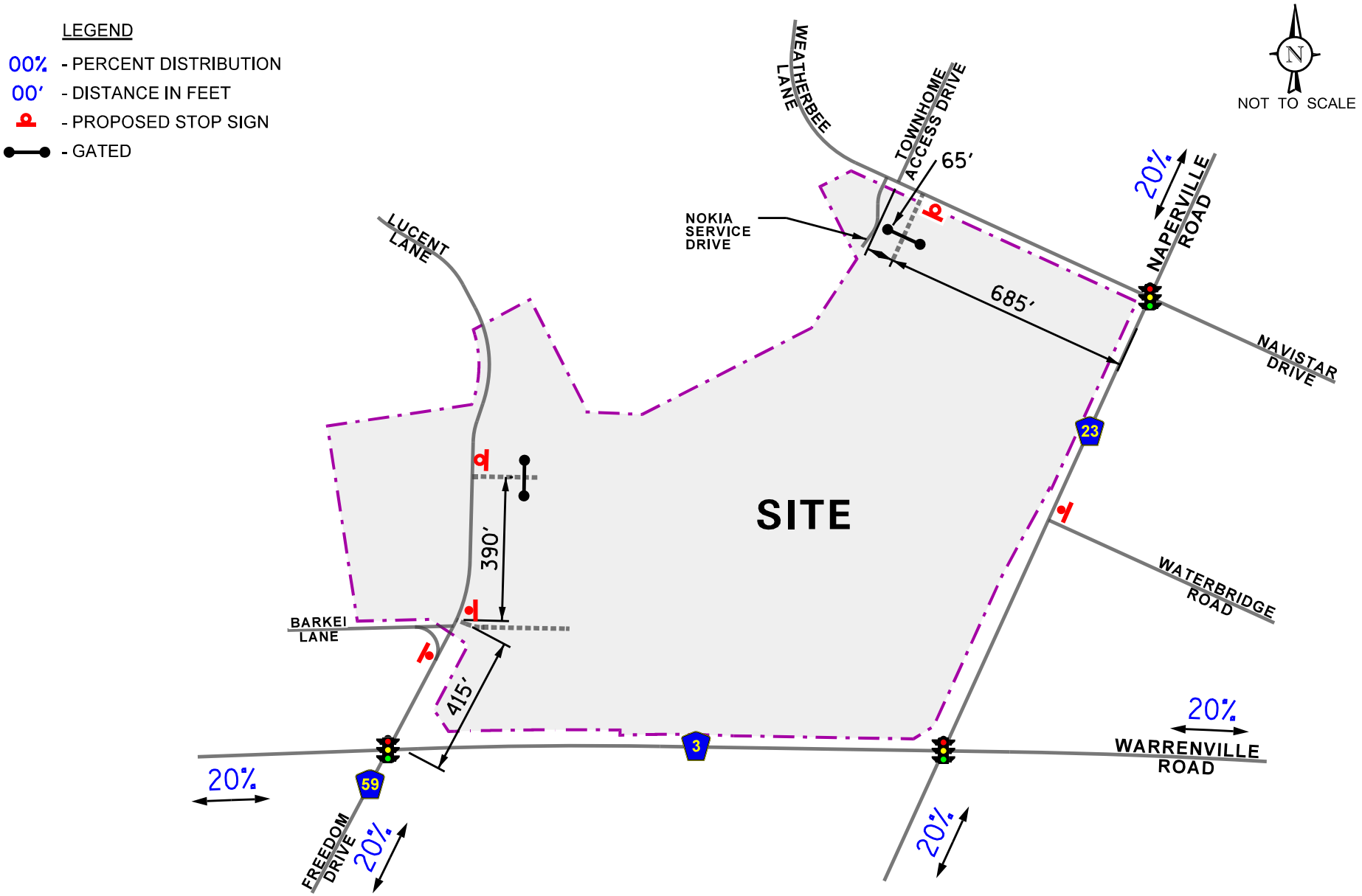
- Emergency access only to the development is proposed via an access drive located on the south side of Weatherbee Lane approximately 685 feet west of Naperville Road that will be located at an existing access drive. This access drive will be constructed as part of Phase II and provide one inbound lane and one outbound lane with the outbound movements under stop sign control. The access drive will be gated for emergency access only.

In addition, one existing access drive on Lucent Lane and one on Weatherbee Lane will be eliminated as part of the proposed development.

A copy of the proposed site plan is included in the Appendix.

Directional Distribution

The directions from which vehicles will approach and depart the site was estimated based on existing travel patterns, as determined from the traffic counts. **Figure 5** illustrates the directional distribution of traffic. Figure 5 also shows the distances between the existing and proposed access intersections.



Data Center
Naperville, Illinois

Directional Distribution

KLOA
Kenig,Lindgren,O'Hara,Aboona,Inc.

Job No: 25-047

Figure: 5

Peak Hour Traffic Volumes

As discussed above, the data center is proposed to consist of two buildings containing approximately 422,500 square feet of gross floor area. The volume of peak hour trips estimated to be generated by the data center was based on the following two methods:

- The "Data Center" (Land-Use Code 160) vehicle trip generation rates contained in *Trip Generation Manual*, 11th Edition, published by the Institute of Transportation Engineers (ITE). Copies of the ITE trip generation summary sheets are included in the Appendix.

- The operation of the proposed data center, as provided by the project team and summarized below:

    - Each building will operate and be manned 24 hours a day, seven days a week and will have three employee shifts.

    - Each building will have approximately 25 employees working the first shift, six to 10 employees working the second shift, and six to 10 employees working the third shift. In addition, each building will have 15 to 20 tenant employees working the first shift.

    - The first shift will have two shifts that will extend from 7:00 A.M. to 4:30 P.M. and 8:00 A.M. to 5:00 P.M., the second shift will extend from 4:00 P.M. to 12:00 A.M., and the third shift will extend from 11:30 P.M. to 7:30 A.M.

    - Each building is projected to generate approximately two round-trip, truck trips per day.

Table 5 summarizes the peak hour trips projected to be generated by the proposed data center based on both methods. To provide a worst-case analysis, the peak hour trips estimated on the projected operations of the data center were used in the traffic study as they generate the highest projected traffic volumes. A copy of the ITE trip generation summary sheets is included in the Appendix.

Table 5
TRIP GENERATION ESTIMATES – DATA CENTER

Data Center (422,500 sf)	Weekday Morning Peak Hour			Weekday Evening Peak Hour		
	In	Out	Total	In	Out	Total
ITE Trip Rates	27	22	49	12	29	41
Proposed Operations	50	15	65	15	70	85

4. Projected Traffic Conditions

The total projected traffic volumes include the base 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 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 5). The new vehicle traffic assignment is illustrated in **Figure 6**.

Background (No-Build) Traffic Volumes

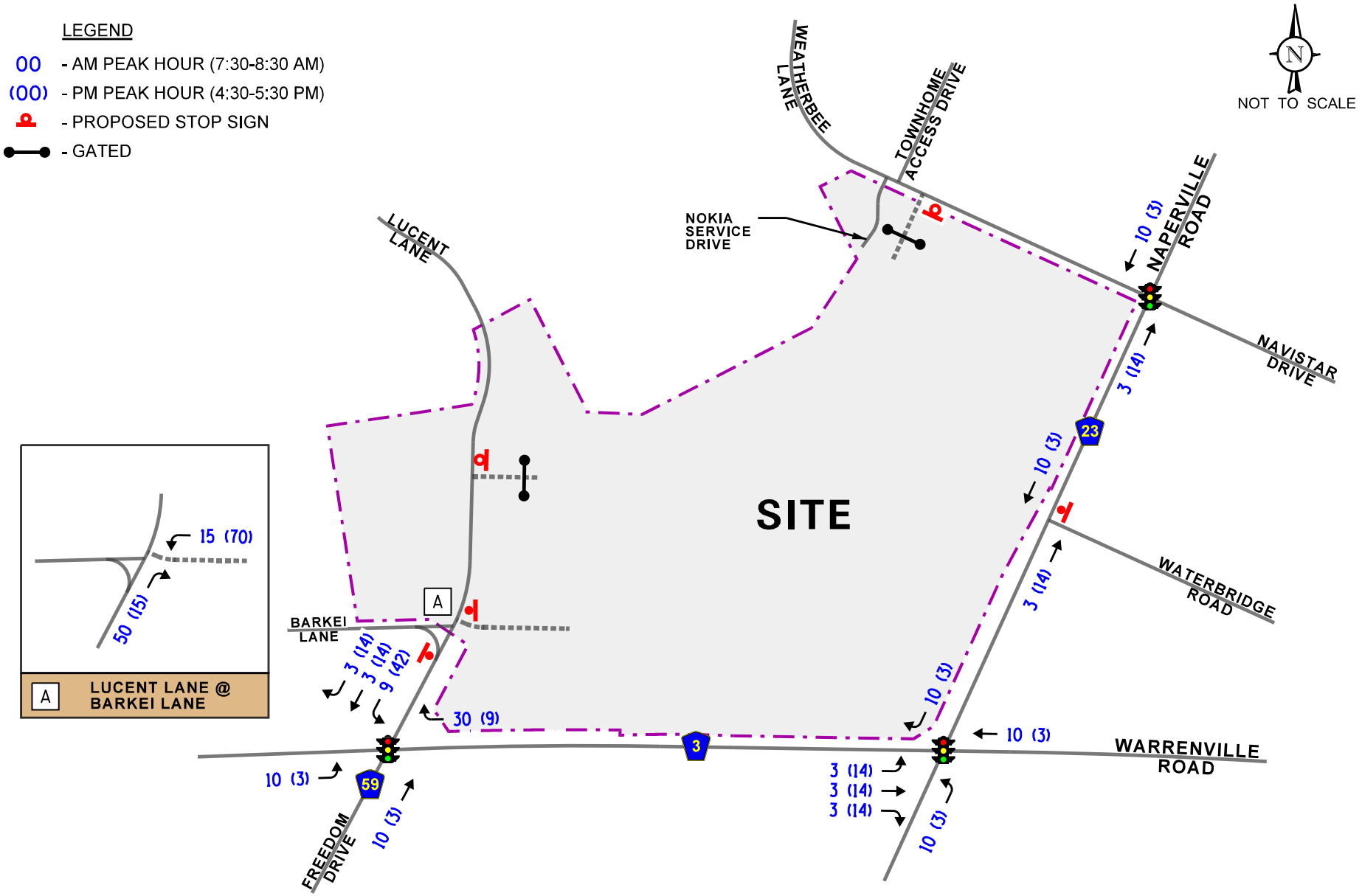
The existing traffic volumes (Figure 4) were increased by a regional growth factor to account for the increase in existing traffic related to regional growth in the area (i.e., not attributable to any particular planned development). Based on 2050 Annual Average Daily Traffic (AADT) projections provided by the Chicago Metropolitan Agency for Planning (CMAP) in a letter dated March 12, 2025, the existing traffic volumes were increased by an annually compounded growth rate of 0.7 percent for six years (one-year buildout plus five years) totaling approximately four percent to represent Year 2031 background (no-build) conditions. A copy of the CMAP 2050 projections letter is included in the Appendix.

It should be noted that the Naper Commons residential development located north and northwest of the site off Weatherbee Lane has been completed, all units have been sold, and confirmed via a site visit that a majority were occupied. As such, traffic generated by the development was captured within the existing volumes and therefore trips do not have to be generated separately to include in the no-build volumes.

The Year 2031 no-build traffic volumes are illustrated in **Figure 7**.

Year 2031 Total Projected Traffic Volumes

The development-generated traffic (Figure 6) was added to the Year 2031 no-build traffic volumes (Figure 7) to determine the Year 2031 total projected traffic volumes, as shown in **Figure 8**.



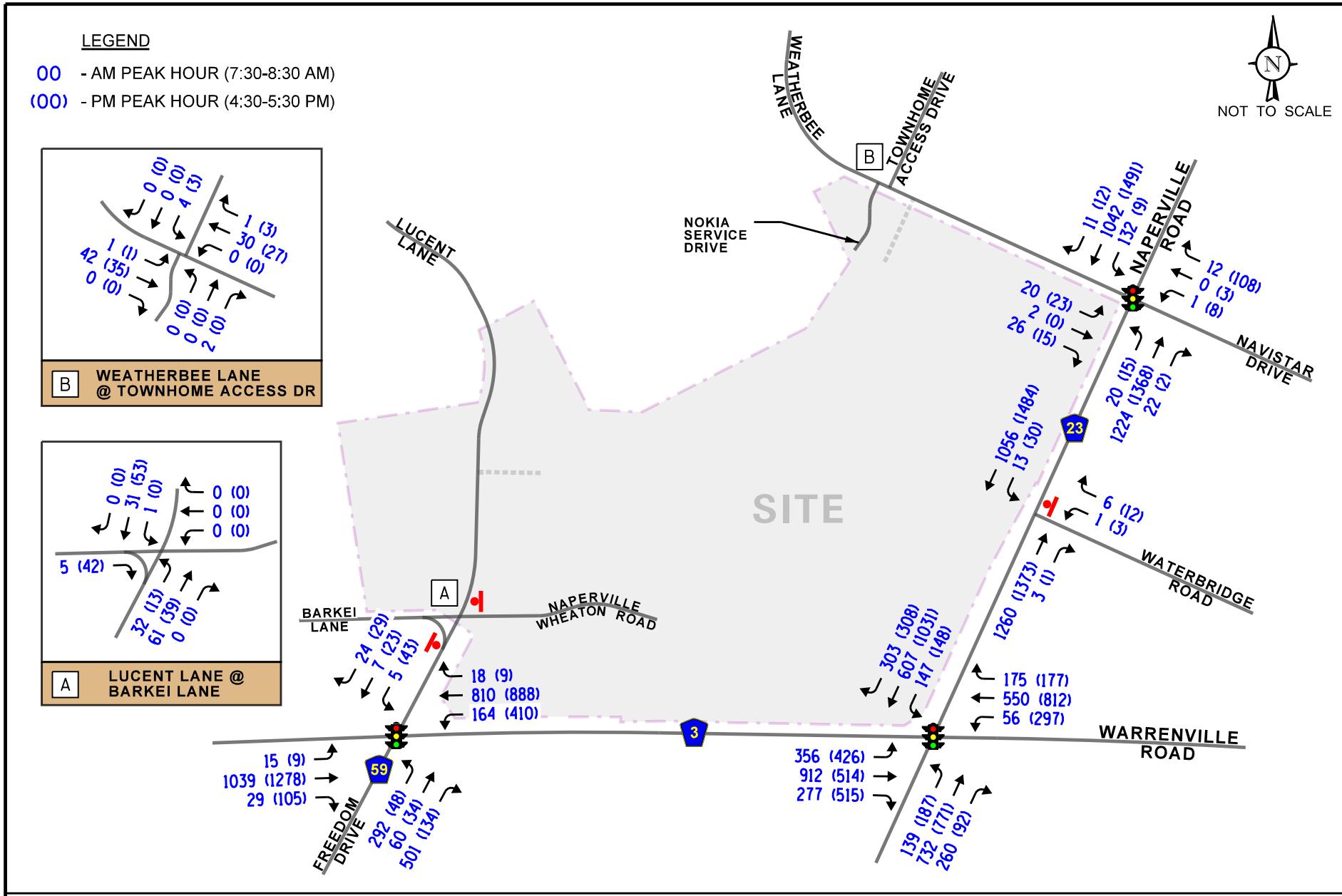
Data Center
Naperville, Illinois

Site-Generated Traffic Volumes

KLOA
Kenig,Lindgren,O'Hara,Aboona,Inc.

Job No: 25-047

Figure: 6

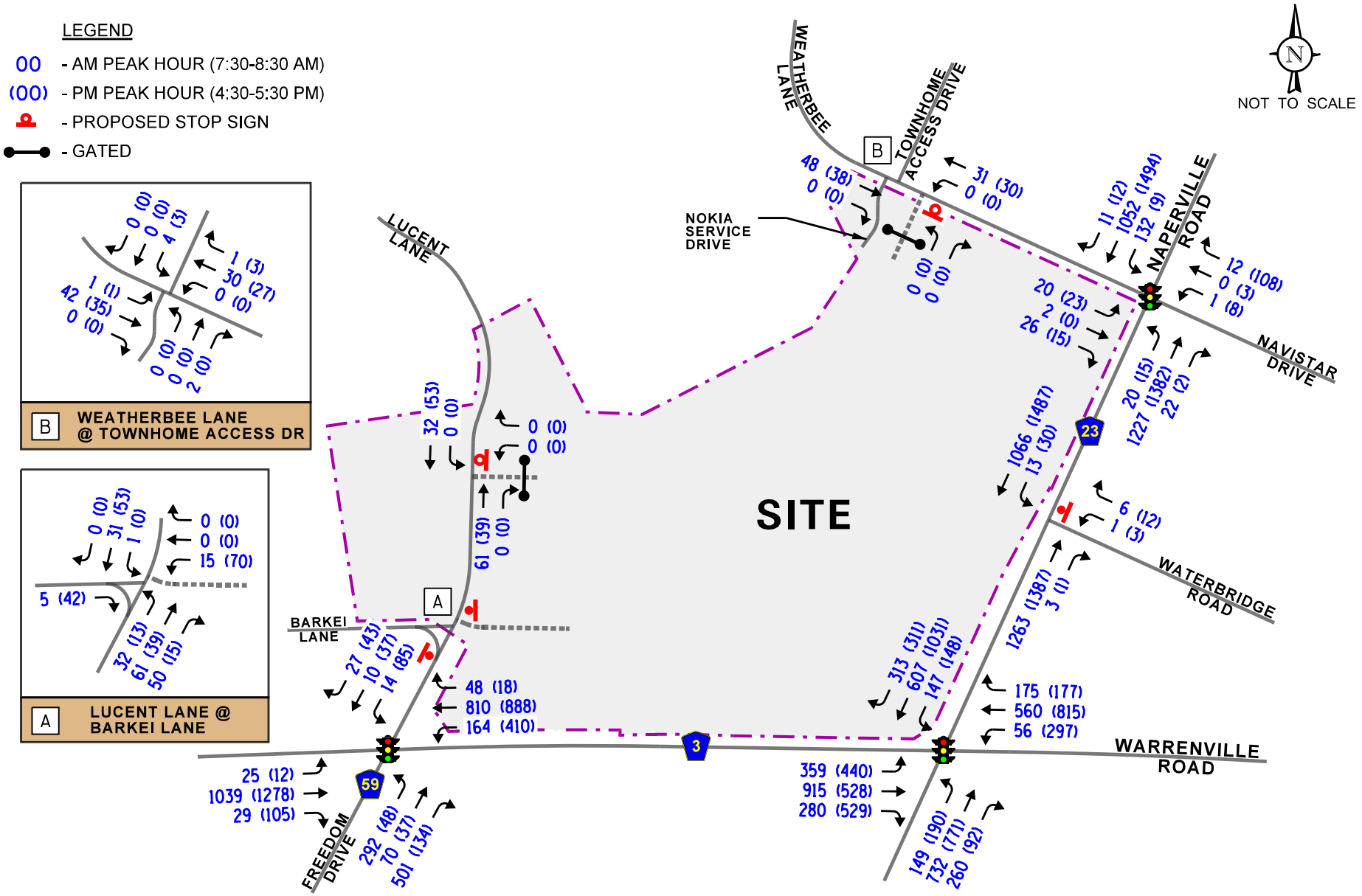


Data Center
Naperville, Illinois

Year 2030 No-Build Traffic Volumes

KLOA
Kenig,Lindgren,O'Hara,Aboona,Inc.

Job No: 25-047 Figure: 7



Data Center
Naperville, Illinois

Year 2030 Total Traffic Volumes

KLOA
Kenig,Lindgren,O'Hara,Aboona,Inc.

Job No: 25-047 Figure: 8

5. Traffic Analysis and Recommendations

The following provides an evaluation conducted for the weekday morning and weekday 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

Intersection analyses were performed for the weekday morning and weekday evening peak hours for the existing, Year 2031 no-build, and Year 2031 total projected traffic volumes.

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 capacity analyses for the signalized intersection were conducted utilizing actual cycle lengths and phasings.

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 existing and total projected conditions are presented in **Tables 6** through **11**. A discussion of the intersections follows. Summary sheets for the capacity analyses are included in the Appendix.

Table 6
NAPERVILLE ROAD WITH WARRENVILLE ROAD – SIGNALIZED

	Peak Hour	Eastbound			Westbound			Northbound			Southbound			Overall
		L	T	R	L	T	R	L	T	R	L	T	R	
Existing Conditions	Weekday Morning	E 60.7	D 47.2	B 14.0	E 73.5	D 47.0	B 14.6	E 74.0	D 43.1	C 20.7	E 69.9	D 40.4	B 19.9	D 41.9
		D – 44.3			D – 41.6			D – 41.8			D – 38.6			
	Weekday Evening	E 72.0	C 25.9	C 24.0	E 72.7	D 48.4	B 13.0	E 72.6	D 46.3	A 4.6	E 70.2	D 50.2	C 24.0	D 45.3
		D – 38.8			D – 49.2			D – 47.4			D – 46.7			
No-Build Conditions	Weekday Morning	E 61.2	D 44.4	B 13.3	E 73.7	D 46.5	B 14.8	E 73.9	D 45.4	C 22.6	E 69.7	D 40.2	C 24.7	D 42.1
		D – 42.7			D – 41.4			D – 43.7			D – 39.9			
	Weekday Evening	E 75.3	C 24.4	C 23.3	E 72.5	D 48.3	B 13.5	E 72.7	D 48.3	A 4.8	E 70.8	D 52.9	C 25.2	D 46.2
		D – 38.9			D – 49.1			D – 48.8			D – 48.9			
Projected Conditions	Weekday Morning	E 60.6	D 44.8	B 13.7	E 73.7	D 46.7	B 14.8	E 74.0	D 45.5	C 22.7	E 69.7	D 40.6	C 26.2	D 42.4
		D – 42.8			D – 41.6			D – 44.0			D – 40.4			
	Weekday Evening	E 76.7	C 24.4	C 21.2	E 72.5	D 48.1	B 13.4	E 72.7	D 48.9	A 5.6	E 70.8	E 53.8	C 25.5	D 46.3
		D – 38.6			D – 49.0			D – 49.4			D – 49.6			

Letter denotes Level of Service L – Left Turn R – Right Turn
Delay is measured in seconds. T – Through

Table 7
NAPERVILLE ROAD WITH WEATHERBEE LANE/NAVISTAR DRIVE – SIGNALIZED

	Peak Hour	Eastbound		Westbound			Northbound			Southbound			Overall
		L	T/R	L	T	R	L	T	R	L	T	R	
Existing Conditions	Weekday Morning	E 67.2	C 32.6	E 70.0	--	A 0.4	A 2.4	B 12.6	A 1.1	A 4.0	A 3.9	A 0.0	A 8.9
		D – 47.2		A – 5.4			B – 12.2			A – 3.9			
	Weekday Evening	E 67.6	A 0.3	E 63.8	E 70.3	C 21.6	A 1.5	A 7.4	A 0.0	A 2.1	A 4.3	A 0.0	A 7.0
		D – 40.7		C – 25.5			A – 7.3			A – 4.3			
No-Build Conditions	Weekday Morning	E 67.2	C 32.6	E 70.0	--	A 0.5	A 2.6	B 14.4	A 1.3	A 4.4	A 4.0	A 0.0	A 9.9
		D – 47.2		A – 5.5			B – 14.0			A – 4.0			
	Weekday Evening	E 67.6	A 0.4	E 63.8	E 70.3	C 21.6	A 1.9	A 8.4	A 0.0	A 2.1	A 4.5	A 0.0	A 7.4
		D – 40.7		C – 25.5			A – 8.3			A – 4.4			
Projected Conditions	Weekday Morning	E 67.2	C 32.6	E 70.0	--	A 0.5	A 2.6	B 14.5	A 1.3	A 4.4	A 4.0	A 0.0	A 9.9
		D – 47.2		A – 5.5			B – 14.0			A – 4.0			
	Weekday Evening	E 67.6	A 0.4	E 63.8	E 70.3	C 21.6	A 1.9	A 8.5	A 0.0	A 2.1	A 4.5	A 0.0	A 7.5
		D – 40.7		C – 25.5			A – 8.4			A – 4.4			

Letter denotes Level of Service L – Left Turn R – Right Turn
Delay is measured in seconds. T – Through

Table 8
WARRENVILLE ROAD WITH FREEDOM DRIVE/LUCENT LANE – SIGNALIZED

	Peak Hour	Eastbound			Westbound			Northbound			Southbound			Overall
		L	T	R	L	T	R	L	T	R	L	T	R	
Existing Conditions	Weekday Morning	E 70.5	C 25.9	A 0.1	E 60.5	C 34.0	A 5.3	D 48.6	D 43.0	D 41.7	E 71.0	E 59.3	A 1.2	D 35.1
		C – 25.9			D – 37.9			D – 44.2			C – 22.1			
	Weekday Evening	E 70.1	C 21.6	A 4.3	D 54.3	C 21.8	A 0.1	E 67.3	E 62.8	D 42.3	E 78.5	E 60.7	A 0.9	C 28.7
		C – 20.6			C – 31.8			D – 51.1			D – 50.4			
No-Build Conditions	Weekday Morning	E 70.5	C 27.5	A 0.2	E 59.9	C 32.7	A 5.1	D 48.1	D 42.3	D 41.0	E 71.0	E 59.1	A 1.2	D 35.1
		C – 27.4			D – 36.7			D – 43.5			C – 22.1			
	Weekday Evening	E 70.1	C 22.9	A 4.6	D 53.3	C 21.1	A 0.2	E 57.2	E 62.5	D 41.7	E 78.5	E 60.5	A 0.9	C 28.8
		C – 21.8			C – 31.1			D – 50.6			D – 50.3			
Projected Conditions	Weekday Morning	E 71.2	C 29.5	A 0.2	E 61.0	D 35.1	B 13.6	D 53.0	D 42.5	D 40.7	E 73.4	E 53.9	A 0.8	D 36.9
		C – 29.6			D – 38.2			D – 45.0			C – 30.7			
	Weekday Evening	E 70.3	C 25.0	A 4.9	D 54.7	C 24.7	A 0.7	E 69.6	E 62.7	D 41.7	F 90.9	E 59.2	A 5.4	C 32.0
		C – 23.9			C – 33.7			D – 51.3			E – 61.7			

Letter denotes Level of Service L – Left Turn R – Right Turn
Delay is measured in seconds. T – Through

Table 9
UNSIGNALIZED – EXISTING CONDITIONS

Intersection	Weekday Morning Peak Hour		Weekday Evening Peak Hour	
	LOS	Delay	LOS	Delay
Naperville Road with Waterbridge Road[1]				
• Westbound Approach	B	11.6	B	13.1
• Southbound Left Turn	A	9.2	A	9.7
Lucent Lane with Barkei Lane/Lucent Access Road[1]				
• Eastbound Approach	A	8.4	A	8.7
• Westbound Approach	A	0.0	A	0.0
• Northbound Left Turn	A	7.3	A	7.4
• Southbound Left Turn	A	7.3	A	0.0
Weatherbee Lane with Naperville Wheaton Road/Townhome Access Drive[1]				
• Northbound Approach	A	8.5	A	0.0
• Southbound Approach	A	9.0	A	8.9
• Eastbound Left Turn	A	7.3	A	7.3
• Westbound Left Turn	A	0.0	A	0.0

LOS = Level of Service
Delay is measured in seconds.
1 – Two-way stop control

Table 10
UNSIGNALIZED – YEAR 2031 NO-BUILD CONDITIONS

Intersection	Weekday Morning Peak Hour		Weekday Evening Peak Hour	
	LOS	Delay	LOS	Delay
Naperville Road with Waterbridge Road[1]				
• Westbound Approach	B	11.9	B	13.5
• Southbound Left Turn	A	9.3	A	9.9
Lucent Lane with Barkei Lane/Lucent Access Road[1]				
• Eastbound Approach	A	8.4	A	8.7
• Westbound Approach	A	0.0	A	0.0
• Northbound Left Turn	A	7.3	A	7.4
• Southbound Left Turn	A	7.3	A	0.0
Weatherbee Lane with Naperville Wheaton Road/Townhome Access Drive[1]				
• Northbound Approach	A	8.5	A	0.0
• Southbound Approach	A	9.0	A	8.9
• Eastbound Left Turn	A	7.3	A	7.3
• Westbound Left Turn	A	0.0	A	0.0

LOS = Level of Service
Delay is measured in seconds.
1 – Two-way stop control

Table 11
UNSIGNALIZED – YEAR 2031 TOTAL PROJECTED CONDITIONS

Intersection	Weekday Morning Peak Hour		Weekday Evening Peak Hour	
	LOS	Delay	LOS	Delay
Naperville Road with Waterbridge Road[1]				
• Westbound Approach	B	11.9	B	13.5
• Southbound Left Turn	A	9.3	A	9.9
Lucent Lane with Barkei Lane/Proposed Vehicle Access Drive[1]				
• Eastbound Approach	A	8.4	A	8.7
• Westbound Approach	B	10.2	B	10.1
• Northbound Left Turn	A	7.3	A	7.4
• Southbound Left Turn	A	7.5	A	0.0
Weatherbee Lane with Lucent Service Drive/Townhome Access Drive[1]				
• Northbound Approach	A	8.5	A	0.0
• Southbound Approach	A	9.0	A	8.9
• Eastbound Left Turn	A	7.3	A	7.3
• Westbound Left Turn	A	0.0	A	0.0
Lucent Lane with Proposed Emergency Access Drive[1]				
• Westbound Approach	A	0.0	A	0.0
• Southbound Left Turn	A	0.0	A	0.0
Weatherbee Lane with Proposed Emergency Access Drive[1]				
• Northbound Approach	A	0.0	A	0.0
• Westbound Left Turn	A	0.0	A	0.0

LOS = Level of Service
Delay is measured in seconds.
1 – Two-way stop control

Discussion and Recommendations

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

Naperville Road with Warrenville Road

The results of the capacity analysis indicate that the intersection currently operates at an overall Level of Service (LOS) D during the weekday morning and weekday evening peak hours. Further, all movements and approaches currently operate at LOS D or better except the left-turn movements. This is due to the long cycle length and the fact that dual turn lanes operate under a protected phase (green arrow) only. The 95th percentile queues along all of the left-turn lanes are able to be accommodated by the existing turn-lane storage.

Under Year 2031 no-build conditions, the intersection and approaches will continue to operate at the current levels of service during the weekday morning and weekday evening peak hours.

Under Year 2031 total projected conditions, the intersection is projected to operate at LOS D during the weekday morning and weekday evening peak hours. Further, all of the movements and approaches are projected to continue to operate at LOS D or better, with the exception of the left-turn movements and the southbound through movement during the weekday evening peak hour. The 95th percentile queues along all of the left-turn lanes are projected to continue to be able to be accommodated by the existing turn-lane storage. As such, this intersection has sufficient reserve capacity to accommodate the traffic to be generated by the proposed development and no roadway improvements or traffic signal modifications are required.

Naperville Road with Weatherbee Lane/Navistar Drive

The results of the capacity analysis indicate that the intersection currently operates overall at LOS A during the weekday morning and weekday evening peak hours. All of the intersection movements operate at LOS C or better except the westbound through and the eastbound and westbound left-turn movements during both peak hours and the westbound through movement during the weekday evening peak hour which operate at LOS E. The lower levels of service for the eastbound and westbound movements are due to the long cycle length and the fact that the Naperville Road approaches are assigned a majority of the green time.

Under Year 2031 no-build and total projected conditions, the intersection is projected to continue to operate at LOS A during the weekday morning and weekday evening peak hours. All of the intersection movements are projected to continue to operate at LOS C or better except the westbound through and the eastbound and westbound left-turn movements during both peak hours and the westbound through movement during the weekday evening peak hour. As such, this intersection has sufficient capacity to accommodate the traffic projected to be generated by the proposed development and no roadway improvements or traffic signal modifications are required.

Warrenville Road with Freedom Drive/Lucent Lane

The results of the capacity analysis indicate that the intersection currently operates at LOS D during the weekday morning peak hour and at LOS C during the weekday evening peak hour. All of the intersection movements operate at LOS D or better except the left-turn movements and several of the north-south movements which operate at LOS E. This is due to the long cycle length, the fact that dual turn lanes operate under a protected phase (green arrow) only, and the fact that the through movements on Warrenville Road receive the majority of the green time.

Under Year 2031 no-build and total projected conditions, the intersection is projected to continue to operate at LOS D during the weekday morning peak hour and at LOS C during the weekday evening peak hours. All of the intersection movements are projected to operate at LOS D or better except the left-turn movements and several of the north-south movements. It should be noted that the southbound left-turn movement is projected to operate at LOS F during the weekday evening peak hour under total projected conditions. However, 95th percentile queues for this movement are projected to be approximately 155 feet during this peak hour, which can be accommodated by the available turn-lane storage of 170 feet and the volume-to-capacity ratio (v/c) is projected to be well under 1.0 at 0.66. As such, this intersection has sufficient capacity to accommodate the traffic projected to be generated by the proposed development and no roadway improvements or traffic signal modifications are required.

Naperville Road with Waterbridge Road

The results of the capacity analysis indicate that the westbound approach from Waterbridge Road currently operates at LOS B during the weekday morning and weekday evening peak hours. The southbound left-turn movement currently operates at LOS A during the peak hours. Under Year 2031 no-build and total projected conditions, the critical approach and movement are projected to continue to operate at the current levels of service. As such, this intersection has sufficient capacity to accommodate the traffic projected to be generated by the proposed development and no roadway improvements or traffic control modifications are required.

Lucent Lane with Barkei Lane/Vehicle Access Drive

The results of the capacity analysis indicate that the eastbound approach from Barkei Lane and the westbound approach from Naperville Wheaton Road approach currently operate at LOS A during the weekday morning and weekday evening peak hours. The northbound and southbound left-turn movements currently operate at LOS A during the peak hours.

Under Year 2031 no-build conditions, the approaches and movements are projected to continue to operate at LOS A during the peak hours.

Vehicle access to the development is proposed via an access drive located on the east side of Lucent Lane opposite Barkei Lane and will replace the Naperville Wheaton Road approach. This access drive will provide one inbound lane and one outbound lane with outbound movements under stop sign control.

Under Year 2031 total conditions, the westbound approach is projected to operate at LOS B during the weekday morning and weekday evening peak hours. The eastbound approach and northbound and southbound left-turn movements are projected to operate at LOS A during the peak hours. As such, this intersection will have sufficient capacity to accommodate the traffic estimated to be generated by the proposed development and no additional roadway improvements or traffic control modifications are required.

Weatherbee Lane with Lucent Service Drive/Townhome Access Drive

The results of the capacity analysis indicate that the northbound and southbound approaches currently operate at LOS A during the weekday morning and weekday evening peak hours. The eastbound and westbound left-turn movements currently operate at LOS A during the peak hours.

Under Year 2031 no-build and total projected conditions, the critical approaches and movements are projected to continue to operate at LOS A during the weekday morning and weekday evening peak hours. As such, this intersection will have sufficient capacity to accommodate the traffic estimated to be generated by the proposed development and no roadway improvements or traffic control modifications are required at this intersection.

Lucent Lane with Proposed Emergency Access Drive

Emergency access only to Phase I of the development will be provided on the east side of Lucent Lane approximately 390 feet north of opposite Barkei Lane. This access drive will provide one inbound lane and one outbound lane with outbound movements under stop sign control. The access drive will be gated for emergency access only.

Under Year 2031 total projected conditions, the westbound approach is projected to operate at LOS A during the weekday morning and weekday evening peak hours. The southbound left-turn movement is projected to operate at LOS A during the peak hours. As such, this access drive is projected to provide flexible and efficient access to the site and no additional roadway or traffic control modifications are required.

Weatherbee Lane with Proposed Emergency Access Drive

Emergency access to Phase II of the development will be provided on the south side of Weatherbee Lane approximately 685 feet west of Naperville Road. This access drive will provide one inbound lane and one outbound lane with outbound movements under stop sign control. The access drive will be gated for emergency access only.
Under Year 2031 total projected conditions, the northbound approach from the site is projected to operate at LOS A during the weekday morning and weekday evening peak hours. The westbound left-turn movement is projected to operate at LOS A during the peak hours. As such, this access drive is projected to provide flexible and efficient access to the site and no additional roadway or traffic control modifications are required.

7. Parking Evaluation

Each of the proposed data center buildings is to provide a total of 60 parking spaces. As discussed previously, the following summarizes the operation of the proposed data center, as provided by the project team:

- Each building will operate and be manned 24 hours a day, seven days a week and will have three employee shifts.

- Each building will have approximately 25 employees working the first shift, six to 10 employees working the second shift, and six to 10 employees working the third shift. In addition, each building will have 15 to 20 tenant employees working the first shift.

- The first shift will have two shifts that will extend from 7:00 A.M. to 4:30 P.M. and 8:00 A.M. to 5:00 P.M., the second shift will extend from 4:00 P.M. to 12:00 A.M., and the third shift will extend from 11:30 P.M. to 7:30 A.M.

Based on the above operations, the maximum number of employees to be at each of the data center buildings is estimated to be a total of 40 to 45 employees working the first shift. Assuming a worst-case analysis that all employees drive to work in their own vehicle, the maximum employee parking demand for each of the data center buildings is estimated to be 40 to 45 vehicles. As such, 15 to 20 parking spaces of the 60 total parking spaces provided at each data center building will be available for visitors and for the overlap in parking that may occur during shift changes. It is important to note that the first shift will have two shifts that will extend from 7:00 A.M. to 4:30 P.M. and 8:00 A.M. to 5:00 P.M. As such, the overlap in parking for the first shift is anticipated to be low. As such, the 60 parking spaces to be provided by each data center building should be sufficient to meet its peak parking demand.

8. Conclusion

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

- The existing vacant site formerly occupied by a Lucent office building complex will be redeveloped into a data center consisting of two buildings totaling approximately 422,500 square feet and 120 surface parking spaces.

- Access to the development will be provided via the following three access drives:

  - Vehicle access to the development is proposed via an access drive located on the east side of Lucent Lane located opposite Barkei Lane at the location of the former Naperville Wheaton Road. This access drive will be constructed as part of Phase I and will provide one inbound lane and one outbound lane with the outbound movements under stop sign control.

  - Emergency access only to the development is proposed via an access drive located on the east side of Lucent Lane approximately 390 feet north of Barkei Lane. This access drive will be constructed as part of Phase I and will provide one inbound lane and one outbound lane with the outbound movements under stop sign control. The access drive will be gated for emergency access only.

  - Emergency access only to the development is proposed via an access drive located on the south side of Weatherbee Lane approximately 685 feet west of Naperville Road that will be located at an existing access drive. This access drive will be constructed as part of Phase II and will provide one inbound lane and one outbound lane with the outbound movements under stop sign control. The access drive will be gated for emergency access only.

- The proposed development is projected to generate a low volume of traffic, especially when compared to the previous use of the site as a multi-story office building.

- The proposed access system will adequately accommodate site-generated traffic.

- The roadway system generally has sufficient reserve capacity to accommodate the traffic generated by the proposed development and no roadway improvements and/or traffic control modifications are required.

- Based on the operation of the data center, as provided by the project team, the 60 parking spaces to be provided by each data center building should be sufficient to meet its peak parking demand.

Appendix

Traffic Count Summary Sheets
Site Plan
ITE Trip Generation Sheets
CMAP 2050 Projections Letter
Level of Service Criteria
Capacity Analysis Summary Sheets

Traffic Count Summary Sheets

Kenig Lindgren O'Hara Aboona, Inc.
9575 W. Higgins Rd., Suite 400

Rosemont, Illinois, United States 60018
(847)518-9990 kpachowicz@kloainc.com

Count Name: Naperville Road with Warrenville Road TMC
Site Code:
Start Date: 04/04/2024

Turning Movement Data

Start Time	Warrenville Road Eastbound						Warrenville Road Westbound						Naperville Road Northbound						Naperville Road 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	56	140	45	0	241	0	9	99	45	0	153	0	27	118	41	0	186	0	23	88	49	0	160	740
7:15 AM	0	49	192	64	0	305	0	13	98	44	0	155	0	16	120	57	0	193	0	31	138	37	0	206	859
7:30 AM	0	89	238	64	0	391	0	10	122	42	0	174	0	26	172	46	0	244	0	35	155	75	0	265	1074
7:45 AM	0	108	252	62	0	422	0	10	124	47	0	181	0	18	158	81	0	257	0	33	113	80	0	226	1086
Hourly Total	0	302	822	235	0	1359	0	42	443	178	0	663	0	87	568	225	0	880	0	122	494	241	0	857	3759
8:00 AM	0	70	192	74	0	336	0	14	108	38	0	160	0	45	115	73	0	233	0	38	117	65	0	220	949
8:15 AM	0	73	189	64	0	326	0	20	122	40	0	182	0	44	133	48	0	225	0	34	129	69	0	232	965
8:30 AM	0	82	194	59	0	335	0	21	113	27	0	161	0	31	158	51	0	240	0	35	132	62	0	229	965
8:45 AM	0	86	155	62	0	303	0	20	85	33	0	138	0	37	137	42	0	216	0	45	137	53	0	235	892
Hourly Total	0	311	730	259	0	1300	0	75	428	138	0	641	0	157	543	214	0	914	0	152	515	249	0	916	3771
*** BREAK ***	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
4:00 PM	0	99	113	123	0	335	0	62	163	42	0	267	0	28	152	24	0	204	0	39	203	73	0	315	1121
4:15 PM	0	114	116	109	0	339	0	73	167	50	0	290	0	23	149	15	0	187	0	29	224	80	0	333	1149
4:30 PM	0	93	127	130	0	350	0	78	178	41	0	297	0	36	159	29	0	224	0	34	226	64	0	324	1195
4:45 PM	0	105	149	131	0	385	0	70	184	39	0	293	0	40	166	17	0	223	0	38	235	74	0	347	1248
Hourly Total	0	411	505	493	0	1409	0	283	692	172	0	1147	0	127	626	85	0	838	0	140	888	291	0	1319	4713
5:00 PM	0	106	96	115	0	317	0	73	205	45	0	323	0	58	191	23	0	272	0	31	196	62	0	289	1201
5:15 PM	0	103	119	116	0	338	0	63	209	44	0	316	0	45	171	18	0	234	0	38	221	94	0	353	1241
5:30 PM	0	7	11	10	0	28	0	2	33	7	0	42	0	6	0	4	0	10	0	3	0	9	0	12	92
Grand Total	0	1240	2283	1228	0	4751	0	538	2010	584	0	3132	0	480	2099	569	0	3148	0	486	2314	946	0	3746	14777
Approach %	0.0	26.1	48.1	25.8	-	-	0.0	17.2	64.2	18.6	-	-	0.0	15.2	66.7	18.1	-	-	0.0	13.0	61.8	25.3	-	-	-
Total %	0.0	8.4	15.4	8.3	-	32.2	0.0	3.6	13.6	4.0	-	21.2	0.0	3.2	14.2	3.9	-	21.3	0.0	3.3	15.7	6.4	-	25.4	-
Lights	0	1225	2254	1215	-	4694	0	527	1981	569	-	3077	0	475	2078	558	-	3111	0	481	2284	938	-	3703	14585
% Lights	-	98.8	98.7	98.9	-	98.8	-	98.0	98.6	97.4	-	98.2	-	99.0	99.0	98.1	-	98.8	-	99.0	98.7	99.2	-	98.9	98.7
Buses	0	5	13	3	-	21	0	6	12	4	-	22	0	0	11	9	-	20	0	0	12	3	-	15	78
% Buses	-	0.4	0.6	0.2	-	0.4	-	1.1	0.6	0.7	-	0.7	-	0.0	0.5	1.6	-	0.6	-	0.0	0.5	0.3	-	0.4	0.5
Single-Unit Trucks	0	8	15	10	-	33	0	4	12	9	-	25	0	3	8	2	-	13	0	4	14	5	-	23	94
% Single-Unit Trucks	-	0.6	0.7	0.8	-	0.7	-	0.7	0.6	1.5	-	0.8	-	0.6	0.4	0.4	-	0.4	-	0.8	0.6	0.5	-	0.6	0.6
Articulated Trucks	0	2	1	0	-	3	0	1	5	2	-	8	0	2	2	0	-	4	0	1	4	0	-	5	20
% Articulated Trucks	-	0.2	0.0	0.0	-	0.1	-	0.2	0.2	0.3	-	0.3	-	0.4	0.1	0.0	-	0.1	-	0.2	0.2	0.0	-	0.1	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
% 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	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Kenig Lindgren O'Hara Aboona, Inc.
9575 W. Higgins Rd., Suite 400

Rosemont, Illinois, United States 60018
(847)518-9990 kpachowicz@kloainc.com

Count Name: Naperville Road with Warrenville Road TMC
Site Code:
Start Date: 04/04/2024

Turning Movement Peak Hour Data (7:30 AM)

Start Time	Warrenville Road Eastbound						Warrenville Road Westbound						Naperville Road Northbound						Naperville Road Southbound						
	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	Int. Total
7:30 AM	0	89	238	64	0	391	0	10	122	42	0	174	0	26	172	46	0	244	0	35	155	75	0	265	1074
7:45 AM	0	108	252	62	0	422	0	10	124	47	0	181	0	18	158	81	0	257	0	33	113	80	0	226	1086
8:00 AM	0	70	192	74	0	336	0	14	108	38	0	160	0	45	115	73	0	233	0	38	117	65	0	220	949
8:15 AM	0	73	189	64	0	326	0	20	122	40	0	182	0	44	133	48	0	225	0	34	129	69	0	232	965
Total	0	340	871	264	0	1475	0	54	476	167	0	697	0	133	578	248	0	959	0	140	514	289	0	943	4074
Approach %	0.0	23.1	59.1	17.9	-	-	0.0	7.7	68.3	24.0	-	-	0.0	13.9	60.3	25.9	-	-	0.0	14.8	54.5	30.6	-	-	-
Total %	0.0	8.3	21.4	6.5	-	36.2	0.0	1.3	11.7	4.1	-	17.1	0.0	3.3	14.2	6.1	-	23.5	0.0	3.4	12.6	7.1	-	23.1	-
PHF	0.000	0.787	0.864	0.892	-	0.874	0.000	0.675	0.960	0.888	-	0.957	0.000	0.739	0.840	0.765	-	0.933	0.000	0.921	0.829	0.903	-	0.890	0.938
Lights	0	336	864	259	-	1459	0	49	463	162	-	674	0	132	571	245	-	948	0	139	503	284	-	926	4007
% Lights	-	98.8	99.2	98.1	-	98.9	-	90.7	97.3	97.0	-	96.7	-	99.2	98.8	98.8	-	98.9	-	99.3	97.9	98.3	-	98.2	98.4
Buses	0	2	1	0	-	3	0	2	1	2	-	5	0	0	3	2	-	5	0	0	4	1	-	5	18
% Buses	-	0.6	0.1	0.0	-	0.2	-	3.7	0.2	1.2	-	0.7	-	0.0	0.5	0.8	-	0.5	-	0.0	0.8	0.3	-	0.5	0.4
Single-Unit Trucks	0	1	6	5	-	12	0	2	9	2	-	13	0	0	3	1	-	4	0	1	6	4	-	11	40
% Single-Unit Trucks	-	0.3	0.7	1.9	-	0.8	-	3.7	1.9	1.2	-	1.9	-	0.0	0.5	0.4	-	0.4	-	0.7	1.2	1.4	-	1.2	1.0
Articulated Trucks	0	1	0	0	-	1	0	1	3	1	-	5	0	1	1	0	-	2	0	0	1	0	-	1	9
% Articulated Trucks	-	0.3	0.0	0.0	-	0.1	-	1.9	0.6	0.6	-	0.7	-	0.8	0.2	0.0	-	0.2	-	0.0	0.2	0.0	-	0.1	0.2
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	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Kenig Lindgren O'Hara Aboona, Inc.
9575 W. Higgins Rd., Suite 400

Rosemont, Illinois, United States 60018
(847)518-9990 kpachowicz@kloainc.com

Count Name: Naperville Road with Warrenville Road TMC
Site Code:
Start Date: 04/04/2024

Turning Movement Peak Hour Data (4:30 PM)

Start Time	Warrenville Road Eastbound						Warrenville Road Westbound						Naperville Road Northbound						Naperville Road Southbound						
	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	Int. Total
4:30 PM	0	93	127	130	0	350	0	78	178	41	0	297	0	36	159	29	0	224	0	34	226	64	0	324	1195
4:45 PM	0	105	149	131	0	385	0	70	184	39	0	293	0	40	166	17	0	223	0	38	235	74	0	347	1248
5:00 PM	0	106	96	115	0	317	0	73	205	45	0	323	0	58	191	23	0	272	0	31	196	62	0	289	1201
5:15 PM	0	103	119	116	0	338	0	63	209	44	0	316	0	45	171	18	0	234	0	38	221	94	0	353	1241
Total	0	407	491	492	0	1390	0	284	776	169	0	1229	0	179	687	87	0	953	0	141	878	294	0	1313	4885
Approach %	0.0	29.3	35.3	35.4	-	-	0.0	23.1	63.1	13.8	-	-	0.0	18.8	72.1	9.1	-	-	0.0	10.7	66.9	22.4	-	-	-
Total %	0.0	8.3	10.1	10.1	-	28.5	0.0	5.8	15.9	3.5	-	25.2	0.0	3.7	14.1	1.8	-	19.5	0.0	2.9	18.0	6.0	-	26.9	-
PHF	0.000	0.960	0.824	0.939	-	0.903	0.000	0.910	0.928	0.939	-	0.951	0.000	0.772	0.899	0.750	-	0.876	0.000	0.928	0.934	0.782	-	0.930	0.979
Lights	0	406	488	491	-	1385	0	283	772	168	-	1223	0	178	684	84	-	946	0	140	874	293	-	1307	4861
% Lights	-	99.8	99.4	99.8	-	99.6	-	99.6	99.5	99.4	-	99.5	-	99.4	99.6	96.6	-	99.3	-	99.3	99.5	99.7	-	99.5	99.5
Buses	0	0	1	0	-	1	0	1	3	0	-	4	0	0	2	3	-	5	0	0	1	1	-	2	12
% Buses	-	0.0	0.2	0.0	-	0.1	-	0.4	0.4	0.0	-	0.3	-	0.0	0.3	3.4	-	0.5	-	0.0	0.1	0.3	-	0.2	0.2
Single-Unit Trucks	0	0	1	1	-	2	0	0	1	1	-	2	0	0	1	0	-	1	0	1	2	0	-	3	8
% Single-Unit Trucks	-	0.0	0.2	0.2	-	0.1	-	0.0	0.1	0.6	-	0.2	-	0.0	0.1	0.0	-	0.1	-	0.7	0.2	0.0	-	0.2	0.2
Articulated Trucks	0	1	1	0	-	2	0	0	0	0	-	0	0	1	0	0	-	1	0	0	1	0	-	1	4
% Articulated Trucks	-	0.2	0.2	0.0	-	0.1	-	0.0	0.0	0.0	-	0.0	-	0.6	0.0	0.0	-	0.1	-	0.0	0.1	0.0	-	0.1	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
% 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	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Kenig Lindgren O'Hara Aboona, Inc.
9575 W. Higgins Rd., Suite 400

Rosemont, Illinois, United States 60018
(847)518-9990 kpachowicz@kloainc.com

Count Name: Naperville Road with Weatherbee Lane TMC
Site Code:
Start Date: 04/04/2024

Turning Movement Data

Start Time	Weatherbee Lane Eastbound						Navistar Drive Westbound						Naperville Road Northbound						Naperville Road 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	1	0	5	0	6	0	2	0	2	0	4	0	0	215	1	0	216	0	10	168	2	0	180	406
7:15 AM	0	1	0	6	0	7	0	1	0	0	0	1	0	2	183	3	0	188	0	15	211	2	0	228	424
7:30 AM	0	5	0	12	0	17	0	0	0	0	0	0	0	2	224	10	0	236	0	32	282	0	0	314	567
7:45 AM	0	12	0	6	0	18	0	1	0	5	0	6	1	7	244	4	0	256	0	47	259	4	0	310	590
Hourly Total	0	19	0	29	0	48	0	4	0	7	0	11	1	11	866	18	0	896	0	104	920	8	0	1032	1987
8:00 AM	0	2	1	2	0	5	0	0	0	4	0	4	0	3	215	4	0	222	0	35	219	3	0	257	488
8:15 AM	0	1	1	6	0	8	0	0	0	3	0	3	0	7	236	4	0	247	0	18	234	4	0	256	514
8:30 AM	0	2	0	5	0	7	0	0	0	2	0	2	0	2	267	4	0	273	0	22	239	6	0	267	549
8:45 AM	0	3	0	4	0	7	0	1	0	9	0	10	0	7	231	5	0	243	0	15	252	4	0	271	531
Hourly Total	0	8	2	17	0	27	0	1	0	18	0	19	0	19	949	17	0	985	0	90	944	17	0	1051	2082
*** BREAK ***	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
4:00 PM	0	6	0	10	0	16	0	2	0	26	0	28	0	2	300	0	0	302	0	4	310	6	0	320	666
4:15 PM	0	5	0	6	0	11	0	1	0	26	0	27	0	9	309	0	0	318	0	1	320	2	0	323	679
4:30 PM	0	2	0	9	0	11	0	1	0	30	0	31	0	2	289	0	0	291	0	0	344	4	0	348	681
4:45 PM	0	3	0	6	0	9	0	2	1	30	0	33	0	4	308	1	0	313	0	3	340	0	0	343	698
Hourly Total	0	16	0	31	0	47	0	6	1	112	0	119	0	17	1206	1	0	1224	0	8	1314	12	0	1334	2724
5:00 PM	0	8	0	0	0	8	0	3	2	24	1	29	0	8	331	0	0	339	0	4	285	5	1	294	670
5:15 PM	0	10	0	0	0	10	0	2	0	24	0	26	0	1	321	1	0	323	0	2	365	3	0	370	729
5:30 PM	0	7	0	1	0	8	0	3	1	11	0	15	0	5	304	0	0	309	0	4	299	4	0	307	639
5:45 PM	0	7	1	0	0	8	0	2	0	15	0	17	0	2	266	0	0	268	0	0	248	5	0	253	546
Hourly Total	0	32	1	1	0	34	0	10	3	74	1	87	0	16	1222	1	0	1239	0	10	1197	17	1	1224	2584
Grand Total	0	75	3	78	0	156	0	21	4	211	1	236	1	63	4243	37	0	4344	0	212	4375	54	1	4641	9377
Approach %	0.0	48.1	1.9	50.0	-	-	0.0	8.9	1.7	89.4	-	-	0.0	1.5	97.7	0.9	-	-	0.0	4.6	94.3	1.2	-	-	-
Total %	0.0	0.8	0.0	0.8	-	1.7	0.0	0.2	0.0	2.3	-	2.5	0.0	0.7	45.2	0.4	-	46.3	0.0	2.3	46.7	0.6	-	49.5	-
Lights	0	73	3	77	-	153	0	21	4	211	-	236	1	60	4190	37	-	4288	0	211	4324	49	-	4584	9261
% Lights	-	97.3	100.0	98.7	-	98.1	-	100.0	100.0	100.0	-	100.0	100.0	95.2	98.8	100.0	-	98.7	-	99.5	98.8	90.7	-	98.8	98.8
Buses	0	2	0	1	-	3	0	0	0	0	-	0	0	2	15	0	-	17	0	1	15	3	-	19	39
% Buses	-	2.7	0.0	1.3	-	1.9	-	0.0	0.0	0.0	-	0.0	0.0	3.2	0.4	0.0	-	0.4	-	0.5	0.3	5.6	-	0.4	0.4
Single-Unit Trucks	0	0	0	0	-	0	0	0	0	0	-	0	0	1	37	0	-	38	0	0	29	1	-	30	68
% Single-Unit Trucks	-	0.0	0.0	0.0	-	0.0	-	0.0	0.0	0.0	-	0.0	0.0	1.6	0.9	0.0	-	0.9	-	0.0	0.7	1.9	-	0.6	0.7
Articulated Trucks	0	0	0	0	-	0	0	0	0	0	-	0	0	0	1	0	-	1	0	0	6	1	-	7	8
% Articulated Trucks	-	0.0	0.0	0.0	-	0.0	-	0.0	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0	-	0.0	-	0.0	0.1	1.9	-	0.2	0.1
Bicycles on Road	0	0	0	0	-	0	0	0	0	0	-	0	0	0	0	0	-	0	0	0	1	0	-	1	1

% Bicycles on Road	-	0.0	0.0	0.0	-	0.0	-	0.0	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0	-	0.0	-	0.0	0.0	0.0	-	0.0	0.0
Pedestrians	-	-	-	-	0	-	-	-	-	-	1	-	-	-	-	-	0	-	-	-	-	-	1	-	-
% Pedestrians	-	-	-	-	-	-	-	-	-	-	100.0	-	-	-	-	-	-	-	-	-	-	-	100.0	-	-

Kenig Lindgren O'Hara Aboona, Inc.
9575 W. Higgins Rd., Suite 400

Rosemont, Illinois, United States 60018
(847)518-9990 kpachowicz@kloainc.com

Count Name: Naperville Road with Weatherbee Lane TMC
Site Code:
Start Date: 04/04/2024

Turning Movement Peak Hour Data (7:30 AM)

Start Time	Weatherbee Lane Eastbound						Navistar Drive Westbound						Naperville Road Northbound						Naperville Road Southbound						
	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	Int. Total
7:30 AM	0	5	0	12	0	17	0	0	0	0	0	0	0	2	224	10	0	236	0	32	282	0	0	314	567
7:45 AM	0	12	0	6	0	18	0	1	0	5	0	6	1	7	244	4	0	256	0	47	259	4	0	310	590
8:00 AM	0	2	1	2	0	5	0	0	0	4	0	4	0	3	215	4	0	222	0	35	219	3	0	257	488
8:15 AM	0	1	1	6	0	8	0	0	0	3	0	3	0	7	236	4	0	247	0	18	234	4	0	256	514
Total	0	20	2	26	0	48	0	1	0	12	0	13	1	19	919	22	0	961	0	132	994	11	0	1137	2159
Approach %	0.0	41.7	4.2	54.2	-	-	0.0	7.7	0.0	92.3	-	-	0.1	2.0	95.6	2.3	-	-	0.0	11.6	87.4	1.0	-	-	-
Total %	0.0	0.9	0.1	1.2	-	2.2	0.0	0.0	0.0	0.6	-	0.6	0.0	0.9	42.6	1.0	-	44.5	0.0	6.1	46.0	0.5	-	52.7	-
PHF	0.000	0.417	0.500	0.542	-	0.667	0.000	0.250	0.000	0.600	-	0.542	0.250	0.679	0.942	0.550	-	0.938	0.000	0.702	0.881	0.688	-	0.905	0.915
Lights	0	19	2	25	-	46	0	1	0	12	-	13	1	18	901	22	-	942	0	132	973	8	-	1113	2114
% Lights	-	95.0	100.0	96.2	-	95.8	-	100.0	-	100.0	-	100.0	100.0	94.7	98.0	100.0	-	98.0	-	100.0	97.9	72.7	-	97.9	97.9
Buses	0	1	0	1	-	2	0	0	0	0	-	0	0	1	4	0	-	5	0	0	5	2	-	7	14
% Buses	-	5.0	0.0	3.8	-	4.2	-	0.0	-	0.0	-	0.0	0.0	5.3	0.4	0.0	-	0.5	-	0.0	0.5	18.2	-	0.6	0.6
Single-Unit Trucks	0	0	0	0	-	0	0	0	0	0	-	0	0	0	13	0	-	13	0	0	13	0	-	13	26
% Single-Unit Trucks	-	0.0	0.0	0.0	-	0.0	-	0.0	-	0.0	-	0.0	0.0	0.0	1.4	0.0	-	1.4	-	0.0	1.3	0.0	-	1.1	1.2
Articulated Trucks	0	0	0	0	-	0	0	0	0	0	-	0	0	0	1	0	-	1	0	0	2	1	-	3	4
% Articulated Trucks	-	0.0	0.0	0.0	-	0.0	-	0.0	-	0.0	-	0.0	0.0	0.0	0.1	0.0	-	0.1	-	0.0	0.2	9.1	-	0.3	0.2
Bicycles on Road	0	0	0	0	-	0	0	0	0	0	-	0	0	0	0	0	-	0	0	0	1	0	-	1	1
% Bicycles on Road	-	0.0	0.0	0.0	-	0.0	-	0.0	-	0.0	-	0.0	0.0	0.0	0.0	0.0	-	0.0	-	0.0	0.1	0.0	-	0.1	0.0
Pedestrians	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	0	-	-
% Pedestrians	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Kenig Lindgren O'Hara Aboona, Inc.
9575 W. Higgins Rd., Suite 400

Rosemont, Illinois, United States 60018
(847)518-9990 kpachowicz@kloainc.com

Count Name: Naperville Road with Weatherbee Lane TMC
Site Code:
Start Date: 04/04/2024

Turning Movement Peak Hour Data (4:30 PM)

Start Time	Weatherbee Lane Eastbound						Navistar Drive Westbound						Naperville Road Northbound						Naperville Road Southbound						
	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	Int. Total
4:30 PM	0	2	0	9	0	11	0	1	0	30	0	31	0	2	289	0	0	291	0	0	344	4	0	348	681
4:45 PM	0	3	0	6	0	9	0	2	1	30	0	33	0	4	308	1	0	313	0	3	340	0	0	343	698
5:00 PM	0	8	0	0	0	8	0	3	2	24	1	29	0	8	331	0	0	339	0	4	285	5	1	294	670
5:15 PM	0	10	0	0	0	10	0	2	0	24	0	26	0	1	321	1	0	323	0	2	365	3	0	370	729
Total	0	23	0	15	0	38	0	8	3	108	1	119	0	15	1249	2	0	1266	0	9	1334	12	1	1355	2778
Approach %	0.0	60.5	0.0	39.5	-	-	0.0	6.7	2.5	90.8	-	-	0.0	1.2	98.7	0.2	-	-	0.0	0.7	98.5	0.9	-	-	-
Total %	0.0	0.8	0.0	0.5	-	1.4	0.0	0.3	0.1	3.9	-	4.3	0.0	0.5	45.0	0.1	-	45.6	0.0	0.3	48.0	0.4	-	48.8	-
PHF	0.000	0.575	0.000	0.417	-	0.864	0.000	0.667	0.375	0.900	-	0.902	0.000	0.469	0.943	0.500	-	0.934	0.000	0.563	0.914	0.600	-	0.916	0.953
Lights	0	23	0	15	-	38	0	8	3	108	-	119	0	15	1244	2	-	1261	0	9	1328	12	-	1349	2767
% Lights	-	100.0	-	100.0	-	100.0	-	100.0	100.0	100.0	-	100.0	-	100.0	99.6	100.0	-	99.6	-	100.0	99.6	100.0	-	99.6	99.6
Buses	0	0	0	0	-	0	0	0	0	0	-	0	0	0	0	0	-	0	0	0	0	0	-	0	0
% Buses	-	0.0	-	0.0	-	0.0	-	0.0	0.0	0.0	-	0.0	-	0.0	0.0	0.0	-	0.0	-	0.0	0.0	0.0	-	0.0	0.0
Single-Unit Trucks	0	0	0	0	-	0	0	0	0	0	-	0	0	0	5	0	-	5	0	0	5	0	-	5	10
% Single-Unit Trucks	-	0.0	-	0.0	-	0.0	-	0.0	0.0	0.0	-	0.0	-	0.0	0.4	0.0	-	0.4	-	0.0	0.4	0.0	-	0.4	0.4
Articulated Trucks	0	0	0	0	-	0	0	0	0	0	-	0	0	0	0	0	-	0	0	0	1	0	-	1	1
% Articulated Trucks	-	0.0	-	0.0	-	0.0	-	0.0	0.0	0.0	-	0.0	-	0.0	0.0	0.0	-	0.0	-	0.0	0.1	0.0	-	0.1	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	-	0.0	-	0.0	0.0	0.0	-	0.0	0.0
Pedestrians	-	-	-	-	0	-	-	-	-	-	1	-	-	-	-	-	0	-	-	-	-	-	1	-	-
% Pedestrians	-	-	-	-	-	-	-	-	-	-	100.0	-	-	-	-	-	-	-	-	-	-	-	100.0	-	-

Kenig Lindgren O'Hara Aboona, Inc.
9575 W. Higgins Rd., Suite 400

Rosemont, Illinois, United States 60018
(847)518-9990 kpachowicz@kloainc.com

Count Name: Warrenville Road with Freedom Drive TMC
Site Code:
Start Date: 04/04/2024

Turning Movement Data

Start Time	Warrenville Road Eastbound						Warrenville Road Westbound						Freedom Drive Northbound						Lucent Lane 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	5	152	3	0	160	0	36	137	5	0	178	0	31	11	87	0	129	0	0	0	1	0	1	468
7:15 AM	0	4	165	3	0	172	0	33	147	2	0	182	0	40	5	119	0	164	0	3	0	1	0	4	522
7:30 AM	0	7	222	4	0	233	0	45	174	1	0	220	0	63	4	120	0	187	0	0	0	10	0	10	650
7:45 AM	0	1	199	11	0	211	0	47	222	5	0	274	0	93	8	137	0	238	0	0	0	4	0	4	727
Hourly Total	0	17	738	21	0	776	0	161	680	13	0	854	0	227	28	463	0	718	0	3	0	16	0	19	2367
8:00 AM	0	2	229	6	0	237	0	35	184	7	0	226	0	70	8	124	0	202	0	3	4	4	0	11	676
8:15 AM	0	5	187	7	0	199	1	29	193	5	0	228	0	53	3	98	0	154	0	2	3	6	0	11	592
8:30 AM	0	7	195	6	0	208	0	42	167	6	0	215	0	64	2	135	0	201	0	0	0	6	0	6	630
8:45 AM	0	3	140	10	0	153	0	44	121	2	0	167	0	54	12	138	0	204	0	3	0	3	0	6	530
Hourly Total	0	17	751	29	0	797	1	150	665	20	0	836	0	241	25	495	0	761	0	8	7	19	0	34	2428
*** BREAK ***	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
4:00 PM	0	0	228	29	0	257	0	80	170	2	0	252	0	31	2	70	0	103	0	7	2	15	0	24	636
4:15 PM	0	4	226	28	0	258	0	96	182	4	0	282	0	28	2	93	0	123	0	6	2	4	0	12	675
4:30 PM	0	3	225	39	0	267	0	71	179	3	0	253	0	27	1	121	0	149	0	6	1	5	0	12	681
4:45 PM	0	0	248	19	0	267	0	89	212	2	0	303	0	31	2	99	0	132	0	14	0	6	0	20	722
Hourly Total	0	7	927	115	0	1049	0	336	743	11	0	1090	0	117	7	383	0	507	0	33	5	30	0	68	2714
5:00 PM	0	1	183	26	0	210	0	111	203	3	0	317	0	37	1	115	0	153	0	13	5	9	0	27	707
5:15 PM	0	5	181	16	0	202	0	120	183	1	0	304	0	46	2	128	0	176	0	10	5	9	0	24	706
5:30 PM	0	3	162	21	0	186	0	92	159	1	0	252	0	30	0	143	0	173	0	6	6	7	0	19	630
5:45 PM	0	4	145	21	0	170	0	100	135	2	0	237	0	27	1	116	0	144	0	8	4	8	0	20	571
Hourly Total	0	13	671	84	0	768	0	423	680	7	0	1110	0	140	4	502	0	646	0	37	20	33	0	90	2614
Grand Total	0	54	3087	249	0	3390	1	1070	2768	51	0	3890	0	725	64	1843	0	2632	0	81	32	98	0	211	10123
Approach %	0.0	1.6	91.1	7.3	-	-	0.0	27.5	71.2	1.3	-	-	0.0	27.5	2.4	70.0	-	-	0.0	38.4	15.2	46.4	-	-	-
Total %	0.0	0.5	30.5	2.5	-	33.5	0.0	10.6	27.3	0.5	-	38.4	0.0	7.2	0.6	18.2	-	26.0	0.0	0.8	0.3	1.0	-	2.1	-
Lights	0	53	3065	247	-	3365	1	1049	2740	50	-	3840	0	719	63	1803	-	2585	0	79	32	94	-	205	9995
% Lights	-	98.1	99.3	99.2	-	99.3	100.0	98.0	99.0	98.0	-	98.7	-	99.2	98.4	97.8	-	98.2	-	97.5	100.0	95.9	-	97.2	98.7
Buses	0	0	11	1	-	12	0	4	9	0	-	13	0	0	0	8	-	8	0	0	0	1	-	1	34
% Buses	-	0.0	0.4	0.4	-	0.4	0.0	0.4	0.3	0.0	-	0.3	-	0.0	0.0	0.4	-	0.3	-	0.0	0.0	1.0	-	0.5	0.3
Single-Unit Trucks	0	1	10	1	-	12	0	10	13	1	-	24	0	5	1	24	-	30	0	2	0	2	-	4	70
% Single-Unit Trucks	-	1.9	0.3	0.4	-	0.4	0.0	0.9	0.5	2.0	-	0.6	-	0.7	1.6	1.3	-	1.1	-	2.5	0.0	2.0	-	1.9	0.7
Articulated Trucks	0	0	1	0	-	1	0	7	6	0	-	13	0	1	0	8	-	9	0	0	0	1	-	1	24
% Articulated Trucks	-	0.0	0.0	0.0	-	0.0	0.0	0.7	0.2	0.0	-	0.3	-	0.1	0.0	0.4	-	0.3	-	0.0	0.0	1.0	-	0.5	0.2
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	0.0
Pedestrians	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	0	-	-
% Pedestrians	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Kenig Lindgren O'Hara Aboona, Inc.
9575 W. Higgins Rd., Suite 400

Rosemont, Illinois, United States 60018
(847)518-9990 kpachowicz@kloainc.com

Count Name: Warrenville Road with Freedom Drive TMC
Site Code:
Start Date: 04/04/2024

Turning Movement Peak Hour Data (7:30 AM)

Start Time	Warrenville Road Eastbound						Warrenville Road Westbound						Freedom Drive Northbound						Lucent Lane 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	
7:30 AM	0	7	222	4	0	233	0	45	174	1	0	220	0	63	4	120	0	187	0	0	0	10	0	10	650
7:45 AM	0	1	199	11	0	211	0	47	222	5	0	274	0	93	8	137	0	238	0	0	0	4	0	4	727
8:00 AM	0	2	229	6	0	237	0	35	184	7	0	226	0	70	8	124	0	202	0	3	4	4	0	11	676
8:15 AM	0	5	187	7	0	199	1	29	193	5	0	228	0	53	3	98	0	154	0	2	3	6	0	11	592
Total	0	15	837	28	0	880	1	156	773	18	0	948	0	279	23	479	0	781	0	5	7	24	0	36	2645
Approach %	0.0	1.7	95.1	3.2	-	-	0.1	16.5	81.5	1.9	-	-	0.0	35.7	2.9	61.3	-	-	0.0	13.9	19.4	66.7	-	-	-
Total %	0.0	0.6	31.6	1.1	-	33.3	0.0	5.9	29.2	0.7	-	35.8	0.0	10.5	0.9	18.1	-	29.5	0.0	0.2	0.3	0.9	-	1.4	-
PHF	0.000	0.536	0.914	0.636	-	0.928	0.250	0.830	0.870	0.643	-	0.865	0.000	0.750	0.719	0.874	-	0.820	0.000	0.417	0.438	0.600	-	0.818	0.910
Lights	0	15	831	28	-	874	1	147	762	18	-	928	0	276	23	465	-	764	0	5	7	22	-	34	2600
% Lights	-	100.0	99.3	100.0	-	99.3	100.0	94.2	98.6	100.0	-	97.9	-	98.9	100.0	97.1	-	97.8	-	100.0	100.0	91.7	-	94.4	98.3
Buses	0	0	3	0	-	3	0	1	2	0	-	3	0	0	0	1	-	1	0	0	0	1	-	1	8
% Buses	-	0.0	0.4	0.0	-	0.3	0.0	0.6	0.3	0.0	-	0.3	-	0.0	0.0	0.2	-	0.1	-	0.0	0.0	4.2	-	2.8	0.3
Single-Unit Trucks	0	0	3	0	-	3	0	5	7	0	-	12	0	3	0	10	-	13	0	0	0	0	-	0	28
% Single-Unit Trucks	-	0.0	0.4	0.0	-	0.3	0.0	3.2	0.9	0.0	-	1.3	-	1.1	0.0	2.1	-	1.7	-	0.0	0.0	0.0	-	0.0	1.1
Articulated Trucks	0	0	0	0	-	0	0	3	2	0	-	5	0	0	0	3	-	3	0	0	0	1	-	1	9
% Articulated Trucks	-	0.0	0.0	0.0	-	0.0	0.0	1.9	0.3	0.0	-	0.5	-	0.0	0.0	0.6	-	0.4	-	0.0	0.0	4.2	-	2.8	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	0.0	0.0	-	0.0	-	0.0	0.0	0.0	-	0.0	0.0
Pedestrians	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	0	-	-
% Pedestrians	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Kenig Lindgren O'Hara Aboona, Inc.
9575 W. Higgins Rd., Suite 400

Rosemont, Illinois, United States 60018
(847)518-9990 kpachowicz@kloainc.com

Count Name: Warrenville Road with Freedom Drive TMC
Site Code:
Start Date: 04/04/2024

Turning Movement Peak Hour Data (4:30 PM)

Start Time	Warrenville Road Eastbound						Warrenville Road Westbound						Freedom Drive Northbound						Lucent Lane 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	3	225	39	0	267	0	71	179	3	0	253	0	27	1	121	0	149	0	6	1	5	0	12	681
4:45 PM	0	0	248	19	0	267	0	89	212	2	0	303	0	31	2	99	0	132	0	14	0	6	0	20	722
5:00 PM	0	1	183	26	0	210	0	111	203	3	0	317	0	37	1	115	0	153	0	13	5	9	0	27	707
5:15 PM	0	5	181	16	0	202	0	120	183	1	0	304	0	46	2	128	0	176	0	10	5	9	0	24	706
Total	0	9	837	100	0	946	0	391	777	9	0	1177	0	141	6	463	0	610	0	43	11	29	0	83	2816
Approach %	0.0	1.0	88.5	10.6	-	-	0.0	33.2	66.0	0.8	-	-	0.0	23.1	1.0	75.9	-	-	0.0	51.8	13.3	34.9	-	-	-
Total %	0.0	0.3	29.7	3.6	-	33.6	0.0	13.9	27.6	0.3	-	41.8	0.0	5.0	0.2	16.4	-	21.7	0.0	1.5	0.4	1.0	-	2.9	-
PHF	0.000	0.450	0.844	0.641	-	0.886	0.000	0.815	0.916	0.750	-	0.928	0.000	0.766	0.750	0.904	-	0.866	0.000	0.768	0.550	0.806	-	0.769	0.975
Lights	0	9	834	100	-	943	0	390	772	9	-	1171	0	140	6	460	-	606	0	43	11	29	-	83	2803
% Lights	-	100.0	99.6	100.0	-	99.7	-	99.7	99.4	100.0	-	99.5	-	99.3	100.0	99.4	-	99.3	-	100.0	100.0	100.0	-	100.0	99.5
Buses	0	0	1	0	-	1	0	0	3	0	-	3	0	0	0	0	-	0	0	0	0	0	-	0	4
% Buses	-	0.0	0.1	0.0	-	0.1	-	0.0	0.4	0.0	-	0.3	-	0.0	0.0	0.0	-	0.0	-	0.0	0.0	0.0	-	0.0	0.1
Single-Unit Trucks	0	0	2	0	-	2	0	0	1	0	-	1	0	1	0	1	-	2	0	0	0	0	-	0	5
% Single-Unit Trucks	-	0.0	0.2	0.0	-	0.2	-	0.0	0.1	0.0	-	0.1	-	0.7	0.0	0.2	-	0.3	-	0.0	0.0	0.0	-	0.0	0.2
Articulated Trucks	0	0	0	0	-	0	0	1	1	0	-	2	0	0	0	2	-	2	0	0	0	0	-	0	4
% Articulated Trucks	-	0.0	0.0	0.0	-	0.0	-	0.3	0.1	0.0	-	0.2	-	0.0	0.0	0.4	-	0.3	-	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
% 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	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Kenig Lindgren O'Hara Aboona, Inc.
9575 W. Higgins Rd., Suite 400

Rosemont, Illinois, United States 60018
(847)518-9990 kpachowicz@kloainc.com

Count Name: Naperville Road with Waterbridge Road TMC
Site Code:
Start Date: 02/20/2025

Turning Movement Data

Start Time	Waterbridge Road Westbound					Naperville Road Northbound					Naperville Road Southbound					
	U-Turn	Left	Right	Peds	App. Total	U-Turn	Thru	Right	Peds	App. Total	U-Turn	Left	Thru	Peds	App. Total	Int. Total
7:00 AM	0	1	1	0	2	0	209	2	0	211	0	8	190	0	198	411
7:15 AM	0	1	3	0	4	0	255	1	0	256	0	8	225	0	233	493
7:30 AM	0	0	2	0	2	0	342	0	0	342	0	2	240	0	242	586
7:45 AM	0	0	0	0	0	0	316	1	0	317	0	3	249	0	252	569
Hourly Total	0	2	6	0	8	0	1122	4	0	1126	0	21	904	0	925	2059
8:00 AM	0	0	2	0	2	0	280	0	0	280	0	2	253	0	255	537
8:15 AM	0	1	2	0	3	0	273	2	0	275	0	6	271	0	277	555
8:30 AM	0	0	1	0	1	0	307	1	0	308	0	9	225	0	234	543
8:45 AM	0	0	3	0	3	0	247	0	0	247	0	8	195	0	203	453
Hourly Total	0	1	8	0	9	0	1107	3	0	1110	0	25	944	0	969	2088
*** BREAK ***	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
4:00 PM	0	1	2	0	3	0	287	0	0	287	0	6	369	0	375	665
4:15 PM	0	1	4	0	5	0	293	1	0	294	0	3	313	0	316	615
4:30 PM	0	1	3	0	4	0	285	0	0	285	0	11	355	0	366	655
4:45 PM	0	0	3	0	3	0	367	1	0	368	0	5	354	0	359	730
Hourly Total	0	3	12	0	15	0	1232	2	0	1234	0	25	1391	0	1416	2665
5:00 PM	0	0	4	0	4	0	316	0	0	316	0	10	383	0	393	713
5:15 PM	0	2	2	0	4	0	352	0	0	352	1	3	334	0	338	694
5:30 PM	0	0	3	0	3	0	325	0	0	325	1	12	309	0	322	650
5:45 PM	0	1	1	0	2	0	282	0	0	282	0	3	315	0	318	602
Hourly Total	0	3	10	0	13	0	1275	0	0	1275	2	28	1341	0	1371	2659
Grand Total	0	9	36	0	45	0	4736	9	0	4745	2	99	4580	0	4681	9471
Approach %	0.0	20.0	80.0	-	-	0.0	99.8	0.2	-	-	0.0	2.1	97.8	-	-	-
Total %	0.0	0.1	0.4	-	0.5	0.0	50.0	0.1	-	50.1	0.0	1.0	48.4	-	49.4	-
Lights	0	8	34	-	42	0	4677	8	-	4685	2	99	4528	-	4629	9356
% Lights	-	88.9	94.4	-	93.3	-	98.8	88.9	-	98.7	100.0	100.0	98.9	-	98.9	98.8
Buses	0	0	1	-	1	0	25	0	-	25	0	0	20	-	20	46
% Buses	-	0.0	2.8	-	2.2	-	0.5	0.0	-	0.5	0.0	0.0	0.4	-	0.4	0.5
Single-Unit Trucks	0	1	1	-	2	0	30	1	-	31	0	0	28	-	28	61
% Single-Unit Trucks	-	11.1	2.8	-	4.4	-	0.6	11.1	-	0.7	0.0	0.0	0.6	-	0.6	0.6
Articulated Trucks	0	0	0	-	0	0	4	0	-	4	0	0	4	-	4	8
% Articulated Trucks	-	0.0	0.0	-	0.0	-	0.1	0.0	-	0.1	0.0	0.0	0.1	-	0.1	0.1
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	0.0	0.0	0.0	-	0.0	0.0
Pedestrians	-	-	-	0	-	-	-	-	0	-	-	-	-	0	-	-
% Pedestrians	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Kenig Lindgren O'Hara Aboona, Inc.
9575 W. Higgins Rd., Suite 400

Rosemont, Illinois, United States 60018
(847)518-9990 kpachowicz@kloainc.com

Count Name: Naperville Road with Waterbridge Road TMC
Site Code:
Start Date: 02/20/2025

Turning Movement Peak Hour Data (7:30 AM)

Start Time	Waterbridge Road Westbound					Naperville Road Northbound					Naperville Road Southbound					
	U-Turn	Left	Right	Peds	App. Total	U-Turn	Thru	Right	Peds	App. Total	U-Turn	Left	Thru	Peds	App. Total	Int. Total
7:30 AM	0	0	2	0	2	0	342	0	0	342	0	2	240	0	242	586
7:45 AM	0	0	0	0	0	0	316	1	0	317	0	3	249	0	252	569
8:00 AM	0	0	2	0	2	0	280	0	0	280	0	2	253	0	255	537
8:15 AM	0	1	2	0	3	0	273	2	0	275	0	6	271	0	277	555
Total	0	1	6	0	7	0	1211	3	0	1214	0	13	1013	0	1026	2247
Approach %	0.0	14.3	85.7	-	-	0.0	99.8	0.2	-	-	0.0	1.3	98.7	-	-	-
Total %	0.0	0.0	0.3	-	0.3	0.0	53.9	0.1	-	54.0	0.0	0.6	45.1	-	45.7	-
PHF	0.000	0.250	0.750	-	0.583	0.000	0.885	0.375	-	0.887	0.000	0.542	0.935	-	0.926	0.959
Lights	0	0	6	-	6	0	1190	2	-	1192	0	13	997	-	1010	2208
% Lights	-	0.0	100.0	-	85.7	-	98.3	66.7	-	98.2	-	100.0	98.4	-	98.4	98.3
Buses	0	0	0	-	0	0	6	0	-	6	0	0	6	-	6	12
% Buses	-	0.0	0.0	-	0.0	-	0.5	0.0	-	0.5	-	0.0	0.6	-	0.6	0.5
Single-Unit Trucks	0	1	0	-	1	0	14	1	-	15	0	0	9	-	9	25
% Single-Unit Trucks	-	100.0	0.0	-	14.3	-	1.2	33.3	-	1.2	-	0.0	0.9	-	0.9	1.1
Articulated Trucks	0	0	0	-	0	0	1	0	-	1	0	0	1	-	1	2
% Articulated Trucks	-	0.0	0.0	-	0.0	-	0.1	0.0	-	0.1	-	0.0	0.1	-	0.1	0.1
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	-	0.0	0.0	-	0.0	0.0
Pedestrians	-	-	-	0	-	-	-	-	0	-	-	-	-	0	-	-
% Pedestrians	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Kenig Lindgren O'Hara Aboona, Inc.
9575 W. Higgins Rd., Suite 400

Rosemont, Illinois, United States 60018
(847)518-9990 kpachowicz@kloainc.com

Count Name: Naperville Road with Waterbridge Road TMC
Site Code:
Start Date: 02/20/2025

Turning Movement Peak Hour Data (4:30 PM)

Start Time	Waterbridge Road Westbound					Naperville Road Northbound					Naperville Road Southbound					
	U-Turn	Left	Right	Peds	App. Total	U-Turn	Thru	Right	Peds	App. Total	U-Turn	Left	Thru	Peds	App. Total	Int. Total
4:30 PM	0	1	3	0	4	0	285	0	0	285	0	11	355	0	366	655
4:45 PM	0	0	3	0	3	0	367	1	0	368	0	5	354	0	359	730
5:00 PM	0	0	4	0	4	0	316	0	0	316	0	10	383	0	393	713
5:15 PM	0	2	2	0	4	0	352	0	0	352	1	3	334	0	338	694
Total	0	3	12	0	15	0	1320	1	0	1321	1	29	1426	0	1456	2792
Approach %	0.0	20.0	80.0	-	-	0.0	99.9	0.1	-	-	0.1	2.0	97.9	-	-	-
Total %	0.0	0.1	0.4	-	0.5	0.0	47.3	0.0	-	47.3	0.0	1.0	51.1	-	52.1	-
PHF	0.000	0.375	0.750	-	0.938	0.000	0.899	0.250	-	0.897	0.250	0.659	0.931	-	0.926	0.956
Lights	0	3	12	-	15	0	1315	1	-	1316	1	29	1418	-	1448	2779
% Lights	-	100.0	100.0	-	100.0	-	99.6	100.0	-	99.6	100.0	100.0	99.4	-	99.5	99.5
Buses	0	0	0	-	0	0	2	0	-	2	0	0	5	-	5	7
% Buses	-	0.0	0.0	-	0.0	-	0.2	0.0	-	0.2	0.0	0.0	0.4	-	0.3	0.3
Single-Unit Trucks	0	0	0	-	0	0	3	0	-	3	0	0	2	-	2	5
% Single-Unit Trucks	-	0.0	0.0	-	0.0	-	0.2	0.0	-	0.2	0.0	0.0	0.1	-	0.1	0.2
Articulated Trucks	0	0	0	-	0	0	0	0	-	0	0	0	1	-	1	1
% Articulated Trucks	-	0.0	0.0	-	0.0	-	0.0	0.0	-	0.0	0.0	0.0	0.1	-	0.1	0.0
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	0.0	0.0	0.0	-	0.0	0.0
Pedestrians	-	-	-	0	-	-	-	-	0	-	-	-	-	0	-	-
% Pedestrians	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Kenig Lindgren O'Hara Aboona, Inc.
9575 W. Higgins Rd., Suite 400

Rosemont, Illinois, United States 60018
(847)518-9990 kpachowicz@kloainc.com

Count Name: Lucent Lane and Naperville Wheaton Road TMC
Site Code:
Start Date: 02/20/2025

Turning Movement Data

Start Time	Barkei Lane Eastbound						Naperville Wheaton Road Westbound						Lucent Lane Northbound						Lucent Lane 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	0	0	0	0	0	0	0	0	0	0	0	0	4	10	0	0	14	0	0	8	0	0	8	22
7:15 AM	0	0	0	2	0	2	0	0	0	0	0	0	1	2	6	0	0	9	0	0	8	0	0	8	19
7:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	4	12	0	0	16	0	0	6	0	0	6	22
7:45 AM	0	0	0	1	0	1	0	0	0	0	0	0	0	7	23	0	0	30	0	0	5	0	0	5	36
Hourly Total	0	0	0	3	0	3	0	0	0	0	0	0	1	17	51	0	0	69	0	0	27	0	0	27	99
8:00 AM	0	1	0	2	0	3	0	0	0	0	0	0	0	10	19	0	0	29	1	0	8	0	0	9	41
8:15 AM	0	1	0	2	0	3	0	0	0	0	0	0	1	10	7	0	0	18	0	0	10	0	0	10	31
8:30 AM	0	1	0	1	0	2	0	0	0	0	0	0	0	5	14	0	0	19	0	0	3	0	0	3	24
8:45 AM	0	0	0	2	0	2	0	0	0	0	0	0	0	7	12	0	0	19	0	0	2	0	0	2	23
Hourly Total	0	3	0	7	0	10	0	0	0	0	0	0	1	32	52	0	0	85	1	0	23	0	0	24	119
*** BREAK ***	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
4:00 PM	0	1	0	5	0	6	0	0	0	0	0	0	1	0	8	0	0	9	0	0	24	0	0	24	39
4:15 PM	0	0	0	8	0	8	0	0	0	0	0	0	1	1	6	0	0	8	0	0	13	0	0	13	29
4:30 PM	0	0	0	10	0	10	0	0	0	0	0	0	2	1	11	0	0	14	0	0	6	0	0	6	30
4:45 PM	0	0	0	14	0	14	0	0	0	0	0	0	1	3	7	0	0	11	0	0	11	0	0	11	36
Hourly Total	0	1	0	37	0	38	0	0	0	0	0	0	5	5	32	0	0	42	0	0	54	0	0	54	134
5:00 PM	0	0	0	11	0	11	0	0	0	0	0	0	0	3	12	0	0	15	0	0	19	0	0	19	45
5:15 PM	0	0	0	7	0	7	0	0	0	0	0	0	0	3	9	0	0	12	0	0	17	0	0	17	36
5:30 PM	0	0	0	3	0	3	0	0	0	0	0	0	4	1	9	0	0	14	0	0	13	0	0	13	30
5:45 PM	0	0	0	4	0	4	0	0	0	0	0	0	0	0	8	0	0	8	0	0	14	0	0	14	26
Hourly Total	0	0	0	25	0	25	0	0	0	0	0	0	4	7	38	0	0	49	0	0	63	0	0	63	137
Grand Total	0	4	0	72	0	76	0	0	0	0	0	0	11	61	173	0	0	245	1	0	167	0	0	168	489
Approach %	0.0	5.3	0.0	94.7	-	-	0.0	0.0	0.0	0.0	-	-	4.5	24.9	70.6	0.0	-	-	0.6	0.0	99.4	0.0	-	-	-
Total %	0.0	0.8	0.0	14.7	-	15.5	0.0	0.0	0.0	0.0	-	0.0	2.2	12.5	35.4	0.0	-	50.1	0.2	0.0	34.2	0.0	-	34.4	-
Lights	0	4	0	69	-	73	0	0	0	0	-	0	11	59	170	0	-	240	1	0	164	0	-	165	478
% Lights	-	100.0	-	95.8	-	96.1	-	-	-	-	-	-	100.0	96.7	98.3	-	-	98.0	100.0	-	98.2	-	-	98.2	97.8
Buses	0	0	0	0	-	0	0	0	0	0	-	0	0	0	1	0	-	1	0	0	1	0	-	1	2
% Buses	-	0.0	-	0.0	-	0.0	-	-	-	-	-	-	0.0	0.0	0.6	-	-	0.4	0.0	-	0.6	-	-	0.6	0.4
Single-Unit Trucks	0	0	0	3	-	3	0	0	0	0	-	0	0	2	2	0	-	4	0	0	2	0	-	2	9
% Single-Unit Trucks	-	0.0	-	4.2	-	3.9	-	-	-	-	-	-	0.0	3.3	1.2	-	-	1.6	0.0	-	1.2	-	-	1.2	1.8
Articulated Trucks	0	0	0	0	-	0	0	0	0	0	-	0	0	0	0	0	-	0	0	0	0	0	-	0	0
% Articulated Trucks	-	0.0	-	0.0	-	0.0	-	-	-	-	-	-	0.0	0.0	0.0	-	-	0.0	0.0	-	0.0	-	-	0.0	0.0
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	0.0
Pedestrians	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	-	0	-	-
% Pedestrians	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Kenig Lindgren O'Hara Aboona, Inc.
9575 W. Higgins Rd., Suite 400

Rosemont, Illinois, United States 60018
(847)518-9990 kpachowicz@kloainc.com

Count Name: Lucent Lane and Naperville Wheaton Road TMC
Site Code:
Start Date: 02/20/2025

Turning Movement Peak Hour Data (7:30 AM)

Start Time	Barkei Lane Eastbound						Naperville Wheaton Road Westbound						Lucent Lane Northbound						Lucent Lane 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	
7:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	4	12	0	0	16	0	0	6	0	0	6	22
7:45 AM	0	0	0	1	0	1	0	0	0	0	0	0	0	7	23	0	0	30	0	0	5	0	0	5	36
8:00 AM	0	1	0	2	0	3	0	0	0	0	0	0	0	10	19	0	0	29	1	0	8	0	0	9	41
8:15 AM	0	1	0	2	0	3	0	0	0	0	0	0	1	10	7	0	0	18	0	0	10	0	0	10	31
Total	0	2	0	5	0	7	0	0	0	0	0	0	1	31	61	0	0	93	1	0	29	0	0	30	130
Approach %	0.0	28.6	0.0	71.4	-	-	0.0	0.0	0.0	0.0	-	-	1.1	33.3	65.6	0.0	-	-	3.3	0.0	96.7	0.0	-	-	-
Total %	0.0	1.5	0.0	3.8	-	5.4	0.0	0.0	0.0	0.0	-	0.0	0.8	23.8	46.9	0.0	-	71.5	0.8	0.0	22.3	0.0	-	23.1	-
PHF	0.000	0.500	0.000	0.625	-	0.583	0.000	0.000	0.000	0.000	-	0.000	0.250	0.775	0.663	0.000	-	0.775	0.250	0.000	0.725	0.000	-	0.750	0.793
Lights	0	2	0	5	-	7	0	0	0	0	-	0	1	31	59	0	-	91	1	0	28	0	-	29	127
% Lights	-	100.0	-	100.0	-	100.0	-	-	-	-	-	-	100.0	100.0	96.7	-	-	97.8	100.0	-	96.6	-	-	96.7	97.7
Buses	0	0	0	0	-	0	0	0	0	0	-	0	0	0	1	0	-	1	0	0	1	0	-	1	2
% Buses	-	0.0	-	0.0	-	0.0	-	-	-	-	-	-	0.0	0.0	1.6	-	-	1.1	0.0	-	3.4	-	-	3.3	1.5
Single-Unit Trucks	0	0	0	0	-	0	0	0	0	0	-	0	0	0	1	0	-	1	0	0	0	0	-	0	1
% Single-Unit Trucks	-	0.0	-	0.0	-	0.0	-	-	-	-	-	-	0.0	0.0	1.6	-	-	1.1	0.0	-	0.0	-	-	0.0	0.8
Articulated Trucks	0	0	0	0	-	0	0	0	0	0	-	0	0	0	0	0	-	0	0	0	0	0	-	0	0
% Articulated Trucks	-	0.0	-	0.0	-	0.0	-	-	-	-	-	-	0.0	0.0	0.0	-	-	0.0	0.0	-	0.0	-	-	0.0	0.0
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	0.0
Pedestrians	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	0	-	-
% Pedestrians	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Kenig Lindgren O'Hara Aboona, Inc.
9575 W. Higgins Rd., Suite 400

Rosemont, Illinois, United States 60018
(847)518-9990 kpachowicz@kloainc.com

Count Name: Lucent Lane and Naperville Wheaton Road TMC
Site Code:
Start Date: 02/20/2025

Turning Movement Peak Hour Data (4:30 PM)

Start Time	Barkei Lane Eastbound						Naperville Wheaton Road Westbound						Lucent Lane Northbound						Lucent Lane 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	0	0	10	0	10	0	0	0	0	0	0	2	1	11	0	0	14	0	0	6	0	0	6	30
4:45 PM	0	0	0	14	0	14	0	0	0	0	0	0	1	3	7	0	0	11	0	0	11	0	0	11	36
5:00 PM	0	0	0	11	0	11	0	0	0	0	0	0	0	3	12	0	0	15	0	0	19	0	0	19	45
5:15 PM	0	0	0	7	0	7	0	0	0	0	0	0	0	3	9	0	0	12	0	0	17	0	0	17	36
Total	0	0	0	42	0	42	0	0	0	0	0	0	3	10	39	0	0	52	0	0	53	0	0	53	147
Approach %	0.0	0.0	0.0	100.0	-	-	0.0	0.0	0.0	0.0	-	-	5.8	19.2	75.0	0.0	-	-	0.0	0.0	100.0	0.0	-	-	-
Total %	0.0	0.0	0.0	28.6	-	28.6	0.0	0.0	0.0	0.0	-	0.0	2.0	6.8	26.5	0.0	-	35.4	0.0	0.0	36.1	0.0	-	36.1	-
PHF	0.000	0.000	0.000	0.750	-	0.750	0.000	0.000	0.000	0.000	-	0.000	0.375	0.833	0.813	0.000	-	0.867	0.000	0.000	0.697	0.000	-	0.697	0.817
Lights	0	0	0	41	-	41	0	0	0	0	-	0	3	9	39	0	-	51	0	0	53	0	-	53	145
% Lights	-	-	-	97.6	-	97.6	-	-	-	-	-	-	100.0	90.0	100.0	-	-	98.1	-	-	100.0	-	-	100.0	98.6
Buses	0	0	0	0	-	0	0	0	0	0	-	0	0	0	0	0	-	0	0	0	0	0	-	0	0
% Buses	-	-	-	0.0	-	0.0	-	-	-	-	-	-	0.0	0.0	0.0	-	-	0.0	-	-	0.0	-	-	0.0	0.0
Single-Unit Trucks	0	0	0	1	-	1	0	0	0	0	-	0	0	1	0	0	-	1	0	0	0	0	-	0	2
% Single-Unit Trucks	-	-	-	2.4	-	2.4	-	-	-	-	-	-	0.0	10.0	0.0	-	-	1.9	-	-	0.0	-	-	0.0	1.4
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
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
Pedestrians	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	0	-	-
% Pedestrians	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Kenig Lindgren O'Hara Aboona, Inc.
9575 W. Higgins Rd., Suite 400

Rosemont, Illinois, United States 60018
(847)518-9990 kpachowicz@kloainc.com

Count Name: Weatherbee Lane with Access Drive TMC
Site Code:
Start Date: 02/20/2025

Turning Movement Data

Start Time	Weatherbee Lane Eastbound						Weatherbee Lane Westbound						Access Drive Northbound						Access Drive 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	0	9	0	0	9	0	0	7	1	0	8	0	0	0	0	0	0	0	1	0	0	0	1	18
7:15 AM	0	0	9	0	0	9	0	0	5	0	0	5	0	0	0	0	0	0	0	0	0	0	0	0	14
7:30 AM	0	0	8	0	0	8	0	0	5	1	0	6	0	0	0	0	0	0	0	1	0	0	0	1	15
7:45 AM	0	1	8	0	0	9	0	0	6	0	0	6	0	0	0	0	0	0	0	2	0	0	1	2	17
Hourly Total	0	1	34	0	0	35	0	0	23	2	0	25	0	0	0	0	0	0	0	4	0	0	1	4	64
8:00 AM	0	0	11	0	0	11	0	0	9	0	0	9	0	0	0	2	0	2	0	0	0	0	1	0	22
8:15 AM	0	0	12	0	0	12	0	0	10	0	0	10	0	0	0	0	0	0	0	1	0	0	0	1	23
8:30 AM	0	0	16	0	0	16	0	0	14	0	0	14	0	0	0	0	0	0	0	2	0	0	0	2	32
8:45 AM	0	0	8	0	0	8	0	0	8	0	0	8	0	0	0	0	0	0	0	1	0	0	0	1	17
Hourly Total	0	0	47	0	0	47	0	0	41	0	0	41	0	0	0	2	0	2	0	4	0	0	1	4	94
*** BREAK ***	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
4:00 PM	0	0	11	0	0	11	0	0	10	0	0	10	0	0	0	0	0	0	0	0	0	0	0	0	21
4:15 PM	0	0	8	0	0	8	0	0	9	0	0	9	0	0	0	0	0	0	0	0	0	0	0	0	17
4:30 PM	0	0	21	0	0	21	0	0	8	0	0	8	0	0	0	0	0	0	0	0	0	0	0	0	29
4:45 PM	0	1	17	0	0	18	0	0	8	1	0	9	0	0	0	0	0	0	0	1	0	0	0	1	28
Hourly Total	0	1	57	0	0	58	0	0	35	1	0	36	0	0	0	0	0	0	0	1	0	0	0	1	95
5:00 PM	0	0	17	0	0	17	0	0	8	0	0	8	0	0	0	0	0	0	0	0	0	0	0	0	25
5:15 PM	0	0	14	0	0	14	0	0	15	2	0	17	0	0	0	0	0	0	0	2	0	0	1	2	33
5:30 PM	0	1	15	0	0	16	0	0	10	0	0	10	0	0	0	0	0	0	0	0	0	0	0	0	26
5:45 PM	0	0	7	0	0	7	0	0	5	0	0	5	0	0	0	0	0	0	0	0	0	0	0	0	12
Hourly Total	0	1	53	0	0	54	0	0	38	2	0	40	0	0	0	0	0	0	0	2	0	0	1	2	96
Grand Total	0	3	191	0	0	194	0	0	137	5	0	142	0	0	0	2	0	2	0	11	0	0	3	11	349
Approach %	0.0	1.5	98.5	0.0	-	-	0.0	0.0	96.5	3.5	-	-	0.0	0.0	0.0	100.0	-	-	0.0	100.0	0.0	0.0	-	-	-
Total %	0.0	0.9	54.7	0.0	-	55.6	0.0	0.0	39.3	1.4	-	40.7	0.0	0.0	0.0	0.6	-	0.6	0.0	3.2	0.0	0.0	-	3.2	-
Lights	0	3	184	0	-	187	0	0	129	5	-	134	0	0	0	2	-	2	0	11	0	0	-	11	334
% Lights	-	100.0	96.3	-	-	96.4	-	-	94.2	100.0	-	94.4	-	-	-	100.0	-	100.0	-	100.0	-	-	-	100.0	95.7
Buses	0	0	6	0	-	6	0	0	6	0	-	6	0	0	0	0	-	0	0	0	0	0	-	0	12
% Buses	-	0.0	3.1	-	-	3.1	-	-	4.4	0.0	-	4.2	-	-	-	0.0	-	0.0	-	0.0	-	-	-	0.0	3.4
Single-Unit Trucks	0	0	1	0	-	1	0	0	2	0	-	2	0	0	0	0	-	0	0	0	0	0	-	0	3
% Single-Unit Trucks	-	0.0	0.5	-	-	0.5	-	-	1.5	0.0	-	1.4	-	-	-	0.0	-	0.0	-	0.0	-	-	-	0.0	0.9
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	0.0
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	0.0
Pedestrians	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	-	3	-	-
% Pedestrians	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	100.0	-	-

Kenig Lindgren O'Hara Aboona, Inc.
9575 W. Higgins Rd., Suite 400

Rosemont, Illinois, United States 60018
(847)518-9990 kpachowicz@kloainc.com

Count Name: Weatherbee Lane with Access Drive TMC
Site Code:
Start Date: 02/20/2025

Turning Movement Peak Hour Data (7:30 AM)

Start Time	Weatherbee Lane Eastbound						Weatherbee Lane Westbound						Access Drive Northbound						Access Drive Southbound						
	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	Int. Total
7:30 AM	0	0	8	0	0	8	0	0	5	1	0	6	0	0	0	0	0	0	0	1	0	0	0	1	15
7:45 AM	0	1	8	0	0	9	0	0	6	0	0	6	0	0	0	0	0	0	0	2	0	0	1	2	17
8:00 AM	0	0	11	0	0	11	0	0	9	0	0	9	0	0	0	2	0	2	0	0	0	0	1	0	22
8:15 AM	0	0	12	0	0	12	0	0	10	0	0	10	0	0	0	0	0	0	0	1	0	0	0	1	23
Total	0	1	39	0	0	40	0	0	30	1	0	31	0	0	0	2	0	2	0	4	0	0	2	4	77
Approach %	0.0	2.5	97.5	0.0	-	-	0.0	0.0	96.8	3.2	-	-	0.0	0.0	0.0	100.0	-	-	0.0	100.0	0.0	0.0	-	-	-
Total %	0.0	1.3	50.6	0.0	-	51.9	0.0	0.0	39.0	1.3	-	40.3	0.0	0.0	0.0	2.6	-	2.6	0.0	5.2	0.0	0.0	-	5.2	-
PHF	0.000	0.250	0.813	0.000	-	0.833	0.000	0.000	0.750	0.250	-	0.775	0.000	0.000	0.000	0.250	-	0.250	0.000	0.500	0.000	0.000	-	0.500	0.837
Lights	0	1	37	0	-	38	0	0	27	1	-	28	0	0	0	2	-	2	0	4	0	0	-	4	72
% Lights	-	100.0	94.9	-	-	95.0	-	-	90.0	100.0	-	90.3	-	-	-	100.0	-	100.0	-	100.0	-	-	-	100.0	93.5
Buses	0	0	2	0	-	2	0	0	3	0	-	3	0	0	0	0	-	0	0	0	0	0	-	0	5
% Buses	-	0.0	5.1	-	-	5.0	-	-	10.0	0.0	-	9.7	-	-	-	0.0	-	0.0	-	0.0	-	-	-	0.0	6.5
Single-Unit Trucks	0	0	0	0	-	0	0	0	0	0	-	0	0	0	0	0	-	0	0	0	0	0	-	0	0
% Single-Unit Trucks	-	0.0	0.0	-	-	0.0	-	-	0.0	0.0	-	0.0	-	-	-	0.0	-	0.0	-	0.0	-	-	-	0.0	0.0
Articulated Trucks	0	0	0	0	-	0	0	0	0	0	-	0	0	0	0	0	-	0	0	0	0	0	-	0	0
% Articulated Trucks	-	0.0	0.0	-	-	0.0	-	-	0.0	0.0	-	0.0	-	-	-	0.0	-	0.0	-	0.0	-	-	-	0.0	0.0
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	0.0
Pedestrians	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	2	-	-
% Pedestrians	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	100.0	-	-

Kenig Lindgren O'Hara Aboona, Inc.
9575 W. Higgins Rd., Suite 400

Rosemont, Illinois, United States 60018
(847)518-9990 kpachowicz@kloainc.com

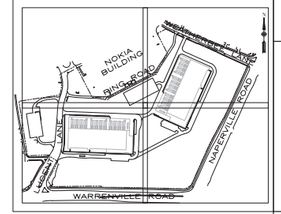
Count Name: Weatherbee Lane with Access Drive TMC
Site Code:
Start Date: 02/20/2025

Turning Movement Peak Hour Data (4:30 PM)

Start Time	Weatherbee Lane Eastbound						Weatherbee Lane Westbound						Access Drive Northbound						Access Drive 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	0	21	0	0	21	0	0	8	0	0	8	0	0	0	0	0	0	0	0	0	0	0	0	29
4:45 PM	0	1	17	0	0	18	0	0	8	1	0	9	0	0	0	0	0	0	0	1	0	0	0	1	28
5:00 PM	0	0	17	0	0	17	0	0	8	0	0	8	0	0	0	0	0	0	0	0	0	0	0	0	25
5:15 PM	0	0	14	0	0	14	0	0	15	2	0	17	0	0	0	0	0	0	0	2	0	0	1	2	33
Total	0	1	69	0	0	70	0	0	39	3	0	42	0	0	0	0	0	0	0	3	0	0	1	3	115
Approach %	0.0	1.4	98.6	0.0	-	-	0.0	0.0	92.9	7.1	-	-	0.0	0.0	0.0	0.0	-	-	0.0	100.0	0.0	0.0	-	-	-
Total %	0.0	0.9	60.0	0.0	-	60.9	0.0	0.0	33.9	2.6	-	36.5	0.0	0.0	0.0	0.0	-	0.0	0.0	2.6	0.0	0.0	-	2.6	-
PHF	0.000	0.250	0.821	0.000	-	0.833	0.000	0.000	0.650	0.375	-	0.618	0.000	0.000	0.000	0.000	-	0.000	0.000	0.375	0.000	0.000	-	0.375	0.871
Lights	0	1	68	0	-	69	0	0	38	3	-	41	0	0	0	0	-	0	0	3	0	0	-	3	113
% Lights	-	100.0	98.6	-	-	98.6	-	-	97.4	100.0	-	97.6	-	-	-	-	-	-	-	100.0	-	-	-	100.0	98.3
Buses	0	0	1	0	-	1	0	0	1	0	-	1	0	0	0	0	-	0	0	0	0	0	-	0	2
% Buses	-	0.0	1.4	-	-	1.4	-	-	2.6	0.0	-	2.4	-	-	-	-	-	-	-	0.0	-	-	-	0.0	1.7
Single-Unit Trucks	0	0	0	0	-	0	0	0	0	0	-	0	0	0	0	0	-	0	0	0	0	0	-	0	0
% Single-Unit Trucks	-	0.0	0.0	-	-	0.0	-	-	0.0	0.0	-	0.0	-	-	-	-	-	-	-	0.0	-	-	-	0.0	0.0
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
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
Pedestrians	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	1	-	-
% Pedestrians	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	100.0	-	-

Site Plan

N.T.S. **KEY MAP**



N

GRAPHIC SCALE 1"= 80'
0 40' 80' 160'

PRELIMINARY DIMENSIONAL CONTROL & PAVING PLAN – OVERALL

1960 W LUCENT LANE

NAPERVILLE, ILLINOIS

KARIS CRITICAL

No.	Description	Date
1	ORIGINAL EXHIBIT DATE	4/7/25

JACOB & HEFNER ASSOCIATES
1333 Butterfield Rd, Suite 300, Downers Grove, IL 60515
PHONE: (630) 652-4600, FAX: (630) 652-4601
www.jacobandhefner.com

H477a

1" = 80'

C4.0

H:\H\H477a\E\Dwg\Prel\Sheets\H477a-Prelim-4-Dimcon.dwg

ITE Trip Generation Sheets

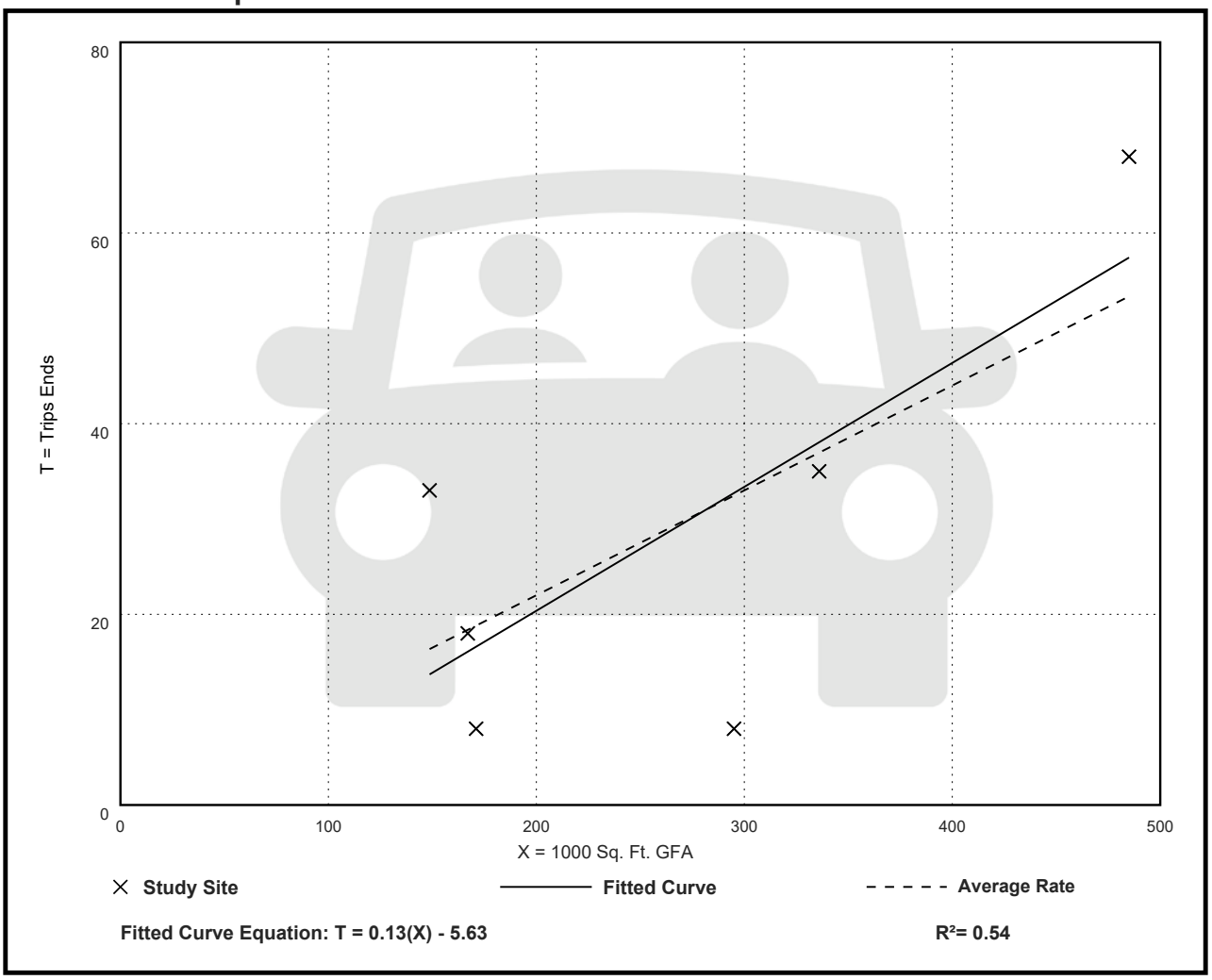
Data Center
(160)

Vehicle Trip Ends vs: 1000 Sq. Ft. GFA
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: 6
Avg. 1000 Sq. Ft. GFA: 267
Directional Distribution: 55% entering, 45% exiting

Vehicle Trip Generation per 1000 Sq. Ft. GFA

Average Rate	Range of Rates	Standard Deviation
0.11	0.03 - 0.22	0.06

Data Plot and Equation



Fitted Curve Equation: T = 0.13(X) - 5.63

R^2= 0.54

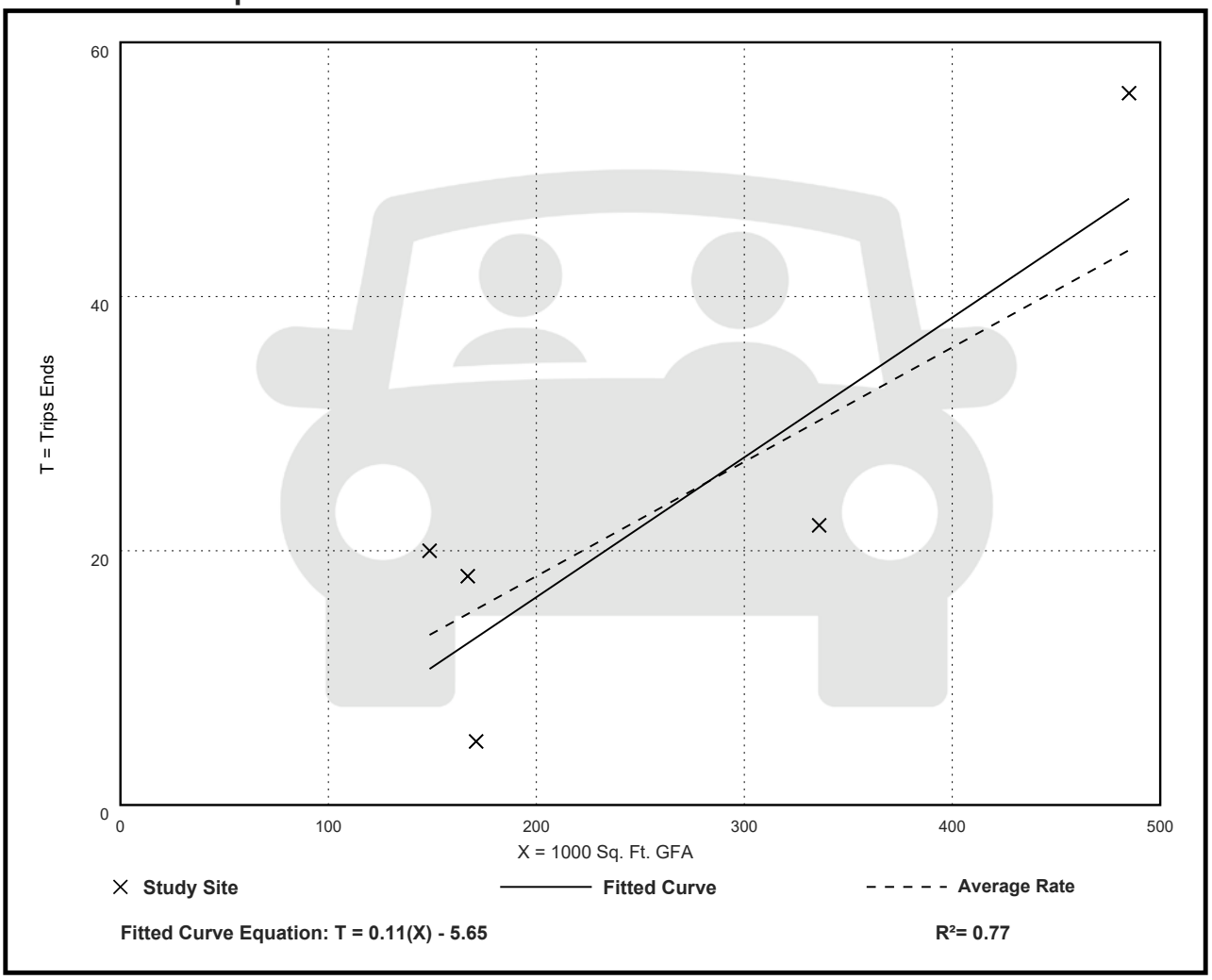
Data Center
(160)

Vehicle Trip Ends vs: 1000 Sq. Ft. GFA
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. 1000 Sq. Ft. GFA: 262
Directional Distribution: 30% entering, 70% exiting

Vehicle Trip Generation per 1000 Sq. Ft. GFA

Average Rate	Range of Rates	Standard Deviation
0.09	0.03 - 0.13	0.04

Data Plot and Equation



Fitted Curve Equation: T = 0.11(X) - 5.65

R^2= 0.77

CMAP 2050 Projections Letter

Chicago Metropolitan Agency for Planning

433 West Van Buren Street, Suite 450
Chicago, IL 60607
cmap.illinois.gov | 312-454-0400

March 12, 2025

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

Subject: Naperville Road @ Warrenville Road
KLOA

Dear Ms. Pachowicz:

In response to a request made on your behalf and dated March 12, 2025, we have developed year 2050 average daily traffic (ADT) projections for the subject location.

ROAD SEGMENT	Current ADT (2020)	Year 2050 ADT
Naperville Rd south of Warrenville Rd	12,700	14,700
Naperville Rd north of Warrenville Rd	11,900	13,900
Warrenville Rd east of Naperville Rd	10,500	14,400
Warrenville Rd west of Naperville Rd	11,000	14,900
Freedom Dr south of Warrenville Rd	3,600	4,000

Traffic projections are developed using existing ADT data provided in the request letter and the results from the December 2024 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 or email me at jrodriguez@cmap.illinois.gov

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

cc: R. May (KLOA); Rios (IDOT)
2025_trafficForecasts\Naperville\du-14-25\du-14-25_2016current.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: *Highway Capacity Manual*, 2010.

LEVEL OF SERVICE CRITERIA

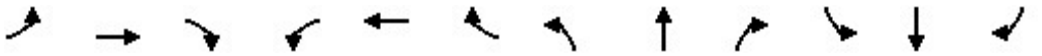
Signalized Intersections		
Level of Service	**Interpretation**	**Average Control Delay (seconds per vehicle)**
A	Favorable progression. Most vehicles arrive during the green indication and travel through the intersection without stopping.	≤10
B	Good progression, with more vehicles stopping than for Level 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

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: *Highway Capacity Manual*, 6th Edition.

Capacity Analysis Summary Sheets

Existing Weekday Morning Peak Hour



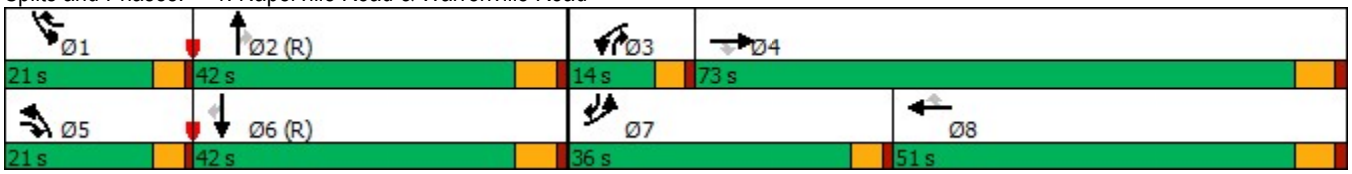
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	342	877	266	54	529	168	134	704	250	141	584	291
Future Volume (vph)	342	877	266	54	529	168	134	704	250	141	584	291
Ideal Flow (vphpl)	1900	2000	1900	1900	2000	1900	1900	2000	1900	1900	2000	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	425		470	270		305	370		245	300		320
Storage Lanes	2		1	2		1	1		1	2		1
Taper Length (ft)	300			250			110			155		
Lane Util. Factor	0.97	0.95	1.00	0.97	0.95	1.00	0.97	0.95	1.00	0.97	0.91	1.00
Ped Bike Factor												
Frt			0.850			0.850			0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	3467	3762	1583	3213	3689	1568	3467	3762	1599	3467	5353	1583
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	3467	3762	1583	3213	3689	1568	3467	3762	1599	3467	5353	1583
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			97			87			91			119
Link Speed (mph)		45			45			40			40	
Link Distance (ft)		1506			1157			608			694	
Travel Time (s)		22.8			17.5			10.4			11.8	
Confl. Peds. (#/hr)												
Confl. Bikes (#/hr)												
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
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	1%	1%	2%	9%	3%	3%	1%	1%	1%	1%	2%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Shared Lane Traffic (%)												
Lane Group Flow (vph)	364	933	283	57	563	179	143	749	266	150	621	310
Turn Type	Prot	NA	pm+ov	Prot	NA	pm+ov	Prot	NA	pm+ov	Prot	NA	pm+ov
Protected Phases	7	4	5	3	8	1	5	2	3	1	6	7
Permitted Phases			4			8			2			6
Detector Phase	7	4	5	3	8	1	5	2	3	1	6	7
Switch Phase												
Minimum Initial (s)	3.0	15.0	3.0	3.0	15.0	3.0	3.0	15.0	3.0	3.0	15.0	3.0
Minimum Split (s)	22.5	24.0	9.5	9.5	24.0	9.5	9.5	24.0	9.5	9.5	24.0	22.5
Total Split (s)	36.0	73.0	21.0	14.0	51.0	21.0	21.0	42.0	14.0	21.0	42.0	36.0
Total Split (%)	24.0%	48.7%	14.0%	9.3%	34.0%	14.0%	14.0%	28.0%	9.3%	14.0%	28.0%	24.0%
Yellow Time (s)	3.5	4.5	3.5	3.5	4.5	3.5	3.5	4.5	3.5	3.5	4.5	3.5
All-Red Time (s)	1.0	1.5	1.0	1.0	1.5	1.0	1.0	1.5	1.0	1.0	1.5	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.5	6.0	4.5	4.5	6.0	4.5	4.5	6.0	4.5	4.5	6.0	4.5
Lead/Lag	Lead	Lag	Lead	Lead	Lag	Lead	Lead	Lag	Lead	Lead	Lag	Lead
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	None	C-Min	None	None	C-Min	None
Act Effct Green (s)	21.4	55.9	73.4	7.9	42.5	60.3	11.5	53.4	67.3	11.8	53.7	81.0
Actuated g/C Ratio	0.14	0.37	0.49	0.05	0.28	0.40	0.08	0.36	0.45	0.08	0.36	0.54

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
v/c Ratio	0.74	0.67	0.34	0.34	0.54	0.26	0.54	0.56	0.35	0.55	0.32	0.34
Control Delay	60.7	47.2	13.8	73.5	47.0	14.6	74.0	43.1	20.7	69.9	40.4	19.9
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	60.7	47.2	13.8	73.5	47.0	14.6	74.0	43.1	20.7	69.9	40.4	19.9
LOS	E	D	B	E	D	B	E	D	C	E	D	B
Approach Delay		44.3			41.6			41.8			38.6	
Approach LOS		D			D			D			D	
Queue Length 50th (ft)	184	479	143	28	244	56	70	311	107	74	183	99
Queue Length 95th (ft)	193	521	107	52	287	100	106	443	212	111	269	258
Internal Link Dist (ft)		1426			1077			528			614	
Turn Bay Length (ft)	425		470	270		305	370		245	300		320
Base Capacity (vph)	728	1680	873	203	1131	728	381	1338	783	381	1915	1008
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.50	0.56	0.32	0.28	0.50	0.25	0.38	0.56	0.34	0.39	0.32	0.31

Intersection Summary

Area Type: Other
Cycle Length: 150
Actuated Cycle Length: 150
Offset: 117 (78%), Referenced to phase 2:NBT and 6:SBT, Start of Green
Natural Cycle: 80
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.74
Intersection Signal Delay: 41.9 Intersection LOS: D
Intersection Capacity Utilization 66.4% ICU Level of Service C
Analysis Period (min) 15

Splits and Phases: 1: Naperville Road & Warrenville Road



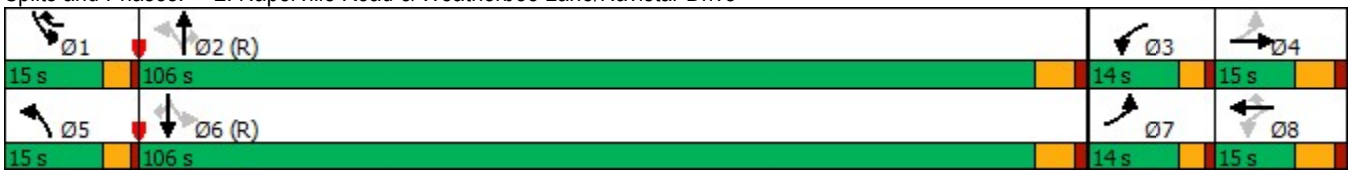
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	20	2	26	1	0	12	20	1175	22	132	1001	11
Future Volume (vph)	20	2	26	1	0	12	20	1175	22	132	1001	11
Ideal Flow (vphpl)	1900	1900	1900	1900	2000	1900	1900	2000	1900	1900	2000	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	170		0	140		140	137		125	200		105
Storage Lanes	1		0	1		1	1		1	1		1
Taper Length (ft)	80			155			145			110		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	1.00	1.00	0.95	1.00
Ped Bike Factor												
Frt		0.860				0.850			0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1719	1575	0	1805	2000	1615	1719	3725	1615	1805	3725	1272
Flt Permitted	0.950			0.000			0.255			0.185		
Satd. Flow (perm)	1719	1575	0	0	2000	1615	461	3725	1615	352	3725	1272
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		28				162			80			80
Link Speed (mph)		30			20			40			45	
Link Distance (ft)		776			564			631			507	
Travel Time (s)		17.6			19.2			10.8			7.7	
Confl. Peds. (#/hr)												
Confl. Bikes (#/hr)												
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
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	5%	0%	4%	0%	0%	0%	5%	2%	0%	0%	2%	27%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Shared Lane Traffic (%)												
Lane Group Flow (vph)	22	30	0	1	0	13	22	1277	24	143	1088	12
Turn Type	pm+pt	NA		pm+pt		pm+ov	pm+pt	NA	Perm	pm+pt	NA	Perm
Protected Phases	7	4		3	8	1	5	2		1	6	
Permitted Phases	4			8		8	2		2	6		6
Detector Phase	7	4		3	8	1	5	2	2	1	6	6
Switch Phase												
Minimum Initial (s)	3.0	4.0		3.0	4.0	3.0	3.0	15.0	15.0	3.0	15.0	15.0
Minimum Split (s)	9.5	15.0		9.5	15.0	9.5	9.5	24.0	24.0	9.5	24.0	24.0
Total Split (s)	14.0	15.0		14.0	15.0	15.0	15.0	106.0	106.0	15.0	106.0	106.0
Total Split (%)	9.3%	10.0%		9.3%	10.0%	10.0%	10.0%	70.7%	70.7%	10.0%	70.7%	70.7%
Yellow Time (s)	3.0	4.5		3.0	4.5	3.0	3.0	4.5	4.5	3.0	4.5	4.5
All-Red Time (s)	1.0	1.5		1.0	1.5	1.0	1.0	1.5	1.5	1.0	1.5	1.5
Lost Time Adjust (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.0	6.0		4.0	6.0	4.0	4.0	6.0	6.0	4.0	6.0	6.0
Lead/Lag	Lead	Lag		Lead	Lag	Lead	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None		None	None	None	None	C-Min	C-Min	None	C-Min	C-Min
Act Effct Green (s)	9.9	6.5		5.7		8.0	129.8	122.1	122.1	135.0	130.5	130.5
Actuated g/C Ratio	0.07	0.04		0.04		0.05	0.87	0.81	0.81	0.90	0.87	0.87

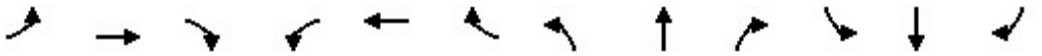
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
v/c Ratio	0.19	0.32		0.01		0.05	0.05	0.42	0.02	0.36	0.34	0.01
Control Delay	67.2	32.6		70.0		0.4	2.4	12.6	1.1	4.0	3.9	0.0
Queue Delay	0.0	0.0		0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	67.2	32.6		70.0		0.4	2.4	12.6	1.1	4.0	3.9	0.0
LOS	E	C		E		A	A	B	A	A	A	A
Approach Delay		47.2			5.4			12.2			3.9	
Approach LOS		D			A			B			A	
Queue Length 50th (ft)	21	2		1		0	3	400	0	10	120	0
Queue Length 95th (ft)	48	38		8		0	m5	677	m4	39	233	0
Internal Link Dist (ft)		696			484			551			427	
Turn Bay Length (ft)	170			140		140	137		125	200		105
Base Capacity (vph)	139	120		120		274	505	3031	1329	432	3241	1117
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	0.16	0.25		0.01		0.05	0.04	0.42	0.02	0.33	0.34	0.01

Intersection Summary			
Area Type:	Other		
Cycle Length: 150			
Actuated Cycle Length: 150			
Offset: 56 (37%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green			
Natural Cycle: 60			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.42			
Intersection Signal Delay: 8.9		Intersection LOS: A	
Intersection Capacity Utilization 59.3%		ICU Level of Service B	
Analysis Period (min) 15			

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

Splits and Phases: 2: Naperville Road & Weatherbee Lane/Navistar Drive





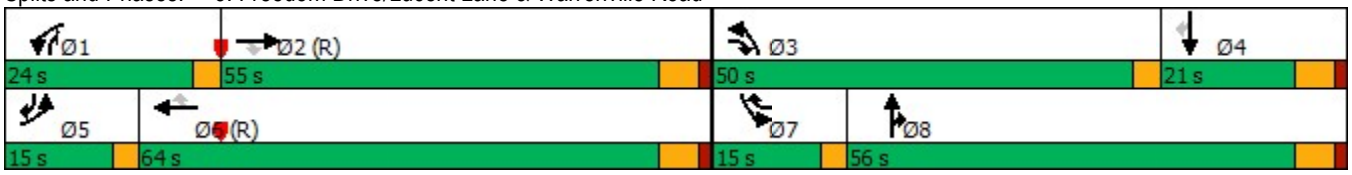
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	15	998	28	158	778	18	281	60	482	5	7	24
Future Volume (vph)	15	998	28	158	778	18	281	60	482	5	7	24
Ideal Flow (vphpl)	1900	2000	1900	1900	2000	1900	1900	2000	1900	1900	2000	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	260		210	485		325	365		355	170		215
Storage Lanes	2		1	2		1	2		1	1		1
Taper Length (ft)	300			300			300			80		
Lane Util. Factor	0.97	0.95	1.00	0.97	0.95	1.00	0.97	0.95	0.88	1.00	0.95	1.00
Ped Bike Factor												
Frt			0.850			0.850			0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	3502	3762	1615	3303	3762	1615	3467	3800	2760	1805	3800	1495
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	3502	3762	1615	3303	3762	1615	3467	3800	2760	1805	3800	1495
Right Turn on Red			Yes			Yes			No			Yes
Satd. Flow (RTOR)			65			65						87
Link Speed (mph)		45			45			35			30	
Link Distance (ft)		685			1506			1718			395	
Travel Time (s)		10.4			22.8			33.5			9.0	
Confl. Peds. (#/hr)												
Confl. Bikes (#/hr)												
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	0%	1%	0%	6%	1%	0%	1%	0%	3%	0%	0%	8%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Shared Lane Traffic (%)												
Lane Group Flow (vph)	16	1097	31	174	855	20	309	66	530	5	8	26
Turn Type	Prot	NA	pm+ov	Prot	NA	pm+ov	Prot	NA	pt+ov	Prot	NA	pm+ov
Protected Phases	5	2	3	1	6	7	3	8	8 1	7	4	5
Permitted Phases			2			6						4
Detector Phase	5	2	3	1	6	7	3	8	8 1	7	4	5
Switch Phase												
Minimum Initial (s)	3.0	15.0	3.0	3.0	15.0	3.0	3.0	8.0		3.0	8.0	3.0
Minimum Split (s)	9.5	24.0	9.5	9.5	24.0	9.5	9.5	24.0		9.5	21.0	9.5
Total Split (s)	15.0	55.0	50.0	24.0	64.0	15.0	50.0	56.0		15.0	21.0	15.0
Total Split (%)	10.0%	36.7%	33.3%	16.0%	42.7%	10.0%	33.3%	37.3%		10.0%	14.0%	10.0%
Yellow Time (s)	3.0	4.5	3.0	3.0	4.5	3.0	3.0	4.5		3.0	4.5	3.0
All-Red Time (s)	0.0	1.5	0.0	0.0	1.5	0.0	0.0	1.5		0.0	1.5	0.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Total Lost Time (s)	3.0	6.0	3.0	3.0	6.0	3.0	3.0	6.0		3.0	6.0	3.0
Lead/Lag	Lead	Lag	Lead	Lead	Lag	Lead	Lead	Lag		Lead	Lag	Lead
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes		Yes	Yes	Yes
Recall Mode	None	C-Min	None	None	C-Min	None	None	None		None	None	None
Act Effct Green (s)	6.2	81.1	124.0	13.5	90.1	102.2	36.9	34.7	51.3	6.0	11.6	12.6
Actuated g/C Ratio	0.04	0.54	0.83	0.09	0.60	0.68	0.25	0.23	0.34	0.04	0.08	0.08

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
v/c Ratio	0.11	0.54	0.02	0.59	0.38	0.02	0.36	0.07	0.56	0.07	0.03	0.13
Control Delay	70.5	25.9	0.1	60.5	34.0	5.3	48.6	43.0	41.7	71.0	59.3	1.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	70.5	25.9	0.1	60.5	34.0	5.3	48.6	43.0	41.7	71.0	59.3	1.2
LOS	E	C	A	E	C	A	D	D	D	E	E	A
Approach Delay		25.9			37.9			44.2			22.1	
Approach LOS		C			D			D			C	
Queue Length 50th (ft)	7	372	0	83	422	1	118	26	240	5	4	0
Queue Length 95th (ft)	21	531	1	115	485	m9	197	45	265	20	12	0
Internal Link Dist (ft)		605			1426			1638			315	
Turn Bay Length (ft)	260		210	485		325	365		355	170		215
Base Capacity (vph)	280	2034	1452	462	2260	1182	1105	1266	1083	144	437	259
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.06	0.54	0.02	0.38	0.38	0.02	0.28	0.05	0.49	0.03	0.02	0.10

Intersection Summary

Area Type: Other
Cycle Length: 150
Actuated Cycle Length: 150
Offset: 148 (99%), Referenced to phase 2:EBT and 6:WBT, Start of Green
Natural Cycle: 70
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.59
Intersection Signal Delay: 35.1 Intersection LOS: D
Intersection Capacity Utilization 59.7% ICU Level of Service B
Analysis Period (min) 15
m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 3: Freedom Drive/Lucent Lane & Warrenville Road



Intersection	
Int Delay, s/veh	0.1

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	1	6	1211	3	13	1015
Future Vol, veh/h	1	6	1211	3	13	1015
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	205	-
Veh in Median Storage, #	1	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	1	6	1275	3	14	1068

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	1732	639	0	0	1278	0
Stage 1	1277	-	-	-	-	-
Stage 2	455	-	-	-	-	-
Critical Hdwy	6.29	6.94	-	-	4.14	-
Critical Hdwy Stg 1	5.84	-	-	-	-	-
Critical Hdwy Stg 2	6.04	-	-	-	-	-
Follow-up Hdwy	3.67	3.32	-	-	2.22	-
Pot Cap-1 Maneuver	*289	*589	-	-	*881	-
Stage 1	*533	-	-	-	-	-
Stage 2	*736	-	-	-	-	-
Platoon blocked, %	1	1	-	-	1	-
Mov Cap-1 Maneuver	*284	*589	-	-	*881	-
Mov Cap-2 Maneuver	*404	-	-	-	-	-
Stage 1	*533	-	-	-	-	-
Stage 2	*724	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	11.6	0	0.1
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	553	* 881	-
HCM Lane V/C Ratio	-	-	0.013	0.016	-
HCM Control Delay (s)	-	-	11.6	9.2	-
HCM Lane LOS	-	-	B	A	-
HCM 95th %tile Q(veh)	-	-	0	0	-

Notes			
~: Volume exceeds capacity	$: Delay exceeds 300s	+: Computation Not Defined	*: All major volume in platoon

Intersection	
Int Delay, s/veh	2.2

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	0	5	0	0	0	32	61	0	1	31	0
Future Vol, veh/h	0	0	5	0	0	0	32	61	0	1	31	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	Stop	-	-	None	-	-	None	-	-	None
Storage Length	-	-	0	-	-	0	65	-	-	55	-	-
Veh in Median Storage, #	-	1	-	-	1	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	79	79	79	79	79	79	79	79	79	79	79	79
Heavy Vehicles, %	0	0	0	0	0	0	0	3	0	0	3	0
Mvmt Flow	0	0	6	0	0	0	41	77	0	1	39	0

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	-	-	20	181	200	39	39	0	0	77	0	0
Stage 1	-	-	-	159	159	-	-	-	-	-	-	-
Stage 2	-	-	-	22	41	-	-	-	-	-	-	-
Critical Hdwy	-	-	6.9	7.5	6.5	6.9	4.1	-	-	4.1	-	-
Critical Hdwy Stg 1	-	-	-	6.5	5.5	-	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	6.5	5.5	-	-	-	-	-	-	-
Follow-up Hdwy	-	-	3.3	3.5	4	3.3	2.2	-	-	2.2	-	-
Pot Cap-1 Maneuver	0	0	1060	785	710	1050	1584	-	-	1547	-	-
Stage 1	0	0	-	846	778	-	-	-	-	-	-	-
Stage 2	0	0	-	999	865	-	-	-	-	-	-	-
Platoon blocked, %				1	1	1		-	-	1	-	-
Mov Cap-1 Maneuver	-	-	1060	764	691	1050	1584	-	-	1547	-	-
Mov Cap-2 Maneuver	-	-	-	739	671	-	-	-	-	-	-	-
Stage 1	-	-	-	824	757	-	-	-	-	-	-	-
Stage 2	-	-	-	992	864	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	8.4	0	2.5	0.2
HCM LOS	A	A		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	WBLn2	SBL	SBT	SBR
Capacity (veh/h)	1584	-	-	1060	-	-	1547	-	-
HCM Lane V/C Ratio	0.026	-	-	0.006	-	-	0.001	-	-
HCM Control Delay (s)	7.3	-	-	8.4	0	0	7.3	-	-
HCM Lane LOS	A	-	-	A	A	A	A	-	-
HCM 95th %tile Q(veh)	0.1	-	-	0	-	-	0	-	-

Intersection	
Int Delay, s/veh	0.8

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		⇕			⇕			⇕			⇕	
Traffic Vol, veh/h	1	42	0	0	30	1	0	0	2	4	0	0
Future Vol, veh/h	1	42	0	0	30	1	0	0	2	4	0	0
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	84	84	84	84	84	84	84	84	84	84	84	84
Heavy Vehicles, %	0	5	0	0	10	0	0	0	0	0	0	0
Mvmt Flow	1	50	0	0	36	1	0	0	2	5	0	0

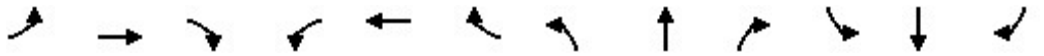
Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	37	0	0	50	0	0	89	89	50	90	89	37
Stage 1	-	-	-	-	-	-	52	52	-	37	37	-
Stage 2	-	-	-	-	-	-	37	37	-	53	52	-
Critical Hdwy	4.1	-	-	4.1	-	-	7.1	6.5	6.2	7.1	6.5	6.2
Critical Hdwy Stg 1	-	-	-	-	-	-	6.1	5.5	-	6.1	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	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	1589	-	-	1570	-	-	907	808	1024	905	808	1046
Stage 1	-	-	-	-	-	-	966	856	-	987	870	-
Stage 2	-	-	-	-	-	-	987	870	-	965	856	-
Platoon blocked, %	1	-	-		-	-	1	1		1	1	1
Mov Cap-1 Maneuver	1589	-	-	1570	-	-	906	808	1024	902	808	1046
Mov Cap-2 Maneuver	-	-	-	-	-	-	906	808	-	902	808	-
Stage 1	-	-	-	-	-	-	965	855	-	986	870	-
Stage 2	-	-	-	-	-	-	987	870	-	962	855	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.2	0	8.5	9
HCM LOS			A	A

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	1024	1589	-	-	1570	-	-	902
HCM Lane V/C Ratio	0.002	0.001	-	-	-	-	-	0.005
HCM Control Delay (s)	8.5	7.3	0	-	0	-	-	9
HCM Lane LOS	A	A	A	-	A	-	-	A
HCM 95th %tile Q(veh)	0	0	-	-	0	-	-	0

Capacity Analysis Summary Sheets

Existing Weekday Evening Peak Hour



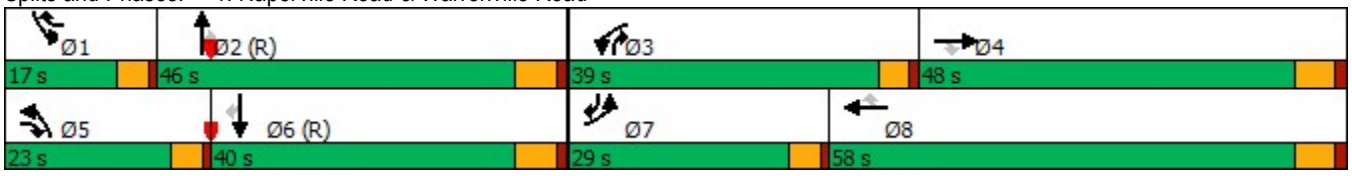
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	410	494	495	286	781	170	180	741	88	142	991	296
Future Volume (vph)	410	494	495	286	781	170	180	741	88	142	991	296
Ideal Flow (vphpl)	1900	2000	1900	1900	2000	1900	1900	2000	1900	1900	2000	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	425		470	270		305	370		245	300		320
Storage Lanes	2		1	2		1	1		1	2		1
Taper Length (ft)	300			250			110			155		
Lane Util. Factor	0.97	0.95	1.00	0.97	0.95	1.00	0.97	0.95	1.00	0.97	0.91	1.00
Ped Bike Factor												
Frt			0.850			0.850			0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	3502	3762	1615	3502	3762	1599	3467	3800	1568	3467	5460	1615
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	3502	3762	1615	3502	3762	1599	3467	3800	1568	3467	5460	1615
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			98			87			90			120
Link Speed (mph)		45			45			40			40	
Link Distance (ft)		1506			1157			608			694	
Travel Time (s)		22.8			17.5			10.4			11.8	
Confl. Peds. (#/hr)												
Confl. Bikes (#/hr)												
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
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	0%	1%	0%	0%	1%	1%	1%	0%	3%	1%	0%	0%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Shared Lane Traffic (%)												
Lane Group Flow (vph)	418	504	505	292	797	173	184	756	90	145	1011	302
Turn Type	Prot	NA	pm+ov	Prot	NA	pm+ov	Prot	NA	pm+ov	Prot	NA	pm+ov
Protected Phases	7	4	5	3	8	1	5	2	3	1	6	7
Permitted Phases			4			8			2			6
Detector Phase	7	4	5	3	8	1	5	2	3	1	6	7
Switch Phase												
Minimum Initial (s)	3.0	15.0	3.0	3.0	15.0	3.0	3.0	15.0	3.0	3.0	15.0	3.0
Minimum Split (s)	22.5	24.0	9.5	9.5	24.0	9.5	9.5	24.0	9.5	9.5	24.0	22.5
Total Split (s)	29.0	48.0	23.0	39.0	58.0	17.0	23.0	46.0	39.0	17.0	40.0	29.0
Total Split (%)	19.3%	32.0%	15.3%	26.0%	38.7%	11.3%	15.3%	30.7%	26.0%	11.3%	26.7%	19.3%
Yellow Time (s)	3.5	4.5	3.5	3.5	4.5	3.5	3.5	4.5	3.5	3.5	4.5	3.5
All-Red Time (s)	1.0	1.5	1.0	1.0	1.5	1.0	1.0	1.5	1.0	1.0	1.5	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.5	6.0	4.5	4.5	6.0	4.5	4.5	6.0	4.5	4.5	6.0	4.5
Lead/Lag	Lead	Lag	Lead	Lead	Lag	Lead	Lead	Lag	Lead	Lead	Lag	Lead
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	None	C-Min	None	None	C-Min	None
Act Effct Green (s)	22.1	50.5	70.2	17.8	46.3	63.4	13.7	49.5	73.3	11.1	47.0	75.1
Actuated g/C Ratio	0.15	0.34	0.47	0.12	0.31	0.42	0.09	0.33	0.49	0.07	0.31	0.50

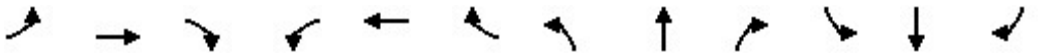
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
v/c Ratio	0.81	0.40	0.63	0.70	0.69	0.24	0.58	0.60	0.11	0.56	0.59	0.35
Control Delay	72.0	25.9	24.0	72.7	48.4	13.0	72.6	46.3	4.6	70.2	50.2	24.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	72.0	25.9	24.0	72.7	48.4	13.0	72.6	46.3	4.6	70.2	50.2	24.0
LOS	E	C	C	E	D	B	E	D	A	E	D	C
Approach Delay		38.8			49.2			47.4			46.7	
Approach LOS		D			D			D			D	
Queue Length 50th (ft)	167	206	372	143	357	50	90	333	0	72	310	143
Queue Length 95th (ft)	231	166	504	189	411	95	128	435	32	109	434	311
Internal Link Dist (ft)		1426			1077			528			614	
Turn Bay Length (ft)	425		470	270		305	370		245	300		320
Base Capacity (vph)	571	1266	856	805	1304	740	427	1254	977	290	1710	892
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.73	0.40	0.59	0.36	0.61	0.23	0.43	0.60	0.09	0.50	0.59	0.34

Intersection Summary

Area Type: Other
Cycle Length: 150
Actuated Cycle Length: 150
Offset: 5 (3%), Referenced to phase 2:NBT and 6:SBT, Start of Green
Natural Cycle: 80
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.81
Intersection Signal Delay: 45.3 Intersection LOS: D
Intersection Capacity Utilization 73.2% ICU Level of Service D
Analysis Period (min) 15

Splits and Phases: 1: Naperville Road & Warrenville Road





Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	23	0	15	8	3	108	15	1315	2	9	1433	12
Future Volume (vph)	23	0	15	8	3	108	15	1315	2	9	1433	12
Ideal Flow (vphpl)	1900	1900	1900	1900	2000	1900	1900	2000	1900	1900	2000	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	170		0	140		140	137		125	200		105
Storage Lanes	1		0	1		1	1		1	1		1
Taper Length (ft)	80			155			145			110		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	1.00	1.00	0.95	1.00
Ped Bike Factor												
Frt		0.850				0.850			0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1805	1615	0	1805	2000	1615	1805	3800	1615	1805	3800	1615
Flt Permitted	0.800						0.153			0.163		
Satd. Flow (perm)	1520	1615	0	1900	2000	1615	291	3800	1615	310	3800	1615
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		233				114			80			80
Link Speed (mph)		30			20			40			45	
Link Distance (ft)		776			564			631			507	
Travel Time (s)		17.6			19.2			10.8			7.7	
Confl. Peds. (#/hr)												
Confl. Bikes (#/hr)												
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
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Shared Lane Traffic (%)												
Lane Group Flow (vph)	24	16	0	8	3	114	16	1384	2	9	1508	13
Turn Type	pm+pt	NA		pm+pt	NA	pm+ov	pm+pt	NA	Perm	pm+pt	NA	Perm
Protected Phases	7	4		3	8	1	5	2		1	6	
Permitted Phases	4			8		8	2		2	6		6
Detector Phase	7	4		3	8	1	5	2	2	1	6	6
Switch Phase												
Minimum Initial (s)	3.0	4.0		3.0	4.0	3.0	3.0	15.0	15.0	3.0	15.0	15.0
Minimum Split (s)	9.5	15.0		9.5	15.0	9.5	9.5	24.0	24.0	9.5	24.0	24.0
Total Split (s)	16.0	15.0		16.0	15.0	14.0	14.0	105.0	105.0	14.0	105.0	105.0
Total Split (%)	10.7%	10.0%		10.7%	10.0%	9.3%	9.3%	70.0%	70.0%	9.3%	70.0%	70.0%
Yellow Time (s)	3.0	4.5		3.0	4.5	3.0	3.0	4.5	4.5	3.0	4.5	4.5
All-Red Time (s)	1.0	1.5		1.0	1.5	1.0	1.0	1.5	1.5	1.0	1.5	1.5
Lost Time Adjust (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.0	6.0		4.0	6.0	4.0	4.0	6.0	6.0	4.0	6.0	6.0
Lead/Lag	Lead	Lag		Lead	Lag	Lead	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None		None	None	None	None	C-Min	C-Min	None	C-Min	C-Min
Act Effct Green (s)	9.6	6.4		7.9	5.8	8.6	131.6	123.9	123.9	134.8	132.4	132.4
Actuated g/C Ratio	0.06	0.04		0.05	0.04	0.06	0.88	0.83	0.83	0.90	0.88	0.88

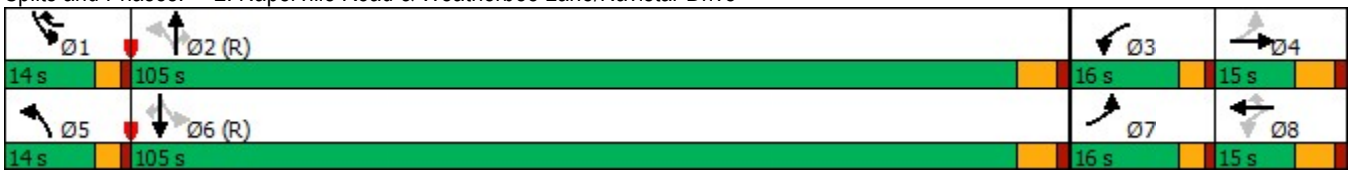
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
v/c Ratio	0.22	0.05		0.08	0.04	0.57	0.05	0.44	0.00	0.03	0.45	0.01
Control Delay	67.6	0.3		63.8	70.3	21.6	1.5	7.4	0.0	2.1	4.3	0.0
Queue Delay	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	67.6	0.3		63.8	70.3	21.6	1.5	7.4	0.0	2.1	4.3	0.0
LOS	E	A		E	E	C	A	A	A	A	A	A
Approach Delay		40.7			25.5			7.3			4.3	
Approach LOS		D			C			A			A	
Queue Length 50th (ft)	23	0		8	3	0	3	219	0	1	105	0
Queue Length 95th (ft)	50	0		24	14	60	m2	644	m0	5	382	0
Internal Link Dist (ft)		696			484			551			427	
Turn Bay Length (ft)	170			140		140	137		125	200		105
Base Capacity (vph)	164	315		166	120	239	364	3139	1347	380	3355	1435
Starvation Cap Reductn	0	0		0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0		0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0		0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.15	0.05		0.05	0.03	0.48	0.04	0.44	0.00	0.02	0.45	0.01

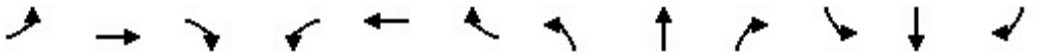
Intersection Summary

Area Type: Other
Cycle Length: 150
Actuated Cycle Length: 150
Offset: 81 (54%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green
Natural Cycle: 70
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.57
Intersection Signal Delay: 7.0 Intersection LOS: A
Intersection Capacity Utilization 56.2% ICU Level of Service B
Analysis Period (min) 15

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

Splits and Phases: 2: Naperville Road & Weatherbee Lane/Navistar Drive





Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	9	1227	101	394	854	9	46	34	129	43	23	29
Future Volume (vph)	9	1227	101	394	854	9	46	34	129	43	23	29
Ideal Flow (vphpl)	1900	2000	1900	1900	2000	1900	1900	2000	1900	1900	2000	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	260		210	485		325	365		355	170		215
Storage Lanes	2		1	2		1	2		1	1		1
Taper Length (ft)	300			300			300			80		
Lane Util. Factor	0.97	0.95	1.00	0.97	0.95	1.00	0.97	0.95	0.88	1.00	0.95	1.00
Ped Bike Factor												
Frt			0.850			0.850			0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	3502	3800	1615	3502	3762	1615	3433	3800	2787	1805	3800	1615
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	3502	3800	1615	3502	3762	1615	3433	3800	2787	1805	3800	1615
Right Turn on Red			Yes			Yes			No			Yes
Satd. Flow (RTOR)			70			44						65
Link Speed (mph)		45			45			35			30	
Link Distance (ft)		685			1506			1718			395	
Travel Time (s)		10.4			22.8			33.5			9.0	
Confl. Peds. (#/hr)												
Confl. Bikes (#/hr)												
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	0%	0%	0%	0%	1%	0%	2%	0%	2%	0%	0%	0%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Shared Lane Traffic (%)												
Lane Group Flow (vph)	9	1265	104	406	880	9	47	35	133	44	24	30
Turn Type	Prot	NA	pm+ov	Prot	NA	pm+ov	Prot	NA	pt+ov	Prot	NA	pm+ov
Protected Phases	5	2	3	1	6	7	3	8	8 1	7	4	5
Permitted Phases			2			6						4
Detector Phase	5	2	3	1	6	7	3	8	8 1	7	4	5
Switch Phase												
Minimum Initial (s)	3.0	15.0	3.0	3.0	15.0	3.0	3.0	8.0		3.0	8.0	3.0
Minimum Split (s)	9.5	24.0	9.5	9.5	24.0	9.5	9.5	24.0		9.5	21.0	9.5
Total Split (s)	15.0	63.0	15.0	44.0	92.0	15.0	15.0	28.0		15.0	28.0	15.0
Total Split (%)	10.0%	42.0%	10.0%	29.3%	61.3%	10.0%	10.0%	18.7%		10.0%	18.7%	10.0%
Yellow Time (s)	3.0	4.5	3.0	3.0	4.5	3.0	3.0	4.5		3.0	4.5	3.0
All-Red Time (s)	0.0	1.5	0.0	0.0	1.5	0.0	0.0	1.5		0.0	1.5	0.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Total Lost Time (s)	3.0	6.0	3.0	3.0	6.0	3.0	3.0	6.0		3.0	6.0	3.0
Lead/Lag	Lead	Lag	Lead	Lead	Lag	Lead	Lead	Lag		Lead	Lag	Lead
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes		Yes	Yes	Yes
Recall Mode	None	C-Min	None	None	C-Min	None	None	None		None	None	None
Act Effct Green (s)	5.9	88.9	107.5	23.0	109.3	124.3	12.6	12.9	38.9	8.9	13.1	19.4
Actuated g/C Ratio	0.04	0.59	0.72	0.15	0.73	0.83	0.08	0.09	0.26	0.06	0.09	0.13

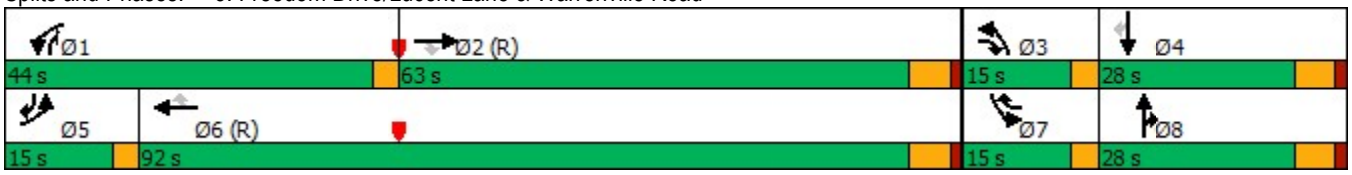
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
v/c Ratio	0.07	0.56	0.09	0.76	0.32	0.01	0.16	0.11	0.18	0.41	0.07	0.11
Control Delay	70.1	21.6	4.3	54.3	21.8	0.1	67.3	62.8	42.3	78.5	60.7	0.9
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	70.1	21.6	4.3	54.3	21.8	0.1	67.3	62.8	42.3	78.5	60.7	0.9
LOS	E	C	A	D	C	A	E	E	D	E	E	A
Approach Delay		20.6			31.8			51.1			50.4	
Approach LOS		C			C			D			D	
Queue Length 50th (ft)	4	393	10	186	346	0	23	16	57	42	11	0
Queue Length 95th (ft)	14	557	39	264	357	m0	45	35	82	84	26	2
Internal Link Dist (ft)		605			1426			1638			315	
Turn Bay Length (ft)	260		210	485		325	365		355	170		215
Base Capacity (vph)	280	2251	1200	957	2742	1377	339	557	1057	144	557	328
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.03	0.56	0.09	0.42	0.32	0.01	0.14	0.06	0.13	0.31	0.04	0.09

Intersection Summary

Area Type: Other
Cycle Length: 150
Actuated Cycle Length: 150
Offset: 50 (33%), Referenced to phase 2:EBT and 6:WBT, Start of Green
Natural Cycle: 80
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.76
Intersection Signal Delay: 28.7 Intersection LOS: C
Intersection Capacity Utilization 65.8% ICU Level of Service C
Analysis Period (min) 15

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

Splits and Phases: 3: Freedom Drive/Lucent Lane & Warrenville Road



Intersection	
Int Delay, s/veh	0.2

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	3	12	1320	1	30	1426
Future Vol, veh/h	3	12	1320	1	30	1426
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	205	-
Veh in Median Storage, #	1	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	96	96	96	96	96	96
Heavy Vehicles, %	0	0	0	0	0	1
Mvmt Flow	3	13	1375	1	31	1485

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	2032	688	0	0	1376	0
Stage 1	1376	-	-	-	-	-
Stage 2	656	-	-	-	-	-
Critical Hdwy	6.25	6.9	-	-	4.1	-
Critical Hdwy Stg 1	5.8	-	-	-	-	-
Critical Hdwy Stg 2	6	-	-	-	-	-
Follow-up Hdwy	3.65	3.3	-	-	2.2	-
Pot Cap-1 Maneuver	*140	*531	-	-	*797	-
Stage 1	*480	-	-	-	-	-
Stage 2	*628	-	-	-	-	-
Platoon blocked, %	1	1	-	-	1	-
Mov Cap-1 Maneuver	*134	*531	-	-	*797	-
Mov Cap-2 Maneuver	*304	-	-	-	-	-
Stage 1	*480	-	-	-	-	-
Stage 2	*604	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	13.1	0	0.2
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	462	* 797	-
HCM Lane V/C Ratio	-	-	0.034	0.039	-
HCM Control Delay (s)	-	-	13.1	9.7	-
HCM Lane LOS	-	-	B	A	-
HCM 95th %tile Q(veh)	-	-	0.1	0.1	-

Notes			
~: Volume exceeds capacity	$: Delay exceeds 300s	+: Computation Not Defined	*: All major volume in platoon

Intersection	
Int Delay, s/veh	3.2

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	0	42	0	0	0	13	39	0	0	53	0
Future Vol, veh/h	0	0	42	0	0	0	13	39	0	0	53	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	Stop	-	-	None	-	-	None	-	-	None
Storage Length	-	-	0	-	-	0	65	-	-	55	-	-
Veh in Median Storage, #	-	1	-	-	1	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	82	82	82	82	82	82	82	82	82	82	82	82
Heavy Vehicles, %	0	0	2	0	0	0	8	0	0	0	0	0
Mvmt Flow	0	0	51	0	0	0	16	48	0	0	65	0

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	-	-	33	113	145	24	65	0	0	48	0	0
Stage 1	-	-	-	80	80	-	-	-	-	-	-	-
Stage 2	-	-	-	33	65	-	-	-	-	-	-	-
Critical Hdwy	-	-	6.94	7.5	6.5	6.9	4.26	-	-	4.1	-	-
Critical Hdwy Stg 1	-	-	-	6.5	5.5	-	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	6.5	5.5	-	-	-	-	-	-	-
Follow-up Hdwy	-	-	3.32	3.5	4	3.3	2.28	-	-	2.2	-	-
Pot Cap-1 Maneuver	0	0	1033	876	761	1073	1492	-	-	1585	-	-
Stage 1	0	0	-	941	841	-	-	-	-	-	-	-
Stage 2	0	0	-	985	845	-	-	-	-	-	-	-
Platoon blocked, %				1	1	1		-	-	1	-	-
Mov Cap-1 Maneuver	-	-	1033	826	752	1073	1492	-	-	1585	-	-
Mov Cap-2 Maneuver	-	-	-	799	722	-	-	-	-	-	-	-
Stage 1	-	-	-	930	832	-	-	-	-	-	-	-
Stage 2	-	-	-	936	845	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	8.7	0	1.9	0
HCM LOS	A	A		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	WBLn2	SBL	SBT	SBR
Capacity (veh/h)	1492	-	-	1033	-	-	1585	-	-
HCM Lane V/C Ratio	0.011	-	-	0.05	-	-	-	-	-
HCM Control Delay (s)	7.4	-	-	8.7	0	0	0	-	-
HCM Lane LOS	A	-	-	A	A	A	A	-	-
HCM 95th %tile Q(veh)	0	-	-	0.2	-	-	0	-	-

Intersection	
Int Delay, s/veh	0.5

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		⇕			⇕			⇕			⇕	
Traffic Vol, veh/h	1	35	0	0	27	3	0	0	0	3	0	0
Future Vol, veh/h	1	35	0	0	27	3	0	0	0	3	0	0
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	1	0	0	3	0	0	0	0	0	0	0
Mvmt Flow	1	40	0	0	31	3	0	0	0	3	0	0

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	34	0	0	40	0	0	75	76	40	75	75	33
Stage 1	-	-	-	-	-	-	42	42	-	33	33	-
Stage 2	-	-	-	-	-	-	33	34	-	42	42	-
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	1593	-	-	1583	-	-	926	821	1037	926	822	1051
Stage 1	-	-	-	-	-	-	978	864	-	992	874	-
Stage 2	-	-	-	-	-	-	992	873	-	978	864	-
Platoon blocked, %	1	-	-		-	-	1	1		1	1	1
Mov Cap-1 Maneuver	1593	-	-	1583	-	-	925	821	1037	925	822	1051
Mov Cap-2 Maneuver	-	-	-	-	-	-	925	821	-	925	822	-
Stage 1	-	-	-	-	-	-	977	863	-	991	874	-
Stage 2	-	-	-	-	-	-	992	873	-	977	863	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.2	0	0	8.9
HCM LOS			A	A

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	-	1593	-	-	1583	-	-	925
HCM Lane V/C Ratio	-	0.001	-	-	-	-	-	0.004
HCM Control Delay (s)	0	7.3	0	-	0	-	-	8.9
HCM Lane LOS	A	A	A	-	A	-	-	A
HCM 95th %tile Q(veh)	-	0	-	-	0	-	-	0

Capacity Analysis Summary Sheets

Year 2031 No-Build Weekday Morning Peak Hour

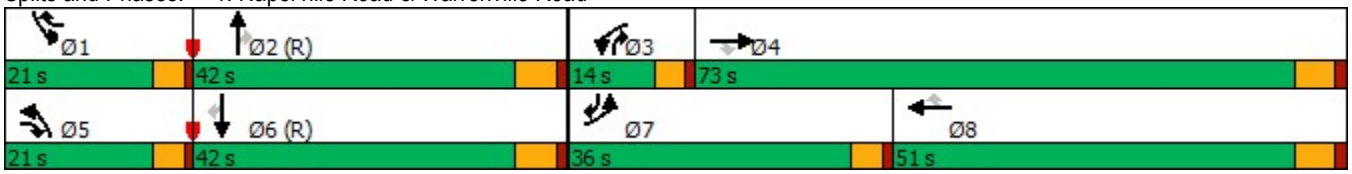
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	356	912	277	56	550	175	139	732	260	147	607	303
Future Volume (vph)	356	912	277	56	550	175	139	732	260	147	607	303
Ideal Flow (vphpl)	1900	2000	1900	1900	2000	1900	1900	2000	1900	1900	2000	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	425		470	270		305	370		245	300		320
Storage Lanes	2		1	2		1	1		1	2		1
Taper Length (ft)	300			250			110			155		
Lane Util. Factor	0.97	0.95	1.00	0.97	0.95	1.00	0.97	0.95	1.00	0.97	0.91	1.00
Ped Bike Factor												
Frt			0.850			0.850			0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	3467	3762	1583	3213	3689	1568	3467	3762	1599	3467	5353	1583
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	3467	3762	1583	3213	3689	1568	3467	3762	1599	3467	5353	1583
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			89			87			87			110
Link Speed (mph)		45			45			40			40	
Link Distance (ft)		1506			1157			608			694	
Travel Time (s)		22.8			17.5			10.4			11.8	
Confl. Peds. (#/hr)												
Confl. Bikes (#/hr)												
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
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	1%	1%	2%	9%	3%	3%	1%	1%	1%	1%	2%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Shared Lane Traffic (%)												
Lane Group Flow (vph)	379	970	295	60	585	186	148	779	277	156	646	322
Turn Type	Prot	NA	pm+ov	Prot	NA	pm+ov	Prot	NA	pm+ov	Prot	NA	pm+ov
Protected Phases	7	4	5	3	8	1	5	2	3	1	6	7
Permitted Phases			4			8			2			6
Detector Phase	7	4	5	3	8	1	5	2	3	1	6	7
Switch Phase												
Minimum Initial (s)	3.0	15.0	3.0	3.0	15.0	3.0	3.0	15.0	3.0	3.0	15.0	3.0
Minimum Split (s)	22.5	24.0	9.5	9.5	24.0	9.5	9.5	24.0	9.5	9.5	24.0	22.5
Total Split (s)	36.0	73.0	21.0	14.0	51.0	21.0	21.0	42.0	14.0	21.0	42.0	36.0
Total Split (%)	24.0%	48.7%	14.0%	9.3%	34.0%	14.0%	14.0%	28.0%	9.3%	14.0%	28.0%	24.0%
Yellow Time (s)	3.5	4.5	3.5	3.5	4.5	3.5	3.5	4.5	3.5	3.5	4.5	3.5
All-Red Time (s)	1.0	1.5	1.0	1.0	1.5	1.0	1.0	1.5	1.0	1.0	1.5	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.5	6.0	4.5	4.5	6.0	4.5	4.5	6.0	4.5	4.5	6.0	4.5
Lead/Lag	Lead	Lag	Lead	Lead	Lag	Lead	Lead	Lag	Lead	Lead	Lag	Lead
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	None	C-Min	None	None	C-Min	None
Act Effct Green (s)	22.0	57.6	75.3	8.0	43.6	61.6	11.7	51.3	65.4	12.1	51.7	79.7
Actuated g/C Ratio	0.15	0.38	0.50	0.05	0.29	0.41	0.08	0.34	0.44	0.08	0.34	0.53

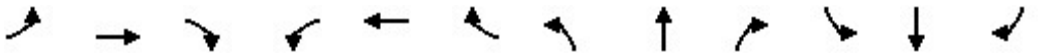
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
v/c Ratio	0.75	0.67	0.35	0.35	0.55	0.27	0.55	0.61	0.37	0.56	0.35	0.36
Control Delay	61.2	44.4	13.3	73.7	46.5	14.8	73.9	45.4	22.6	69.7	40.2	24.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	61.2	44.4	13.3	73.7	46.5	14.8	73.9	45.4	22.6	69.7	40.2	24.7
LOS	E	D	B	E	D	B	E	D	C	E	D	C
Approach Delay		42.7			41.4			43.7			39.9	
Approach LOS		D			D			D			D	
Queue Length 50th (ft)	169	488	164	29	253	60	73	334	122	77	184	146
Queue Length 95th (ft)	202	545	109	54	301	106	108	465	229	113	275	309
Internal Link Dist (ft)		1426			1077			528			614	
Turn Bay Length (ft)	425		470	270		305	370		245	300		320
Base Capacity (vph)	728	1680	886	203	1137	739	381	1287	760	381	1845	986
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.52	0.58	0.33	0.30	0.51	0.25	0.39	0.61	0.36	0.41	0.35	0.33

Intersection Summary

Area Type: Other
Cycle Length: 150
Actuated Cycle Length: 150
Offset: 117 (78%), Referenced to phase 2:NBT and 6:SBT, Start of Green
Natural Cycle: 80
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.75
Intersection Signal Delay: 42.1 Intersection LOS: D
Intersection Capacity Utilization 68.2% ICU Level of Service C
Analysis Period (min) 15

Splits and Phases: 1: Naperville Road & Warrenville Road





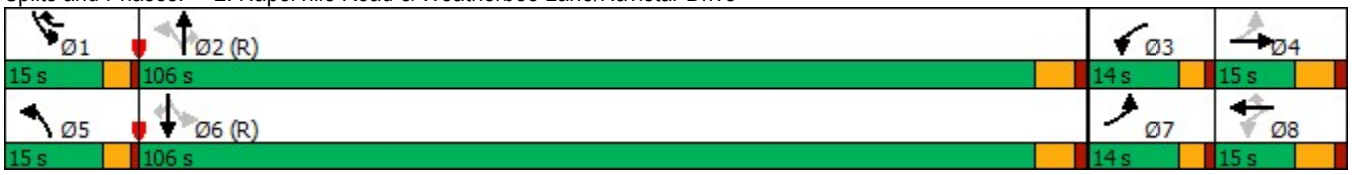
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	20	2	26	1	0	12	20	1224	22	132	1042	11
Future Volume (vph)	20	2	26	1	0	12	20	1224	22	132	1042	11
Ideal Flow (vphpl)	1900	1900	1900	1900	2000	1900	1900	2000	1900	1900	2000	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	170		0	140		140	137		125	200		105
Storage Lanes	1		0	1		1	1		1	1		1
Taper Length (ft)	80			155			145			110		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	1.00	1.00	0.95	1.00
Ped Bike Factor												
Frt		0.860				0.850			0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1719	1575	0	1805	2000	1615	1719	3725	1615	1805	3725	1272
Flt Permitted	0.950			0.000			0.242			0.173		
Satd. Flow (perm)	1719	1575	0	0	2000	1615	438	3725	1615	329	3725	1272
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		28				153			80			80
Link Speed (mph)		30			20			40			45	
Link Distance (ft)		776			564			631			507	
Travel Time (s)		17.6			19.2			10.8			7.7	
Confl. Peds. (#/hr)												
Confl. Bikes (#/hr)												
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
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	5%	0%	4%	0%	0%	0%	5%	2%	0%	0%	2%	27%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Shared Lane Traffic (%)												
Lane Group Flow (vph)	22	30	0	1	0	13	22	1330	24	143	1133	12
Turn Type	pm+pt	NA		pm+pt		pm+ov	pm+pt	NA	Perm	pm+pt	NA	Perm
Protected Phases	7	4		3	8	1	5	2		1	6	
Permitted Phases	4			8		8	2		2	6		6
Detector Phase	7	4		3	8	1	5	2	2	1	6	6
Switch Phase												
Minimum Initial (s)	3.0	4.0		3.0	4.0	3.0	3.0	15.0	15.0	3.0	15.0	15.0
Minimum Split (s)	9.5	15.0		9.5	15.0	9.5	9.5	24.0	24.0	9.5	24.0	24.0
Total Split (s)	14.0	15.0		14.0	15.0	15.0	15.0	106.0	106.0	15.0	106.0	106.0
Total Split (%)	9.3%	10.0%		9.3%	10.0%	10.0%	10.0%	70.7%	70.7%	10.0%	70.7%	70.7%
Yellow Time (s)	3.0	4.5		3.0	4.5	3.0	3.0	4.5	4.5	3.0	4.5	4.5
All-Red Time (s)	1.0	1.5		1.0	1.5	1.0	1.0	1.5	1.5	1.0	1.5	1.5
Lost Time Adjust (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.0	6.0		4.0	6.0	4.0	4.0	6.0	6.0	4.0	6.0	6.0
Lead/Lag	Lead	Lag		Lead	Lag	Lead	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None		None	None	None	None	C-Min	C-Min	None	C-Min	C-Min
Act Effct Green (s)	9.9	6.5		5.7		8.0	129.9	122.1	122.1	135.0	130.5	130.5
Actuated g/C Ratio	0.07	0.04		0.04		0.05	0.87	0.81	0.81	0.90	0.87	0.87

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
v/c Ratio	0.19	0.32		0.01		0.06	0.05	0.44	0.02	0.38	0.35	0.01
Control Delay	67.2	32.6		70.0		0.5	2.6	14.4	1.3	4.4	4.0	0.0
Queue Delay	0.0	0.0		0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	67.2	32.6		70.0		0.5	2.6	14.4	1.3	4.4	4.0	0.0
LOS	E	C		E		A	A	B	A	A	A	A
Approach Delay		47.2			5.5			14.0			4.0	
Approach LOS		D			A			B			A	
Queue Length 50th (ft)	21	2		1		0	4	433	0	10	126	0
Queue Length 95th (ft)	48	38		8		0	m4	715	m4	39	245	0
Internal Link Dist (ft)		696			484			551			427	
Turn Bay Length (ft)	170			140		140	137		125	200		105
Base Capacity (vph)	139	120		120		266	487	3032	1329	412	3241	1117
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	0.16	0.25		0.01		0.05	0.05	0.44	0.02	0.35	0.35	0.01

Intersection Summary

Area Type: Other
Cycle Length: 150
Actuated Cycle Length: 150
Offset: 56 (37%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green
Natural Cycle: 65
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.44
Intersection Signal Delay: 9.9 Intersection LOS: A
Intersection Capacity Utilization 60.6% ICU Level of Service B
Analysis Period (min) 15
m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 2: Naperville Road & Weatherbee Lane/Navistar Drive



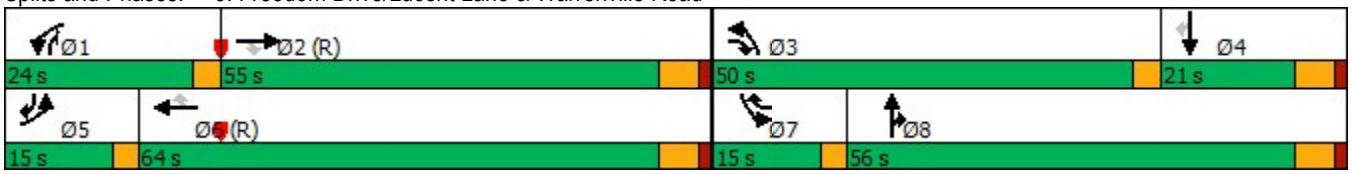
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	15	1039	29	164	810	18	292	60	501	5	7	24
Future Volume (vph)	15	1039	29	164	810	18	292	60	501	5	7	24
Ideal Flow (vphpl)	1900	2000	1900	1900	2000	1900	1900	2000	1900	1900	2000	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	260		210	485		325	365		355	170		215
Storage Lanes	2		1	2		1	2		1	1		1
Taper Length (ft)	300			300			300			80		
Lane Util. Factor	0.97	0.95	1.00	0.97	0.95	1.00	0.97	0.95	0.88	1.00	0.95	1.00
Ped Bike Factor												
Frt			0.850			0.850			0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	3502	3762	1615	3303	3762	1615	3467	3800	2760	1805	3800	1495
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	3502	3762	1615	3303	3762	1615	3467	3800	2760	1805	3800	1495
Right Turn on Red			Yes			Yes			No			Yes
Satd. Flow (RTOR)			65			65						87
Link Speed (mph)		45			45			35			30	
Link Distance (ft)		685			1506			1718			395	
Travel Time (s)		10.4			22.8			33.5			9.0	
Confl. Peds. (#/hr)												
Confl. Bikes (#/hr)												
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	0%	1%	0%	6%	1%	0%	1%	0%	3%	0%	0%	8%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Shared Lane Traffic (%)												
Lane Group Flow (vph)	16	1142	32	180	890	20	321	66	551	5	8	26
Turn Type	Prot	NA	pm+ov	Prot	NA	pm+ov	Prot	NA	pt+ov	Prot	NA	pm+ov
Protected Phases	5	2	3	1	6	7	3	8	8 1	7	4	5
Permitted Phases			2			6						4
Detector Phase	5	2	3	1	6	7	3	8	8 1	7	4	5
Switch Phase												
Minimum Initial (s)	3.0	15.0	3.0	3.0	15.0	3.0	3.0	8.0		3.0	8.0	3.0
Minimum Split (s)	9.5	24.0	9.5	9.5	24.0	9.5	9.5	24.0		9.5	21.0	9.5
Total Split (s)	15.0	55.0	50.0	24.0	64.0	15.0	50.0	56.0		15.0	21.0	15.0
Total Split (%)	10.0%	36.7%	33.3%	16.0%	42.7%	10.0%	33.3%	37.3%		10.0%	14.0%	10.0%
Yellow Time (s)	3.0	4.5	3.0	3.0	4.5	3.0	3.0	4.5		3.0	4.5	3.0
All-Red Time (s)	0.0	1.5	0.0	0.0	1.5	0.0	0.0	1.5		0.0	1.5	0.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Total Lost Time (s)	3.0	6.0	3.0	3.0	6.0	3.0	3.0	6.0		3.0	6.0	3.0
Lead/Lag	Lead	Lag	Lead	Lead	Lag	Lead	Lead	Lag		Lead	Lag	Lead
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes		Yes	Yes	Yes
Recall Mode	None	C-Min	None	None	C-Min	None	None	None		None	None	None
Act Effct Green (s)	6.2	79.7	123.5	14.0	89.2	101.2	37.8	35.7	52.6	6.0	11.7	12.7
Actuated g/C Ratio	0.04	0.53	0.82	0.09	0.59	0.67	0.25	0.24	0.35	0.04	0.08	0.08

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
v/c Ratio	0.11	0.57	0.02	0.59	0.40	0.02	0.37	0.07	0.57	0.07	0.03	0.13
Control Delay	70.5	27.5	0.2	59.9	32.7	5.1	48.1	42.3	41.0	71.0	59.1	1.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	70.5	27.5	0.2	59.9	32.7	5.1	48.1	42.3	41.0	71.0	59.1	1.2
LOS	E	C	A	E	C	A	D	D	D	E	E	A
Approach Delay		27.4			36.7			43.5			22.1	
Approach LOS		C			D			D			C	
Queue Length 50th (ft)	7	413	0	82	454	1	121	26	244	5	4	0
Queue Length 95th (ft)	21	569	2	119	488	m8	204	44	273	20	12	0
Internal Link Dist (ft)		605			1426			1638			315	
Turn Bay Length (ft)	260		210	485		325	365		355	170		215
Base Capacity (vph)	280	1999	1447	462	2236	1172	1117	1266	1097	144	438	260
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.06	0.57	0.02	0.39	0.40	0.02	0.29	0.05	0.50	0.03	0.02	0.10

Intersection Summary

Area Type: Other
Cycle Length: 150
Actuated Cycle Length: 150
Offset: 148 (99%), Referenced to phase 2:EBT and 6:WBT, Start of Green
Natural Cycle: 75
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.59
Intersection Signal Delay: 35.1 Intersection LOS: D
Intersection Capacity Utilization 61.5% ICU Level of Service B
Analysis Period (min) 15
m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 3: Freedom Drive/Lucent Lane & Warrenville Road



Intersection	
Int Delay, s/veh	0.1

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	1	6	1260	3	13	1056
Future Vol, veh/h	1	6	1260	3	13	1056
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	205	-
Veh in Median Storage, #	1	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	1	6	1326	3	14	1112

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	1801	665	0	0	1329	0
Stage 1	1328	-	-	-	-	-
Stage 2	473	-	-	-	-	-
Critical Hdwy	6.29	6.94	-	-	4.14	-
Critical Hdwy Stg 1	5.84	-	-	-	-	-
Critical Hdwy Stg 2	6.04	-	-	-	-	-
Follow-up Hdwy	3.67	3.32	-	-	2.22	-
Pot Cap-1 Maneuver	*252	*569	-	-	*850	-
Stage 1	*514	-	-	-	-	-
Stage 2	*718	-	-	-	-	-
Platoon blocked, %	1	1	-	-	1	-
Mov Cap-1 Maneuver	*248	*569	-	-	*850	-
Mov Cap-2 Maneuver	*380	-	-	-	-	-
Stage 1	*514	-	-	-	-	-
Stage 2	*706	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	11.9	0	0.1
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	531	* 850	-
HCM Lane V/C Ratio	-	-	0.014	0.016	-
HCM Control Delay (s)	-	-	11.9	9.3	-
HCM Lane LOS	-	-	B	A	-
HCM 95th %tile Q(veh)	-	-	0	0	-

Notes			
~: Volume exceeds capacity	$: Delay exceeds 300s	+: Computation Not Defined	*: All major volume in platoon

Intersection	
Int Delay, s/veh	2.2

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	0	5	0	0	0	32	61	0	1	31	0
Future Vol, veh/h	0	0	5	0	0	0	32	61	0	1	31	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	Stop	-	-	None	-	-	None	-	-	None
Storage Length	-	-	0	-	-	0	65	-	-	55	-	-
Veh in Median Storage, #	-	1	-	-	1	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	79	79	79	79	79	79	79	79	79	79	79	79
Heavy Vehicles, %	0	0	0	0	0	0	0	3	0	0	3	0
Mvmt Flow	0	0	6	0	0	0	41	77	0	1	39	0

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	-	-	20	181	200	39	39	0	0	77	0	0
Stage 1	-	-	-	159	159	-	-	-	-	-	-	-
Stage 2	-	-	-	22	41	-	-	-	-	-	-	-
Critical Hdwy	-	-	6.9	7.5	6.5	6.9	4.1	-	-	4.1	-	-
Critical Hdwy Stg 1	-	-	-	6.5	5.5	-	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	6.5	5.5	-	-	-	-	-	-	-
Follow-up Hdwy	-	-	3.3	3.5	4	3.3	2.2	-	-	2.2	-	-
Pot Cap-1 Maneuver	0	0	1060	785	710	1050	1584	-	-	1547	-	-
Stage 1	0	0	-	846	778	-	-	-	-	-	-	-
Stage 2	0	0	-	999	865	-	-	-	-	-	-	-
Platoon blocked, %				1	1	1		-	-	1	-	-
Mov Cap-1 Maneuver	-	-	1060	764	691	1050	1584	-	-	1547	-	-
Mov Cap-2 Maneuver	-	-	-	739	671	-	-	-	-	-	-	-
Stage 1	-	-	-	824	757	-	-	-	-	-	-	-
Stage 2	-	-	-	992	864	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	8.4	0	2.5	0.2
HCM LOS	A	A		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	WBLn2	SBL	SBT	SBR
Capacity (veh/h)	1584	-	-	1060	-	-	1547	-	-
HCM Lane V/C Ratio	0.026	-	-	0.006	-	-	0.001	-	-
HCM Control Delay (s)	7.3	-	-	8.4	0	0	7.3	-	-
HCM Lane LOS	A	-	-	A	A	A	A	-	-
HCM 95th %tile Q(veh)	0.1	-	-	0	-	-	0	-	-

Intersection	
Int Delay, s/veh	0.8

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		⇕			⇕			⇕			⇕	
Traffic Vol, veh/h	1	42	0	0	30	1	0	0	2	4	0	0
Future Vol, veh/h	1	42	0	0	30	1	0	0	2	4	0	0
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	84	84	84	84	84	84	84	84	84	84	84	84
Heavy Vehicles, %	0	5	0	0	10	0	0	0	0	0	0	0
Mvmt Flow	1	50	0	0	36	1	0	0	2	5	0	0

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	37	0	0	50	0	0	89	89	50	90	89	37
Stage 1	-	-	-	-	-	-	52	52	-	37	37	-
Stage 2	-	-	-	-	-	-	37	37	-	53	52	-
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	1589	-	-	1570	-	-	907	808	1024	905	808	1046
Stage 1	-	-	-	-	-	-	966	856	-	987	870	-
Stage 2	-	-	-	-	-	-	987	870	-	965	856	-
Platoon blocked, %	1	-	-		-	-	1	1		1	1	1
Mov Cap-1 Maneuver	1589	-	-	1570	-	-	906	808	1024	902	808	1046
Mov Cap-2 Maneuver	-	-	-	-	-	-	906	808	-	902	808	-
Stage 1	-	-	-	-	-	-	965	855	-	986	870	-
Stage 2	-	-	-	-	-	-	987	870	-	962	855	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.2	0	8.5	9
HCM LOS			A	A

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	1024	1589	-	-	1570	-	-	902
HCM Lane V/C Ratio	0.002	0.001	-	-	-	-	-	0.005
HCM Control Delay (s)	8.5	7.3	0	-	0	-	-	9
HCM Lane LOS	A	A	A	-	A	-	-	A
HCM 95th %tile Q(veh)	0	0	-	-	0	-	-	0

Capacity Analysis Summary Sheets

Year 2031 No-Build Weekday Evening Peak Hour

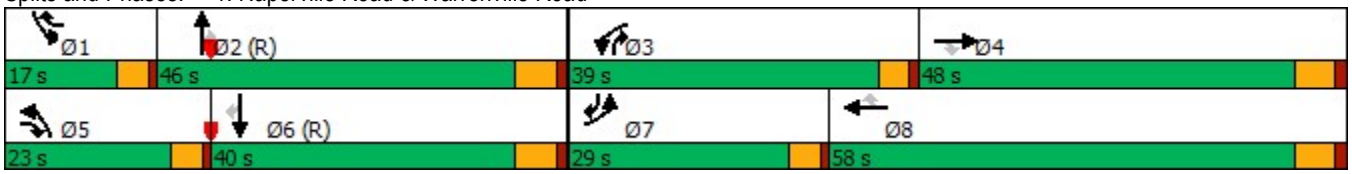
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	426	514	515	297	812	177	187	771	92	148	1031	308
Future Volume (vph)	426	514	515	297	812	177	187	771	92	148	1031	308
Ideal Flow (vphpl)	1900	2000	1900	1900	2000	1900	1900	2000	1900	1900	2000	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	425		470	270		305	370		245	300		320
Storage Lanes	2		1	2		1	1		1	2		1
Taper Length (ft)	300			250			110			155		
Lane Util. Factor	0.97	0.95	1.00	0.97	0.95	1.00	0.97	0.95	1.00	0.97	0.91	1.00
Ped Bike Factor												
Frt			0.850			0.850			0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	3502	3762	1615	3502	3762	1599	3467	3800	1568	3467	5460	1615
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	3502	3762	1615	3502	3762	1599	3467	3800	1568	3467	5460	1615
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			92			87			92			120
Link Speed (mph)		45			45			40			40	
Link Distance (ft)		1506			1157			608			694	
Travel Time (s)		22.8			17.5			10.4			11.8	
Confl. Peds. (#/hr)												
Confl. Bikes (#/hr)												
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
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	0%	1%	0%	0%	1%	1%	1%	0%	3%	1%	0%	0%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Shared Lane Traffic (%)												
Lane Group Flow (vph)	435	524	526	303	829	181	191	787	94	151	1052	314
Turn Type	Prot	NA	pm+ov	Prot	NA	pm+ov	Prot	NA	pm+ov	Prot	NA	pm+ov
Protected Phases	7	4	5	3	8	1	5	2	3	1	6	7
Permitted Phases			4			8			2			6
Detector Phase	7	4	5	3	8	1	5	2	3	1	6	7
Switch Phase												
Minimum Initial (s)	3.0	15.0	3.0	3.0	15.0	3.0	3.0	15.0	3.0	3.0	15.0	3.0
Minimum Split (s)	22.5	24.0	9.5	9.5	24.0	9.5	9.5	24.0	9.5	9.5	24.0	22.5
Total Split (s)	29.0	48.0	23.0	39.0	58.0	17.0	23.0	46.0	39.0	17.0	40.0	29.0
Total Split (%)	19.3%	32.0%	15.3%	26.0%	38.7%	11.3%	15.3%	30.7%	26.0%	11.3%	26.7%	19.3%
Yellow Time (s)	3.5	4.5	3.5	3.5	4.5	3.5	3.5	4.5	3.5	3.5	4.5	3.5
All-Red Time (s)	1.0	1.5	1.0	1.0	1.5	1.0	1.0	1.5	1.0	1.0	1.5	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.5	6.0	4.5	4.5	6.0	4.5	4.5	6.0	4.5	4.5	6.0	4.5
Lead/Lag	Lead	Lag	Lead	Lead	Lag	Lead	Lead	Lag	Lead	Lead	Lag	Lead
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	None	C-Min	None	None	C-Min	None
Act Effct Green (s)	22.5	51.4	71.3	18.3	47.2	64.4	13.9	48.1	72.4	11.2	45.4	73.9
Actuated g/C Ratio	0.15	0.34	0.48	0.12	0.31	0.43	0.09	0.32	0.48	0.07	0.30	0.49

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
v/c Ratio	0.83	0.41	0.64	0.71	0.70	0.25	0.60	0.65	0.12	0.59	0.64	0.37
Control Delay	75.3	24.4	23.3	72.5	48.3	13.5	72.7	48.3	4.8	70.8	52.9	25.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	75.3	24.4	23.3	72.5	48.3	13.5	72.7	48.3	4.8	70.8	52.9	25.2
LOS	E	C	C	E	D	B	E	D	A	E	D	C
Approach Delay		38.9			49.1			48.8			48.9	
Approach LOS		D			D			D			D	
Queue Length 50th (ft)	170	213	388	148	372	54	94	358	1	75	333	157
Queue Length 95th (ft)	246	165	544	194	430	101	132	456	34	113	450	356
Internal Link Dist (ft)		1426			1077			528			614	
Turn Bay Length (ft)	425		470	270		305	370		245	300		320
Base Capacity (vph)	571	1289	862	805	1304	749	427	1218	963	288	1651	875
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.76	0.41	0.61	0.38	0.64	0.24	0.45	0.65	0.10	0.52	0.64	0.36

Intersection Summary

Area Type: Other
Cycle Length: 150
Actuated Cycle Length: 150
Offset: 5 (3%), Referenced to phase 2:NBT and 6:SBT, Start of Green
Natural Cycle: 90
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.83
Intersection Signal Delay: 46.2 Intersection LOS: D
Intersection Capacity Utilization 75.4% ICU Level of Service D
Analysis Period (min) 15

Splits and Phases: 1: Naperville Road & Warrenville Road



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	23	0	15	8	3	108	15	1368	2	9	1491	12
Future Volume (vph)	23	0	15	8	3	108	15	1368	2	9	1491	12
Ideal Flow (vphpl)	1900	1900	1900	1900	2000	1900	1900	2000	1900	1900	2000	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	170		0	140		140	137		125	200		105
Storage Lanes	1		0	1		1	1		1	1		1
Taper Length (ft)	80			155			145			110		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	1.00	1.00	0.95	1.00
Ped Bike Factor												
Frt		0.850				0.850			0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1805	1615	0	1805	2000	1615	1805	3800	1615	1805	3800	1615
Flt Permitted	0.800						0.141			0.152		
Satd. Flow (perm)	1520	1615	0	1900	2000	1615	268	3800	1615	289	3800	1615
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		228				114			80			80
Link Speed (mph)		30			20			40			45	
Link Distance (ft)		776			564			631			507	
Travel Time (s)		17.6			19.2			10.8			7.7	
Confl. Peds. (#/hr)												
Confl. Bikes (#/hr)												
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
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Shared Lane Traffic (%)												
Lane Group Flow (vph)	24	16	0	8	3	114	16	1440	2	9	1569	13
Turn Type	pm+pt	NA		pm+pt	NA	pm+ov	pm+pt	NA	Perm	pm+pt	NA	Perm
Protected Phases	7	4		3	8	1	5	2		1	6	
Permitted Phases	4			8		8	2		2	6		6
Detector Phase	7	4		3	8	1	5	2	2	1	6	6
Switch Phase												
Minimum Initial (s)	3.0	4.0		3.0	4.0	3.0	3.0	15.0	15.0	3.0	15.0	15.0
Minimum Split (s)	9.5	15.0		9.5	15.0	9.5	9.5	24.0	24.0	9.5	24.0	24.0
Total Split (s)	16.0	15.0		16.0	15.0	14.0	14.0	105.0	105.0	14.0	105.0	105.0
Total Split (%)	10.7%	10.0%		10.7%	10.0%	9.3%	9.3%	70.0%	70.0%	9.3%	70.0%	70.0%
Yellow Time (s)	3.0	4.5		3.0	4.5	3.0	3.0	4.5	4.5	3.0	4.5	4.5
All-Red Time (s)	1.0	1.5		1.0	1.5	1.0	1.0	1.5	1.5	1.0	1.5	1.5
Lost Time Adjust (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.0	6.0		4.0	6.0	4.0	4.0	6.0	6.0	4.0	6.0	6.0
Lead/Lag	Lead	Lag		Lead	Lag	Lead	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None		None	None	None	None	C-Min	C-Min	None	C-Min	C-Min
Act Effct Green (s)	9.6	6.4		7.9	5.8	8.6	131.6	123.9	123.9	134.8	132.4	132.4
Actuated g/C Ratio	0.06	0.04		0.05	0.04	0.06	0.88	0.83	0.83	0.90	0.88	0.88

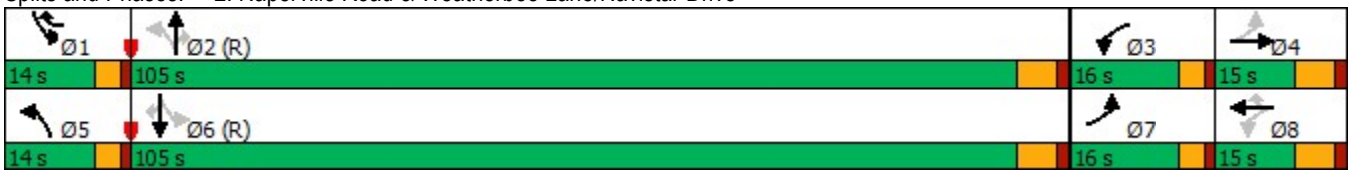
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
v/c Ratio	0.22	0.06		0.08	0.04	0.57	0.05	0.46	0.00	0.03	0.47	0.01
Control Delay	67.6	0.4		63.8	70.3	21.6	1.9	8.4	0.0	2.1	4.5	0.0
Queue Delay	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	67.6	0.4		63.8	70.3	21.6	1.9	8.4	0.0	2.1	4.5	0.0
LOS	E	A		E	E	C	A	A	A	A	A	A
Approach Delay		40.7			25.5			8.3			4.4	
Approach LOS		D			C			A			A	
Queue Length 50th (ft)	23	0		8	3	0	3	490	0	1	112	0
Queue Length 95th (ft)	50	0		24	14	60	m4	768	m0	5	406	0
Internal Link Dist (ft)		696			484			551			427	
Turn Bay Length (ft)	170			140		140	137		125	200		105
Base Capacity (vph)	164	311		166	120	239	344	3139	1347	363	3355	1435
Starvation Cap Reductn	0	0		0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0		0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0		0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.15	0.05		0.05	0.03	0.48	0.05	0.46	0.00	0.02	0.47	0.01

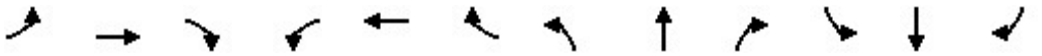
Intersection Summary

Area Type: Other
Cycle Length: 150
Actuated Cycle Length: 150
Offset: 81 (54%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green
Natural Cycle: 70
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.57
Intersection Signal Delay: 7.4 Intersection LOS: A
Intersection Capacity Utilization 57.6% ICU Level of Service B
Analysis Period (min) 15

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

Splits and Phases: 2: Naperville Road & Weatherbee Lane/Navistar Drive





Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	9	1278	105	410	888	9	48	34	134	43	23	29
Future Volume (vph)	9	1278	105	410	888	9	48	34	134	43	23	29
Ideal Flow (vphpl)	1900	2000	1900	1900	2000	1900	1900	2000	1900	1900	2000	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	260		210	485		325	365		355	170		215
Storage Lanes	2		1	2		1	2		1	1		1
Taper Length (ft)	300			300			300			80		
Lane Util. Factor	0.97	0.95	1.00	0.97	0.95	1.00	0.97	0.95	0.88	1.00	0.95	1.00
Ped Bike Factor												
Frt			0.850			0.850			0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	3502	3800	1615	3502	3762	1615	3433	3800	2787	1805	3800	1615
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	3502	3800	1615	3502	3762	1615	3433	3800	2787	1805	3800	1615
Right Turn on Red			Yes			Yes			No			Yes
Satd. Flow (RTOR)			70			44						65
Link Speed (mph)		45			45			35			30	
Link Distance (ft)		685			1506			1718			395	
Travel Time (s)		10.4			22.8			33.5			9.0	
Confl. Peds. (#/hr)												
Confl. Bikes (#/hr)												
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	0%	0%	0%	0%	1%	0%	2%	0%	2%	0%	0%	0%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Shared Lane Traffic (%)												
Lane Group Flow (vph)	9	1318	108	423	915	9	49	35	138	44	24	30
Turn Type	Prot	NA	pm+ov	Prot	NA	pm+ov	Prot	NA	pt+ov	Prot	NA	pm+ov
Protected Phases	5	2	3	1	6	7	3	8	8 1	7	4	5
Permitted Phases			2			6						4
Detector Phase	5	2	3	1	6	7	3	8	8 1	7	4	5
Switch Phase												
Minimum Initial (s)	3.0	15.0	3.0	3.0	15.0	3.0	3.0	8.0		3.0	8.0	3.0
Minimum Split (s)	9.5	24.0	9.5	9.5	24.0	9.5	9.5	24.0		9.5	21.0	9.5
Total Split (s)	15.0	63.0	15.0	44.0	92.0	15.0	15.0	28.0		15.0	28.0	15.0
Total Split (%)	10.0%	42.0%	10.0%	29.3%	61.3%	10.0%	10.0%	18.7%		10.0%	18.7%	10.0%
Yellow Time (s)	3.0	4.5	3.0	3.0	4.5	3.0	3.0	4.5		3.0	4.5	3.0
All-Red Time (s)	0.0	1.5	0.0	0.0	1.5	0.0	0.0	1.5		0.0	1.5	0.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Total Lost Time (s)	3.0	6.0	3.0	3.0	6.0	3.0	3.0	6.0		3.0	6.0	3.0
Lead/Lag	Lead	Lag	Lead	Lead	Lag	Lead	Lead	Lag		Lead	Lag	Lead
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes		Yes	Yes	Yes
Recall Mode	None	C-Min	None	None	C-Min	None	None	None		None	None	None
Act Effct Green (s)	5.9	87.9	106.7	23.7	109.1	124.0	12.8	13.2	39.9	8.9	13.2	19.6
Actuated g/C Ratio	0.04	0.59	0.71	0.16	0.73	0.83	0.09	0.09	0.27	0.06	0.09	0.13

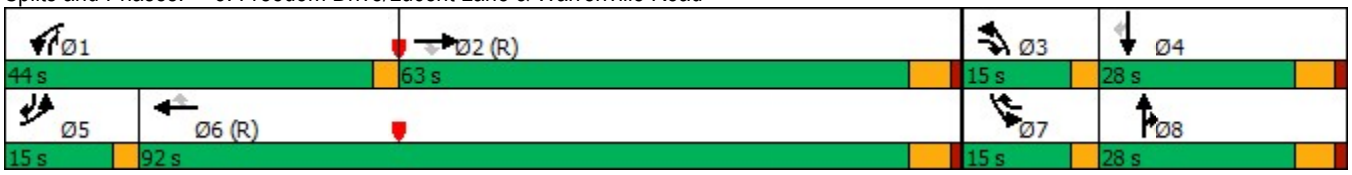
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
v/c Ratio	0.07	0.59	0.09	0.76	0.33	0.01	0.17	0.11	0.19	0.41	0.07	0.11
Control Delay	70.1	22.9	4.6	53.3	21.1	0.2	67.2	62.5	41.7	78.5	60.5	0.9
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	70.1	22.9	4.6	53.3	21.1	0.2	67.2	62.5	41.7	78.5	60.5	0.9
LOS	E	C	A	D	C	A	E	E	D	E	E	A
Approach Delay		21.8			31.1			50.6			50.3	
Approach LOS		C			C			D			D	
Queue Length 50th (ft)	4	426	12	194	327	0	24	16	59	42	11	0
Queue Length 95th (ft)	14	600	42	276	377	m0	46	35	85	84	26	2
Internal Link Dist (ft)		605			1426			1638			315	
Turn Bay Length (ft)	260		210	485		325	365		355	170		215
Base Capacity (vph)	280	2226	1190	957	2735	1375	341	557	1061	144	557	330
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.03	0.59	0.09	0.44	0.33	0.01	0.14	0.06	0.13	0.31	0.04	0.09

Intersection Summary

Area Type: Other
Cycle Length: 150
Actuated Cycle Length: 150
Offset: 50 (33%), Referenced to phase 2:EBT and 6:WBT, Start of Green
Natural Cycle: 90
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.76
Intersection Signal Delay: 28.8 Intersection LOS: C
Intersection Capacity Utilization 67.6% ICU Level of Service C
Analysis Period (min) 15

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

Splits and Phases: 3: Freedom Drive/Lucent Lane & Warrenville Road



Intersection	
Int Delay, s/veh	0.2

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	3	12	1373	1	30	1484
Future Vol, veh/h	3	12	1373	1	30	1484
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	205	-
Veh in Median Storage, #	1	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	96	96	96	96	96	96
Heavy Vehicles, %	0	0	0	0	0	1
Mvmt Flow	3	13	1430	1	31	1546

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	2111	716	0	0	1431	0
Stage 1	1431	-	-	-	-	-
Stage 2	680	-	-	-	-	-
Critical Hdwy	6.25	6.9	-	-	4.1	-
Critical Hdwy Stg 1	5.8	-	-	-	-	-
Critical Hdwy Stg 2	6	-	-	-	-	-
Follow-up Hdwy	3.65	3.3	-	-	2.2	-
Pot Cap-1 Maneuver	*121	*510	-	-	*766	-
Stage 1	*461	-	-	-	-	-
Stage 2	*610	-	-	-	-	-
Platoon blocked, %	1	1	-	-	1	-
Mov Cap-1 Maneuver	*116	*510	-	-	*766	-
Mov Cap-2 Maneuver	*287	-	-	-	-	-
Stage 1	*461	-	-	-	-	-
Stage 2	*585	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	13.5	0	0.2
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	441	* 766	-
HCM Lane V/C Ratio	-	-	0.035	0.041	-
HCM Control Delay (s)	-	-	13.5	9.9	-
HCM Lane LOS	-	-	B	A	-
HCM 95th %tile Q(veh)	-	-	0.1	0.1	-

Notes			
~: Volume exceeds capacity	$: Delay exceeds 300s	+: Computation Not Defined	*: All major volume in platoon

Intersection	
Int Delay, s/veh	3.2

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	0	42	0	0	0	13	39	0	0	53	0
Future Vol, veh/h	0	0	42	0	0	0	13	39	0	0	53	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	Stop	-	-	None	-	-	None	-	-	None
Storage Length	-	-	0	-	-	0	65	-	-	55	-	-
Veh in Median Storage, #	-	1	-	-	1	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	82	82	82	82	82	82	82	82	82	82	82	82
Heavy Vehicles, %	0	0	2	0	0	0	8	0	0	0	0	0
Mvmt Flow	0	0	51	0	0	0	16	48	0	0	65	0

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	-	-	33	113	145	24	65	0	0	48	0	0
Stage 1	-	-	-	80	80	-	-	-	-	-	-	-
Stage 2	-	-	-	33	65	-	-	-	-	-	-	-
Critical Hdwy	-	-	6.94	7.5	6.5	6.9	4.26	-	-	4.1	-	-
Critical Hdwy Stg 1	-	-	-	6.5	5.5	-	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	6.5	5.5	-	-	-	-	-	-	-
Follow-up Hdwy	-	-	3.32	3.5	4	3.3	2.28	-	-	2.2	-	-
Pot Cap-1 Maneuver	0	0	1033	876	761	1073	1492	-	-	1585	-	-
Stage 1	0	0	-	941	841	-	-	-	-	-	-	-
Stage 2	0	0	-	985	845	-	-	-	-	-	-	-
Platoon blocked, %				1	1	1		-	-	1	-	-
Mov Cap-1 Maneuver	-	-	1033	826	752	1073	1492	-	-	1585	-	-
Mov Cap-2 Maneuver	-	-	-	799	722	-	-	-	-	-	-	-
Stage 1	-	-	-	930	832	-	-	-	-	-	-	-
Stage 2	-	-	-	936	845	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	8.7	0	1.9	0
HCM LOS	A	A		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	WBLn2	SBL	SBT	SBR
Capacity (veh/h)	1492	-	-	1033	-	-	1585	-	-
HCM Lane V/C Ratio	0.011	-	-	0.05	-	-	-	-	-
HCM Control Delay (s)	7.4	-	-	8.7	0	0	0	-	-
HCM Lane LOS	A	-	-	A	A	A	A	-	-
HCM 95th %tile Q(veh)	0	-	-	0.2	-	-	0	-	-

Intersection	
Int Delay, s/veh	0.5

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	1	35	0	0	27	3	0	0	0	3	0	0
Future Vol, veh/h	1	35	0	0	27	3	0	0	0	3	0	0
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	1	0	0	3	0	0	0	0	0	0	0
Mvmt Flow	1	40	0	0	31	3	0	0	0	3	0	0

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	34	0	0	40	0	0	75	76	40	75	75	33
Stage 1	-	-	-	-	-	-	42	42	-	33	33	-
Stage 2	-	-	-	-	-	-	33	34	-	42	42	-
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	1593	-	-	1583	-	-	926	821	1037	926	822	1051
Stage 1	-	-	-	-	-	-	978	864	-	992	874	-
Stage 2	-	-	-	-	-	-	992	873	-	978	864	-
Platoon blocked, %	1	-	-		-	-	1	1		1	1	1
Mov Cap-1 Maneuver	1593	-	-	1583	-	-	925	821	1037	925	822	1051
Mov Cap-2 Maneuver	-	-	-	-	-	-	925	821	-	925	822	-
Stage 1	-	-	-	-	-	-	977	863	-	991	874	-
Stage 2	-	-	-	-	-	-	992	873	-	977	863	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.2	0	0	8.9
HCM LOS			A	A

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	-	1593	-	-	1583	-	-	925
HCM Lane V/C Ratio	-	0.001	-	-	-	-	-	0.004
HCM Control Delay (s)	0	7.3	0	-	0	-	-	8.9
HCM Lane LOS	A	A	A	-	A	-	-	A
HCM 95th %tile Q(veh)	-	0	-	-	0	-	-	0

Capacity Analysis Summary Sheets

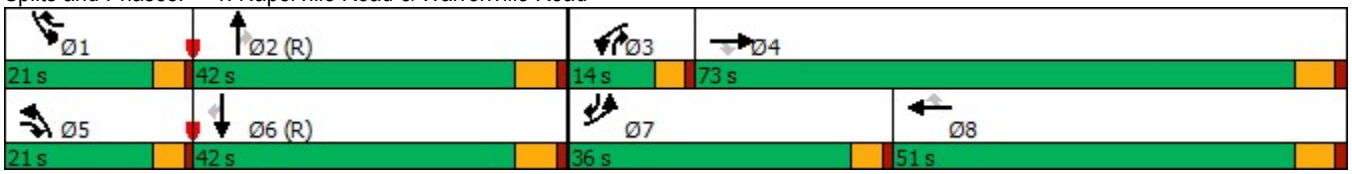
Year 2031 Total Projected Weekday Morning Peak Hour

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	359	915	280	56	560	175	149	732	260	147	607	313
Future Volume (vph)	359	915	280	56	560	175	149	732	260	147	607	313
Ideal Flow (vphpl)	1900	2000	1900	1900	2000	1900	1900	2000	1900	1900	2000	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	425		470	270		305	370		245	300		320
Storage Lanes	2		1	2		1	1		1	2		1
Taper Length (ft)	300			250			110			155		
Lane Util. Factor	0.97	0.95	1.00	0.97	0.95	1.00	0.97	0.95	1.00	0.97	0.91	1.00
Ped Bike Factor												
Frt			0.850			0.850			0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	3467	3762	1583	3213	3689	1568	3467	3762	1599	3467	5353	1583
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	3467	3762	1583	3213	3689	1568	3467	3762	1599	3467	5353	1583
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			89			87			87			100
Link Speed (mph)		45			45			40			40	
Link Distance (ft)		1506			1157			608			694	
Travel Time (s)		22.8			17.5			10.4			11.8	
Confl. Peds. (#/hr)												
Confl. Bikes (#/hr)												
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
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	1%	1%	2%	9%	3%	3%	1%	1%	1%	1%	2%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Shared Lane Traffic (%)												
Lane Group Flow (vph)	382	973	298	60	596	186	159	779	277	156	646	333
Turn Type	Prot	NA	pm+ov	Prot	NA	pm+ov	Prot	NA	pm+ov	Prot	NA	pm+ov
Protected Phases	7	4	5	3	8	1	5	2	3	1	6	7
Permitted Phases			4			8			2			6
Detector Phase	7	4	5	3	8	1	5	2	3	1	6	7
Switch Phase												
Minimum Initial (s)	3.0	15.0	3.0	3.0	15.0	3.0	3.0	15.0	3.0	3.0	15.0	3.0
Minimum Split (s)	22.5	24.0	9.5	9.5	24.0	9.5	9.5	24.0	9.5	9.5	24.0	22.5
Total Split (s)	36.0	73.0	21.0	14.0	51.0	21.0	21.0	42.0	14.0	21.0	42.0	36.0
Total Split (%)	24.0%	48.7%	14.0%	9.3%	34.0%	14.0%	14.0%	28.0%	9.3%	14.0%	28.0%	24.0%
Yellow Time (s)	3.5	4.5	3.5	3.5	4.5	3.5	3.5	4.5	3.5	3.5	4.5	3.5
All-Red Time (s)	1.0	1.5	1.0	1.0	1.5	1.0	1.0	1.5	1.0	1.0	1.5	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.5	6.0	4.5	4.5	6.0	4.5	4.5	6.0	4.5	4.5	6.0	4.5
Lead/Lag	Lead	Lag	Lead	Lead	Lag	Lead	Lead	Lag	Lead	Lead	Lag	Lead
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	None	C-Min	None	None	C-Min	None
Act Effct Green (s)	22.1	57.7	75.8	8.0	43.6	61.6	12.2	51.2	65.3	12.1	51.1	79.3
Actuated g/C Ratio	0.15	0.38	0.51	0.05	0.29	0.41	0.08	0.34	0.44	0.08	0.34	0.53

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
v/c Ratio	0.75	0.67	0.35	0.35	0.56	0.27	0.57	0.61	0.37	0.56	0.35	0.38
Control Delay	60.6	44.8	13.7	73.7	46.7	14.8	74.0	45.5	22.7	69.7	40.6	26.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	60.6	44.8	13.7	73.7	46.7	14.8	74.0	45.5	22.7	69.7	40.6	26.2
LOS	E	D	B	E	D	B	E	D	C	E	D	C
Approach Delay		42.8			41.6			44.0			40.4	
Approach LOS		D			D			D			D	
Queue Length 50th (ft)	166	488	168	29	258	60	78	335	122	77	186	163
Queue Length 95th (ft)	204	544	99	54	308	106	115	465	229	113	275	327
Internal Link Dist (ft)		1426			1077			528			614	
Turn Bay Length (ft)	425		470	270		305	370		245	300		320
Base Capacity (vph)	728	1680	887	203	1136	739	381	1285	759	381	1825	976
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.52	0.58	0.34	0.30	0.52	0.25	0.42	0.61	0.36	0.41	0.35	0.34

Intersection Summary			
Area Type:	Other		
Cycle Length: 150			
Actuated Cycle Length: 150			
Offset: 117 (78%), Referenced to phase 2:NBT and 6:SBT, Start of Green			
Natural Cycle: 80			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.75			
Intersection Signal Delay: 42.4		Intersection LOS: D	
Intersection Capacity Utilization 68.3%		ICU Level of Service C	
Analysis Period (min) 15			

Splits and Phases: 1: Naperville Road & Warrenville Road



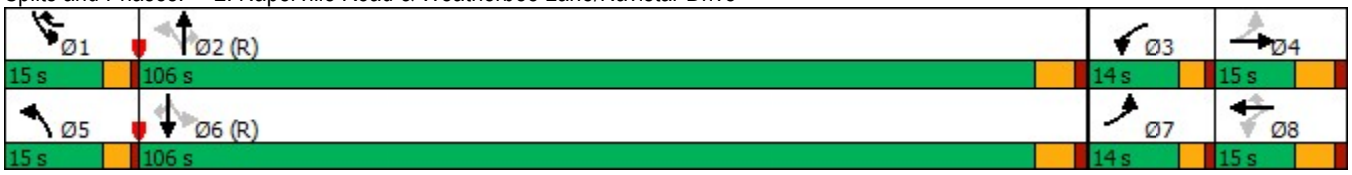
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	20	2	26	1	0	12	20	1227	22	132	1052	11
Future Volume (vph)	20	2	26	1	0	12	20	1227	22	132	1052	11
Ideal Flow (vphpl)	1900	1900	1900	1900	2000	1900	1900	2000	1900	1900	2000	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	170		0	140		140	137		125	200		105
Storage Lanes	1		0	1		1	1		1	1		1
Taper Length (ft)	80			155			145			110		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	1.00	1.00	0.95	1.00
Ped Bike Factor												
Frt		0.860				0.850			0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1719	1575	0	1805	2000	1615	1719	3725	1615	1805	3725	1272
Flt Permitted	0.950			0.000			0.240			0.172		
Satd. Flow (perm)	1719	1575	0	0	2000	1615	434	3725	1615	327	3725	1272
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		28				153			80			80
Link Speed (mph)		30			20			40			45	
Link Distance (ft)		648			564			631			507	
Travel Time (s)		14.7			19.2			10.8			7.7	
Confl. Peds. (#/hr)												
Confl. Bikes (#/hr)												
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
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	5%	0%	4%	0%	0%	0%	5%	2%	0%	0%	2%	27%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Shared Lane Traffic (%)												
Lane Group Flow (vph)	22	30	0	1	0	13	22	1334	24	143	1143	12
Turn Type	pm+pt	NA		pm+pt		pm+ov	pm+pt	NA	Perm	pm+pt	NA	Perm
Protected Phases	7	4		3	8	1	5	2		1	6	
Permitted Phases	4			8		8	2		2	6		6
Detector Phase	7	4		3	8	1	5	2	2	1	6	6
Switch Phase												
Minimum Initial (s)	3.0	4.0		3.0	4.0	3.0	3.0	15.0	15.0	3.0	15.0	15.0
Minimum Split (s)	9.5	15.0		9.5	15.0	9.5	9.5	24.0	24.0	9.5	24.0	24.0
Total Split (s)	14.0	15.0		14.0	15.0	15.0	15.0	106.0	106.0	15.0	106.0	106.0
Total Split (%)	9.3%	10.0%		9.3%	10.0%	10.0%	10.0%	70.7%	70.7%	10.0%	70.7%	70.7%
Yellow Time (s)	3.0	4.5		3.0	4.5	3.0	3.0	4.5	4.5	3.0	4.5	4.5
All-Red Time (s)	1.0	1.5		1.0	1.5	1.0	1.0	1.5	1.5	1.0	1.5	1.5
Lost Time Adjust (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.0	6.0		4.0	6.0	4.0	4.0	6.0	6.0	4.0	6.0	6.0
Lead/Lag	Lead	Lag		Lead	Lag	Lead	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None		None	None	None	None	C-Min	C-Min	None	C-Min	C-Min
Act Effct Green (s)	9.9	6.5		5.7		8.0	129.9	122.1	122.1	135.0	130.5	130.5
Actuated g/C Ratio	0.07	0.04		0.04		0.05	0.87	0.81	0.81	0.90	0.87	0.87

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
v/c Ratio	0.19	0.32		0.01		0.06	0.05	0.44	0.02	0.38	0.35	0.01
Control Delay	67.2	32.6		70.0		0.5	2.6	14.5	1.3	4.4	4.0	0.0
Queue Delay	0.0	0.0		0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	67.2	32.6		70.0		0.5	2.6	14.5	1.3	4.4	4.0	0.0
LOS	E	C		E		A	A	B	A	A	A	A
Approach Delay		47.2			5.5			14.0			4.0	
Approach LOS		D			A			B			A	
Queue Length 50th (ft)	21	2		1		0	4	434	0	10	128	0
Queue Length 95th (ft)	48	38		8		0	m4	716	m3	39	249	0
Internal Link Dist (ft)		568			484			551			427	
Turn Bay Length (ft)	170			140		140	137		125	200		105
Base Capacity (vph)	139	120		120		266	483	3032	1329	411	3241	1117
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	0.16	0.25		0.01		0.05	0.05	0.44	0.02	0.35	0.35	0.01

Intersection Summary

Area Type: Other
Cycle Length: 150
Actuated Cycle Length: 150
Offset: 56 (37%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green
Natural Cycle: 65
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.44
Intersection Signal Delay: 9.9 Intersection LOS: A
Intersection Capacity Utilization 60.6% ICU Level of Service B
Analysis Period (min) 15
m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 2: Naperville Road & Weatherbee Lane/Navistar Drive



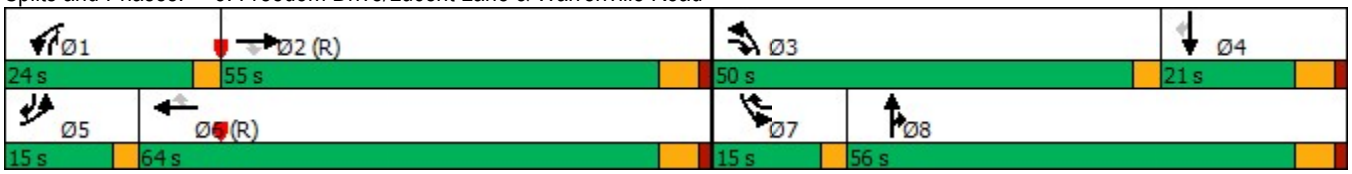
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	25	1039	29	164	810	48	292	70	501	14	10	27
Future Volume (vph)	25	1039	29	164	810	48	292	70	501	14	10	27
Ideal Flow (vphpl)	1900	2000	1900	1900	2000	1900	1900	2000	1900	1900	2000	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	260		210	485		325	365		355	170		215
Storage Lanes	2		1	2		1	2		1	1		1
Taper Length (ft)	300			300			300			80		
Lane Util. Factor	0.97	0.95	1.00	0.97	0.95	1.00	0.97	0.95	0.88	1.00	0.95	1.00
Ped Bike Factor												
Frt			0.850			0.850			0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	3502	3762	1615	3303	3762	1615	3467	3800	2760	1805	3800	1495
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	3502	3762	1615	3303	3762	1615	3467	3800	2760	1805	3800	1495
Right Turn on Red			Yes			Yes			No			Yes
Satd. Flow (RTOR)			65			65						87
Link Speed (mph)		45			45			35			30	
Link Distance (ft)		685			1506			1718			395	
Travel Time (s)		10.4			22.8			33.5			9.0	
Confl. Peds. (#/hr)												
Confl. Bikes (#/hr)												
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	0%	1%	0%	6%	1%	0%	1%	0%	3%	0%	0%	8%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Shared Lane Traffic (%)												
Lane Group Flow (vph)	27	1142	32	180	890	53	321	77	551	15	11	30
Turn Type	Prot	NA	pm+ov	Prot	NA	pm+ov	Prot	NA	pt+ov	Prot	NA	pm+ov
Protected Phases	5	2	3	1	6	7	3	8	8 1	7	4	5
Permitted Phases			2			6						4
Detector Phase	5	2	3	1	6	7	3	8	8 1	7	4	5
Switch Phase												
Minimum Initial (s)	3.0	15.0	3.0	3.0	15.0	3.0	3.0	8.0		3.0	8.0	3.0
Minimum Split (s)	9.5	24.0	9.5	9.5	24.0	9.5	9.5	24.0		9.5	21.0	9.5
Total Split (s)	15.0	55.0	50.0	24.0	64.0	15.0	50.0	56.0		15.0	21.0	15.0
Total Split (%)	10.0%	36.7%	33.3%	16.0%	42.7%	10.0%	33.3%	37.3%		10.0%	14.0%	10.0%
Yellow Time (s)	3.0	4.5	3.0	3.0	4.5	3.0	3.0	4.5		3.0	4.5	3.0
All-Red Time (s)	0.0	1.5	0.0	0.0	1.5	0.0	0.0	1.5		0.0	1.5	0.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Total Lost Time (s)	3.0	6.0	3.0	3.0	6.0	3.0	3.0	6.0		3.0	6.0	3.0
Lead/Lag	Lead	Lag	Lead	Lead	Lag	Lead	Lead	Lag		Lead	Lag	Lead
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes		Yes	Yes	Yes
Recall Mode	None	C-Min	None	None	C-Min	None	None	None		None	None	None
Act Effct Green (s)	6.6	77.0	116.7	14.0	86.0	98.9	33.7	35.9	52.9	6.8	15.7	19.9
Actuated g/C Ratio	0.04	0.51	0.78	0.09	0.57	0.66	0.22	0.24	0.35	0.05	0.10	0.13

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
v/c Ratio	0.17	0.59	0.03	0.58	0.41	0.05	0.41	0.08	0.57	0.18	0.03	0.11
Control Delay	71.2	29.5	0.2	61.0	35.1	13.6	53.0	42.5	40.7	73.4	53.9	0.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	71.2	29.5	0.2	61.0	35.1	13.6	53.0	42.5	40.7	73.4	53.9	0.8
LOS	E	C	A	E	D	B	D	D	D	E	D	A
Approach Delay		29.6			38.2			45.0			30.7	
Approach LOS		C			D			D			C	
Queue Length 50th (ft)	13	417	0	82	454	11	120	31	244	14	5	0
Queue Length 95th (ft)	30	584	2	118	497	33	204	50	272	40	14	0
Internal Link Dist (ft)		605			1426			1638			315	
Turn Bay Length (ft)	260		210	485		325	365		355	170		215
Base Capacity (vph)	280	1929	1409	462	2157	1139	1097	1266	1101	144	504	324
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.10	0.59	0.02	0.39	0.41	0.05	0.29	0.06	0.50	0.10	0.02	0.09

Intersection Summary

Area Type: Other
Cycle Length: 150
Actuated Cycle Length: 150
Offset: 148 (99%), Referenced to phase 2:EBT and 6:WBT, Start of Green
Natural Cycle: 75
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.59
Intersection Signal Delay: 36.9 Intersection LOS: D
Intersection Capacity Utilization 61.5% ICU Level of Service B
Analysis Period (min) 15

Splits and Phases: 3: Freedom Drive/Lucent Lane & Warrenville Road



Intersection	
Int Delay, s/veh	0.1

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	1	6	1263	3	13	1066
Future Vol, veh/h	1	6	1263	3	13	1066
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	205	-
Veh in Median Storage, #	1	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	1	6	1329	3	14	1122

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	1808	666	0	0	1332	0
Stage 1	1331	-	-	-	-	-
Stage 2	477	-	-	-	-	-
Critical Hdwy	6.29	6.94	-	-	4.14	-
Critical Hdwy Stg 1	5.84	-	-	-	-	-
Critical Hdwy Stg 2	6.04	-	-	-	-	-
Follow-up Hdwy	3.67	3.32	-	-	2.22	-
Pot Cap-1 Maneuver	*252	*569	-	-	*850	-
Stage 1	*514	-	-	-	-	-
Stage 2	*718	-	-	-	-	-
Platoon blocked, %	1	1	-	-	1	-
Mov Cap-1 Maneuver	*248	*569	-	-	*850	-
Mov Cap-2 Maneuver	*380	-	-	-	-	-
Stage 1	*514	-	-	-	-	-
Stage 2	*706	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	11.9	0	0.1
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	531	* 850	-
HCM Lane V/C Ratio	-	-	0.014	0.016	-
HCM Control Delay (s)	-	-	11.9	9.3	-
HCM Lane LOS	-	-	B	A	-
HCM 95th %tile Q(veh)	-	-	0	0	-

Notes			
~: Volume exceeds capacity	$: Delay exceeds 300s	+: Computation Not Defined	*: All major volume in platoon

Intersection	
Int Delay, s/veh	2.2

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	0	5	15	0	0	32	61	50	1	31	0
Future Vol, veh/h	0	0	5	15	0	0	32	61	50	1	31	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	Stop	-	-	None	-	-	None	-	-	None
Storage Length	-	-	0	-	-	0	65	-	-	55	-	-
Veh in Median Storage, #	-	1	-	-	1	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	79	79	79	79	79	79	79	79	79	79	79	79
Heavy Vehicles, %	0	0	0	0	0	0	0	3	0	0	3	0
Mvmt Flow	0	0	6	19	0	0	41	77	63	1	39	0

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	-	-	20	213	232	70	39	0	0	140	0	0
Stage 1	-	-	-	191	191	-	-	-	-	-	-	-
Stage 2	-	-	-	22	41	-	-	-	-	-	-	-
Critical Hdwy	-	-	6.9	7.5	6.5	6.9	4.1	-	-	4.1	-	-
Critical Hdwy Stg 1	-	-	-	6.5	5.5	-	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	6.5	5.5	-	-	-	-	-	-	-
Follow-up Hdwy	-	-	3.3	3.5	4	3.3	2.2	-	-	2.2	-	-
Pot Cap-1 Maneuver	0	0	1060	745	681	1003	1584	-	-	1467	-	-
Stage 1	0	0	-	810	754	-	-	-	-	-	-	-
Stage 2	0	0	-	999	865	-	-	-	-	-	-	-
Platoon blocked, %				1	1	1		-	-	1	-	-
Mov Cap-1 Maneuver	-	-	1060	725	663	1003	1584	-	-	1467	-	-
Mov Cap-2 Maneuver	-	-	-	707	650	-	-	-	-	-	-	-
Stage 1	-	-	-	789	734	-	-	-	-	-	-	-
Stage 2	-	-	-	992	864	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	8.4	10.2	1.6	0.2
HCM LOS	A	B		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	WBLn2	SBL	SBT	SBR
Capacity (veh/h)	1584	-	-	1060	707	-	1467	-	-
HCM Lane V/C Ratio	0.026	-	-	0.006	0.027	-	0.001	-	-
HCM Control Delay (s)	7.3	-	-	8.4	10.2	0	7.5	-	-
HCM Lane LOS	A	-	-	A	B	A	A	-	-
HCM 95th %tile Q(veh)	0.1	-	-	0	0.1	-	0	-	-

Intersection	
Int Delay, s/veh	0.8

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		⇕			⇕			⇕			⇕	
Traffic Vol, veh/h	1	42	0	0	30	1	0	0	2	4	0	0
Future Vol, veh/h	1	42	0	0	30	1	0	0	2	4	0	0
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	84	84	84	84	84	84	84	84	84	84	84	84
Heavy Vehicles, %	0	5	0	0	10	0	0	0	0	0	0	0
Mvmt Flow	1	50	0	0	36	1	0	0	2	5	0	0

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	37	0	0	50	0	0	89	89	50	90	89	37
Stage 1	-	-	-	-	-	-	52	52	-	37	37	-
Stage 2	-	-	-	-	-	-	37	37	-	53	52	-
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	1589	-	-	1570	-	-	907	808	1024	905	808	1046
Stage 1	-	-	-	-	-	-	966	856	-	987	870	-
Stage 2	-	-	-	-	-	-	987	870	-	965	856	-
Platoon blocked, %	1	-	-		-	-	1	1		1	1	1
Mov Cap-1 Maneuver	1589	-	-	1570	-	-	906	808	1024	902	808	1046
Mov Cap-2 Maneuver	-	-	-	-	-	-	906	808	-	902	808	-
Stage 1	-	-	-	-	-	-	965	855	-	986	870	-
Stage 2	-	-	-	-	-	-	987	870	-	962	855	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.2	0	8.5	9
HCM LOS			A	A

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	1024	1589	-	-	1570	-	-	902
HCM Lane V/C Ratio	0.002	0.001	-	-	-	-	-	0.005
HCM Control Delay (s)	8.5	7.3	0	-	0	-	-	9
HCM Lane LOS	A	A	A	-	A	-	-	A
HCM 95th %tile Q(veh)	0	0	-	-	0	-	-	0

Intersection	
Int Delay, s/veh	0

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	0	0	61	0	0	32
Future Vol, veh/h	0	0	61	0	0	32
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
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, %	0	0	3	0	0	3
Mvmt Flow	0	0	64	0	0	34

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	98	64	0	0	64	0
Stage 1	64	-	-	-	-	-
Stage 2	34	-	-	-	-	-
Critical Hdwy	6.4	6.2	-	-	4.1	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	-	-	2.2	-
Pot Cap-1 Maneuver	*942	*1042	-	-	*1563	-
Stage 1	*983	-	-	-	-	-
Stage 2	*994	-	-	-	-	-
Platoon blocked, %	1	1	-	-	1	-
Mov Cap-1 Maneuver	*942	*1042	-	-	*1563	-
Mov Cap-2 Maneuver	*942	-	-	-	-	-
Stage 1	*983	-	-	-	-	-
Stage 2	*994	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	0	0	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	-	* 1563	-
HCM Lane V/C Ratio	-	-	-	-	-
HCM Control Delay (s)	-	-	0	0	-
HCM Lane LOS	-	-	A	A	-
HCM 95th %tile Q(veh)	-	-	-	0	-

Notes			
~: Volume exceeds capacity	$: Delay exceeds 300s	+: Computation Not Defined	*: All major volume in platoon

Intersection	
Int Delay, s/veh	0

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	48	0	0	31	0	0
Future Vol, veh/h	48	0	0	31	0	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, %	5	0	0	10	0	0
Mvmt Flow	51	0	0	33	0	0

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	51	0	84	51
Stage 1	-	-	-	-	51	-
Stage 2	-	-	-	-	33	-
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	-	-	1568	-	927	1023
Stage 1	-	-	-	-	977	-
Stage 2	-	-	-	-	997	-
Platoon blocked, %	-	-		-	1	
Mov Cap-1 Maneuver	-	-	1568	-	927	1023
Mov Cap-2 Maneuver	-	-	-	-	927	-
Stage 1	-	-	-	-	977	-
Stage 2	-	-	-	-	997	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0	0
HCM LOS			A

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	-	-	-	1568	-
HCM Lane V/C Ratio	-	-	-	-	-
HCM Control Delay (s)	0	-	-	0	-
HCM Lane LOS	A	-	-	A	-
HCM 95th %tile Q(veh)	-	-	-	0	-

Capacity Analysis Summary Sheets

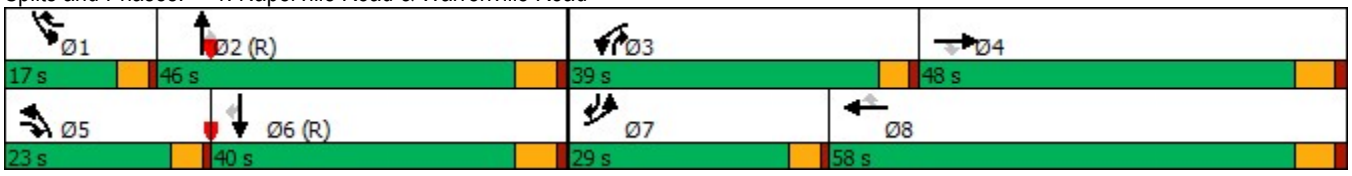
Year 2031 Total Projected Weekday Evening Peak Hour

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	440	528	529	297	815	177	190	771	92	148	1031	311
Future Volume (vph)	440	528	529	297	815	177	190	771	92	148	1031	311
Ideal Flow (vphpl)	1900	2000	1900	1900	2000	1900	1900	2000	1900	1900	2000	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	425		470	270		305	370		245	300		320
Storage Lanes	2		1	2		1	1		1	2		1
Taper Length (ft)	300			250			110			155		
Lane Util. Factor	0.97	0.95	1.00	0.97	0.95	1.00	0.97	0.95	1.00	0.97	0.91	1.00
Ped Bike Factor												
Frt			0.850			0.850			0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	3502	3762	1615	3502	3762	1599	3467	3800	1568	3467	5460	1615
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	3502	3762	1615	3502	3762	1599	3467	3800	1568	3467	5460	1615
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			92			87			87			120
Link Speed (mph)		45			45			40			40	
Link Distance (ft)		1506			1157			608			694	
Travel Time (s)		22.8			17.5			10.4			11.8	
Confl. Peds. (#/hr)												
Confl. Bikes (#/hr)												
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
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	0%	1%	0%	0%	1%	1%	1%	0%	3%	1%	0%	0%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Shared Lane Traffic (%)												
Lane Group Flow (vph)	449	539	540	303	832	181	194	787	94	151	1052	317
Turn Type	Prot	NA	pm+ov	Prot	NA	pm+ov	Prot	NA	pm+ov	Prot	NA	pm+ov
Protected Phases	7	4	5	3	8	1	5	2	3	1	6	7
Permitted Phases			4			8			2			6
Detector Phase	7	4	5	3	8	1	5	2	3	1	6	7
Switch Phase												
Minimum Initial (s)	3.0	15.0	3.0	3.0	15.0	3.0	3.0	15.0	3.0	3.0	15.0	3.0
Minimum Split (s)	22.5	24.0	9.5	9.5	24.0	9.5	9.5	24.0	9.5	9.5	24.0	22.5
Total Split (s)	29.0	48.0	23.0	39.0	58.0	17.0	23.0	46.0	39.0	17.0	40.0	29.0
Total Split (%)	19.3%	32.0%	15.3%	26.0%	38.7%	11.3%	15.3%	30.7%	26.0%	11.3%	26.7%	19.3%
Yellow Time (s)	3.5	4.5	3.5	3.5	4.5	3.5	3.5	4.5	3.5	3.5	4.5	3.5
All-Red Time (s)	1.0	1.5	1.0	1.0	1.5	1.0	1.0	1.5	1.0	1.0	1.5	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.5	6.0	4.5	4.5	6.0	4.5	4.5	6.0	4.5	4.5	6.0	4.5
Lead/Lag	Lead	Lag	Lead	Lead	Lag	Lead	Lead	Lag	Lead	Lead	Lag	Lead
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	None	C-Min	None	None	C-Min	None
Act Effct Green (s)	22.9	52.0	72.1	18.3	47.4	64.6	14.1	47.5	71.8	11.2	44.6	73.5
Actuated g/C Ratio	0.15	0.35	0.48	0.12	0.32	0.43	0.09	0.32	0.48	0.07	0.30	0.49

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
v/c Ratio	0.84	0.41	0.66	0.71	0.70	0.25	0.60	0.65	0.12	0.59	0.65	0.37
Control Delay	76.7	24.4	21.2	72.5	48.1	13.4	72.7	48.9	5.6	70.8	53.8	25.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	76.7	24.4	21.2	72.5	48.1	13.4	72.7	48.9	5.6	70.8	53.8	25.5
LOS	E	C	C	E	D	B	E	D	A	E	D	C
Approach Delay		38.6			49.0			49.4			49.6	
Approach LOS		D			D			D			D	
Queue Length 50th (ft)	176	200	384	148	370	53	95	364	4	75	339	162
Queue Length 95th (ft)	258	178	536	194	432	101	134	456	37	113	450	359
Internal Link Dist (ft)		1426			1077			528			614	
Turn Bay Length (ft)	425		470	270		305	370		245	300		320
Base Capacity (vph)	571	1304	868	805	1304	751	427	1202	955	288	1623	868
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.79	0.41	0.62	0.38	0.64	0.24	0.45	0.65	0.10	0.52	0.65	0.37

Intersection Summary			
Area Type:	Other		
Cycle Length: 150			
Actuated Cycle Length: 150			
Offset: 5 (3%), Referenced to phase 2:NBT and 6:SBT, Start of Green			
Natural Cycle: 90			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.84			
Intersection Signal Delay: 46.3		Intersection LOS: D	
Intersection Capacity Utilization 75.9%		ICU Level of Service D	
Analysis Period (min) 15			

Splits and Phases: 1: Naperville Road & Warrenville Road



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	23	0	15	8	3	108	15	1382	2	9	1494	12
Future Volume (vph)	23	0	15	8	3	108	15	1382	2	9	1494	12
Ideal Flow (vphpl)	1900	1900	1900	1900	2000	1900	1900	2000	1900	1900	2000	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	170		0	140		140	137		125	200		105
Storage Lanes	1		0	1		1	1		1	1		1
Taper Length (ft)	80			155			145			110		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	1.00	1.00	0.95	1.00
Ped Bike Factor												
Frt		0.850				0.850			0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1805	1615	0	1805	2000	1615	1805	3800	1615	1805	3800	1615
Flt Permitted	0.800						0.141			0.149		
Satd. Flow (perm)	1520	1615	0	1900	2000	1615	268	3800	1615	283	3800	1615
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		228				114			80			80
Link Speed (mph)		30			20			40			45	
Link Distance (ft)		648			564			631			507	
Travel Time (s)		14.7			19.2			10.8			7.7	
Confl. Peds. (#/hr)												
Confl. Bikes (#/hr)												
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
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Shared Lane Traffic (%)												
Lane Group Flow (vph)	24	16	0	8	3	114	16	1455	2	9	1573	13
Turn Type	pm+pt	NA		pm+pt	NA	pm+ov	pm+pt	NA	Perm	pm+pt	NA	Perm
Protected Phases	7	4		3	8	1	5	2		1	6	
Permitted Phases	4			8		8	2		2	6		6
Detector Phase	7	4		3	8	1	5	2	2	1	6	6
Switch Phase												
Minimum Initial (s)	3.0	4.0		3.0	4.0	3.0	3.0	15.0	15.0	3.0	15.0	15.0
Minimum Split (s)	9.5	15.0		9.5	15.0	9.5	9.5	24.0	24.0	9.5	24.0	24.0
Total Split (s)	16.0	15.0		16.0	15.0	14.0	14.0	105.0	105.0	14.0	105.0	105.0
Total Split (%)	10.7%	10.0%		10.7%	10.0%	9.3%	9.3%	70.0%	70.0%	9.3%	70.0%	70.0%
Yellow Time (s)	3.0	4.5		3.0	4.5	3.0	3.0	4.5	4.5	3.0	4.5	4.5
All-Red Time (s)	1.0	1.5		1.0	1.5	1.0	1.0	1.5	1.5	1.0	1.5	1.5
Lost Time Adjust (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.0	6.0		4.0	6.0	4.0	4.0	6.0	6.0	4.0	6.0	6.0
Lead/Lag	Lead	Lag		Lead	Lag	Lead	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None		None	None	None	None	C-Min	C-Min	None	C-Min	C-Min
Act Effct Green (s)	9.6	6.4		7.9	5.8	8.6	131.6	123.9	123.9	134.8	132.4	132.4
Actuated g/C Ratio	0.06	0.04		0.05	0.04	0.06	0.88	0.83	0.83	0.90	0.88	0.88

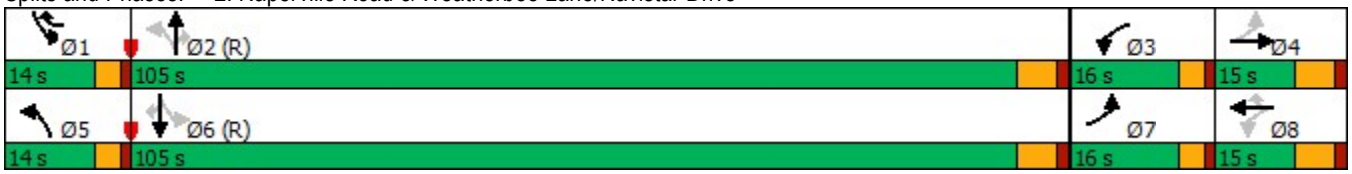
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
v/c Ratio	0.22	0.06		0.08	0.04	0.57	0.05	0.46	0.00	0.03	0.47	0.01
Control Delay	67.6	0.4		63.8	70.3	21.6	1.9	8.5	0.0	2.1	4.5	0.0
Queue Delay	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	67.6	0.4		63.8	70.3	21.6	1.9	8.5	0.0	2.1	4.5	0.0
LOS	E	A		E	E	C	A	A	A	A	A	A
Approach Delay		40.7			25.5			8.4			4.4	
Approach LOS		D			C			A			A	
Queue Length 50th (ft)	23	0		8	3	0	3	528	0	1	113	0
Queue Length 95th (ft)	50	0		24	14	60	m4	782	m0	5	409	0
Internal Link Dist (ft)		568			484			551			427	
Turn Bay Length (ft)	170			140		140	137		125	200		105
Base Capacity (vph)	164	311		166	120	239	344	3139	1347	357	3355	1435
Starvation Cap Reductn	0	0		0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0		0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0		0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.15	0.05		0.05	0.03	0.48	0.05	0.46	0.00	0.03	0.47	0.01

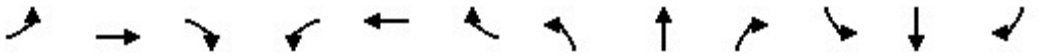
Intersection Summary

Area Type: Other
Cycle Length: 150
Actuated Cycle Length: 150
Offset: 81 (54%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green
Natural Cycle: 70
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.57
Intersection Signal Delay: 7.5 Intersection LOS: A
Intersection Capacity Utilization 58.0% ICU Level of Service B
Analysis Period (min) 15

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

Splits and Phases: 2: Naperville Road & Weatherbee Lane/Navistar Drive





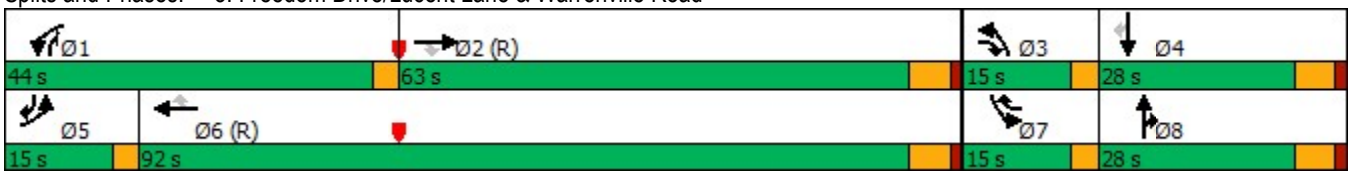
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	12	1278	105	410	888	18	48	37	134	85	37	43
Future Volume (vph)	12	1278	105	410	888	18	48	37	134	85	37	43
Ideal Flow (vphpl)	1900	2000	1900	1900	2000	1900	1900	2000	1900	1900	2000	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	260		210	485		325	365		355	170		215
Storage Lanes	2		1	2		1	2		1	1		1
Taper Length (ft)	300			300			300			80		
Lane Util. Factor	0.97	0.95	1.00	0.97	0.95	1.00	0.97	0.95	0.88	1.00	0.95	1.00
Ped Bike Factor												
Frt			0.850			0.850			0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	3502	3800	1615	3502	3762	1615	3433	3800	2787	1805	3800	1615
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	3502	3800	1615	3502	3762	1615	3433	3800	2787	1805	3800	1615
Right Turn on Red			Yes			Yes			No			Yes
Satd. Flow (RTOR)			70			44						65
Link Speed (mph)		45			45			35			30	
Link Distance (ft)		685			1506			1718			395	
Travel Time (s)		10.4			22.8			33.5			9.0	
Confl. Peds. (#/hr)												
Confl. Bikes (#/hr)												
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	0%	0%	0%	0%	1%	0%	2%	0%	2%	0%	0%	0%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Shared Lane Traffic (%)												
Lane Group Flow (vph)	12	1318	108	423	915	19	49	38	138	88	38	44
Turn Type	Prot	NA	pm+ov	Prot	NA	pm+ov	Prot	NA	pt+ov	Prot	NA	pm+ov
Protected Phases	5	2	3	1	6	7	3	8	8 1	7	4	5
Permitted Phases			2			6						4
Detector Phase	5	2	3	1	6	7	3	8	8 1	7	4	5
Switch Phase												
Minimum Initial (s)	3.0	15.0	3.0	3.0	15.0	3.0	3.0	8.0		3.0	8.0	3.0
Minimum Split (s)	9.5	24.0	9.5	9.5	24.0	9.5	9.5	24.0		9.5	21.0	9.5
Total Split (s)	15.0	63.0	15.0	44.0	92.0	15.0	15.0	28.0		15.0	28.0	15.0
Total Split (%)	10.0%	42.0%	10.0%	29.3%	61.3%	10.0%	10.0%	18.7%		10.0%	18.7%	10.0%
Yellow Time (s)	3.0	4.5	3.0	3.0	4.5	3.0	3.0	4.5		3.0	4.5	3.0
All-Red Time (s)	0.0	1.5	0.0	0.0	1.5	0.0	0.0	1.5		0.0	1.5	0.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Total Lost Time (s)	3.0	6.0	3.0	3.0	6.0	3.0	3.0	6.0		3.0	6.0	3.0
Lead/Lag	Lead	Lag	Lead	Lead	Lag	Lead	Lead	Lag		Lead	Lag	Lead
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes		Yes	Yes	Yes
Recall Mode	None	C-Min	None	None	C-Min	None	None	None		None	None	None
Act Effct Green (s)	6.1	84.1	101.2	23.7	103.4	120.5	11.2	13.2	39.9	11.1	15.9	25.1
Actuated g/C Ratio	0.04	0.56	0.67	0.16	0.69	0.80	0.07	0.09	0.27	0.07	0.11	0.17

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
v/c Ratio	0.09	0.62	0.10	0.76	0.35	0.01	0.19	0.11	0.19	0.66	0.09	0.14
Control Delay	70.3	25.0	4.9	54.7	24.7	0.7	69.6	62.7	41.7	90.9	59.2	5.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	70.3	25.0	4.9	54.7	24.7	0.7	69.6	62.7	41.7	90.9	59.2	5.4
LOS	E	C	A	D	C	A	E	E	D	F	E	A
Approach Delay		23.9			33.7			51.3			61.7	
Approach LOS		C			C			D			E	
Queue Length 50th (ft)	6	454	13	217	335	0	24	18	59	84	17	0
Queue Length 95th (ft)	18	600	42	276	377	m1	46	37	85	#154	36	17
Internal Link Dist (ft)		605			1426			1638			315	
Turn Bay Length (ft)	260		210	485		325	365		355	170		215
Base Capacity (vph)	280	2130	1145	957	2593	1317	328	557	1061	146	557	386
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.04	0.62	0.09	0.44	0.35	0.01	0.15	0.07	0.13	0.60	0.07	0.11

Intersection Summary

Area Type: Other
Cycle Length: 150
Actuated Cycle Length: 150
Offset: 50 (33%), Referenced to phase 2:EBT and 6:WBT, Start of Green
Natural Cycle: 90
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.76
Intersection Signal Delay: 32.0 Intersection LOS: C
Intersection Capacity Utilization 70.0% ICU Level of Service C
Analysis Period (min) 15
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: 3: Freedom Drive/Lucent Lane & Warrenville Road



Intersection	
Int Delay, s/veh	0.2

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	3	12	1387	1	30	1487
Future Vol, veh/h	3	12	1387	1	30	1487
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	205	-
Veh in Median Storage, #	1	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	96	96	96	96	96	96
Heavy Vehicles, %	0	0	0	0	0	1
Mvmt Flow	3	13	1445	1	31	1549

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	2128	723	0	0	1446	0
Stage 1	1446	-	-	-	-	-
Stage 2	682	-	-	-	-	-
Critical Hdwy	6.25	6.9	-	-	4.1	-
Critical Hdwy Stg 1	5.8	-	-	-	-	-
Critical Hdwy Stg 2	6	-	-	-	-	-
Follow-up Hdwy	3.65	3.3	-	-	2.2	-
Pot Cap-1 Maneuver	*121	*510	-	-	*766	-
Stage 1	*461	-	-	-	-	-
Stage 2	*610	-	-	-	-	-
Platoon blocked, %	1	1	-	-	1	-
Mov Cap-1 Maneuver	*116	*510	-	-	*766	-
Mov Cap-2 Maneuver	*287	-	-	-	-	-
Stage 1	*461	-	-	-	-	-
Stage 2	*585	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	13.5	0	0.2
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	441	* 766	-
HCM Lane V/C Ratio	-	-	0.035	0.041	-
HCM Control Delay (s)	-	-	13.5	9.9	-
HCM Lane LOS	-	-	B	A	-
HCM 95th %tile Q(veh)	-	-	0.1	0.1	-

Notes			
~: Volume exceeds capacity	$: Delay exceeds 300s	+: Computation Not Defined	*: All major volume in platoon

Intersection	
Int Delay, s/veh	5

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	0	42	70	0	0	13	39	15	0	53	0
Future Vol, veh/h	0	0	42	70	0	0	13	39	15	0	53	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	Stop	-	-	None	-	-	None	-	-	None
Storage Length	-	-	0	-	-	0	65	-	-	55	-	-
Veh in Median Storage, #	-	1	-	-	1	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	82	82	82	82	82	82	82	82	82	82	82	82
Heavy Vehicles, %	0	0	2	0	0	0	8	0	0	0	0	0
Mvmt Flow	0	0	51	85	0	0	16	48	18	0	65	0

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	-	-	33	122	154	33	65	0	0	66	0	0
Stage 1	-	-	-	89	89	-	-	-	-	-	-	-
Stage 2	-	-	-	33	65	-	-	-	-	-	-	-
Critical Hdwy	-	-	6.94	7.5	6.5	6.9	4.26	-	-	4.1	-	-
Critical Hdwy Stg 1	-	-	-	6.5	5.5	-	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	6.5	5.5	-	-	-	-	-	-	-
Follow-up Hdwy	-	-	3.32	3.5	4	3.3	2.28	-	-	2.2	-	-
Pot Cap-1 Maneuver	0	0	1033	863	753	1059	1492	-	-	1561	-	-
Stage 1	0	0	-	929	833	-	-	-	-	-	-	-
Stage 2	0	0	-	985	845	-	-	-	-	-	-	-
Platoon blocked, %				1	1	1		-	-	1	-	-
Mov Cap-1 Maneuver	-	-	1033	814	745	1059	1492	-	-	1561	-	-
Mov Cap-2 Maneuver	-	-	-	791	717	-	-	-	-	-	-	-
Stage 1	-	-	-	919	824	-	-	-	-	-	-	-
Stage 2	-	-	-	936	845	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	8.7	10.1	1.4	0
HCM LOS	A	B		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	WBLn2	SBL	SBT	SBR
Capacity (veh/h)	1492	-	-	1033	791	-	1561	-	-
HCM Lane V/C Ratio	0.011	-	-	0.05	0.108	-	-	-	-
HCM Control Delay (s)	7.4	-	-	8.7	10.1	0	0	-	-
HCM Lane LOS	A	-	-	A	B	A	A	-	-
HCM 95th %tile Q(veh)	0	-	-	0.2	0.4	-	0	-	-

Intersection	
Int Delay, s/veh	0.5

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		⇕			⇕			⇕			⇕	
Traffic Vol, veh/h	1	35	0	0	27	3	0	0	0	3	0	0
Future Vol, veh/h	1	35	0	0	27	3	0	0	0	3	0	0
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	1	0	0	3	0	0	0	0	0	0	0
Mvmt Flow	1	40	0	0	31	3	0	0	0	3	0	0

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	34	0	0	40	0	0	75	76	40	75	75	33
Stage 1	-	-	-	-	-	-	42	42	-	33	33	-
Stage 2	-	-	-	-	-	-	33	34	-	42	42	-
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	1593	-	-	1583	-	-	926	821	1037	926	822	1051
Stage 1	-	-	-	-	-	-	978	864	-	992	874	-
Stage 2	-	-	-	-	-	-	992	873	-	978	864	-
Platoon blocked, %	1	-	-		-	-	1	1		1	1	1
Mov Cap-1 Maneuver	1593	-	-	1583	-	-	925	821	1037	925	822	1051
Mov Cap-2 Maneuver	-	-	-	-	-	-	925	821	-	925	822	-
Stage 1	-	-	-	-	-	-	977	863	-	991	874	-
Stage 2	-	-	-	-	-	-	992	873	-	977	863	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.2	0	0	8.9
HCM LOS			A	A

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	-	1593	-	-	1583	-	-	925
HCM Lane V/C Ratio	-	0.001	-	-	-	-	-	0.004
HCM Control Delay (s)	0	7.3	0	-	0	-	-	8.9
HCM Lane LOS	A	A	A	-	A	-	-	A
HCM 95th %tile Q(veh)	-	0	-	-	0	-	-	0

Intersection	
Int Delay, s/veh	0

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	0	0	39	0	0	53
Future Vol, veh/h	0	0	39	0	0	53
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
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, %	0	0	0	0	0	0
Mvmt Flow	0	0	41	0	0	56

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	97	41	0	0	41	0
Stage 1	41	-	-	-	-	-
Stage 2	56	-	-	-	-	-
Critical Hdwy	6.4	6.2	-	-	4.1	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	-	-	2.2	-
Pot Cap-1 Maneuver	926	1059	-	-	1591	-
Stage 1	1000	-	-	-	-	-
Stage 2	972	-	-	-	-	-
Platoon blocked, %	1	1	-	-	1	-
Mov Cap-1 Maneuver	926	1059	-	-	1591	-
Mov Cap-2 Maneuver	926	-	-	-	-	-
Stage 1	1000	-	-	-	-	-
Stage 2	972	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	0	0	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	-	1591	-
HCM Lane V/C Ratio	-	-	-	-	-
HCM Control Delay (s)	-	-	0	0	-
HCM Lane LOS	-	-	A	A	-
HCM 95th %tile Q(veh)	-	-	-	0	-

Intersection	
Int Delay, s/veh	0

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	38	0	0	30	0	0
Future Vol, veh/h	38	0	0	30	0	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, %	3	0	0	3	0	0
Mvmt Flow	40	0	0	32	0	0

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	40	0	72	40
Stage 1	-	-	-	-	40	-
Stage 2	-	-	-	-	32	-
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	-	-	1583	-	942	1037
Stage 1	-	-	-	-	988	-
Stage 2	-	-	-	-	998	-
Platoon blocked, %	-	-		-	1	
Mov Cap-1 Maneuver	-	-	1583	-	942	1037
Mov Cap-2 Maneuver	-	-	-	-	942	-
Stage 1	-	-	-	-	988	-
Stage 2	-	-	-	-	998	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0	0
HCM LOS			A

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	-	-	-	1583	-
HCM Lane V/C Ratio	-	-	-	-	-
HCM Control Delay (s)	0	-	-	0	-
HCM Lane LOS	A	-	-	A	-
HCM 95th %tile Q(veh)	-	-	-	0	-