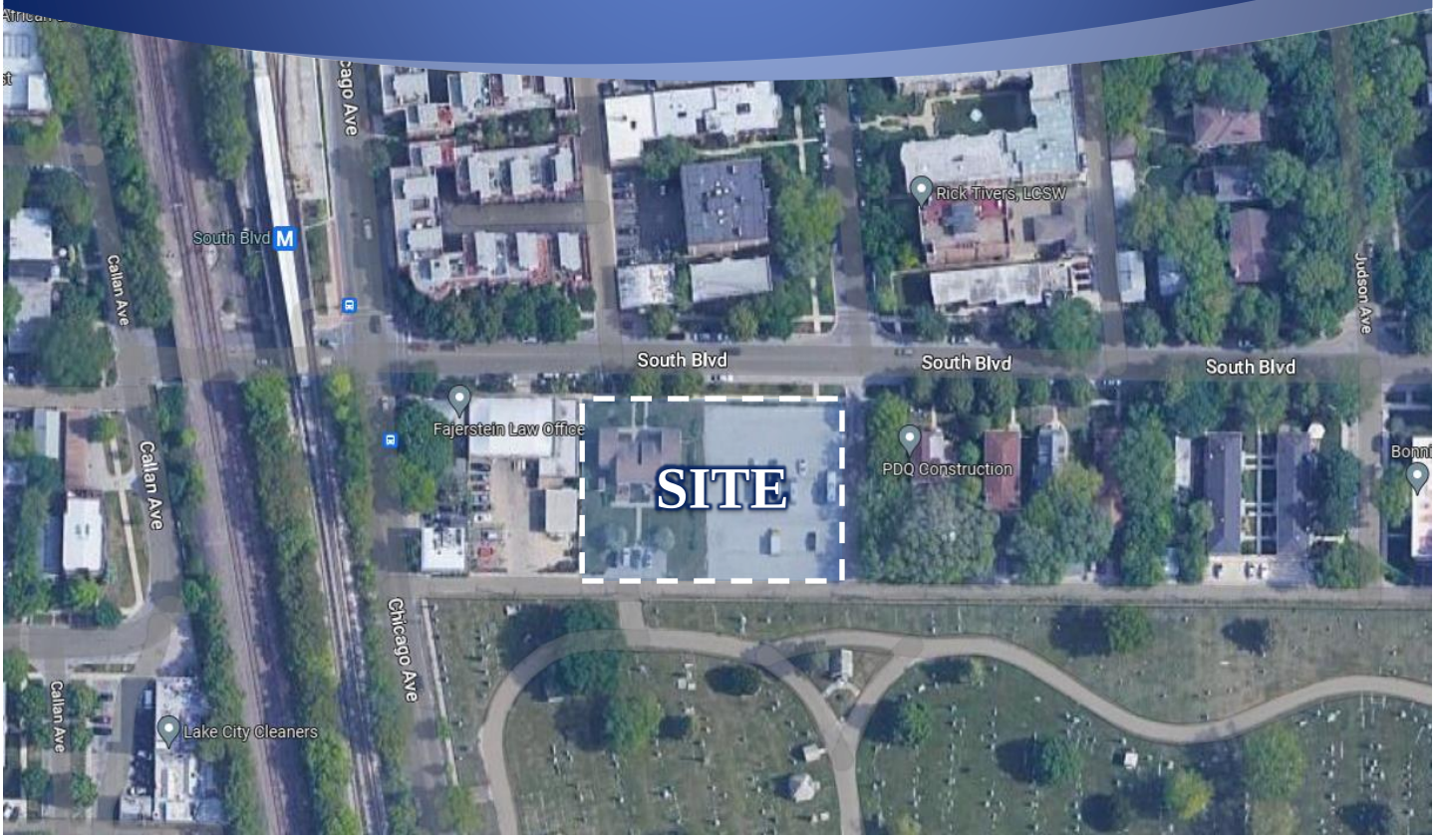
Traffic Impact Study
South Boulevard
Affordable Housing Development

Evanston, Illinois



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August 28, 2023

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Executive Summary

This report summarizes the results of a traffic impact study conducted by Kenig, Lindgren, O'Hara, Aboona, Inc. (KLOA, Inc.) for a proposed affordable housing development located in Evanston, Illinois. The site of the proposed development, which currently contains a surface parking lot and four townhomes, is located at the southwest corner of the intersection of South Boulevard with Hinman Avenue extended. The objective of the traffic study was as follows:

- Determine the existing vehicular, pedestrian, bicycle, and public transportation conditions in the study area to establish a base condition.

- Assess the impact that the proposed development will have on transportation conditions in the area.

- Determine any roadway, access, bicycle, and pedestrian modifications and/or improvements that will be necessary to effectively accommodate and mitigate future conditions.

Accessibility to and from the area is enhanced by public transportation and various alternative modes of transportation serving the area. The Chicago Transit Authority (CTA) Rapid Transit Purple Line has a station within 300 feet of the site and several bus routes have stops in the area. In addition, pedestrian facilities including sidewalks and crosswalks are generally provided on all roadways within the area.

As proposed, the development is to contain 60 affordable apartment units, 65 parking spaces in a surface parking lot, and covered parking for 47 bikes. Access to the development will be provided via a private circulation road that will be aligned opposite Hinman Avenue and extend between South Boulevard and the public alley that runs along the south side of the site. In addition, access to 23 parking spaces will be provided via the public alley. Given its proximity to the public transportation and alternative modes of transportation serving the area, the development qualifies as a transit-oriented development (TOD).

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

- The volume of new traffic to be generated by the development will be reduced due to (1) the public transportation and alternative modes of transportation serving the area and (2) the fact that the development will be replacing an existing parking lot and four townhomes that currently generate traffic.

- Access to the development will be provided via a private circulation road that will be aligned opposite Hinman Avenue and extend between South Boulevard and the public alley that runs along the south side of the site. This circulation road will provide one lane in each direction and sidewalks on both sides of the road. At its intersections with both Hinman Avenue and the east-west public alley, the circulation road will provide single-lane approaches that should be under stop sign control. Further, access to 23 of the parking spaces will be provided via the east-west public alley.

- The proposed access system will provide efficient and orderly access to the development with limited impact on the existing area traffic.

- The results of the capacity analyses shows that the area intersections generally have sufficient reserve capacity to accommodate the traffic to be generated by the development. However, to enhance the operation of the westbound approach of South Boulevard at its intersection with Chicago Avenue, some green time should be reallocated from the Chicago Avenue through phase to the South Boulevard through phase.

- Given the atypical traffic control at the South Boulevard/Callan Avenue intersection, consideration should be given to installing signs below the stop signs on both approaches of Callan Way that the traffic on South Boulevard has the right-of-way and does not stop at this intersection.

- The following summarizes measures to be implemented by the development and/or recommendations to further minimize the impact of the development, foster alternative modes of transportation other than the automobile, and to enhance pedestrian/bicycle safety:

    - The development will provide covered parking for approximately 47 bicycles.

    - Consideration should be given to providing one electric vehicle charging station within the parking lot.

    - Consideration should be given to replacing the standard style crosswalks with high visibility, ladder style crosswalks at the following intersections:

        - On all four legs of the intersection of Chicago Avenue with South Boulevard.

        - On the north leg of the intersection of South Boulevard with Callan Avenue.

    - To reduce the jaywalking at the South Boulevard/Callan Avenue intersection, consideration should be given to installing signs at the intersection indicating the appropriate pedestrian route when traversing this intersection.

- The parking to be provided by the proposed development exceeds the City of Evanston requirements.

1. Introduction

This report summarizes the results of a traffic impact study conducted by Kenig, Lindgren, O'Hara, Aboona, Inc. (KLOA, Inc.) for a proposed affordable housing development to be located in Evanston, Illinois. The site of the proposed development, which currently contains a surface parking lot with approximately 64 parking spaces and four townhomes, is located in the southwest quadrant of the intersection of South Boulevard with Hinman Avenue extended. As proposed, the development is to contain 60 affordable apartment units, 65 parking spaces to be located in a surface parking lot, and covered parking for 47 bikes. Access to the development will be provided via a private circulation road that will be aligned opposite Hinman Avenue and extend between South Boulevard and the public alley that runs along the south side of the site. In addition, access to 23 parking spaces will be provided via the public alley. Given its proximity to the area public transportation and alternative modes of transportation, the development qualifies as a transit-oriented development (TOD).

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:

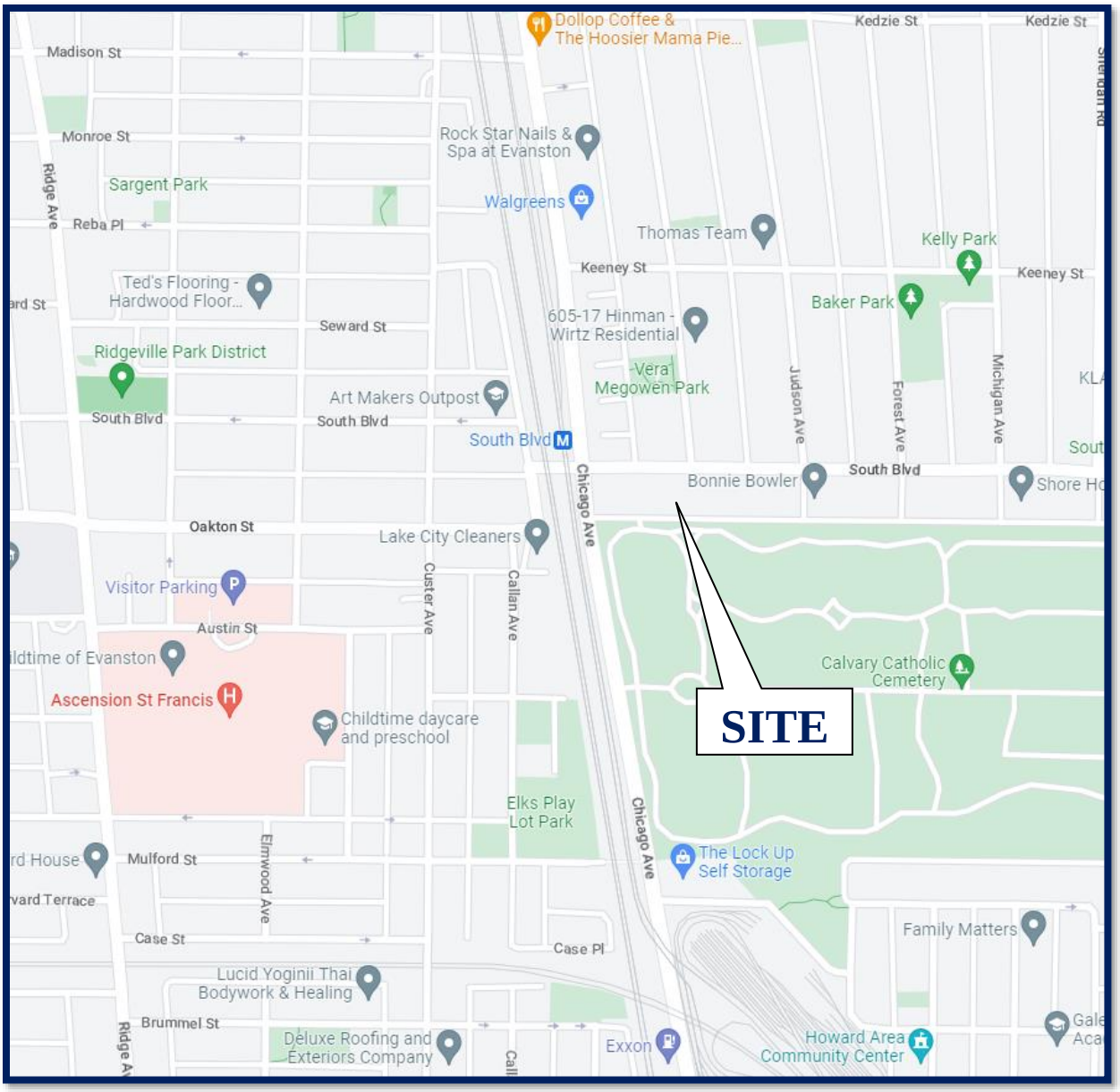
- Existing transportation conditions
- A description of the proposed development
- Directional distribution of the development traffic
- Vehicle trip generation for the development
- Future traffic conditions including access to the development
- Traffic analyses for the weekday morning and evening peak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

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

1. Year 2022 Base Conditions – Analyzes the capacity of the existing roadway system using peak hour traffic volumes in the surrounding area adjusted to reflect normal conditions.

2. Year 2028 No-Build Conditions – Analyzes the capacity of the existing roadway system using the base traffic volumes increased by an ambient growth factor (growth not attributable to any particular development).

3. Year 2028 Total Projected Conditions – Analyzes the capacity of the projected roadway system assuming projected traffic volumes which include the base traffic volumes increased by an ambient growth factor and the traffic estimated to be generated by the proposed subject development.



Site Location **Figure 1**

Aerial View of Site **Figure 2**

2. Existing Conditions

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

Site Location

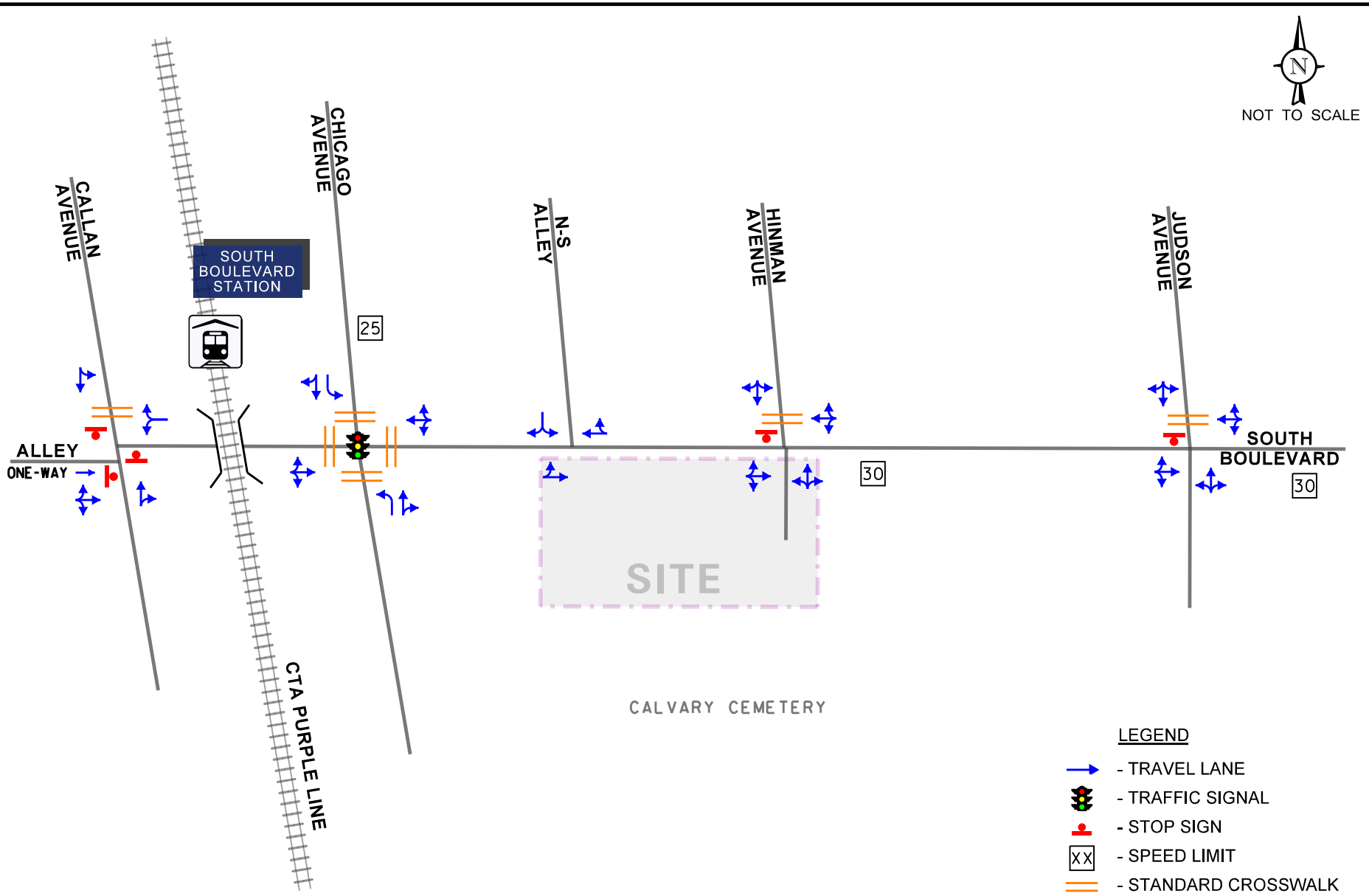
The site is bounded by South Boulevard on the north, an east-west alley located south of South Boulevard on the south, two single-family homes on the east, and an office building on the west. Land uses surrounding the site are primarily residential with the Calvary Cemetery located south of the site. The South Boulevard CTA Purple Line station is located approximately 300 feet west of the site.

Existing Roadway System Characteristics

The characteristics of the existing roadways within the study area are illustrated in **Figure 3** and described below. All roadways are under the jurisdiction of the City of Evanston unless otherwise stated.

South Boulevard is an east-west, minor arterial roadway that provides one lane in each direction. At its signalized intersection with Chicago Avenue, both the South Boulevard approaches are striped with a wide single lane, both approaches operate as a separate left-turn lane and a shared through/right-turn lane. Standard-style crosswalks are provided on the east and west legs of the intersection. At its unsignalized intersection with Callan Avenue, South Boulevard provides a single-lane approach that is under free-flow conditions. At its unsignalized intersections with Hinman Avenue and Judson Avenue, South Boulevard provides combined left-turn/through/right-turn lanes on the eastbound and westbound approaches. At its unsignalized intersection with the north-south alley between Chicago Avenue and Hinman Avenue, South Boulevard provides a combined left-turn/through lane on the eastbound approach and a combined through/right-turn lane on the westbound approach. South Boulevard provides parking on both sides of the road east of Chicago Avenue. South Boulevard carries an Annual Average Daily Traffic (AADT) volume of 8,550 vehicles (IDOT 2018) and has a posted speed limit of 30 miles per hour. East of Chicago Avenue, South Boulevard is under the jurisdiction of IDOT.

Chicago Avenue is a north-south, minor arterial roadway that provides one lane in each direction north of South Boulevard and two southbound lanes and one northbound lane south of South Boulevard. At its signalized intersection with South Boulevard, Chicago Avenue provides a separate left-turn lane and a combined through/right-turn lane on the northbound and southbound approaches. Standard-style crosswalks are provided on both legs of the intersection. Chicago Avenue carries an AADT volume of 14,600 vehicles (IDOT 2018) and has a posted speed limit of 30 miles per hour.



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Existing Roadway Characteristics

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Callan Avenue is a north-south, local roadway that provides one lane in each direction. At its unsignalized intersection with South Boulevard, Callan Avenue provides a combined through/right-turn lane on the northbound approach and a combined left-turn/through lane on the southbound approach that are both under stop sign control. A standard-style crosswalk is provided on the north leg of the intersection.

Hinman Avenue is a north-south, local roadway that provides one lane in each direction. At its unsignalized intersection with South Boulevard, Hinman Avenue is aligned opposite the access drive serving the surface parking lot that currently occupies a portion of the site. A combined left-turn/through/right-turn lane is provided on the northbound and southbound approaches of the intersection and the southbound approach is under stop sign control. A standard-style crosswalk is provided on the north leg of the intersection.

Judson Avenue is a north-south local roadway that provides one lane in each direction. At its unsignalized intersection with South Boulevard, Judson Avenue provides a combined left-turn/through/right-turn lane on the northbound and southbound approaches and the southbound approach is under stop sign-control. A standard-style crosswalk is provided on the north leg of the intersection.

The *north-south alley* is a north-south public alley between Chicago Avenue and Hinman Avenue. It is approximately 20 feet wide and allows for travel in both directions. At its unsignalized intersection with South Boulevard, the alley allows for southbound left-turn and right-turn movements.

Alternative Modes of Transportation

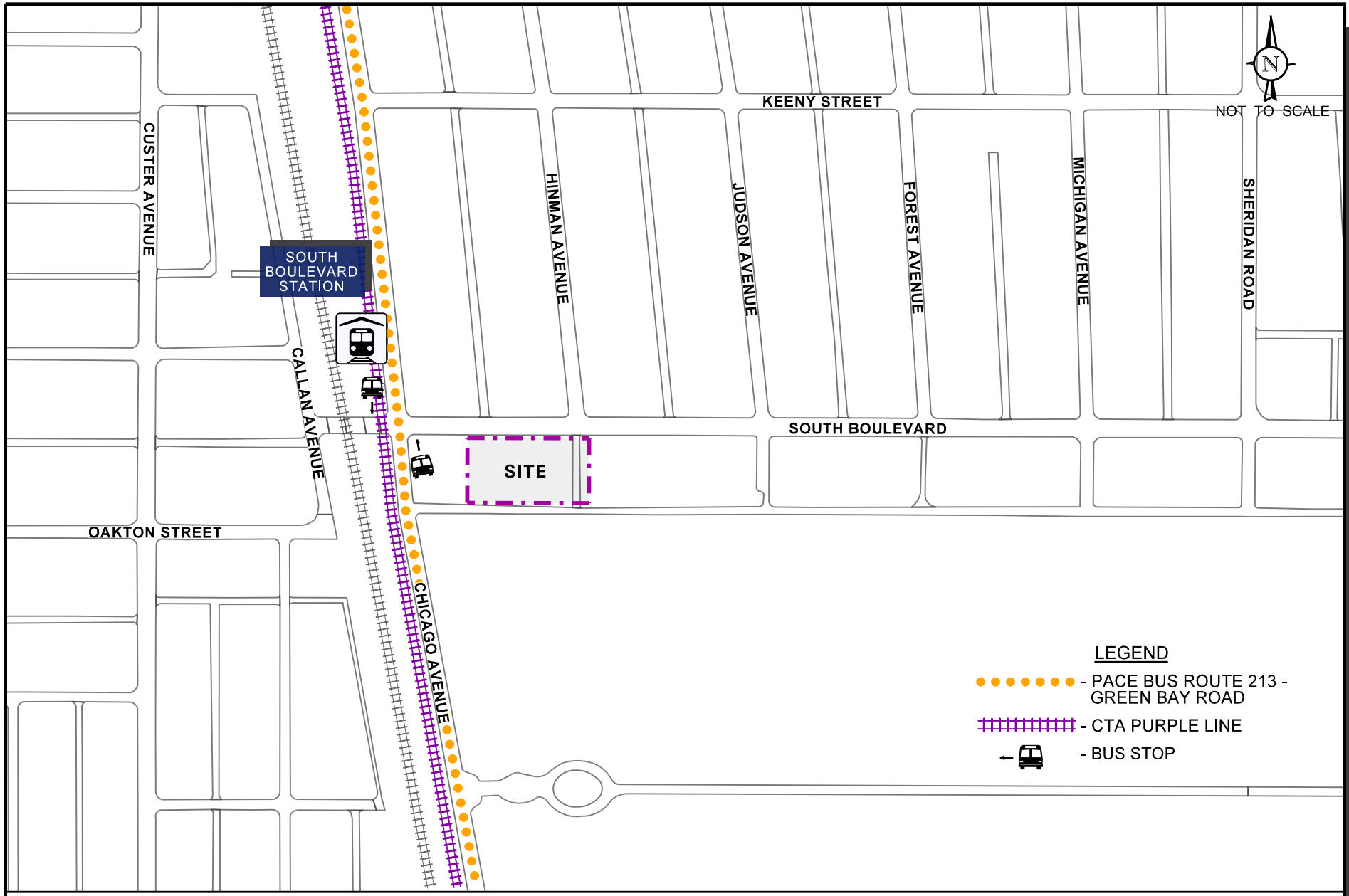
Accessibility to and from the site is enhanced by the alternative modes of transportation serving the area as summarized below and illustrated in **Figure 4**.

Public Transportation. The area is served by several modes of public transportation including CTA rapid transit service and Pace bus service as summarized below:

- The *CTA Purple Line* has a local stop at the South Boulevard station in the northwest corner of the intersection of South Boulevard with Chicago Avenue. This line provides daily service between the Linden station in Wilmette and the Howard station on the border of Chicago and Evanston. In addition, weekday peak period express service is provided between the Howard station and downtown Chicago Loop.

- *Pace Route 213 (Green Bay Road)* provides service between the Howard CTA station and the Highland Park Metra UP-North station. Service is provided on weekdays and Saturdays from early morning to mid-evening.

In addition, CTA Bus Routes 201 and 206 have local stops at the intersection of Ridge Road with South Boulevard, which is located approximately 0.5 miles from the site.



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Public Transportation

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Divvy Bike Share System. Two Divvy bike share stations are located within one-half mile of the site. The station located at the Main Street Purple Line station contains 15 bike docks and the station located at Saint Francis Hospital contains 15 bike docks.

Non-Motorized Transportation Systems. Most of the roadways within the immediate area have sidewalks on both sides of the roadway. The west side of Chicago Avenue between Chicago Avenue and Callan Avenue does not have sidewalks due to the CTA elevated rail line retaining wall. Standard style crosswalks are provided on all approaches and countdown pedestrian traffic signals are provided at the Chicago Avenue/South Boulevard intersection. According to the City of Evanston's Area Bike Map, South Boulevard, Chicago Avenue, and Hinman Avenue are designated bike routes. The South Boulevard CTA Purple Line station provides bike parking adjacent to the entrance.

Car-Sharing Transportation Availability. Multiple car-sharing services like ZipCar, Turo, and Getaround serve the area.

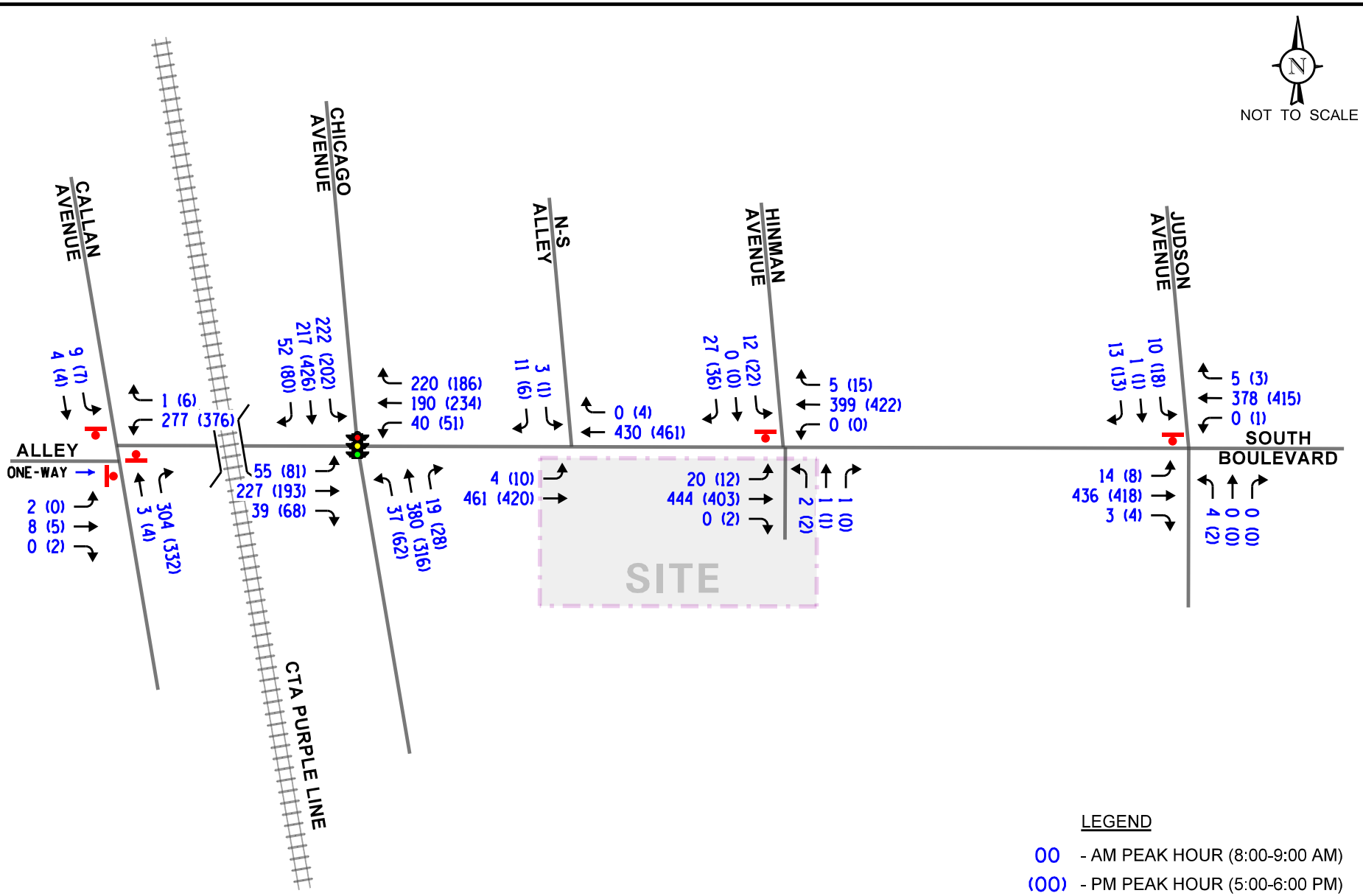
Existing Traffic Volumes

In order to determine current vehicle, pedestrian, and bicycle conditions within the study area, KLOA, Inc. performed peak period transportation counts at the following intersections:

- South Boulevard with Chicago Avenue
- South Boulevard with Callan Avenue
- South Boulevard with Hinman Avenue
- South Boulevard with Judson Avenue
- South Boulevard with the north-south Alley between Chicago Avenue and Hinman Avenue

All of the traffic counts were conducted during the weekday morning (7:00 A.M. to 9:00 A.M.) and evening (4:00 P.M. to 6:00 P.M.) peak periods on Tuesday, June 14, 2022. The results of the traffic counts showed that the weekday morning peak hour of traffic occurs from 8:00 A.M. to 9:00 A.M. and the weekday evening peak hour of traffic occurs from 5:00 P.M. to 6:00 P.M.

To ensure that traffic volumes in the area reflect normal traffic conditions, KLOA, Inc. compared the volumes to the two-way traffic along South Boulevard and Chicago Avenue provided on the IDOT Traffic Count Database System. Based on the comparison and to provide a conservative (worst-case) analysis, traffic volumes along South Boulevard and Chicago Avenue were increased by 10 percent to represent Year 2022 base traffic volumes. **Figure 5** illustrates the Year 2022 base peak hour traffic volumes and **Figure 6** illustrates the existing pedestrian and bicycle peak hour volumes.



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Year 2022 Base Traffic Volumes

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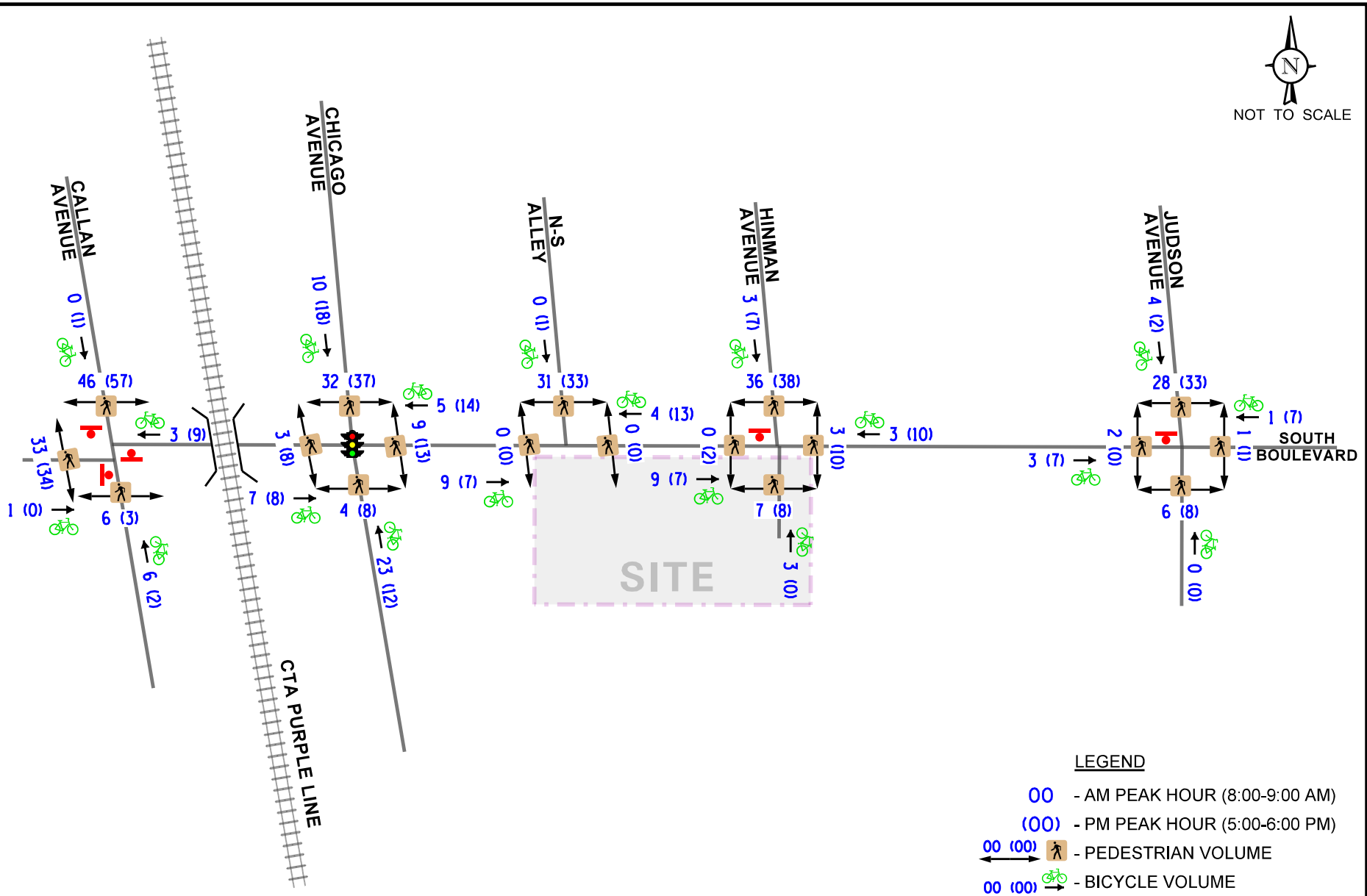

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Existing Pedestrian and Bicycle
Traffic Volumes

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Crash Analysis

KLOA, Inc. obtained crash data[1] from IDOT for the most recent available five years (2017 to 2021) for the intersections of South Boulevard with Chicago Avenue, Callan Avenue, Hinman Avenue, and Judson Avenue. The crash data is summarized in **Tables 1** through **4**. It should be noted that no fatalities were reported at these intersections during the time period surveyed.

Table 1
SOUTH BOULEVARD WITH CHICAGO AVENUE – CRASH SUMMARY

Year	Type of Crash Frequency							
	Angle	Head On	Object	Rear End	Sideswipe	Turning	Other	Total
2017	2	0	2	1	0	1	0	6
2018	0	0	0	2	0	5	2	9
2019	1	0	0	0	0	0	1	2
2020	1	0	0	1	0	0	1	3
2021	2	0	0	0	0	2	0	4
Total	**6**	**0**	**2**	**4**	**0**	**8**	**4**	**24**
Average	**1.2**	**0.0**	**<1.0**	**<1.0**	**0.0**	**1.6**	**<1.0**	**4.8**

Table 2
SOUTH BOULEVARD WITH CALLAN AVENUE – CRASH SUMMARY

Year	Type of Crash Frequency							
	Angle	Head On	Object	Rear End	Sideswipe	Turning	Other	Total
2017	2	0	2	1	0	1	1	7
2018	0	0	0	2	0	5	2	9
2019	1	0	1	0	0	0	1	3
2020	1	0	0	1	0	0	1	3
2021	2	0	0	0	1	2	0	5
Total	**6**	**0**	**3**	**4**	**1**	**8**	**5**	**27**
Average	**1.2**	**0.0**	**<1.0**	**<1.0**	**<1.0**	**1.6**	**1.0**	**5.4**

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

Table 3
SOUTH BOULEVARD WITH HINMAN AVENUE – CRASH SUMMARY

Year	Type of Crash Frequency							
	Angle	Head On	Object	Rear End	Sideswipe	Turning	Other	Total
2017	0	0	0	0	0	0	0	0
2018	0	0	0	0	0	0	0	0
2019	0	0	0	0	0	0	1	1
2020	0	0	0	0	0	0	0	0
2021	0	0	0	0	0	0	0	0
Total	**0**	**0**	**0**	**0**	**0**	**0**	**1**	**1**
Average	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**<1.0**	**<1.0**

Table 4
SOUTH BOULEVARD WITH JUDSON AVENUE – CRASH SUMMARY

Year	Type of Crash Frequency							
	Angle	Head On	Object	Rear End	Sideswipe	Turning	Other	Total
2017	0	0	0	0	0	0	0	0
2018	0	0	0	0	0	0	0	0
2019	0	0	0	0	0	1	0	1
2020	0	0	0	0	0	0	0	0
2021	0	0	0	0	0	0	0	0
Total	**0**	**0**	**0**	**0**	**0**	**1**	**0**	**1**
Average	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**<1.0**	**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 Plan

As proposed, the site will be redeveloped with 60 affordable housing residential units consisting of 30 one-bedroom units, 12 two-bedroom units, and 18 three-bedroom units. Parking for the development will be provided via a 65-space surface lot located on the south side of the site. Eighteen of the parking spaces will be covered by a building overhang with six of the spaces reserved as accessible parking spaces. In addition, bike racks for 47 bikes will be provided adjacent to the covered parking under the building overhang.

Access to the development will be provided via a private circulation road that will be aligned opposite Hinman Avenue and extend between South Boulevard and the public alley that runs along the south side of the site. This circulation road will provide one lane in each direction and sidewalks on both sides of the road. At its intersections with both Hinman Avenue and the east-west public alley, the circulation road will provide single-lane approaches that should be under stop sign control. In addition to providing access to the development, the circulation road will also provide driveway access to the two private residential properties located adjacent to the east side of the site. Further access to 23 of the parking spaces will be provided via the east-west public alley.

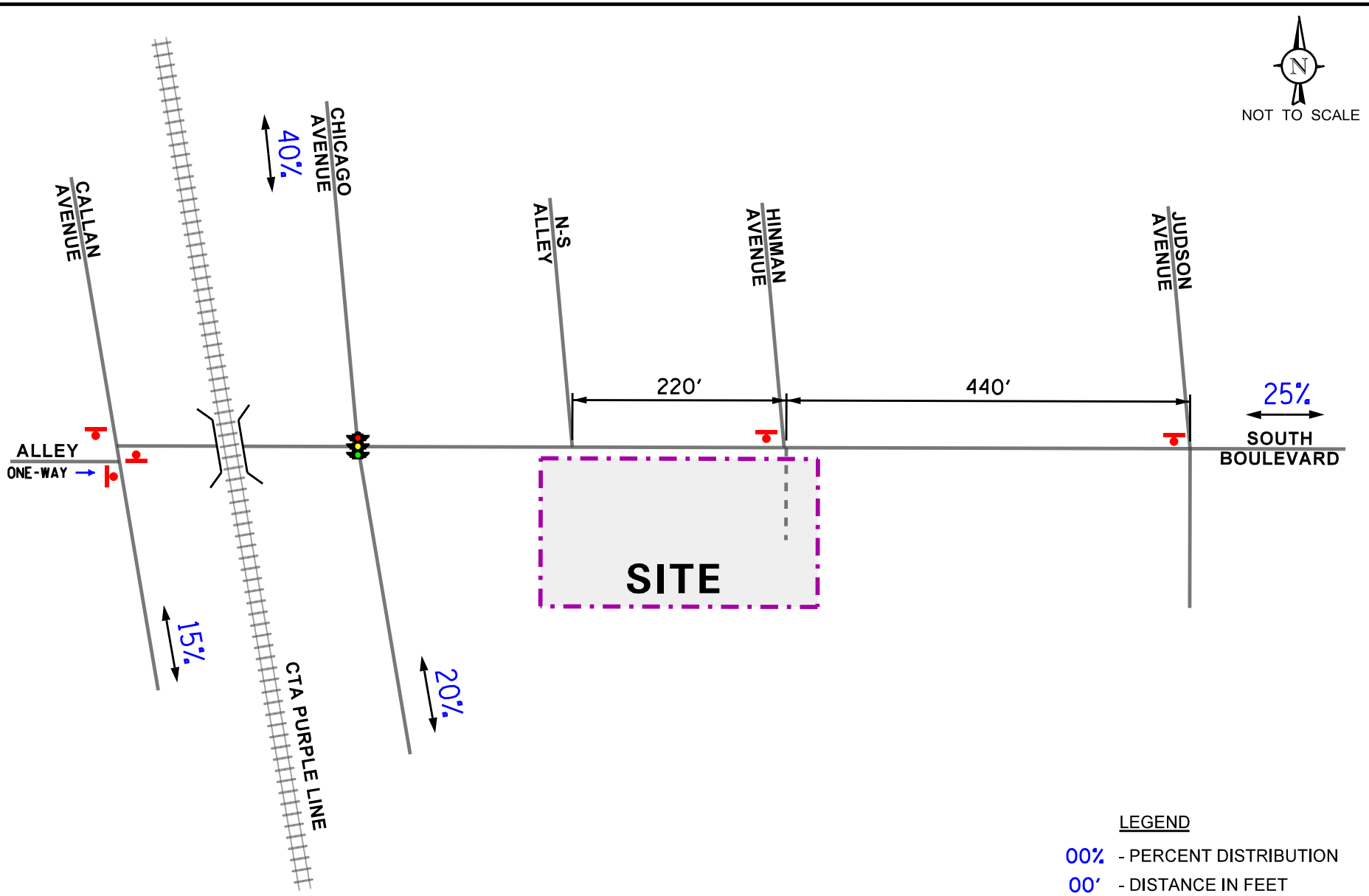
Directional Distribution

The directions from which site-generated traffic will approach and depart the development were estimated based on existing travel patterns, as determined from the traffic counts. **Figure 7** illustrates the directional distribution of the development-generated traffic.

Development Traffic Generation

The number of peak hour vehicle trips estimated to be generated by the proposed development was based on vehicle trip generation rates contained in the *Trip Generation Manual*, 11th Edition, published by the Institute of Transportation Engineers (ITE). Land-Use Code 223 (Affordable Housing) was utilized. **Table 5** summarizes the estimated total trips anticipated with the development during the weekday morning and weekday evening peak hours split by mode of transportation based on U.S. Census data for the census tract the site is located within. Copies of the ITE trip generation sheets and the census data used is included in the Appendix.

It should be noted that the development contains a surface parking lot with a total of approximately 64 parking spaces and four townhomes. As such, the traffic to be generated by the development will not be all new traffic to the area roadway system, as it will be replacing the traffic generated by the townhomes and the traffic traveling to and from the parking lot. However, to provide a conservative analysis, no reductions were assumed in the new traffic to be generated by the development.



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Directional Distribution

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Job No: 22-184 Figure: 7

Table 5
ESTIMATED SITE-GENERATED TRAFFIC VOLUMES

Mode of Transportation	Weekday Morning Peak Hour			Weekday Evening Peak Hour		
	In	Out	Total	In	Out	Total
Affordable Housing (60 Units) LUC – 223						
Vehicles (65%)	**7**	**16**	**23**	**14**	**10**	**24**
Public Transportation (28%)	3	8	11	6	4	10
Walk (3%)	0	0	0	1	0	1
Bike (4%)	0	0	0	0	1	1
Other: Ride-share, taxi, etc. (0%)	0	0	0	0	0	0
Total	**10**	**24**	**34**	**21**	**15**	**16**

4. Projected Traffic Conditions

The total projected traffic volumes include the base traffic volumes, increase in background traffic due to ambient growth, and the traffic estimated to be generated by the proposed subject development.

Development Traffic Assignment

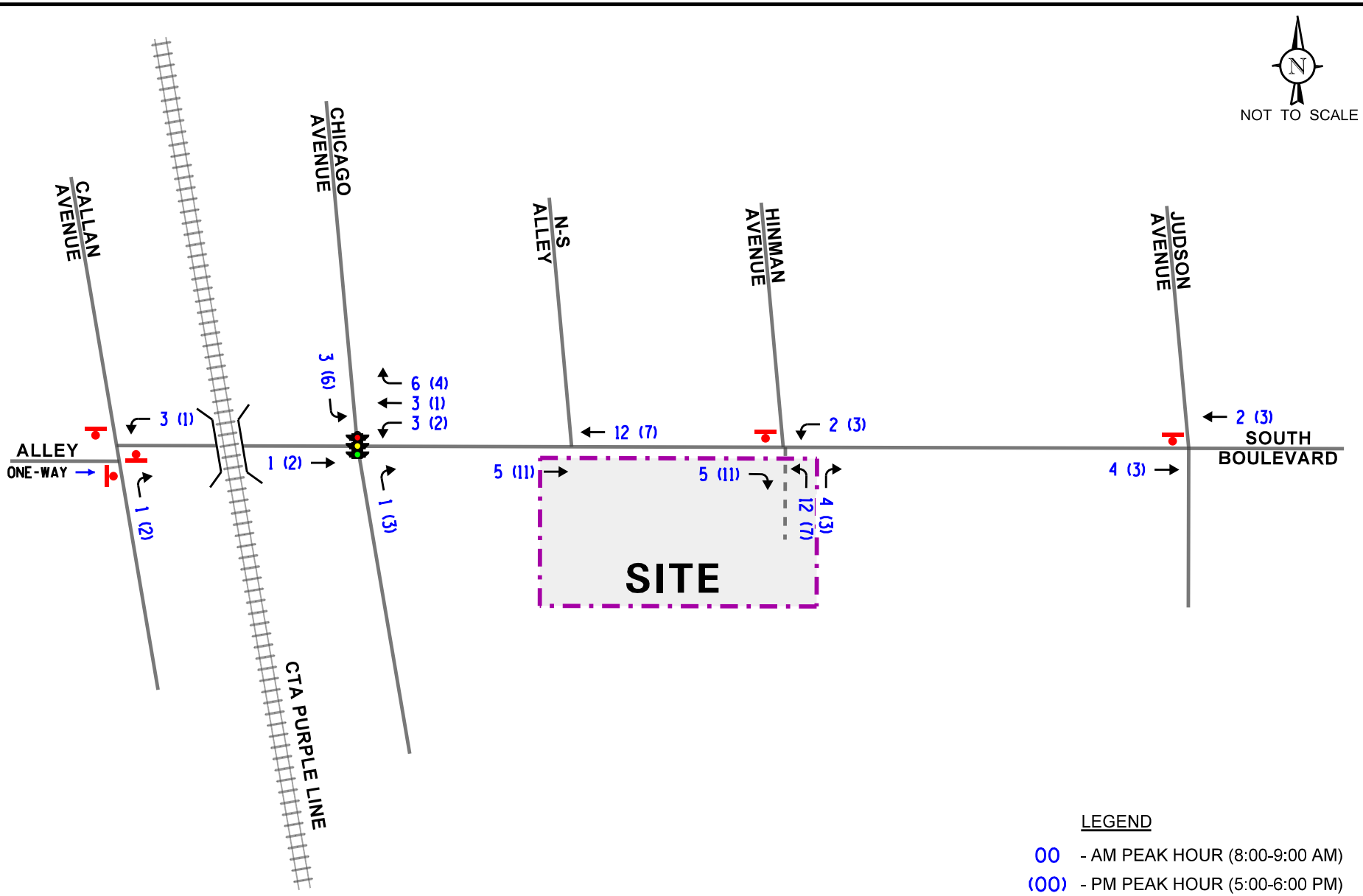
The estimated weekday morning and evening peak hour traffic volumes that will be generated by the proposed development were assigned to the roadway system in accordance with the previously described directional distribution (Figure 7) and are illustrated in **Figure 8.**

Background (No-Build) Traffic Conditions

The Year 2022 base traffic volumes (Figure 5) 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 employment and population projections provided by the Chicago Metropolitan Agency for Planning (CMAP) in a letter dated March 1, 2023, the base traffic volumes in the study area were increased by a compounded growth rate of 0.20 percent per year for six years for a total of approximately one percent. The Year 2028 no-build traffic volumes are illustrated in **Figure 9**.

Total Projected Traffic Volumes

The development-generated traffic (Figure 8) was added to the Year 2022 base traffic volumes accounting for background growth (Figure 9) to determine the Year 2028 total projected traffic volumes, shown in **Figure 10**.



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Site-Generated Traffic Volumes

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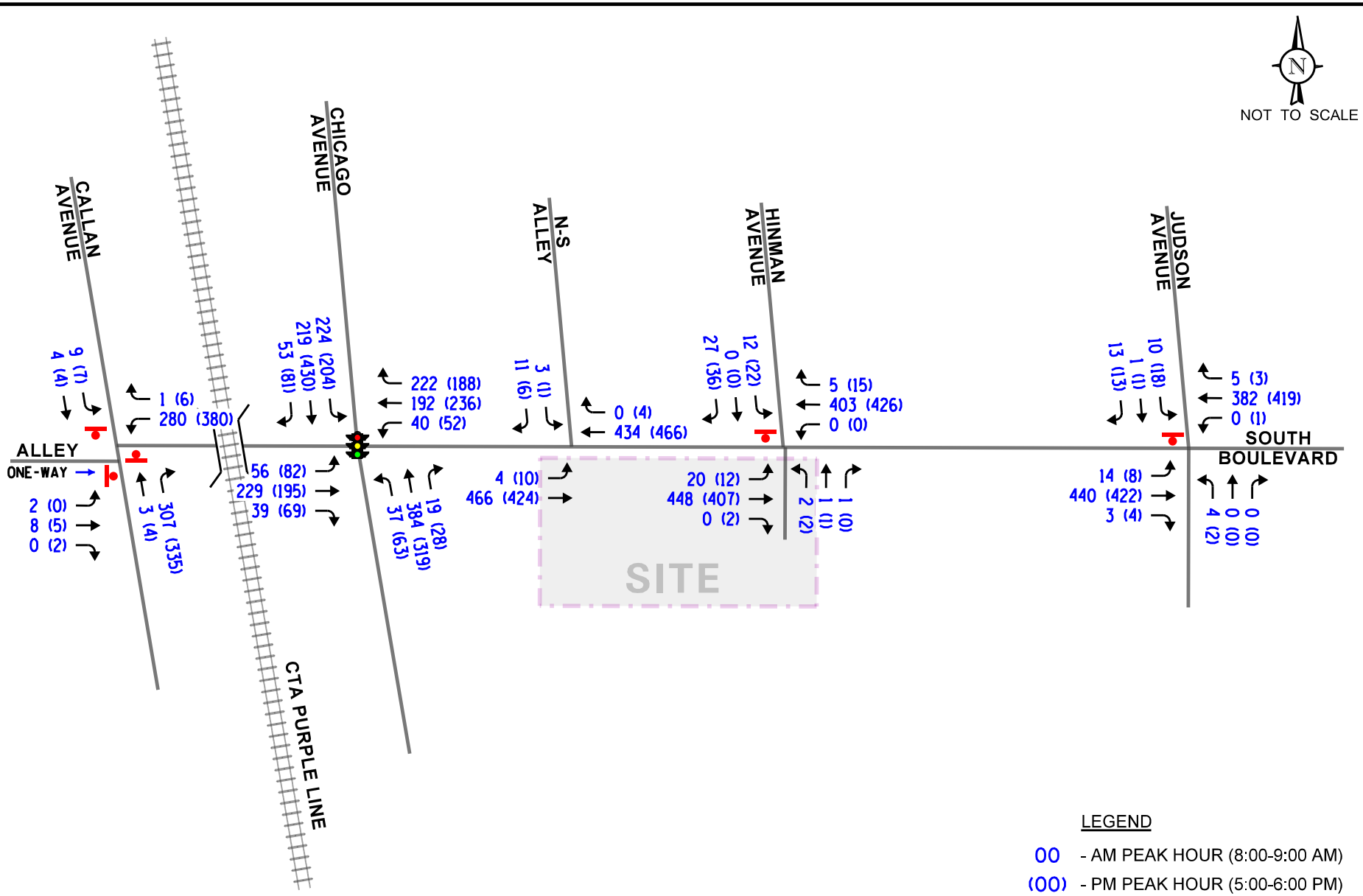

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Year 2028 No-Build Traffic Volumes

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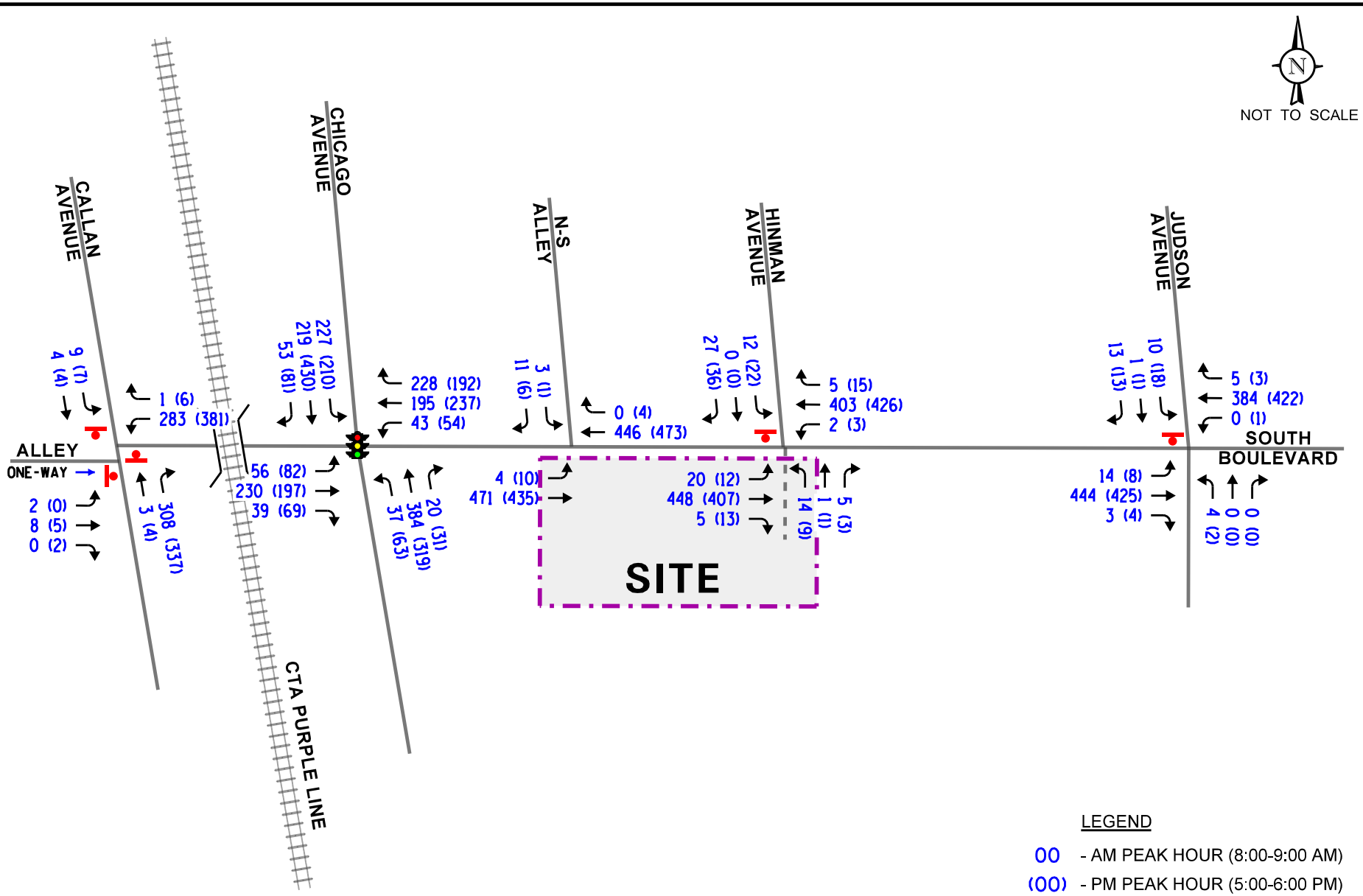

South Boulevard Affordable Housing Development
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Year 2028 Total Traffic Volumes

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Job No: 22-184 Figure: 10

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

Roadway and adjacent or nearby intersection analyses were performed for the weekday morning and weekday evening peak hours for the Year 2022 base, Year 2028 no-build, and Year 2028 total 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 computer software. The analyses for signalized intersections were done using field measured 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 Year 2022 base, Year 2028 no-build, and Year 2028 total projected conditions for the study area intersections are presented in **Tables 6** through **9**. A discussion of the intersections follows. Summary sheets for the capacity analyses are included in the Appendix.

Table 6
SOUTH BOULEVARD WITH CHICAGO AVENUE – SIGNALIZED

	Peak Hour	Eastbound		Westbound		Northbound		Southbound		Overall
		L	T/R	L/T	R	L	T/R	L	T/R	
Year 2022 Base Conditions	Weekday Morning	D 39.0	D 43.3	D 51.8	E 67.1	B 15.8	C 20.4	A 9.8	A 9.0	C 31.6
		D – 42.6		E – 59.3		C – 20.0		A – 9.4		
	Weekday Evening	D 53.5	D 43.1	F 93.7	E 71.9	B 16.8	B 18.9	A 9.2	B 12.2	D 37.0
		D – 45.6		F – 85.1		B – 18.6		B – 11.4		
Year 2028 No-Build Conditions	Weekday Morning	D 39.2	D 43.5	D 52.5	E 66.8	B 15.8	C 20.5	A 9.8	A 9.1	C 31.7
		D – 42.7		E – 59.5		C – 20.1		A – 9.4		
	Weekday Evening	E 55.1	D 43.4	F 99+	E 71.5	B 16.9	B 19.0	A 9.3	B 12.3	D 38.6
		D – 46.2		F – 91.1		B – 18.7		B – 11.4		
Year 2028 Projected Conditions	Weekday Morning	D 39.5	D 43.6	E 55.7	E 65.9	B 15.9	C 20.6	A 9.9	A 9.1	C 32.3
		D – 42.9		E – 60.7		C – 20.2		A – 9.5		
	Weekday Evening	E 55.9	D 43.6	F 99+	E 70.6	B 17.0	B 19.3	A 9.4	B 12.3	D 40.2
		D – 46.5		F – 96.6		B – 18.9		B – 11.4		

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

Table 7
CAPACITY ANALYSIS RESULTS – BASE CONDITIONS – UNSIGNALIZED

Intersection	Weekday Morning Peak Hour		Weekday Evening Peak Hour	
	LOS	Delay	LOS	Delay
South Boulevard with Callan Avenue				
• Intersection Capacity Utilization	A	47.7%	A	54.9%
South Boulevard with Hinman Avenue[2]				
• Northbound Approach	C	18.6	C	20.7
• Southbound Approach	C	15.7	C	17.8
• Eastbound Left Turn	A	8.4	A	8.6
• Westbound Left Turn	A	0.0	A	0.0
South Boulevard with Judson Avenue[2]				
• Northbound Approach	C	20.5	C	20.6
• Southbound Approach	C	16.3	C	18.5
• Eastbound Left Turn	A	8.6	A	8.5
• Westbound Left Turn	A	0.0	A	8.3
South Boulevard with North-South Alley[2]				
• Southbound Approach	B	14.2	B	13.3
• Eastbound Left Turn	A	8.4	A	8.7

LOS = Level of Service
Delay is measured in seconds.

1 – All-way stop control
2 – Two-way stop control

Table 8
CAPACITY ANALYSIS RESULTS – NO-BUILD CONDITIONS – UNSIGNALIZED

Intersection	Weekday Morning Peak Hour		Weekday Evening Peak Hour	
	LOS	Delay	LOS	Delay
South Boulevard with Callan Avenue				
• Intersection Capacity Utilization	A	48.0%	A	55.3%
South Boulevard with Hinman Avenue[2]				
• Northbound Approach	C	18.9	C	21.0
• Southbound Approach	C	15.8	C	18.0
• Eastbound Left Turn	A	8.4	A	8.6
• Westbound Left Turn	A	0.0	A	0.0
South Boulevard with Judson Avenue[2]				
• Northbound Approach	C	20.7	C	20.8
• Southbound Approach	C	16.4	C	18.7
• Eastbound Left Turn	A	8.6	A	8.5
• Westbound Left Turn	A	0.0	A	8.3
South Boulevard with North-South Alley[2]				
• Southbound Approach	B	14.2	B	13.4
• Eastbound Left Turn	A	8.4	A	8.7

LOS = Level of Service
Delay is measured in seconds.

1 – All-way stop control
2 – Two-way stop control

Table 9
CAPACITY ANALYSIS RESULTS – PROJECTED CONDITIONS – UNSIGNALIZED

Intersection	Weekday Morning Peak Hour		Weekday Evening Peak Hour	
	LOS	Delay	LOS	Delay
South Boulevard with Callan Avenue				
• Intersection Capacity Utilization	A	48.2%	A	55.5%
South Boulevard with Hinman Avenue[2]				
• Northbound Approach	C	20.2	C	21.2
• Southbound Approach	C	15.9	C	18.3
• Eastbound Left Turn	A	8.4	A	8.6
• Westbound Left Turn	A	8.3	A	8.3
South Boulevard with Judson Avenue[2]				
• Northbound Approach	C	21.0	C	21.0
• Southbound Approach	C	16.5	C	18.9
• Eastbound Left Turn	A	8.6	A	8.5
• Westbound Left Turn	A	0.0	A	8.3
South Boulevard with North-South Alley[2]				
• Southbound Approach	B	14.4	B	13.4
• Eastbound Left Turn	A	8.5	A	8.7

LOS = Level of Service
Delay is measured in seconds.

1 – All-way stop control
2 – Two-way stop control

Discussion and Recommendations

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

South Boulevard with Chicago Avenue

The results of the capacity analysis indicate that this intersection currently operates at an overall Level of Service (LOS) C during the weekday morning peak hour and LOS D during the weekday evening peak hour. All of the approaches and movements currently operate at LOS D or better during both peak hours with the exception of the westbound approach. During the weekday evening peak hour, the westbound approach currently operates at LOS E during the weekday morning peak hour and LOS F during the weekday evening peak hour. The poor level of service is due in part to the higher traffic volumes along this approach, particularly the right-turn movements, and the reduced green time provided to the South Boulevard approaches. It should be noted that the Chicago Avenue approaches currently operate at LOS B or better.

Under Year 2028 no-build and total conditions, the overall intersection is projected to continue to operate at LOS C during the morning peak hour and LOS D during the evening peak hour. Further, all of the approaches and movements are projected to operate at LOS D or better during both peak hours with the exception of the westbound approach, which is projected to continue to operate at LOS E or F during the peak hours. The Chicago Avenue movements are projected to operate on the threshold between LOS B/C or better during both peak hours. It should be noted that the operation of the westbound approach can be improved with a reallocation of green time at this intersection. The westbound approach is projected to operate at LOS E with a delay of approximately 60 seconds with a reallocation of three to four seconds of green time from the Chicago Avenue through phase to the South Boulevard through phase. Further, the proposed development is projected to have a limited impact on the operation of this intersection as the development-generated traffic will account for approximately one percent of the Year 2028 total peak hour volumes.

South Boulevard with Callan Avenue

Given that the stop control at this intersection is atypical with three stop sign-controlled approaches and one free-flow approach, the intersection was evaluated using the Intersection Capacity Utilization (ICU) method. The results of the capacity analysis indicate that this intersection currently operates at an overall LOS A during the weekday morning and weekday evening peak hours with ICU percentages of approximately 50 percent. Under Year 2028 no-build and total conditions, the intersection is projected to continue operating at LOS A with ICU percentages of approximately 50 percent during both peak hours. As such, this intersection has sufficient reserve capacity to accommodate the traffic estimated to be generated by the proposed development. However, given the atypical traffic control at this intersection, consideration should be given to installing signs below the stop signs on both approaches of Callan Way that the traffic on South Boulevard has the right-of-way and does not stop at this intersection.

South Boulevard with Hinman Avenue and Access Road

Access to the development will be provided via a private circulation road that will be aligned opposite Hinman Avenue and extend between South Boulevard and the public alley that runs along the south side of the site. This circulation road will provide one lane in each direction and sidewalks on both sides of the road. At its intersections with both Hinman Avenue and the east-west public alley, the circulation road will provide single-lane approaches that should be under stop sign control.

The results of the capacity analysis indicate that the northbound and southbound approaches currently operate at LOS C during the weekday morning and weekday evening peak hours. The eastbound and westbound left-turn movements currently operate at LOS A during both peak hours. Under Year 2028 no-build and total conditions, the approaches and critical movements are projected to continue operating at their current levels of service. As such, this intersection has sufficient reserve capacity to accommodate the traffic estimated to be generated by the proposed development and no roadway improvements or traffic control modifications will be required.

South Boulevard with Judson Avenue

The results of the capacity analysis indicate that the northbound and southbound approaches currently operate at LOS C 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 2028 no-build and total projected conditions, the approaches and critical movements are projected to continue operating at their current levels of service. As such, this intersection has sufficient reserve capacity to accommodate the traffic estimated to be generated by the proposed development and no roadway improvements or traffic control modifications will be required.

South Boulevard with North-South Alley

The results of the capacity analysis indicate that the southbound approach currently operates at LOS B during the weekday morning and weekday evening peak hours. The eastbound left turn currently operates at LOS A during the peak hours. Under Year 2028 no-build and total projected condition, the approach and critical movements are projected to continue operating at their current levels of service. As such, this intersection is projected to adequately accommodate traffic estimated to be generated by the proposed development and no roadway or traffic control improvements will be required.

Transportation Sustainability Conclusions and Recommendations

The following summarizes measures to be implemented by the development and/or recommendations to further minimize the impact of the development, foster alternative modes of transportation other than the automobile, and to enhance pedestrian/bicycle safety:

- The development will provide covered parking for approximately 47 bicycles.
- Consideration should be given to providing one electric vehicle charging station within the parking lot.
- Consideration should be given to replacing the standard style crosswalks with high visibility, ladder style crosswalks at the following intersections:
    - On all four legs of the intersection of Chicago Avenue with South Boulevard.
    - On the north leg of the intersection of South Boulevard with Callan Avenue.
- Due to the elevated train tracks, sidewalks are not provided on the east side of Callan Avenue or the south side of South Boulevard between Chicago Avenue and Callan Avenue. As such, a crosswalk is only provided on the north leg of Callan Avenue at its intersection with South Boulevard. To reduce the jaywalking at this intersection, consideration should be given to installing signs at the intersection indicating the appropriate pedestrian route when traversing this intersection.

6. Parking Evaluation

As the proposed the development will be replacing the existing surface lot and four-unit townhome development with a 60-unit affordable apartment development with a surface parking lot providing 65 parking spaces.

Projected Parking Demand

In order to determine the projected parking demand for the proposed 60 affordable housing units, the parking demand was estimated based on the following methodologies:

- City of Evanston Code of Ordinances
- Institute of Transportation Engineers (ITE): *Parking Generation Manual,* 5th Edition

Based on the above methodologies, the parking demand for the proposed development is as follows:

City of Evanston Code of Ordinances

- Multifamily Housing (60 Units)
  - 1 Bedroom Units – 0.55 Spaces per Unit
  - 2 Bedroom Units – 1.10 Spaces per Unit
  - 3 Bedroom Units – 1.65 Spaces per Unit

Based on the above requirements, the 30 one-bedroom units, 12 two-bedroom units, and 18 three-bedroom units will require approximately 59 parking spaces. With a total of 65 parking spaces, the parking to be provided by the development exceeds the City of Evanston's parking requirements.

ITE *Parking Generation Manual*, 5th Edition

- Affordable Housing – Income Limits – Land Use Code 223:
  - 46 parking spaces (ratio of 0.77 spaces per dwelling unit)

Based on the above, the 65 parking spaces to be provided by the development is sufficient to meet its peak parking demand.

7. Conclusion

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

- The volume of new traffic to be generated by the development will be reduced due to (1) the public transportation and alternative modes of transportation serving the area and (2) that the development will be replacing an existing parking lot and four townhomes that currently generate traffic.

- Access to the development will be provided via a private circulation road that will be aligned opposite Hinman Avenue and extend between South Boulevard and the public alley that runs along the south side of the site. This circulation road roadway will provide one lane in each direction and sidewalks on both sides of the road. At its intersections with both Hinman Avenue and the east-west public alley, the circulation road will provide single lane approaches that should be under stop sign control. Further, access to 23 of the parking spaces will be provided via the east-west public alley.

- The proposed access system will provide efficient and orderly access to the development with limited impact on the existing area traffic.

- The results of the capacity analyses shows that the area intersections generally have sufficient reserve capacity to accommodate the traffic to be generated by the development. However, to enhance the operation of the westbound approach of South Boulevard at its intersection with Chicago Avenue, some green time should be reallocated from Chicago Avenue through phase to the South Boulevard through phase.

- Additionally, given the atypical traffic control at the South Boulevard/Callan Avenue intersection, consideration should be given to installing signs below the stop signs on both approaches of Callan Way that the traffic on South Boulevard has the right-of-way does not stop at this intersection.

- The following summarizes measures to be implemented by the development and/or recommendations to further minimize the impact of the development, foster alternative modes of transportation other than the automobile, and to enhance pedestrian/bicycle safety:

    - The development will provide covered parking for approximately 47 bicycles.

    - Consideration should be given to providing one electric vehicle charging station within the parking lot.

    - Consideration should be given to replacing the standard style crosswalks with high, visibility, ladder style crosswalks at the following intersections:

        - On all four legs of the intersection of Chicago Avenue with South Boulevard.
        - On the north leg of the intersection of South Boulevard with Callan Avenue.
    - To reduce the jaywalking at the South Boulevard/Callan Avenue intersection, consideration should be given to installing signs at the intersection indicating the appropriate pedestrian route when traversing this intersection.

- The parking to be provided by the proposed development exceeds the City of Evanston requirements.

Appendix

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

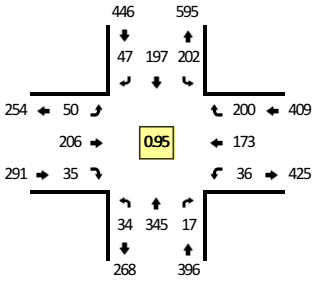
Traffic Count Summary Sheets

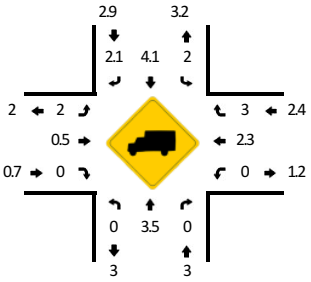
Type of peak hour being reported: System-wide Peak | Method for determining peak hour: Total Entering Volume

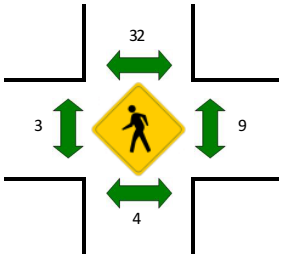
LOCATION: Chicago Ave -- South Blvd
CITY/STATE: Evanston, IL

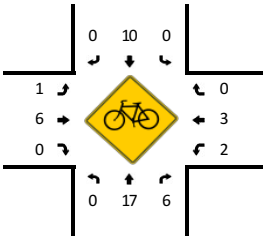
QC JOB #: 15854901
DATE: Tue, Jun 14 2022

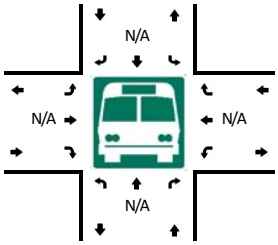
Peak-Hour: 8:00 AM -- 9:00 AM
Peak 15-Min: 8:15 AM -- 8:30 AM

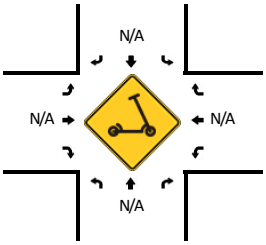












15-Min Count Period Beginning At	Chicago Ave (Northbound)				Chicago Ave (Southbound)				South Blvd (Eastbound)				South Blvd (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
7:00 AM	5	60	3	0	55	38	9	0	7	29	1	0	7	31	32	0	277	
7:15 AM	3	63	3	0	46	36	5	0	2	41	11	0	7	31	26	0	274	
7:30 AM	6	69	2	0	53	28	7	0	7	50	6	0	3	39	44	0	314	
7:45 AM	5	80	2	0	46	44	3	0	4	68	9	0	1	43	48	0	353	1218
8:00 AM	9	70	3	0	65	43	6	0	7	56	7	0	9	43	43	0	361	1302
8:15 AM	9	91	7	0	44	48	14	0	16	64	8	0	7	45	52	0	405	1433
8:30 AM	7	101	4	0	32	50	10	0	9	46	13	0	11	38	51	0	372	1491
8:45 AM	9	83	3	0	61	56	17	0	18	40	7	0	9	47	54	0	404	1542

Peak 15-Min Flowrates	Northbound				Southbound				Eastbound				Westbound				Total
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	
All Vehicles	36	364	28	0	176	192	56	0	64	256	32	0	28	180	208	0	1620
Heavy Trucks	0	16	0		0	12	0		0	4	0		0	0	8		40
Buses																	
Pedestrians		4				40				0				8			52
Bicycles	0	12	16		0	28	0		0	8	0		4	4	0		72
Scooters																	

Comments:

Report generated on 3/1/2023 8:56 AM

SOURCE: Quality Counts, LLC (http://www.qualitycounts.net) 1-877-580-2212

Type of peak hour being reported: System-wide Peak | Method for determining peak hour: Total Entering Volume

LOCATION: Chicago Ave -- South Blvd
CITY/STATE: Evanston, IL

QC JOB #: 15854902
DATE: Tue, Jun 14 2022

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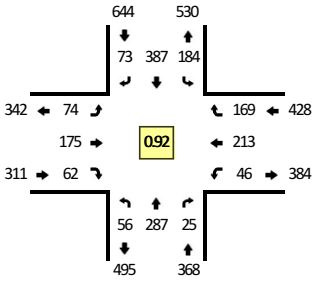
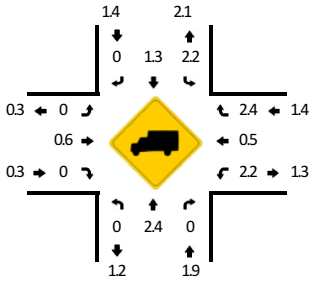
Peak 15-Min: 5:45 PM -- 6:00 PM





Quality Counts
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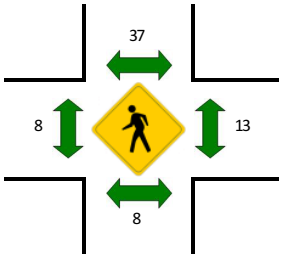

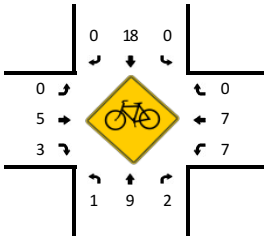

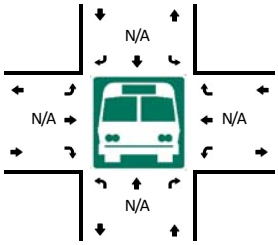

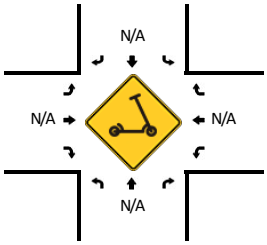

15-Min Count Period Beginning At	Chicago Ave (Northbound)				Chicago Ave (Southbound)				South Blvd (Eastbound)				South Blvd (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
4:00 PM	11	67	7	0	47	83	17	0	14	40	18	0	10	59	22	0	395	
4:15 PM	11	76	9	0	60	96	13	0	13	47	11	0	6	42	27	0	411	
4:30 PM	18	71	6	0	54	91	14	0	16	46	20	0	7	61	31	0	435	
4:45 PM	12	90	4	0	39	124	13	0	13	51	11	0	6	63	36	0	462	1703
5:00 PM	15	67	8	0	39	98	24	0	15	43	15	0	10	64	35	0	433	1741
5:15 PM	20	76	3	0	39	90	17	0	19	35	13	0	10	43	37	0	402	1732
5:30 PM	11	69	9	0	50	88	18	0	15	62	17	0	9	51	43	0	442	1739
5:45 PM	10	75	5	0	56	111	14	0	25	35	17	0	17	55	54	0	474	1751

Peak 15-Min Flowrates	Northbound				Southbound				Eastbound				Westbound				Total
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	
All Vehicles	40	300	20	0	224	444	56	0	100	140	68	0	68	220	216	0	1896
Heavy Trucks	0	4	0		8	8	0		0	4	0		0	0	8		32
Buses																	
Pedestrians		16				44				12				12			84
Bicycles	0	8	0		0	16	0		0	4	0		4	8	0		40
Scooters																	

Comments:

Report generated on 3/1/2023 9:03 AM

SOURCE: Quality Counts, LLC (http://www.qualitycounts.net) 1-877-580-2212

Type of peak hour being reported: System-wide Peak | Method for determining peak hour: Total Entering Volume

LOCATION: Hinman Ave -- South Blvd
CITY/STATE: Evanston, IL

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DATE: Tue, Jun 14 2022

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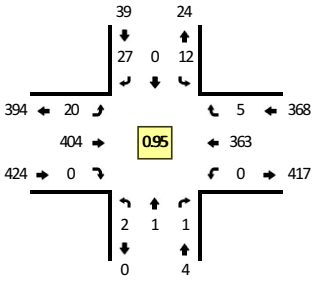
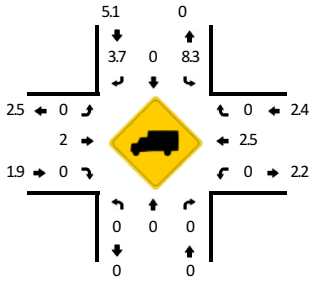
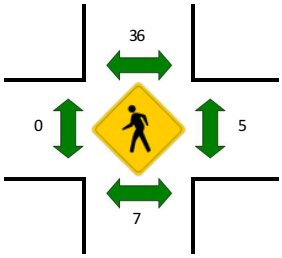
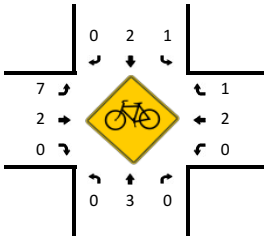
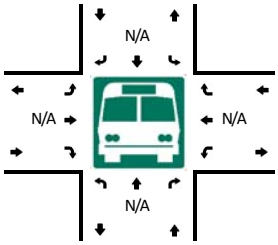


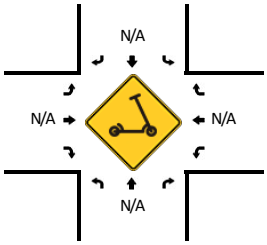


Quality Counts
DATA THAT DRIVES COMMUNITIES









15-Min Count Period Beginning At	Hinman Ave (Northbound)				Hinman Ave (Southbound)				South Blvd (Eastbound)				South Blvd (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
7:00 AM	0	1	0	0	0	0	4	0	1	83	0	0	0	61	0	0	150	
7:15 AM	1	0	1	0	2	0	2	0	2	89	1	0	0	59	3	0	160	
7:30 AM	2	0	0	0	2	0	3	0	5	99	0	0	0	82	1	0	194	
7:45 AM	0	0	0	0	2	0	3	0	2	117	0	1	0	87	1	0	213	717
8:00 AM	1	0	1	0	5	0	3	0	1	120	0	0	0	83	0	0	214	781
8:15 AM	0	0	0	0	3	0	7	0	4	112	0	1	0	93	0	0	220	841
8:30 AM	0	0	0	0	1	0	7	0	9	74	0	0	0	96	0	0	187	834
8:45 AM	1	1	0	0	3	0	10	0	4	98	0	1	0	91	5	0	214	835

Peak 15-Min Flowrates	Northbound				Southbound				Eastbound				Westbound				Total
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	
All Vehicles	0	0	0	0	12	0	28	0	16	448	0	4	0	372	0	0	880
Heavy Trucks	0	0	0		4	0	0		0	4	0		0	12	0		20
Buses																	
Pedestrians		0				24				0				0			24
Bicycles	0	4	0		0	0	0		20	0	0		0	4	0		28
Scooters																	

Comments:

Report generated on 3/1/2023 8:56 AM

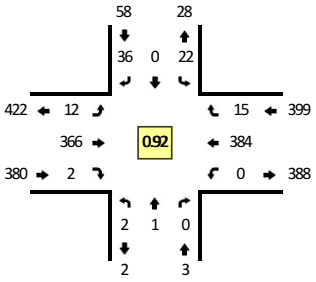
SOURCE: Quality Counts, LLC (http://www.qualitycounts.net) 1-877-580-2212

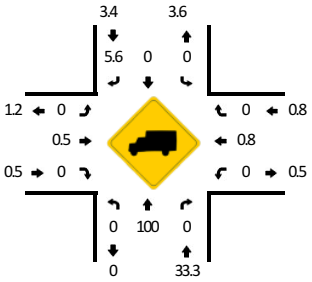
Type of peak hour being reported: System-wide Peak | Method for determining peak hour: Total Entering Volume

LOCATION: Hinman Ave -- South Blvd
CITY/STATE: Evanston, IL

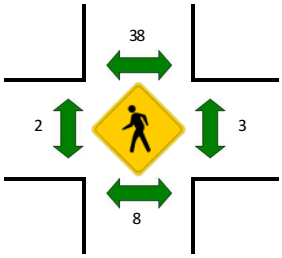
QC JOB #: 15854904
DATE: Tue, Jun 14 2022

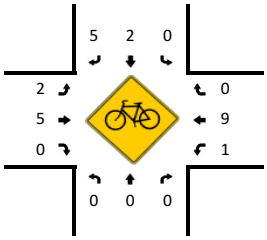
Peak-Hour: 5:00 PM -- 6:00 PM
Peak 15-Min: 5:30 PM -- 5:45 PM

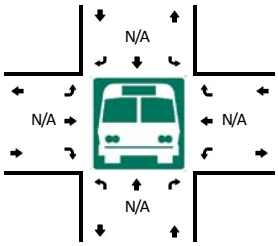


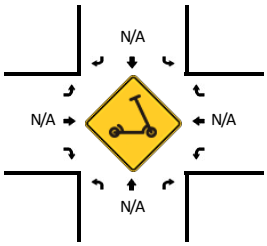


Quality Counts
DATA THAT DRIVES COMMUNITIES









15-Min Count Period Beginning At	Hinman Ave (Northbound)				Hinman Ave (Southbound)				South Blvd (Eastbound)				South Blvd (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
4:00 PM	0	0	0	0	3	0	7	1	3	90	2	0	0	82	1	0	189	
4:15 PM	0	0	0	0	2	0	5	0	3	109	1	0	0	75	2	0	197	
4:30 PM	0	0	0	0	4	0	6	0	6	100	2	0	0	92	2	0	212	
4:45 PM	0	0	0	0	3	0	6	0	4	88	0	0	0	97	4	0	202	800
5:00 PM	0	0	0	0	3	0	10	0	3	86	0	0	0	95	2	0	199	810
5:15 PM	1	0	0	0	9	0	10	0	4	74	1	0	0	92	1	0	192	805
5:30 PM	0	1	0	0	6	0	5	0	4	118	1	0	0	87	6	0	228	821
5:45 PM	1	0	0	0	4	0	11	0	1	88	0	0	0	110	6	0	221	840

Peak 15-Min Flowrates	Northbound				Southbound				Eastbound				Westbound				Total
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	
All Vehicles	0	4	0	0	24	0	20	0	16	472	4	0	0	348	24	0	912
Heavy Trucks	0	4	0		0	0	4		0	4	0		0	4	0		16
Buses																	
Pedestrians		8				32				0				0			40
Bicycles	0	0	0		0	8	16		0	4	0		0	16	0		44
Scooters																	

Comments:

Report generated on 3/1/2023 9:03 AM

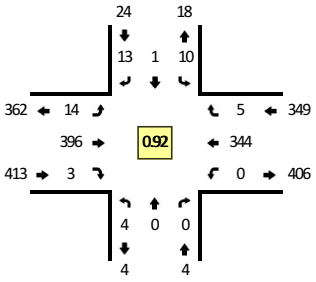
SOURCE: Quality Counts, LLC (http://www.qualitycounts.net) 1-877-580-2212

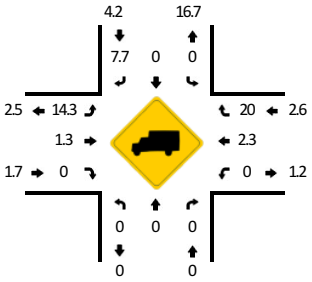
Type of peak hour being reported: System-wide Peak | Method for determining peak hour: Total Entering Volume

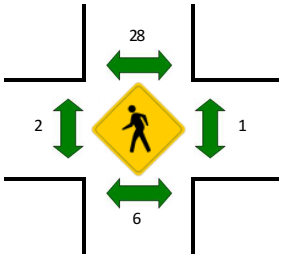
LOCATION: Judson Ave -- South Blvd
CITY/STATE: Evanston, IL

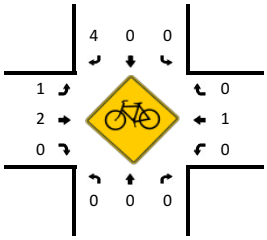
QC JOB #: 15854905
DATE: Tue, Jun 14 2022

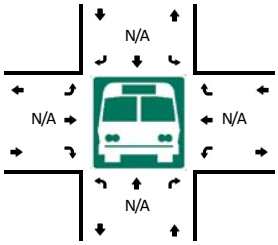
Peak-Hour: 8:00 AM -- 9:00 AM
Peak 15-Min: 8:00 AM -- 8:15 AM

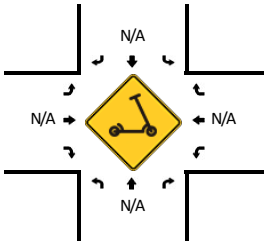












15-Min Count Period Beginning At	Judson Ave (Northbound)				Judson Ave (Southbound)				South Blvd (Eastbound)				South Blvd (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
7:00 AM	0	0	0	0	0	0	3	0	0	82	0	0	0	58	0	0	143	
7:15 AM	0	0	0	0	1	0	2	0	5	86	0	0	0	60	2	0	156	
7:30 AM	0	0	0	0	0	0	2	0	1	100	0	0	0	76	1	0	180	
7:45 AM	0	0	0	0	1	0	2	0	1	118	0	0	0	88	0	0	210	689
8:00 AM	1	0	0	0	2	1	4	0	3	121	1	0	0	78	3	0	214	760
8:15 AM	2	0	0	0	1	0	2	0	5	109	2	0	0	85	1	0	207	811
8:30 AM	1	0	0	0	4	0	3	0	3	71	0	0	0	94	0	0	176	807
8:45 AM	0	0	0	0	3	0	4	0	2	95	0	1	0	87	1	0	193	790

Peak 15-Min Flowrates	Northbound				Southbound				Eastbound				Westbound				Total
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	
All Vehicles	4	0	0	0	8	4	16	0	12	484	4	0	0	312	12	0	856
Heavy Trucks	0	0	0		0	0	4		4	4	0		0	4	0		16
Buses																	
Pedestrians		4				28				4				4			40
Bicycles	0	0	0		0	0	0		0	4	0		0	4	0		8
Scooters																	

Comments:

Report generated on 3/1/2023 8:56 AM

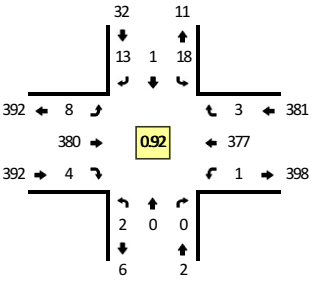
SOURCE: Quality Counts, LLC (http://www.qualitycounts.net) 1-877-580-2212

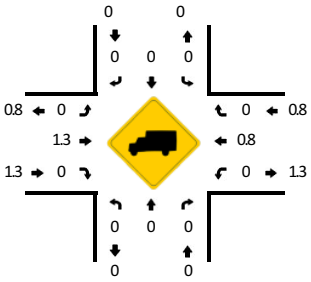
Type of peak hour being reported: System-wide Peak | Method for determining peak hour: Total Entering Volume

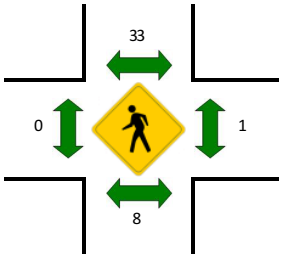
LOCATION: Judson Ave -- South Blvd
CITY/STATE: Evanston, IL

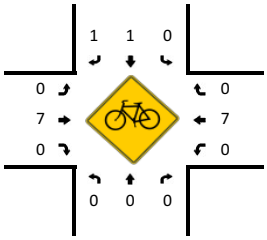
QC JOB #: 15854906
DATE: Tue, Jun 14 2022

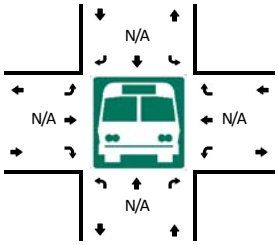
Peak-Hour: 5:00 PM -- 6:00 PM
Peak 15-Min: 5:45 PM -- 6:00 PM

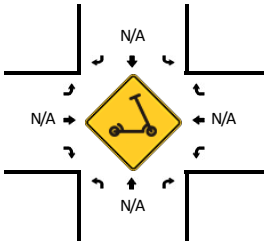












15-Min Count Period Beginning At	Judson Ave (Northbound)				Judson Ave (Southbound)				South Blvd (Eastbound)				South Blvd (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
4:00 PM	0	0	0	0	1	0	2	0	3	88	0	1	1	81	0	0	177	
4:15 PM	0	0	1	0	3	0	3	0	3	106	2	0	1	75	0	0	194	
4:30 PM	0	0	0	0	4	1	2	0	3	101	0	0	0	92	0	0	203	
4:45 PM	1	1	0	0	5	1	0	0	1	87	1	0	0	99	1	0	197	771
5:00 PM	0	0	0	0	2	0	3	0	3	88	1	0	0	91	0	0	188	782
5:15 PM	2	0	0	0	9	0	3	0	1	76	1	0	0	87	2	0	181	769
5:30 PM	0	0	0	0	3	0	2	0	2	120	1	0	1	89	0	0	218	784
5:45 PM	0	0	0	0	4	1	5	0	2	96	1	0	0	110	1	0	220	807

Peak 15-Min Flowrates	Northbound				Southbound				Eastbound				Westbound				Total
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	
All Vehicles	0	0	0	0	16	4	20	0	8	384	4	0	0	440	4	0	880
Heavy Trucks	0	0	0		0	0	0		0	12	0		0	0	0		12
Buses																	
Pedestrians		8				40				0				0			48
Bicycles	0	0	0		0	0	0		0	8	0		0	4	0		12
Scooters																	

Comments:

Report generated on 3/1/2023 9:03 AM

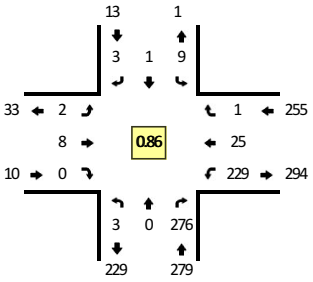
SOURCE: Quality Counts, LLC (http://www.qualitycounts.net) 1-877-580-2212

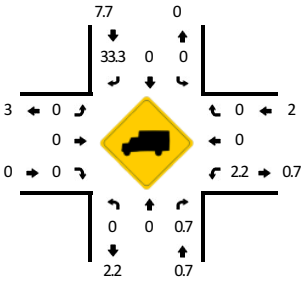
Type of peak hour being reported: System-wide Peak | Method for determining peak hour: Total Entering Volume

LOCATION: Callan Ave -- South Blvd
CITY/STATE: Evanston, IL

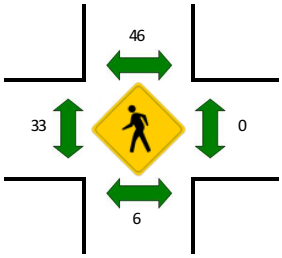
QC JOB #: 15854907
DATE: Tue, Jun 14 2022

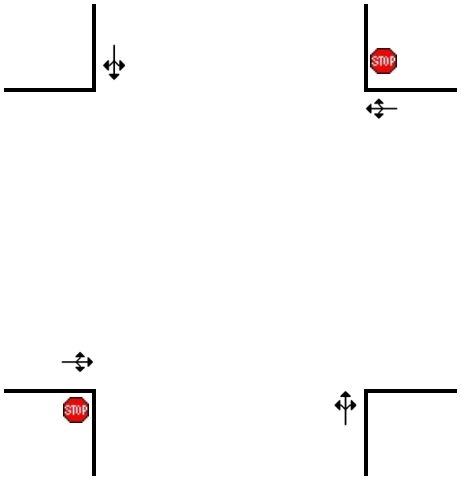
Peak-Hour: 8:00 AM -- 9:00 AM
Peak 15-Min: 8:15 AM -- 8:30 AM

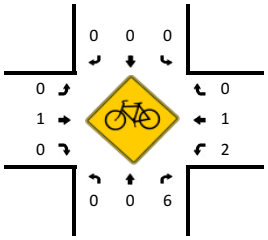


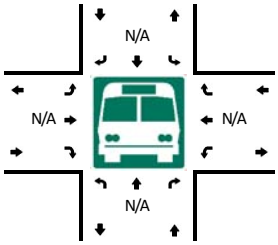


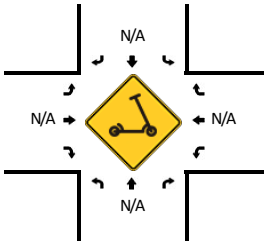
Quality Counts
DATA THAT DRIVES COMMUNITIES











15-Min Count Period Beginning At	Callan Ave (Northbound)				Callan Ave (Southbound)				South Blvd (Eastbound)				South Blvd (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
7:00 AM	2	0	35	0	2	0	0	0	0	2	0	1	40	5	0	0	87	
7:15 AM	1	0	43	0	2	0	6	0	0	1	1	0	32	4	1	0	91	
7:30 AM	2	0	60	0	3	0	0	0	0	0	0	0	49	2	0	0	116	
7:45 AM	1	0	81	0	4	0	0	0	0	0	0	0	49	7	0	0	142	436
8:00 AM	0	0	63	0	2	0	0	0	0	2	0	0	53	5	0	0	125	474
8:15 AM	0	0	87	0	1	1	0	0	0	4	0	0	62	6	1	0	162	545
8:30 AM	1	0	61	0	2	0	0	0	0	1	0	2	47	7	0	0	121	550
8:45 AM	2	0	65	0	4	0	3	0	0	1	0	0	66	7	0	1	149	557

Peak 15-Min Flowrates	Northbound				Southbound				Eastbound				Westbound				Total
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	
All Vehicles	0	0	348	0	4	4	0	0	0	16	0	0	248	24	4	0	648
Heavy Trucks	0	0	4		0	0	0		0	0	0		0	0	0		4
Buses																	
Pedestrians		8				44				24				0			76
Bicycles	0	0	8		0	0	0		0	0	0		0	4	0		12
Scooters																	

Comments:

Report generated on 3/1/2023 8:56 AM

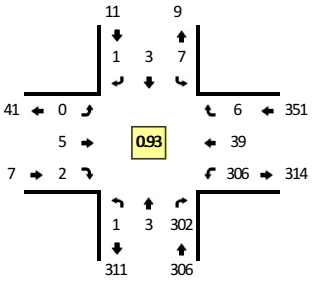
SOURCE: Quality Counts, LLC (http://www.qualitycounts.net) 1-877-580-2212

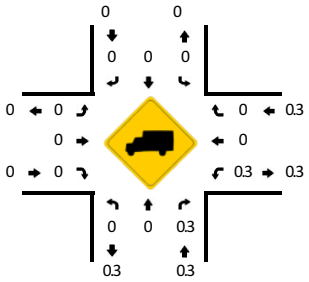
Type of peak hour being reported: System-wide Peak | Method for determining peak hour: Total Entering Volume

LOCATION: Callan Ave -- South Blvd
CITY/STATE: Evanston, IL

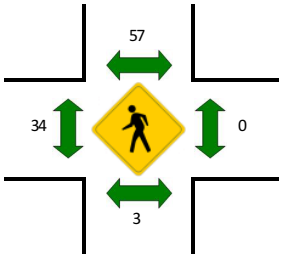
QC JOB #: 15854908
DATE: Tue, Jun 14 2022

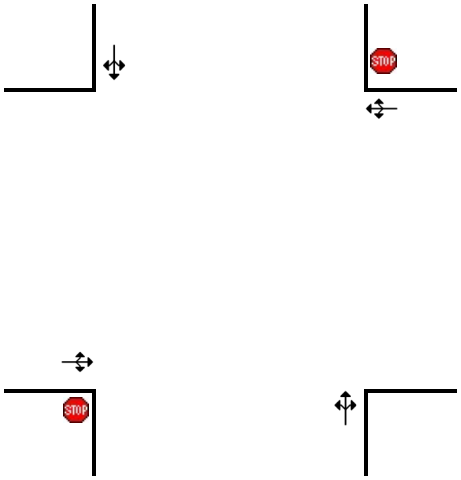
Peak-Hour: 5:00 PM -- 6:00 PM
Peak 15-Min: 5:30 PM -- 5:45 PM

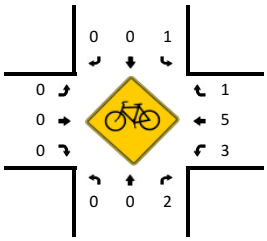


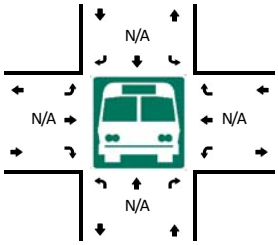


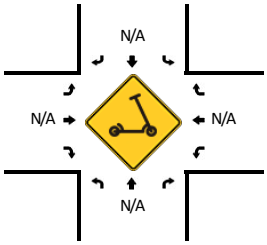
Quality Counts
DATA THAT DRIVES COMMUNITIES











15-Min Count Period Beginning At	Callan Ave (Northbound)				Callan Ave (Southbound)				South Blvd (Eastbound)				South Blvd (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
4:00 PM	0	0	63	0	2	0	2	0	0	1	0	0	76	7	2	0	153	
4:15 PM	0	0	70	0	2	0	0	0	0	0	1	0	60	9	0	0	142	
4:30 PM	0	0	79	0	6	0	1	0	0	1	0	0	87	3	0	0	177	
4:45 PM	1	0	70	0	1	1	0	0	0	0	1	0	73	13	2	0	162	634
5:00 PM	0	0	72	0	3	0	0	0	0	1	0	0	98	7	0	0	181	662
5:15 PM	1	1	64	0	0	1	1	0	0	0	0	0	70	9	4	0	151	671
5:30 PM	0	2	90	0	1	2	0	0	0	3	0	0	72	11	1	0	182	676
5:45 PM	0	0	76	0	3	0	0	0	0	1	2	0	66	12	1	0	161	675

Peak 15-Min Flowrates	Northbound				Southbound				Eastbound				Westbound				Total
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	
All Vehicles	0	8	360	0	4	8	0	0	0	12	0	0	288	44	4	0	728
Heavy Trucks	0	0	0		0	0	0		0	0	0		0	0	0		0
Buses																	
Pedestrians		0				60				36				0			96
Bicycles	0	0	4		0	0	0		0	0	0		4	8	0		16
Scooters																	

Comments:

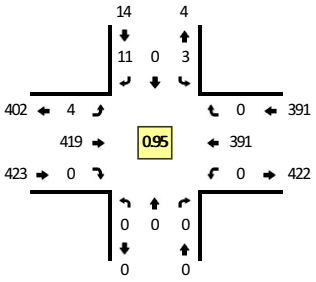
Report generated on 3/1/2023 9:03 AM

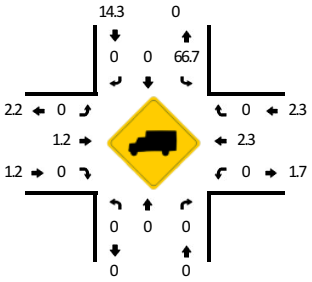
SOURCE: Quality Counts, LLC (http://www.qualitycounts.net) 1-877-580-2212

Type of peak hour being reported: System-wide Peak | Method for determining peak hour: Total Entering Volume

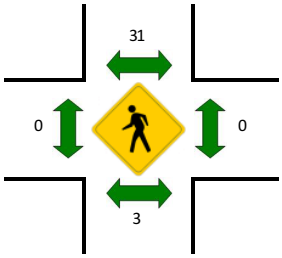
LOCATION: Alley Btwn Hinnman and Chicago -- South Blvd | **QC JOB #:** 15854909
CITY/STATE: Evanston, IL | **DATE:** Tue, Jun 14 2022

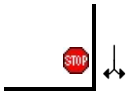
Peak-Hour: 8:00 AM -- 9:00 AM
Peak 15-Min: 8:15 AM -- 8:30 AM

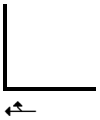


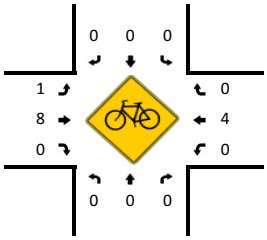


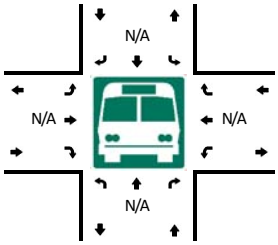
Quality Counts
DATA THAT DRIVES COMMUNITIES

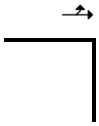


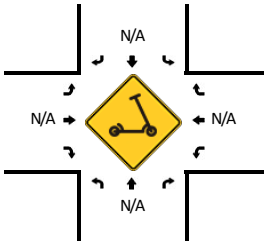












15-Min Count Period Beginning At	Alley Btwn Hinnman and Chicago (Northbound)				Alley Btwn Hinnman and Chicago (Southbound)				South Blvd (Eastbound)				South Blvd (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
7:00 AM	0	0	0	0	1	0	3	0	0	87	0	0	0	67	0	0	158	
7:15 AM	0	0	0	0	0	0	3	0	1	89	0	0	0	63	0	0	156	
7:30 AM	0	0	0	0	0	0	1	0	1	104	0	0	0	87	0	0	193	
7:45 AM	0	0	0	0	0	0	2	0	0	117	0	0	0	93	0	0	212	719
8:00 AM	0	0	0	0	1	0	3	0	1	119	0	0	0	89	0	0	213	774
8:15 AM	0	0	0	0	1	0	2	0	0	118	0	0	0	98	0	0	219	837
8:30 AM	0	0	0	0	0	0	1	0	2	81	0	0	0	104	0	0	188	832
8:45 AM	0	0	0	0	1	0	5	0	1	101	0	0	0	100	0	0	208	828

Peak 15-Min Flowrates	Northbound				Southbound				Eastbound				Westbound				Total
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	
All Vehicles	0	0	0	0	4	0	8	0	0	472	0	0	0	392	0	0	876
Heavy Trucks	0	0	0		4	0	0		0	4	0		0	8	0		16
Buses																	
Pedestrians		0				36				0				0			36
Bicycles	0	0	0		0	0	0		0	16	0		0	4	0		20
Scooters																	

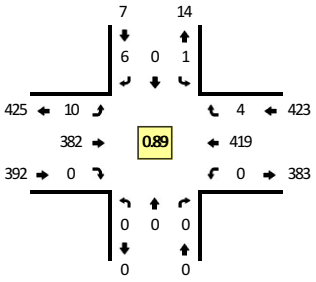
Comments:

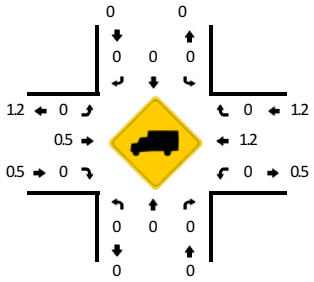
Report generated on 3/1/2023 8:56 AM | SOURCE: Quality Counts, LLC (http://www.qualitycounts.net) 1-877-580-2212

Type of peak hour being reported: System-wide Peak | Method for determining peak hour: Total Entering Volume

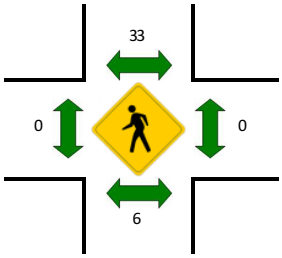
LOCATION: Alley Btwn Hinnman and Chicago -- South Blvd | **QC JOB #:** 15854910
CITY/STATE: Evanston, IL | **DATE:** Tue, Jun 14 2022

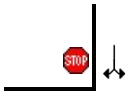
Peak-Hour: 5:00 PM -- 6:00 PM
Peak 15-Min: 5:30 PM -- 5:45 PM

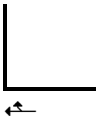


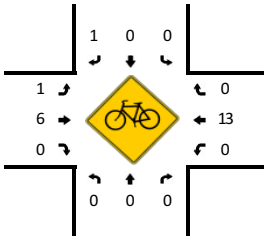


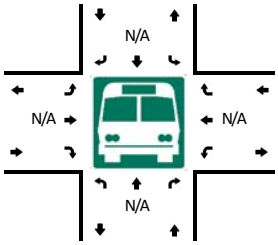
Quality Counts
DATA THAT DRIVES COMMUNITIES

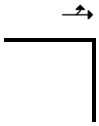


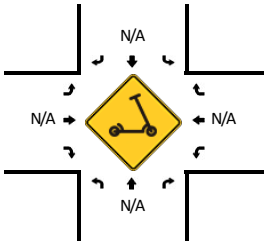












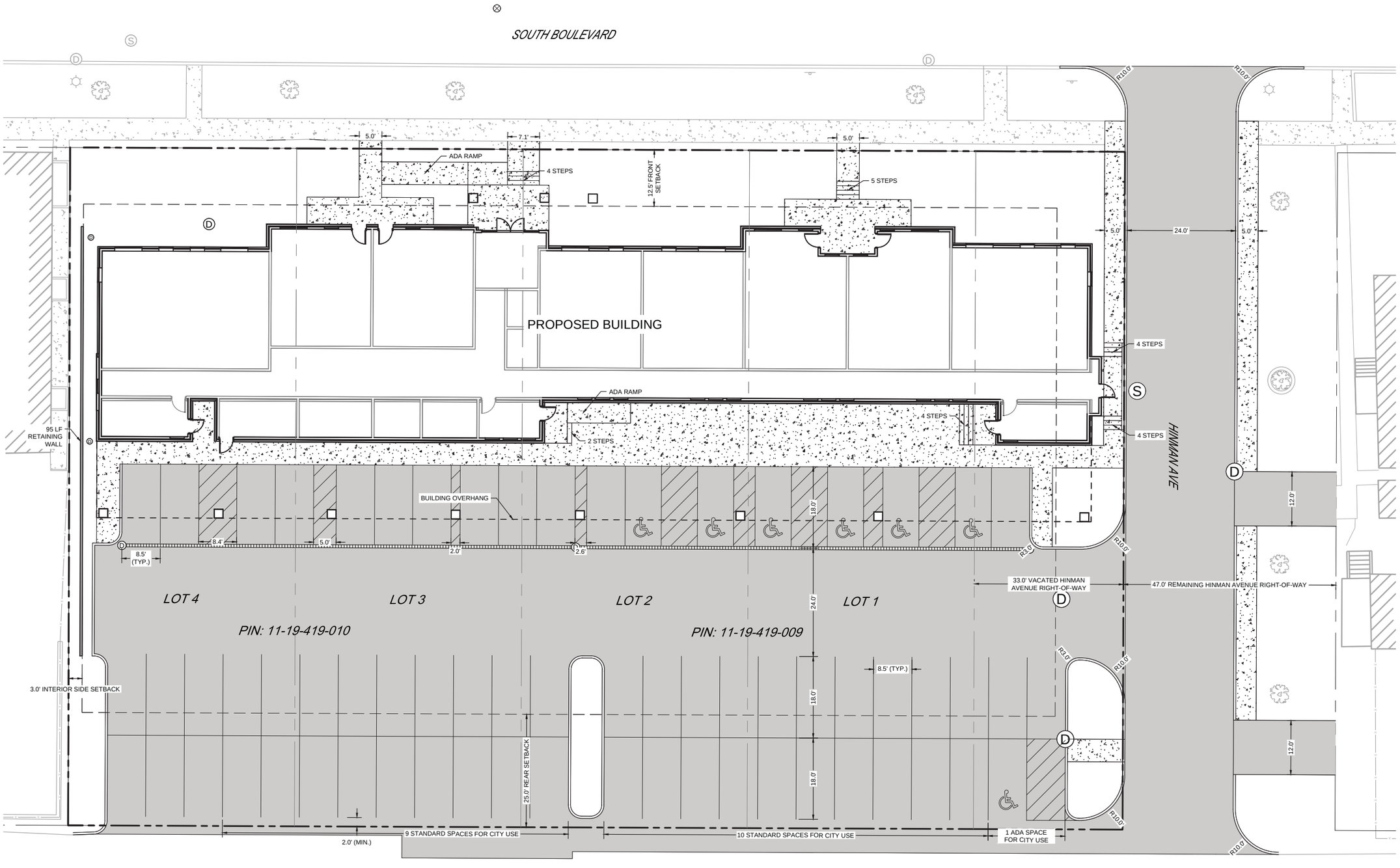
15-Min Count Period Beginning At	Alley Btwn Hinnman and Chicago (Northbound)				Alley Btwn Hinnman and Chicago (Southbound)				South Blvd (Eastbound)				South Blvd (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
4:00 PM	0	0	0	0	0	0	1	0	0	95	0	0	0	89	0	0	185	
4:15 PM	0	0	0	0	0	0	2	0	1	114	0	0	0	79	1	0	197	
4:30 PM	0	0	0	0	1	0	2	0	5	106	0	0	0	94	0	0	208	
4:45 PM	0	0	0	0	0	0	1	0	3	93	0	0	0	106	1	0	204	794
5:00 PM	0	0	0	0	1	0	0	0	1	90	0	0	0	104	0	0	196	805
5:15 PM	0	0	0	0	0	0	1	0	1	78	0	0	0	98	2	0	180	788
5:30 PM	0	0	0	0	0	0	4	0	4	127	0	0	0	95	1	0	231	811
5:45 PM	0	0	0	0	0	0	1	0	4	87	0	0	0	122	1	0	215	822

Peak 15-Min Flowrates	Northbound				Southbound				Eastbound				Westbound				Total
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	
All Vehicles	0	0	0	0	0	0	16	0	16	508	0	0	0	380	4	0	924
Heavy Trucks	0	0	0		0	0	0		0	4	0		0	8	0		12
Buses																	
Pedestrians		12				24				0				0			36
Bicycles	0	0	0		0	0	0		0	4	0		0	32	0		36
Scooters																	

Comments:

Report generated on 3/1/2023 9:03 AM | SOURCE: Quality Counts, LLC (http://www.qualitycounts.net) 1-877-580-2212

Site Plan



SHEET NOTES

1. LOTS 1-4 AND ASSOCIATED PINS SHOWN ON SITE PLAN ARE FOR REFERENCE ONLY. LOTS ARE PROPOSED TO BE CONSOLIDATED INTO 1 LOT AS PART OF THE SOUTH BOULEVARD SHORES SUBDIVISION, WHICH ALSO PROPOSES TO PARTIALLY VACATE THE HINMAN AVENUE RIGHT-OF-WAY

SITE DATA TABLE

PROPOSED ZONING CLASS	R-5
SITE AREA	0.803 AC
PROPOSED PARKING SPACES	
STANDARD SPACES (FOR PRIVATE USE)	39
STANDARD SPACES (FOR CITY USE)	19
ADA SPACES (FOR PRIVATE USE)	6
ADA SPACES (FOR CITY USE)	1
TOTAL	65
IMPERVIOUS SURFACE COVERAGE	
IMPERVIOUS AREA = 0.683 AC = 85%	

PAVING LEGEND

- STANDARD DUTY ASPHALT
- PCC SIDEWALK

0 10' 20'

1" = 10' (HORIZONTAL)

2200 CABOT DRIVE
SUITE 325
LISLE, IL 60532
P: 630.598.0007
WWW.CAGECIVIL.COM

CAGE CIVIL ENGINEERING

LICENSED PROFESSIONAL ENGINEER
BRADLEY P. HOVANEC
062-072247
OF ILLINOIS

REVISIONS

PRELIMINARY ENGINEERING FOR

SOUTH BOULEVARD SHORES

510 SOUTH BLVD
EVANSTON, ILLINOIS

PROJ NO: 220196
ENG: BPH
DATE: 02/15/2023

SHEET TITLE

SITE LAYOUT PLAN

SHEET NUMBER

C1.0

3 OF 6

ITE Trip Generation Sheets

Land Use: 223
Affordable Housing

Description

Affordable housing includes all multifamily housing that is rented at below market rate to households that include at least one employed member. Eligibility to live in affordable housing can be a function of limited household income and resident age. Multifamily housing (low-rise) (Land Use 220), multifamily housing (mid-rise) (Land Use 221), and multifamily housing (high-rise) (Land Use 222) are related land uses.

Land Use Subcategory

Data are presented for three subcategories for this land use: (1) sites with income limitations for its tenants (denoted as income limits in the data plots), (2) sites with both minimum age thresholds and income limitations for its tenants (denoted as senior in the data plots), and (3) sites designed for and occupied by residents with special needs, such as persons with physical and mental impairments, single mothers, recovering addicts and others living in a group setting.

Additional Data

For most study sites contained in this land use, all dwelling units in the development are classified as affordable units. For residential study sites that provide a mix of market value and affordable units, the study sites with at least 75 percent of the dwelling units designated as affordable are also included in this land use database.

It is expected that the number of bedrooms and number of residents are likely correlated to the trips generated by a residential site. To assist in future analysis, trip generation studies of all multifamily housing should attempt to obtain information on occupancy rate and on the mix of residential unit sizes (i.e., number of units by number of bedrooms at the site complex).

The sites were surveyed in the 1980s and 2010s in California, Ontario (CAN), and New Jersey.

Source Numbers

237, 918, 1003, 1004, 1046, 1057

Affordable Housing - Income Limits
(223)

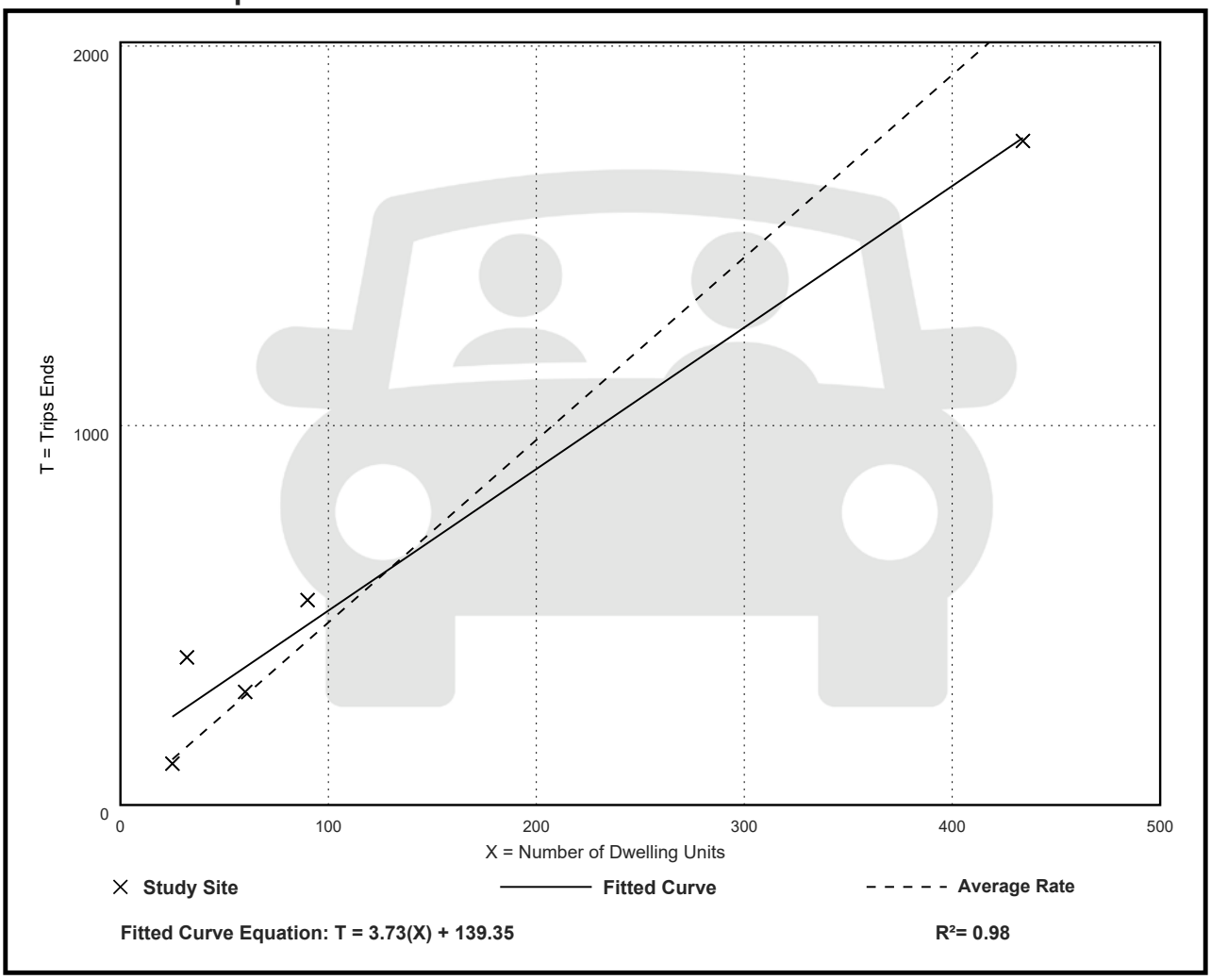
Vehicle Trip Ends vs: Dwelling Units
On a: Weekday

Setting/Location: General Urban/Suburban
Number of Studies: 5
Avg. Num. of Dwelling Units: 128
Directional Distribution: 50% entering, 50% exiting

Vehicle Trip Generation per Dwelling Unit

Average Rate	Range of Rates	Standard Deviation
4.81	4.03 - 12.16	2.03

Data Plot and Equation



Fitted Curve Equation: T = 3.73(X) + 139.35

R^2= 0.98

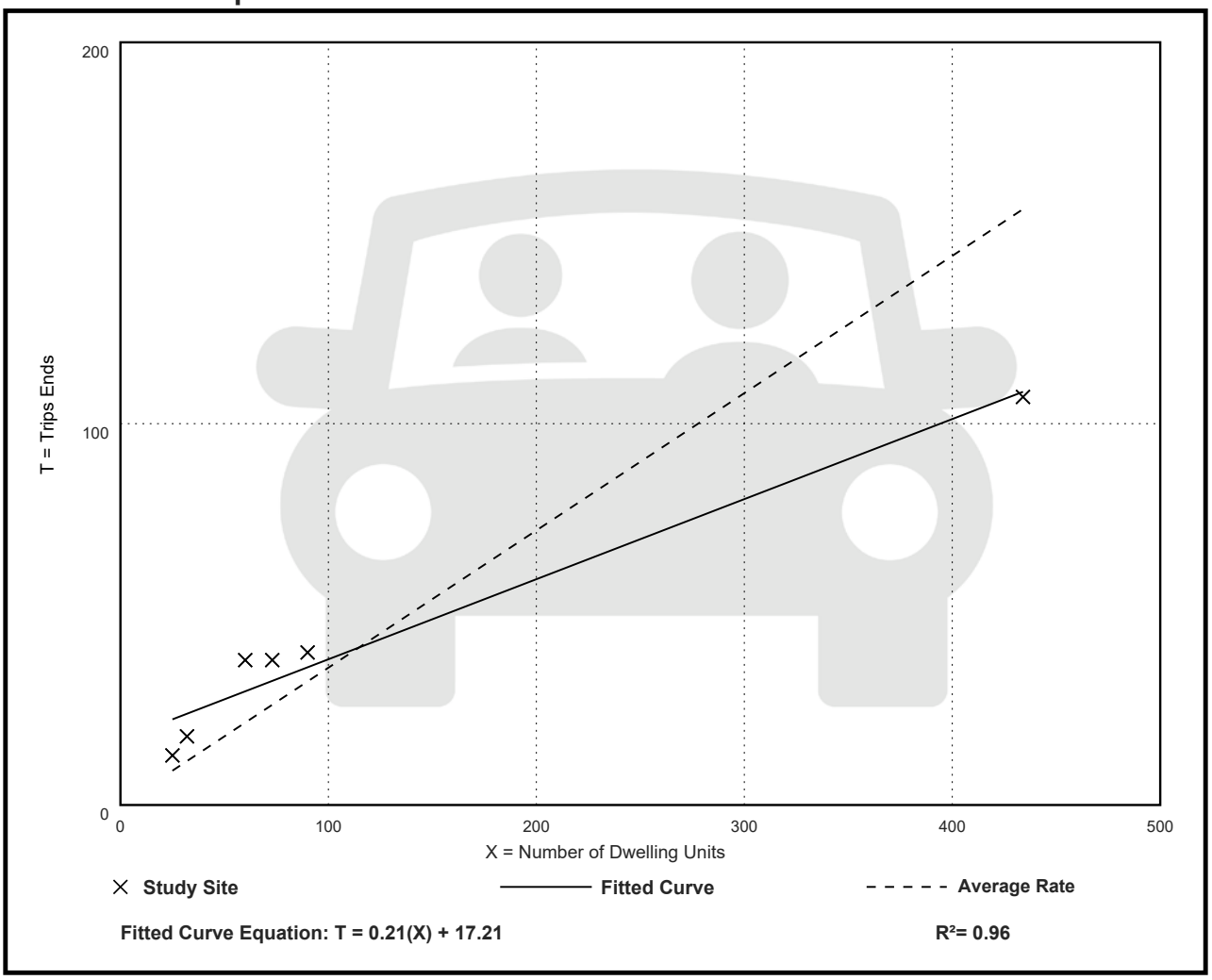
Affordable Housing - Income Limits
(223)

Vehicle Trip Ends vs: Dwelling Units
On a: Weekday,
Peak Hour of Adjacent Street Traffic,
One Hour Between 7 and 9 a.m.
Setting/Location: General Urban/Suburban
Number of Studies: 6
Avg. Num. of Dwelling Units: 119
Directional Distribution: 29% entering, 71% exiting

Vehicle Trip Generation per Dwelling Unit

Average Rate	Range of Rates	Standard Deviation
0.36	0.25 - 0.63	0.16

Data Plot and Equation



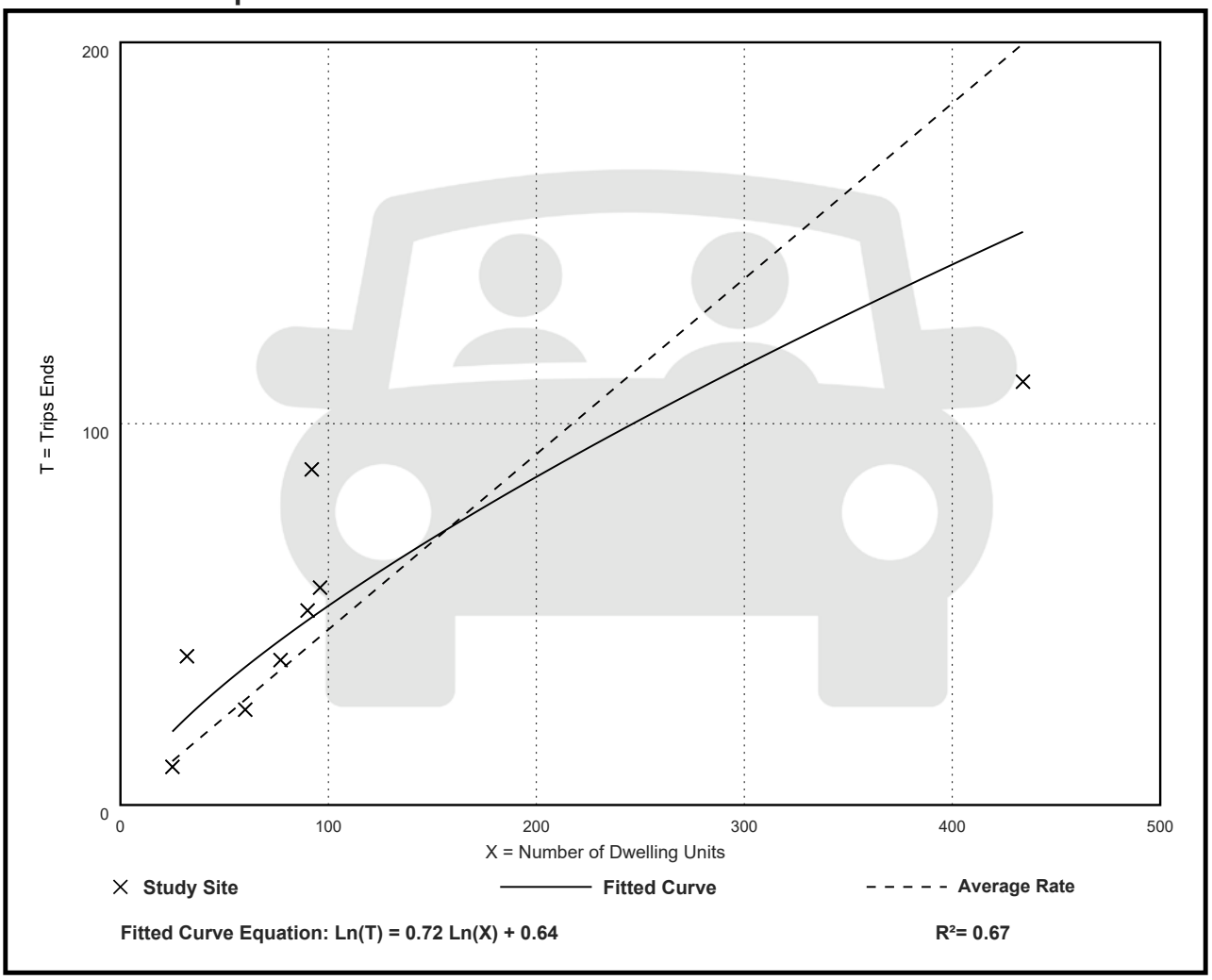
Affordable Housing - Income Limits
(223)

Vehicle Trip Ends vs: Dwelling Units
On a: Weekday,
Peak Hour of Adjacent Street Traffic,
One Hour Between 4 and 6 p.m.
Setting/Location: General Urban/Suburban
Number of Studies: 8
Avg. Num. of Dwelling Units: 113
Directional Distribution: 59% entering, 41% exiting

Vehicle Trip Generation per Dwelling Unit

Average Rate	Range of Rates	Standard Deviation
0.46	0.26 - 1.22	0.28

Data Plot and Equation



Census Data

American Community Survey

S0801 | COMMUTING CHARACTERISTICS BY SEX

2021: ACS 5-Year Estimates Subject Tables

Notes | Geos | Years | Topics | Surveys | Codes | Hide | Transpose | Margin of Error | Restore | Excel | CSV | ZIP | Share | Print | Map

	Census Tract 8100, Cook County, Illinois	
	Total	
Label	Estimate	Margin of Error
Workers 16 years and over	3,670	±599
MEANS OF TRANSPORTATION TO WORK		
Car, truck, or van	49.1%	±9.6
Public transportation (excluding taxicab)	21.2%	±6.1
Walked	2.1%	±1.4
Bicycle	3.5%	±2.2
Taxicab, motorcycle, or other means	0.0%	±0.9
Worked from home	24.2%	±8.3
PLACE OF WORK		
Workers 16 years and over who did not work from home	2,783	±573
VEHICLES AVAILABLE		
Workers 16 years and over in households	3,666	±600
No vehicle available	7.7%	±3.8
1 vehicle available	54.7%	±9.9
2 vehicles available	31.8%	±11.2
3 or more vehicles available	5.9%	±4.7
PERCENT ALLOCATED		

CMAP 2050 Projections Letter

Chicago Metropolitan Agency for Planning

433 West Van Buren Street
Suite 450
Chicago, IL 60607

312-454-0400
cmap.illinois.gov

March 1, 2023

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

Subject: ***South Boulevard @ Chicago Avenue***
IDOT

Dear Ms. Pachowicz:

In response to a request made on your behalf and dated March 1, 2023, we have developed year 2050 average daily traffic (ADT) projections for the subject location.

ROAD SEGMENT	Current ADT	Year 2050 ADT
South Boulevard, @ Chicago Avenue	8,550	8,850
Chicago Avenue, @ South Boulevard	14,600	16,300

Traffic projections are developed using existing ADT data provided in the request letter and the results from the October 2022 CMAP Travel Demand Analysis. The regional travel model uses CMAP 2050 socioeconomic projections and assumes the implementation of the ON TO 2050 Comprehensive Regional Plan for the Northeastern Illinois area. The provision of this data in support of your request does not constitute a CMAP endorsement of the proposed development or any subsequent developments.

If you have any questions, please call me at (312) 386-8806.

Sincerely,

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

cc: Rios (IDOT)
2023_TrafficForecasts\Evanston\ck-36-23\ck-36-23.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.

Capacity Analysis Summary Sheets

Year 2022 Base Weekday Morning Peak Hour

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	55	227	39	40	190	220	37	380	19	222	217	52
Future Volume (vph)	55	227	39	40	190	220	37	380	19	222	217	52
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	10	10	10	10	10	10	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	0		0	0		0	50		0	95		0
Storage Lanes	1		0	0		1	1		0	1		0
Taper Length (ft)	25			25			70			95		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor	0.95	0.99			1.00		1.00	1.00		0.99	1.00	
Frt		0.978				0.850		0.993			0.971	
Flt Protected	0.950				0.991		0.950			0.950		
Satd. Flow (prot)	1652	1724	0	0	1729	1463	1805	1812	0	1770	1774	0
Flt Permitted	0.462				0.747		0.586			0.398		
Satd. Flow (perm)	762	1724	0	0	1302	1463	1110	1812	0	735	1774	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		7				232		3			21	
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		216			202			332			389	
Travel Time (s)		4.9			4.6			7.5			8.8	
Confl. Peds. (#/hr)	32		4	4		32	3		9	9		3
Confl. Bikes (#/hr)			7			5			23			10
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 (%)	2%	0%	0%	0%	2%	3%	0%	4%	0%	2%	4%	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)	58	280	0	0	242	232	39	420	0	234	283	0
Turn Type	Perm	NA		Perm	NA	NA	Perm	NA		pm+pt	NA	
Protected Phases		4			8			2		1	6	
Permitted Phases	4			8			2			6		
Detector Phase	4	4		8	8		2	2		1	6	
Switch Phase												
Minimum Initial (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	
Minimum Split (s)	27.0	27.0		27.0	27.0		28.0	28.0		9.5	28.0	
Total Split (s)	36.0	36.0		36.0	36.0		56.0	56.0		23.0	79.0	
Total Split (%)	31.3%	31.3%		31.3%	31.3%		48.7%	48.7%		20.0%	68.7%	
Yellow Time (s)	4.0	4.0		4.0	4.0		4.0	4.0		3.0	4.0	
All-Red Time (s)	2.0	2.0		2.0	2.0		2.0	2.0		0.0	2.0	
Lost Time Adjust (s)	0.0	0.0			0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)	6.0	6.0			6.0		6.0	6.0		3.0	6.0	
Lead/Lag							Lag	Lag		Lead		
Lead-Lag Optimize?							Yes	Yes		Yes		
Recall Mode	Max	Max		Max	Max		Max	Max		None	Max	
Act Effct Green (s)	30.0	30.0			30.0	0.0	58.5	58.5		76.0	73.0	
Actuated g/C Ratio	0.26	0.26			0.26	0.00	0.51	0.51		0.66	0.63	

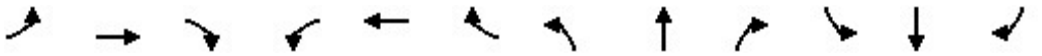
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
v/c Ratio	0.29	0.62			0.71	1.00	0.07	0.46		0.40	0.25	
Control Delay	39.0	43.3			51.8	67.1	15.8	20.4		9.8	9.0	
Queue Delay	0.0	0.0			0.0	0.0	0.0	0.0		0.0	0.0	
Total Delay	39.0	43.3			51.8	67.1	15.8	20.4		9.8	9.0	
LOS	D	D			D	E	B	C		A	A	
Approach Delay		42.6			59.3			20.0			9.4	
Approach LOS		D			E			C			A	
Queue Length 50th (ft)	34	178			163	0	14	190		62	77	
Queue Length 95th (ft)	74	272			#273	#159	35	292		96	119	
Internal Link Dist (ft)		136			122			252			309	
Turn Bay Length (ft)							50			95		
Base Capacity (vph)	198	454			339	232	564	923		665	1133	
Starvation Cap Reductn	0	0			0	0	0	0		0	0	
Spillback Cap Reductn	0	0			0	0	0	0		0	0	
Storage Cap Reductn	0	0			0	0	0	0		0	0	
Reduced v/c Ratio	0.29	0.62			0.71	1.00	0.07	0.46		0.35	0.25	

Intersection Summary			
Area Type:	Other		
Cycle Length: 115			
Actuated Cycle Length: 115			
Natural Cycle: 65			
Control Type: Semi Act-Uncoord			
Maximum v/c Ratio: 1.00			
Intersection Signal Delay: 31.6		Intersection LOS: C	
Intersection Capacity Utilization 86.8%		ICU Level of Service E	
Analysis Period (min) 15			
# 95th percentile volume exceeds capacity, queue may be longer.			
Queue shown is maximum after two cycles.			

Splits and Phases: 1: Chicago Avenue & South Boulevard

Intersection Capacity Utilization
2: Callan Avenue & Alley/South Boulevard

03/08/2023



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	2	8	0	277	0	1	0	3	304	9	4	0
Pedestrians	46		6	6		46	33					33
Ped Button		Yes			Yes						Yes	
Pedestrian Timing (s)		16.0			16.0						16.0	
Free Right			No			No			No			No
Ideal Flow	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Minimum Green (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Refr Cycle Length (s)	120	120	120	120	120	120	120	120	120	120	120	120
Volume Combined (vph)	0	10	0	277	0	1	0	307	0	0	13	0
Lane Utilization Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Factor (vph)	0.95	0.99	0.85	0.95	1.00	0.85	0.95	0.85	0.85	0.95	0.97	0.85
Saturated Flow (vph)	0	1881	0	1805	0	1615	0	1618	0	0	1834	0
Ped Intf Time (s)	0.0	0.0	0.8	0.0	0.0	4.5	0.0	0.0	0.0	0.0	0.0	3.5
Pedestrian Frequency (%)		0.18			0.78			0.00			0.67	
Protected Option Allowed		No			No			No			No	
Reference Time (s)			0.0			4.6			0.0			0.0
Adj Reference Time (s)			0.0			17.5			0.0			0.0
Permitted Option												
Adj Saturation A (vph)	0	466		481	0		0	1618		0	160	
Reference Time A (s)	0.0	2.6		69.1	0.0		0.0	22.8		0.0	9.8	
Adj Saturation B (vph	0	0		0	0		0	1618		NA	NA	
Reference Time B (s)	8.1	8.6		26.4	0.0		0.0	22.8		NA	NA	
Reference Time (s)		2.6			26.4			22.8			9.8	
Adj Reference Time (s)		10.2			30.4			26.8			17.9	
Split Option												
Ref Time Combined (s)	0.0	0.6		18.4	0.0		0.0	22.8		0.0	0.9	
Ref Time Seperate (s)	0.1	0.5		18.4	0.0		0.0	0.2		0.6	0.3	
Reference Time (s)	0.6	0.6		18.4	18.4		22.8	22.8		0.9	0.9	
Adj Reference Time (s)	10.2	10.2		22.4	22.4		26.8	26.8		16.0	16.0	

Summary	EB WB	NB SB	Combined
Protected Option (s)	NA	NA	
Permitted Option (s)	30.4	26.8	
Split Option (s)	32.6	42.8	
Minimum (s)	30.4	26.8	57.2

Right Turns	WBR
Adj Reference Time (s)	17.5
Cross Thru Ref Time (s)	26.8
Oncoming Left Ref Time (s)	10.2
Combined (s)	54.5

Intersection Summary			
Intersection Capacity Utilization	47.7%	ICU Level of Service	A

Reference Times and Phasing Options do not represent an optimized timing plan.

Intersection	
Int Delay, s/veh	1

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		⇕			⇕			⇕			⇕	
Traffic Vol, veh/h	20	444	0	0	399	5	2	1	1	12	0	27
Future Vol, veh/h	20	444	0	0	399	5	2	1	1	12	0	27
Conflicting Peds, #/hr	36	0	7	7	0	36	0	0	3	3	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	95	95	95	95	95	95	95	95	95	95	95	95
Heavy Vehicles, %	0	2	0	0	2	0	0	0	0	8	0	4
Mvmt Flow	21	467	0	0	420	5	2	1	1	13	0	28

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	461	0	0	474	0	0	953	977	477	972	975	459
Stage 1	-	-	-	-	-	-	516	516	-	459	459	-
Stage 2	-	-	-	-	-	-	437	461	-	513	516	-
Critical Hdwy	4.1	-	-	4.1	-	-	7.1	6.5	6.2	7.18	6.5	6.24
Critical Hdwy Stg 1	-	-	-	-	-	-	6.1	5.5	-	6.18	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.1	5.5	-	6.18	5.5	-
Follow-up Hdwy	2.2	-	-	2.2	-	-	3.5	4	3.3	3.572	4	3.336
Pot Cap-1 Maneuver	1111	-	-	1099	-	-	241	253	592	226	253	598
Stage 1	-	-	-	-	-	-	546	538	-	571	570	-
Stage 2	-	-	-	-	-	-	602	569	-	533	538	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1073	-	-	1092	-	-	223	236	586	212	236	577
Mov Cap-2 Maneuver	-	-	-	-	-	-	223	236	-	212	236	-
Stage 1	-	-	-	-	-	-	529	520	-	537	551	-
Stage 2	-	-	-	-	-	-	572	550	-	516	520	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.4	0	18.6	15.7
HCM LOS			C	C

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	268	1073	-	-	1092	-	-	377
HCM Lane V/C Ratio	0.016	0.02	-	-	-	-	-	0.109
HCM Control Delay (s)	18.6	8.4	0	-	0	-	-	15.7
HCM Lane LOS	C	A	A	-	A	-	-	C
HCM 95th %tile Q(veh)	0	0.1	-	-	0	-	-	0.4

Intersection	
Int Delay, s/veh	0.7

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		⇕			⇕			⇕			⇕	
Traffic Vol, veh/h	14	436	3	0	378	5	4	0	0	10	1	13
Future Vol, veh/h	14	436	3	0	378	5	4	0	0	10	1	13
Conflicting Peds, #/hr	28	0	6	6	0	28	2	0	1	1	0	2
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	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	14	1	0	0	2	20	0	0	0	0	0	8
Mvmt Flow	15	474	3	0	411	5	4	0	0	11	1	14

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	444	0	0	483	0	0	935	956	483	949	955	444
Stage 1	-	-	-	-	-	-	512	512	-	442	442	-
Stage 2	-	-	-	-	-	-	423	444	-	507	513	-
Critical Hdwy	4.24	-	-	4.1	-	-	7.1	6.5	6.2	7.1	6.5	6.28
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	2.326	-	-	2.2	-	-	3.5	4	3.3	3.5	4	3.372
Pot Cap-1 Maneuver	1055	-	-	1090	-	-	248	260	588	242	260	601
Stage 1	-	-	-	-	-	-	548	540	-	598	580	-
Stage 2	-	-	-	-	-	-	613	579	-	552	539	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1027	-	-	1084	-	-	236	246	584	232	246	584
Mov Cap-2 Maneuver	-	-	-	-	-	-	236	246	-	232	246	-
Stage 1	-	-	-	-	-	-	534	526	-	570	564	-
Stage 2	-	-	-	-	-	-	596	563	-	540	525	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.3	0	20.5	16.3
HCM LOS			C	C

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	236	1027	-	-	1084	-	-	346
HCM Lane V/C Ratio	0.018	0.015	-	-	-	-	-	0.075
HCM Control Delay (s)	20.5	8.6	0	-	0	-	-	16.3
HCM Lane LOS	C	A	A	-	A	-	-	C
HCM 95th %tile Q(veh)	0.1	0	-	-	0	-	-	0.2

Intersection	
Int Delay, s/veh	0.3

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	4	461	430	0	3	11
Future Vol, veh/h	4	461	430	0	3	11
Conflicting Peds, #/hr	31	0	0	31	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, %	0	1	2	0	67	0
Mvmt Flow	4	485	453	0	3	12

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	484	0	-	0	977	484
Stage 1	-	-	-	-	484	-
Stage 2	-	-	-	-	493	-
Critical Hdwy	4.1	-	-	-	7.07	6.2
Critical Hdwy Stg 1	-	-	-	-	6.07	-
Critical Hdwy Stg 2	-	-	-	-	6.07	-
Follow-up Hdwy	2.2	-	-	-	4.103	3.3
Pot Cap-1 Maneuver	1089	-	-	-	214	587
Stage 1	-	-	-	-	505	-
Stage 2	-	-	-	-	499	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1057	-	-	-	200	570
Mov Cap-2 Maneuver	-	-	-	-	200	-
Stage 1	-	-	-	-	487	-
Stage 2	-	-	-	-	484	-

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

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1057	-	-	-	408
HCM Lane V/C Ratio	0.004	-	-	-	0.036
HCM Control Delay (s)	8.4	0	-	-	14.2
HCM Lane LOS	A	A	-	-	B
HCM 95th %tile Q(veh)	0	-	-	-	0.1

Capacity Analysis Summary Sheets

Year 2022 Base Weekday Evening Peak Hour

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	81	193	68	51	234	186	62	316	28	202	426	80
Future Volume (vph)	81	193	68	51	234	186	62	316	28	202	426	80
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	10	10	10	10	10	10	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	0		0	0		0	50		0	95		0
Storage Lanes	1		0	0		1	1		0	1		0
Taper Length (ft)	25			25			70			95		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor	0.95	0.99			1.00		0.99	0.99		0.99	1.00	
Frt		0.961				0.850		0.988			0.976	
Flt Protected	0.950				0.991		0.950			0.950		
Satd. Flow (prot)	1685	1668	0	0	1751	1478	1805	1834	0	1770	1830	0
Flt Permitted	0.351				0.675		0.458			0.438		
Satd. Flow (perm)	593	1668	0	0	1190	1478	865	1834	0	805	1830	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		15				202		5			16	
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		216			202			332			389	
Travel Time (s)		4.9			4.6			7.5			8.8	
Confl. Peds. (#/hr)	37		8	8		37	8		13	13		8
Confl. Bikes (#/hr)			8			14			12			18
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 (%)	0%	1%	0%	2%	0%	2%	0%	2%	0%	2%	1%	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)	88	284	0	0	309	202	67	373	0	220	550	0
Turn Type	Perm	NA		Perm	NA	NA	Perm	NA		pm+pt	NA	
Protected Phases		4			8			2		1	6	
Permitted Phases	4			8			2			6		
Detector Phase	4	4		8	8		2	2		1	6	
Switch Phase												
Minimum Initial (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	
Minimum Split (s)	27.0	27.0		27.0	27.0		28.0	28.0		9.5	28.0	
Total Split (s)	36.0	36.0		36.0	36.0		56.0	56.0		23.0	79.0	
Total Split (%)	31.3%	31.3%		31.3%	31.3%		48.7%	48.7%		20.0%	68.7%	
Yellow Time (s)	4.0	4.0		4.0	4.0		4.0	4.0		3.0	4.0	
All-Red Time (s)	2.0	2.0		2.0	2.0		2.0	2.0		0.0	2.0	
Lost Time Adjust (s)	0.0	0.0			0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)	6.0	6.0			6.0		6.0	6.0		3.0	6.0	
Lead/Lag							Lag	Lag		Lead		
Lead-Lag Optimize?							Yes	Yes		Yes		
Recall Mode	Max	Max		Max	Max		Max	Max		None	Max	
Act Effct Green (s)	30.0	30.0			30.0	0.0	58.9	58.9		76.0	73.0	
Actuated g/C Ratio	0.26	0.26			0.26	0.00	0.51	0.51		0.66	0.63	

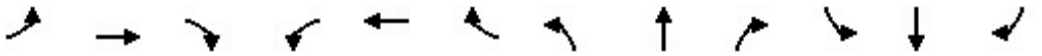
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
v/c Ratio	0.57	0.64			1.00	1.00	0.15	0.40		0.35	0.47	
Control Delay	53.5	43.1			93.7	71.9	16.8	18.9		9.2	12.2	
Queue Delay	0.0	0.0			0.0	0.0	0.0	0.0		0.0	0.0	
Total Delay	53.5	43.1			93.7	71.9	16.8	18.9		9.2	12.2	
LOS	D	D			F	E	B	B		A	B	
Approach Delay		45.6			85.1			18.6			11.4	
Approach LOS		D			F			B			B	
Queue Length 50th (ft)	57	177			229	0	25	160		58	190	
Queue Length 95th (ft)	#120	272			#415	#151	56	249		90	269	
Internal Link Dist (ft)		136			122			252			309	
Turn Bay Length (ft)							50			95		
Base Capacity (vph)	154	446			310	202	442	941		699	1167	
Starvation Cap Reductn	0	0			0	0	0	0		0	0	
Spillback Cap Reductn	0	0			0	0	0	0		0	0	
Storage Cap Reductn	0	0			0	0	0	0		0	0	
Reduced v/c Ratio	0.57	0.64			1.00	1.00	0.15	0.40		0.31	0.47	

Intersection Summary			
Area Type:	Other		
Cycle Length: 115			
Actuated Cycle Length: 115			
Natural Cycle: 65			
Control Type: Semi Act-Uncoord			
Maximum v/c Ratio: 1.00			
Intersection Signal Delay: 37.0		Intersection LOS: D	
Intersection Capacity Utilization 86.6%		ICU Level of Service E	
Analysis Period (min) 15			
# 95th percentile volume exceeds capacity, queue may be longer.			
Queue shown is maximum after two cycles.			

Splits and Phases: 1: Chicago Avenue & South Boulevard

Intersection Capacity Utilization
2: Callan Avenue & Alley/South Boulevard

03/08/2023



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	0	5	2	376	0	6	0	4	332	7	4	0
Pedestrians	57		3	3		57	34					34
Ped Button		Yes			Yes						Yes	
Pedestrian Timing (s)		16.0			16.0						16.0	
Free Right			No			No			No			No
Ideal Flow	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Minimum Green (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Refr Cycle Length (s)	120	120	120	120	120	120	120	120	120	120	120	120
Volume Combined (vph)	0	7	0	376	0	6	0	336	0	0	11	0
Lane Utilization Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Factor (vph)	0.95	0.96	0.85	0.95	1.00	0.85	0.95	0.85	0.85	0.95	0.97	0.85
Saturated Flow (vph)	0	1819	0	1805	0	1615	0	1618	0	0	1840	0
Ped Intf Time (s)	0.0	0.1	0.4	0.0	0.0	5.2	0.0	0.0	0.0	0.0	0.0	3.6
Pedestrian Frequency (%)		0.10			0.85			0.00			0.68	
Protected Option Allowed		No			No			No			No	
Reference Time (s)			0.0			5.6			0.0			0.0
Adj Reference Time (s)			0.0			18.5			0.0			0.0
Permitted Option												
Adj Saturation A (vph)	0	1819		120	0		0	1618		0	172	
Reference Time A (s)	0.0	0.6		375.0	0.0		0.0	24.9		0.0	7.7	
Adj Saturation B (vph	0	1819		0	0		0	1618		NA	NA	
Reference Time B (s)	0.0	0.6		33.0	0.0		0.0	24.9		NA	NA	
Reference Time (s)		0.6			33.0			24.9			7.7	
Adj Reference Time (s)		9.1			37.0			28.9			17.3	
Split Option												
Ref Time Combined (s)	0.0	0.6		25.0	0.0		0.0	24.9		0.0	0.7	
Ref Time Seperate (s)	0.0	0.4		25.0	0.0		0.0	0.3		0.5	0.3	
Reference Time (s)	0.6	0.6		25.0	25.0		24.9	24.9		0.7	0.7	
Adj Reference Time (s)	9.1	9.1		29.0	29.0		28.9	28.9		16.1	16.1	

Summary	EB WB	NB SB	Combined
Protected Option (s)	NA	NA	
Permitted Option (s)	37.0	28.9	
Split Option (s)	38.1	45.1	
Minimum (s)	37.0	28.9	65.9

Right Turns	WBR
Adj Reference Time (s)	18.5
Cross Thru Ref Time (s)	28.9
Oncoming Left Ref Time (s)	9.1
Combined (s)	56.5

Intersection Summary			
Intersection Capacity Utilization	54.9%	ICU Level of Service	A

Reference Times and Phasing Options do not represent an optimized timing plan.

Intersection	
Int Delay, s/veh	1.3

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		⇕			⇕			⇕			⇕	
Traffic Vol, veh/h	12	403	2	0	422	15	2	1	1	22	0	36
Future Vol, veh/h	12	403	2	0	422	15	2	1	1	22	0	36
Conflicting Peds, #/hr	38	0	8	8	0	38	2	0	10	10	0	2
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	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	0	0	0	0	1	0	0	100	0	0	0	6
Mvmt Flow	13	438	2	0	459	16	2	1	1	24	0	39

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	513	0	0	448	0	0	962	986	457	981	979	507
Stage 1	-	-	-	-	-	-	473	473	-	505	505	-
Stage 2	-	-	-	-	-	-	489	513	-	476	474	-
Critical Hdwy	4.1	-	-	4.1	-	-	7.1	7.5	6.2	7.1	6.5	6.26
Critical Hdwy Stg 1	-	-	-	-	-	-	6.1	6.5	-	6.1	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.1	6.5	-	6.1	5.5	-
Follow-up Hdwy	2.2	-	-	2.2	-	-	3.5	4.9	3.3	3.5	4	3.354
Pot Cap-1 Maneuver	1063	-	-	1123	-	-	237	171	608	231	252	558
Stage 1	-	-	-	-	-	-	576	424	-	553	544	-
Stage 2	-	-	-	-	-	-	564	404	-	574	561	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1025	-	-	1114	-	-	215	161	598	216	237	537
Mov Cap-2 Maneuver	-	-	-	-	-	-	215	161	-	216	237	-
Stage 1	-	-	-	-	-	-	562	413	-	524	524	-
Stage 2	-	-	-	-	-	-	522	389	-	556	547	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.2	0	20.7	17.8
HCM LOS			C	C

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	233	1025	-	-	1114	-	-	343
HCM Lane V/C Ratio	0.019	0.013	-	-	-	-	-	0.184
HCM Control Delay (s)	20.7	8.6	0	-	0	-	-	17.8
HCM Lane LOS	C	A	A	-	A	-	-	C
HCM 95th %tile Q(veh)	0.1	0	-	-	0	-	-	0.7

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	8	418	4	1	415	3	2	0	0	18	1	13
Future Vol, veh/h	8	418	4	1	415	3	2	0	0	18	1	13
Conflicting Peds, #/hr	33	0	8	8	0	33	0	0	1	1	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	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	0	1	0	0	1	0	0	0	0	0	0	0
Mvmt Flow	9	454	4	1	451	3	2	0	0	20	1	14

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	487	0	0	466	0	0	944	971	465	963	972	486
Stage 1	-	-	-	-	-	-	482	482	-	488	488	-
Stage 2	-	-	-	-	-	-	462	489	-	475	484	-
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	1086	-	-	1106	-	-	244	255	602	237	254	585
Stage 1	-	-	-	-	-	-	569	557	-	565	553	-
Stage 2	-	-	-	-	-	-	584	553	-	574	555	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1052	-	-	1098	-	-	233	242	597	227	241	567
Mov Cap-2 Maneuver	-	-	-	-	-	-	233	242	-	227	241	-
Stage 1	-	-	-	-	-	-	558	546	-	541	535	-
Stage 2	-	-	-	-	-	-	568	535	-	567	544	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.2	0	20.6	18.5
HCM LOS			C	C

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	233	1052	-	-	1098	-	-	301
HCM Lane V/C Ratio	0.009	0.008	-	-	0.001	-	-	0.116
HCM Control Delay (s)	20.6	8.5	0	-	8.3	0	-	18.5
HCM Lane LOS	C	A	A	-	A	A	-	C
HCM 95th %tile Q(veh)	0	0	-	-	0	-	-	0.4

Intersection	
Int Delay, s/veh	0.2

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	10	420	461	4	1	6
Future Vol, veh/h	10	420	461	4	1	6
Conflicting Peds, #/hr	33	0	0	33	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	89	89	89	89	89	89
Heavy Vehicles, %	0	0	1	0	0	0
Mvmt Flow	11	472	518	4	1	7

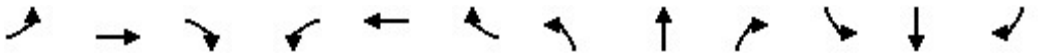
Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	555	0	-	0	1047	553
Stage 1	-	-	-	-	553	-
Stage 2	-	-	-	-	494	-
Critical Hdwy	4.1	-	-	-	6.4	6.2
Critical Hdwy Stg 1	-	-	-	-	5.4	-
Critical Hdwy Stg 2	-	-	-	-	5.4	-
Follow-up Hdwy	2.2	-	-	-	3.5	3.3
Pot Cap-1 Maneuver	1026	-	-	-	255	537
Stage 1	-	-	-	-	580	-
Stage 2	-	-	-	-	617	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	994	-	-	-	236	520
Mov Cap-2 Maneuver	-	-	-	-	236	-
Stage 1	-	-	-	-	553	-
Stage 2	-	-	-	-	598	-

Approach	EB	WB	SB
HCM Control Delay, s	0.2	0	13.3
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	994	-	-	-	444
HCM Lane V/C Ratio	0.011	-	-	-	0.018
HCM Control Delay (s)	8.7	0	-	-	13.3
HCM Lane LOS	A	A	-	-	B
HCM 95th %tile Q(veh)	0	-	-	-	0.1

Capacity Analysis Summary Sheets

Year 2028 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)	56	229	39	40	192	222	37	384	19	224	219	53
Future Volume (vph)	56	229	39	40	192	222	37	384	19	224	219	53
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	10	10	10	10	10	10	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	0		0	0		0	50		0	95		0
Storage Lanes	1		0	0		1	1		0	1		0
Taper Length (ft)	25			25			70			95		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor	0.95	0.99			1.00		1.00	1.00		0.99	1.00	
Frt		0.978				0.850		0.993			0.971	
Flt Protected	0.950				0.991		0.950			0.950		
Satd. Flow (prot)	1652	1724	0	0	1729	1463	1805	1812	0	1770	1774	0
Flt Permitted	0.459				0.743		0.584			0.394		
Satd. Flow (perm)	757	1724	0	0	1295	1463	1106	1812	0	728	1774	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		7				234		3			21	
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		216			202			332			389	
Travel Time (s)		4.9			4.6			7.5			8.8	
Confl. Peds. (#/hr)	32		4	4		32	3		9	9		3
Confl. Bikes (#/hr)			7			5			23			10
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 (%)	2%	0%	0%	0%	2%	3%	0%	4%	0%	2%	4%	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)	59	282	0	0	244	234	39	424	0	236	287	0
Turn Type	Perm	NA		Perm	NA	NA	Perm	NA		pm+pt	NA	
Protected Phases		4			8			2		1	6	
Permitted Phases	4			8			2			6		
Detector Phase	4	4		8	8		2	2		1	6	
Switch Phase												
Minimum Initial (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	
Minimum Split (s)	27.0	27.0		27.0	27.0		28.0	28.0		9.5	28.0	
Total Split (s)	36.0	36.0		36.0	36.0		56.0	56.0		23.0	79.0	
Total Split (%)	31.3%	31.3%		31.3%	31.3%		48.7%	48.7%		20.0%	68.7%	
Yellow Time (s)	4.0	4.0		4.0	4.0		4.0	4.0		3.0	4.0	
All-Red Time (s)	2.0	2.0		2.0	2.0		2.0	2.0		0.0	2.0	
Lost Time Adjust (s)	0.0	0.0			0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)	6.0	6.0			6.0		6.0	6.0		3.0	6.0	
Lead/Lag							Lag	Lag		Lead		
Lead-Lag Optimize?							Yes	Yes		Yes		
Recall Mode	Max	Max		Max	Max		Max	Max		None	Max	
Act Effct Green (s)	30.0	30.0			30.0	0.0	58.4	58.4		76.0	73.0	
Actuated g/C Ratio	0.26	0.26			0.26	0.00	0.51	0.51		0.66	0.63	

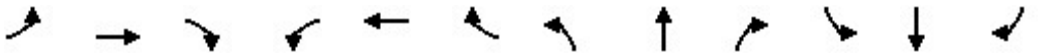
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
v/c Ratio	0.30	0.62			0.72	1.00	0.07	0.46		0.40	0.25	
Control Delay	39.2	43.5			52.5	66.8	15.8	20.5		9.8	9.1	
Queue Delay	0.0	0.0			0.0	0.0	0.0	0.0		0.0	0.0	
Total Delay	39.2	43.5			52.5	66.8	15.8	20.5		9.8	9.1	
LOS	D	D			D	E	B	C		A	A	
Approach Delay		42.7			59.5			20.1			9.4	
Approach LOS		D			E			C			A	
Queue Length 50th (ft)	35	180			165	0	14	193		63	78	
Queue Length 95th (ft)	76	274			#278	#160	35	296		96	121	
Internal Link Dist (ft)		136			122			252			309	
Turn Bay Length (ft)							50			95		
Base Capacity (vph)	197	454			337	234	562	922		662	1133	
Starvation Cap Reductn	0	0			0	0	0	0		0	0	
Spillback Cap Reductn	0	0			0	0	0	0		0	0	
Storage Cap Reductn	0	0			0	0	0	0		0	0	
Reduced v/c Ratio	0.30	0.62			0.72	1.00	0.07	0.46		0.36	0.25	

Intersection Summary			
Area Type:	Other		
Cycle Length: 115			
Actuated Cycle Length: 115			
Natural Cycle: 65			
Control Type: Semi Act-Uncoord			
Maximum v/c Ratio: 1.00			
Intersection Signal Delay: 31.7		Intersection LOS: C	
Intersection Capacity Utilization 87.1%		ICU Level of Service E	
Analysis Period (min) 15			
# 95th percentile volume exceeds capacity, queue may be longer.			
Queue shown is maximum after two cycles.			

Splits and Phases: 1: Chicago Avenue & South Boulevard

Intersection Capacity Utilization
2: Callan Avenue & Alley/South Boulevard

03/08/2023



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	2	8	0	280	0	1	0	3	307	9	4	0
Pedestrians	46		6	6		46	33					33
Ped Button		Yes			Yes						Yes	
Pedestrian Timing (s)		16.0			16.0						16.0	
Free Right			No			No			No			No
Ideal Flow	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Minimum Green (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Refr Cycle Length (s)	120	120	120	120	120	120	120	120	120	120	120	120
Volume Combined (vph)	0	10	0	280	0	1	0	310	0	0	13	0
Lane Utilization Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Factor (vph)	0.95	0.99	0.85	0.95	1.00	0.85	0.95	0.85	0.85	0.95	0.97	0.85
Saturated Flow (vph)	0	1881	0	1805	0	1615	0	1618	0	0	1834	0
Ped Intf Time (s)	0.0	0.0	0.8	0.0	0.0	4.5	0.0	0.0	0.0	0.0	0.0	3.5
Pedestrian Frequency (%)		0.18			0.78			0.00			0.67	
Protected Option Allowed		No			No			No			No	
Reference Time (s)			0.0			4.6			0.0			0.0
Adj Reference Time (s)			0.0			17.5			0.0			0.0
Permitted Option												
Adj Saturation A (vph)	0	466		481	0		0	1618		0	160	
Reference Time A (s)	0.0	2.6		69.8	0.0		0.0	23.0		0.0	9.8	
Adj Saturation B (vph	0	0		0	0		0	1618		NA	NA	
Reference Time B (s)	8.1	8.6		26.6	0.0		0.0	23.0		NA	NA	
Reference Time (s)		2.6			26.6			23.0			9.8	
Adj Reference Time (s)		10.2			30.6			27.0			17.9	
Split Option												
Ref Time Combined (s)	0.0	0.6		18.6	0.0		0.0	23.0		0.0	0.9	
Ref Time Seperate (s)	0.1	0.5		18.6	0.0		0.0	0.2		0.6	0.3	
Reference Time (s)	0.6	0.6		18.6	18.6		23.0	23.0		0.9	0.9	
Adj Reference Time (s)	10.2	10.2		22.6	22.6		27.0	27.0		16.0	16.0	

Summary	EB WB	NB SB	Combined
Protected Option (s)	NA	NA	
Permitted Option (s)	30.6	27.0	
Split Option (s)	32.8	43.0	
Minimum (s)	30.6	27.0	57.6

Right Turns	WBR
Adj Reference Time (s)	17.5
Cross Thru Ref Time (s)	27.0
Oncoming Left Ref Time (s)	10.2
Combined (s)	54.7

Intersection Summary			
Intersection Capacity Utilization	48.0%	ICU Level of Service	A

Reference Times and Phasing Options do not represent an optimized timing plan.

Intersection	
Int Delay, s/veh	1

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		⇕			⇕			⇕			⇕	
Traffic Vol, veh/h	20	448	0	0	403	5	2	1	1	12	0	27
Future Vol, veh/h	20	448	0	0	403	5	2	1	1	12	0	27
Conflicting Peds, #/hr	36	0	7	7	0	36	0	0	3	3	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	95	95	95	95	95	95	95	95	95	95	95	95
Heavy Vehicles, %	0	2	0	0	2	0	0	0	0	8	0	4
Mvmt Flow	21	472	0	0	424	5	2	1	1	13	0	28

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	465	0	0	479	0	0	962	986	482	981	984	463
Stage 1	-	-	-	-	-	-	521	521	-	463	463	-
Stage 2	-	-	-	-	-	-	441	465	-	518	521	-
Critical Hdwy	4.1	-	-	4.1	-	-	7.1	6.5	6.2	7.18	6.5	6.24
Critical Hdwy Stg 1	-	-	-	-	-	-	6.1	5.5	-	6.18	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.1	5.5	-	6.18	5.5	-
Follow-up Hdwy	2.2	-	-	2.2	-	-	3.5	4	3.3	3.572	4	3.336
Pot Cap-1 Maneuver	1107	-	-	1094	-	-	237	250	588	223	250	595
Stage 1	-	-	-	-	-	-	542	535	-	568	568	-
Stage 2	-	-	-	-	-	-	599	566	-	530	535	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1069	-	-	1087	-	-	219	233	582	209	233	575
Mov Cap-2 Maneuver	-	-	-	-	-	-	219	233	-	209	233	-
Stage 1	-	-	-	-	-	-	524	517	-	534	549	-
Stage 2	-	-	-	-	-	-	569	547	-	512	517	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.4	0	18.9	15.8
HCM LOS			C	C

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	264	1069	-	-	1087	-	-	374
HCM Lane V/C Ratio	0.016	0.02	-	-	-	-	-	0.11
HCM Control Delay (s)	18.9	8.4	0	-	0	-	-	15.8
HCM Lane LOS	C	A	A	-	A	-	-	C
HCM 95th %tile Q(veh)	0	0.1	-	-	0	-	-	0.4

Intersection	
Int Delay, s/veh	0.7

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		⇕			⇕			⇕			⇕	
Traffic Vol, veh/h	14	440	3	0	382	5	4	0	0	10	1	13
Future Vol, veh/h	14	440	3	0	382	5	4	0	0	10	1	13
Conflicting Peds, #/hr	28	0	6	6	0	28	2	0	1	1	0	2
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	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	14	1	0	0	2	20	0	0	0	0	0	8
Mvmt Flow	15	478	3	0	415	5	4	0	0	11	1	14

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	448	0	0	487	0	0	943	964	487	957	963	448
Stage 1	-	-	-	-	-	-	516	516	-	446	446	-
Stage 2	-	-	-	-	-	-	427	448	-	511	517	-
Critical Hdwy	4.24	-	-	4.1	-	-	7.1	6.5	6.2	7.1	6.5	6.28
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	2.326	-	-	2.2	-	-	3.5	4	3.3	3.5	4	3.372
Pot Cap-1 Maneuver	1052	-	-	1086	-	-	245	257	585	239	258	598
Stage 1	-	-	-	-	-	-	546	538	-	595	577	-
Stage 2	-	-	-	-	-	-	610	576	-	549	537	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1024	-	-	1080	-	-	233	244	581	229	245	581
Mov Cap-2 Maneuver	-	-	-	-	-	-	233	244	-	229	245	-
Stage 1	-	-	-	-	-	-	532	524	-	568	561	-
Stage 2	-	-	-	-	-	-	593	560	-	538	523	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.3	0	20.7	16.4
HCM LOS			C	C

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	233	1024	-	-	1080	-	-	342
HCM Lane V/C Ratio	0.019	0.015	-	-	-	-	-	0.076
HCM Control Delay (s)	20.7	8.6	0	-	0	-	-	16.4
HCM Lane LOS	C	A	A	-	A	-	-	C
HCM 95th %tile Q(veh)	0.1	0	-	-	0	-	-	0.2

Intersection	
Int Delay, s/veh	0.3

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	4	466	434	0	3	11
Future Vol, veh/h	4	466	434	0	3	11
Conflicting Peds, #/hr	31	0	0	31	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, %	0	1	2	0	67	0
Mvmt Flow	4	491	457	0	3	12

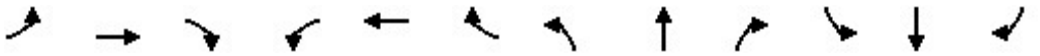
Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	488	0	-	0	987	488
Stage 1	-	-	-	-	488	-
Stage 2	-	-	-	-	499	-
Critical Hdwy	4.1	-	-	-	7.07	6.2
Critical Hdwy Stg 1	-	-	-	-	6.07	-
Critical Hdwy Stg 2	-	-	-	-	6.07	-
Follow-up Hdwy	2.2	-	-	-	4.103	3.3
Pot Cap-1 Maneuver	1086	-	-	-	210	584
Stage 1	-	-	-	-	502	-
Stage 2	-	-	-	-	496	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1054	-	-	-	197	567
Mov Cap-2 Maneuver	-	-	-	-	197	-
Stage 1	-	-	-	-	484	-
Stage 2	-	-	-	-	481	-

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

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1054	-	-	-	404
HCM Lane V/C Ratio	0.004	-	-	-	0.036
HCM Control Delay (s)	8.4	0	-	-	14.2
HCM Lane LOS	A	A	-	-	B
HCM 95th %tile Q(veh)	0	-	-	-	0.1

Capacity Analysis Summary Sheets

Year 2028 No-Build Weekday Evening Peak Hour



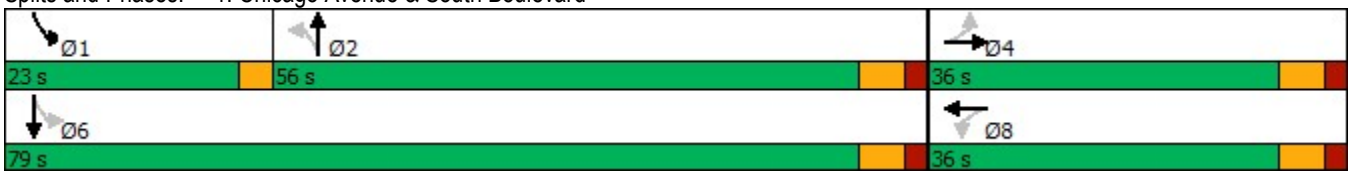
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	82	195	69	52	236	188	63	319	28	204	430	81
Future Volume (vph)	82	195	69	52	236	188	63	319	28	204	430	81
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	10	10	10	10	10	10	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	0		0	0		0	50		0	95		0
Storage Lanes	1		0	0		1	1		0	1		0
Taper Length (ft)	25			25			70			95		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor	0.95	0.99			1.00		0.99	0.99		0.99	1.00	
Frt		0.961				0.850		0.988			0.976	
Flt Protected	0.950				0.991		0.950			0.950		
Satd. Flow (prot)	1685	1668	0	0	1751	1478	1805	1834	0	1770	1830	0
Flt Permitted	0.343				0.659		0.456			0.435		
Satd. Flow (perm)	580	1668	0	0	1162	1478	861	1834	0	799	1830	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		15				204		5			16	
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		216			202			332			389	
Travel Time (s)		4.9			4.6			7.5			8.8	
Confl. Peds. (#/hr)	37		8	8		37	8		13	13		8
Confl. Bikes (#/hr)			8			14			12			18
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 (%)	0%	1%	0%	2%	0%	2%	0%	2%	0%	2%	1%	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)	89	287	0	0	314	204	68	377	0	222	555	0
Turn Type	Perm	NA		Perm	NA	NA	Perm	NA		pm+pt	NA	
Protected Phases		4			8			2		1	6	
Permitted Phases	4			8			2			6		
Detector Phase	4	4		8	8		2	2		1	6	
Switch Phase												
Minimum Initial (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	
Minimum Split (s)	27.0	27.0		27.0	27.0		28.0	28.0		9.5	28.0	
Total Split (s)	36.0	36.0		36.0	36.0		56.0	56.0		23.0	79.0	
Total Split (%)	31.3%	31.3%		31.3%	31.3%		48.7%	48.7%		20.0%	68.7%	
Yellow Time (s)	4.0	4.0		4.0	4.0		4.0	4.0		3.0	4.0	
All-Red Time (s)	2.0	2.0		2.0	2.0		2.0	2.0		0.0	2.0	
Lost Time Adjust (s)	0.0	0.0			0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)	6.0	6.0			6.0		6.0	6.0		3.0	6.0	
Lead/Lag							Lag	Lag		Lead		
Lead-Lag Optimize?							Yes	Yes		Yes		
Recall Mode	Max	Max		Max	Max		Max	Max		None	Max	
Act Effct Green (s)	30.0	30.0			30.0	0.0	58.9	58.9		76.0	73.0	
Actuated g/C Ratio	0.26	0.26			0.26	0.00	0.51	0.51		0.66	0.63	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
v/c Ratio	0.59	0.64			1.04	1.00	0.15	0.40		0.36	0.48	
Control Delay	55.1	43.4			103.8	71.5	16.9	19.0		9.3	12.3	
Queue Delay	0.0	0.0			0.0	0.0	0.0	0.0		0.0	0.0	
Total Delay	55.1	43.4			103.8	71.5	16.9	19.0		9.3	12.3	
LOS	E	D			F	E	B	B		A	B	
Approach Delay		46.2			91.1			18.7			11.4	
Approach LOS		D			F			B			B	
Queue Length 50th (ft)	58	180			~251	0	26	162		58	193	
Queue Length 95th (ft)	#127	276			#428	#151	57	252		91	273	
Internal Link Dist (ft)		136			122			252			309	
Turn Bay Length (ft)							50			95		
Base Capacity (vph)	151	446			303	204	440	941		696	1167	
Starvation Cap Reductn	0	0			0	0	0	0		0	0	
Spillback Cap Reductn	0	0			0	0	0	0		0	0	
Storage Cap Reductn	0	0			0	0	0	0		0	0	
Reduced v/c Ratio	0.59	0.64			1.04	1.00	0.15	0.40		0.32	0.48	

Intersection Summary

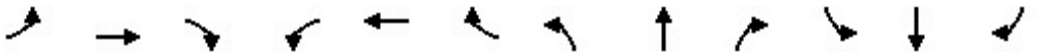
Area Type: Other
Cycle Length: 115
Actuated Cycle Length: 115
Natural Cycle: 65
Control Type: Semi Act-Uncoord
Maximum v/c Ratio: 1.04
Intersection Signal Delay: 38.6 Intersection LOS: D
Intersection Capacity Utilization 86.8% ICU Level of Service E
Analysis Period (min) 15
~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 1: Chicago Avenue & South Boulevard



Intersection Capacity Utilization
2: Callan Avenue & Alley/South Boulevard

03/08/2023



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	0	5	2	380	0	6	0	4	335	7	4	0
Pedestrians	57		3	3		57	34					34
Ped Button		Yes			Yes						Yes	
Pedestrian Timing (s)		16.0			16.0						16.0	
Free Right			No			No			No			No
Ideal Flow	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Minimum Green (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Refr Cycle Length (s)	120	120	120	120	120	120	120	120	120	120	120	120
Volume Combined (vph)	0	7	0	380	0	6	0	339	0	0	11	0
Lane Utilization Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Factor (vph)	0.95	0.96	0.85	0.95	1.00	0.85	0.95	0.85	0.85	0.95	0.97	0.85
Saturated Flow (vph)	0	1819	0	1805	0	1615	0	1618	0	0	1840	0
Ped Intf Time (s)	0.0	0.1	0.4	0.0	0.0	5.2	0.0	0.0	0.0	0.0	0.0	3.6
Pedestrian Frequency (%)		0.10			0.85			0.00			0.68	
Protected Option Allowed		No			No			No			No	
Reference Time (s)			0.0			5.6			0.0			0.0
Adj Reference Time (s)			0.0			18.5			0.0			0.0
Permitted Option												
Adj Saturation A (vph)	0	1819		120	0		0	1618		0	172	
Reference Time A (s)	0.0	0.6		378.9	0.0		0.0	25.1		0.0	7.7	
Adj Saturation B (vph	0	1819		0	0		0	1618		NA	NA	
Reference Time B (s)	0.0	0.6		33.3	0.0		0.0	25.1		NA	NA	
Reference Time (s)		0.6			33.3			25.1			7.7	
Adj Reference Time (s)		9.1			37.3			29.1			17.3	
Split Option												
Ref Time Combined (s)	0.0	0.6		25.3	0.0		0.0	25.1		0.0	0.7	
Ref Time Seperate (s)	0.0	0.4		25.3	0.0		0.0	0.3		0.5	0.3	
Reference Time (s)	0.6	0.6		25.3	25.3		25.1	25.1		0.7	0.7	
Adj Reference Time (s)	9.1	9.1		29.3	29.3		29.1	29.1		16.1	16.1	

Summary	EB WB	NB SB	Combined
Protected Option (s)	NA	NA	
Permitted Option (s)	37.3	29.1	
Split Option (s)	38.4	45.3	
Minimum (s)	37.3	29.1	66.4

Right Turns	WBR
Adj Reference Time (s)	18.5
Cross Thru Ref Time (s)	29.1
Oncoming Left Ref Time (s)	9.1
Combined (s)	56.7

Intersection Summary			
Intersection Capacity Utilization	55.3%	ICU Level of Service	B

Reference Times and Phasing Options do not represent an optimized timing plan.

Intersection	
Int Delay, s/veh	1.3

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		⇕			⇕			⇕			⇕	
Traffic Vol, veh/h	12	407	2	0	426	15	2	1	1	22	0	36
Future Vol, veh/h	12	407	2	0	426	15	2	1	1	22	0	36
Conflicting Peds, #/hr	38	0	8	8	0	38	2	0	10	10	0	2
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	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	0	0	0	0	1	0	0	100	0	0	0	6
Mvmt Flow	13	442	2	0	463	16	2	1	1	24	0	39

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	517	0	0	452	0	0	970	994	461	989	987	511
Stage 1	-	-	-	-	-	-	477	477	-	509	509	-
Stage 2	-	-	-	-	-	-	493	517	-	480	478	-
Critical Hdwy	4.1	-	-	4.1	-	-	7.1	7.5	6.2	7.1	6.5	6.26
Critical Hdwy Stg 1	-	-	-	-	-	-	6.1	6.5	-	6.1	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.1	6.5	-	6.1	5.5	-
Follow-up Hdwy	2.2	-	-	2.2	-	-	3.5	4.9	3.3	3.5	4	3.354
Pot Cap-1 Maneuver	1059	-	-	1119	-	-	235	169	605	228	249	555
Stage 1	-	-	-	-	-	-	573	422	-	550	541	-
Stage 2	-	-	-	-	-	-	562	402	-	571	559	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1021	-	-	1110	-	-	213	159	595	213	234	534
Mov Cap-2 Maneuver	-	-	-	-	-	-	213	159	-	213	234	-
Stage 1	-	-	-	-	-	-	559	411	-	521	522	-
Stage 2	-	-	-	-	-	-	520	388	-	553	545	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.2	0	21	18
HCM LOS			C	C

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	230	1021	-	-	1110	-	-	340
HCM Lane V/C Ratio	0.019	0.013	-	-	-	-	-	0.185
HCM Control Delay (s)	21	8.6	0	-	0	-	-	18
HCM Lane LOS	C	A	A	-	A	-	-	C
HCM 95th %tile Q(veh)	0.1	0	-	-	0	-	-	0.7

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	8	422	4	1	419	3	2	0	0	18	1	13
Future Vol, veh/h	8	422	4	1	419	3	2	0	0	18	1	13
Conflicting Peds, #/hr	33	0	8	8	0	33	0	0	1	1	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	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	0	1	0	0	1	0	0	0	0	0	0	0
Mvmt Flow	9	459	4	1	455	3	2	0	0	20	1	14

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	491	0	0	471	0	0	953	980	470	972	981	490
Stage 1	-	-	-	-	-	-	487	487	-	492	492	-
Stage 2	-	-	-	-	-	-	466	493	-	480	489	-
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	1083	-	-	1101	-	-	241	252	598	234	251	582
Stage 1	-	-	-	-	-	-	566	554	-	562	551	-
Stage 2	-	-	-	-	-	-	581	550	-	571	553	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1049	-	-	1093	-	-	230	239	593	224	238	564
Mov Cap-2 Maneuver	-	-	-	-	-	-	230	239	-	224	238	-
Stage 1	-	-	-	-	-	-	555	543	-	538	533	-
Stage 2	-	-	-	-	-	-	565	532	-	564	542	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.2	0	20.8	18.7
HCM LOS			C	C

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	230	1049	-	-	1093	-	-	297
HCM Lane V/C Ratio	0.009	0.008	-	-	0.001	-	-	0.117
HCM Control Delay (s)	20.8	8.5	0	-	8.3	0	-	18.7
HCM Lane LOS	C	A	A	-	A	A	-	C
HCM 95th %tile Q(veh)	0	0	-	-	0	-	-	0.4

Intersection	
Int Delay, s/veh	0.2

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	10	424	466	4	1	6
Future Vol, veh/h	10	424	466	4	1	6
Conflicting Peds, #/hr	33	0	0	33	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	89	89	89	89	89	89
Heavy Vehicles, %	0	0	1	0	0	0
Mvmt Flow	11	476	524	4	1	7

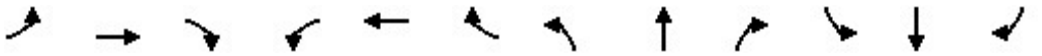
Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	561	0	-	0	1057	559
Stage 1	-	-	-	-	559	-
Stage 2	-	-	-	-	498	-
Critical Hdwy	4.1	-	-	-	6.4	6.2
Critical Hdwy Stg 1	-	-	-	-	5.4	-
Critical Hdwy Stg 2	-	-	-	-	5.4	-
Follow-up Hdwy	2.2	-	-	-	3.5	3.3
Pot Cap-1 Maneuver	1020	-	-	-	251	532
Stage 1	-	-	-	-	576	-
Stage 2	-	-	-	-	615	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	988	-	-	-	232	515
Mov Cap-2 Maneuver	-	-	-	-	232	-
Stage 1	-	-	-	-	550	-
Stage 2	-	-	-	-	596	-

Approach	EB	WB	SB
HCM Control Delay, s	0.2	0	13.4
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	988	-	-	-	439
HCM Lane V/C Ratio	0.011	-	-	-	0.018
HCM Control Delay (s)	8.7	0	-	-	13.4
HCM Lane LOS	A	A	-	-	B
HCM 95th %tile Q(veh)	0	-	-	-	0.1

Capacity Analysis Summary Sheets

Year 2028 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)	56	230	39	43	195	228	37	384	20	227	219	53
Future Volume (vph)	56	230	39	43	195	228	37	384	20	227	219	53
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	10	10	10	10	10	10	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	0		0	0		0	50		0	95		0
Storage Lanes	1		0	0		1	1		0	1		0
Taper Length (ft)	25			25			70			95		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor	0.95	0.99			1.00		1.00	1.00		0.99	1.00	
Frt		0.978				0.850		0.993			0.971	
Flt Protected	0.950				0.991		0.950			0.950		
Satd. Flow (prot)	1652	1724	0	0	1729	1463	1805	1812	0	1770	1774	0
Flt Permitted	0.449				0.722		0.584			0.393		
Satd. Flow (perm)	741	1724	0	0	1258	1463	1106	1812	0	726	1774	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		7				240		3			21	
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		216			202			332			389	
Travel Time (s)		4.9			4.6			7.5			8.8	
Confl. Peds. (#/hr)	32		4	4		32	3		9	9		3
Confl. Bikes (#/hr)			7			5			23			10
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 (%)	2%	0%	0%	0%	2%	3%	0%	4%	0%	2%	4%	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)	59	283	0	0	250	240	39	425	0	239	287	0
Turn Type	Perm	NA		Perm	NA	NA	Perm	NA		pm+pt	NA	
Protected Phases		4			8			2		1	6	
Permitted Phases	4			8			2			6		
Detector Phase	4	4		8	8		2	2		1	6	
Switch Phase												
Minimum Initial (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	
Minimum Split (s)	27.0	27.0		27.0	27.0		28.0	28.0		9.5	28.0	
Total Split (s)	36.0	36.0		36.0	36.0		56.0	56.0		23.0	79.0	
Total Split (%)	31.3%	31.3%		31.3%	31.3%		48.7%	48.7%		20.0%	68.7%	
Yellow Time (s)	4.0	4.0		4.0	4.0		4.0	4.0		3.0	4.0	
All-Red Time (s)	2.0	2.0		2.0	2.0		2.0	2.0		0.0	2.0	
Lost Time Adjust (s)	0.0	0.0			0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)	6.0	6.0			6.0		6.0	6.0		3.0	6.0	
Lead/Lag							Lag	Lag		Lead		
Lead-Lag Optimize?							Yes	Yes		Yes		
Recall Mode	Max	Max		Max	Max		Max	Max		None	Max	
Act Effct Green (s)	30.0	30.0			30.0	0.0	58.3	58.3		76.0	73.0	
Actuated g/C Ratio	0.26	0.26			0.26	0.00	0.51	0.51		0.66	0.63	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
v/c Ratio	0.31	0.62			0.76	1.00	0.07	0.46		0.41	0.25	
Control Delay	39.5	43.6			55.7	65.9	15.9	20.6		9.9	9.1	
Queue Delay	0.0	0.0			0.0	0.0	0.0	0.0		0.0	0.0	
Total Delay	39.5	43.6			55.7	65.9	15.9	20.6		9.9	9.1	
LOS	D	D			E	E	B	C		A	A	
Approach Delay		42.9			60.7			20.2			9.5	
Approach LOS		D			E			C			A	
Queue Length 50th (ft)	35	181			171	0	14	193		63	78	
Queue Length 95th (ft)	76	275			#296	#162	35	298		98	121	
Internal Link Dist (ft)		136			122			252			309	
Turn Bay Length (ft)							50			95		
Base Capacity (vph)	193	454			328	240	561	920		661	1133	
Starvation Cap Reductn	0	0			0	0	0	0		0	0	
Spillback Cap Reductn	0	0			0	0	0	0		0	0	
Storage Cap Reductn	0	0			0	0	0	0		0	0	
Reduced v/c Ratio	0.31	0.62			0.76	1.00	0.07	0.46		0.36	0.25	

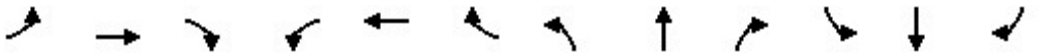
Intersection Summary

Area Type: Other
Cycle Length: 115
Actuated Cycle Length: 115
Natural Cycle: 65
Control Type: Semi Act-Uncoord
Maximum v/c Ratio: 1.00
Intersection Signal Delay: 32.3 Intersection LOS: C
Intersection Capacity Utilization 87.4% ICU Level of Service E
Analysis Period (min) 15
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 1: Chicago Avenue & South Boulevard

Intersection Capacity Utilization
2: Callan Avenue & Alley/South Boulevard

03/08/2023



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	2	8	0	283	0	1	0	3	308	9	4	0
Pedestrians	46		6	6		46	33					33
Ped Button		Yes			Yes						Yes	
Pedestrian Timing (s)		16.0			16.0						16.0	
Free Right			No			No			No			No
Ideal Flow	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Minimum Green (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Refr Cycle Length (s)	120	120	120	120	120	120	120	120	120	120	120	120
Volume Combined (vph)	0	10	0	283	0	1	0	311	0	0	13	0
Lane Utilization Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Factor (vph)	0.95	0.99	0.85	0.95	1.00	0.85	0.95	0.85	0.85	0.95	0.97	0.85
Saturated Flow (vph)	0	1881	0	1805	0	1615	0	1618	0	0	1834	0
Ped Intf Time (s)	0.0	0.0	0.8	0.0	0.0	4.5	0.0	0.0	0.0	0.0	0.0	3.5
Pedestrian Frequency (%)		0.18			0.78			0.00			0.67	
Protected Option Allowed		No			No			No			No	
Reference Time (s)			0.0			4.6			0.0			0.0
Adj Reference Time (s)			0.0			17.5			0.0			0.0
Permitted Option												
Adj Saturation A (vph)	0	466		481	0		0	1618		0	160	
Reference Time A (s)	0.0	2.6		70.6	0.0		0.0	23.1		0.0	9.8	
Adj Saturation B (vph	0	0		0	0		0	1618		NA	NA	
Reference Time B (s)	8.1	8.6		26.8	0.0		0.0	23.1		NA	NA	
Reference Time (s)		2.6			26.8			23.1			9.8	
Adj Reference Time (s)		10.2			30.8			27.1			17.9	
Split Option												
Ref Time Combined (s)	0.0	0.6		18.8	0.0		0.0	23.1		0.0	0.9	
Ref Time Seperate (s)	0.1	0.5		18.8	0.0		0.0	0.2		0.6	0.3	
Reference Time (s)	0.6	0.6		18.8	18.8		23.1	23.1		0.9	0.9	
Adj Reference Time (s)	10.2	10.2		22.8	22.8		27.1	27.1		16.0	16.0	

Summary	EB WB	NB SB	Combined
Protected Option (s)	NA	NA	
Permitted Option (s)	30.8	27.1	
Split Option (s)	33.0	43.1	
Minimum (s)	30.8	27.1	57.9

Right Turns	WBR
Adj Reference Time (s)	17.5
Cross Thru Ref Time (s)	27.1
Oncoming Left Ref Time (s)	10.2
Combined (s)	54.8

Intersection Summary			
Intersection Capacity Utilization	48.2%	ICU Level of Service	A

Reference Times and Phasing Options do not represent an optimized timing plan.

Intersection	
Int Delay, s/veh	1.3

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	20	448	5	2	403	5	14	1	5	12	0	27
Future Vol, veh/h	20	448	5	2	403	5	14	1	5	12	0	27
Conflicting Peds, #/hr	36	0	7	7	0	36	0	0	3	3	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	95	95	95	95	95	95	95	95	95	95	95	95
Heavy Vehicles, %	0	2	0	0	2	0	0	0	0	8	0	4
Mvmt Flow	21	472	5	2	424	5	15	1	5	13	0	28

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	465	0	0	484	0	0	969	993	485	990	993	463
Stage 1	-	-	-	-	-	-	524	524	-	467	467	-
Stage 2	-	-	-	-	-	-	445	469	-	523	526	-
Critical Hdwy	4.1	-	-	4.1	-	-	7.1	6.5	6.2	7.18	6.5	6.24
Critical Hdwy Stg 1	-	-	-	-	-	-	6.1	5.5	-	6.18	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.1	5.5	-	6.18	5.5	-
Follow-up Hdwy	2.2	-	-	2.2	-	-	3.5	4	3.3	3.572	4	3.336
Pot Cap-1 Maneuver	1107	-	-	1089	-	-	235	247	586	220	247	595
Stage 1	-	-	-	-	-	-	540	533	-	565	565	-
Stage 2	-	-	-	-	-	-	596	564	-	526	532	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1069	-	-	1082	-	-	217	230	580	205	230	575
Mov Cap-2 Maneuver	-	-	-	-	-	-	217	230	-	205	230	-
Stage 1	-	-	-	-	-	-	522	515	-	531	545	-
Stage 2	-	-	-	-	-	-	565	544	-	505	514	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.4	0	20.2	15.9
HCM LOS			C	C

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	258	1069	-	-	1082	-	-	370
HCM Lane V/C Ratio	0.082	0.02	-	-	0.002	-	-	0.111
HCM Control Delay (s)	20.2	8.4	0	-	8.3	0	-	15.9
HCM Lane LOS	C	A	A	-	A	A	-	C
HCM 95th %tile Q(veh)	0.3	0.1	-	-	0	-	-	0.4

Intersection	
Int Delay, s/veh	0.7

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		⇕			⇕			⇕			⇕	
Traffic Vol, veh/h	14	444	3	0	384	5	4	0	0	10	1	13
Future Vol, veh/h	14	444	3	0	384	5	4	0	0	10	1	13
Conflicting Peds, #/hr	28	0	6	6	0	28	2	0	1	1	0	2
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	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	14	1	0	0	2	20	0	0	0	0	0	8
Mvmt Flow	15	483	3	0	417	5	4	0	0	11	1	14

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	450	0	0	492	0	0	950	971	492	964	970	450
Stage 1	-	-	-	-	-	-	521	521	-	448	448	-
Stage 2	-	-	-	-	-	-	429	450	-	516	522	-
Critical Hdwy	4.24	-	-	4.1	-	-	7.1	6.5	6.2	7.1	6.5	6.28
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	2.326	-	-	2.2	-	-	3.5	4	3.3	3.5	4	3.372
Pot Cap-1 Maneuver	1050	-	-	1082	-	-	242	255	581	237	255	597
Stage 1	-	-	-	-	-	-	542	535	-	594	576	-
Stage 2	-	-	-	-	-	-	608	575	-	546	534	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1022	-	-	1076	-	-	230	242	577	227	242	580
Mov Cap-2 Maneuver	-	-	-	-	-	-	230	242	-	227	242	-
Stage 1	-	-	-	-	-	-	528	521	-	567	560	-
Stage 2	-	-	-	-	-	-	591	559	-	535	520	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.3	0	21	16.5
HCM LOS			C	C

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	230	1022	-	-	1076	-	-	340
HCM Lane V/C Ratio	0.019	0.015	-	-	-	-	-	0.077
HCM Control Delay (s)	21	8.6	0	-	0	-	-	16.5
HCM Lane LOS	C	A	A	-	A	-	-	C
HCM 95th %tile Q(veh)	0.1	0	-	-	0	-	-	0.2

Intersection	
Int Delay, s/veh	0.3

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	4	471	446	0	3	11
Future Vol, veh/h	4	471	446	0	3	11
Conflicting Peds, #/hr	31	0	0	31	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, %	0	1	2	0	67	0
Mvmt Flow	4	496	469	0	3	12

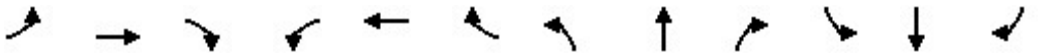
Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	500	0	-	0	1004	500
Stage 1	-	-	-	-	500	-
Stage 2	-	-	-	-	504	-
Critical Hdwy	4.1	-	-	-	7.07	6.2
Critical Hdwy Stg 1	-	-	-	-	6.07	-
Critical Hdwy Stg 2	-	-	-	-	6.07	-
Follow-up Hdwy	2.2	-	-	-	4.103	3.3
Pot Cap-1 Maneuver	1075	-	-	-	205	575
Stage 1	-	-	-	-	495	-
Stage 2	-	-	-	-	493	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1043	-	-	-	192	558
Mov Cap-2 Maneuver	-	-	-	-	192	-
Stage 1	-	-	-	-	478	-
Stage 2	-	-	-	-	478	-

Approach	EB	WB	SB
HCM Control Delay, s	0.1	0	14.4
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1043	-	-	-	396
HCM Lane V/C Ratio	0.004	-	-	-	0.037
HCM Control Delay (s)	8.5	0	-	-	14.4
HCM Lane LOS	A	A	-	-	B
HCM 95th %tile Q(veh)	0	-	-	-	0.1

Capacity Analysis Summary Sheets

Year 2028 Total Projected Weekday Evening Peak Hour



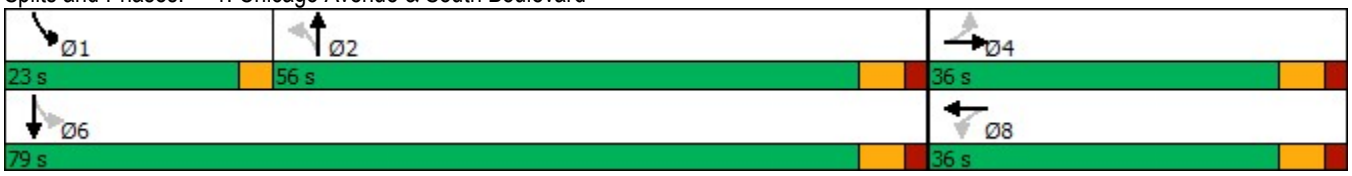
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	82	197	69	54	237	192	63	319	31	210	430	81
Future Volume (vph)	82	197	69	54	237	192	63	319	31	210	430	81
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	10	10	10	10	10	10	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	0		0	0		0	50		0	95		0
Storage Lanes	1		0	0		1	1		0	1		0
Taper Length (ft)	25			25			70			95		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor	0.95	0.99			1.00		0.99	0.99		0.99	1.00	
Frt		0.961				0.850		0.987			0.976	
Flt Protected	0.950				0.991		0.950			0.950		
Satd. Flow (prot)	1685	1669	0	0	1751	1478	1805	1831	0	1770	1830	0
Flt Permitted	0.338				0.645		0.456			0.431		
Satd. Flow (perm)	572	1669	0	0	1137	1478	861	1831	0	792	1830	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		15				209		5			16	
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		216			202			332			389	
Travel Time (s)		4.9			4.6			7.5			8.8	
Confl. Peds. (#/hr)	37		8	8		37	8		13	13		8
Confl. Bikes (#/hr)			8			14			12			18
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 (%)	0%	1%	0%	2%	0%	2%	0%	2%	0%	2%	1%	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)	89	289	0	0	317	209	68	381	0	228	555	0
Turn Type	Perm	NA		Perm	NA	NA	Perm	NA		pm+pt	NA	
Protected Phases		4			8			2		1	6	
Permitted Phases	4			8			2			6		
Detector Phase	4	4		8	8		2	2		1	6	
Switch Phase												
Minimum Initial (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	
Minimum Split (s)	27.0	27.0		27.0	27.0		28.0	28.0		9.5	28.0	
Total Split (s)	36.0	36.0		36.0	36.0		56.0	56.0		23.0	79.0	
Total Split (%)	31.3%	31.3%		31.3%	31.3%		48.7%	48.7%		20.0%	68.7%	
Yellow Time (s)	4.0	4.0		4.0	4.0		4.0	4.0		3.0	4.0	
All-Red Time (s)	2.0	2.0		2.0	2.0		2.0	2.0		0.0	2.0	
Lost Time Adjust (s)	0.0	0.0			0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)	6.0	6.0			6.0		6.0	6.0		3.0	6.0	
Lead/Lag							Lag	Lag		Lead		
Lead-Lag Optimize?							Yes	Yes		Yes		
Recall Mode	Max	Max		Max	Max		Max	Max		None	Max	
Act Effct Green (s)	30.0	30.0			30.0	0.0	58.7	58.7		76.0	73.0	
Actuated g/C Ratio	0.26	0.26			0.26	0.00	0.51	0.51		0.66	0.63	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
v/c Ratio	0.60	0.65			1.07	1.00	0.15	0.41		0.37	0.48	
Control Delay	55.9	43.6			113.8	70.6	17.0	19.3		9.4	12.3	
Queue Delay	0.0	0.0			0.0	0.0	0.0	0.0		0.0	0.0	
Total Delay	55.9	43.6			113.8	70.6	17.0	19.3		9.4	12.3	
LOS	E	D			F	E	B	B		A	B	
Approach Delay		46.5			96.6			18.9			11.4	
Approach LOS		D			F			B			B	
Queue Length 50th (ft)	58	181			~260	0	26	165		60	193	
Queue Length 95th (ft)	#129	278			#439	#153	57	257		93	273	
Internal Link Dist (ft)		136			122			252			309	
Turn Bay Length (ft)							50			95		
Base Capacity (vph)	149	446			296	209	439	936		693	1167	
Starvation Cap Reductn	0	0			0	0	0	0		0	0	
Spillback Cap Reductn	0	0			0	0	0	0		0	0	
Storage Cap Reductn	0	0			0	0	0	0		0	0	
Reduced v/c Ratio	0.60	0.65			1.07	1.00	0.15	0.41		0.33	0.48	

Intersection Summary

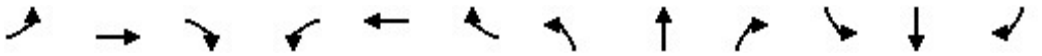
Area Type: Other
Cycle Length: 115
Actuated Cycle Length: 115
Natural Cycle: 65
Control Type: Semi Act-Uncoord
Maximum v/c Ratio: 1.07
Intersection Signal Delay: 40.2 Intersection LOS: D
Intersection Capacity Utilization 86.8% ICU Level of Service E
Analysis Period (min) 15
~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 1: Chicago Avenue & South Boulevard



Intersection Capacity Utilization
2: Callan Avenue & Alley/South Boulevard

03/08/2023



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	0	5	2	381	0	6	0	4	337	7	4	0
Pedestrians	57		3	3		57	34					34
Ped Button		Yes			Yes						Yes	
Pedestrian Timing (s)		16.0			16.0						16.0	
Free Right			No			No			No			No
Ideal Flow	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Minimum Green (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Refr Cycle Length (s)	120	120	120	120	120	120	120	120	120	120	120	120
Volume Combined (vph)	0	7	0	381	0	6	0	341	0	0	11	0
Lane Utilization Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Factor (vph)	0.95	0.96	0.85	0.95	1.00	0.85	0.95	0.85	0.85	0.95	0.97	0.85
Saturated Flow (vph)	0	1819	0	1805	0	1615	0	1618	0	0	1840	0
Ped Intf Time (s)	0.0	0.1	0.4	0.0	0.0	5.2	0.0	0.0	0.0	0.0	0.0	3.6
Pedestrian Frequency (%)		0.10			0.85			0.00			0.68	
Protected Option Allowed		No			No			No			No	
Reference Time (s)			0.0			5.6			0.0			0.0
Adj Reference Time (s)			0.0			18.5			0.0			0.0
Permitted Option												
Adj Saturation A (vph)	0	1819		120	0		0	1618		0	172	
Reference Time A (s)	0.0	0.6		379.9	0.0		0.0	25.3		0.0	7.7	
Adj Saturation B (vph	0	1819		0	0		0	1618		NA	NA	
Reference Time B (s)	0.0	0.6		33.3	0.0		0.0	25.3		NA	NA	
Reference Time (s)		0.6			33.3			25.3			7.7	
Adj Reference Time (s)		9.1			37.3			29.3			17.3	
Split Option												
Ref Time Combined (s)	0.0	0.6		25.3	0.0		0.0	25.3		0.0	0.7	
Ref Time Seperate (s)	0.0	0.4		25.3	0.0		0.0	0.3		0.5	0.3	
Reference Time (s)	0.6	0.6		25.3	25.3		25.3	25.3		0.7	0.7	
Adj Reference Time (s)	9.1	9.1		29.3	29.3		29.3	29.3		16.1	16.1	

Summary	EB WB	NB SB	Combined
Protected Option (s)	NA	NA	
Permitted Option (s)	37.3	29.3	
Split Option (s)	38.5	45.4	
Minimum (s)	37.3	29.3	66.6

Right Turns	WBR
Adj Reference Time (s)	18.5
Cross Thru Ref Time (s)	29.3
Oncoming Left Ref Time (s)	9.1
Combined (s)	56.9

Intersection Summary			
Intersection Capacity Utilization	55.5%	ICU Level of Service	B

Reference Times and Phasing Options do not represent an optimized timing plan.

Intersection	
Int Delay, s/veh	1.5

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	12	407	13	3	426	15	9	1	3	22	0	36
Future Vol, veh/h	12	407	13	3	426	15	9	1	3	22	0	36
Conflicting Peds, #/hr	38	0	8	8	0	38	2	0	10	10	0	2
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	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	0	0	0	0	1	0	0	100	0	0	0	6
Mvmt Flow	13	442	14	3	463	16	10	1	3	24	0	39

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	517	0	0	464	0	0	982	1006	467	1002	1005	511
Stage 1	-	-	-	-	-	-	483	483	-	515	515	-
Stage 2	-	-	-	-	-	-	499	523	-	487	490	-
Critical Hdwy	4.1	-	-	4.1	-	-	7.1	7.5	6.2	7.1	6.5	6.26
Critical Hdwy Stg 1	-	-	-	-	-	-	6.1	6.5	-	6.1	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.1	6.5	-	6.1	5.5	-
Follow-up Hdwy	2.2	-	-	2.2	-	-	3.5	4.9	3.3	3.5	4	3.354
Pot Cap-1 Maneuver	1059	-	-	1108	-	-	230	166	600	223	243	555
Stage 1	-	-	-	-	-	-	569	419	-	546	538	-
Stage 2	-	-	-	-	-	-	557	399	-	566	552	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1021	-	-	1100	-	-	208	155	590	207	227	534
Mov Cap-2 Maneuver	-	-	-	-	-	-	208	155	-	207	227	-
Stage 1	-	-	-	-	-	-	555	409	-	517	516	-
Stage 2	-	-	-	-	-	-	513	383	-	547	538	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.2	0.1	21.2	18.3
HCM LOS			C	C

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	237	1021	-	-	1100	-	-	334
HCM Lane V/C Ratio	0.06	0.013	-	-	0.003	-	-	0.189
HCM Control Delay (s)	21.2	8.6	0	-	8.3	0	-	18.3
HCM Lane LOS	C	A	A	-	A	A	-	C
HCM 95th %tile Q(veh)	0.2	0	-	-	0	-	-	0.7

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	8	425	4	1	422	3	2	0	0	18	1	13
Future Vol, veh/h	8	425	4	1	422	3	2	0	0	18	1	13
Conflicting Peds, #/hr	33	0	8	8	0	33	0	0	1	1	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	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	0	1	0	0	1	0	0	0	0	0	0	0
Mvmt Flow	9	462	4	1	459	3	2	0	0	20	1	14

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	495	0	0	474	0	0	960	987	473	979	988	494
Stage 1	-	-	-	-	-	-	490	490	-	496	496	-
Stage 2	-	-	-	-	-	-	470	497	-	483	492	-
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	1079	-	-	1099	-	-	238	249	595	231	249	579
Stage 1	-	-	-	-	-	-	564	552	-	559	549	-
Stage 2	-	-	-	-	-	-	578	548	-	569	551	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1045	-	-	1091	-	-	227	236	590	221	236	561
Mov Cap-2 Maneuver	-	-	-	-	-	-	227	236	-	221	236	-
Stage 1	-	-	-	-	-	-	553	541	-	535	531	-
Stage 2	-	-	-	-	-	-	562	530	-	562	540	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.2	0	21	18.9
HCM LOS			C	C

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	227	1045	-	-	1091	-	-	294
HCM Lane V/C Ratio	0.01	0.008	-	-	0.001	-	-	0.118
HCM Control Delay (s)	21	8.5	0	-	8.3	0	-	18.9
HCM Lane LOS	C	A	A	-	A	A	-	C
HCM 95th %tile Q(veh)	0	0	-	-	0	-	-	0.4

Intersection	
Int Delay, s/veh	0.2

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	10	435	473	4	1	6
Future Vol, veh/h	10	435	473	4	1	6
Conflicting Peds, #/hr	33	0	0	33	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	89	89	89	89	89	89
Heavy Vehicles, %	0	0	1	0	0	0
Mvmt Flow	11	489	531	4	1	7

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	568	0	-	0	1077	566
Stage 1	-	-	-	-	566	-
Stage 2	-	-	-	-	511	-
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	1014	-	-	-	245	528
Stage 1	-	-	-	-	572	-
Stage 2	-	-	-	-	606	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	982	-	-	-	227	511
Mov Cap-2 Maneuver	-	-	-	-	227	-
Stage 1	-	-	-	-	546	-
Stage 2	-	-	-	-	587	-

Approach	EB	WB	SB
HCM Control Delay, s	0.2	0	13.4
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	982	-	-	-	434
HCM Lane V/C Ratio	0.011	-	-	-	0.018
HCM Control Delay (s)	8.7	0	-	-	13.4
HCM Lane LOS	A	A	-	-	B
HCM 95th %tile Q(veh)	0	-	-	-	0.1