

Traffic Impact Study Proposed Warehouse/Distribution Development

Arlington Heights, Illinois



Prepared For:



RIDGELINE
PROPERTY GROUP

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

August 6, 2021

1. Introduction

This report summarizes the methodologies, results, and findings of a traffic impact study conducted by Kenig, Lindgren, O'Hara, Aboona, Inc. (KLOA, Inc.) for a proposed warehouse/distribution development to be located in Arlington Heights, Illinois.

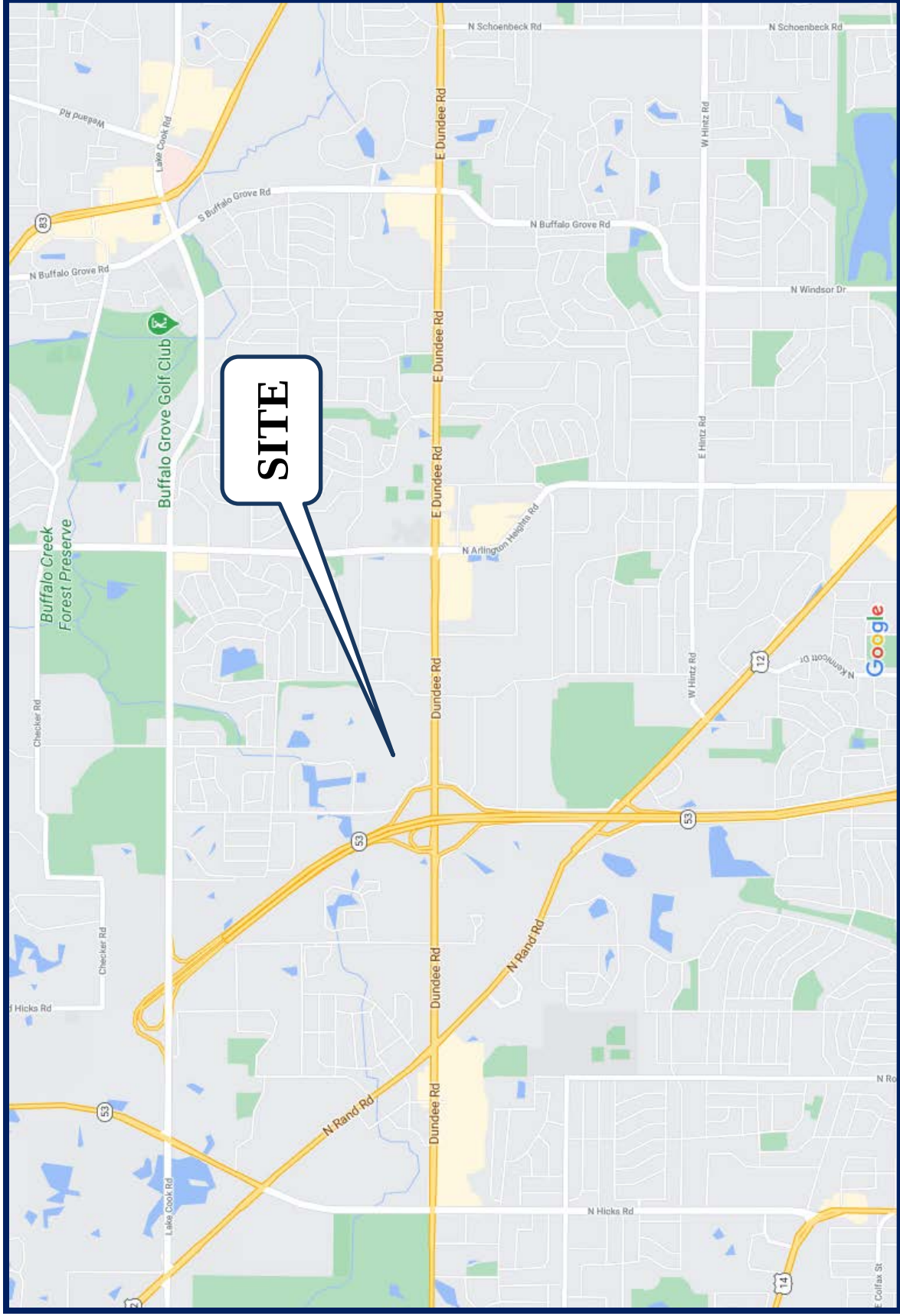
The site, which is currently located approximately 1,100 feet north of Dundee Road to the north and east of the Lexus of Arlington auto dealership, is currently occupied by surface parking lots. As proposed, the site will be redeveloped with two warehouse/distribution buildings totaling approximately 511,664 square-feet. Access to the development will be provided via two full movement access drives off Wilke Road and via a full movement access drive off Kennicott Avenue. Additional access to the development will be provided via a connection to the existing access roadway located on the north side of the Arens Controls building, however, this access will be utilized as emergency access only.

The purpose of this study was to examine background traffic conditions, assess the impact that the proposed development will have on traffic conditions in the area, and determine if any roadway or access improvements are necessary to accommodate traffic generated by the proposed development. **Figure 1** shows the location of the site in relation to the area roadway system. **Figure 2** shows an aerial view of the site. The sections of this report present the following:

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

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

1. Year 2021 Base Conditions – Analyzes the capacity of the existing roadway system using existing peak hour traffic volumes in the surrounding area, adjusted to reflect pre-COVID-19 conditions.
2. Year 2027 No-Build Conditions – Analyzes the capacity of the future roadway system using projected traffic volumes that include the existing traffic volumes and ambient area growth not attributable to any particular development.
3. Year 2027 Total Projected Conditions – Analyzes the capacity of the future roadway system using the projected traffic volumes that include the existing traffic volumes, ambient area growth not attributable to any particular development, and the traffic estimated to be generated by the full buildout of the proposed development.



Site Location

*Warehouse/Distribution Development
Arlington Heights, Illinois*

Figure 1





Aerial View of Site

Figure 2

*Warehouse/Distribution Development
Arlington Heights, Illinois*



2. Existing Conditions

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

Site Location

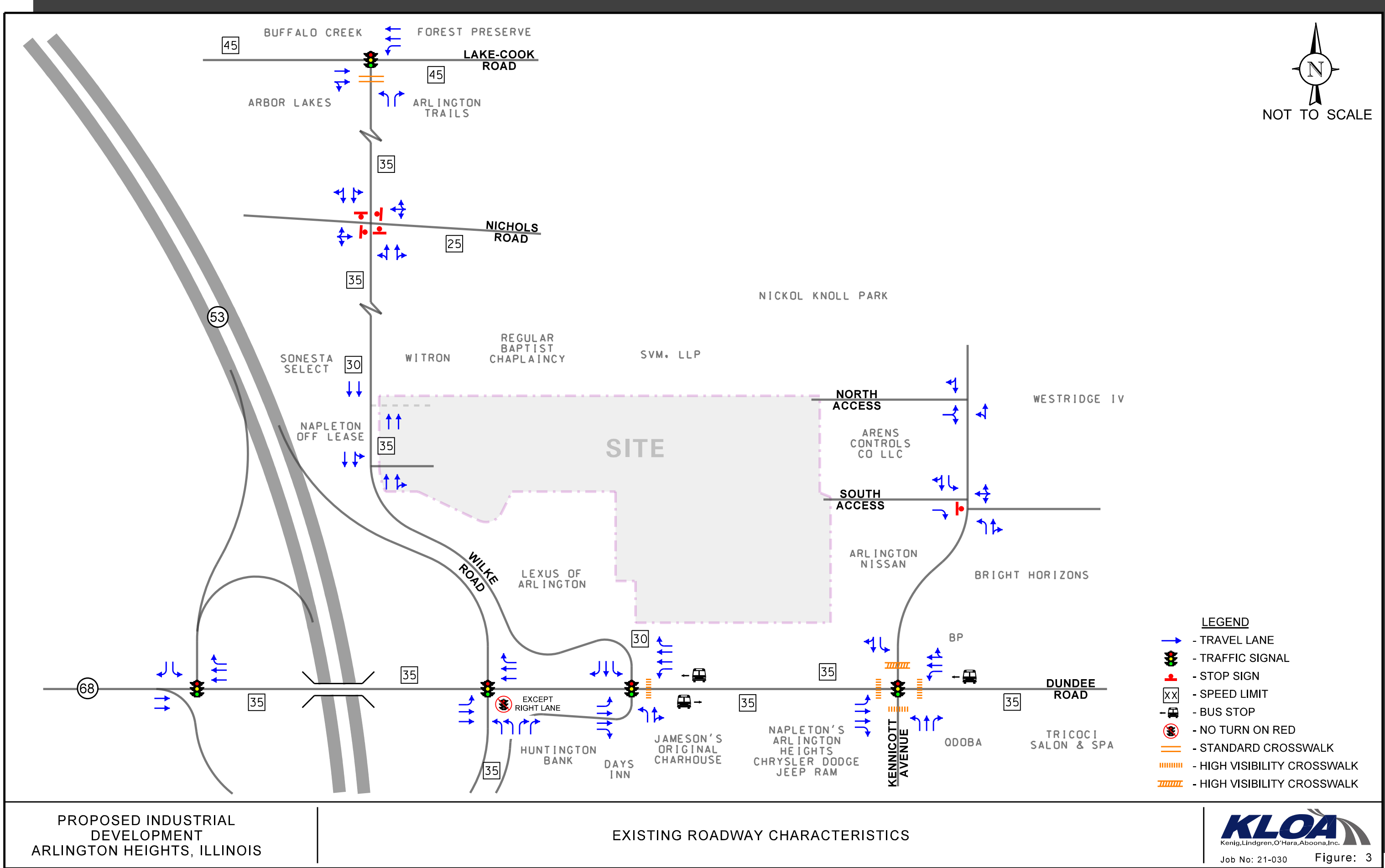
The site is located on the north side of Dundee Road, approximately 1,500 east of IL Route 53, within the Arlington Business Park in Arlington Heights, Illinois. The site is bordered by Witron Pointe, Regular Baptist Chaplaincy, SVM, LP and Nickol Knoll Park to the north, the industrial building at 3602 North Kennicott Avenue and Arlington Nissan to the east, Lexus of Arlington to the south, and Napleton Off Lease and Sonesta Select Arlington Heights North to the west.

Roadway System Characteristics

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

IL Route 53 is a north-south freeway that provides three travel lanes in each direction. IL Route 53 has a signalized interchange with Dundee Road. At its signalized intersections with Dundee Road, the northbound off ramp provides dual left-turn lanes and dual right-turn lanes, and the southbound off ramp provides an exclusive left-turn lane and an exclusive right-turn lane. Turning movements onto the northbound on ramp are under traffic signal control and right-turning movements onto the southbound on ramps operate under free flow conditions. IL Route 53 is under the jurisdiction of the Illinois Department of Transportation (IDOT) and carries an annual average daily traffic (AADT) volume of 85,200 vehicles of which 4,200 vehicles are trucks (IDOT 2019).

Dundee Road (IL Route 68) is an east-west other principal arterial roadway that in the vicinity of the site provides two travel lanes in each direction. At its signalized intersection with the IL 53 southbound ramps, Dundee Road provides two through lanes on the eastbound and westbound approaches. At its signalized intersections with the IL 53 northbound ramps, Dundee Road provides an exclusive left-turn lane and two through lanes on the eastbound approach and two through lanes and an exclusive right-turn lane on the westbound approach. At its signalized intersection with Wilke Road, Dundee Road provides an exclusive left-turn lane, two through lanes, and an exclusive right-turn lane on the eastbound and westbound approaches. At its signalized intersection with Kennicott Avenue, Dundee Road provides an exclusive left-turn lane, two through lanes, and an exclusive right-turn lane on the eastbound approach and an exclusive left-turn lane, a through lane, and a shared through/right-turn lane on the westbound approach. Dundee Road is under the jurisdiction of IDOT, carries an AADT volume of 25,700 vehicles of which 800 vehicles of trucks (IDOT 2019), and has a posted speed limit of 35 miles per hour.



Lake Cook Road is an east-west other principal arterial roadway that in the vicinity of the site provides two travel lanes in each direction. At its signalized intersection with Wilke Road, Lake Cook Road provides a through lane and a shared through/right-turn lane on the eastbound approach and an exclusive left-turn lane and two through lanes on the westbound approach. Lake Cook Road is under the jurisdiction of the Cook County Department of Transportation and Highways, carries an AADT volume of 49,900 vehicles of which 2,900 vehicles are trucks, and has a posted speed limit of 45 miles per hour.

Kennicott Avenue is a north-south minor collector roadway that in the vicinity of the site provides one travel lane in each direction. At its signalized intersection with Dundee Road, Kennicott Avenue provides an exclusive left-turn, a through lane, and an exclusive right-turn lane on the northbound approach and an exclusive left-turn lane and a shared through/right-turn lane on the southbound approach. Kennicott Avenue is under the jurisdiction of the Village of Arlington Heights, carries an AADT volume of 4,300 vehicles of which 385 vehicles are trucks.

Wilke Road is a north-south frontage roadway that extends from Rand Road to the south up to Lake Cook Road on the north. In the vicinity of the site, Wilke Road provides two travel lanes in each direction and has a boulevard cross section between the south leg of Ventura Drive and Nichols Road. At its signalized intersection with Dundee Road, Wilke Road provides an exclusive left-turn lane, a through lane, and an exclusive right-turn lane on the southbound approach and an exclusive left-turn lane and a shared through/right-turn lane on the northbound approach. At its signalized intersection with Lake Cook Road, Wilke Road provides an exclusive left-turn lane and an exclusive right-turn lane on the northbound approach. At its all-way stop-sign controlled intersection with Nichols Road, Wilke Road provides a shared left-turn/through lane and a shared through/right-turn lane on the northbound and southbound approaches. Wilke Road is under the jurisdiction of the Village of Arlington Heights and has a posted speed limit of 30 miles per hour along the site frontage.

Nichols Road is an east-west local roadway that in the vicinity of the site provides one travel lane in each direction. At its all-way stop-sign controlled intersection with Wilke Road, Nichols Road provides a shared left/through/right-turn lane on the eastbound and westbound approaches. Nichols Road is under the jurisdiction of the Village of Arlington Heights and has a posted speed limit of 25 miles per hour.

Traffic Signal Interconnect

The traffic signals along Dundee Road (IL 68) that are included in this study are part of a ten-signal interconnect system that is maintained by IDOT. The system runs from the traffic signal at Baldwin to the west to the Weidner/Crofton intersection to the east. The intersection of Dundee Road and Arlington Heights Road is the master controller. All the traffic signals operate at a 140 second cycle length during the weekday morning and evening peak hours.

Existing Traffic Volumes

In order to determine current traffic conditions in the vicinity of the site, KLOA, Inc. conducted peak period classification and traffic counts using Miovision Scout Video Collection Units on Tuesday, February 16, 2021 during the weekday morning (7:00 A.M. to 9:00 A.M.) and weekday evening (4:00 P.M. to 6:00 P.M.) peak periods at the following intersections:

- Dundee Road with IL 53 Southbound Ramps
- Wilke Road with Lake Cook Road
- Wilke Road with Nichols Road
- Kennicott Avenue with Northerly Access Easement
- Kennicott Avenue with Southerly Access Easement

The results of the traffic counts showed that the weekday morning peak hour of traffic occurs from 7:15 A.M. to 8:15 A.M. and the evening peak hour of traffic occurs from 4:45 P.M. to 5:45 P.M.

Given the ongoing COVID-19 pandemic, it is anticipated that traffic volumes in the study area do not reflect normal or typical conditions. As such, the 2020 traffic counts were supplemented with counts previously conducted by KLOA, Inc. utilizing Miovision Scout Video Collection Units at the intersections of Dundee Road with the IL 53 Northbound Ramps, Dundee Road with Wilke Road, and Wilk Road with Kennicott Avenue. These counts were conducted during the weekday morning and weekday evening peak periods in June 2017. The Year 2017 were increased by a regional growth factor, as discussed later, for four years to estimate Year 2021 traffic volumes.

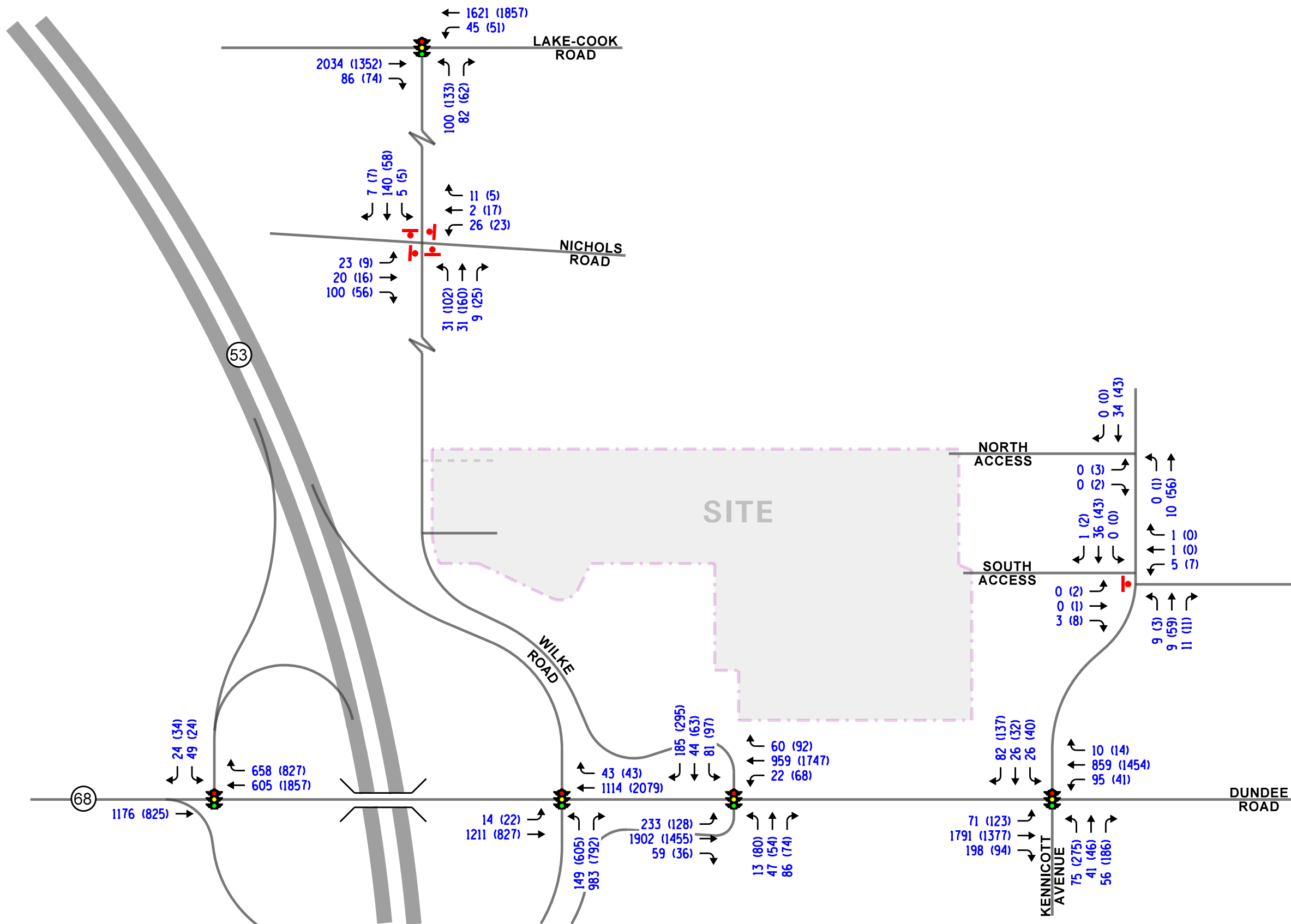
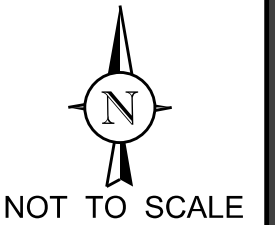
To account for any potential decrease in traffic due to the ongoing COVID-19 conditions, the traffic volumes among Dundee Road were balanced to the highest volumes and the traffic volumes along Lake Cook Road and the through volumes on Wilke Road were increased by 54 percent during the weekday morning peak hour and 58 percent during the weekday evening peak hour based on the Dundee Road increases based on balancing.

The Year 2021 base traffic volumes inclusive of heavy vehicles are shown in **Figure 4**. The existing heavy vehicle peak hour volumes are shown in **Figure 5**.

Crash Analysis

KLOA, Inc. obtained crash data¹ from IDOT for the most recent past five years available (2015 to 2019) for the study area intersections. A review of the crash data indicated that there were no accidents reported at the intersections of Kennicott Avenue with the two access drives located on the north and south side of the 3602 North Kennicott Avenue building and no fatalities reported at any of the intersections. **Tables 1** through **6** summarize the crash data.

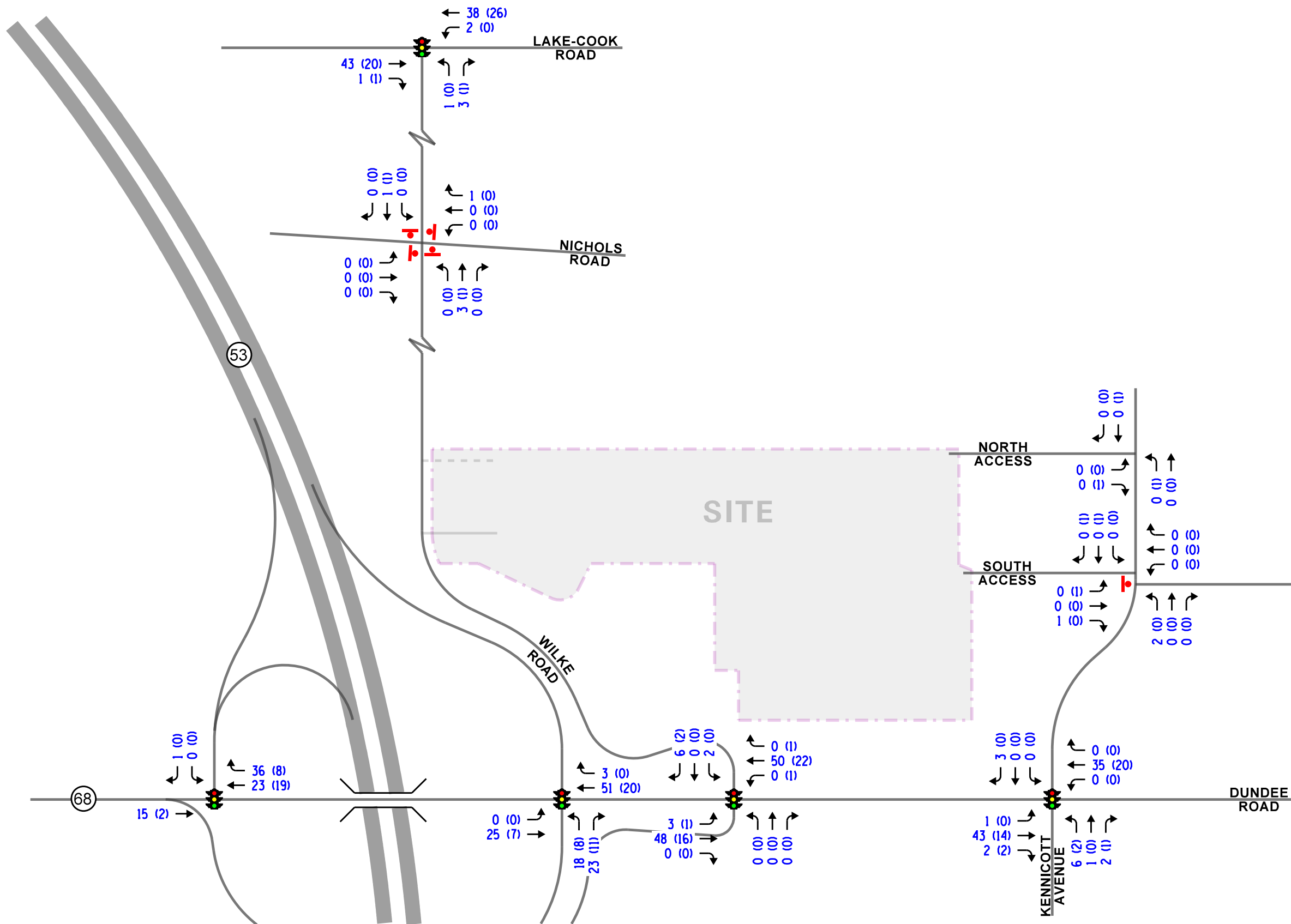
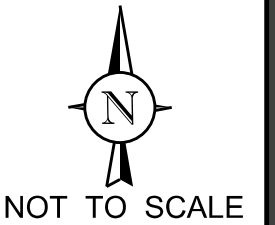
¹ IDOT DISCLAIMER: The motor vehicle crash data referenced herein was provided by the Illinois Department of Transportation. Any conclusions drawn from analysis of the aforementioned data are the sole responsibility of the data recipient(s). Additionally, for coding years 2015 to present, the Bureau 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.



LEGEND
00 - AM PEAK HOUR (7:15-8:15 AM)
(00) - PM PEAK HOUR (4:45-5:45 PM)

PROPOSED INDUSTRIAL
DEVELOPMENT
ARLINGTON HEIGHTS, ILLINOIS

YEAR 2021 BASE TRAFFIC VOLUMES



PROPOSED INDUSTRIAL
DEVELOPMENT
ARLINGTON HEIGHTS, ILLINOIS

YEAR 2021 BASE TRUCK TRAFFIC VOLUMES

LEGEND
00 - AM PEAK HOUR (7:15-8:15 AM)
(00) - PM PEAK HOUR (4:45-5:45 PM)

Table 1

DUNDEE ROAD WITH IL 53 SOUTHBOUND RAMPS – ACCIDENT SUMMARY

Year	Type of Accident Frequency						Total
	Angle	Object	Rear End	Sideswipe	Turning	Other	
2015	0	0	0	1	0	0	1
2016	0	0	0	1	0	0	1
2017	0	3	4	0	0	0	7
2018	0	0	0	1	0	0	1
2019	<u>0</u>	<u>2</u>	<u>1</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>3</u>
Total	0	5	5	3	0	0	13
Average/Year	0	1	1	< 1	0	0	2.6

Table 2

DUNDEE ROAD WITH IL 53 NORTHBOUND RAMPS – ACCIDENT SUMMARY

Year	Type of Accident Frequency						Total
	Angle	Object	Rear End	Sideswipe	Turning	Other	
2015	0	1	7	0	2	0	10
2016	0	0	2	1	1	0	4
2017	0	0	6	1	0	0	7
2018	0	0	5	2	1	0	8
2019	<u>0</u>	<u>0</u>	<u>4</u>	<u>1</u>	<u>0</u>	<u>1</u>	<u>6</u>
Total	0	1	24	5	4	1	35
Average/Year	0	< 1	4.8	1	< 1	< 1	7

Table3

DUNDEE ROAD WITH WILKE ROAD – ACCIDENT SUMMARY

Year	Type of Accident Frequency						Total
	Angle	Object	Rear End	Sideswipe	Turning	Other	
2015	1	0	4	0	8	0	13
2016	2	0	9	0	8	1	20
2017	2	0	12	0	2	0	16
2018	0	1	10	2	3	0	16
2019	<u>0</u>	<u>1</u>	<u>3</u>	<u>0</u>	<u>3</u>	<u>0</u>	<u>7</u>
Total	5	2	38	2	24	1	72
Average/Year	1	< 1	7.6	< 1	4.8	< 1	14.4

Table 4

DUNDEE ROAD WITH KENNICOTT AVENUE – ACCIDENT SUMMARY

Year	Type of Accident Frequency						Total
	Angle	Object	Rear End	Sideswipe	Turning	Other	
2015	0	0	2	1	1	0	4
2016	1	0	6	0	1	1	9
2017	1	0	6	0	1	1	9
2018	0	0	3	0	4	0	7
2019	<u>1</u>	<u>0</u>	<u>4</u>	<u>0</u>	<u>5</u>	<u>0</u>	<u>10</u>
Total	3	0	21	1	12	2	39
Average/Year	< 1	0	4.2	< 1	2.4	< 1	7.8

Table 5

WILKE ROAD WITH LAKE COOK ROAD – ACCIDENT SUMMARY

Year	Type of Accident Frequency						Total
	Angle	Object	Rear End	Sideswipe	Turning	Other	
2015	1	0	6	0	1	0	8
2016	0	0	3	0	0	0	3
2017	0	1	4	2	1	0	8
2018	0	0	4	0	0	0	4
2019	<u>0</u>	<u>6</u>	<u>0</u>	<u>1</u>	<u>0</u>	<u>0</u>	<u>7</u>
Total	1	7	17	3	2	0	30
Average/Year	< 1	1.4	3.4	< 1	< 1	0	6

Table 6

WILKE ROAD WITH NICHOLS ROAD – ACCIDENT SUMMARY

Year	Type of Accident Frequency						Total
	Angle	Object	Rear End	Sideswipe	Turning	Other	
2015	0	0	0	0	1	0	1
2016	0	0	0	0	0	0	0
2017	0	0	1	0	1	0	2
2018	0	0	0	0	0	0	0
2019	<u>2</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>2</u>
Total	2	0	1	0	2	0	5
Average/Year	< 1	0	< 1	0	< 1	0	1

3. Traffic Characteristics of the Proposed Development

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

Proposed Site and Development Plan

As proposed, the site will be developed with two warehouse/distribution buildings with a total of 511,664 square feet. The development will provide approximately 599 passenger vehicle parking spaces, approximately 65 trailer parking stalls, nine drive-in doors, and approximately 92 truck loading docks. A copy of the preliminary site plan is included in the Appendix.

Site Access

Access to the development is proposed to be provided via the following:

- A full movement access drive on Wilke Road located approximately one-third of a mile north of Dundee Road located in the approximate location of the existing full movement access drive serving the ancillary parking lot serving the Lexus of Arlington Car Dealership. This access drive will provide one inbound lane and one outbound lane, will only serve passenger vehicles, and outbound movements should be under stop sign control.
- A full movement access drive on Wilke Road that will be located approximately 2000 feet north of Dundee Road (250 feet north of the passenger vehicle access drive). This access drive will provide one inbound lane and one outbound lane, will be utilized by both passenger vehicles and truck traffic, and outbound movements should be under stop sign control. It should be noted that signage should be provided at this access drive prohibiting trucks from traveling north on Wilke Road toward Lake Cook Road.
- Access easement to the existing access roadway located on the south side of the industrial building at 3602 N. Kennicott Avenue. Under existing conditions, this access roadway provides one travel lane in each direction and is under stop-sign control at its intersection with Kennicott Avenue. Furthermore, it should be noted that eastbound movements from the access roadway on to Kennicott Avenue are restricted to right-turns only via signage and via a mountable median. This access easement will be utilized by both passenger vehicle and trucks and will be the main access off Kennicott Avenue.
- Access easement to the existing access roadway located on the north side of the industrial building at 3602 N. Kennicott Avenue, which provides one travel lane in each direction. It should be noted that given the design and location of the access drive, this access drive will be utilized as emergency access only.

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

Directional Distribution

The directions from which employees, visitors, and trucks will approach and depart the site were estimated based on existing travel patterns, as determined from the traffic counts. **Figure 6** illustrates the directional distributions of passenger vehicles and trucks to/from the proposed development.

Development-Generated Traffic Volumes

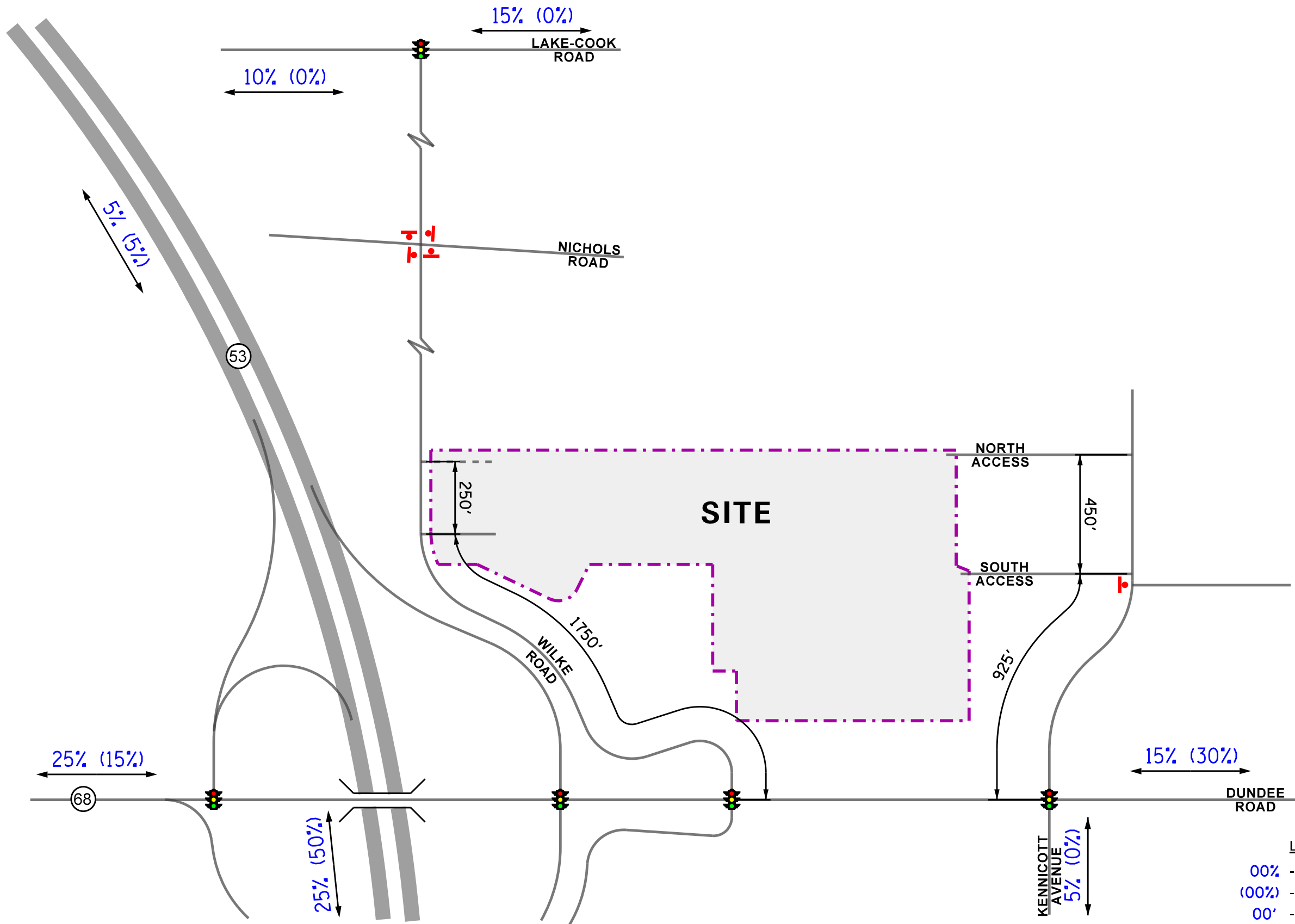
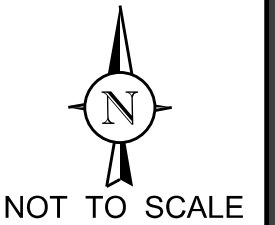
The volume of traffic generated by a development is based on the type of land uses and the size of the development. The number of peak hour and daily vehicle trips estimated to be generated by the proposed warehouse/distribution development was based on the following methodologies:

- Vehicle trip generation rates contained in *Trip Generation Manual*, 10th Edition, published by the Institute of Transportation Engineers (ITE) for Land-Use Code 150 (Warehousing)
- Per the request of Village of Arlington Heights staff, vehicle trip generation rates contained in the ITE *Trip Generation Manual*, assuming that 90 percent of the proposed building area is occupied by warehousing (Land-Use Code 150) and the remaining 10 percent of the proposed building area is occupied general office (Land-Use Code 710)
- Trip generation surveys previously conducted by KLOA, Inc. at an existing development located at 1701 Nicholas Boulevard in Elk Grove Village. This site contains a single building that is approximately 150,000 square-feet and is occupied by NNR Global Logistics.
- Trip generation surveys previously conducted by KLOA, Inc. at the existing Prologis Park 55 in Romeoville. This Park contains four buildings totaling approximately 2.6 million square-feet and consists of the following main tenants: Ryder Warehousing, Menasha Romeoville, K-C Global, LeSaint Logistics, Sandvick, and Kimberly-Clark Corporation.

It should be noted that based on data published in the ITE *Trip Generation Manual* indicates that approximately 12 percent of the weekday morning peak hour and 16 percent of the weekday evening peak hour traffic volumes are trucks. Furthermore, based on the trip generation surveys conducted, approximately 15-17 percent of the weekday morning peak hour and 4-13 percent of the weekday evening peak hour traffic volumes are trucks. However, in order to provide a conservative analysis, 20 percent of the peak hour trips were assumed to be trucks.

Table 7 through **10** shows the truck and passenger vehicle trips estimated to be generated for the proposed development during the weekday morning and weekday evening peak hours, as well as the two-way weekday daily traffic volumes based on each methodology, respectively. Copies of the ITE trip generation summary sheets and the KLOA, Inc. trip generation surveys are included in the Appendix.

As can be seen from Tables 7 through 10, the trip estimates based on the existing logistics development located in Elk Grove Village results in the most conservative trip generation and as such, the trip generation as summarized in **Table 9** was utilized for the purposes of this evaluation.



- LEGEND**
- 00% - PERCENT PASSENGER VEHICLE DISTRIBUTION
 - (00%) - PERCENT TRUCK DISTRIBUTION
 - 00' - DISTANCE IN FEET

PROPOSED INDUSTRIAL
DEVELOPMENT
ARLINGTON HEIGHTS, ILLINOIS

ESTIMATED DIRECTIONAL DISTRIBUTION

Table 7

ESTIMATED TRIP GENERATION – ITE TRIP GENERATION MANUAL

ITE Land Use	Type/Size	Weekday Morning Peak Hour			Weekday Evening Peak Hour			Daily Two-Way Trips		
		In	Out	Total	In	Out	Total	In	Out	Total
150	Passenger Vehicles (80%)	54	16	70	21	57	78	342	342	684
150	Trucks (20%)	13	4	17	5	14	19	85	85	170
150	Warehouse Total (511,664 s.f.)	67	20	87	26	71	97	427	427	854

Table 8

ESTIMATED TRIP GENERATION – ITE TRIP GENERATION MANUAL

ITE Land Use	Type/Size	Weekday Morning Peak Hour			Weekday Evening Peak Hour			Daily Two-Way Trips		
		In	Out	Total	In	Out	Total	In	Out	Total
710	General Office (51,166 s.f.)	65	10	75	10	50	60	277	277	554
150	Passenger Vehicles (80%)	48	14	62	19	51	70	310	310	620
150	Trucks (20%)	12	4	16	4	13	17	77	77	154
150	Warehouse Total (460,498 s.f.)	60	18	78	23	64	87	387	387	774
Development Total¹		125	28	153	33	114	147	664	664	1,328
1 – Sum of total general office and warehouse trips (rows one and two)										

Table 9

ESTIMATED TRIP GENERATION – SURVEYS – ELK GROVE VILLAGE

Type/Size	Weekday Morning Peak Hour			Weekday Evening Peak Hour			Daily Two-Way Trips		
	In	Out	Total	In	Out	Total	In	Out	Total
Passenger Vehicles (80%)	107	15	122	22	110	132	646	646	1,292
Trucks (20%)	27	4	31	5	27	32	161	161	322
Warehouse Total (511,664 s.f.)	134	19	153	27	137	164	807	807	1,614

Table 10

ESTIMATED TRIP GENERATION – SURVEYS – ROMEOVILLE

Type/Size	Weekday Morning Peak Hour			Weekday Evening Peak Hour			Daily Two-Way Trips		
	In	Out	Total	In	Out	Total	In	Out	Total
Passenger Vehicles (80%)	32	9	39	21	53	74	397	397	794
Trucks (20%)	8	2	10	5	13	18	100	100	200
Warehouse Total (511,664 s.f.)	40	11	51	26	66	92	497	497	994

4. Projected Traffic Conditions

The total projected traffic volumes include the existing 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

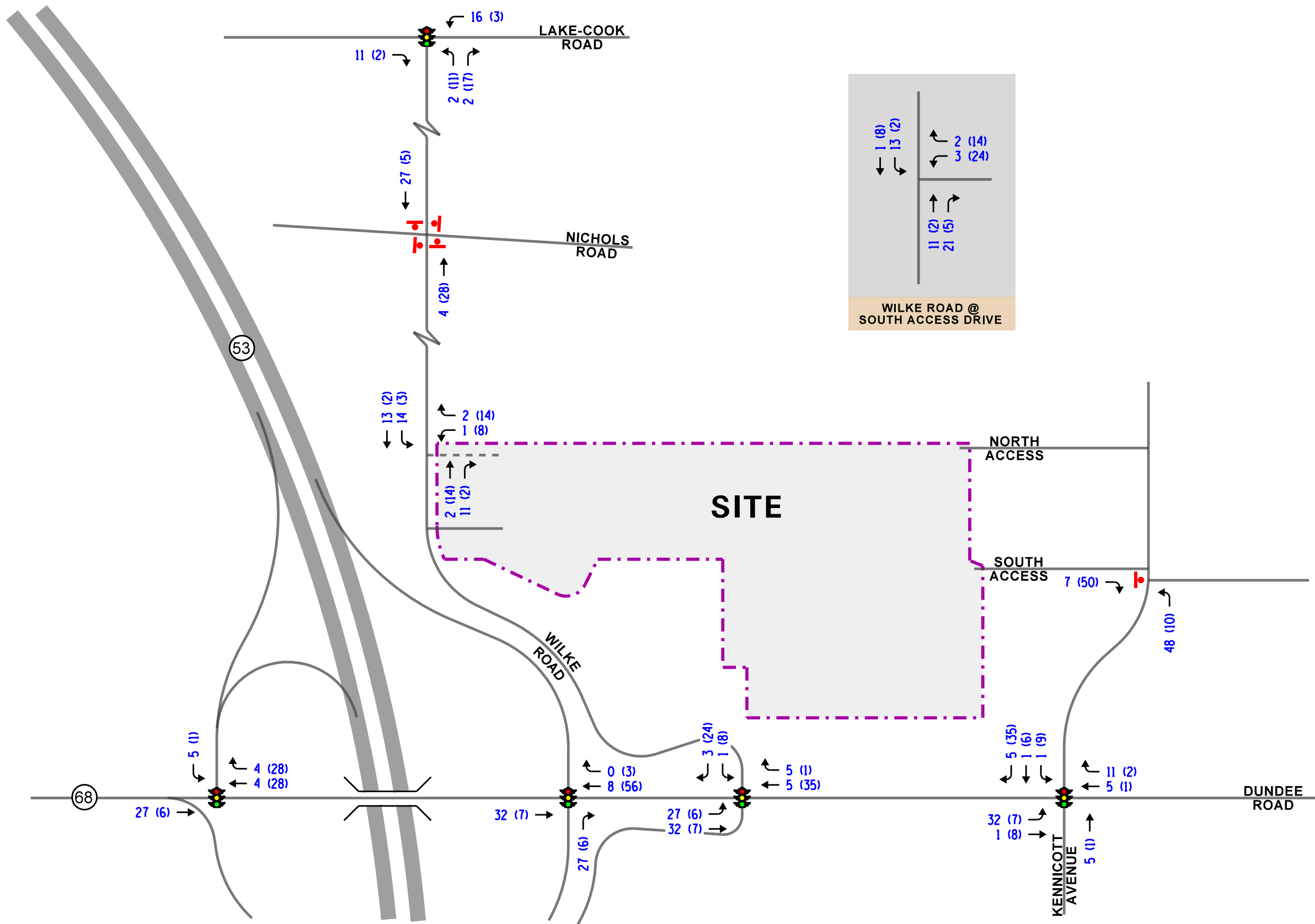
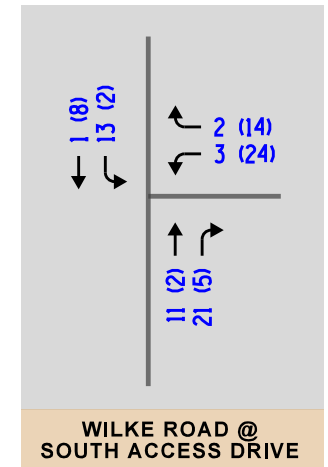
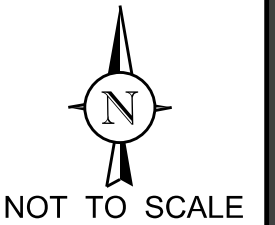
The estimated weekday morning and evening volumes that will be generated by the proposed development were assigned to the roadway system in accordance with the previously described directional distribution (Figures 6 and 7). The new passenger traffic assignment for the proposed warehouse/distribution development is illustrated in **Figure 7** and the new truck traffic assignment is illustrated in **Figure 8**.

Background Traffic Conditions

The existing traffic volumes (Figure 4) were increased by a regional growth factor to account for the increase in existing traffic related to regional growth in the area (i.e., not attributable to any particular planned development). Based on ADT projections provided by the Chicago Metropolitan Agency for Planning (CMAP) in a letter dated March 8, 2021, an increase of approximately 0.25 percent per year compounded annually is projected. As such, a total background growth of 1.5 percent (buildout year plus five years) was added to project Year 2027 conditions. **Figure 9** shows existing peak hour traffic volumes with the 1.5 percent increase in order to illustrate Year 2027 no-build conditions. A copy of the CMAP 2050 projections letter is included in the Appendix.

Total Projected Traffic Volumes

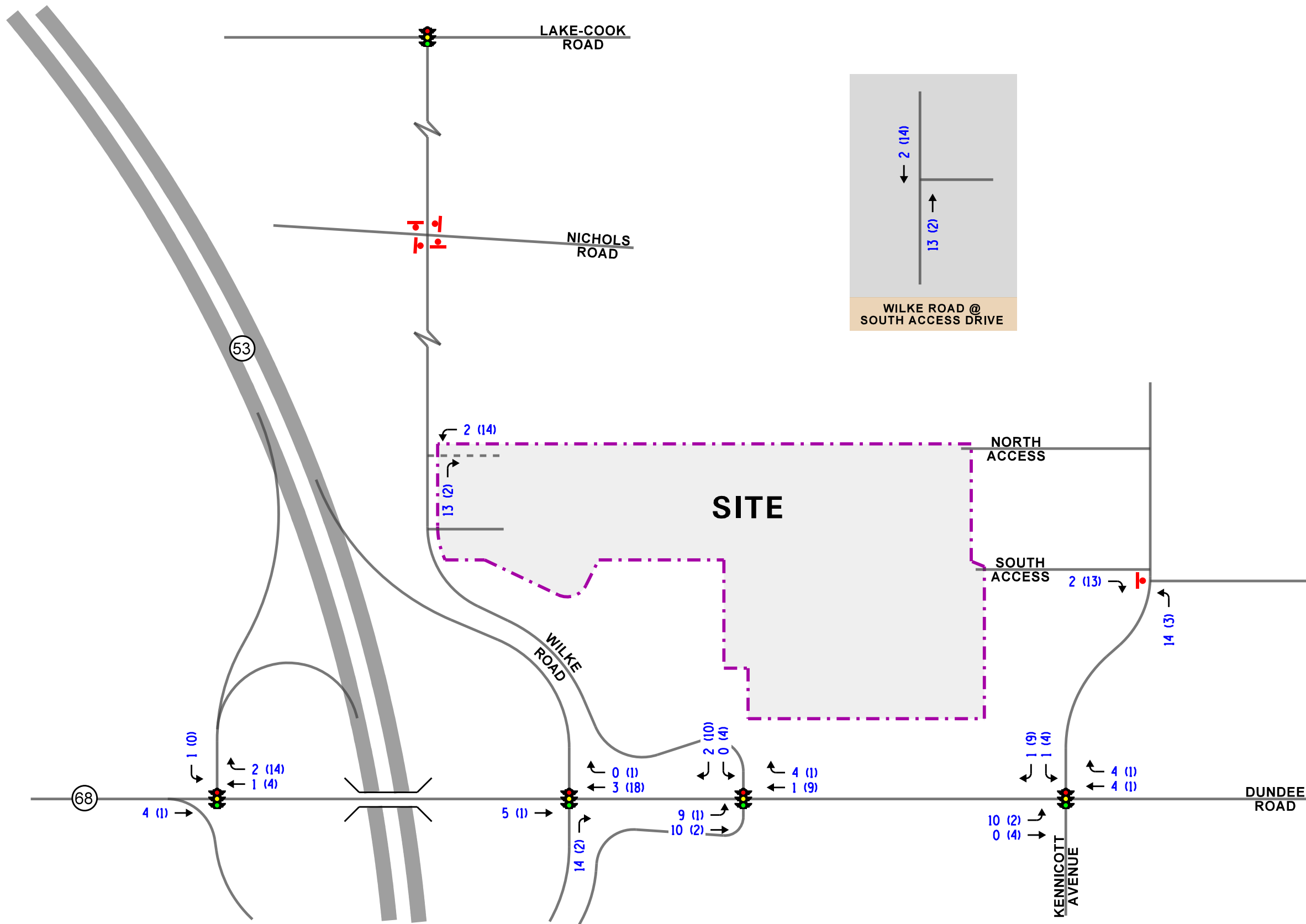
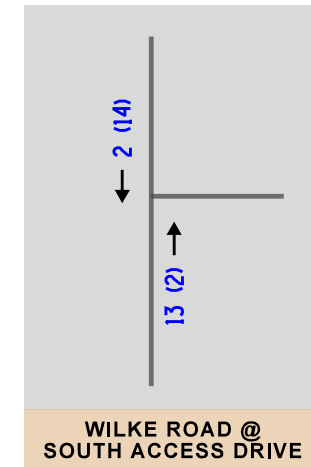
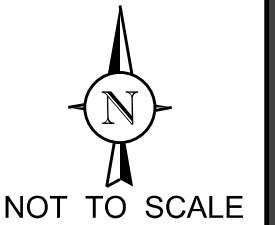
The development-generated traffic was added to the existing traffic volumes accounting for background growth to determine the Year 2027 total projected traffic volumes, as illustrated in **Figure 10**.



LEGEND
00 - AM PEAK HOUR (7:15-8:15 AM)
(00) - PM PEAK HOUR (4:45-5:45 PM)

PROPOSED INDUSTRIAL
DEVELOPMENT
ARLINGTON HEIGHTS, ILLINOIS

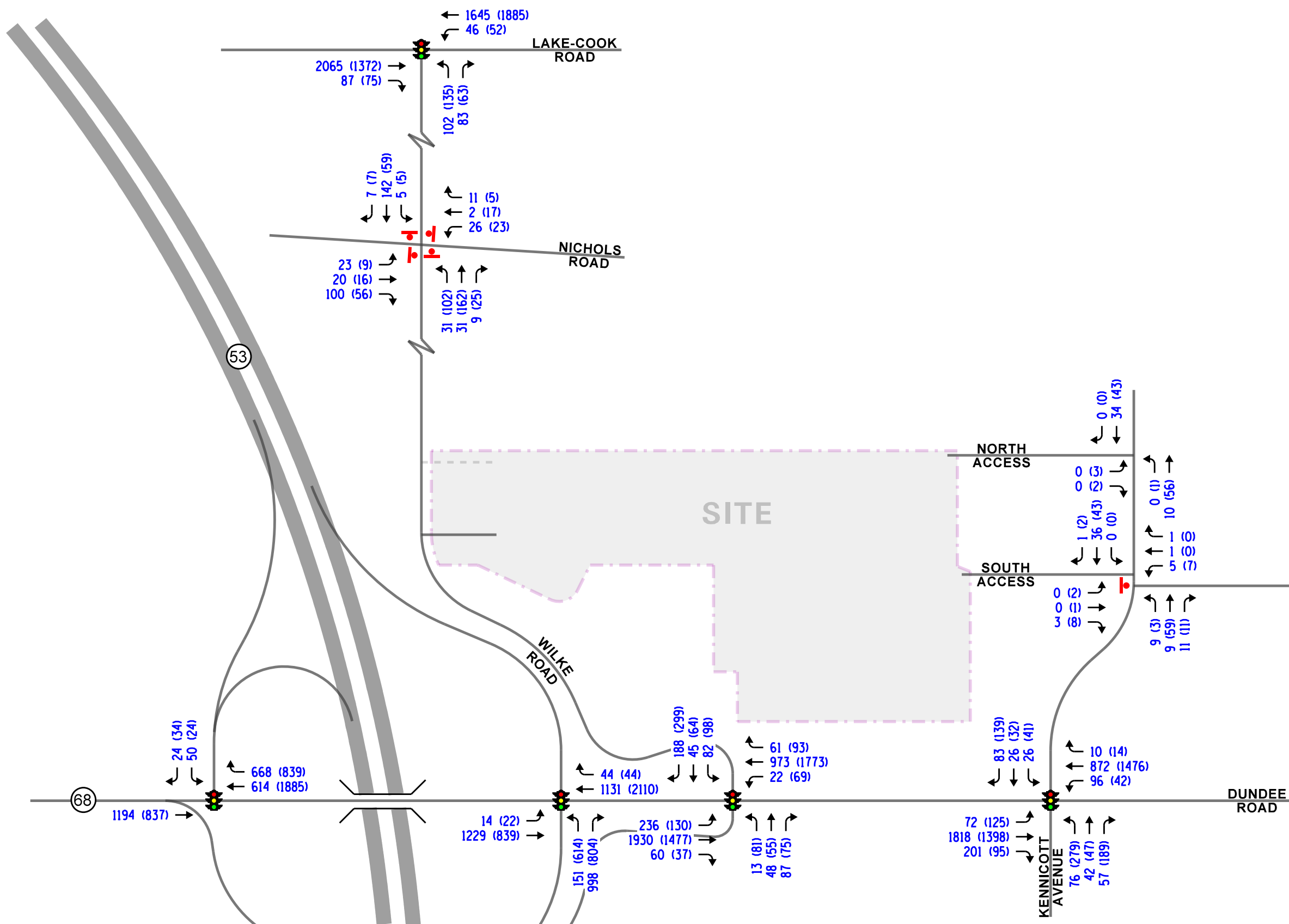
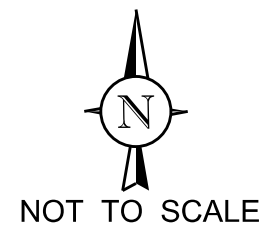
ESTIMATED SITE-GENERATED PASSENGER VEHICLE TRAFFIC VOLUMES



LEGEND
00 - AM PEAK HOUR (7:15-8:15 AM)
(00) - PM PEAK HOUR (4:45-5:45 PM)

PROPOSED INDUSTRIAL
DEVELOPMENT
ARLINGTON HEIGHTS, ILLINOIS

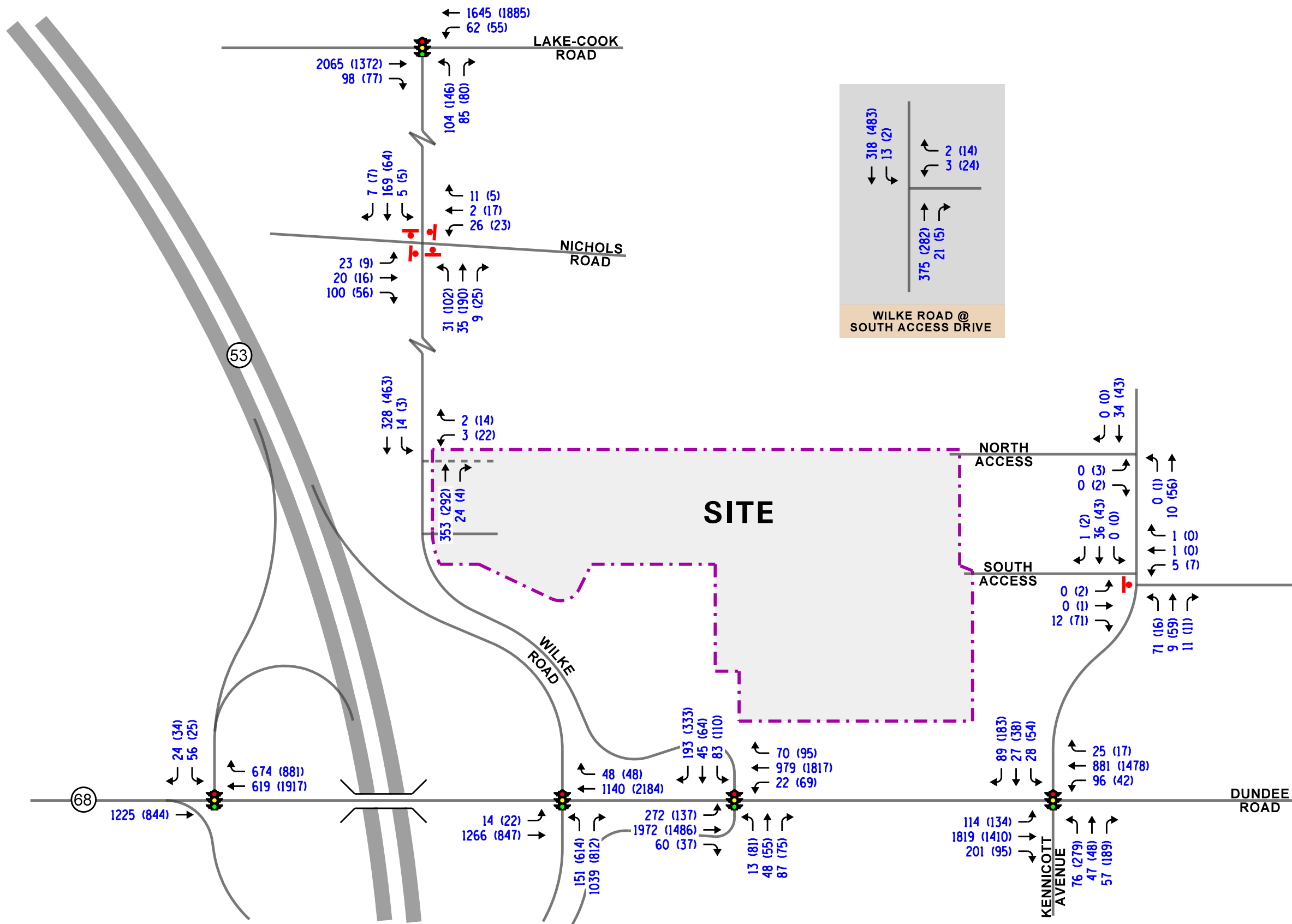
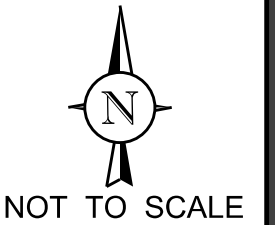
ESTIMATED SITE-GENERATED TRUCK TRAFFIC VOLUMES



PROPOSED INDUSTRIAL
DEVELOPMENT
ARLINGTON HEIGHTS, ILLINOIS

YEAR 2027 NO-BUILD TRAFFIC VOLUMES

LEGEND
00 - AM PEAK HOUR (7:15-8:15 AM)
(00) - PM PEAK HOUR (4:45-5:45 PM)



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 existing (Year 2021), no-build (Year 2027), and total projected (Year 2027) traffic volumes.

The traffic analyses were performed using the methodologies outlined in the Transportation Research Board's *Highway Capacity Manual (HCM)*, 2010 and analyzed using Synchro/SimTraffic 10 software. The analysis for the traffic-signal controlled intersections were accomplished using actual cycle lengths and phasings to determine the average overall vehicle delay and levels of service.

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

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

Summaries of the traffic analysis results showing the level of service and overall intersection delay (measured in seconds) for the existing, Year 2027 no-build, and Year 2027 total projected conditions are presented in **Tables 11** through **18**. A discussion of the intersections follows. Summary sheets for the capacity analyses are included in the Appendix.

Table 11

CAPACITY ANALYSIS RESULTS

DUNDEE ROAD WITH IL 53 SOUTHBOUND RAMPS – SIGNALIZED

Year 2021 Existing Conditions	Peak Hour	Eastbound	Westbound	Southbound		Overall
		Through	Through	Left	Right	
	Weekday Morning Peak Hour	A – 2.7	A – 4.7	E 72.8	C 24.0	A – 5.3
				E – 56.7		
Weekday Evening Peak Hour	A – 1.8	A – 4.6	E 69.5	C 24.9	A – 4.6	
			D – 43.2			
Year 2027 No Build Conditions	Weekday Morning Peak Hour	A – 2.7	A – 4.9	E 72.7	C 23.9	A – 5.4
				E – 56.8		
	Weekday Evening Peak Hour	A – 1.8	A – 4.7	E 69.5	C 24.9	A – 4.7
				D – 43.2		
Year 2027 Projected Conditions	Weekday Morning Peak Hour	A – 2.9	A – 5.1	E 73.1	C 23.4	A – 5.7
				E – 58.2		
	Weekday Evening Peak Hour	A – 1.9	A – 5.0	E 69.8	C 24.9	A – 4.9
				D – 43.7		
Delay is measured in seconds.						

Table 12

CAPACITY ANALYSIS RESULTS

DUNDEE ROAD WITH IL 53 NORTHBOUND RAMPS – SIGNALIZED

Year 2021 Existing Conditions	Peak Hour	Eastbound		Westbound		Northbound		Overall
		Left	Through	Through	Right	Left	Right	
	Weekday Morning Peak Hour	E 67.0	D 38.9	C 26.1	A 0.2	C 22.2	D 37.2	C – 33.3
D – 39.2		C – 25.1		D – 35.2				
Weekday Evening Peak Hour	E 68.6	B 10.6	C 21.1	A 0.1	D 53.6	D 52.7	C – 29.3	
	B – 12.1		C – 20.6		D – 53.1			
Year 2027 No Build Conditions	Weekday Morning Peak Hour	E 66.8	D 39.7	C 26.7	A 0.2	C 22.1	D 37.5	C – 33.8
		D – 40.0		C – 25.7		D – 35.5		
	Weekday Evening Peak Hour	E 68.5	B 10.7	C 22.6	A 0.1	D 54.0	E 57.7	C – 31.1
		B – 12.2		C – 22.1		E – 56.1		
Year 2027 Projected Conditions	Weekday Morning Peak Hour	E 67.1	D 41.6	C 28.8	A 0.1	C 21.8	D 39.4	D – 35.7
		D – 41.8		C – 27.6		D – 37.1		
	Weekday Evening Peak Hour	E 68.6	B 10.8	C 27.8	A 0.1	D 54.0	E 61.4	C – 34.1
		B – 12.2		C – 27.2		E – 58.4		
Delay is measured in seconds.								

Table 13

CAPACITY ANALYSIS RESULTS – DUNDEE ROAD WITH WILKE ROAD – SIGNALIZED

	Peak Hour	Eastbound			Westbound			Northbound			Southbound			Overall
		L	T	R	L	T	R	L	T	R	L	T	R	
Year 2021 Existing Conditions	Weekday Morning Peak Hour	B 11.3	B 17.5	A 2.8	B 13.0	B 14.1	A 0.6	D 41.2	D	D 52.1	D 49.1	D 54.2	A 6.7	B – 17.6
		B – 16.5			B – 13.3			D – 51.1			C – 24.5			
	Weekday Evening Peak Hour	D 37.0	C 24.8	A 2.9	A 8.4	C 21.0	A 1.1	D 47.3	E 56.8		D 51.2	E 63.4	D 49.5	
	C – 25.3			B – 19.6			D – 53.2			D – 51.8				
Year 2027 No Build Conditions	Weekday Morning Peak Hour	B 12.2	B 18.0	A 2.8	B 12.5	B 14.4	A 0.6	D 41.2	D	D 52.9	D 49.2	D 54.1	A 7.2	B – 18.0
		B – 17.0			B – 13.5			D – 51.9			C – 24.8			
	Weekday Evening Peak Hour	D 37.0	C 25.4	A 3.0	A 8.7	C 23.8	A 1.1	D 47.3	E 57.1		D 51.2	E 63.4	D 50.4	
	C – 25.8			C – 22.2			D – 53.3			D – 52.4				
Year 2027 Projected Conditions	Weekday Morning Peak Hour	B 16.5	B 18.5	A 2.5	B 12.8	B 14.8	A 1.0	D 41.2	D	D 52.9	D 49.3	D 54.1	A 7.7	B – 18.7
		B – 17.9			B – 13.9			D – 51.9			C – 25.0			
	Weekday Evening Peak Hour	D 35.5	C 25.6	A 3.0	A 8.9	D 40.9	A 1.2	D 47.2	E 57.1		D 52.8	E 63.4	E 55.0	
	C – 25.9			D – 37.9			D – 53.3			E – 55.6				
L = Left R = Right T = Through Delay is measured in seconds.														

Table 14

CAPACITY ANALYSIS RESULTS – DUNDEE ROAD WITH KENNICOTT AVENUE – SIGNALIZED

	Peak Hour	Eastbound			Westbound			Northbound			Southbound			Overall	
		L	T	R	L	T	R	L	T	R	L	T	R		
Year 2021 Existing Conditions	Weekday Morning Peak Hour	A 2.1	B 11.8	A 0.6	D 37.5	B 11.7	B	D 53.9	E 58.9	B 10.7	D 46.3	C 29.9	B – 14.0		
		B – 10.4			B – 14.2			D – 41.1			C – 33.1				
		E 59.1	A 7.6	A 0.2	B 12.2	C 30.0	C	E 73.1	D 47.5	B 16.6	D 37.7	C 33.2		C – 24.8	
Year 2027 No Build Conditions	Weekday Morning Peak Hour	B – 11.1			C – 29.5			D – 50.0			C – 34.1				B – 14.2
		A 2.1	B 12.0	A 0.6	D 37.6	B 11.8	B	D 54.1	E 59.0	B 10.7	D 46.3	C 29.8	C – 25.5		
		B – 10.6			B – 14.3			D – 41.2			C – 33.0				
Year 2027 Projected Conditions	Weekday Evening Peak Hour	E 63.6	A 7.8	A 0.2	B 12.5	C 30.8	C	E 74.6	D 47.5	B 17.2	D 37.7	C 33.5		B – 14.1	
		B – 11.7			C – 30.3			D – 51.1			C – 34.3				
		A 2.6	B 11.5	A 0.5	D 37.6	B 12.6	B	D 54.5	E 59.5	B 10.8	D 46.4	C 30.1	C – 27.7		
Year 2027 Projected Conditions	Weekday Evening Peak Hour	B – 10.0			B – 15.0			D – 42.1			C – 33.3			C – 27.7	
		E 74.1	E 8.7	A 0.2	B 13.6	C 33.5	C	E 71.3	D 46.4	B 18.4	D 37.1	D 42.4			
		B – 13.5			C – 33.0			D – 49.6			D – 41.3				
L = Left		R = Right													
T = Through		Delay is measured in seconds.													

Table 15
CAPACITY ANALYSIS RESULTS
LAKE COOK ROAD WITH WILKE ROAD - SIGNALIZED

Year 2021 Existing Conditions	Peak Hour	Eastbound		Westbound		Northbound		Overall	
		Through	Right	Left	Through	Left	Right		
	Weekday Morning Peak Hour	C – 20.8	B 14.4		A 6.0		F 80.0 D 41.5		B – 16.6
	A – 6.2		E – 62.7						
Weekday Evening Peak Hour	A – 8.7	A 3.4		A 6.5		E 79.1 B 11.7		B – 10.2	
		A – 6.4		E – 57.7					
Year 2027 No Build Conditions	Weekday Morning Peak Hour	C – 22.3	B 14.8		A 6.1		F 80.7 D 42.1		B – 17.5
			A – 6.4		E – 63.4				
	Weekday Evening Peak Hour	A – 8.8	A 3.5		A 6.6		E 79.8 B 13.2		B – 10.4
			A – 6.6		E – 58.7				
Year 2027 Projected Conditions	Weekday Morning Peak Hour	C – 24.2	C 23.0		A 6.2		F 81.5 D 41.4		B – 18.7
			A – 6.8		E – 63.5				
	Weekday Evening Peak Hour	A – 9.4	A 3.7		A 6.7		F 84.9 B 17.7		B – 11.1
			A – 6.6		E – 61.1				
Delay is measured in seconds.									

Table 16
CAPACITY ANALYSIS RESULTS
UNSIGNALIZED INTERSECTIONS – EXISTING CONDITIONS

Intersection	Weekday Morning Peak Hour		Weekday Evening Peak Hour	
	LOS	Delay	LOS	Delay
Wilke Road with Nichols Road				
• Overall	A	8.6	A	9.0
• Eastbound Approach	A	9.1	A	8.1
• Westbound Approach	A	8.0	A	8.4
• Northbound Approach	A	8.5	A	9.5
• Southbound Approach	A	8.4	A	8.2
Kennicott Avenue with North Access Drive				
• Eastbound Approach	--	--	A	9.1
• Northbound Left Turn	--	--	A	8.3
Kennicott Avenue with South Access Drive				
• Eastbound Approach	A	8.8	A	8.5
• Northbound Left Turn	A	7.5	A	7.3
LOS = Level of Service Delay is measured in seconds.				

Table 17
CAPACITY ANALYSIS RESULTS
UNSIGNALIZED INTERSECTIONS – YEAR 2027 NO-BUILD CONDITIONS

Intersection	Weekday Morning Peak Hour		Weekday Evening Peak Hour	
	LOS	Delay	LOS	Delay
Wilke Road with Nichols Road				
• Overall	A	8.6	A	9.0
• Eastbound Approach	A	9.1	A	8.1
• Westbound Approach	A	8.0	A	8.4
• Northbound Approach	A	8.5	A	9.5
• Southbound Approach	A	8.4	A	8.2
Kennicott Avenue with North Access Drive				
• Eastbound Approach	--	--	A	9.1
• Northbound Left Turn	--	--	A	8.3
Kennicott Avenue with South Access Drive				
• Eastbound Approach	A	8.8	A	8.5
• Northbound Left Turn	A	7.5	A	7.3
LOS = Level of Service Delay is measured in seconds.				

Table 18
CAPACITY ANALYSIS RESULTS
UNSIGNALIZED INTERSECTIONS – YEAR 2027 TOTAL PROJECTED CONDITIONS

Intersection	Weekday Morning Peak Hour		Weekday Evening Peak Hour	
	LOS	Delay	LOS	Delay
Wilke Road with Nichols Road				
• Overall	A	8.8	A	9.1
• Eastbound Approach	A	9.2	A	8.2
• Westbound Approach	A	8.1	A	8.5
• Northbound Approach	A	8.6	A	9.7
• Southbound Approach	A	8.6	A	8.2
Kennicott Avenue with North Access Drive				
• Eastbound Approach	--	--	A	9.1
• Northbound Left Turn	--	--	A	7.8
Kennicott Avenue with South Access Drive				
• Eastbound Approach	A	8.9	A	8.8
• Northbound Left Turn	A	7.7	A	7.3
Wilke Road with North Access Drive				
• Westbound Approach	B	12.7	B	13.8
• Southbound Left Turn	A	8.1	A	8.1
Wilke Road with South Access Drive				
• Westbound Approach	B	11.9	B	11.9
• Southbound Left Turn	A	8.2	A	7.8
LOS = Level of Service Delay is measured in seconds.				

Discussion and Recommendations

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

Dundee Road with IL Route 53 Southbound Ramps

The results of the capacity analyses indicate that overall, this intersection currently operates at level of service (LOS) A during the weekday morning and weekday evening peak hours. Under Year 2027 no-build and total projected conditions, this intersection overall is projected to continue operating at LOS A during the weekday morning and weekday evening peak hours with increases in delay of less than one second.

Furthermore, the eastbound and westbound approaches are projected to continue operating at LOS A during the peak hours and the southbound approach is projected to continue operating at LOS E during the weekday morning peak hour and at LOS D during the weekday evening peak hour with increases in delay of less than two seconds.

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 signal modifications will be required.

Dundee Road with IL Route 53 Northbound Ramps

The results of the capacity analyses indicate that overall, this intersection currently operates at LOS C during the weekday morning and weekday evening peak hours. Under Year 2027 no-build and total projected conditions, this intersection is projected to continue operating at LOS C during the peak hours with increases in delay of approximately five seconds or less.

Furthermore, the eastbound and westbound approaches are projected to continue operating at LOS D or better during the peak hours with increases in delay of approximately seven seconds or less. The northbound approach is projected to continue operating at LOS D during the weekday morning peak hour and is projected to continue operating at LOS E during the weekday evening peak hour, compared to no-build conditions.

Overall, this intersection has sufficient reserve capacity to accommodate the traffic estimated to be generated by the proposed development and no roadway improvements or signal modifications will be required.

Dundee Road with Wilke Road

The results of the capacity analyses indicate that overall, this intersection currently operates at LOS B during the weekday morning peak hour and at LOS C during the weekday evening peak hour. Under Year 2027 no-build projected conditions, this intersection is projected to continue operating at LOS B during the weekday morning peak hour and at LOS C during the weekday evening peak hours with increase in delay of approximately one second.

Under Year 2027 total projected conditions, this intersection is projected to continue operating at LOS B during the weekday morning peak hour and is projected to operate at LOS D during the weekday evening peak hour with increase in delay of approximately one second and eight seconds, over no-build conditions.

Furthermore, all of the approaches are projected to continue operating at LOS D or better during the peak hours with increase in delay of 18 seconds or less, with the exception of the southbound approach which is projected to operate on the threshold of LOS D/E. It should be noted that the eastbound left-turning movement is projected to continue operating at LOS B during the weekday morning peak hour and at LOS D during the weekday evening peak hour with 95th percentile queues of 140 feet, which can be accommodated within the existing 210 feet of left-turn storage provided.

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 signal modifications will be required.

Dundee Road with Kennicott Avenue

The results of the capacity analyses indicate that overall, this intersection currently operates at LOS B during the weekday morning peak hour and at LOS C during the weekday evening peak hour. Under Year 2027 no-build and total projected conditions, this intersection is projected to continue operating at LOS B during the weekday morning peak hour and at LOS C during the weekday evening peak hour with increases in delay of less than one second, and approximately three seconds, respectively.

Furthermore, all of the approaches are projected to continue operating at LOS D or better during the peak hours with increases in delay of approximately six seconds or less. The eastbound left-turning movement is projected to continue operating at LOS A during the weekday morning peak hour and at LOS E during the weekday evening peak hour with 95th percentile queues of approximately 180 feet, which is an increase of approximately one vehicle length over no-build conditions. While these queues extend beyond the approximately 150 feet of left-turn lane storage provided, these queues can be accommodated within the existing taper and striped median provided along Dundee Road.

Overall, this intersection has sufficient reserve capacity to accommodate the traffic estimated to be generated by the proposed development and no roadway improvements or signal modifications will be required.

Lake Cook Road with Wilke Road

The results of the capacity analyses indicate that overall, this intersection currently operate at LOS B during the weekday morning and weekday evening peak hours. Under Year 2027 no-build and total projected conditions, this intersection is projected to continue operating at LOS B during the peak hours with increases in delay of approximately two seconds or less.

Furthermore, the eastbound and westbound approaches are projected to continue operating at LOS C or better during the peak hours with increases in delay of approximately four seconds. The northbound approach is projected to continue operating at LOS E during the peak hours with increase in delay of approximately three seconds. However, this level of service is projected for a local roadway that has a signalized intersection with a major arterial roadway such as Lake Cook Road.

Overall, this intersection has sufficient reserve capacity to accommodate the traffic estimated to be generated by the proposed development and no roadway improvements or signal modifications will be required.

Wilke Road with Nichols Road

The results of the capacity analyses indicate that overall, this intersection and all the approaches currently operate at LOS A during the weekday morning and weekday evening peak hours. Under Year 2027 no-build and total projected conditions, this intersection and all the approaches are projected to continue operating at LOS A during the peak hours with increases in delay of less than one second. As such, this intersection has sufficient reserve capacity to accommodate the traffic estimated to be generated by the proposed development (consisting of only passenger vehicles) and no roadway improvements or signal modifications will be required.

Kennicott Avenue with Access Drives

The results of the capacity analyses indicate that outbound movements from the existing access roadway are projected to operate at LOS A during the weekday morning and weekday evening peak hours. Furthermore, northbound left-turning movements from Kennicott Avenue are projected to continue operating at LOS A during the peak hours. As such, the proposed connections to the existing access drives on Kennicott Avenue will be adequate in accommodating the traffic estimated to be generated by the proposed development and will ensure efficient and flexible access is provided.

Wilke Road with Access Drives

The results of the capacity analyses indicate that outbound movements from the proposed access drives onto Wilke Road are projected to operate at LOS B during the weekday morning and weekday evening peak hours. Furthermore, southbound left-turning movements from Wilke Road onto the proposed access drives are projected to operate at LOS A during the peak hours with 95th percentile queues of one to two vehicles. As previously indicated, truck traffic to/from the site will be restricted to/from the south toward Dundee Road. As such, all southbound left-turning movements onto the access drives will be made by passenger vehicles. Wilke Road at the proposed access drive currently provides a four-lane cross section providing two lanes in each direction. Therefore, should a vehicle be stopped waiting to turn left onto the proposed access drives, a second southbound through lane is available to bypass the stopped passenger vehicle. Overall, the proposed access drives on Wilke Road will be adequate in accommodating the traffic estimated to be generated by the proposed development, will minimize conflicts between passenger vehicles and trucks, and will ensure efficient and flexible access is provided.

Parking Evaluation

As previously indicated, the development will provide a total of approximately 599 parking spaces. Approximately 288 parking stalls (including 7 ADA spaces) will be located to the east, south and west of Building 1 and the remaining approximately 311 parking spaces (including 8 ADA spaces) will be located to the east of Building 2. Furthermore, an additional 40 land banked parking spaces will be provided along the north side of Building 2 should they be needed in the future. As such, the development will provide up to 639 parking spaces.

For the purposes of this parking evaluation, it was assumed that 10 percent of the proposed buildings will be office space and the remaining 90 percent will be warehousing space. Based on information published in the *ITE Parking Generation Manual*, 5th Edition, warehousing developments experience an average peak parking demand of 0.39 vehicles per 1,000 square feet and an 85th percentile peak parking demand of 1.11 vehicles per 1,000 square feet. Office developments experience an average peak parking demand of 2.81 vehicle per 1,000 square feet and an 85th percentile peak parking demand of 3.30 vehicles per 1,000 square feet.

With a total of 511,664 square feet of building area proposed, the development is projected to experience an average peak parking demand of 326 spaces and an 85th percentile parking demand of 680 spaces. However, it should be noted that per ITE, the 85th percentile parking demand “is not intended to recommend a policy about the level of parking that should be supplied. It is provided solely as a qualitative reference for the analyst.” As such, the proposed 599 parking spaces will be adequate in accommodating the parking estimated to be generated by the proposed development.

Dundee Road Traffic Signal Warrant Evaluation

Under the current site plan (included in the Appendix), direct access to Dundee Road is not proposed. However, should direct access be provided to Dundee Road (aligned opposite the Napleton’s Arlington Heights Chrysler Dodge Jeep Ram Dealership), a traffic signal will not be warranted at this location based on the following:

- A traffic signal at this location will not meet the IDOT minimum spacing requirement for traffic signals.
- The volume of traffic generated by the proposed development will not generate an hourly outbound traffic volume greater than 150 vehicles, which is required to meet the peak hour traffic signal warrant assuming two outbound lanes published in Chapter 4C of the Manual on Uniform Traffic Control Devices (MUTCD).

As such, should access from the subject development be proposed to Dundee Road, a traffic signal will not meet the peak hour traffic signal warrants and will unlikely be approved by IDOT given its proximity to the existing traffic signals on Dundee Road at Wilke Road and Kennicott Avenue.

6. Conclusion

A traffic impact study was conducted for the proposed warehouse/distribution development to be located on the north side of Dundee Road, approximately 1,500 feet east of IL Route 53 in Arlington Heights, Illinois. The plans call for the site to be developed with approximately 511,664 square feet of warehouse/distribution space. Access to the development is proposed via one existing access drive off Wilke Road, one proposed access drive off Wilke Road, and via two existing access drives off Kennicott Avenue. The southerly access drives on Wilke Road will serve passenger vehicles only while the northerly access drives on Wilke Road will serve both passenger vehicles and trucks. Given the layout of the site and proposed parking fields, the southerly access drive on Kennicott Avenue will be mostly utilized by both passenger vehicles and trucks. The north access drive on Kennicott Avenue will be utilized for emergency access only. Truck traffic from the development will be restricted to and from the south toward Dundee Road.

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

- Given that Dundee Road and IL Route 53 are established truck routes serving all of the commercial land uses on both sides of Dundee Road and given the proximity of the proposed development to the IL Route 53 ramps, the majority of the truck traffic will be oriented to/from the south on IL Route 53.
- All inbound and outbound truck traffic for the proposed development will be oriented to/from the south toward Dundee Road.
- The signalized intersections within the study area have sufficient reserve capacity to accommodate the volume of traffic estimated to be generated by the proposed development.
- The proposed access system will be adequate in accommodating the site-generated traffic and will work efficiently with the adjacent access drives.
- The proposed access system will minimize the interaction between passenger vehicles and trucks and will ensure efficient and flexible access is provided for the proposed development.
- Southbound left-turns from Wilke Road onto the proposed access drives, which will only be performed by passenger vehicles, can be accommodated by the existing four lane cross section of Wilke Road.
- The proposed 599 parking spaces, and 40 proposed land banked parking spaces, will be adequate in accommodating the estimated average peak parking demand for the development.

Appendix

Traffic Counts

Site Plan

ITE Trip/Parking Generation Worksheets

CMAP 2050 Projections Letter

Level of Service Criteria

Capacity Analysis Summary Sheets

Traffic Count Summary Sheets

Rosemont, Illinois, United States 60018
(847)518-9990

Site Code:
Start Date: 02/16/2021
Page No: 1

Dundee Road

Start Time	Dundee Road Eastbound					Dundee Road Westbound					IL 53 Southbound						
	U-Turn	Left	Thru	Right	Peds	App. Total	U-Turn	Thru	Right	Peds	App. Total	U-Turn	Left	Right	Peds	App. Total	Int. Total
4:00 PM	0	0	139	40	0	179	0	247	100	0	347	0	2	10	0	12	538
4:15 PM	0	0	125	56	0	181	0	252	109	0	361	0	8	8	0	16	558
4:30 PM	0	0	136	39	0	175	0	246	104	0	350	0	12	11	0	23	548
4:45 PM	0	0	136	56	0	192	0	264	121	0	385	0	4	9	0	13	590
Hourly Total	0	0	536	191	0	727	0	1009	434	0	1443	0	26	38	0	64	2234
5:00 PM	0	0	140	48	0	188	0	257	132	0	389	0	3	9	0	12	589
5:15 PM	0	0	149	49	0	198	0	295	122	0	417	0	2	8	0	10	625
5:30 PM	0	0	156	55	0	211	0	251	97	0	348	0	7	8	0	15	574
5:45 PM	0	0	136	46	0	182	0	226	97	0	323	0	7	13	0	20	525
Hourly Total	0	0	581	198	0	779	0	1029	448	0	1477	0	19	38	0	57	2313
*** BREAK ***	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
7:00 AM	0	0	149	76	0	225	0	94	87	0	181	0	0	3	0	3	409
7:15 AM	0	0	187	81	0	268	0	115	117	0	232	0	7	6	0	13	513
7:30 AM	0	0	171	88	0	259	0	92	121	0	213	0	10	5	1	15	487
7:45 AM	0	0	157	62	0	219	0	132	131	0	263	0	5	8	0	13	495
Hourly Total	0	0	664	307	0	971	0	433	456	0	889	0	22	22	1	44	1904
8:00 AM	0	0	156	69	0	225	0	116	129	0	245	0	6	5	0	11	481
8:15 AM	0	0	168	64	0	232	0	120	109	0	229	0	10	7	0	17	478
8:30 AM	0	0	162	68	0	230	0	134	110	0	244	0	4	7	0	11	485
8:45 AM	0	0	165	52	0	217	0	160	88	0	248	0	11	13	0	24	489
Hourly Total	0	0	651	253	0	904	0	530	436	0	966	0	31	32	0	63	1933
Grand Total	0	0	2432	949	0	3381	0	3001	1774	0	4775	0	98	130	1	228	8384
Approach %	0.0	0.0	71.9	28.1	-	-	0.0	62.8	37.2	-	-	0.0	43.0	57.0	-	-	-
Total %	0.0	0.0	29.0	11.3	-	40.3	0.0	35.8	21.2	-	57.0	0.0	1.2	1.6	-	2.7	-
Lights	0	0	2377	919	-	3296	0	2913	1683	-	4596	0	97	129	-	226	8118
% Lights	-	-	97.7	96.8	-	97.5	-	97.1	94.9	-	96.3	-	99.0	99.2	-	99.1	96.8
Buses	0	0	4	0	-	4	0	16	5	-	21	0	0	0	-	0	25
% Buses	-	-	0.2	0.0	-	0.1	-	0.5	0.3	-	0.4	-	0.0	0.0	-	0.0	0.3
Single-Unit Trucks	0	0	43	23	-	66	0	52	71	-	123	0	1	1	-	2	191
% Single-Unit Trucks	-	-	1.8	2.4	-	2.0	-	1.7	4.0	-	2.6	-	1.0	0.8	-	0.9	2.3
Articulated Trucks	0	0	8	7	-	15	0	20	15	-	35	0	0	0	-	0	50
% Articulated Trucks	-	-	0.3	0.7	-	0.4	-	0.7	0.8	-	0.7	-	0.0	0.0	-	0.0	0.6
Bicycles on Road	0	0	0	0	-	0	0	0	0	-	0	0	0	0	-	0	0
% Bicycles on Road	-	-	0.0	0.0	-	0.0	-	0.0	0.0	-	0.0	-	0.0	0.0	-	0.0	0.0
Pedestrians	-	-	-	-	0	0	-	-	-	0	-	-	-	-	1	-	-
% Pedestrians	-	-	-	-	-	-	-	-	-	-	-	-	-	-	100.0	-	-

Rosemont, Illinois, United States 60018
(847)518-9990

Site Code:
Start Date: 02/16/2021
Page No: 3

Turning Movement Peak Hour Data (7:15 AM)

[illegible]

Rosemont, Illinois, United States 60018
(847)518-9990

Site Code:
Start Date: 02/16/2021
Page No: 2

Turning Movement Peak Hour Data (4:45 PM)

[illegible]



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

Rosemont, Illinois, United States 60018
(847)518-9990

Count Name: Dundee and Rt 53 - East Ramps
Site Code:
Start Date: 06/24/2017
Page No: 1

Turning Movement Data

Start Time	Dundee Road Eastbound						Dundee Road Westbound						53 Off-Ramp Northbound						53 On-Ramp Southbound						Int. Total	
	U-Turn	Left	Thru	Right	Peds	App. Total	U-Turn	Left	Thru	Right	Peds	App. Total	U-Turn	Left	Thru	Right	Peds	App. Total	U-Turn	Left	Thru	Right	Peds	App. Total		
12:00 PM	0	5	233	0	0	238	0	0	340	11	0	351	0	89	0	122	0	211	0	0	0	0	0	0	800	
12:15 PM	0	8	253	0	0	261	0	0	385	17	0	402	0	80	0	107	0	187	0	0	0	0	0	0	850	
12:30 PM	1	9	228	0	0	238	0	0	382	22	0	404	0	81	0	118	0	199	0	0	0	0	0	0	841	
12:45 PM	0	6	252	0	0	258	0	0	357	23	0	380	0	69	0	97	0	166	0	0	0	0	1	0	804	
Hourly Total	1	28	966	0	0	995	0	0	1464	73	0	1537	0	319	0	444	0	763	0	0	0	0	1	0	3295	
1:00 PM	0	4	231	0	0	235	0	0	291	24	0	315	0	55	0	94	0	149	0	0	0	0	0	0	699	
1:15 PM	2	6	235	0	0	243	0	0	312	23	0	335	0	74	1	107	0	182	0	0	0	0	2	0	760	
1:30 PM	2	10	170	1	0	183	0	0	305	24	0	329	0	93	0	111	0	204	0	0	0	0	0	0	716	
1:45 PM	3	9	184	0	0	196	0	0	297	17	0	314	0	88	0	104	0	192	0	0	0	0	0	0	702	
Hourly Total	7	29	820	1	0	857	0	0	1205	88	0	1293	0	310	1	416	0	727	0	0	0	0	2	0	2877	
*** BREAK ***	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
7:00 AM	0	4	274	0	0	278	0	0	257	18	0	275	0	35	0	229	0	264	0	0	0	0	0	0	817	
7:15 AM	0	4	288	0	0	292	0	0	280	9	0	289	0	30	0	221	0	251	0	0	0	0	1	0	832	
7:30 AM	0	4	307	0	0	311	0	0	286	14	0	300	0	34	0	238	0	272	0	0	0	0	0	0	883	
7:45 AM	0	5	274	0	0	279	0	0	267	10	0	277	0	38	0	275	0	313	0	0	0	0	0	0	869	
Hourly Total	0	17	1143	0	0	1160	0	0	1090	51	0	1141	0	137	0	963	0	1100	0	0	0	0	1	0	3401	
8:00 AM	0	1	322	0	0	323	0	0	270	10	0	280	0	46	0	239	0	285	0	0	0	0	0	0	888	
8:15 AM	0	2	257	0	0	259	0	0	218	15	0	233	0	51	0	250	1	301	0	0	0	0	0	0	793	
8:30 AM	0	10	316	0	0	326	0	0	264	14	0	278	0	48	0	205	0	253	0	0	0	0	1	0	857	
8:45 AM	0	3	257	0	0	260	0	0	201	15	0	216	0	51	0	241	0	292	0	0	0	0	0	0	768	
Hourly Total	0	16	1152	0	0	1168	0	0	953	54	0	1007	0	196	0	935	1	1131	0	0	0	0	1	0	3306	
*** BREAK ***	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
4:00 PM	0	9	196	0	0	205	0	0	495	13	0	508	0	144	0	148	0	292	0	0	0	0	0	0	1005	
4:15 PM	0	6	181	0	0	187	0	0	524	17	0	541	0	134	0	172	1	306	0	0	0	0	0	0	1034	
4:30 PM	1	9	200	0	0	210	0	0	468	11	0	479	0	136	0	168	0	304	0	0	0	0	0	0	993	
4:45 PM	0	4	194	0	0	198	0	0	491	8	0	499	0	135	0	192	0	327	0	0	0	0	0	0	1024	
Hourly Total	1	28	771	0	0	800	0	0	1978	49	0	2027	0	549	0	680	1	1229	0	0	0	0	0	0	0	4056
5:00 PM	2	10	214	0	0	226	0	0	526	9	0	535	0	157	0	203	1	360	0	0	0	0	0	0	1121	
5:15 PM	0	2	223	0	0	225	0	0	540	14	0	554	0	150	0	187	0	337	0	0	0	0	0	0	1116	
5:30 PM	0	6	188	0	0	194	0	0	501	12	0	513	0	157	0	202	1	359	0	0	0	0	0	0	1066	
5:45 PM	2	8	201	0	0	211	0	0	401	15	0	416	0	131	0	222	0	353	0	0	0	0	0	0	980	
Hourly Total	4	26	826	0	0	856	0	0	1968	50	0	2018	0	595	0	814	2	1409	0	0	0	0	0	0	0	4283
Grand Total	13	144	5678	1	0	5836	0	0	8658	365	0	9023	0	2106	1	4252	4	6359	0	0	0	0	0	5	0	21218
Approach %	0.2	2.5	97.3	0.0	-	-	0.0	0.0	96.0	4.0	-	-	0.0	33.1	0.0	66.9	-	-	0.0	0.0	0.0	0.0	0.0	-	-	-
Total %	0.1	0.7	26.8	0.0	-	27.5	0.0	0.0	40.8	1.7	-	42.5	0.0	9.9	0.0	20.0	-	30.0	0.0	0.0	0.0	0.0	-	-	0.0	

Lights	13	143	5587	1	-	5744	0	0	8460	357	-	8817	0	2050	1	4132	-	6183	0	0	0	0	-	0	20744
% Lights	100.0	99.3	98.4	100.0	-	98.4	-	-	97.7	97.8	-	97.7	-	97.3	100.0	97.2	-	97.2	-	-	-	-	-	-	97.8
Buses	0	0	12	0	-	12	0	0	19	0	-	19	0	3	0	6	-	9	0	0	0	0	-	0	40
% Buses	0.0	0.0	0.2	0.0	-	0.2	-	-	0.2	0.0	-	0.2	-	0.1	0.0	0.1	-	0.1	-	-	-	-	-	-	0.2
Single-Unit Trucks	0	1	52	0	-	53	0	0	117	5	-	122	0	23	0	66	-	89	0	0	0	0	-	0	264
% Single-Unit Trucks	0.0	0.7	0.9	0.0	-	0.9	-	-	1.4	1.4	-	1.4	-	1.1	0.0	1.6	-	1.4	-	-	-	-	-	-	1.2
Articulated Trucks	0	0	25	0	-	25	0	0	53	3	-	56	0	29	0	47	-	76	0	0	0	0	-	0	157
% Articulated Trucks	0.0	0.0	0.4	0.0	-	0.4	-	-	0.6	0.8	-	0.6	-	1.4	0.0	1.1	-	1.2	-	-	-	-	-	-	0.7
Bicycles on Road	0	0	2	0	-	2	0	0	9	0	-	9	0	1	0	1	-	2	0	0	0	0	-	0	13
% Bicycles on Road	0.0	0.0	0.0	0.0	-	0.0	-	-	0.1	0.0	-	0.1	-	0.0	0.0	0.0	-	0.0	-	-	-	-	-	-	0.1
Pedestrians	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	4	-	-	-	-	-	5	-	-
% Pedestrians	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	100.0	-	-	-	-	-	100.0	-	-

Rosemont, Illinois, United States 60018
(847)518-9990

Start Date: 06/24/2017
Page No: 3

Turning Movement Peak Hour Data (7:15 AM)

[illegible]



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

Rosemont, Illinois, United States 60018
(847)518-9990

Count Name: Dundee and Rt 53 - East Ramps
Site Code:
Start Date: 06/24/2017
Page No: 4

Turning Movement Peak Hour Data (4:45 PM)

Start Time	Dundee Road Eastbound						Dundee Road Westbound						53 Off-Ramp Northbound						53 On-Ramp Southbound						Int. Total
	U-Turn	Left	Thru	Right	Peds	App. Total	U-Turn	Left	Thru	Right	Peds	App. Total	U-Turn	Left	Thru	Right	Peds	App. Total	U-Turn	Left	Thru	Right	Peds	App. Total	
4:45 PM	0	4	194	0	0	198	0	0	491	8	0	499	0	135	0	192	0	327	0	0	0	0	0	0	1024
5:00 PM	2	10	214	0	0	226	0	0	526	9	0	535	0	157	0	203	1	360	0	0	0	0	0	0	1121
5:15 PM	0	2	223	0	0	225	0	0	540	14	0	554	0	150	0	187	0	337	0	0	0	0	0	0	1116
5:30 PM	0	6	188	0	0	194	0	0	501	12	0	513	0	157	0	202	1	359	0	0	0	0	0	0	1066
Total	2	22	819	0	0	843	0	0	2058	43	0	2101	0	599	0	784	2	1383	0	0	0	0	0	0	4327
Approach %	0.2	2.6	97.2	0.0	-	-	0.0	0.0	98.0	2.0	-	-	0.0	43.3	0.0	56.7	-	-	0.0	0.0	0.0	0.0	-	-	-
Total %	0.0	0.5	18.9	0.0	-	19.5	0.0	0.0	47.6	1.0	-	48.6	0.0	13.8	0.0	18.1	-	32.0	0.0	0.0	0.0	0.0	-	0.0	-
PHF	0.250	0.550	0.918	0.000	-	0.933	0.000	0.000	0.953	0.768	-	0.948	0.000	0.954	0.000	0.966	-	0.960	0.000	0.000	0.000	0.000	-	0.000	0.965
Lights	2	22	810	0	-	834	0	0	2033	43	-	2076	0	591	0	772	-	1363	0	0	0	0	-	0	4273
% Lights	100.0	100.0	98.9	-	-	98.9	-	-	98.8	100.0	-	98.8	-	98.7	-	98.5	-	98.6	-	-	-	-	-	-	98.8
Buses	0	0	2	0	-	2	0	0	2	0	-	2	0	0	0	0	-	0	0	0	0	0	-	0	4
% Buses	0.0	0.0	0.2	-	-	0.2	-	-	0.1	0.0	-	0.1	-	0.0	-	0.0	-	0.0	-	-	-	-	-	-	0.1
Single-Unit Trucks	0	0	6	0	-	6	0	0	12	0	-	12	0	2	0	5	-	7	0	0	0	0	-	0	25
% Single-Unit Trucks	0.0	0.0	0.7	-	-	0.7	-	-	0.6	0.0	-	0.6	-	0.3	-	0.6	-	0.5	-	-	-	-	-	-	0.6
Articulated Trucks	0	0	1	0	-	1	0	0	8	0	-	8	0	6	0	6	-	12	0	0	0	0	-	0	21
% Articulated Trucks	0.0	0.0	0.1	-	-	0.1	-	-	0.4	0.0	-	0.4	-	1.0	-	0.8	-	0.9	-	-	-	-	-	-	0.5
Bicycles on Road	0	0	0	0	-	0	0	0	3	0	-	3	0	0	0	1	-	1	0	0	0	0	-	0	4
% Bicycles on Road	0.0	0.0	0.0	-	-	0.0	-	-	0.1	0.0	-	0.1	-	0.0	-	0.1	-	0.1	-	-	-	-	-	-	0.1
Pedestrians	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	2	-	-	-	-	-	0	-	-
% Pedestrians	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	100.0	-	-	-	-	-	-	-	-



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

Rosemont, Illinois, United States 60018
(847)518-9990

Count Name: Dundee and Wilke
Site Code:
Start Date: 06/24/2017
Page No: 1

Turning Movement Data

Start Time	Dundee Eastbound						Dundee Westbound						Wilke Northbound						Wilke Southbound						Int. Total
	U-Turn	Left	Thru	Right	Peds	App. Total	U-Turn	Left	Thru	Right	Peds	App. Total	U-Turn	Left	Thru	Right	Peds	App. Total	U-Turn	Left	Thru	Right	Peds	App. Total	
12:00 PM	1	24	306	10	0	341	0	14	324	20	0	358	0	6	5	12	0	23	0	22	10	50	0	82	804
12:15 PM	1	29	316	6	0	352	1	5	342	16	0	364	0	8	7	15	0	30	0	16	11	37	0	64	810
12:30 PM	0	27	322	9	0	358	0	7	358	23	0	388	0	2	4	15	0	21	0	15	7	48	0	70	837
12:45 PM	2	34	311	3	0	350	0	6	330	15	0	351	0	7	5	10	0	22	0	12	15	35	0	62	785
Hourly Total	4	114	1255	28	0	1401	1	32	1354	74	0	1461	0	23	21	52	0	96	0	65	43	170	0	278	3236
1:00 PM	1	31	294	5	0	331	0	4	286	18	0	308	0	3	8	9	0	20	0	19	9	31	0	59	718
1:15 PM	2	25	274	4	0	305	1	16	293	18	0	328	0	2	12	11	0	25	0	14	4	44	0	62	720
1:30 PM	1	29	281	2	0	313	0	8	288	16	0	312	0	4	5	14	0	23	0	17	2	45	1	64	712
1:45 PM	0	36	291	6	0	333	0	8	267	17	0	292	0	5	6	13	0	24	0	13	4	32	0	49	698
Hourly Total	4	121	1140	17	0	1282	1	36	1134	69	0	1240	0	14	31	47	0	92	0	63	19	152	1	234	2848
*** BREAK ***	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
7:00 AM	0	24	443	13	0	480	0	5	239	9	1	253	0	5	8	11	0	24	0	18	8	42	0	68	825
7:15 AM	1	52	429	10	0	492	0	4	228	19	1	251	0	3	11	25	0	39	0	17	6	51	0	74	856
7:30 AM	0	45	509	11	0	565	0	5	258	11	0	274	0	6	13	26	0	45	0	24	16	43	0	83	967
7:45 AM	0	76	455	14	0	545	0	5	226	13	0	244	0	2	17	24	0	43	0	20	10	46	1	76	908
Hourly Total	1	197	1836	48	0	2082	0	19	951	52	2	1022	0	16	49	86	0	151	0	79	40	182	1	301	3556
8:00 AM	0	58	490	23	0	571	0	8	218	16	0	242	0	2	6	10	0	18	0	19	12	43	1	74	905
8:15 AM	0	38	449	20	0	507	0	8	211	14	1	233	0	6	12	25	0	43	0	11	6	37	0	54	837
8:30 AM	0	53	467	19	0	539	0	3	216	9	0	228	0	5	12	14	0	31	0	17	6	26	0	49	847
8:45 AM	0	50	450	18	0	518	0	7	208	19	0	234	0	9	6	22	0	37	1	15	7	28	1	51	840
Hourly Total	0	199	1856	80	0	2135	0	26	853	58	1	937	0	22	36	71	0	129	1	62	31	134	2	228	3429
*** BREAK ***	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
4:00 PM	0	40	292	7	0	339	0	11	410	15	0	436	0	20	10	13	0	43	0	20	14	69	0	103	921
4:15 PM	0	26	333	11	0	370	0	7	486	21	0	514	0	16	12	13	0	41	0	10	6	49	0	65	990
4:30 PM	0	39	316	5	0	360	0	21	408	22	0	451	0	21	15	14	0	50	0	28	14	65	0	107	968
4:45 PM	0	32	341	8	0	381	0	18	398	31	0	447	0	15	15	17	0	47	0	12	10	56	0	78	953
Hourly Total	0	137	1282	31	0	1450	0	57	1702	89	0	1848	0	72	52	57	0	181	0	70	44	239	0	353	3832
5:00 PM	0	25	351	5	0	381	0	14	384	23	0	421	0	32	17	15	0	64	0	41	18	99	0	158	1024
5:15 PM	0	30	368	13	0	411	0	13	421	13	0	447	0	15	10	25	0	50	0	27	18	89	0	134	1042
5:30 PM	0	40	354	10	0	404	0	22	459	24	0	505	0	17	11	16	0	44	0	16	16	48	0	80	1033
5:45 PM	0	38	378	5	0	421	0	12	353	24	0	389	0	24	13	19	0	56	0	23	11	43	0	77	943
Hourly Total	0	133	1451	33	0	1617	0	61	1617	84	0	1762	0	88	51	75	0	214	0	107	63	279	0	449	4042
Grand Total	9	901	8820	237	0	9967	2	231	7611	426	3	8270	0	235	240	388	0	863	1	446	240	1156	4	1843	20943
Approach %	0.1	9.0	88.5	2.4	-	-	0.0	2.8	92.0	5.2	-	-	0.0	27.2	27.8	45.0	-	-	0.1	24.2	13.0	62.7	-	-	-
Total %	0.0	4.3	42.1	1.1	-	47.6	0.0	1.1	36.3	2.0	-	39.5	0.0	1.1	1.1	1.9	-	4.1	0.0	2.1	1.1	5.5	-	8.8	-

Lights	8	886	8633	234	-	9761	2	229	7423	417	-	8071	0	232	237	388	-	857	1	442	238	1132	-	1813	20502
% Lights	88.9	98.3	97.9	98.7	-	97.9	100.0	99.1	97.5	97.9	-	97.6	-	98.7	98.8	100.0	-	99.3	100.0	99.1	99.2	97.9	-	98.4	97.9
Buses	0	0	15	0	-	15	0	0	8	3	-	11	0	0	1	0	-	1	0	0	1	8	-	9	36
% Buses	0.0	0.0	0.2	0.0	-	0.2	0.0	0.0	0.1	0.7	-	0.1	-	0.0	0.4	0.0	-	0.1	0.0	0.0	0.4	0.7	-	0.5	0.2
Single-Unit Trucks	1	11	110	1	-	123	0	2	115	6	-	123	0	3	1	0	-	4	0	4	0	11	-	15	265
% Single-Unit Trucks	11.1	1.2	1.2	0.4	-	1.2	0.0	0.9	1.5	1.4	-	1.5	-	1.3	0.4	0.0	-	0.5	0.0	0.9	0.0	1.0	-	0.8	1.3
Articulated Trucks	0	3	60	0	-	63	0	0	64	0	-	64	0	0	0	0	-	0	0	0	0	4	-	4	131
% Articulated Trucks	0.0	0.3	0.7	0.0	-	0.6	0.0	0.0	0.8	0.0	-	0.8	-	0.0	0.0	0.0	-	0.0	0.0	0.0	0.0	0.3	-	0.2	0.6
Bicycles on Road	0	1	2	2	-	5	0	0	1	0	-	1	0	0	1	0	-	1	0	0	1	1	-	2	9
% Bicycles on Road	0.0	0.1	0.0	0.8	-	0.1	0.0	0.0	0.0	0.0	-	0.0	-	0.0	0.4	0.0	-	0.1	0.0	0.0	0.4	0.1	-	0.1	0.0
Pedestrians	-	-	-	-	0	-	-	-	-	-	3	-	-	-	-	-	0	-	-	-	-	-	4	-	-
% Pedestrians	-	-	-	-	-	-	-	-	-	-	100.0	-	-	-	-	-	-	-	-	-	-	-	100.0	-	-

Rosemont, Illinois, United States 60018
(847)518-9990

Turning Movement Peak Hour Data (7:15 AM)

0.001

Rosemont, Illinois, United States 60018
(847)518-9990

Turning Movement Peak Hour Data (4:45 PM)

Count Name: Dundee and Wilke
Site Code:
Start Date: 06/24/2017
Page No: 4



Kenig Lindgren O'Hara Aboona, Inc.
9575 W. Higgins Rd., Suite 400
Rosemont, Illinois, United States 60018
(847)518-9990

Count Name: Dundee with Kennicott
Site Code:
Start Date: 06/24/2017
Page No: 1

Turning Movement Data

Start Time	Dundee Eastbound						Dundee Westbound						Kennicott Northbound						Kennicott Southbound						
	U-Turn	Left	Thru	Right	Peds	App. Total	U-Turn	Left	Thru	Right	Peds	App. Total	U-Turn	Left	Thru	Right	Peds	App. Total	U-Turn	Left	Thru	Right	Peds	App. Total	Int. Total
12:00 PM	0	17	299	18	0	334	0	12	314	2	0	328	0	25	5	22	0	52	0	6	1	16	0	23	737
12:15 PM	0	10	304	16	0	330	0	12	317	5	0	334	0	24	11	19	0	54	0	4	4	17	0	25	743
12:30 PM	0	15	331	11	0	357	0	12	334	4	0	350	0	24	4	14	0	42	0	9	2	16	0	27	776
12:45 PM	0	13	296	23	0	332	0	10	306	2	0	318	0	17	3	10	1	30	0	6	2	19	0	27	707
Hourly Total	0	55	1230	68	0	1353	0	46	1271	13	0	1330	0	90	23	65	1	178	0	25	9	68	0	102	2963
1:00 PM	0	13	291	15	0	319	0	12	253	5	0	270	0	22	4	14	0	40	0	6	3	22	0	31	660
1:15 PM	0	14	266	18	1	298	2	9	292	4	1	307	0	18	1	18	0	37	0	10	4	13	0	27	669
1:30 PM	0	15	277	13	2	305	0	14	285	0	0	299	0	12	4	14	0	30	0	4	3	16	0	23	657
1:45 PM	1	16	274	13	0	304	0	9	252	2	0	263	1	12	6	14	0	33	0	4	3	19	0	26	626
Hourly Total	1	58	1108	59	3	1226	2	44	1082	11	1	1139	1	64	15	60	0	140	0	24	13	70	0	107	2612
*** BREAK ***	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
7:00 AM	0	17	436	51	0	504	0	11	222	6	0	239	0	16	4	7	0	27	0	11	5	16	0	32	802
7:15 AM	0	12	411	43	0	466	0	20	214	1	0	235	0	15	8	10	0	33	0	10	6	20	0	36	770
7:30 AM	0	21	495	43	0	559	0	21	230	2	0	253	0	17	11	10	0	38	0	5	8	21	0	34	884
7:45 AM	0	17	440	62	2	519	0	25	206	3	1	234	0	23	15	20	0	58	0	2	6	18	1	26	837
Hourly Total	0	67	1782	199	2	2048	0	77	872	12	1	961	0	71	38	47	0	156	0	28	25	75	1	128	3293
8:00 AM	0	20	427	48	1	495	0	28	200	4	0	232	0	19	7	15	0	41	0	9	6	22	0	37	805
8:15 AM	0	20	441	48	0	509	0	26	184	10	3	220	0	17	7	13	0	37	0	8	5	22	0	35	801
8:30 AM	0	7	417	40	0	464	0	33	195	5	1	233	0	16	9	13	1	38	0	7	9	18	0	34	769
8:45 AM	0	21	432	65	0	518	0	41	201	4	4	246	0	14	9	13	0	36	0	4	1	14	2	19	819
Hourly Total	0	68	1717	201	1	1986	0	128	780	23	8	931	0	66	32	54	1	152	0	28	21	76	2	125	3194
*** BREAK ***	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
4:00 PM	0	17	277	22	0	316	0	14	355	3	1	372	0	75	11	38	0	124	0	15	8	26	0	49	861
4:15 PM	0	21	312	17	0	350	0	13	422	3	0	438	0	51	5	39	1	95	0	7	8	27	0	42	925
4:30 PM	0	28	316	22	0	366	0	9	345	4	0	358	0	69	11	31	1	111	0	11	10	42	0	63	898
4:45 PM	0	28	295	22	1	345	0	5	346	4	1	355	0	54	3	41	0	98	0	9	6	37	1	52	850
Hourly Total	0	94	1200	83	1	1377	0	41	1468	14	2	1523	0	249	30	149	2	428	0	42	32	132	1	206	3534
5:00 PM	0	35	361	27	0	423	0	9	361	1	0	371	0	77	16	48	1	141	0	13	11	40	0	64	999
5:15 PM	0	36	353	22	0	411	0	9	316	2	0	327	0	87	11	46	0	144	0	8	11	31	0	50	932
5:30 PM	0	23	354	22	0	399	0	18	417	7	0	442	0	54	16	49	0	119	0	10	4	28	0	42	1002
5:45 PM	0	26	364	16	0	406	0	12	292	3	5	307	0	46	8	42	4	96	0	10	10	42	0	62	871
Hourly Total	0	120	1432	87	0	1639	0	48	1386	13	5	1447	0	264	51	185	5	500	0	41	36	141	0	218	3804
Grand Total	1	462	8469	697	7	9629	2	384	6859	86	17	7331	1	804	189	560	9	1554	0	188	136	562	4	886	19400
Approach %	0.0	4.8	88.0	7.2	-	-	0.0	5.2	93.6	1.2	-	-	0.1	51.7	12.2	36.0	-	-	0.0	21.2	15.3	63.4	-	-	-
Total %	0.0	2.4	43.7	3.6	-	49.6	0.0	2.0	35.4	0.4	-	37.8	0.0	4.1	1.0	2.9	-	8.0	0.0	1.0	0.7	2.9	-	4.6	-

Lights	1	459	8309	677	-	9446	2	379	6709	83	-	7173	1	784	179	555	-	1519	0	187	130	555	-	872	19010
% Lights	100.0	99.4	98.1	97.1	-	98.1	100.0	98.7	97.8	96.5	-	97.8	100.0	97.5	94.7	99.1	-	97.7	-	99.5	95.6	98.8	-	98.4	98.0
Buses	0	0	21	1	-	22	0	0	16	1	-	17	0	0	0	1	-	1	0	0	1	0	-	1	41
% Buses	0.0	0.0	0.2	0.1	-	0.2	0.0	0.0	0.2	1.2	-	0.2	0.0	0.0	0.0	0.2	-	0.1	-	0.0	0.7	0.0	-	0.1	0.2
Single-Unit Trucks	0	3	89	9	-	101	0	4	81	2	-	87	0	13	1	3	-	17	0	1	1	7	-	9	214
% Single-Unit Trucks	0.0	0.6	1.1	1.3	-	1.0	0.0	1.0	1.2	2.3	-	1.2	0.0	1.6	0.5	0.5	-	1.1	-	0.5	0.7	1.2	-	1.0	1.1
Articulated Trucks	0	0	48	9	-	57	0	1	53	0	-	54	0	7	0	1	-	8	0	0	0	0	-	0	119
% Articulated Trucks	0.0	0.0	0.6	1.3	-	0.6	0.0	0.3	0.8	0.0	-	0.7	0.0	0.9	0.0	0.2	-	0.5	-	0.0	0.0	0.0	-	0.0	0.6
Bicycles on Road	0	0	2	1	-	3	0	0	0	0	-	0	0	0	9	0	-	9	0	0	4	0	-	4	16
% Bicycles on Road	0.0	0.0	0.0	0.1	-	0.0	0.0	0.0	0.0	0.0	-	0.0	0.0	0.0	4.8	0.0	-	0.6	-	0.0	2.9	0.0	-	0.5	0.1
Pedestrians	-	-	-	-	7	-	-	-	-	-	17	-	-	-	-	-	9	-	-	-	-	-	4	-	-
% Pedestrians	-	-	-	-	100.0	-	-	-	-	-	100.0	-	-	-	-	-	100.0	-	-	-	-	-	100.0	-	-

Rosemont, Illinois, United States 60018
(847)518-9990

Site Code:
Start Date: 06/24/2017
Page No: 3

Turning Movement Peak Hour Data (7:15 AM)

[illegible]



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

Rosemont, Illinois, United States 60018
(847)518-9990

Count Name: Dundee with Kennicott
Site Code:
Start Date: 06/24/2017
Page No: 4

Turning Movement Peak Hour Data (4:45 PM)

Start Time	Dundee Eastbound						Dundee Westbound						Kennicott Northbound						Kennicott Southbound						Int. Total
	U-Turn	Left	Thru	Right	Peds	App. Total	U-Turn	Left	Thru	Right	Peds	App. Total	U-Turn	Left	Thru	Right	Peds	App. Total	U-Turn	Left	Thru	Right	Peds	App. Total	
4:45 PM	0	28	295	22	1	345	0	5	346	4	1	355	0	54	3	41	0	98	0	9	6	37	1	52	850
5:00 PM	0	35	361	27	0	423	0	9	361	1	0	371	0	77	16	48	1	141	0	13	11	40	0	64	999
5:15 PM	0	36	353	22	0	411	0	9	316	2	0	327	0	87	11	46	0	144	0	8	11	31	0	50	932
5:30 PM	0	23	354	22	0	399	0	18	417	7	0	442	0	54	16	49	0	119	0	10	4	28	0	42	1002
Total	0	122	1363	93	1	1578	0	41	1440	14	1	1495	0	272	46	184	1	502	0	40	32	136	1	208	3783
Approach %	0.0	7.7	86.4	5.9	-	-	0.0	2.7	96.3	0.9	-	-	0.0	54.2	9.2	36.7	-	-	0.0	19.2	15.4	65.4	-	-	-
Total %	0.0	3.2	36.0	2.5	-	41.7	0.0	1.1	38.1	0.4	-	39.5	0.0	7.2	1.2	4.9	-	13.3	0.0	1.1	0.8	3.6	-	5.5	-
PHF	0.000	0.847	0.944	0.861	-	0.933	0.000	0.569	0.863	0.500	-	0.846	0.000	0.782	0.719	0.939	-	0.872	0.000	0.769	0.727	0.850	-	0.813	0.944
Lights	0	122	1346	91	-	1559	0	41	1419	14	-	1474	0	270	46	183	-	499	0	40	31	136	-	207	3739
% Lights	-	100.0	98.8	97.8	-	98.8	-	100.0	98.5	100.0	-	98.6	-	99.3	100.0	99.5	-	99.4	-	100.0	96.9	100.0	-	99.5	98.8
Buses	0	0	3	0	-	3	0	0	1	0	-	1	0	0	0	0	-	0	0	0	0	0	-	0	4
% Buses	-	0.0	0.2	0.0	-	0.2	-	0.0	0.1	0.0	-	0.1	-	0.0	0.0	0.0	-	0.0	-	0.0	0.0	0.0	-	0.0	0.1
Single-Unit Trucks	0	0	10	1	-	11	0	0	11	0	-	11	0	1	0	1	-	2	0	0	0	0	-	0	24
% Single-Unit Trucks	-	0.0	0.7	1.1	-	0.7	-	0.0	0.8	0.0	-	0.7	-	0.4	0.0	0.5	-	0.4	-	0.0	0.0	0.0	-	0.0	0.6
Articulated Trucks	0	0	4	1	-	5	0	0	9	0	-	9	0	1	0	0	-	1	0	0	0	0	-	0	15
% Articulated Trucks	-	0.0	0.3	1.1	-	0.3	-	0.0	0.6	0.0	-	0.6	-	0.4	0.0	0.0	-	0.2	-	0.0	0.0	0.0	-	0.0	0.4
Bicycles on Road	0	0	0	0	-	0	0	0	0	0	-	0	0	0	0	0	-	0	0	0	1	0	-	1	1
% Bicycles on Road	-	0.0	0.0	0.0	-	0.0	-	0.0	0.0	0.0	-	0.0	-	0.0	0.0	0.0	-	0.0	-	0.0	3.1	0.0	-	0.5	0.0
Pedestrians	-	-	-	-	1	-	-	-	-	-	1	-	-	-	-	-	-	1	-	-	-	-	1	-	-
% Pedestrians	-	-	-	-	100.0	-	-	-	-	-	100.0	-	-	-	-	-	-	100.0	-	-	-	-	100.0	-	-



Kenig Lindgren O'Hara Aboona, Inc.
9575 W. Higgins Rd., Suite 400
Rosemont, Illinois, United States 60018
(847)518-9990

Count Name: Lake Cook Road with Wilke Road
Site Code:
Start Date: 02/16/2021
Page No: 1

Turning Movement Data

Start Time	Lake Cook Road Eastbound						Lake Cook Road Westbound						Wilke Road Northbound					
	U-Turn	Thru	Right	Peds	App. Total		U-Turn	Left	Thru	Peds	App. Total		U-Turn	Left	Right	Peds	App. Total	Int. Total
4:00 PM	0	174	12	0	186		0	6	213	0	219		0	21	12	0	33	438
4:15 PM	0	210	9	0	219		0	6	301	0	307		0	21	11	0	32	558
4:30 PM	0	186	8	0	194		0	9	268	1	277		0	18	8	0	26	497
4:45 PM	0	208	13	0	221		0	13	279	0	292		0	22	10	0	32	545
Hourly Total	0	778	42	0	820		0	34	1061	1	1095		0	82	41	0	123	2038
5:00 PM	0	224	8	0	232		0	5	297	0	302		0	28	8	0	36	570
5:15 PM	0	197	13	0	210		0	7	320	0	327		0	14	10	0	24	561
5:30 PM	0	227	13	0	240		0	7	279	0	286		0	20	11	0	31	557
5:45 PM	0	207	12	0	219		0	6	286	0	292		0	14	9	0	23	534
Hourly Total	0	855	46	0	901		0	25	1182	0	1207		0	76	38	0	114	2222
*** BREAK ***	-	-	-	-	-		-	-	-	-	-		-	-	-	-	-	-
7:00 AM	0	267	10	0	277		0	1	200	0	201		0	11	9	0	20	498
7:15 AM	0	315	9	0	324		0	7	260	0	267		0	15	11	0	26	617
7:30 AM	0	379	12	0	391		0	7	266	0	273		0	17	17	0	34	698
7:45 AM	0	321	10	0	331		0	11	280	0	291		0	17	11	0	28	650
Hourly Total	0	1282	41	0	1323		0	26	1006	0	1032		0	60	48	0	108	2463
8:00 AM	0	306	25	0	331		0	4	247	0	251		0	16	14	0	30	612
8:15 AM	0	307	10	0	317		0	4	218	0	222		0	18	15	0	33	572
8:30 AM	0	289	8	0	297		0	2	238	0	240		0	10	8	0	18	555
8:45 AM	0	280	11	0	291		0	9	244	0	253		0	4	6	0	10	554
Hourly Total	0	1182	54	0	1236		0	19	947	0	966		0	48	43	0	91	2293
Grand Total	0	4097	183	0	4280		0	104	4196	1	4300		0	266	170	0	436	9016
Approach %	0.0	95.7	4.3	-	-		0.0	2.4	97.6	-	-		0.0	61.0	39.0	-	-	-
Total %	0.0	45.4	2.0	-	47.5		0.0	1.2	46.5	-	47.7		0.0	3.0	1.9	-	4.8	-
Lights	0	3962	179	-	4141		0	102	4058	-	4160		0	251	165	-	416	8717
% Lights	-	96.7	97.8	-	96.8		-	98.1	96.7	-	96.7		-	94.4	97.1	-	95.4	96.7
Buses	0	4	2	-	6		0	0	3	-	3		0	11	0	-	11	20
% Buses	-	0.1	1.1	-	0.1		-	0.0	0.1	-	0.1		-	4.1	0.0	-	2.5	0.2
Single-Unit Trucks	0	74	2	-	76		0	1	72	-	73		0	4	5	-	9	158
% Single-Unit Trucks	-	1.8	1.1	-	1.8		-	1.0	1.7	-	1.7		-	1.5	2.9	-	2.1	1.8
Articulated Trucks	0	57	0	-	57		0	1	63	-	64		0	0	0	-	0	121
% Articulated Trucks	-	1.4	0.0	-	1.3		-	1.0	1.5	-	1.5		-	0.0	0.0	-	0.0	1.3
Bicycles on Road	0	0	0	-	0		0	0	0	-	0		0	0	0	-	0	0
% Bicycles on Road	-	0.0	0.0	-	0.0		-	0.0	0.0	-	0.0		-	0.0	0.0	-	0.0	0.0
Pedestrians	-	-	-	0	-		-	-	-	1	-		-	-	-	0	-	-
% Pedestrians	-	-	-	-	-		-	-	-	100.0	-		-	-	-	-	-	-

Rosemont, Illinois, United States 60018
(847)518-9990

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(847)518-9990

Turning Movement Peak Hour Data (7:15 AM)

Start Time	Lake Cook Road Eastbound						Lake Cook Road Westbound						Wilke Road Northbound					
	U-Turn	Thru	Right	Peds	App. Total		U-Turn	Left	Thru	Peds	App. Total		U-Turn	Left	Right	Peds	App. Total	Int. Total
7:15 AM	0	315	9	0	324		0	7	260	0	267		0	15	11	0	26	617
7:30 AM	0	379	12	0	391		0	7	266	0	273		0	17	17	0	34	698
7:45 AM	0	321	10	0	331		0	11	280	0	291		0	17	11	0	28	650
8:00 AM	0	306	25	0	331		0	4	247	0	251		0	16	14	0	30	612
Total	0	1321	56	0	1377		0	29	1053	0	1082		0	65	53	0	118	2577
Approach %	0.0	95.9	4.1	-	-		0.0	2.7	97.3	-	-		0.0	55.1	44.9	-	-	-
Total %	0.0	51.3	2.2	-	53.4		0.0	1.1	40.9	-	42.0		0.0	2.5	2.1	-	4.6	-
PHF	0.000	0.871	0.560	-	0.880		0.000	0.659	0.940	-	0.930		0.000	0.956	0.779	-	0.868	0.923
Lights	0	1276	54		1330		0	27	1014	-	1041		0	54	50	-	104	2475
% Lights	-	96.6	96.4	-	96.6		-	93.1	96.3	-	96.2		-	83.1	94.3	-	88.1	96.0
Buses	0	2	1	-	3		0	0	1	-	1		0	10	0	-	10	14
% Buses	-	0.2	1.8	-	0.2		-	0.0	0.1	-	0.1		-	15.4	0.0	-	8.5	0.5
Single-Unit Trucks	0	26	1	-	27		0	1	21	-	22		0	1	3	-	4	53
% Single-Unit Trucks	-	2.0	1.8	-	2.0		-	3.4	2.0	-	2.0		-	1.5	5.7	-	3.4	2.1
Articulated Trucks	0	17	0	-	17		0	1	17	-	18		0	0	0	-	0	35
% Articulated Trucks	-	1.3	0.0	-	1.2		-	3.4	1.6	-	1.7		-	0.0	0.0	-	0.0	1.4
Bicycles on Road	0	0	0	-	0		0	0	0	-	0		0	0	0	-	0	0
% Bicycles on Road	-	0.0	0.0	-	0.0		-	0.0	0.0	-	0.0		-	0.0	0.0	-	0.0	0.0
Pedestrians	-	-	-	0	-		-	-	-	0	-		-	-	-	0	-	-
% Pedestrians	-	-	-	-	-		-	-	-	-	-		-	-	-	-	-	-

Rosemont, Illinois, United States 60018
(847)518-9990

Site Code:
Start Date: 02/16/2021
Page No: 2

Turning Movement Peak Hour Data (4:45 PM)

Start Time	Lake Cook Road Eastbound						Lake Cook Road Westbound						Wilke Road Northbound					
	U-Turn	Thru	Right	Peds	App. Total		U-Turn	Left	Thru	Peds	App. Total		U-Turn	Left	Right	Peds	App. Total	Int. Total
4:45 PM	0	208	13	0	221		0	13	279	0	292		0	22	10	0	32	545
5:00 PM	0	224	8	0	232		0	5	297	0	302		0	28	8	0	36	570
5:15 PM	0	197	13	0	210		0	7	320	0	327		0	14	320	0	24	561
5:30 PM	0	227	13	0	240		0	7	279	0	286		0	20	11	0	31	557
Total	0	856	47	0	903		0	32	1175	0	1207		0	84	39	0	123	2233
Approach %	0.0	94.8	5.2	-	-		0.0	2.7	97.3	-	-		0.0	68.3	31.7	-	-	-
Total %	0.0	38.3	2.1	-	40.4		0.0	1.4	52.6	-	54.1		0.0	3.8	1.7	-	5.5	-
PHF	0.000	0.943	0.904	-	0.941		0.000	0.615	0.918	-	0.923		0.000	0.750	0.886	-	0.854	0.979
Lights	0	836	46		882		0	32	1149		1181		0	84	38		122	2185
% Lights	-	97.7	97.9	-	97.7		-	100.0	97.8	-	97.8		-	100.0	97.4	-	99.2	97.9
Buses	0	0	0	-	0		0	0	0	-	0		0	0	0	-	0	0
% Buses	-	0.0	0.0	-	0.0		-	0.0	0.0	-	0.0		-	0.0	0.0	-	0.0	0.0
Single-Unit Trucks	0	10	1	-	11		0	0	14	-	14		0	0	1	-	1	26
% Single-Unit Trucks	-	1.2	2.1	-	1.2		-	0.0	1.2	-	1.2		-	0.0	2.6	-	0.8	1.2
Articulated Trucks	0	10	0	-	10		0	0	12	-	12		0	0	0	-	0	22
% Articulated Trucks	-	1.2	0.0	-	1.1		-	0.0	1.0	-	1.0		-	0.0	0.0	-	0.0	1.0
Bicycles on Road	0	0	0	-	0		0	0	0	-	0		0	0	0	-	0	0
% Bicycles on Road	-	0.0	0.0	-	0.0		-	0.0	0.0	-	0.0		-	0.0	0.0	-	0.0	0.0
Pedestrians	-	-	-	0	-		-	-	-	0	-		-	-	-	0	-	-
% Pedestrians	-	-	-	-	-		-	-	-	-	-		-	-	-	-	-	-



Kenig Lindgren O'Hara Aboona, Inc.
9575 W. Higgins Rd., Suite 400
Rosemont, Illinois, United States 60018
(847)518-9990

Count Name: Nichols Road with Wilke Road
Site Code:
Start Date: 02/16/2021
Page No: 1

Turning Movement Data

Start Time	Nichols Road Eastbound						Nichols Road Westbound						Wilke Road Northbound						Wilke Road Southbound					
	U-Turn	Left	Thru	Right	Peds	App. Total	U-Turn	Left	Thru	Right	Peds	App. Total	U-Turn	Left	Thru	Right	Peds	App. Total	Int. Total					
4:00 PM	0	1	3	23	0	27	0	4	2	0	0	6	0	24	15	7	1	46	91					
4:15 PM	0	1	2	12	0	15	0	2	5	6	0	13	0	24	24	3	0	51	89					
4:30 PM	0	1	1	22	0	24	0	2	3	6	0	11	0	27	24	5	0	56	99					
4:45 PM	0	4	3	12	0	19	0	5	7	0	0	12	0	29	17	4	0	50	95					
Hourly Total	0	7	9	69	0	85	0	13	17	12	0	42	0	104	80	19	1	203	374					
5:00 PM	0	2	9	11	0	22	0	8	1	2	0	11	0	26	33	5	0	64	104					
5:15 PM	0	3	0	20	0	23	0	4	7	2	0	13	0	25	24	10	1	59	113					
5:30 PM	0	0	4	13	0	17	0	6	2	1	0	9	0	22	27	6	0	55	92					
5:45 PM	0	2	1	14	0	17	0	4	3	2	0	9	1	16	18	8	0	43	78					
Hourly Total	0	7	14	58	0	79	0	22	13	7	0	42	1	89	102	29	1	221	387					
*** BREAK ***	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-					
7:00 AM	0	4	2	17	0	23	0	10	0	1	0	11	0	6	4	1	0	11	59					
7:15 AM	0	5	7	22	0	34	0	7	0	4	0	11	0	5	3	3	0	11	75					
7:30 AM	0	6	6	22	0	34	0	7	0	3	0	10	0	9	3	3	0	15	85					
7:45 AM	0	1	4	29	0	34	0	8	1	1	0	10	0	12	12	0	0	24	92					
Hourly Total	0	16	19	90	0	125	0	32	1	9	0	42	0	32	22	7	0	61	311					
8:00 AM	0	11	3	27	0	41	0	4	1	3	0	8	0	5	2	3	0	10	93					
8:15 AM	0	3	3	17	0	23	0	7	0	4	0	11	0	9	8	1	0	18	74					
8:30 AM	0	3	2	18	0	23	0	4	1	2	0	7	0	9	7	4	0	20	64					
8:45 AM	0	1	4	23	0	28	0	4	0	1	0	5	0	12	8	4	0	24	81					
Hourly Total	0	18	12	85	0	115	0	19	2	10	0	31	0	35	25	12	0	72	312					
Grand Total	0	48	54	302	0	404	0	86	33	38	0	157	1	260	229	67	2	557	1384					
Approach %	0.0	11.9	13.4	74.8	-	-	0.0	54.8	21.0	24.2	-	-	0.2	46.7	41.1	12.0	-	-	-					
Total %	0.0	3.5	3.9	21.8	-	29.2	0.0	6.2	2.4	2.7	-	11.3	0.1	18.8	16.5	4.8	-	40.2	19.2					
Lights	0	39	54	290	-	383	0	86	33	36	-	155	1	258	218	65	-	542	1341					
% Lights	-	81.3	100.0	96.0	-	94.8	-	100.0	100.0	94.7	-	98.7	100.0	99.2	95.2	97.0	-	97.3	96.9					
Buses	0	9	0	12	-	21	0	0	0	1	-	1	0	2	2	1	-	5	29					
% Buses	-	18.8	0.0	4.0	-	5.2	-	0.0	0.0	2.6	-	0.6	0.0	0.8	0.9	1.5	-	0.9	2.1					
Single-Unit Trucks	0	0	0	0	-	0	0	0	0	1	-	1	0	0	9	1	-	10	14					
% Single-Unit Trucks	-	0.0	0.0	0.0	-	0.0	-	0.0	0.0	2.6	-	0.6	0.0	0.0	3.9	1.5	-	1.8	1.0					
Articulated Trucks	0	0	0	0	-	0	0	0	0	0	-	0	0	0	0	0	-	0	0					
% Articulated Trucks	-	0.0	0.0	0.0	-	0.0	-	0.0	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0	-	0.0	0.0					
Bicycles on Road	0	0	0	0	-	0	0	0	0	0	-	0	0	0	0	0	-	0	0					

	-	0.0	0.0	0.0	-	0.0	-	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
% Bicycles on Road	-	0.0	0.0	0.0	-	0.0	-	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-	0.0
Pedestrians	-	-	-	-	0	-	-	0	-	-	-	-	2	-	-	3	-
% Pedestrians	-	-	-	-	-	-	-	-	-	-	-	-	100.0	-	-	100.0	-

Rosemont, Illinois, United States 60018
(847)518-9990

Site Code:
Start Date: 02/16/2021
Page No: 4

Turning Movement Peak Hour Data (7:15 AM)

[illegible]



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

Rosemont, Illinois, United States 60018
(847)518-9990

Count Name: Nichols Road with Wilke Road
Site Code:
Start Date: 02/16/2021
Page No: 3

Turning Movement Peak Hour Data (4:45 PM)

Start Time	Nichols Road Eastbound						Nichols Road Westbound						Wilke Road Northbound						Wilke Road Southbound						Int. Total
	U-Turn	Left	Thru	Right	Peds	App. Total	U-Turn	Left	Thru	Right	Peds	App. Total	U-Turn	Left	Thru	Right	Peds	App. Total	U-Turn	Left	Thru	Right	Peds	App. Total	
4:45 PM	0	4	3	12	0	19	0	5	7	0	0	12	0	29	17	4	0	50	1	5	5	3	0	14	95
5:00 PM	0	2	9	11	0	22	0	8	1	2	0	11	0	26	33	5	0	64	0	0	7	0	0	7	104
5:15 PM	0	3	0	20	0	23	0	4	7	2	0	13	0	25	24	10	1	59	0	0	17	1	0	18	113
5:30 PM	0	0	4	13	0	17	0	6	2	1	0	9	0	22	27	6	0	55	0	0	8	3	1	11	92
Total	0	9	16	56	0	81	0	23	17	5	0	45	0	102	101	25	1	228	1	5	37	7	1	50	404
Approach %	0.0	11.1	19.8	69.1	-	-	0.0	51.1	37.8	11.1	-	-	0.0	44.7	44.3	11.0	-	-	2.0	10.0	74.0	14.0	-	-	-
Total %	0.0	2.2	4.0	13.9	-	20.0	0.0	5.7	4.2	1.2	-	11.1	0.0	25.2	25.0	6.2	-	56.4	0.2	1.2	9.2	1.7	-	12.4	-
PHF	0.000	0.563	0.444	0.700	-	0.880	0.000	0.719	0.607	0.625	-	0.865	0.000	0.879	0.765	0.625	-	0.891	0.250	0.250	0.544	0.583	-	0.694	0.894
Lights	0	9	16	56	-	81	0	23	17	5	-	45	0	102	100	25	-	227	1	5	36	7	-	49	402
% Lights	-	100.0	100.0	100.0	-	100.0	-	100.0	100.0	100.0	-	100.0	-	100.0	99.0	100.0	-	99.6	100.0	100.0	97.3	100.0	-	98.0	99.5
Buses	0	0	0	0	-	0	0	0	0	0	-	0	0	0	0	0	-	0	0	0	0	0	-	0	0
% Buses	-	0.0	0.0	0.0	-	0.0	-	0.0	0.0	0.0	-	0.0	-	0.0	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0	-	0.0	0.0
Single-Unit Trucks	0	0	0	0	-	0	0	0	0	0	-	0	0	0	1	0	-	1	0	0	1	0	-	1	2
% Single-Unit Trucks	-	0.0	0.0	0.0	-	0.0	-	0.0	0.0	0.0	-	0.0	-	0.0	1.0	0.0	-	0.4	0.0	0.0	2.7	0.0	-	2.0	0.5
Articulated Trucks	0	0	0	0	-	0	0	0	0	0	-	0	0	0	0	0	-	0	0	0	0	0	-	0	0
% Articulated Trucks	-	0.0	0.0	0.0	-	0.0	-	0.0	0.0	0.0	-	0.0	-	0.0	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0	-	0.0	0.0
Bicycles on Road	0	0	0	0	-	0	0	0	0	0	-	0	0	0	0	0	-	0	0	0	0	0	-	0	0
% Bicycles on Road	-	0.0	0.0	0.0	-	0.0	-	0.0	0.0	0.0	-	0.0	-	0.0	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0	-	0.0	0.0
Pedestrians	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	1	-	-	-	-	-	1	-	-
% Pedestrians	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	100.0	-	-	-	-	-	100.0	-	-



Rosemont, Illinois, United States 60018
(847)518-9990

Turning Movement Data

Start Time	North Access Eastbound						Kennicott Avenue Northbound						Kennicott Avenue Southbound					
	U-Turn	Left	Right	Peds	App. Total		U-Turn	Left	Thru	Peds	App. Total		U-Turn	Thru	Right	Peds	App. Total	Int. Total
4:00 PM	0	0	0	0	0		0	1	6	0	7		0	10	0	0	10	17
4:15 PM	0	0	0	0	0		0	0	12	0	12		0	6	0	0	6	18
4:30 PM	0	3	1	0	4		0	0	7	0	7		0	9	0	0	9	20
4:45 PM	0	1	0	0	1		0	0	12	0	12		0	11	0	0	11	24
Hourly Total	0	4	1	0	5		0	1	37	0	38		0	36	0	0	36	79
5:00 PM	0	2	0	1	2		0	1	16	0	17		0	14	0	0	14	33
5:15 PM	0	0	0	0	0		0	0	15	0	15		0	9	0	0	9	24
5:30 PM	0	0	2	0	2		0	0	13	0	13		0	9	0	0	9	24
5:45 PM	0	0	0	0	0		0	0	4	0	4		0	6	0	0	6	10
Hourly Total	0	2	2	1	4		0	1	48	0	49		0	38	0	0	38	91
*** BREAK ***	-	-	-	-	-		-	-	-	-	-		-	-	-	-	-	-
7:00 AM	0	0	0	0	0		0	0	2	0	2		0	8	0	0	8	10
7:15 AM	0	0	0	0	0		0	0	1	0	1		0	5	0	0	5	6
7:30 AM	0	0	0	0	0		0	0	2	0	2		0	8	0	0	8	10
7:45 AM	0	0	0	0	0		0	0	5	0	5		0	12	0	0	12	17
Hourly Total	0	0	0	0	0		0	0	10	0	10		0	33	0	0	33	43
8:00 AM	0	0	0	0	0		0	0	2	0	2		0	9	0	0	9	11
8:15 AM	0	0	0	0	0		0	0	3	0	3		0	6	1	0	7	10
8:30 AM	0	0	0	0	0		0	1	6	0	7		0	7	2	0	9	16
8:45 AM	0	0	0	0	0		0	0	4	0	4		1	11	0	0	12	16
Hourly Total	0	0	0	0	0		0	1	15	0	16		1	33	3	0	37	53
Grand Total	0	6	3	1	9		0	3	110	0	113		1	140	3	0	144	266
Approach %	0.0	66.7	33.3	-	-		0.0	2.7	97.3	-	-		0.7	97.2	2.1	-	-	-
Total %	0.0	2.3	1.1	-	3.4		0.0	1.1	41.4	-	42.5		0.4	52.6	1.1	-	54.1	-
Lights	0	6	2	-	8		0	1	108	-	109		1	139	3	-	143	260
% Lights	-	100.0	66.7	-	88.9		-	33.3	98.2	-	96.5		100.0	99.3	100.0	-	99.3	97.7
Buses	0	0	0	-	0		0	0	2	-	2		0	0	0	-	0	2
% Buses	-	0.0	0.0	-	0.0		-	0.0	1.8	-	1.8		0.0	0.0	0.0	-	0.0	0.8
Single-Unit Trucks	0	0	1	-	1		0	1	0	-	1		0	1	0	-	1	3
% Single-Unit Trucks	-	0.0	33.3	-	11.1		-	33.3	0.0	-	0.9		0.0	0.7	0.0	-	0.7	1.1
Articulated Trucks	0	0	0	-	0		0	1	0	-	1		0	0	0	-	0	1
% Articulated Trucks	-	0.0	0.0	-	0.0		-	33.3	0.0	-	0.9		0.0	0.0	0.0	-	0.0	0.4
Bicycles on Road	0	0	0	-	0		0	0	0	-	0		0	0	0	-	0	0
% Bicycles on Road	-	0.0	0.0	-	0.0		-	0.0	0.0	-	0.0		0.0	0.0	0.0	-	0.0	0.0
Pedestrians	-	-	-	1	-		-	-	-	0	-		-	-	-	0	-	-
% Pedestrians	-	-	-	100.0	-		-	-	-	-	-		-	-	-	-	-	-



Turning Movement Peak Hour Data (7:15 AM)

[illegible]



Turning Movement Peak Hour Data (4:45 PM)

100.0



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

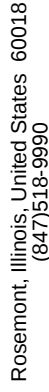
Rosemont, Illinois, United States 60018
(847)518-9990

Count Name: Kennicott Avenue with South
Access
Site Code:
Start Date: 02/16/2021
Page No: 1

Turning Movement Data

Start Time	South Access Eastbound					App. Total	Access Drive Westbound					Kennicott Avenue Northbound					Kennicott Avenue Southbound					Int. Total				
	U-Turn	Left	Thru	Right	Peds		U-Turn	Left	Thru	Right	Peds	App. Total	U-Turn	Left	Thru	Right	Peds	App. Total	U-Turn	Left	Thru		Right	Peds	App. Total	
4:00 PM	0	1	0	2	0	3	0	0	0	0	1	0	0	0	3	5	3	0	11	0	1	10	0	0	11	25
4:15 PM	0	0	0	3	0	3	0	2	0	0	1	2	0	1	12	7	0	20	0	0	8	0	0	8	33	
4:30 PM	0	1	0	9	0	10	0	2	0	0	0	2	0	0	7	5	0	12	0	0	8	0	0	8	32	
4:45 PM	0	0	0	3	0	3	0	4	0	0	1	4	0	1	11	4	0	16	0	0	12	1	0	13	36	
Hourly Total	0	2	0	17	0	19	0	8	0	0	3	8	0	5	35	19	0	59	0	1	38	1	0	40	126	
5:00 PM	0	2	1	5	0	8	0	0	0	0	1	0	0	0	16	0	0	16	0	0	10	1	1	11	35	
5:15 PM	0	0	0	0	0	0	0	2	0	0	0	2	0	0	16	2	0	18	0	0	10	0	0	10	30	
5:30 PM	0	0	0	0	0	0	0	1	0	0	0	1	0	2	16	5	0	23	0	0	11	0	0	11	35	
5:45 PM	0	0	0	0	0	0	0	3	0	0	0	3	0	0	4	2	0	6	0	0	7	0	0	7	16	
Hourly Total	0	2	1	5	0	8	0	6	0	0	1	6	0	2	52	9	0	63	0	0	38	1	1	39	116	
*** BREAK ***	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
7:00 AM	0	0	0	1	0	1	0	1	0	0	0	1	0	0	2	1	0	3	0	1	8	0	0	9	14	
7:15 AM	0	0	0	1	0	1	0	1	0	1	0	2	0	5	0	2	0	7	0	0	5	0	0	5	15	
7:30 AM	0	0	0	1	0	1	0	3	0	0	0	3	0	0	2	6	0	8	0	0	10	0	0	10	22	
7:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	2	6	1	0	9	0	0	14	1	0	15	24	
Hourly Total	0	0	0	3	0	3	0	5	0	1	0	6	0	7	10	10	0	27	0	1	37	1	0	39	75	
8:00 AM	0	0	0	1	0	1	0	1	1	0	0	2	0	2	1	2	0	5	0	0	7	0	0	7	15	
8:15 AM	0	0	0	1	0	1	0	1	0	0	0	1	0	4	4	2	0	10	0	0	6	0	0	6	18	
8:30 AM	0	0	0	3	0	3	0	0	0	0	0	0	0	5	7	0	0	12	0	0	7	0	0	7	22	
8:45 AM	0	0	0	2	0	2	0	0	0	0	0	0	0	2	4	1	0	7	0	0	12	0	0	12	21	
Hourly Total	0	0	0	7	0	7	0	2	1	1	0	3	0	13	16	5	0	34	0	0	32	0	0	32	76	
Grand Total	0	4	1	32	0	37	0	21	1	1	4	23	0	27	113	43	0	183	0	2	145	3	1	150	393	
Approach %	0.0	10.8	2.7	86.5	-	-	0.0	91.3	4.3	4.3	-	-	0.0	14.8	61.7	23.5	-	-	0.0	1.3	96.7	2.0	-	-	-	
Total %	0.0	1.0	0.3	8.1	-	9.4	0.0	5.3	0.3	0.3	-	5.9	0.0	6.9	28.8	10.9	-	46.6	0.0	0.5	36.9	0.8	-	38.2	-	
Lights	0	3	1	28	-	32	0	21	1	1	-	23	0	23	110	42	-	175	0	2	144	2	-	148	378	
% Lights	-	75.0	100.0	87.5	-	86.5	-	100.0	100.0	100.0	-	100.0	-	85.2	97.3	97.7	-	95.6	-	100.0	99.3	66.7	-	98.7	96.2	
Buses	0	0	0	0	-	0	0	0	0	0	-	0	0	0	2	0	-	2	0	0	0	0	-	0	2	
% Buses	-	0.0	0.0	0.0	-	0.0	-	0.0	0.0	0.0	-	0.0	-	0.0	1.8	0.0	-	1.1	-	0.0	0.0	0.0	-	0.0	0.5	
Single-Unit Trucks	0	1	0	4	-	5	0	0	0	0	-	4	0	4	0	0	-	4	0	0	1	1	-	2	11	
% Single-Unit Trucks	-	25.0	0.0	12.5	-	13.5	-	0.0	0.0	0.0	-	0.0	-	14.8	0.0	0.0	-	2.2	-	0.0	0.7	33.3	-	1.3	2.8	
Articulated Trucks	0	0	0	0	-	0	0	0	0	0	-	0	0	0	1	0	-	1	0	0	0	0	-	0	1	
% Articulated Trucks	-	0.0	0.0	0.0	-	0.0	-	0.0	0.0	0.0	-	0.0	-	0.0	0.9	0.0	-	0.5	-	0.0	0.0	0.0	-	0.0	0.3	
Bicycles on Road	0	0	0	0	-	0	0	0	0	0	-	0	0	0	0	1	-	1	0	0	0	0	-	0	1	

% Bicycles on Road	-	0.0	0.0	0.0	-	0.0	-	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.3
Pedestrians	-	-	-	-	0	-	-	-	4	-	-	0	-	-	-
% Pedestrians	-	-	-	-	-	-	-	-	100.0	-	-	-	-	-	-



Turning Movement Peak Hour Data (7:15 AM)



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

Rosemont, Illinois, United States 60018
(847)518-9990

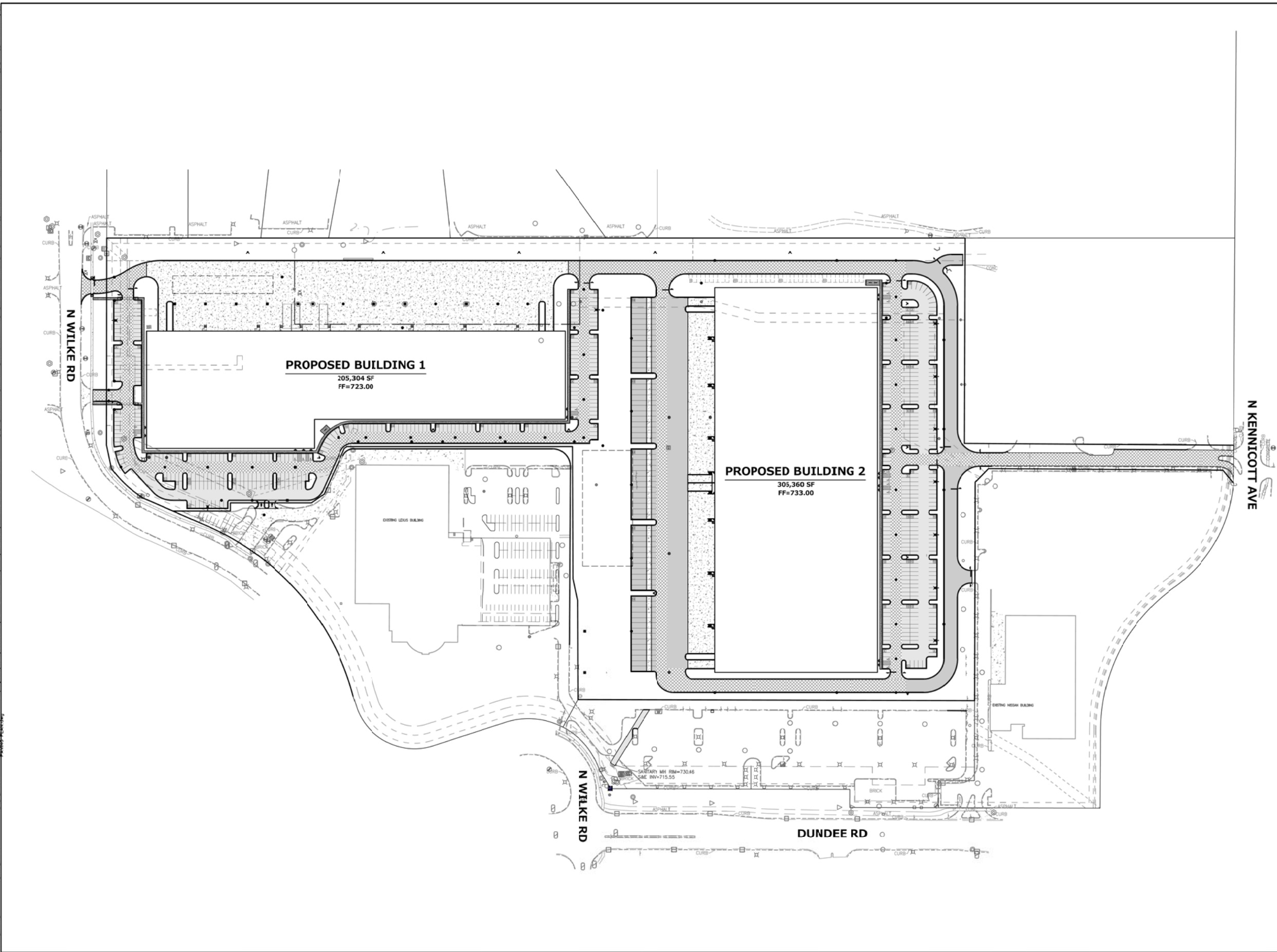
Count Name: Kennicott Avenue with South
Access
Site Code:
Start Date: 02/16/2021
Page No: 3

Turning Movement Peak Hour Data (4:45 PM)

Start Time	South Access Eastbound						Access Drive Westbound						Kennicott Avenue Northbound						Kennicott Avenue Southbound						Int. Total	
	U-Turn	Left	Thru	Right	Peds	App. Total	U-Turn	Left	Thru	Right	Peds	App. Total	U-Turn	Left	Thru	Right	Peds	App. Total	U-Turn	Left	Thru	Right	Peds	App. Total		
4:45 PM	0	0	0	3	0	3	0	4	0	0	0	1	4	0	1	11	4	0	16	0	0	12	1	0	13	36
5:00 PM	0	2	1	5	0	8	0	0	0	0	1	0	0	0	0	16	0	0	16	0	0	10	1	1	11	35
5:15 PM	0	0	0	0	0	0	0	2	0	0	0	2	0	0	0	16	2	0	18	0	0	10	0	0	10	30
5:30 PM	0	0	0	0	0	0	0	1	0	0	0	1	0	0	2	16	5	0	23	0	0	11	0	0	11	35
Total	0	2	1	8	0	11	0	7	0	0	2	7	0	3	59	11	0	73	0	0	43	2	1	45	136	
Approach %	0.0	18.2	9.1	72.7	-	-	0.0	100.0	0.0	0.0	-	-	-	0.0	4.1	80.8	15.1	-	-	0.0	0.0	95.6	4.4	-	-	-
Total %	0.0	1.5	0.7	5.9	-	8.1	0.0	5.1	0.0	0.0	-	5.1	-	0.0	2.2	43.4	8.1	-	53.7	0.0	0.0	31.6	1.5	-	33.1	-
PHF	0.000	0.250	0.250	0.400	-	0.344	0.000	0.438	0.000	0.000	-	0.438	-	0.000	0.375	0.922	0.550	-	0.793	0.000	0.000	0.896	0.500	-	0.865	0.944
Lights	0	1	1	8	-	10	0	7	0	0	-	7	-	0	3	59	11	-	73	0	0	42	1	-	43	133
% Lights	-	50.0	100.0	100.0	-	90.9	-	100.0	-	-	-	100.0	-	-	100.0	100.0	100.0	-	100.0	-	-	97.7	50.0	-	95.6	97.8
Buses	0	0	0	0	-	0	0	0	0	0	-	0	-	0	0	0	0	-	0	0	0	0	-	0	0	
% Buses	-	0.0	0.0	0.0	-	0.0	-	0.0	-	-	-	0.0	-	-	0.0	0.0	0.0	-	0.0	-	-	0.0	0.0	-	0.0	0.0
Single-Unit Trucks	0	1	0	0	-	1	0	0	0	0	-	0	-	0	0	0	0	-	0	0	1	1	-	2	3	
% Single-Unit Trucks	-	50.0	0.0	0.0	-	9.1	-	0.0	-	-	-	0.0	-	-	0.0	0.0	0.0	-	0.0	-	2.3	50.0	-	4.4	2.2	
Articulated Trucks	0	0	0	0	-	0	0	0	0	0	-	0	-	0	0	0	0	-	0	0	0	0	-	0	0	
% Articulated Trucks	-	0.0	0.0	0.0	-	0.0	-	0.0	-	-	-	0.0	-	-	0.0	0.0	0.0	-	0.0	-	0.0	0.0	-	0.0	0.0	
Bicycles on Road	0	0	0	0	-	0	0	0	0	0	-	0	-	0	0	0	0	-	0	0	0	0	-	0	0	
% Bicycles on Road	-	0.0	0.0	0.0	-	0.0	-	0.0	-	-	-	0.0	-	-	0.0	0.0	0.0	-	0.0	-	0.0	0.0	-	0.0	0.0	
Pedestrians	-	-	-	-	0	-	-	-	-	-	2	-	-	-	-	-	-	0	-	-	-	-	1	-	-	
% Pedestrians	-	-	-	-	-	-	-	-	-	-	100.0	-	-	-	-	-	-	-	-	-	-	-	100.0	-	-	

Site Plan

8/2/2024 2:21 PM - 2: V:\projects\2020\2283.00-1\117 - ENGINEERING\FINAL SHEET\C-4 SITE DIMENSIONAL AND PAVING PLAN - NORTHWEST GATEWAY CENTER - 1400-1500 WEST DUNDEE ROAD - ARLINGTON HEIGHTS, ILLINOIS - 60019 - 312.551.5300 - WWW.PINNACLE-ENGR.COM - 184.006289-0001



SITE DIMENSIONAL AND PAVING NOTES

1. ALL PROPOSED CURB AND CUTTER SHALL BE B6.12 UNLESS OTHERWISE NOTED.
2. ALL DIMENSIONS ARE FACE OF CURB TO FACE OF CURB OR BUILDING FACE UNLESS OTHERWISE NOTED.
3. BUILDING DIMENSIONS, GRADING, PARKING, AND UTILITY LAYOUT HAVE BEEN PREPARED BASED UPON ARCHITECTURAL INFORMATION. SUBSEQUENT ARCHITECTURAL CHANGES MAY EXIST AND CONTRACTOR SHALL REFER TO ARCHITECTURAL PLANS FOR ADDITIONAL INFORMATION. IN CASE OF DISCREPANCIES BETWEEN ARCHITECTURAL PLANS AND CIVIL PLANS, THE CIVIL PLANS SHALL TAKE PRECEDENCE.
4. LOCATION OF PRIVATE SIDEWALKS SHALL BE COORDINATED WITH PROPOSED DOORWAYS. CONTRACTOR TO VERIFY ACTUAL BUILDING PLAN LOCATIONS WITH ARCHITECT/DEVELOPER PRIOR TO CONSTRUCTING THE SIDEWALKS.
5. REBAR / TIEBARS SHALL BE USED IN ALL LOCATIONS WHERE CONCRETE ABUTS OTHER CONCRETE FEATURES (ie. SIDEWALK ADJACENT TO FOUNDATION WALL AND SIDEWALK ADJACENT TO CURB & GUTTER). TIEBAR SIZE AND SPACING SHALL BE PER IDOT SPECIFICATIONS.
6. CONTRACTOR SHALL CONSTRUCT ALL HANDICAP ACCESSIBLE ROUTES IN ACCORDANCE WITH LOCAL AND STATE ADA REQUIREMENTS.
7. PAVEMENT SLOPES THROUGH HANDICAP ACCESSIBLE PARKING AREAS SHALL BE 2.00% MAXIMUM IN ANY DIRECTION.
8. REFER TO CONSTRUCTION DETAILS AND GRADING ENLARGEMENTS FOR SIDEWALK RAMP AND HANDICAP STRIPING.
9. REFER TO PHOTOMETRICS PLAN (BY OTHERS) FOR LIGHT STANDARDS AND SPECIFICATIONS.

LEGEND

- CONCRETE PAVEMENT**
- 6.5" PORTLAND CEMENT CONCRETE
 - 6" TYPE B GRANULAR BASE COURSE (IDOT CA-6)
- SIDEWALK**
- 5" PORTLAND CEMENT CONCRETE (UNREINFORCED)
 - 4" COMP. CA-6 AGGREGATE BASE COURSE, TYPE B
- LIGHT DUTY ASPHALT PAVEMENT (IBR=3.0, SN=2.05)**
- 1.5" BIT. SURFACE COURSE, FINE, DENSE GRADED AGGREGATE (IDOT CLASS I OR SUB-CLASS I-11)
 - 1.5" BIT. BINDER COURSE, FINE, DENSE GRADED AGGREGATE (IDOT CLASS I OR SUB-CLASS I-11)
 - 8" TYPE B GRANULAR BASE COURSE (IDOT CA-6)
- HEAVY DUTY ASPHALT PAVEMENT (IBR=3.0, SN=2.99)**
- 2" BIT. SURFACE COURSE, FINE, DENSE GRADED AGGREGATE (IDOT CLASS I OR SUB-CLASS I-11)
 - 3" BIT. BINDER COURSE, FINE, DENSE GRADED AGGREGATE (IDOT CLASS I OR SUB-CLASS I-11)
 - 10" TYPE B GRANULAR BASE COURSE (IDOT CA-6)
- FIRE LANE ASPHALT PAVEMENT (PER VILLAGE) (SN=3.67)**
- 2" BIT. SURFACE COURSE, FINE, DENSE GRADED AGGREGATE (IDOT CLASS I OR SUB-CLASS I-11)
 - 2.25" BIT. BINDER COURSE, N-50
 - 5" BIT. BINDER COURSE, N-50
 - 4" CA-6 STONE SUBBASE
- B-6.12 CURB & GUTTER**
- REVERSE PITCH B-6.12 CURB & GUTTER
 - DEPRESSED B-6.12 CURB & GUTTER
- BOLLARD**
- PARKING STALL COUNT (NOT TO BE PAINTED)
- LAND BANKED FUTURE PARKING**

STRIPING/SIGNAGE LEGEND

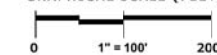
- 1 4" YELLOW STRIPE (ADA STALLS ONLY)
- 2 4" WHITE STRIPE (ALL STANDARD PARKING STALLS)
- 3 WHITE LETTERS / SYMBOLS / PAVEMENT MARKINGS
- 4 R1-1 STOP SIGN (30" x 30")
- 5 R7-8 & R7-8P HANDICAP SIGN
- 6 R7-8 & R7-8P HANDICAP W/ VAN ACCESSIBLE SIGN
- 7 "TRUCKS ARE PROHIBITED FROM TURNING RIGHT" SIGN
- 8 "NO TRUCK TRAFFIC, PASSENGER VEHICLES ONLY" SIGN
- 9 YELLOW LETTERS / SYMBOLS / PAVEMENT MARKINGS
- 10 "EMERGENCY ACCESS ONLY" SIGN

SITE DATA

LOT AREA:	1,462,614 SF (33.58 ACRES)
BUILDING 1	
BUILDING AREA:	205,304 SF
PARKING PROVIDED:	288 STALLS (INCLUDING 7 ADA)
DOCK POSITIONS:	45
DRIVE IN DOORS:	5
BUILDING 2	
BUILDING AREA:	305,360 SF
PARKING PROVIDED:	311 STALLS (INCLUDING 8 ADA)
FUTURE LAND BANKED PARKING PROVIDED:	40 STALLS
DOCK POSITIONS:	47
DRIVE IN DOORS:	4
TRAILER PARKING:	65



GRAPHICAL SCALE (FEET)





PINNACLE ENGINEERING GROUP
ENGINEERING | NATURAL RESOURCES | SURVEYING

PLAN | DESIGN | DELIVER
www.pinnacle-engr.com

CHICAGO OFFICE:
1051 E. MAIN ST. | SUITE 217
EAST DUNDEE, IL 60119
(847) 551-5300

CHICAGO | MILWAUKEE | NATIONWIDE

NORTHWEST GATEWAY CENTER 1400-1500 WEST DUNDEE ROAD ARLINGTON HEIGHTS, ILLINOIS

REVISIONS	
1	VILLAGE COMMENTS 5/21/21
2	VILLAGE COMMENTS 7/7/21
3	VILLAGE COMMENTS 8/2/21

**OVERALL SITE
DIMENSIONAL & PAVING
PLAN**

PEC JOB No. 2283.00-1L
PEC PM: BDJ
START DATE: 04/09/21
SCALE: 1"=100'

**SHEET
C-7
OF
C-28**

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ITE Trip/Parking Generation Worksheets

Warehousing (150)

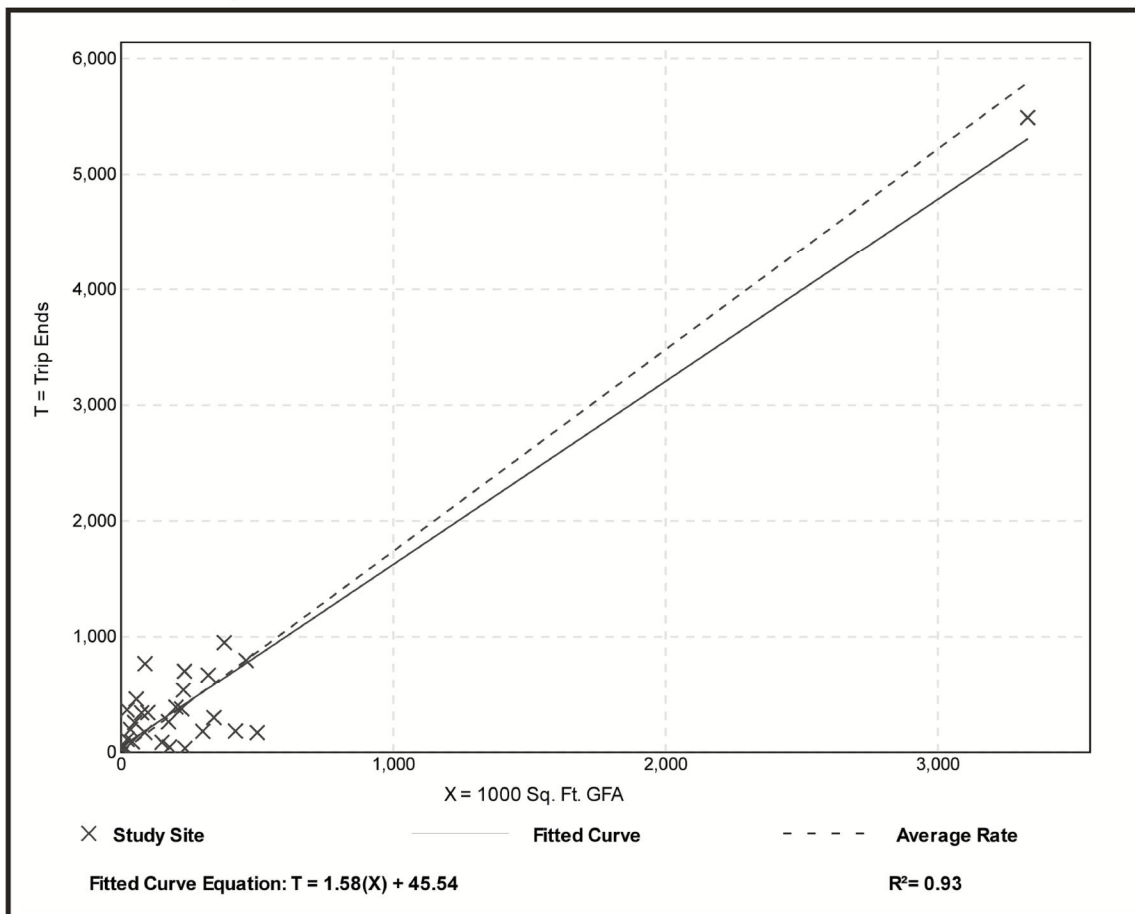
Vehicle Trip Ends vs: 1000 Sq. Ft. GFA
On a: Weekday

Setting/Location: General Urban/Suburban
Number of Studies: 29
1000 Sq. Ft. GFA: 285
Directional Distribution: 50% entering, 50% exiting

Vehicle Trip Generation per 1000 Sq. Ft. GFA

Average Rate	Range of Rates	Standard Deviation
1.74	0.15 - 16.93	1.55

Data Plot and Equation



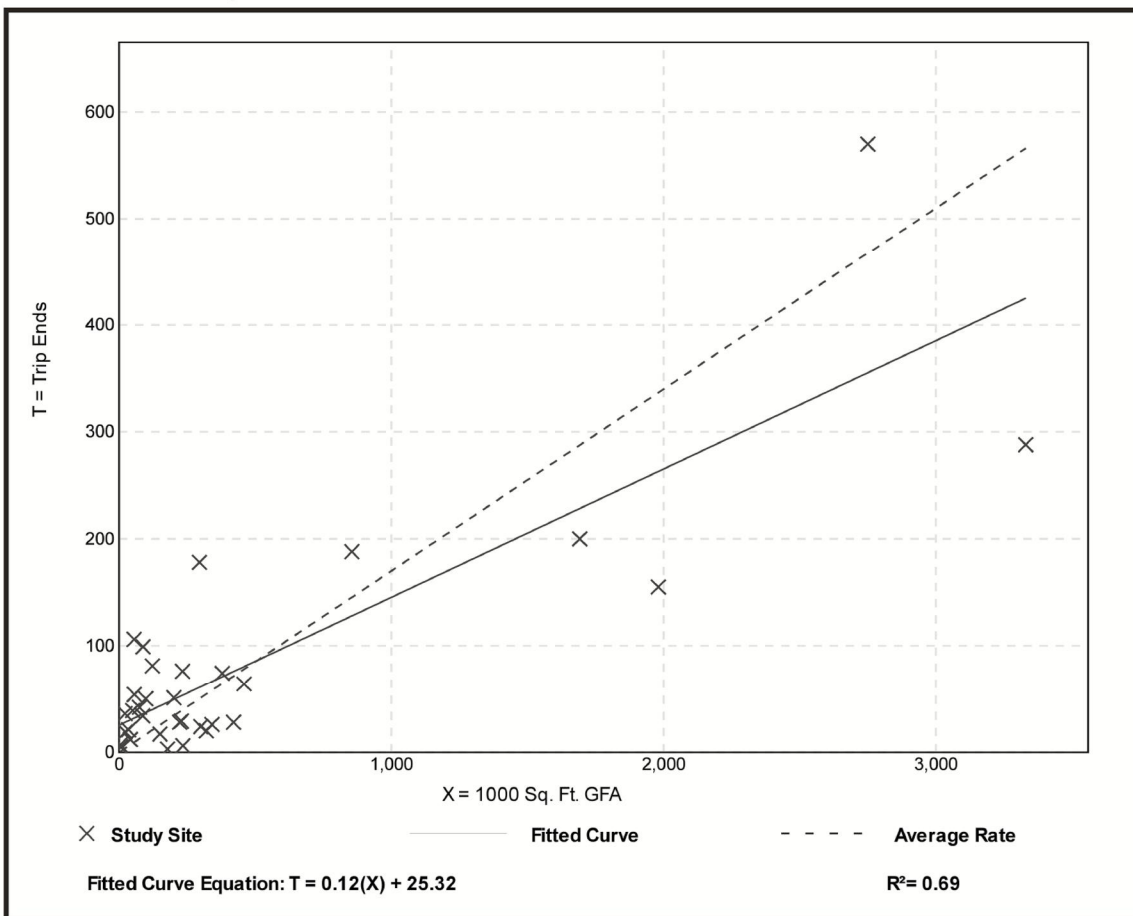
Warehousing (150)

Vehicle Trip Ends vs: 1000 Sq. Ft. GFA
 On a: Weekday,
 Peak Hour of Adjacent Street Traffic,
 One Hour Between 7 and 9 a.m.
 Setting/Location: General Urban/Suburban
 Number of Studies: 34
 1000 Sq. Ft. GFA: 451
 Directional Distribution: 77% entering, 23% exiting

Vehicle Trip Generation per 1000 Sq. Ft. GFA

Average Rate	Range of Rates	Standard Deviation
0.17	0.02 - 1.93	0.20

Data Plot and Equation



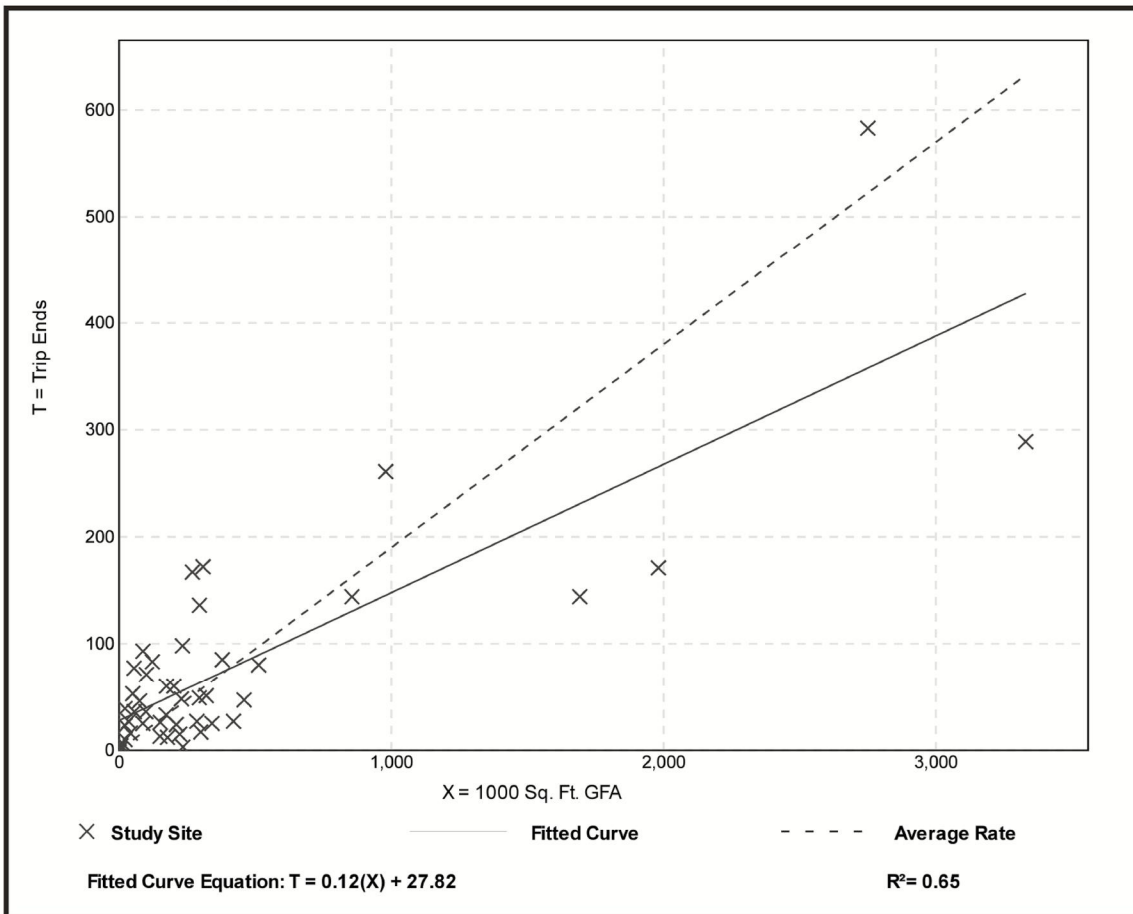
Warehousing (150)

Vehicle Trip Ends vs: 1000 Sq. Ft. GFA
 On a: Weekday,
 Peak Hour of Adjacent Street Traffic,
 One Hour Between 4 and 6 p.m.
 Setting/Location: General Urban/Suburban
 Number of Studies: 47
 1000 Sq. Ft. GFA: 400
 Directional Distribution: 27% entering, 73% exiting

Vehicle Trip Generation per 1000 Sq. Ft. GFA

Average Rate	Range of Rates	Standard Deviation
0.19	0.01 - 1.80	0.18

Data Plot and Equation



Warehousing (150)

Peak Period Parking Demand vs: 1000 Sq. Ft. GFA

On a: Weekday (Monday - Friday)

Setting/Location: General Urban/Suburban

Peak Period of Parking Demand: 11:00 a.m. - 4:00 p.m.

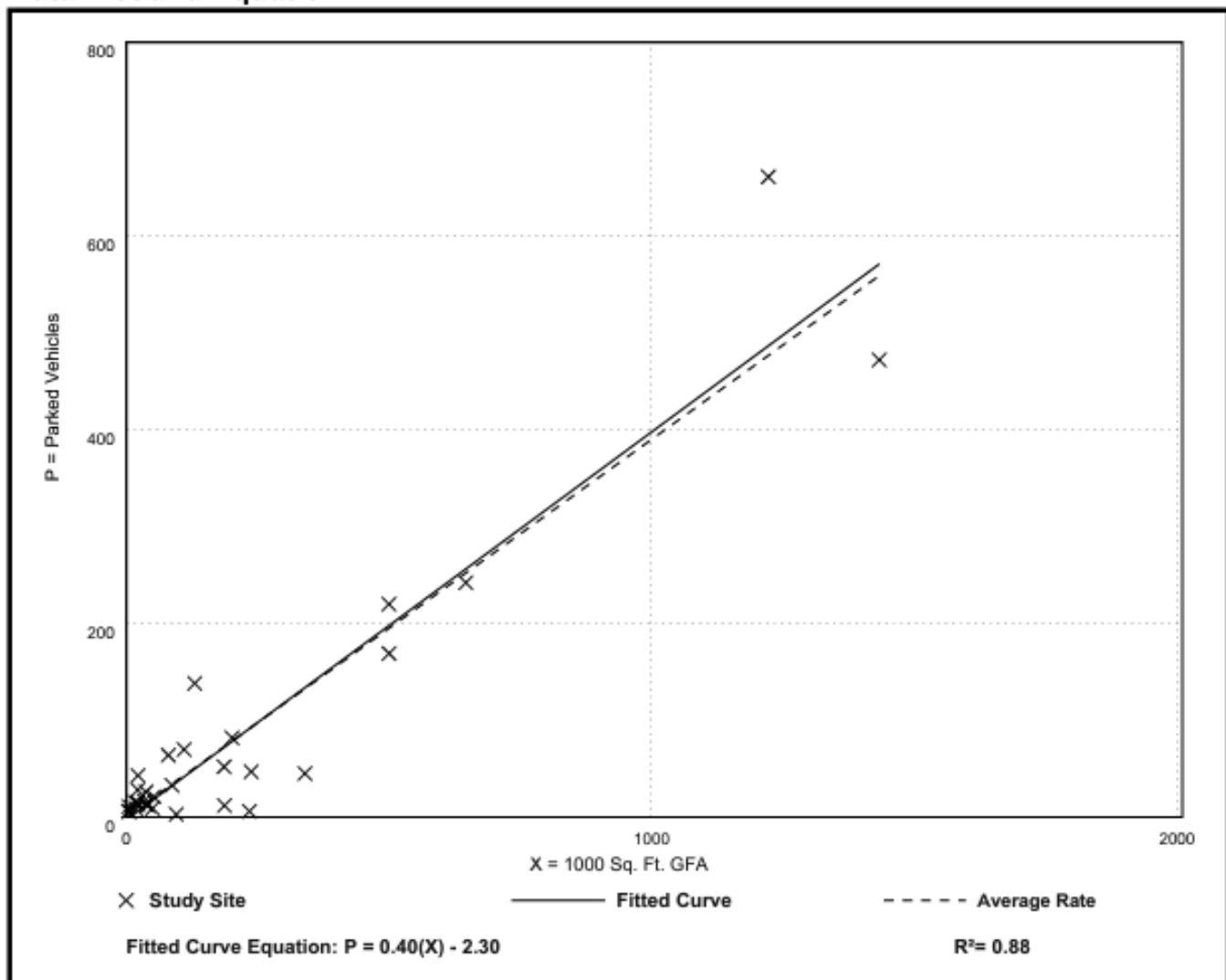
Number of Studies: 31

Avg. 1000 Sq. Ft. GFA: 212

Peak Period Parking Demand per 1000 Sq. Ft. GFA

Average Rate	Range of Rates	33rd / 85th Percentile	95% Confidence Interval	Standard Deviation (Coeff. of Variation)
0.39	0.03 - 1.96	0.34 / 1.11	0.31 - 0.47	0.22 (56%)

Data Plot and Equation



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 8, 2021

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

Subject: Dundee Road -Kennicott Avenue - Lake-Cook Road
IDOT

Dear Mr. May:

In response to a request made on your behalf and dated March 8, 2021, we have developed year 2050 average daily traffic (ADT) projections for the subject location.

ROAD SEGMENT	Current Volumes	Year 2050 ADT
Dundee Rd east of IL 53	25,700	28,700
Kennicott Ave, @ Dundee Rd	4,300	4,800
Lake Cook Rd east of IL 53	49,900	51,100

Traffic projections are developed using existing ADT data provided in the request letter and the results from the June 2020 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: Quigley (IDOT)
2021_CY_TrafficForecast\ArlingtonHeights\ck-30-21\ck-30-21.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	

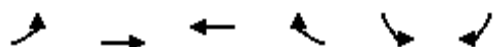
Source: *Highway Capacity Manual*, 2010.

Capacity Analysis Summary Sheets

Lanes, Volumes, Timings

1: Dundee Road & I-53 Southbound Ramps

03/11/2021

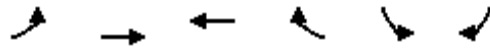


Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↑↑	↑↑	↑	↑	↑
Traffic Volume (vph)	0	1176	605	658	49	24
Future Volume (vph)	0	1176	605	658	49	24
Ideal Flow (vphpl)	1900	2000	2000	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12
Grade (%)		0%	0%		0%	
Storage Length (ft)	0			250	0	0
Storage Lanes	0			1	1	1
Taper Length (ft)	25				25	
Lane Util. Factor	1.00	0.95	0.95	1.00	1.00	1.00
Ped Bike Factor						
Frt				0.850		0.850
Flt Protected					0.950	
Satd. Flow (prot)	0	3725	3551	1495	1805	1553
Flt Permitted					0.950	
Satd. Flow (perm)	0	3725	3551	1495	1805	1553
Right Turn on Red				Yes		Yes
Satd. Flow (RTOR)				584		25
Link Speed (mph)		35	35		30	
Link Distance (ft)		684	1282		381	
Travel Time (s)		13.3	25.0		8.7	
Confl. Peds. (#/hr)						
Confl. Bikes (#/hr)						
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96
Growth Factor	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	0%	2%	7%	8%	0%	4%
Bus Blockages (#/hr)	0	0	0	0	0	0
Parking (#/hr)						
Mid-Block Traffic (%)		0%	0%		0%	
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	1225	630	685	51	25
Turn Type		NA	NA	Free	Prot	Perm
Protected Phases		2	6		4	
Permitted Phases				Free		4
Detector Phase		2	6		4	4
Switch Phase						
Minimum Initial (s)		15.0	15.0		4.0	4.0
Minimum Split (s)		21.0	21.0		10.0	10.0
Total Split (s)		116.0	116.0		24.0	24.0
Total Split (%)		82.9%	82.9%		17.1%	17.1%
Yellow Time (s)		4.5	4.5		4.5	4.5
All-Red Time (s)		1.5	1.5		1.5	1.5
Lost Time Adjust (s)		0.0	0.0		0.0	0.0
Total Lost Time (s)		6.0	6.0		6.0	6.0
Lead/Lag						
Lead-Lag Optimize?						
Recall Mode		C-Min	C-Min		None	None
Act Effect Green (s)		122.2	122.2	140.0	9.3	9.3
Actuated g/C Ratio		0.87	0.87	1.00	0.07	0.07

Lanes, Volumes, Timings

1: Dundee Road & I-53 Southbound Ramps

03/11/2021



Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
v/c Ratio		0.38	0.20	0.46	0.42	0.20
Control Delay		2.7	4.1	5.4	72.8	24.0
Queue Delay		0.0	0.0	0.0	0.0	0.0
Total Delay		2.7	4.1	5.4	72.8	24.0
LOS		A	A	A	E	C
Approach Delay		2.7	4.7		56.7	
Approach LOS		A	A		E	
Queue Length 50th (ft)		102	172	77	45	0
Queue Length 95th (ft)		148	84	292	89	30
Internal Link Dist (ft)		604	1202		301	
Turn Bay Length (ft)				250		
Base Capacity (vph)		3252	3100	1495	232	221
Starvation Cap Reductn		0	0	0	0	0
Spillback Cap Reductn		0	0	0	0	0
Storage Cap Reductn		0	0	0	0	0
Reduced v/c Ratio		0.38	0.20	0.46	0.22	0.11

Intersection Summary

Area Type: Other

Cycle Length: 140

Actuated Cycle Length: 140

Offset: 111 (79%), Referenced to phase 2:EBT and 6:WBT, Start of Green

Natural Cycle: 40

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.46

Intersection Signal Delay: 5.3

Intersection LOS: A

Intersection Capacity Utilization 44.2%

ICU Level of Service A

Analysis Period (min) 15

Splits and Phases: 1: Dundee Road & I-53 Southbound Ramps

→ Ø2 (R)	Ø4
116 s	24 s
← Ø6 (R)	
116 s	

Lanes, Volumes, Timings

2: I-53 Northbound Ramps & Dundee Road

03/11/2021

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		 			 		 		 			
Traffic Volume (vph)	14	1211	0	0	1114	43	149	0	983	0	0	0
Future Volume (vph)	14	1211	0	0	1114	43	149	0	983	0	0	0
Ideal Flow (vphpl)	1900	2000	1900	1900	2000	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	255		0	0		340	400		0	0		0
Storage Lanes	1		0	0		1	1		2	0		0
Taper Length (ft)	150			25			185			25		
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	1.00	0.97	1.00	0.88	1.00	1.00	1.00
Ped Bike Factor												
Frt						0.850			0.850			
Flt Protected	0.950						0.950					
Satd. Flow (prot)	1805	3725	0	0	3619	1509	3099	0	2760	0	0	0
Flt Permitted	0.950						0.950					
Satd. Flow (perm)	1805	3725	0	0	3619	1509	3099	0	2760	0	0	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)						44			*44			
Link Speed (mph)		35			35			30			30	
Link Distance (ft)		1282			624			717			248	
Travel Time (s)		25.0			12.2			16.3			5.6	
Confl. Peds. (#/hr)												
Confl. Bikes (#/hr)												
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	0%	2%	0%	0%	5%	7%	13%	0%	3%	0%	0%	0%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Shared Lane Traffic (%)												
Lane Group Flow (vph)	14	1236	0	0	1137	44	152	0	1003	0	0	0
Turn Type	Prot	NA			NA	custom	Prot		Prot			
Protected Phases	5	2			6	3	3		3			
Permitted Phases						6						
Detector Phase	5	2			6	3	3		3			
Switch Phase												
Minimum Initial (s)	3.0	15.0			15.0	12.0	12.0		12.0			
Minimum Split (s)	7.5	21.0			21.0	18.0	18.0		18.0			
Total Split (s)	13.0	69.0			56.0	71.0	71.0		71.0			
Total Split (%)	9.3%	49.3%			40.0%	50.7%	50.7%		50.7%			
Yellow Time (s)	3.5	4.5			4.5	4.5	4.5		4.5			
All-Red Time (s)	1.0	1.5			1.5	1.5	1.5		1.5			
Lost Time Adjust (s)	0.0	0.0			0.0	0.0	0.0		0.0			
Total Lost Time (s)	4.5	6.0			6.0	6.0	6.0		6.0			
Lead/Lag	Lead				Lag							
Lead-Lag Optimize?	Yes				Yes							
Recall Mode	None	C-Min			C-Min	None	None		None			
Act Effect Green (s)	6.7	65.6			60.7	132.7	62.4		62.4			
Actuated g/C Ratio	0.05	0.47			0.43	0.95	0.45		0.45			

Lanes, Volumes, Timings
2: I-53 Northbound Ramps & Dundee Road

03/11/2021

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
v/c Ratio	0.16	0.71			0.73	0.03	0.11		0.80			
Control Delay	67.0	38.3			26.0	0.2	22.2		37.2			
Queue Delay	0.0	0.6			0.1	0.0	0.0		0.0			
Total Delay	67.0	38.9			26.1	0.2	22.2		37.2			
LOS	E	D			C	A	C		D			
Approach Delay		39.2			25.1			35.2				
Approach LOS		D			C			D				
Queue Length 50th (ft)	12	535			348	0	39		408			
Queue Length 95th (ft)	m34	631			505	0	61		506			
Internal Link Dist (ft)		1202			544			637			168	
Turn Bay Length (ft)	255					340	400					
Base Capacity (vph)	109	1744			1568	1425	1438		1305			
Starvation Cap Reductn	0	0			41	0	0		0			
Spillback Cap Reductn	0	187			0	0	0		1			
Storage Cap Reductn	0	0			0	0	0		0			
Reduced v/c Ratio	0.13	0.79			0.74	0.03	0.11		0.77			

Intersection Summary

Area Type: Other

Cycle Length: 140

Actuated Cycle Length: 140

Offset: 69 (49%), Referenced to phase 2:EBT and 6:WBT, Start of Green

Natural Cycle: 75

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.80

Intersection Signal Delay: 33.3

Intersection LOS: C

Intersection Capacity Utilization 76.2%

ICU Level of Service D

Analysis Period (min) 15

* User Entered Value

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

Splits and Phases: 2: I-53 Northbound Ramps & Dundee Road

 Ø2 (R)	 Ø3
69 s	71 s
 Ø5	 Ø6 (R)
13 s	56 s

Lanes, Volumes, Timings

3: Wilke Road & Dundee Road

03/11/2021

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	233	1902	59	22	959	60	13	47	86	81	44	185
Future Volume (vph)	233	1902	59	22	959	60	13	47	86	81	44	185
Ideal Flow (vphpl)	1900	2000	1900	1900	2000	1900	1900	1900	1900	1900	2000	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	210		115	195		230	125		0	255		0
Storage Lanes	1		1	1		1	1		0	1		1
Taper Length (ft)	140			155			145			160		
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor												
Frt			0.850			0.850		0.903				0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1787	3689	1615	1805	3585	1583	1805	1692	0	1752	1961	1524
Flt Permitted	0.214			0.047			0.726			0.356		
Satd. Flow (perm)	403	3689	1615	89	3585	1583	1379	1692	0	657	1961	1524
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			51			78		54				194
Link Speed (mph)		35			35			15			20	
Link Distance (ft)		624			1173			415			586	
Travel Time (s)		12.2			22.9			18.9			20.0	
Confl. Peds. (#/hr)												
Confl. Bikes (#/hr)												
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	1%	3%	0%	0%	6%	2%	0%	4%	0%	3%	2%	6%
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)	248	2023	63	23	1020	64	14	141	0	86	47	197
Turn Type	pm+pt	NA	pm+ov	pm+pt	NA	pm+ov	pm+pt	NA		pm+pt	NA	pm+ov
Protected Phases	5	2	3	1	6	7	3	8		7	4	5
Permitted Phases	2		2	6		6	8			4		4
Detector Phase	5	2	3	1	6	7	3	8		7	4	5
Switch Phase												
Minimum Initial (s)	3.0	15.0	3.0	3.0	15.0	3.0	3.0	6.0		3.0	6.0	3.0
Minimum Split (s)	6.5	21.0	6.5	6.5	21.0	6.5	6.5	25.0		6.5	12.0	6.5
Total Split (s)	22.0	86.0	14.0	14.0	78.0	15.0	14.0	25.0		15.0	26.0	22.0
Total Split (%)	15.7%	61.4%	10.0%	10.0%	55.7%	10.7%	10.0%	17.9%		10.7%	18.6%	15.7%
Yellow Time (s)	3.5	4.5	3.5	3.5	4.5	3.5	3.5	4.5		3.5	4.5	3.5
All-Red Time (s)	0.0	1.5	0.0	0.0	1.5	0.0	0.0	1.5		0.0	1.5	0.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Total Lost Time (s)	3.5	6.0	3.5	3.5	6.0	3.5	3.5	6.0		3.5	6.0	3.5
Lead/Lag	Lead	Lag	Lead	Lead	Lag	Lead	Lead	Lag		Lead	Lag	Lead
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes		Yes	Yes	Yes
Recall Mode	None	C-Min	None	None	C-Min	None	None	None		None	None	None
Act Effect Green (s)	103.2	94.8	107.2	93.6	85.1	101.5	22.4	13.5		29.8	19.2	37.3
Actuated g/C Ratio	0.74	0.68	0.77	0.67	0.61	0.72	0.16	0.10		0.21	0.14	0.27

Lanes, Volumes, Timings

3: Wilke Road & Dundee Road

03/11/2021

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
v/c Ratio	0.60	0.81	0.05	0.17	0.47	0.05	0.06	0.67		0.39	0.17	0.36
Control Delay	11.3	17.2	2.8	13.0	14.0	0.6	41.2	52.1		49.1	54.2	6.7
Queue Delay	0.0	0.4	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Total Delay	11.3	17.5	2.8	13.0	14.1	0.6	41.2	52.1		49.1	54.2	6.7
LOS	B	B	A	B	B	A	D	D		D	D	A
Approach Delay		16.5			13.3			51.1			24.5	
Approach LOS		B			B			D			C	
Queue Length 50th (ft)	63	466	6	5	216	0	10	77		65	39	2
Queue Length 95th (ft)	m100	927	m10	m20	268	5	28	146		109	76	58
Internal Link Dist (ft)		544			1093			335			506	
Turn Bay Length (ft)	210		115	195		230	125			255		
Base Capacity (vph)	479	2496	1293	191	2179	1180	292	276		230	291	609
Starvation Cap Reductn	0	124	0	0	0	0	0	0		0	0	0
Spillback Cap Reductn	0	0	0	0	37	0	0	0		0	0	2
Storage Cap Reductn	0	0	0	0	0	0	0	0		0	0	0
Reduced v/c Ratio	0.52	0.85	0.05	0.12	0.48	0.05	0.05	0.51		0.37	0.16	0.32

Intersection Summary

Area Type: Other

Cycle Length: 140

Actuated Cycle Length: 140

Offset: 55 (39%), Referenced to phase 2:EBTL and 6:WBTL, Start of Green

Natural Cycle: 90

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.81

Intersection Signal Delay: 17.6

Intersection LOS: B

Intersection Capacity Utilization 82.2%

ICU Level of Service E

Analysis Period (min) 15

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

Splits and Phases: 3: Wilke Road & Dundee Road

 Ø1	 Ø2 (R)	 Ø3	 Ø4
14 s	86 s	14 s	26 s
 Ø5	 Ø6 (R)	 Ø7	 Ø8
22 s	78 s	15 s	25 s

Lanes, Volumes, Timings

4: Kennicott Avenue & Dundee Road

03/11/2021

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	71	1791	198	95	859	10	75	41	56	26	26	82
Future Volume (vph)	71	1791	198	95	859	10	75	41	56	26	26	82
Ideal Flow (vphpl)	1900	2000	1900	1900	1900	1900	1900	2000	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	150		150	150		0	0		145	130		0
Storage Lanes	1		1	1		0	1		1	1		0
Taper Length (ft)	155			155			25			185		
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor												
Frt			0.850		0.998				0.850		0.886	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1787	3689	1583	1805	3433	0	1671	1905	1553	1805	1619	0
Flt Permitted	0.271			0.043			0.406			0.728		
Satd. Flow (perm)	510	3689	1583	82	3433	0	714	1905	1553	1383	1619	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			134		1				60		88	
Link Speed (mph)		35			35			30			30	
Link Distance (ft)		1173			1261			389			941	
Travel Time (s)		22.9			24.6			8.8			21.4	
Confl. Peds. (#/hr)												
Confl. Bikes (#/hr)												
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	1%	3%	2%	0%	5%	0%	8%	5%	4%	0%	4%	4%
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)	76	1926	213	102	935	0	81	44	60	28	116	0
Turn Type	pm+pt	NA	pm+ov	pm+pt	NA		pm+pt	NA	pm+ov	pm+pt	NA	
Protected Phases	5	2	3	1	6		3	8	1	7	4	
Permitted Phases	2		2	6			8		8	4		
Detector Phase	5	2	3	1	6		3	8	1	7	4	
Switch Phase												
Minimum Initial (s)	3.0	15.0	3.0	3.0	15.0		3.0	8.0	3.0	3.0	8.0	
Minimum Split (s)	6.5	36.0	6.5	6.5	25.0		6.5	21.0	6.5	6.5	21.0	
Total Split (s)	15.0	90.0	14.0	15.0	90.0		14.0	21.0	15.0	14.0	21.0	
Total Split (%)	10.7%	64.3%	10.0%	10.7%	64.3%		10.0%	15.0%	10.7%	10.0%	15.0%	
Yellow Time (s)	3.5	4.5	3.5	3.5	4.5		3.5	4.5	3.5	3.5	4.5	
All-Red Time (s)	0.0	1.5	0.0	0.0	1.5		0.0	1.5	0.0	0.0	1.5	
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Total Lost Time (s)	3.5	6.0	3.5	3.5	6.0		3.5	6.0	3.5	3.5	6.0	
Lead/Lag	Lead	Lag	Lead	Lead	Lag		Lead	Lag	Lead	Lead	Lag	
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes		Yes	Yes	Yes	Yes	Yes	
Recall Mode	None	C-Min	None	None	C-Min		None	None	None	None	None	
Act Effect Green (s)	101.4	91.9	107.5	105.0	93.7		25.6	16.8	31.6	20.5	10.7	
Actuated g/C Ratio	0.72	0.66	0.77	0.75	0.67		0.18	0.12	0.23	0.15	0.08	

Lanes, Volumes, Timings

4: Kennicott Avenue & Dundee Road

03/11/2021

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
v/c Ratio	0.18	0.80	0.17	0.60	0.41		0.41	0.19	0.15	0.12	0.57	
Control Delay	2.1	11.5	0.6	37.5	11.7		53.9	58.9	10.7	46.3	29.9	
Queue Delay	0.0	0.3	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Total Delay	2.1	11.8	0.6	37.5	11.7		53.9	58.9	10.7	46.3	29.9	
LOS	A	B	A	D	B		D	E	B	D	C	
Approach Delay		10.4			14.2			41.1			33.1	
Approach LOS		B			B			D			C	
Queue Length 50th (ft)	4	470	0	36	189		64	38	0	21	25	
Queue Length 95th (ft)	m6	634	m2	100	267		109	76	38	48	86	
Internal Link Dist (ft)		1093			1181			309			861	
Turn Bay Length (ft)	150		150	150					145	130		
Base Capacity (vph)	488	2421	1255	203	2296		202	233	425	265	252	
Starvation Cap Reductn	0	120	0	0	0		0	0	0	0	0	
Spillback Cap Reductn	0	0	0	0	0		0	0	0	0	0	
Storage Cap Reductn	0	0	0	0	0		0	0	0	0	0	
Reduced v/c Ratio	0.16	0.84	0.17	0.50	0.41		0.40	0.19	0.14	0.11	0.46	

Intersection Summary

Area Type: Other

Cycle Length: 140

Actuated Cycle Length: 140

Offset: 73 (52%), Referenced to phase 2:EBTL and 6:WBTL, Start of Green

Natural Cycle: 90

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.80

Intersection Signal Delay: 14.0

Intersection LOS: B

Intersection Capacity Utilization 76.5%

ICU Level of Service D

Analysis Period (min) 15

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

Splits and Phases: 4: Kennicott Avenue & Dundee Road

 Ø1	 Ø2 (R)	 Ø3	 Ø4
15 s	90 s	14 s	21 s
 Ø5	 Ø6 (R)	 Ø7	 Ø8
15 s	90 s	14 s	21 s

Lanes, Volumes, Timings
5: Wilke Road & Lake Cook Road

03/11/2021

						
Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	 			 		
Traffic Volume (vph)	2034	86	45	1621	100	82
Future Volume (vph)	2034	86	45	1621	100	82
Ideal Flow (vphpl)	1900	1900	1900	2000	1900	1900
Lane Width (ft)	12	12	12	12	12	12
Grade (%)	0%			0%	0%	
Storage Length (ft)		0	200		0	0
Storage Lanes		0	1		1	1
Taper Length (ft)			175		25	
Lane Util. Factor	0.95	0.95	1.00	0.95	1.00	1.00
Ped Bike Factor						
Frt	0.994					0.850
Flt Protected			0.950		0.950	
Satd. Flow (prot)	3482	0	1687	3654	1543	1524
Flt Permitted			0.041		0.950	
Satd. Flow (perm)	3482	0	73	3654	1543	1524
Right Turn on Red		Yes				Yes
Satd. Flow (RTOR)	6					10
Link Speed (mph)	45			45	35	
Link Distance (ft)	1328			1272	2044	
Travel Time (s)	20.1			19.3	39.8	
Confl. Peds. (#/hr)						
Confl. Bikes (#/hr)						
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Growth Factor	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	3%	4%	7%	4%	17%	6%
Bus Blockages (#/hr)	0	0	0	0	0	0
Parking (#/hr)						
Mid-Block Traffic (%)	0%			0%	0%	
Shared Lane Traffic (%)						
Lane Group Flow (vph)	2304	0	49	1762	109	89
Turn Type	NA		pm+pt	NA	Prot	pm+ov
Protected Phases	2		1	6	8	1
Permitted Phases			6			8
Detector Phase	2		1	6	8	1
Switch Phase						
Minimum Initial (s)	15.0		3.0	15.0	8.0	3.0
Minimum Split (s)	21.5		6.0	21.5	14.0	6.0
Total Split (s)	90.0		20.0	110.0	20.0	20.0
Total Split (%)	69.2%		15.4%	84.6%	15.4%	15.4%
Yellow Time (s)	4.5		3.0	4.5	4.5	3.0
All-Red Time (s)	2.0		0.0	2.0	1.5	0.0
Lost Time Adjust (s)	0.0		0.0	0.0	0.0	0.0
Total Lost Time (s)	6.5		3.0	6.5	6.0	3.0
Lead/Lag	Lag		Lead			Lead
Lead-Lag Optimize?	Yes		Yes			Yes
Recall Mode	None		None	None	None	None
Act Effect Green (s)	94.2		107.0	103.5	13.0	25.3
Actuated g/C Ratio	0.73		0.83	0.80	0.10	0.20

Lanes, Volumes, Timings
5: Wilke Road & Lake Cook Road

03/11/2021

	→	↘	↙	←	↖	↗
Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
v/c Ratio	0.91		0.35	0.60	0.70	0.29
Control Delay	20.8		14.4	6.0	80.0	41.5
Queue Delay	0.0		0.0	0.0	0.0	0.0
Total Delay	20.8		14.4	6.0	80.0	41.5
LOS	C		B	A	E	D
Approach Delay	20.8			6.2	62.7	
Approach LOS	C			A	E	
Queue Length 50th (ft)	734		6	255	90	57
Queue Length 95th (ft)	938		31	301	#168	107
Internal Link Dist (ft)	1248			1192	1964	
Turn Bay Length (ft)			200			
Base Capacity (vph)	2544		273	2932	167	432
Starvation Cap Reductn	0		0	0	0	0
Spillback Cap Reductn	0		0	0	0	0
Storage Cap Reductn	0		0	0	0	0
Reduced v/c Ratio	0.91		0.18	0.60	0.65	0.21

Intersection Summary

Area Type: Other

Cycle Length: 130

Actuated Cycle Length: 129

Natural Cycle: 90

Control Type: Actuated-Uncoordinated

Maximum v/c Ratio: 0.91

Intersection Signal Delay: 16.6

Intersection LOS: B

Intersection Capacity Utilization 76.0%

ICU Level of Service D

Analysis Period (min) 15

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

Queue shown is maximum after two cycles.

Splits and Phases: 5: Wilke Road & Lake Cook Road



HCM 6th AWSC
6: Wilke Road & Nichols Road

03/11/2021

Intersection	
Intersection Delay, s/veh	8.6
Intersection LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	23	20	100	26	2	11	31	31	9	5	140	7
Future Vol, veh/h	23	20	100	26	2	11	31	31	9	5	140	7
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Heavy Vehicles, %	39	0	9	0	0	9	3	20	11	0	1	14
Mvmt Flow	25	22	108	28	2	12	33	33	10	5	151	8
Number of Lanes	0	1	0	0	1	0	0	2	0	0	2	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	2	2
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	2	2	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	2	2	1	1
HCM Control Delay	9.1	8	8.5	8.4
HCM LOS	A	A	A	A

Lane	NBLn1	NBLn2	EBLn1	WBLn1	SBLn1	SBLn2
Vol Left, %	67%	0%	16%	67%	7%	0%
Vol Thru, %	33%	63%	14%	5%	93%	91%
Vol Right, %	0%	37%	70%	28%	0%	9%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	47	25	143	39	75	77
LT Vol	31	0	23	26	5	0
Through Vol	16	16	20	2	70	70
RT Vol	0	9	100	11	0	7
Lane Flow Rate	50	26	154	42	81	83
Geometry Grp	7	7	2	2	7	7
Degree of Util (X)	0.077	0.038	0.206	0.054	0.114	0.115
Departure Headway (Hd)	5.531	5.227	4.82	4.652	5.097	5.016
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes
Cap	648	685	746	770	703	715
Service Time	3.264	2.96	2.843	2.683	2.826	2.745
HCM Lane V/C Ratio	0.077	0.038	0.206	0.055	0.115	0.116
HCM Control Delay	8.7	8.2	9.1	8	8.5	8.4
HCM Lane LOS	A	A	A	A	A	A
HCM 95th-tile Q	0.2	0.1	0.8	0.2	0.4	0.4

HCM 6th TWSC
7: Kennicott Avenue & Northerly Access Easement

03/11/2021

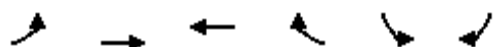
Intersection						
Int Delay, s/veh	0					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	0	0	0	10	34	0
Future Vol, veh/h	0	0	0	10	34	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	65	65	65	65	65	65
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	0	0	0	15	52	0
Major/Minor	Minor2	Major1		Major2		
Conflicting Flow All	67	52	52	0	-	0
Stage 1	52	-	-	-	-	-
Stage 2	15	-	-	-	-	-
Critical Hdwy	6.4	6.2	4.1	-	-	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	2.2	-	-	-
Pot Cap-1 Maneuver	943	1021	1567	-	-	-
Stage 1	976	-	-	-	-	-
Stage 2	1013	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	943	1021	1567	-	-	-
Mov Cap-2 Maneuver	943	-	-	-	-	-
Stage 1	976	-	-	-	-	-
Stage 2	1013	-	-	-	-	-
Approach	EB	NB		SB		
HCM Control Delay, s	0	0		0		
HCM LOS	A					
Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR	
Capacity (veh/h)	1567	-	-	-	-	
HCM Lane V/C Ratio	-	-	-	-	-	
HCM Control Delay (s)	0	-	0	-	-	
HCM Lane LOS	A	-	A	-	-	
HCM 95th %tile Q(veh)	0	-	-	-	-	

Intersection												
Int Delay, s/veh	2.1											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	0	3	5	1	1	9	9	11	0	36	1
Future Vol, veh/h	0	0	3	5	1	1	9	9	11	0	36	1
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	Stop	-	-	None	-	-	None	-	-	None
Storage Length	-	-	0	-	-	-	100	-	-	115	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	79	79	79	79	79	79	79	79	79	79	79	79
Heavy Vehicles, %	0	0	33	0	0	0	22	0	0	0	0	0
Mvmt Flow	0	0	4	6	1	1	11	11	14	0	46	1
Major/Minor	Minor2		Minor1		Major1		Major2					
Conflicting Flow All	-	-	47	87	87	18	47	0	0	25	0	0
Stage 1	-	-	-	40	40	-	-	-	-	-	-	-
Stage 2	-	-	-	47	47	-	-	-	-	-	-	-
Critical Hdwy	-	-	6.53	7.1	6.5	6.2	4.32	-	-	4.1	-	-
Critical Hdwy Stg 1	-	-	-	6.1	5.5	-	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	6.1	5.5	-	-	-	-	-	-	-
Follow-up Hdwy	-	-	3.597	3.5	4	3.3	2.398	-	-	2.2	-	-
Pot Cap-1 Maneuver	0	0	941	904	807	1066	1441	-	-	1603	-	-
Stage 1	0	0	-	980	866	-	-	-	-	-	-	-
Stage 2	0	0	-	972	860	-	-	-	-	-	-	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	-	-	941	895	801	1066	1441	-	-	1603	-	-
Mov Cap-2 Maneuver	-	-	-	895	801	-	-	-	-	-	-	-
Stage 1	-	-	-	972	859	-	-	-	-	-	-	-
Stage 2	-	-	-	968	860	-	-	-	-	-	-	-
Approach	EB		WB		NB		SB					
HCM Control Delay, s	8.8		9		2.3		0					
HCM LOS	A		A									
Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1WBLn1	SBL	SBT	SBR					
Capacity (veh/h)	1441	-	-	941	901	1603	-	-				
HCM Lane V/C Ratio	0.008	-	-	0.004	0.01	-	-	-				
HCM Control Delay (s)	7.5	-	-	8.8	9	0	-	-				
HCM Lane LOS	A	-	-	A	A	A	-	-				
HCM 95th %tile Q(veh)	0	-	-	0	0	0	-	-				

Lanes, Volumes, Timings

1: Dundee Road & I-53 Southbound Ramps

03/11/2021

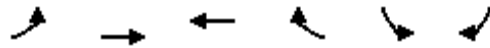


Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↑↑	↑↑	↑	↑	↑
Traffic Volume (vph)	0	825	1857	827	24	34
Future Volume (vph)	0	825	1857	827	24	34
Ideal Flow (vphpl)	1900	2000	2000	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12
Grade (%)		0%	0%		0%	
Storage Length (ft)	0			250	0	0
Storage Lanes	0			1	1	1
Taper Length (ft)	25				25	
Lane Util. Factor	1.00	0.95	0.95	1.00	1.00	1.00
Ped Bike Factor						
Frt				0.850		0.850
Flt Protected					0.950	
Satd. Flow (prot)	0	3762	3725	1583	1805	1615
Flt Permitted					0.950	
Satd. Flow (perm)	0	3762	3725	1583	1805	1615
Right Turn on Red				Yes		Yes
Satd. Flow (RTOR)				239		36
Link Speed (mph)		35	35		30	
Link Distance (ft)		684	1282		381	
Travel Time (s)		13.3	25.0		8.7	
Confl. Peds. (#/hr)						
Confl. Bikes (#/hr)						
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Growth Factor	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	0%	1%	2%	2%	0%	0%
Bus Blockages (#/hr)	0	0	0	0	0	0
Parking (#/hr)						
Mid-Block Traffic (%)		0%	0%		0%	
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	868	1955	871	25	36
Turn Type		NA	NA	Free	Prot	Perm
Protected Phases		2	6		4	
Permitted Phases				Free		4
Detector Phase		2	6		4	4
Switch Phase						
Minimum Initial (s)		15.0	15.0		4.0	4.0
Minimum Split (s)		21.0	21.0		10.0	10.0
Total Split (s)		118.0	118.0		22.0	22.0
Total Split (%)		84.3%	84.3%		15.7%	15.7%
Yellow Time (s)		4.5	4.5		4.5	4.5
All-Red Time (s)		1.5	1.5		1.5	1.5
Lost Time Adjust (s)		0.0	0.0		0.0	0.0
Total Lost Time (s)		6.0	6.0		6.0	6.0
Lead/Lag						
Lead-Lag Optimize?						
Recall Mode		C-Min	C-Min		None	None
Act Effect Green (s)		124.0	124.0	140.0	7.5	7.5
Actuated g/C Ratio		0.89	0.89	1.00	0.05	0.05

Lanes, Volumes, Timings

1: Dundee Road & I-53 Southbound Ramps

03/11/2021



Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
v/c Ratio		0.26	0.59	0.55	0.26	0.30
Control Delay		1.8	6.4	0.7	69.5	24.9
Queue Delay		0.0	0.0	0.0	0.0	0.0
Total Delay		1.8	6.4	0.7	69.5	24.9
LOS		A	A	A	E	C
Approach Delay		1.8	4.6		43.2	
Approach LOS		A	A		D	
Queue Length 50th (ft)		55	447	0	22	0
Queue Length 95th (ft)		80	671	m0	54	36
Internal Link Dist (ft)		604	1202		301	
Turn Bay Length (ft)				250		
Base Capacity (vph)		3332	3299	1583	206	216
Starvation Cap Reductn		0	0	0	0	0
Spillback Cap Reductn		0	0	0	0	0
Storage Cap Reductn		0	0	0	0	0
Reduced v/c Ratio		0.26	0.59	0.55	0.12	0.17

Intersection Summary

Area Type: Other

Cycle Length: 140

Actuated Cycle Length: 140

Offset: 108 (77%), Referenced to phase 2:EBT and 6:WBT, Start of Green

Natural Cycle: 45

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.59

Intersection Signal Delay: 4.6

Intersection LOS: A

Intersection Capacity Utilization 62.1%

ICU Level of Service B

Analysis Period (min) 15

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

Splits and Phases: 1: Dundee Road & I-53 Southbound Ramps

→ Ø2 (R)	118 s	→ Ø4	22 s
← Ø6 (R)	118 s		

Lanes, Volumes, Timings
2: I-53 Northbound Ramps & Dundee Road

03/11/2021

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		 			 		 		 			
Traffic Volume (vph)	22	827	0	0	2079	43	605	0	792	0	0	0
Future Volume (vph)	22	827	0	0	2079	43	605	0	792	0	0	0
Ideal Flow (vphpl)	1900	2000	1900	1900	2000	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	255		0	0		340	400		0	0		0
Storage Lanes	1		0	0		1	1		2	0		0
Taper Length (ft)	150			25			185			25		
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	1.00	0.97	1.00	0.88	1.00	1.00	1.00
Ped Bike Factor												
Frt						0.850			0.850			
Flt Protected	0.950						0.950					
Satd. Flow (prot)	1805	3762	0	0	3762	1615	3467	0	2787	0	0	0
Flt Permitted	0.950						0.950					
Satd. Flow (perm)	1805	3762	0	0	3762	1615	3467	0	2787	0	0	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)						44			*269			
Link Speed (mph)		35			35			30			30	
Link Distance (ft)		1282			624			717			248	
Travel Time (s)		25.0			12.2			16.3			5.6	
Confl. Peds. (#/hr)												
Confl. Bikes (#/hr)												
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	0%	1%	0%	0%	1%	0%	1%	0%	2%	0%	0%	0%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Shared Lane Traffic (%)												
Lane Group Flow (vph)	23	853	0	0	2143	44	624	0	816	0	0	0
Turn Type	Prot	NA			NA	custom	Prot		Prot			
Protected Phases	5	2			6	3	3		3			
Permitted Phases						6						
Detector Phase	5	2			6	3	3		3			
Switch Phase												
Minimum Initial (s)	3.0	15.0			15.0	12.0	12.0		12.0			
Minimum Split (s)	7.5	21.0			21.0	18.0	18.0		18.0			
Total Split (s)	14.0	99.0			85.0	41.0	41.0		41.0			
Total Split (%)	10.0%	70.7%			60.7%	29.3%	29.3%		29.3%			
Yellow Time (s)	3.5	4.5			4.5	4.5	4.5		4.5			
All-Red Time (s)	1.0	1.5			1.5	1.5	1.5		1.5			
Lost Time Adjust (s)	0.0	0.0			0.0	0.0	0.0		0.0			
Total Lost Time (s)	4.5	6.0			6.0	6.0	6.0		6.0			
Lead/Lag	Lead				Lag							
Lead-Lag Optimize?	Yes				Yes							
Recall Mode	None	C-Min			C-Min	None	None		None			
Act Effect Green (s)	7.3	93.0			85.3	128.7	35.0		35.0			
Actuated g/C Ratio	0.05	0.66			0.61	0.92	0.25		0.25			

Lanes, Volumes, Timings

2: I-53 Northbound Ramps & Dundee Road

03/11/2021

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
v/c Ratio	0.24	0.34			0.93	0.03	0.72		0.91			
Control Delay	68.6	10.5			20.8	0.0	53.6		48.7			
Queue Delay	0.0	0.1			0.3	0.0	0.0		4.0			
Total Delay	68.6	10.6			21.1	0.0	53.6		52.7			
LOS	E	B			C	A	D		D			
Approach Delay		12.1			20.6			53.1				
Approach LOS		B			C			D				
Queue Length 50th (ft)	20	160			605	0	269		293			
Queue Length 95th (ft)	51	198			#1192	m0	338		#426			
Internal Link Dist (ft)		1202			544			637			168	
Turn Bay Length (ft)	255					340	400					
Base Capacity (vph)	122	2499			2292	1488	866		898			
Starvation Cap Reductn	0	0			14	0	0		0			
Spillback Cap Reductn	0	622			0	0	0		44			
Storage Cap Reductn	0	0			0	0	0		0			
Reduced v/c Ratio	0.19	0.45			0.94	0.03	0.72		0.96			

Intersection Summary

Area Type: Other

Cycle Length: 140

Actuated Cycle Length: 140

Offset: 56 (40%), Referenced to phase 2:EBT and 6:WBT, Start of Green

Natural Cycle: 90

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.93

Intersection Signal Delay: 29.3

Intersection LOS: C

Intersection Capacity Utilization 80.2%

ICU Level of Service D

Analysis Period (min) 15

* User Entered Value

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

Queue shown is maximum after two cycles.

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

Splits and Phases: 2: I-53 Northbound Ramps & Dundee Road



Lanes, Volumes, Timings
3: Wilke Road & Dundee Road

03/11/2021

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	128	1455	36	68	1747	92	80	54	74	97	63	295
Future Volume (vph)	128	1455	36	68	1747	92	80	54	74	97	63	295
Ideal Flow (vphpl)	1900	2000	1900	1900	2000	1900	1900	1900	1900	1900	2000	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	210		115	195		230	125		0	255		0
Storage Lanes	1		1	1		1	1		0	1		1
Taper Length (ft)	140			155			145			160		
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor												
Frt			0.850			0.850		0.914				0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1770	3762	1615	1770	3725	1583	1805	1737	0	1805	2000	1599
Flt Permitted	0.046			0.120			0.569			0.620		
Satd. Flow (perm)	86	3762	1615	224	3725	1583	1081	1737	0	1178	2000	1599
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			51			78			40			81
Link Speed (mph)		35			35			15			20	
Link Distance (ft)		624			1173			415			586	
Travel Time (s)		12.2			22.9			18.9			20.0	
Confl. Peds. (#/hr)												
Confl. Bikes (#/hr)												
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	2%	1%	0%	2%	2%	2%	0%	0%	0%	0%	0%	1%
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)	132	1500	37	70	1801	95	82	132	0	100	65	304
Turn Type	pm+pt	NA	pm+ov	pm+pt	NA	pm+ov	pm+pt	NA		pm+pt	NA	pm+ov
Protected Phases	5	2	3	1	6	7	3	8		7	4	5
Permitted Phases	2		2	6		6	8			4		4
Detector Phase	5	2	3	1	6	7	3	8		7	4	5
Switch Phase												
Minimum Initial (s)	3.0	15.0	3.0	3.0	15.0	3.0	3.0	6.0		3.0	6.0	3.0
Minimum Split (s)	6.5	21.0	6.5	6.5	21.0	6.5	6.5	12.0		6.5	12.0	6.5
Total Split (s)	20.0	88.0	15.0	14.0	82.0	14.0	15.0	24.0		14.0	23.0	20.0
Total Split (%)	14.3%	62.9%	10.7%	10.0%	58.6%	10.0%	10.7%	17.1%		10.0%	16.4%	14.3%
Yellow Time (s)	3.5	4.5	3.5	3.5	4.5	3.5	3.5	4.5		3.5	4.5	3.5
All-Red Time (s)	0.0	1.5	0.0	0.0	1.5	0.0	0.0	1.5		0.0	1.5	0.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Total Lost Time (s)	3.5	6.0	3.5	3.5	6.0	3.5	3.5	6.0		3.5	6.0	3.5
Lead/Lag	Lead	Lag	Lead	Lead	Lag	Lead	Lead	Lag		Lead	Lag	Lead
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes		Yes	Yes	Yes
Recall Mode	None	C-Min	None	None	C-Min	None	None	None		None	None	None
Act Effect Green (s)	103.2	92.4	112.0	94.2	84.7	100.6	26.8	13.4		23.6	13.1	29.4
Actuated g/C Ratio	0.74	0.66	0.80	0.67	0.60	0.72	0.19	0.10		0.17	0.09	0.21

Lanes, Volumes, Timings

3: Wilke Road & Dundee Road

03/11/2021

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
v/c Ratio	0.61	0.60	0.03	0.31	0.80	0.08	0.30	0.65		0.41	0.35	0.76
Control Delay	37.0	24.5	2.9	8.4	18.1	1.1	47.3	56.8		51.2	63.4	49.3
Queue Delay	0.0	0.4	0.0	0.0	2.9	0.0	0.0	0.0		0.0	0.0	0.2
Total Delay	37.0	24.8	2.9	8.4	21.0	1.1	47.3	56.8		51.2	63.4	49.5
LOS	D	C	A	A	C	A	D	E		D	E	D
Approach Delay		25.3			19.6			53.2			51.8	
Approach LOS		C			B			D			D	
Queue Length 50th (ft)	63	627	2	11	297	1	62	81		76	56	194
Queue Length 95th (ft)	m105	746	m8	m26	461	m3	107	149		126	103	279
Internal Link Dist (ft)		544			1093			335			506	
Turn Bay Length (ft)	210		115	195		230	125			255		
Base Capacity (vph)	262	2482	1309	272	2252	1165	282	258		250	242	438
Starvation Cap Reductn	0	424	0	0	0	0	0	0		0	0	0
Spillback Cap Reductn	0	0	0	0	336	0	0	0		0	0	6
Storage Cap Reductn	0	0	0	0	0	0	0	0		0	0	0
Reduced v/c Ratio	0.50	0.73	0.03	0.26	0.94	0.08	0.29	0.51		0.40	0.27	0.70

Intersection Summary

Area Type: Other

Cycle Length: 140

Actuated Cycle Length: 140

Offset: 60 (43%), Referenced to phase 2:EBTL and 6:WBTL, Start of Green

Natural Cycle: 75

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.80

Intersection Signal Delay: 27.0

Intersection LOS: C

Intersection Capacity Utilization 82.4%

ICU Level of Service E

Analysis Period (min) 15

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

Splits and Phases: 3: Wilke Road & Dundee Road

 Ø1	 Ø2 (R)	 Ø3	 Ø4
14 s	88 s	15 s	23 s
 Ø5	 Ø6 (R)	 Ø7	 Ø8
20 s	82 s	14 s	24 s

Lanes, Volumes, Timings
4: Kennicott Avenue & Dundee Road

03/11/2021

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	123	1377	94	41	1454	14	275	46	186	40	32	137
Future Volume (vph)	123	1377	94	41	1454	14	275	46	186	40	32	137
Ideal Flow (vphpl)	1900	2000	1900	1900	1900	1900	1900	2000	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	150		150	150		0	0		145	130		0
Storage Lanes	1		1	1		0	1		1	1		0
Taper Length (ft)	155			155			25			185		
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor												
Frt			0.850		0.999				0.850		0.878	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1805	3762	1583	1805	3536	0	1787	2000	1599	1805	1659	0
Flt Permitted	0.061			0.097			0.240			0.725		
Satd. Flow (perm)	116	3762	1583	184	3536	0	451	2000	1599	1377	1659	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			79		1				125		127	
Link Speed (mph)		35			35			30			30	
Link Distance (ft)		1173			1261			389			941	
Travel Time (s)		22.9			24.6			8.8			21.4	
Confl. Peds. (#/hr)												
Confl. Bikes (#/hr)												
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	0%	1%	2%	0%	2%	0%	1%	0%	1%	0%	3%	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)	131	1465	100	44	1562	0	293	49	198	43	180	0
Turn Type	pm+pt	NA	pm+ov	pm+pt	NA		pm+pt	NA	pm+ov	pm+pt	NA	
Protected Phases	5	2	3	1	6		3	8	1	7	4	
Permitted Phases	2		2	6			8		8	4		
Detector Phase	5	2	3	1	6		3	8	1	7	4	
Switch Phase												
Minimum Initial (s)	3.0	15.0	3.0	3.0	15.0		3.0	8.0	3.0	3.0	8.0	
Minimum Split (s)	6.5	36.0	6.5	6.5	25.0		6.5	35.0	6.5	6.5	24.0	
Total Split (s)	15.0	77.0	25.0	14.0	76.0		25.0	35.0	14.0	14.0	24.0	
Total Split (%)	10.7%	55.0%	17.9%	10.0%	54.3%		17.9%	25.0%	10.0%	10.0%	17.1%	
Yellow Time (s)	3.5	4.5	3.5	3.5	4.5		3.5	4.5	3.5	3.5	4.5	
All-Red Time (s)	0.0	1.5	0.0	0.0	1.5		0.0	1.5	0.0	0.0	1.5	
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Total Lost Time (s)	3.5	6.0	3.5	3.5	6.0		3.5	6.0	3.5	3.5	6.0	
Lead/Lag	Lead	Lag	Lead	Lead	Lag		Lead	Lag	Lead	Lead	Lag	
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes		Yes	Yes	Yes	Yes	Yes	
Recall Mode	None	C-Min	None	None	C-Min		None	None	None	None	None	
Act Effect Green (s)	92.9	80.9	107.8	86.8	77.6		39.4	27.3	40.0	22.9	12.5	
Actuated g/C Ratio	0.66	0.58	0.77	0.62	0.55		0.28	0.20	0.29	0.16	0.09	

Lanes, Volumes, Timings
4: Kennicott Avenue & Dundee Road

03/11/2021

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
v/c Ratio	0.66	0.67	0.08	0.23	0.80		0.90	0.13	0.36	0.17	0.68	
Control Delay	59.1	7.6	0.2	12.2	30.0		73.1	47.5	16.6	37.7	33.2	
Queue Delay	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Total Delay	59.1	7.6	0.2	12.2	30.0		73.1	47.5	16.6	37.7	33.2	
LOS	E	A	A	B	C		E	D	B	D	C	
Approach Delay		11.1			29.5			50.0			34.1	
Approach LOS		B			C			D			C	
Queue Length 50th (ft)	70	112	0	13	583		230	38	51	29	46	
Queue Length 95th (ft)	146	134	1	30	768		#333	73	115	57	124	
Internal Link Dist (ft)		1093			1181			309			861	
Turn Bay Length (ft)	150		150	150					145	130		
Base Capacity (vph)	220	2174	1243	240	1961		331	418	586	282	323	
Starvation Cap Reductn	0	0	0	0	0		0	0	0	0	0	
Spillback Cap Reductn	0	0	0	0	0		0	0	0	0	0	
Storage Cap Reductn	0	0	0	0	0		0	0	0	0	0	
Reduced v/c Ratio	0.60	0.67	0.08	0.18	0.80		0.89	0.12	0.34	0.15	0.56	

Intersection Summary

Area Type: Other

Cycle Length: 140

Actuated Cycle Length: 140

Offset: 66 (47%), Referenced to phase 2:EBTL and 6:WBTL, Start of Green

Natural Cycle: 95

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.90

Intersection Signal Delay: 24.8

Intersection LOS: C

Intersection Capacity Utilization 89.5%

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: 4: Kennicott Avenue & Dundee Road

											
Ø1	Ø2 (R)		Ø3	Ø4		Ø5	Ø6 (R)	Ø7	Ø8		
14 s	77 s		25 s	24 s		15 s	76 s	14 s	35 s		

Lanes, Volumes, Timings
5: Wilke Road & Lake Cook Road

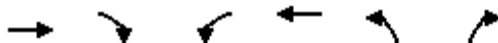
03/11/2021

						
Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	1352	74	51	1857	133	62
Future Volume (vph)	1352	74	51	1857	133	62
Ideal Flow (vphpl)	1900	1900	1900	2000	1900	1900
Lane Width (ft)	12	12	12	12	12	12
Grade (%)	0%			0%	0%	
Storage Length (ft)		0	200		0	0
Storage Lanes		0	1		1	1
Taper Length (ft)			175		25	
Lane Util. Factor	0.95	0.95	1.00	0.95	1.00	1.00
Ped Bike Factor						
Frt	0.992					0.850
Flt Protected			0.950		0.950	
Satd. Flow (prot)	3511	0	1805	3725	1805	1568
Flt Permitted			0.142		0.950	
Satd. Flow (perm)	3511	0	270	3725	1805	1568
Right Turn on Red		Yes				Yes
Satd. Flow (RTOR)	9					62
Link Speed (mph)	45			45	35	
Link Distance (ft)	1328			1272	2044	
Travel Time (s)	20.1			19.3	39.8	
Confl. Peds. (#/hr)						
Confl. Bikes (#/hr)						
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98
Growth Factor	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	2%	2%	0%	2%	0%	3%
Bus Blockages (#/hr)	0	0	0	0	0	0
Parking (#/hr)						
Mid-Block Traffic (%)	0%			0%	0%	
Shared Lane Traffic (%)						
Lane Group Flow (vph)	1456	0	52	1895	136	63
Turn Type	NA		pm+pt	NA	Prot	pm+ov
Protected Phases	2		1	6	8	1
Permitted Phases			6			8
Detector Phase	2		1	6	8	1
Switch Phase						
Minimum Initial (s)	15.0		3.0	15.0	8.0	3.0
Minimum Split (s)	21.5		6.0	21.5	14.0	6.0
Total Split (s)	90.0		20.0	110.0	20.0	20.0
Total Split (%)	69.2%		15.4%	84.6%	15.4%	15.4%
Yellow Time (s)	4.5		3.0	4.5	4.5	3.0
All-Red Time (s)	2.0		0.0	2.0	1.5	0.0
Lost Time Adjust (s)	0.0		0.0	0.0	0.0	0.0
Total Lost Time (s)	6.5		3.0	6.5	6.0	3.0
Lead/Lag	Lag		Lead			Lead
Lead-Lag Optimize?	Yes		Yes			Yes
Recall Mode	None		None	None	None	None
Act Effect Green (s)	96.1		107.0	103.5	13.3	25.5
Actuated g/C Ratio	0.74		0.83	0.80	0.10	0.20

Lanes, Volumes, Timings

5: Wilke Road & Lake Cook Road

03/11/2021



Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
v/c Ratio	0.56		0.18	0.64	0.73	0.18
Control Delay	8.7		3.4	6.5	79.1	11.7
Queue Delay	0.0		0.0	0.0	0.0	0.0
Total Delay	8.7		3.4	6.5	79.1	11.7
LOS	A		A	A	E	B
Approach Delay	8.7			6.4	57.7	
Approach LOS	A			A	E	
Queue Length 50th (ft)	267		6	288	112	1
Queue Length 95th (ft)	326		13	340	#203	40
Internal Link Dist (ft)	1248			1192	1964	
Turn Bay Length (ft)			200			
Base Capacity (vph)	2611		424	2980	195	484
Starvation Cap Reductn	0		0	0	0	0
Spillback Cap Reductn	0		0	0	0	0
Storage Cap Reductn	0		0	0	0	0
Reduced v/c Ratio	0.56		0.12	0.64	0.70	0.13

Intersection Summary

Area Type: Other

Cycle Length: 130

Actuated Cycle Length: 129.3

Natural Cycle: 60

Control Type: Actuated-Uncoordinated

Maximum v/c Ratio: 0.73

Intersection Signal Delay: 10.2

Intersection LOS: B

Intersection Capacity Utilization 66.6%

ICU Level of Service C

Analysis Period (min) 15

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

Queue shown is maximum after two cycles.

Splits and Phases: 5: Wilke Road & Lake Cook Road



HCM 6th AWSC
6: Wilke Road & Nichols Road

03/11/2021

Intersection	
Intersection Delay, s/veh	9
Intersection LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	9	16	56	23	17	5	102	160	25	5	58	7
Future Vol, veh/h	9	16	56	23	17	5	102	160	25	5	58	7
Peak Hour Factor	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89
Heavy Vehicles, %	0	0	0	0	0	0	0	1	0	0	3	0
Mvmt Flow	10	18	63	26	19	6	115	180	28	6	65	8
Number of Lanes	0	1	0	0	1	0	0	2	0	0	2	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	2	2
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	2	2	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	2	2	1	1
HCM Control Delay	8.1	8.4	9.5	8.2
HCM LOS	A	A	A	A

Lane	NBLn1	NBLn2	EBLn1	WBLn1	SBLn1	SBLn2
Vol Left, %	56%	0%	11%	51%	15%	0%
Vol Thru, %	44%	76%	20%	38%	85%	81%
Vol Right, %	0%	24%	69%	11%	0%	19%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	182	105	81	45	34	36
LT Vol	102	0	9	23	5	0
Through Vol	80	80	16	17	29	29
RT Vol	0	25	56	5	0	7
Lane Flow Rate	204	118	91	51	38	40
Geometry Grp	7	7	2	2	7	7
Degree of Util (X)	0.295	0.156	0.114	0.07	0.055	0.057
Departure Headway (Hd)	5.187	4.755	4.508	4.984	5.213	5.053
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes
Cap	693	754	795	718	686	708
Service Time	2.917	2.485	2.538	3.018	2.949	2.79
HCM Lane V/C Ratio	0.294	0.156	0.114	0.071	0.055	0.056
HCM Control Delay	10.1	8.4	8.1	8.4	8.3	8.1
HCM Lane LOS	B	A	A	A	A	A
HCM 95th-tile Q	1.2	0.6	0.4	0.2	0.2	0.2

HCM 6th TWSC
7: Kennicott Avenue & Northerly Access Easement

03/11/2021

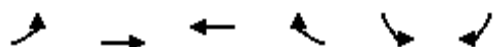
Intersection						
Int Delay, s/veh	0.5					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	3	2	1	56	43	0
Future Vol, veh/h	3	2	1	56	43	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	80	80	80	80	80	80
Heavy Vehicles, %	0	50	100	0	2	0
Mvmt Flow	4	3	1	70	54	0
Major/Minor	Minor2	Major1		Major2		
Conflicting Flow All	126	54	54	0	-	0
Stage 1	54	-	-	-	-	-
Stage 2	72	-	-	-	-	-
Critical Hdwy	6.4	6.7	5.1	-	-	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	3.75	3.1	-	-	-
Pot Cap-1 Maneuver	874	893	1101	-	-	-
Stage 1	974	-	-	-	-	-
Stage 2	956	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	873	893	1101	-	-	-
Mov Cap-2 Maneuver	873	-	-	-	-	-
Stage 1	973	-	-	-	-	-
Stage 2	956	-	-	-	-	-
Approach	EB	NB		SB		
HCM Control Delay, s	9.1	0.1		0		
HCM LOS	A					
Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR	
Capacity (veh/h)	1101	-	881	-	-	
HCM Lane V/C Ratio	0.001	-	0.007	-	-	
HCM Control Delay (s)	8.3	0	9.1	-	-	
HCM Lane LOS	A	A	A	-	-	
HCM 95th %tile Q(veh)	0	-	0	-	-	

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	2	1	8	7	0	0	3	59	11	0	43	2
Future Vol, veh/h	2	1	8	7	0	0	3	59	11	0	43	2
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	Stop	-	-	None	-	-	None	-	-	None
Storage Length	-	-	0	-	-	-	100	-	-	115	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	94	94	94	94	94	94	94	94	94	94	94	94
Heavy Vehicles, %	50	0	0	0	0	0	0	0	0	0	2	50
Mvmt Flow	2	1	9	7	0	0	3	63	12	0	46	2
Major/Minor	Minor2		Minor1		Major1		Major2					
Conflicting Flow All	122	128	47	123	123	69	48	0	0	75	0	0
Stage 1	47	47	-	75	75	-	-	-	-	-	-	-
Stage 2	75	81	-	48	48	-	-	-	-	-	-	-
Critical Hdwy	7.6	6.5	6.2	7.1	6.5	6.2	4.1	-	-	4.1	-	-
Critical Hdwy Stg 1	6.6	5.5	-	6.1	5.5	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.6	5.5	-	6.1	5.5	-	-	-	-	-	-	-
Follow-up Hdwy	3.95	4	3.3	3.5	4	3.3	2.2	-	-	2.2	-	-
Pot Cap-1 Maneuver	753	766	1028	856	771	1000	1572	-	-	1537	-	-
Stage 1	858	860	-	939	836	-	-	-	-	-	-	-
Stage 2	827	832	-	971	859	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	752	764	1028	847	769	1000	1572	-	-	1537	-	-
Mov Cap-2 Maneuver	752	764	-	847	769	-	-	-	-	-	-	-
Stage 1	856	860	-	937	834	-	-	-	-	-	-	-
Stage 2	825	830	-	962	859	-	-	-	-	-	-	-
Approach	EB		WB		NB		SB					
HCM Control Delay, s	8.5		9.3		0.3		0					
HCM LOS	A		A									
Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1WBLn1	SBL	SBT	SBR					
Capacity (veh/h)	1572	-	-	1028	847	1537	-	-				
HCM Lane V/C Ratio	0.002	-	-	0.008	0.009	-	-	-				
HCM Control Delay (s)	7.3	-	-	8.5	9.3	0	-	-				
HCM Lane LOS	A	-	-	A	A	A	-	-				
HCM 95th %tile O(veh)	0	-	-	0	0	0	-	-				

Lanes, Volumes, Timings

1: Dundee Road & I-53 Southbound Ramps

03/11/2021

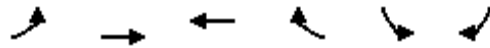


Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↑↑	↑↑	↑	↑	↑
Traffic Volume (vph)	0	1194	614	668	50	24
Future Volume (vph)	0	1194	614	668	50	24
Ideal Flow (vphpl)	1900	2000	2000	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12
Grade (%)		0%	0%		0%	
Storage Length (ft)	0			250	0	0
Storage Lanes	0			1	1	1
Taper Length (ft)	25				25	
Lane Util. Factor	1.00	0.95	0.95	1.00	1.00	1.00
Ped Bike Factor						
Frt				0.850		0.850
Flt Protected					0.950	
Satd. Flow (prot)	0	3725	3551	1495	1805	1553
Flt Permitted					0.950	
Satd. Flow (perm)	0	3725	3551	1495	1805	1553
Right Turn on Red				Yes		Yes
Satd. Flow (RTOR)				584		25
Link Speed (mph)		35	35		30	
Link Distance (ft)		684	1282		381	
Travel Time (s)		13.3	25.0		8.7	
Confl. Peds. (#/hr)						
Confl. Bikes (#/hr)						
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96
Growth Factor	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	0%	2%	7%	8%	0%	4%
Bus Blockages (#/hr)	0	0	0	0	0	0
Parking (#/hr)						
Mid-Block Traffic (%)		0%	0%		0%	
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	1244	640	696	52	25
Turn Type		NA	NA	Free	Prot	Perm
Protected Phases		2	6		4	
Permitted Phases				Free		4
Detector Phase		2	6		4	4
Switch Phase						
Minimum Initial (s)		15.0	15.0		4.0	4.0
Minimum Split (s)		21.0	21.0		10.0	10.0
Total Split (s)		116.0	116.0		24.0	24.0
Total Split (%)		82.9%	82.9%		17.1%	17.1%
Yellow Time (s)		4.5	4.5		4.5	4.5
All-Red Time (s)		1.5	1.5		1.5	1.5
Lost Time Adjust (s)		0.0	0.0		0.0	0.0
Total Lost Time (s)		6.0	6.0		6.0	6.0
Lead/Lag						
Lead-Lag Optimize?						
Recall Mode		C-Min	C-Min		None	None
Act Effect Green (s)		122.1	122.1	140.0	9.4	9.4
Actuated g/C Ratio		0.87	0.87	1.00	0.07	0.07

Lanes, Volumes, Timings

1: Dundee Road & I-53 Southbound Ramps

03/11/2021



Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
v/c Ratio		0.38	0.21	0.47	0.43	0.20
Control Delay		2.7	4.1	5.6	72.7	23.9
Queue Delay		0.0	0.0	0.0	0.0	0.0
Total Delay		2.7	4.1	5.6	72.7	23.9
LOS		A	A	A	E	C
Approach Delay		2.7	4.9		56.8	
Approach LOS		A	A		E	
Queue Length 50th (ft)		105	175	79	46	0
Queue Length 95th (ft)		153	91	303	90	30
Internal Link Dist (ft)		604	1202		301	
Turn Bay Length (ft)				250		
Base Capacity (vph)		3249	3098	1495	232	221
Starvation Cap Reductn		0	0	0	0	0
Spillback Cap Reductn		0	0	0	0	0
Storage Cap Reductn		0	0	0	0	0
Reduced v/c Ratio		0.38	0.21	0.47	0.22	0.11

Intersection Summary

Area Type: Other

Cycle Length: 140

Actuated Cycle Length: 140

Offset: 111 (79%), Referenced to phase 2:EBT and 6:WBT, Start of Green

Natural Cycle: 40

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.47

Intersection Signal Delay: 5.4

Intersection LOS: A

Intersection Capacity Utilization 44.7%

ICU Level of Service A

Analysis Period (min) 15

Splits and Phases: 1: Dundee Road & I-53 Southbound Ramps

→ Ø2 (R)	Ø4
116 s	24 s
← Ø6 (R)	
116 s	

Lanes, Volumes, Timings
2: I-53 Northbound Ramps & Dundee Road

03/11/2021

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		 			 		 		 			
Traffic Volume (vph)	14	1229	0	0	1131	44	151	0	998	0	0	0
Future Volume (vph)	14	1229	0	0	1131	44	151	0	998	0	0	0
Ideal Flow (vphpl)	1900	2000	1900	1900	2000	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	255		0	0		340	400		0	0		0
Storage Lanes	1		0	0		1	1		2	0		0
Taper Length (ft)	150			25			185			25		
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	1.00	0.97	1.00	0.88	1.00	1.00	1.00
Ped Bike Factor												
Frt						0.850			0.850			
Flt Protected	0.950						0.950					
Satd. Flow (prot)	1805	3725	0	0	3619	1509	3099	0	2760	0	0	0
Flt Permitted	0.950						0.950					
Satd. Flow (perm)	1805	3725	0	0	3619	1509	3099	0	2760	0	0	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)						45			*44			
Link Speed (mph)		35			35			30			30	
Link Distance (ft)		1282			624			717			248	
Travel Time (s)		25.0			12.2			16.3			5.6	
Confl. Peds. (#/hr)												
Confl. Bikes (#/hr)												
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	0%	2%	0%	0%	5%	7%	13%	0%	3%	0%	0%	0%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Shared Lane Traffic (%)												
Lane Group Flow (vph)	14	1254	0	0	1154	45	154	0	1018	0	0	0
Turn Type	Prot	NA			NA	custom	Prot		Prot			
Protected Phases	5	2			6	3	3		3			
Permitted Phases						6						
Detector Phase	5	2			6	3	3		3			
Switch Phase												
Minimum Initial (s)	3.0	15.0			15.0	12.0	12.0		12.0			
Minimum Split (s)	7.5	21.0			21.0	18.0	18.0		18.0			
Total Split (s)	13.0	69.0			56.0	71.0	71.0		71.0			
Total Split (%)	9.3%	49.3%			40.0%	50.7%	50.7%		50.7%			
Yellow Time (s)	3.5	4.5			4.5	4.5	4.5		4.5			
All-Red Time (s)	1.0	1.5			1.5	1.5	1.5		1.5			
Lost Time Adjust (s)	0.0	0.0			0.0	0.0	0.0		0.0			
Total Lost Time (s)	4.5	6.0			6.0	6.0	6.0		6.0			
Lead/Lag	Lead				Lag							
Lead-Lag Optimize?	Yes				Yes							
Recall Mode	None	C-Min			C-Min	None	None		None			
Act Effect Green (s)	6.7	65.2			60.3	132.7	62.8		62.8			
Actuated g/C Ratio	0.05	0.47			0.43	0.95	0.45		0.45			

Lanes, Volumes, Timings

2: I-53 Northbound Ramps & Dundee Road

03/11/2021

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
v/c Ratio	0.16	0.72			0.74	0.03	0.11		0.81			
Control Delay	66.8	38.9			26.6	0.2	22.1		37.5			
Queue Delay	0.0	0.8			0.1	0.0	0.0		0.0			
Total Delay	66.8	39.7			26.7	0.2	22.1		37.5			
LOS	E	D			C	A	C		D			
Approach Delay		40.0			25.7			35.5				
Approach LOS		D			C			D				
Queue Length 50th (ft)	12	547			355	0	40		418			
Queue Length 95th (ft)	m33	644			515	0	61		519			
Internal Link Dist (ft)		1202			544			637			168	
Turn Bay Length (ft)	255					340	400					
Base Capacity (vph)	109	1736			1559	1423	1438		1305			
Starvation Cap Reductn	0	0			35	0	0		0			
Spillback Cap Reductn	0	207			0	0	0		2			
Storage Cap Reductn	0	0			0	0	0		0			
Reduced v/c Ratio	0.13	0.82			0.76	0.03	0.11		0.78			

Intersection Summary

Area Type: Other

Cycle Length: 140

Actuated Cycle Length: 140

Offset: 69 (49%), Referenced to phase 2:EBT and 6:WBT, Start of Green

Natural Cycle: 80

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.81

Intersection Signal Delay: 33.8

Intersection LOS: C

Intersection Capacity Utilization 77.2%

ICU Level of Service D

Analysis Period (min) 15

* User Entered Value

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

Splits and Phases: 2: I-53 Northbound Ramps & Dundee Road

 Ø2 (R)	 Ø3
69 s	71 s
 Ø5	 Ø6 (R)
13 s	56 s

Lanes, Volumes, Timings

3: Wilke Road & Dundee Road

03/11/2021

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	236	1930	60	22	973	61	13	48	87	82	45	188
Future Volume (vph)	236	1930	60	22	973	61	13	48	87	82	45	188
Ideal Flow (vphpl)	1900	2000	1900	1900	2000	1900	1900	1900	1900	1900	2000	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	210		115	195		230	125		0	255		0
Storage Lanes	1		1	1		1	1		0	1		1
Taper Length (ft)	140			155			145			160		
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor												
Frt			0.850			0.850		0.903				0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1787	3689	1615	1805	3585	1583	1805	1692	0	1752	1961	1524
Flt Permitted	0.208			0.048			0.726			0.350		
Satd. Flow (perm)	391	3689	1615	91	3585	1583	1379	1692	0	646	1961	1524
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			51			78			54			192
Link Speed (mph)		35			35			15			20	
Link Distance (ft)		624			1173			415			586	
Travel Time (s)		12.2			22.9			18.9			20.0	
Confl. Peds. (#/hr)												
Confl. Bikes (#/hr)												
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	1%	3%	0%	0%	6%	2%	0%	4%	0%	3%	2%	6%
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)	251	2053	64	23	1035	65	14	144	0	87	48	200
Turn Type	pm+pt	NA	pm+ov	pm+pt	NA	pm+ov	pm+pt	NA		pm+pt	NA	pm+ov
Protected Phases	5	2	3	1	6	7	3	8		7	4	5
Permitted Phases	2		2	6		6	8			4		4
Detector Phase	5	2	3	1	6	7	3	8		7	4	5
Switch Phase												
Minimum Initial (s)	3.0	15.0	3.0	3.0	15.0	3.0	3.0	6.0		3.0	6.0	3.0
Minimum Split (s)	6.5	21.0	6.5	6.5	21.0	6.5	6.5	12.0		6.5	12.0	6.5
Total Split (s)	22.0	86.0	14.0	14.0	78.0	15.0	14.0	25.0		15.0	26.0	22.0
Total Split (%)	15.7%	61.4%	10.0%	10.0%	55.7%	10.7%	10.0%	17.9%		10.7%	18.6%	15.7%
Yellow Time (s)	3.5	4.5	3.5	3.5	4.5	3.5	3.5	4.5		3.5	4.5	3.5
All-Red Time (s)	0.0	1.5	0.0	0.0	1.5	0.0	0.0	1.5		0.0	1.5	0.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Total Lost Time (s)	3.5	6.0	3.5	3.5	6.0	3.5	3.5	6.0		3.5	6.0	3.5
Lead/Lag	Lead	Lag	Lead	Lead	Lag	Lead	Lead	Lag		Lead	Lag	Lead
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes		Yes	Yes	Yes
Recall Mode	None	C-Min	None	None	C-Min	None	None	None		None	None	None
Act Effect Green (s)	103.0	94.6	107.0	93.2	84.7	101.1	22.6	13.6		30.0	19.4	37.7
Actuated g/C Ratio	0.74	0.68	0.76	0.67	0.60	0.72	0.16	0.10		0.21	0.14	0.27

21-030 - Industrial Development - Arlington Heights
No-Build Weekday Morning Peak Hour

Synchro 10 Report

Lanes, Volumes, Timings
3: Wilke Road & Dundee Road

03/11/2021

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
v/c Ratio	0.61	0.82	0.05	0.17	0.48	0.06	0.06	0.68		0.40	0.18	0.36
Control Delay	12.2	17.6	2.8	12.5	14.3	0.6	41.2	52.9		49.1	54.1	7.2
Queue Delay	0.0	0.4	0.0	0.0	0.0	0.0	0.0	0.0		0.1	0.0	0.0
Total Delay	12.2	18.0	2.8	12.5	14.4	0.6	41.2	52.9		49.2	54.1	7.2
LOS	B	B	A	B	B	A	D	D		D	D	A
Approach Delay		17.0			13.5			51.9			24.8	
Approach LOS		B			B			D			C	
Queue Length 50th (ft)	64	473	6	5	219	0	10	80		65	39	5
Queue Length 95th (ft)	m106	970	m10	m19	273	5	28	150		110	77	61
Internal Link Dist (ft)		544			1093			335			506	
Turn Bay Length (ft)	210		115	195		230	125			255		
Base Capacity (vph)	472	2492	1292	191	2169	1176	294	276		229	291	609
Starvation Cap Reductn	0	123	0	0	0	0	0	0		0	0	0
Spillback Cap Reductn	0	7	0	0	44	0	0	1		4	0	2
Storage Cap Reductn	0	0	0	0	0	0	0	0		0	0	0
Reduced v/c Ratio	0.53	0.87	0.05	0.12	0.49	0.06	0.05	0.52		0.39	0.16	0.33

Intersection Summary

Area Type: Other

Cycle Length: 140

Actuated Cycle Length: 140

Offset: 55 (39%), Referenced to phase 2:EBTL and 6:WBTL, Start of Green

Natural Cycle: 80

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.82

Intersection Signal Delay: 18.0

Intersection LOS: B

Intersection Capacity Utilization 83.1%

ICU Level of Service E

Analysis Period (min) 15

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

Splits and Phases: 3: Wilke Road & Dundee Road

 Ø1	 Ø2 (R)	 Ø3	 Ø4
14 s	86 s	14 s	26 s
 Ø5	 Ø6 (R)	 Ø7	 Ø8
22 s	78 s	15 s	25 s

Lanes, Volumes, Timings
4: Kennicott Avenue & Dundee Road

03/11/2021

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	72	1818	201	96	872	10	76	42	57	26	26	83
Future Volume (vph)	72	1818	201	96	872	10	76	42	57	26	26	83
Ideal Flow (vphpl)	1900	2000	1900	1900	1900	1900	1900	2000	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	150		150	150		0	0		145	130		0
Storage Lanes	1		1	1		0	1		1	1		0
Taper Length (ft)	155			155			25			185		
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor												
Frt			0.850		0.998				0.850		0.886	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1787	3689	1583	1805	3433	0	1671	1905	1553	1805	1619	0
Flt Permitted	0.266			0.043			0.402			0.728		
Satd. Flow (perm)	500	3689	1583	82	3433	0	707	1905	1553	1383	1619	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			134		1				61		89	
Link Speed (mph)		35			35			30			30	
Link Distance (ft)		1173			1261			389			941	
Travel Time (s)		22.9			24.6			8.8			21.4	
Confl. Peds. (#/hr)												
Confl. Bikes (#/hr)												
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	1%	3%	2%	0%	5%	0%	8%	5%	4%	0%	4%	4%
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)	77	1955	216	103	949	0	82	45	61	28	117	0
Turn Type	pm+pt	NA	pm+ov	pm+pt	NA		pm+pt	NA	pm+ov	pm+pt	NA	
Protected Phases	5	2	3	1	6		3	8	1	7	4	
Permitted Phases	2		2	6			8		8	4		
Detector Phase	5	2	3	1	6		3	8	1	7	4	
Switch Phase												
Minimum Initial (s)	3.0	15.0	3.0	3.0	15.0		3.0	8.0	3.0	3.0	8.0	
Minimum Split (s)	6.5	36.0	6.5	6.5	25.0		6.5	21.0	6.5	6.5	21.0	
Total Split (s)	15.0	90.0	14.0	15.0	90.0		14.0	21.0	15.0	14.0	21.0	
Total Split (%)	10.7%	64.3%	10.0%	10.7%	64.3%		10.0%	15.0%	10.7%	10.0%	15.0%	
Yellow Time (s)	3.5	4.5	3.5	3.5	4.5		3.5	4.5	3.5	3.5	4.5	
All-Red Time (s)	0.0	1.5	0.0	0.0	1.5		0.0	1.5	0.0	0.0	1.5	
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Total Lost Time (s)	3.5	6.0	3.5	3.5	6.0		3.5	6.0	3.5	3.5	6.0	
Lead/Lag	Lead	Lag	Lead	Lead	Lag		Lead	Lag	Lead	Lead	Lag	
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes		Yes	Yes	Yes	Yes	Yes	
Recall Mode	None	C-Min	None	None	C-Min		None	None	None	None	None	
Act Effect Green (s)	101.4	91.8	107.5	105.0	93.6		25.6	16.8	31.7	20.5	10.7	
Actuated g/C Ratio	0.72	0.66	0.77	0.75	0.67		0.18	0.12	0.23	0.15	0.08	

Lanes, Volumes, Timings

4: Kennicott Avenue & Dundee Road

03/11/2021

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
v/c Ratio	0.18	0.81	0.17	0.61	0.41		0.42	0.20	0.15	0.12	0.57	
Control Delay	2.1	11.7	0.6	37.6	11.8		54.1	59.0	10.7	46.3	29.8	
Queue Delay	0.0	0.4	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Total Delay	2.1	12.0	0.6	37.6	11.8		54.1	59.0	10.7	46.3	29.8	
LOS	A	B	A	D	B		D	E	B	D	C	
Approach Delay		10.6			14.3			41.2			33.0	
Approach LOS		B			B			D			C	
Queue Length 50th (ft)	4	471	0	37	193		64	39	0	21	25	
Queue Length 95th (ft)	m6	708	m2	102	273		111	78	37	48	86	
Internal Link Dist (ft)		1093			1181			309			861	
Turn Bay Length (ft)	150		150	150					145	130		
Base Capacity (vph)	481	2419	1255	203	2295		201	234	426	265	252	
Starvation Cap Reductn	0	119	0	0	0		0	0	0	0	0	
Spillback Cap Reductn	0	0	0	0	0		0	0	0	0	0	
Storage Cap Reductn	0	0	0	0	0		0	0	0	0	0	
Reduced v/c Ratio	0.16	0.85	0.17	0.51	0.41		0.41	0.19	0.14	0.11	0.46	

Intersection Summary

Area Type: Other

Cycle Length: 140

Actuated Cycle Length: 140

Offset: 73 (52%), Referenced to phase 2:EBTL and 6:WBTL, Start of Green

Natural Cycle: 90

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.81

Intersection Signal Delay: 14.2

Intersection LOS: B

Intersection Capacity Utilization 77.3%

ICU Level of Service D

Analysis Period (min) 15

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

Splits and Phases: 4: Kennicott Avenue & Dundee Road

 Ø1	 Ø2 (R)	 Ø3	 Ø4
15 s	90 s	14 s	21 s
 Ø5	 Ø6 (R)	 Ø7	 Ø8
15 s	90 s	14 s	21 s

Lanes, Volumes, Timings
5: Wilke Road & Lake Cook Road

03/11/2021

						
Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	 			 		
Traffic Volume (vph)	2065	87	46	1645	102	83
Future Volume (vph)	2065	87	46	1645	102	83
Ideal Flow (vphpl)	1900	1900	1900	2000	1900	1900
Lane Width (ft)	12	12	12	12	12	12
Grade (%)	0%			0%	0%	
Storage Length (ft)		0	200		0	0
Storage Lanes		0	1		1	1
Taper Length (ft)			175		25	
Lane Util. Factor	0.95	0.95	1.00	0.95	1.00	1.00
Ped Bike Factor						
Frt	0.994					0.850
Flt Protected			0.950		0.950	
Satd. Flow (prot)	3482	0	1687	3654	1543	1524
Flt Permitted			0.041		0.950	
Satd. Flow (perm)	3482	0	73	3654	1543	1524
Right Turn on Red		Yes				Yes
Satd. Flow (RTOR)	6					9
Link Speed (mph)	45			45	35	
Link Distance (ft)	1328			1272	2044	
Travel Time (s)	20.1			19.3	39.8	
Confl. Peds. (#/hr)						
Confl. Bikes (#/hr)						
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Growth Factor	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	3%	4%	7%	4%	17%	6%
Bus Blockages (#/hr)	0	0	0	0	0	0
Parking (#/hr)						
Mid-Block Traffic (%)	0%			0%	0%	
Shared Lane Traffic (%)						
Lane Group Flow (vph)	2340	0	50	1788	111	90
Turn Type	NA		pm+pt	NA	Prot	pm+ov
Protected Phases	2		1	6	8	1
Permitted Phases			6			8
Detector Phase	2		1	6	8	1
Switch Phase						
Minimum Initial (s)	15.0		3.0	15.0	8.0	3.0
Minimum Split (s)	21.5		6.0	21.5	14.0	6.0
Total Split (s)	90.0		20.0	110.0	20.0	20.0
Total Split (%)	69.2%		15.4%	84.6%	15.4%	15.4%
Yellow Time (s)	4.5		3.0	4.5	4.5	3.0
All-Red Time (s)	2.0		0.0	2.0	1.5	0.0
Lost Time Adjust (s)	0.0		0.0	0.0	0.0	0.0
Total Lost Time (s)	6.5		3.0	6.5	6.0	3.0
Lead/Lag	Lag		Lead			Lead
Lead-Lag Optimize?	Yes		Yes			Yes
Recall Mode	None		None	None	None	None
Act Effect Green (s)	94.2		107.0	103.5	13.1	25.4
Actuated g/C Ratio	0.73		0.83	0.80	0.10	0.20

Lanes, Volumes, Timings

5: Wilke Road & Lake Cook Road

03/11/2021

	→	↘	↙	←	↖	↗
Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
v/c Ratio	0.92		0.36	0.61	0.71	0.29
Control Delay	22.3		14.8	6.1	80.7	42.1
Queue Delay	0.0		0.0	0.0	0.0	0.0
Total Delay	22.3		14.8	6.1	80.7	42.1
LOS	C		B	A	F	D
Approach Delay	22.3			6.4	63.4	
Approach LOS	C			A	E	
Queue Length 50th (ft)	772		6	262	91	58
Queue Length 95th (ft)	#993		32	310	#173	108
Internal Link Dist (ft)	1248			1192	1964	
Turn Bay Length (ft)			200			
Base Capacity (vph)	2541		273	2930	167	432
Starvation Cap Reductn	0		0	0	0	0
Spillback Cap Reductn	0		0	0	0	0
Storage Cap Reductn	0		0	0	0	0
Reduced v/c Ratio	0.92		0.18	0.61	0.66	0.21

Intersection Summary

Area Type: Other

Cycle Length: 130

Actuated Cycle Length: 129.1

Natural Cycle: 90

Control Type: Actuated-Uncoordinated

Maximum v/c Ratio: 0.92

Intersection Signal Delay: 17.5

Intersection LOS: B

Intersection Capacity Utilization 76.9%

ICU Level of Service D

Analysis Period (min) 15

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

Queue shown is maximum after two cycles.

Splits and Phases: 5: Wilke Road & Lake Cook Road



HCM 6th AWSC
6: Wilke Road & Nichols Road

03/11/2021

Intersection	
Intersection Delay, s/veh	8.6
Intersection LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	23	20	100	26	2	11	31	31	9	5	142	7
Future Vol, veh/h	23	20	100	26	2	11	31	31	9	5	142	7
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Heavy Vehicles, %	39	0	9	0	0	9	3	20	11	0	1	14
Mvmt Flow	25	22	108	28	2	12	33	33	10	5	153	8
Number of Lanes	0	1	0	0	1	0	0	2	0	0	2	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	2	2
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	2	2	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	2	2	1	1
HCM Control Delay	9.1	8	8.5	8.4
HCM LOS	A	A	A	A

Lane	NBLn1	NBLn2	EBLn1	WBLn1	SBLn1	SBLn2
Vol Left, %	67%	0%	16%	67%	7%	0%
Vol Thru, %	33%	63%	14%	5%	93%	91%
Vol Right, %	0%	37%	70%	28%	0%	9%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	47	25	143	39	76	78
LT Vol	31	0	23	26	5	0
Through Vol	16	16	20	2	71	71
RT Vol	0	9	100	11	0	7
Lane Flow Rate	50	26	154	42	82	84
Geometry Grp	7	7	2	2	7	7
Degree of Util (X)	0.077	0.038	0.206	0.054	0.116	0.117
Departure Headway (Hd)	5.536	5.232	4.826	4.66	5.098	5.019
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes
Cap	647	684	744	768	704	715
Service Time	3.267	2.963	2.85	2.69	2.825	2.746
HCM Lane V/C Ratio	0.077	0.038	0.207	0.055	0.116	0.117
HCM Control Delay	8.7	8.2	9.1	8	8.5	8.4
HCM Lane LOS	A	A	A	A	A	A
HCM 95th-tile Q	0.2	0.1	0.8	0.2	0.4	0.4

HCM 6th TWSC
7: Kennicott Avenue & Northerly Access Easement

03/11/2021

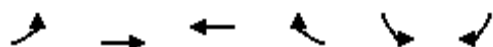
Intersection						
Int Delay, s/veh	0					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	0	0	0	10	34	0
Future Vol, veh/h	0	0	0	10	34	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	65	65	65	65	65	65
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	0	0	0	15	52	0
Major/Minor	Minor2	Major1		Major2		
Conflicting Flow All	67	52	52	0	-	0
Stage 1	52	-	-	-	-	-
Stage 2	15	-	-	-	-	-
Critical Hdwy	6.4	6.2	4.1	-	-	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	2.2	-	-	-
Pot Cap-1 Maneuver	943	1021	1567	-	-	-
Stage 1	976	-	-	-	-	-
Stage 2	1013	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	943	1021	1567	-	-	-
Mov Cap-2 Maneuver	943	-	-	-	-	-
Stage 1	976	-	-	-	-	-
Stage 2	1013	-	-	-	-	-
Approach	EB	NB		SB		
HCM Control Delay, s	0	0		0		
HCM LOS	A					
Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR	
Capacity (veh/h)	1567	-	-	-	-	
HCM Lane V/C Ratio	-	-	-	-	-	
HCM Control Delay (s)	0	-	0	-	-	
HCM Lane LOS	A	-	A	-	-	
HCM 95th %tile Q(veh)	0	-	-	-	-	

Intersection												
Int Delay, s/veh	2.1											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	0	3	5	1	1	9	9	11	0	36	1
Future Vol, veh/h	0	0	3	5	1	1	9	9	11	0	36	1
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	Stop	-	-	None	-	-	None	-	-	None
Storage Length	-	-	0	-	-	-	100	-	-	115	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	79	79	79	79	79	79	79	79	79	79	79	79
Heavy Vehicles, %	0	0	33	0	0	0	22	0	0	0	0	0
Mvmt Flow	0	0	4	6	1	1	11	11	14	0	46	1
Major/Minor	Minor2		Minor1		Major1		Major2					
Conflicting Flow All	-	-	47	87	87	18	47	0	0	25	0	0
Stage 1	-	-	-	40	40	-	-	-	-	-	-	-
Stage 2	-	-	-	47	47	-	-	-	-	-	-	-
Critical Hdwy	-	-	6.53	7.1	6.5	6.2	4.32	-	-	4.1	-	-
Critical Hdwy Stg 1	-	-	-	6.1	5.5	-	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	6.1	5.5	-	-	-	-	-	-	-
Follow-up Hdwy	-	-	3.597	3.5	4	3.3	2.398	-	-	2.2	-	-
Pot Cap-1 Maneuver	0	0	941	904	807	1066	1441	-	-	1603	-	-
Stage 1	0	0	-	980	866	-	-	-	-	-	-	-
Stage 2	0	0	-	972	860	-	-	-	-	-	-	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	-	-	941	895	801	1066	1441	-	-	1603	-	-
Mov Cap-2 Maneuver	-	-	-	895	801	-	-	-	-	-	-	-
Stage 1	-	-	-	972	859	-	-	-	-	-	-	-
Stage 2	-	-	-	968	860	-	-	-	-	-	-	-
Approach	EB		WB		NB		SB					
HCM Control Delay, s	8.8		9		2.3		0					
HCM LOS	A		A									
Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1WBLn1	SBL	SBT	SBR					
Capacity (veh/h)	1441	-	-	941	901	1603	-	-				
HCM Lane V/C Ratio	0.008	-	-	0.004	0.01	-	-	-				
HCM Control Delay (s)	7.5	-	-	8.8	9	0	-	-				
HCM Lane LOS	A	-	-	A	A	A	-	-				
HCM 95th %tile O(veh)	0	-	-	0	0	0	-	-				

Lanes, Volumes, Timings

1: Dundee Road & I-53 Southbound Ramps

03/11/2021

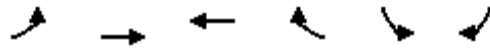


Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↑↑	↑↑	↑	↑	↑
Traffic Volume (vph)	0	837	1885	839	24	34
Future Volume (vph)	0	837	1885	839	24	34
Ideal Flow (vphpl)	1900	2000	2000	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12
Grade (%)		0%	0%		0%	
Storage Length (ft)	0			250	0	0
Storage Lanes	0			1	1	1
Taper Length (ft)	25				25	
Lane Util. Factor	1.00	0.95	0.95	1.00	1.00	1.00
Ped Bike Factor						
Frt				0.850		0.850
Flt Protected					0.950	
Satd. Flow (prot)	0	3762	3725	1583	1805	1615
Flt Permitted					0.950	
Satd. Flow (perm)	0	3762	3725	1583	1805	1615
Right Turn on Red				Yes		Yes
Satd. Flow (RTOR)				239		36
Link Speed (mph)		35	35		30	
Link Distance (ft)		684	1282		381	
Travel Time (s)		13.3	25.0		8.7	
Confl. Peds. (#/hr)						
Confl. Bikes (#/hr)						
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Growth Factor	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	0%	1%	2%	2%	0%	0%
Bus Blockages (#/hr)	0	0	0	0	0	0
Parking (#/hr)						
Mid-Block Traffic (%)		0%	0%		0%	
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	881	1984	883	25	36
Turn Type		NA	NA	Free	Prot	Perm
Protected Phases		2	6		4	
Permitted Phases				Free		4
Detector Phase		2	6		4	4
Switch Phase						
Minimum Initial (s)		15.0	15.0		4.0	4.0
Minimum Split (s)		21.0	21.0		10.0	10.0
Total Split (s)		118.0	118.0		22.0	22.0
Total Split (%)		84.3%	84.3%		15.7%	15.7%
Yellow Time (s)		4.5	4.5		4.5	4.5
All-Red Time (s)		1.5	1.5		1.5	1.5
Lost Time Adjust (s)		0.0	0.0		0.0	0.0
Total Lost Time (s)		6.0	6.0		6.0	6.0
Lead/Lag						
Lead-Lag Optimize?						
Recall Mode		C-Min	C-Min		None	None
Act Effect Green (s)		124.0	124.0	140.0	7.5	7.5
Actuated g/C Ratio		0.89	0.89	1.00	0.05	0.05

Lanes, Volumes, Timings

1: Dundee Road & I-53 Southbound Ramps

03/11/2021



Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
v/c Ratio		0.26	0.60	0.56	0.26	0.30
Control Delay		1.8	6.6	0.6	69.5	24.9
Queue Delay		0.0	0.0	0.0	0.0	0.0
Total Delay		1.8	6.6	0.6	69.5	24.9
LOS		A	A	A	E	C
Approach Delay		1.8	4.7		43.2	
Approach LOS		A	A		D	
Queue Length 50th (ft)		56	447	0	22	0
Queue Length 95th (ft)		81	m680	m0	54	36
Internal Link Dist (ft)		604	1202		301	
Turn Bay Length (ft)				250		
Base Capacity (vph)		3332	3299	1583	206	216
Starvation Cap Reductn		0	0	0	0	0
Spillback Cap Reductn		0	0	0	0	0
Storage Cap Reductn		0	0	0	0	0
Reduced v/c Ratio		0.26	0.60	0.56	0.12	0.17

Intersection Summary

Area Type: Other

Cycle Length: 140

Actuated Cycle Length: 140

Offset: 108 (77%), Referenced to phase 2:EBT and 6:WBT, Start of Green

Natural Cycle: 45

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.60

Intersection Signal Delay: 4.7

Intersection LOS: A

Intersection Capacity Utilization 62.8%

ICU Level of Service B

Analysis Period (min) 15

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

Splits and Phases: 1: Dundee Road & I-53 Southbound Ramps

→ Ø2 (R)	118 s	→ Ø4	22 s
← Ø6 (R)	118 s		

Lanes, Volumes, Timings

2: I-53 Northbound Ramps & Dundee Road

03/11/2021

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		 			 		 		 			
Traffic Volume (vph)	22	839	0	0	2110	44	614	0	804	0	0	0
Future Volume (vph)	22	839	0	0	2110	44	614	0	804	0	0	0
Ideal Flow (vphpl)	1900	2000	1900	1900	2000	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	255		0	0		340	400		0	0		0
Storage Lanes	1		0	0		1	1		2	0		0
Taper Length (ft)	150			25			185			25		
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	1.00	0.97	1.00	0.88	1.00	1.00	1.00
Ped Bike Factor												
Frt						0.850			0.850			
Flt Protected	0.950						0.950					
Satd. Flow (prot)	1805	3762	0	0	3762	1615	3467	0	2787	0	0	0
Flt Permitted	0.950						0.950					
Satd. Flow (perm)	1805	3762	0	0	3762	1615	3467	0	2787	0	0	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)						45			*262			
Link Speed (mph)		35			35			30			30	
Link Distance (ft)		1282			624			717			248	
Travel Time (s)		25.0			12.2			16.3			5.6	
Confl. Peds. (#/hr)												
Confl. Bikes (#/hr)												
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	0%	1%	0%	0%	1%	0%	1%	0%	2%	0%	0%	0%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Shared Lane Traffic (%)												
Lane Group Flow (vph)	23	865	0	0	2175	45	633	0	829	0	0	0
Turn Type	Prot	NA			NA	custom	Prot		Prot			
Protected Phases	5	2			6	3	3		3			
Permitted Phases						6						
Detector Phase	5	2			6	3	3		3			
Switch Phase												
Minimum Initial (s)	3.0	15.0			15.0	12.0	12.0		12.0			
Minimum Split (s)	7.5	21.0			21.0	18.0	18.0		18.0			
Total Split (s)	14.0	99.0			85.0	41.0	41.0		41.0			
Total Split (%)	10.0%	70.7%			60.7%	29.3%	29.3%		29.3%			
Yellow Time (s)	3.5	4.5			4.5	4.5	4.5		4.5			
All-Red Time (s)	1.0	1.5			1.5	1.5	1.5		1.5			
Lost Time Adjust (s)	0.0	0.0			0.0	0.0	0.0		0.0			
Total Lost Time (s)	4.5	6.0			6.0	6.0	6.0		6.0			
Lead/Lag	Lead				Lag							
Lead-Lag Optimize?	Yes				Yes							
Recall Mode	None	C-Min			C-Min	None	None		None			
Act Effect Green (s)	7.3	93.0			85.3	128.7	35.0		35.0			
Actuated g/C Ratio	0.05	0.66			0.61	0.92	0.25		0.25			

Lanes, Volumes, Timings

2: I-53 Northbound Ramps & Dundee Road

03/11/2021

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
v/c Ratio	0.24	0.35			0.95	0.03	0.73		0.93			
Control Delay	68.5	10.6			22.2	0.0	54.0		52.0			
Queue Delay	0.0	0.1			0.4	0.0	0.0		5.7			
Total Delay	68.5	10.7			22.6	0.0	54.0		57.7			
LOS	E	B			C	A	D		E			
Approach Delay		12.2			22.1			56.1				
Approach LOS		B			C			E				
Queue Length 50th (ft)	20	162			626	0	274		306			
Queue Length 95th (ft)	51	203			#1223	m0	344		#446			
Internal Link Dist (ft)		1202			544			637			168	
Turn Bay Length (ft)	255					340	400					
Base Capacity (vph)	122	2499			2292	1488	866		893			
Starvation Cap Reductn	0	0			15	0	0		0			
Spillback Cap Reductn	0	642			0	0	0		44			
Storage Cap Reductn	0	0			0	0	0		0			
Reduced v/c Ratio	0.19	0.47			0.96	0.03	0.73		0.98			

Intersection Summary

Area Type: Other

Cycle Length: 140

Actuated Cycle Length: 140

Offset: 56 (40%), Referenced to phase 2:EBT and 6:WBT, Start of Green

Natural Cycle: 100

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.95

Intersection Signal Delay: 31.1

Intersection LOS: C

Intersection Capacity Utilization 81.3%

ICU Level of Service D

Analysis Period (min) 15

* User Entered Value

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

Queue shown is maximum after two cycles.

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

Splits and Phases: 2: I-53 Northbound Ramps & Dundee Road

 Ø2 (R)	 Ø3
99 s	41 s
 Ø5	 Ø6 (R)
14 s	85 s

Lanes, Volumes, Timings

3: Wilke Road & Dundee Road

03/11/2021

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	130	1477	37	69	1773	93	81	55	75	98	64	299
Future Volume (vph)	130	1477	37	69	1773	93	81	55	75	98	64	299
Ideal Flow (vphpl)	1900	2000	1900	1900	2000	1900	1900	1900	1900	1900	2000	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	210		115	195		230	125		0	255		0
Storage Lanes	1		1	1		1	1		0	1		1
Taper Length (ft)	140			155			145			160		
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor												
Frt			0.850			0.850		0.914				0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1770	3762	1615	1770	3725	1583	1805	1737	0	1805	2000	1599
Flt Permitted	0.046			0.115			0.565			0.617		
Satd. Flow (perm)	86	3762	1615	214	3725	1583	1074	1737	0	1172	2000	1599
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			51			78			40			79
Link Speed (mph)		35			35			15			20	
Link Distance (ft)		624			1173			415			586	
Travel Time (s)		12.2			22.9			18.9			20.0	
Confl. Peds. (#/hr)												
Confl. Bikes (#/hr)												
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	2%	1%	0%	2%	2%	2%	0%	0%	0%	0%	0%	1%
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)	134	1523	38	71	1828	96	84	134	0	101	66	308
Turn Type	pm+pt	NA	pm+ov	pm+pt	NA	pm+ov	pm+pt	NA		pm+pt	NA	pm+ov
Protected Phases	5	2	3	1	6	7	3	8		7	4	5
Permitted Phases	2		2	6		6	8			4		4
Detector Phase	5	2	3	1	6	7	3	8		7	4	5
Switch Phase												
Minimum Initial (s)	3.0	15.0	3.0	3.0	15.0	3.0	3.0	6.0		3.0	6.0	3.0
Minimum Split (s)	6.5	21.0	6.5	6.5	21.0	6.5	6.5	12.0		6.5	12.0	6.5
Total Split (s)	20.0	88.0	15.0	14.0	82.0	14.0	15.0	24.0		14.0	23.0	20.0
Total Split (%)	14.3%	62.9%	10.7%	10.0%	58.6%	10.0%	10.7%	17.1%		10.0%	16.4%	14.3%
Yellow Time (s)	3.5	4.5	3.5	3.5	4.5	3.5	3.5	4.5		3.5	4.5	3.5
All-Red Time (s)	0.0	1.5	0.0	0.0	1.5	0.0	0.0	1.5		0.0	1.5	0.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Total Lost Time (s)	3.5	6.0	3.5	3.5	6.0	3.5	3.5	6.0		3.5	6.0	3.5
Lead/Lag	Lead	Lag	Lead	Lead	Lag	Lead	Lead	Lag		Lead	Lag	Lead
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes		Yes	Yes	Yes
Recall Mode	None	C-Min	None	None	C-Min	None	None	None		None	None	None
Act Effect Green (s)	103.1	92.1	111.9	93.8	84.3	100.3	27.1	13.6		23.8	13.2	29.7
Actuated g/C Ratio	0.74	0.66	0.80	0.67	0.60	0.72	0.19	0.10		0.17	0.09	0.21

21-030 - Industrial Development - Arlington Heights
No-Build Weekday Evening Peak Hour

Synchro 10 Report

Lanes, Volumes, Timings

3: Wilke Road & Dundee Road

03/11/2021

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
v/c Ratio	0.61	0.62	0.03	0.32	0.82	0.08	0.31	0.66		0.41	0.35	0.77
Control Delay	37.0	25.0	3.0	8.7	18.7	1.1	47.3	57.1		51.2	63.4	50.2
Queue Delay	0.0	0.4	0.0	0.0	5.1	0.0	0.0	0.0		0.0	0.0	0.2
Total Delay	37.0	25.4	3.0	8.7	23.8	1.1	47.3	57.1		51.2	63.4	50.4
LOS	D	C	A	A	C	A	D	E		D	E	D
Approach Delay		25.8			22.2			53.3			52.4	
Approach LOS		C			C			D			D	
Queue Length 50th (ft)	65	644	2	11	302	1	63	83		77	57	199
Queue Length 95th (ft)	m106	m755	m9	m26	467	m3	108	152		127	105	287
Internal Link Dist (ft)		544			1093			335			506	
Turn Bay Length (ft)	210		115	195		230	125			255		
Base Capacity (vph)	261	2475	1307	265	2242	1161	283	258		250	242	438
Starvation Cap Reductn	0	413	0	0	0	0	0	0		0	0	0
Spillback Cap Reductn	0	0	0	0	355	0	0	0		0	0	6
Storage Cap Reductn	0	0	0	0	0	0	0	0		0	0	0
Reduced v/c Ratio	0.51	0.74	0.03	0.27	0.97	0.08	0.30	0.52		0.40	0.27	0.71

Intersection Summary

Area Type: Other

Cycle Length: 140

Actuated Cycle Length: 140

Offset: 60 (43%), Referenced to phase 2:EBTL and 6:WBTL, Start of Green

Natural Cycle: 80

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.82

Intersection Signal Delay: 28.4

Intersection LOS: C

Intersection Capacity Utilization 83.3%

ICU Level of Service E

Analysis Period (min) 15

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

Splits and Phases: 3: Wilke Road & Dundee Road

 Ø1	 Ø2 (R)	 Ø3	 Ø4
14 s	88 s	15 s	23 s
 Ø5	 Ø6 (R)	 Ø7	 Ø8
20 s	82 s	14 s	24 s

Lanes, Volumes, Timings

4: Kennicott Avenue & Dundee Road

03/11/2021

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	125	1398	95	42	1476	14	279	47	189	41	32	139
Future Volume (vph)	125	1398	95	42	1476	14	279	47	189	41	32	139
Ideal Flow (vphpl)	1900	2000	1900	1900	1900	1900	1900	2000	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	150		150	150		0	0		145	130		0
Storage Lanes	1		1	1		0	1		1	1		0
Taper Length (ft)	155			155			25			185		
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor												
Frt			0.850		0.999				0.850		0.878	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1805	3762	1583	1805	3536	0	1787	2000	1599	1805	1659	0
Flt Permitted	0.056			0.092			0.240			0.724		
Satd. Flow (perm)	106	3762	1583	175	3536	0	451	2000	1599	1376	1659	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			78		1				123		128	
Link Speed (mph)		35			35			30			30	
Link Distance (ft)		1173			1261			389			941	
Travel Time (s)		22.9			24.6			8.8			21.4	
Confl. Peds. (#/hr)												
Confl. Bikes (#/hr)												
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	0%	1%	2%	0%	2%	0%	1%	0%	1%	0%	3%	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)	133	1487	101	45	1585	0	297	50	201	44	182	0
Turn Type	pm+pt	NA	pm+ov	pm+pt	NA		pm+pt	NA	pm+ov	pm+pt	NA	
Protected Phases	5	2	3	1	6		3	8	1	7	4	
Permitted Phases	2		2	6			8		8	4		
Detector Phase	5	2	3	1	6		3	8	1	7	4	
Switch Phase												
Minimum Initial (s)	3.0	15.0	3.0	3.0	15.0		3.0	8.0	3.0	3.0	8.0	
Minimum Split (s)	6.5	36.0	6.5	6.5	25.0		6.5	35.0	6.5	6.5	24.0	
Total Split (s)	15.0	77.0	25.0	14.0	76.0		25.0	35.0	14.0	14.0	24.0	
Total Split (%)	10.7%	55.0%	17.9%	10.0%	54.3%		17.9%	25.0%	10.0%	10.0%	17.1%	
Yellow Time (s)	3.5	4.5	3.5	3.5	4.5		3.5	4.5	3.5	3.5	4.5	
All-Red Time (s)	0.0	1.5	0.0	0.0	1.5		0.0	1.5	0.0	0.0	1.5	
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Total Lost Time (s)	3.5	6.0	3.5	3.5	6.0		3.5	6.0	3.5	3.5	6.0	
Lead/Lag	Lead	Lag	Lead	Lead	Lag		Lead	Lag	Lead	Lead	Lag	
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes		Yes	Yes	Yes	Yes	Yes	
Recall Mode	None	C-Min	None	None	C-Min		None	None	None	None	None	
Act Effect Green (s)	92.8	80.8	107.7	86.6	77.4		39.5	27.4	40.1	22.9	12.5	
Actuated g/C Ratio	0.66	0.58	0.77	0.62	0.55		0.28	0.20	0.29	0.16	0.09	

21-030 - Industrial Development - Arlington Heights
No-Build Weekday Evening Peak Hour

Synchro 10 Report

Lanes, Volumes, Timings

4: Kennicott Avenue & Dundee Road

03/11/2021

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
v/c Ratio	0.69	0.69	0.08	0.24	0.81		0.91	0.13	0.37	0.18	0.69	
Control Delay	63.6	7.8	0.2	12.5	30.8		74.6	47.5	17.2	37.7	33.5	
Queue Delay	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Total Delay	63.6	7.8	0.2	12.5	30.8		74.6	47.5	17.2	37.7	33.5	
LOS	E	A	A	B	C		E	D	B	D	C	
Approach Delay		11.7			30.3			51.1			34.3	
Approach LOS		B			C			D			C	
Queue Length 50th (ft)	77	113	0	13	602		233	39	55	30	47	
Queue Length 95th (ft)	152	145	m1	31	787		#343	75	119	58	126	
Internal Link Dist (ft)		1093			1181			309			861	
Turn Bay Length (ft)	150		150	150					145	130		
Base Capacity (vph)	214	2170	1242	235	1955		332	418	585	282	324	
Starvation Cap Reductn	0	0	0	0	0		0	0	0	0	0	
Spillback Cap Reductn	0	0	0	0	0		0	0	0	0	0	
Storage Cap Reductn	0	0	0	0	0		0	0	0	0	0	
Reduced v/c Ratio	0.62	0.69	0.08	0.19	0.81		0.89	0.12	0.34	0.16	0.56	

Intersection Summary

Area Type: Other

Cycle Length: 140

Actuated Cycle Length: 140

Offset: 66 (47%), Referenced to phase 2:EBTL and 6:WBTL, Start of Green

Natural Cycle: 95

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.91

Intersection Signal Delay: 25.5

Intersection LOS: C

Intersection Capacity Utilization 90.5%

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.

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

Splits and Phases: 4: Kennicott Avenue & Dundee Road

			
Ø1	Ø2 (R)	Ø3	Ø4
14 s	77 s	25 s	24 s
			
Ø5	Ø6 (R)	Ø7	Ø8
15 s	76 s	14 s	35 s

Lanes, Volumes, Timings
5: Wilke Road & Lake Cook Road

03/11/2021

						
Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	 			 		
Traffic Volume (vph)	1372	75	52	1885	135	63
Future Volume (vph)	1372	75	52	1885	135	63
Ideal Flow (vphpl)	1900	1900	1900	2000	1900	1900
Lane Width (ft)	12	12	12	12	12	12
Grade (%)	0%			0%	0%	
Storage Length (ft)		0	200		0	0
Storage Lanes		0	1		1	1
Taper Length (ft)			175		25	
Lane Util. Factor	0.95	0.95	1.00	0.95	1.00	1.00
Ped Bike Factor						
Frt	0.992					0.850
Flt Protected			0.950		0.950	
Satd. Flow (prot)	3511	0	1805	3725	1805	1568
Flt Permitted			0.138		0.950	
Satd. Flow (perm)	3511	0	262	3725	1805	1568
Right Turn on Red		Yes				Yes
Satd. Flow (RTOR)	9					59
Link Speed (mph)	45			45	35	
Link Distance (ft)	1328			1272	2044	
Travel Time (s)	20.1			19.3	39.8	
Confl. Peds. (#/hr)						
Confl. Bikes (#/hr)						
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98
Growth Factor	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	2%	2%	0%	2%	0%	3%
Bus Blockages (#/hr)	0	0	0	0	0	0
Parking (#/hr)						
Mid-Block Traffic (%)	0%			0%	0%	
Shared Lane Traffic (%)						
Lane Group Flow (vph)	1477	0	53	1923	138	64
Turn Type	NA		pm+pt	NA	Prot	pm+ov
Protected Phases	2		1	6	8	1
Permitted Phases			6			8
Detector Phase	2		1	6	8	1
Switch Phase						
Minimum Initial (s)	15.0		3.0	15.0	8.0	3.0
Minimum Split (s)	21.5		6.0	21.5	14.0	6.0
Total Split (s)	90.0		20.0	110.0	20.0	20.0
Total Split (%)	69.2%		15.4%	84.6%	15.4%	15.4%
Yellow Time (s)	4.5		3.0	4.5	4.5	3.0
All-Red Time (s)	2.0		0.0	2.0	1.5	0.0
Lost Time Adjust (s)	0.0		0.0	0.0	0.0	0.0
Total Lost Time (s)	6.5		3.0	6.5	6.0	3.0
Lead/Lag	Lag		Lead			Lead
Lead-Lag Optimize?	Yes		Yes			Yes
Recall Mode	None		None	None	None	None
Act Effect Green (s)	96.1		107.0	103.5	13.4	25.5
Actuated g/C Ratio	0.74		0.83	0.80	0.10	0.20

Lanes, Volumes, Timings
5: Wilke Road & Lake Cook Road

03/11/2021

	→	↘	↙	←	↖	↗
Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
v/c Ratio	0.57		0.18	0.65	0.74	0.18
Control Delay	8.8		3.5	6.6	79.8	13.2
Queue Delay	0.0		0.0	0.0	0.0	0.0
Total Delay	8.8		3.5	6.6	79.8	13.2
LOS	A		A	A	E	B
Approach Delay	8.8			6.6	58.7	
Approach LOS	A			A	E	
Queue Length 50th (ft)	273		6	298	114	3
Queue Length 95th (ft)	334		13	350	#208	43
Internal Link Dist (ft)	1248			1192	1964	
Turn Bay Length (ft)			200			
Base Capacity (vph)	2610		419	2980	195	483
Starvation Cap Reductn	0		0	0	0	0
Spillback Cap Reductn	0		0	0	0	0
Storage Cap Reductn	0		0	0	0	0
Reduced v/c Ratio	0.57		0.13	0.65	0.71	0.13

Intersection Summary

Area Type: Other

Cycle Length: 130

Actuated Cycle Length: 129.4

Natural Cycle: 60

Control Type: Actuated-Uncoordinated

Maximum v/c Ratio: 0.74

Intersection Signal Delay: 10.4

Intersection LOS: B

Intersection Capacity Utilization 67.4%

ICU Level of Service C

Analysis Period (min) 15

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

Queue shown is maximum after two cycles.

Splits and Phases: 5: Wilke Road & Lake Cook Road



HCM 6th AWSC
6: Wilke Road & Nichols Road

03/11/2021

Intersection	
Intersection Delay, s/veh	9
Intersection LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	9	16	56	23	17	5	102	162	25	5	59	7
Future Vol, veh/h	9	16	56	23	17	5	102	162	25	5	59	7
Peak Hour Factor	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89
Heavy Vehicles, %	0	0	0	0	0	0	0	1	0	0	3	0
Mvmt Flow	10	18	63	26	19	6	115	182	28	6	66	8
Number of Lanes	0	1	0	0	1	0	0	2	0	0	2	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	2	2
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	2	2	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	2	2	1	1
HCM Control Delay	8.1	8.4	9.5	8.2
HCM LOS	A	A	A	A

Lane	NBLn1	NBLn2	EBLn1	WBLn1	SBLn1	SBLn2
Vol Left, %	56%	0%	11%	51%	14%	0%
Vol Thru, %	44%	76%	20%	38%	86%	81%
Vol Right, %	0%	24%	69%	11%	0%	19%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	183	106	81	45	35	37
LT Vol	102	0	9	23	5	0
Through Vol	81	81	16	17	30	30
RT Vol	0	25	56	5	0	7
Lane Flow Rate	206	119	91	51	39	41
Geometry Grp	7	7	2	2	7	7
Degree of Util (X)	0.296	0.157	0.114	0.07	0.056	0.058
Departure Headway (Hd)	5.187	4.758	4.517	4.993	5.215	5.058
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes
Cap	693	754	794	717	686	707
Service Time	2.916	2.488	2.544	3.024	2.95	2.793
HCM Lane V/C Ratio	0.297	0.158	0.115	0.071	0.057	0.058
HCM Control Delay	10.1	8.4	8.1	8.4	8.3	8.1
HCM Lane LOS	B	A	A	A	A	A
HCM 95th-tile Q	1.2	0.6	0.4	0.2	0.2	0.2

HCM 6th TWSC
7: Kennicott Avenue & Northerly Access Easement

03/11/2021

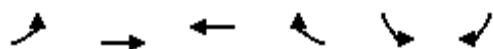
Intersection						
Int Delay, s/veh	0.5					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	3	2	1	56	43	0
Future Vol, veh/h	3	2	1	56	43	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	80	80	80	80	80	80
Heavy Vehicles, %	0	50	100	0	2	0
Mvmt Flow	4	3	1	70	54	0
Major/Minor	Minor2	Major1		Major2		
Conflicting Flow All	126	54	54	0	-	0
Stage 1	54	-	-	-	-	-
Stage 2	72	-	-	-	-	-
Critical Hdwy	6.4	6.7	5.1	-	-	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	3.75	3.1	-	-	-
Pot Cap-1 Maneuver	874	893	1101	-	-	-
Stage 1	974	-	-	-	-	-
Stage 2	956	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	873	893	1101	-	-	-
Mov Cap-2 Maneuver	873	-	-	-	-	-
Stage 1	973	-	-	-	-	-
Stage 2	956	-	-	-	-	-
Approach	EB	NB		SB		
HCM Control Delay, s	9.1	0.1		0		
HCM LOS	A					
Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR	
Capacity (veh/h)	1101	-	881	-	-	
HCM Lane V/C Ratio	0.001	-	0.007	-	-	
HCM Control Delay (s)	8.3	0	9.1	-	-	
HCM Lane LOS	A	A	A	-	-	
HCM 95th %tile Q(veh)	0	-	0	-	-	

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	2	1	8	7	0	0	3	59	11	0	43	2
Future Vol, veh/h	2	1	8	7	0	0	3	59	11	0	43	2
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	Stop	-	-	None	-	-	None	-	-	None
Storage Length	-	-	0	-	-	-	100	-	-	115	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	94	94	94	94	94	94	94	94	94	94	94	94
Heavy Vehicles, %	50	0	0	0	0	0	0	0	0	0	2	50
Mvmt Flow	2	1	9	7	0	0	3	63	12	0	46	2
Major/Minor	Minor2		Minor1		Major1		Major2					
Conflicting Flow All	122	128	47	123	123	69	48	0	0	75	0	0
Stage 1	47	47	-	75	75	-	-	-	-	-	-	-
Stage 2	75	81	-	48	48	-	-	-	-	-	-	-
Critical Hdwy	7.6	6.5	6.2	7.1	6.5	6.2	4.1	-	-	4.1	-	-
Critical Hdwy Stg 1	6.6	5.5	-	6.1	5.5	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.6	5.5	-	6.1	5.5	-	-	-	-	-	-	-
Follow-up Hdwy	3.95	4	3.3	3.5	4	3.3	2.2	-	-	2.2	-	-
Pot Cap-1 Maneuver	753	766	1028	856	771	1000	1572	-	-	1537	-	-
Stage 1	858	860	-	939	836	-	-	-	-	-	-	-
Stage 2	827	832	-	971	859	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	752	764	1028	847	769	1000	1572	-	-	1537	-	-
Mov Cap-2 Maneuver	752	764	-	847	769	-	-	-	-	-	-	-
Stage 1	856	860	-	937	834	-	-	-	-	-	-	-
Stage 2	825	830	-	962	859	-	-	-	-	-	-	-
Approach	EB		WB		NB		SB					
HCM Control Delay, s	8.5		9.3		0.3		0					
HCM LOS	A		A									
Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1WBLn1	SBL	SBT	SBR					
Capacity (veh/h)	1572	-	-	1028	847	1537	-	-				
HCM Lane V/C Ratio	0.002	-	-	0.008	0.009	-	-	-				
HCM Control Delay (s)	7.3	-	-	8.5	9.3	0	-	-				
HCM Lane LOS	A	-	-	A	A	A	-	-				
HCM 95th %tile O(veh)	0	-	-	0	0	0	-	-				

Lanes, Volumes, Timings

1: Dundee Road & I-53 Southbound Ramps

04/06/2021

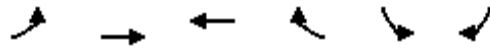


Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↑↑	↑↑	↑	↑	↑
Traffic Volume (vph)	0	1209	619	675	53	24
Future Volume (vph)	0	1209	619	675	53	24
Ideal Flow (vphpl)	1900	2000	2000	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12
Grade (%)		0%	0%		0%	
Storage Length (ft)	0			250	0	0
Storage Lanes	0			1	1	1
Taper Length (ft)	25				25	
Lane Util. Factor	1.00	0.95	0.95	1.00	1.00	1.00
Ped Bike Factor						
Frt				0.850		0.850
Flt Protected					0.950	
Satd. Flow (prot)	0	3725	3551	1495	1805	1553
Flt Permitted					0.950	
Satd. Flow (perm)	0	3725	3551	1495	1805	1553
Right Turn on Red				Yes		Yes
Satd. Flow (RTOR)				587		25
Link Speed (mph)		35	35		30	
Link Distance (ft)		684	1282		381	
Travel Time (s)		13.3	25.0		8.7	
Confl. Peds. (#/hr)						
Confl. Bikes (#/hr)						
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96
Growth Factor	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	0%	2%	7%	8%	0%	4%
Bus Blockages (#/hr)	0	0	0	0	0	0
Parking (#/hr)						
Mid-Block Traffic (%)		0%	0%		0%	
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	1259	645	703	55	25
Turn Type		NA	NA	Free	Prot	Perm
Protected Phases		2	6		4	
Permitted Phases				Free		4
Detector Phase		2	6		4	4
Switch Phase						
Minimum Initial (s)		15.0	15.0		4.0	4.0
Minimum Split (s)		21.0	21.0		10.0	10.0
Total Split (s)		116.0	116.0		24.0	24.0
Total Split (%)		82.9%	82.9%		17.1%	17.1%
Yellow Time (s)		4.5	4.5		4.5	4.5
All-Red Time (s)		1.5	1.5		1.5	1.5
Lost Time Adjust (s)		0.0	0.0		0.0	0.0
Total Lost Time (s)		6.0	6.0		6.0	6.0
Lead/Lag						
Lead-Lag Optimize?						
Recall Mode		C-Min	C-Min		None	None
Act Effect Green (s)		122.0	122.0	140.0	9.6	9.6
Actuated g/C Ratio		0.87	0.87	1.00	0.07	0.07

Lanes, Volumes, Timings

1: Dundee Road & I-53 Southbound Ramps

04/06/2021



Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
v/c Ratio		0.39	0.21	0.47	0.44	0.19
Control Delay		2.8	4.3	5.8	73.0	23.7
Queue Delay		0.0	0.0	0.0	0.0	0.0
Total Delay		2.8	4.3	5.8	73.0	23.7
LOS		A	A	A	E	C
Approach Delay		2.8	5.1		57.6	
Approach LOS		A	A		E	
Queue Length 50th (ft)		108	177	81	49	0
Queue Length 95th (ft)		158	97	311	93	30
Internal Link Dist (ft)		604	1202		301	
Turn Bay Length (ft)				250		
Base Capacity (vph)		3245	3093	1495	232	221
Starvation Cap Reductn		0	0	0	0	0
Spillback Cap Reductn		0	0	0	0	0
Storage Cap Reductn		0	0	0	0	0
Reduced v/c Ratio		0.39	0.21	0.47	0.24	0.11

Intersection Summary

Area Type: Other

Cycle Length: 140

Actuated Cycle Length: 140

Offset: 111 (79%), Referenced to phase 2:EBT and 6:WBT, Start of Green

Natural Cycle: 40

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.47

Intersection Signal Delay: 5.6

Intersection LOS: A

Intersection Capacity Utilization 45.1%

ICU Level of Service A

Analysis Period (min) 15

Splits and Phases: 1: Dundee Road & I-53 Southbound Ramps

→ Ø2 (R)		Ø4
116 s		24 s
← Ø6 (R)		
116 s		

Lanes, Volumes, Timings

2: I-53 Northbound Ramps & Dundee Road

04/06/2021

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	14	1247	0	0	1143	45	151	0	1019	0	0	0
Future Volume (vph)	14	1247	0	0	1143	45	151	0	1019	0	0	0
Ideal Flow (vphpl)	1900	2000	1900	1900	2000	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	255		0	0		340	400		0	0		0
Storage Lanes	1		0	0		1	1		2	0		0
Taper Length (ft)	150			25			185			25		
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	1.00	0.97	1.00	0.88	1.00	1.00	1.00
Ped Bike Factor												
Frt						0.850			0.850			
Flt Protected	0.950						0.950					
Satd. Flow (prot)	1805	3725	0	0	3619	1509	3099	0	2733	0	0	0
Flt Permitted	0.950						0.950					
Satd. Flow (perm)	1805	3725	0	0	3619	1509	3099	0	2733	0	0	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)						46			*44			
Link Speed (mph)		35			35			30			30	
Link Distance (ft)		1282			624			717			248	
Travel Time (s)		25.0			12.2			16.3			5.6	
Confl. Peds. (#/hr)												
Confl. Bikes (#/hr)												
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	0%	2%	0%	0%	5%	7%	13%	0%	4%	0%	0%	0%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Shared Lane Traffic (%)												
Lane Group Flow (vph)	14	1272	0	0	1166	46	154	0	1040	0	0	0
Turn Type	Prot	NA			NA	custom	Prot		Prot			
Protected Phases	5	2			6	3	3		3			
Permitted Phases						6						
Detector Phase	5	2			6	3	3		3			
Switch Phase												
Minimum Initial (s)	3.0	15.0			15.0	12.0	12.0		12.0			
Minimum Split (s)	7.5	21.0			21.0	18.0	18.0		18.0			
Total Split (s)	13.0	69.0			56.0	71.0	71.0		71.0			
Total Split (%)	9.3%	49.3%			40.0%	50.7%	50.7%		50.7%			
Yellow Time (s)	3.5	4.5			4.5	4.5	4.5		4.5			
All-Red Time (s)	1.0	1.5			1.5	1.5	1.5		1.5			
Lost Time Adjust (s)	0.0	0.0			0.0	0.0	0.0		0.0			
Total Lost Time (s)	4.5	6.0			6.0	6.0	6.0		6.0			
Lead/Lag	Lead				Lag							
Lead-Lag Optimize?	Yes				Yes							
Recall Mode	None	C-Min			C-Min	None	None		None			
Act Effect Green (s)	6.7	64.7			59.8	132.7	63.3		63.3			
Actuated g/C Ratio	0.05	0.46			0.43	0.95	0.45		0.45			

Lanes, Volumes, Timings 2: I-53 Northbound Ramps & Dundee Road

04/06/2021

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
v/c Ratio	0.16	0.74			0.75	0.03	0.11		0.83			
Control Delay	67.1	39.6			28.0	0.2	21.9		38.5			
Queue Delay	0.0	1.1			0.1	0.0	0.0		0.1			
Total Delay	67.1	40.6			28.1	0.2	21.9		38.5			
LOS	E	D			C	A	C		D			
Approach Delay		40.9			27.1			36.4				
Approach LOS		D			C			D				
Queue Length 50th (ft)	12	557			361	0	40		436			
Queue Length 95th (ft)	m33	659			#537	0	61		540			
Internal Link Dist (ft)		1202			544			637			168	
Turn Bay Length (ft)	255					340	400					
Base Capacity (vph)	109	1722			1545	1432	1438		1292			
Starvation Cap Reductn	0	0			31	0	0		0			
Spillback Cap Reductn	0	220			0	0	0		8			
Storage Cap Reductn	0	0			0	0	0		0			
Reduced v/c Ratio	0.13	0.85			0.77	0.03	0.11		0.81			

Intersection Summary

Area Type: Other

Cycle Length: 140

Actuated Cycle Length: 140

Offset: 69 (49%), Referenced to phase 2:EBT and 6:WBT, Start of Green

Natural Cycle: 80

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.83

Intersection Signal Delay: 34.9

Intersection LOS: C

Intersection Capacity Utilization 78.4%

ICU Level of Service D

Analysis Period (min) 15

* User Entered Value

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

Queue shown is maximum after two cycles.

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

Splits and Phases: 2: I-53 Northbound Ramps & Dundee Road

 Ø2 (R)	 Ø3
69 s	71 s
 Ø5	 Ø6 (R)
13 s	56 s

Lanes, Volumes, Timings

3: Wilke Road & Dundee Road

04/06/2021

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	253	1952	60	22	979	66	13	48	87	83	45	195
Future Volume (vph)	253	1952	60	22	979	66	13	48	87	83	45	195
Ideal Flow (vphpl)	1900	2000	1900	1900	2000	1900	1900	1900	1900	1900	2000	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	210		115	195		230	125		0	255		0
Storage Lanes	1		1	1		1	1		0	1		1
Taper Length (ft)	140			155			145			160		
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor												
Frt			0.850			0.850		0.903				0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1787	3689	1615	1805	3585	1583	1805	1692	0	1752	1961	1524
Flt Permitted	0.205			0.048			0.726			0.350		
Satd. Flow (perm)	386	3689	1615	91	3585	1583	1379	1692	0	646	1961	1524
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			51			78			54			191
Link Speed (mph)		35			35			15				20
Link Distance (ft)		624			1173			415				586
Travel Time (s)		12.2			22.9			18.9				20.0
Confl. Peds. (#/hr)												
Confl. Bikes (#/hr)												
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	1%	3%	0%	0%	6%	2%	0%	4%	0%	3%	2%	6%
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)	269	2077	64	23	1041	70	14	144	0	88	48	207
Turn Type	pm+pt	NA	pm+ov	pm+pt	NA	pm+ov	pm+pt	NA		pm+pt	NA	pm+ov
Protected Phases	5	2	3	1	6	7	3	8		7	4	5
Permitted Phases	2		2	6		6	8			4		4
Detector Phase	5	2	3	1	6	7	3	8		7	4	5
Switch Phase												
Minimum Initial (s)	3.0	15.0	3.0	3.0	15.0	3.0	3.0	6.0		3.0	6.0	3.0
Minimum Split (s)	6.5	21.0	6.5	6.5	21.0	6.5	6.5	25.0		6.5	12.0	6.5
Total Split (s)	22.0	86.0	14.0	14.0	78.0	15.0	14.0	25.0		15.0	26.0	22.0
Total Split (%)	15.7%	61.4%	10.0%	10.0%	55.7%	10.7%	10.0%	17.9%		10.7%	18.6%	15.7%
Yellow Time (s)	3.5	4.5	3.5	3.5	4.5	3.5	3.5	4.5		3.5	4.5	3.5
All-Red Time (s)	0.0	1.5	0.0	0.0	1.5	0.0	0.0	1.5		0.0	1.5	0.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Total Lost Time (s)	3.5	6.0	3.5	3.5	6.0	3.5	3.5	6.0		3.5	6.0	3.5
Lead/Lag	Lead	Lag	Lead	Lead	Lag	Lead	Lead	Lag		Lead	Lag	Lead
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes		Yes	Yes	Yes
Recall Mode	None	C-Min	None	None	C-Min	None	None	None		None	None	None
Act Effect Green (s)	103.0	94.6	107.0	92.8	84.2	100.6	22.6	13.6		30.0	19.4	38.1
Actuated g/C Ratio	0.74	0.68	0.76	0.66	0.60	0.72	0.16	0.10		0.21	0.14	0.27

Lanes, Volumes, Timings

3: Wilke Road & Dundee Road

04/06/2021

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
v/c Ratio	0.65	0.83	0.05	0.17	0.48	0.06	0.06	0.68		0.40	0.18	0.37
Control Delay	14.1	17.7	2.6	12.5	14.6	0.8	41.2	52.9		49.3	54.1	8.0
Queue Delay	0.0	0.5	0.0	0.0	0.1	0.0	0.0	0.0		0.1	0.0	0.0
Total Delay	14.1	18.2	2.6	12.5	14.6	0.8	41.2	52.9		49.3	54.1	8.0
LOS	B	B	A	B	B	A	D	D		D	D	A
Approach Delay		17.4			13.7			51.9			25.0	
Approach LOS		B			B			D			C	
Queue Length 50th (ft)	67	482	6	5	221	0	10	80		66	39	11
Queue Length 95th (ft)	m119	#1010	m8	m18	276	7	28	150		110	77	67
Internal Link Dist (ft)		544			1093			335			506	
Turn Bay Length (ft)	210		115	195		230	125			255		
Base Capacity (vph)	468	2491	1291	191	2157	1171	294	276		229	291	609
Starvation Cap Reductn	0	129	0	0	0	0	0	0		0	0	0
Spillback Cap Reductn	0	8	0	0	180	0	0	1		4	0	9
Storage Cap Reductn	0	0	0	0	0	0	0	0		0	0	0
Reduced v/c Ratio	0.57	0.88	0.05	0.12	0.53	0.06	0.05	0.52		0.39	0.16	0.34

Intersection Summary

Area Type: Other

Cycle Length: 140

Actuated Cycle Length: 140

Offset: 55 (39%), Referenced to phase 2:EBTL and 6:WBTL, Start of Green

Natural Cycle: 100

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.83

Intersection Signal Delay: 18.3

Intersection LOS: B

Intersection Capacity Utilization 83.7%

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.

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

Splits and Phases: 3: Wilke Road & Dundee Road

					
Ø1	Ø2 (R)		Ø3	Ø4	
14 s	86 s		14 s	26 s	
					
Ø5	Ø6 (R)		Ø7	Ø8	
22 s	78 s		15 s	25 s	

Lanes, Volumes, Timings

4: Kennicott Avenue & Dundee Road

04/06/2021

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	94	1819	201	96	877	17	76	45	57	28	26	89
Future Volume (vph)	94	1819	201	96	877	17	76	45	57	28	26	89
Ideal Flow (vphpl)	1900	2000	1900	1900	1900	1900	1900	2000	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	150		150	150		0	0		145	130		0
Storage Lanes	1		1	1		0	1		1	1		0
Taper Length (ft)	155			155			25			185		
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor												
Frt			0.850		0.997				0.850		0.884	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1703	3689	1583	1805	3424	0	1671	1905	1553	1805	1615	0
Flt Permitted	0.259			0.044			0.377			0.726		
Satd. Flow (perm)	464	3689	1583	84	3424	0	663	1905	1553	1379	1615	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			134		2				61		96	
Link Speed (mph)		35			35			30			30	
Link Distance (ft)		1173			1261			389			941	
Travel Time (s)		22.9			24.6			8.8			21.4	
Confl. Peds. (#/hr)												
Confl. Bikes (#/hr)												
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	6%	3%	2%	0%	5%	12%	8%	5%	4%	0%	4%	4%
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)	101	1956	216	103	961	0	82	48	61	30	124	0
Turn Type	pm+pt	NA	pm+ov	pm+pt	NA		pm+pt	NA	pm+ov	pm+pt	NA	
Protected Phases	5	2	3	1	6		3	8	1	7	4	
Permitted Phases	2		2	6			8		8	4		
Detector Phase	5	2	3	1	6		3	8	1	7	4	
Switch Phase												
Minimum Initial (s)	3.0	15.0	3.0	3.0	15.0		3.0	8.0	3.0	3.0	8.0	
Minimum Split (s)	6.5	36.0	6.5	6.5	25.0		6.5	21.0	6.5	6.5	21.0	
Total Split (s)	15.0	90.0	14.0	15.0	90.0		14.0	21.0	15.0	14.0	21.0	
Total Split (%)	10.7%	64.3%	10.0%	10.7%	64.3%		10.0%	15.0%	10.7%	10.0%	15.0%	
Yellow Time (s)	3.5	4.5	3.5	3.5	4.5		3.5	4.5	3.5	3.5	4.5	
All-Red Time (s)	0.0	1.5	0.0	0.0	1.5		0.0	1.5	0.0	0.0	1.5	
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Total Lost Time (s)	3.5	6.0	3.5	3.5	6.0		3.5	6.0	3.5	3.5	6.0	
Lead/Lag	Lead	Lag	Lead	Lead	Lag		Lead	Lag	Lead	Lead	Lag	
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes		Yes	Yes	Yes	Yes	Yes	
Recall Mode	None	C-Min	None	None	C-Min		None	None	None	None	None	
Act Effect Green (s)	102.0	91.8	107.4	104.3	93.0		25.5	16.7	31.5	20.6	10.7	
Actuated g/C Ratio	0.73	0.66	0.77	0.74	0.66		0.18	0.12	0.22	0.15	0.08	

Lanes, Volumes, Timings

4: Kennicott Avenue & Dundee Road

04/06/2021

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
v/c Ratio	0.25	0.81	0.17	0.60	0.42		0.43	0.21	0.15	0.13	0.59	
Control Delay	2.4	11.3	0.5	37.1	12.2		54.6	59.3	10.8	46.5	29.4	
Queue Delay	0.0	0.4	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Total Delay	2.4	11.7	0.5	37.1	12.2		54.6	59.3	10.8	46.5	29.4	
LOS	A	B	A	D	B		D	E	B	D	C	
Approach Delay		10.2			14.6			41.8			32.8	
Approach LOS		B			B			D			C	
Queue Length 50th (ft)	5	433	0	36	200		64	41	0	23	25	
Queue Length 95th (ft)	m8	709	m2	102	283		111	82	38	50	89	
Internal Link Dist (ft)		1093			1181			309			861	
Turn Bay Length (ft)	150		150	150					145	130		
Base Capacity (vph)	450	2418	1254	205	2274		196	233	425	265	258	
Starvation Cap Reductn	0	119	0	0	0		0	0	0	0	0	
Spillback Cap Reductn	0	0	0	0	0		0	0	0	0	0	
Storage Cap Reductn	0	0	0	0	0		0	0	0	0	0	
Reduced v/c Ratio	0.22	0.85	0.17	0.50	0.42		0.42	0.21	0.14	0.11	0.48	

Intersection Summary

Area Type: Other

Cycle Length: 140

Actuated Cycle Length: 140

Offset: 73 (52%), Referenced to phase 2:EBTL and 6:WBTL, Start of Green

Natural Cycle: 90

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.81

Intersection Signal Delay: 14.1

Intersection LOS: B

Intersection Capacity Utilization 77.3%

ICU Level of Service D

Analysis Period (min) 15

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

Splits and Phases: 4: Kennicott Avenue & Dundee Road

			
Ø1	Ø2 (R)	Ø3	Ø4
15 s	90 s	14 s	21 s
			
Ø5	Ø6 (R)	Ø7	Ø8
15 s	90 s	14 s	21 s

Lanes, Volumes, Timings
5: Wilke Road & Lake Cook Road

04/06/2021

						
Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	2065	92	54	1645	104	85
Future Volume (vph)	2065	92	54	1645	104	85
Ideal Flow (vphpl)	1900	1900	1900	2000	1900	1900
Lane Width (ft)	12	12	12	12	12	12
Grade (%)	0%			0%	0%	
Storage Length (ft)		0	200		0	0
Storage Lanes		0	1		1	1
Taper Length (ft)			175		25	
Lane Util. Factor	0.95	0.95	1.00	0.95	1.00	1.00
Ped Bike Factor						
Frt	0.994					0.850
Flt Protected			0.950		0.950	
Satd. Flow (prot)	3482	0	1687	3654	1543	1524
Flt Permitted			0.041		0.950	
Satd. Flow (perm)	3482	0	73	3654	1543	1524
Right Turn on Red		Yes				Yes
Satd. Flow (RTOR)	7					9
Link Speed (mph)	45			45	35	
Link Distance (ft)	1328			1272	2044	
Travel Time (s)	20.1			19.3	39.8	
Confl. Peds. (#/hr)						
Confl. Bikes (#/hr)						
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Growth Factor	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	3%	4%	7%	4%	17%	6%
Bus Blockages (#/hr)	0	0	0	0	0	0
Parking (#/hr)						
Mid-Block Traffic (%)	0%			0%	0%	
Shared Lane Traffic (%)						
Lane Group Flow (vph)	2345	0	59	1788	113	92
Turn Type	NA		pm+pt	NA	Prot	pm+ov
Protected Phases	2		1	6	8	1
Permitted Phases			6			8
Detector Phase	2		1	6	8	1
Switch Phase						
Minimum Initial (s)	15.0		3.0	15.0	8.0	3.0
Minimum Split (s)	21.5		6.0	21.5	14.0	6.0
Total Split (s)	90.0		20.0	110.0	20.0	20.0
Total Split (%)	69.2%		15.4%	84.6%	15.4%	15.4%
Yellow Time (s)	4.5		3.0	4.5	4.5	3.0
All-Red Time (s)	2.0		0.0	2.0	1.5	0.0
Lost Time Adjust (s)	0.0		0.0	0.0	0.0	0.0
Total Lost Time (s)	6.5		3.0	6.5	6.0	3.0
Lead/Lag	Lag		Lead			Lead
Lead-Lag Optimize?	Yes		Yes			Yes
Recall Mode	None		None	None	None	None
Act Effect Green (s)	93.9		107.0	103.5	13.1	25.8
Actuated g/C Ratio	0.73		0.83	0.80	0.10	0.20

Lanes, Volumes, Timings

5: Wilke Road & Lake Cook Road

04/06/2021



Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
v/c Ratio	0.93		0.41	0.61	0.72	0.30
Control Delay	23.1		19.3	6.2	81.5	41.9
Queue Delay	0.0		0.0	0.0	0.0	0.0
Total Delay	23.1		19.3	6.2	81.5	41.9
LOS	C		B	A	F	D
Approach Delay	23.1			6.6	63.7	
Approach LOS	C			A	E	
Queue Length 50th (ft)	781		7	262	93	60
Queue Length 95th (ft)	#1084		44	310	#178	109
Internal Link Dist (ft)	1248			1192	1964	
Turn Bay Length (ft)			200			
Base Capacity (vph)	2532		273	2928	167	433
Starvation Cap Reductn	0		0	0	0	0
Spillback Cap Reductn	0		0	0	0	0
Storage Cap Reductn	0		0	0	0	0
Reduced v/c Ratio	0.93		0.22	0.61	0.68	0.21

Intersection Summary

Area Type: Other

Cycle Length: 130

Actuated Cycle Length: 129.2

Natural Cycle: 90

Control Type: Actuated-Uncoordinated

Maximum v/c Ratio: 0.93

Intersection Signal Delay: 18.1

Intersection LOS: B

Intersection Capacity Utilization 77.1%

ICU Level of Service D

Analysis Period (min) 15

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

Queue shown is maximum after two cycles.

Splits and Phases: 5: Wilke Road & Lake Cook Road



HCM 6th AWSC
6: Wilke Road & Nichols Road

04/06/2021

Intersection	
Intersection Delay, s/veh	8.7
Intersection LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	23	20	100	26	2	11	31	35	9	5	155	7
Future Vol, veh/h	23	20	100	26	2	11	31	35	9	5	155	7
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Heavy Vehicles, %	39	0	9	0	0	9	3	20	11	0	1	14
Mvmt Flow	25	22	108	28	2	12	33	38	10	5	167	8
Number of Lanes	0	1	0	0	1	0	0	2	0	0	2	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	2	2
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	2	2	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	2	2	1	1
HCM Control Delay	9.2	8	8.6	8.5
HCM LOS	A	A	A	A

Lane	NBLn1	NBLn2	EBLn1	WBLn1	SBLn1	SBLn2
Vol Left, %	64%	0%	16%	67%	6%	0%
Vol Thru, %	36%	66%	14%	5%	94%	92%
Vol Right, %	0%	34%	70%	28%	0%	8%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	49	27	143	39	83	85
LT Vol	31	0	23	26	5	0
Through Vol	18	18	20	2	78	78
RT Vol	0	9	100	11	0	7
Lane Flow Rate	52	28	154	42	89	91
Geometry Grp	7	7	2	2	7	7
Degree of Util (X)	0.08	0.042	0.208	0.055	0.126	0.127
Departure Headway (Hd)	5.537	5.267	4.866	4.703	5.102	5.03
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes
Cap	647	679	738	760	703	712
Service Time	3.274	3.004	2.895	2.739	2.834	2.762
HCM Lane V/C Ratio	0.08	0.041	0.209	0.055	0.127	0.128
HCM Control Delay	8.8	8.2	9.2	8	8.6	8.5
HCM Lane LOS	A	A	A	A	A	A
HCM 95th-tile Q	0.3	0.1	0.8	0.2	0.4	0.4

HCM 6th TWSC
7: Kennicott Avenue & Northerly Access Easement

05/20/2021

Intersection						
Int Delay, s/veh	0					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	0	0	0	10	34	0
Future Vol, veh/h	0	0	0	10	34	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	65	65	65	65	65	65
Heavy Vehicles, %	0	60	50	0	0	0
Mvmt Flow	0	0	0	15	52	0
Major/Minor	Minor2	Major1		Major2		
Conflicting Flow All	67	52	52	0	-	0
Stage 1	52	-	-	-	-	-
Stage 2	15	-	-	-	-	-
Critical Hdwy	6.4	6.8	4.6	-	-	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	3.84	2.65	-	-	-
Pot Cap-1 Maneuver	943	874	1296	-	-	-
Stage 1	976	-	-	-	-	-
Stage 2	1013	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	943	874	1296	-	-	-
Mov Cap-2 Maneuver	943	-	-	-	-	-
Stage 1	976	-	-	-	-	-
Stage 2	1013	-	-	-	-	-
Approach	EB	NB		SB		
HCM Control Delay, s	0	0		0		
HCM LOS	A					
Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR	
Capacity (veh/h)	1296	-	-	-	-	
HCM Lane V/C Ratio	-	-	-	-	-	
HCM Control Delay (s)	0	-	0	-	-	
HCM Lane LOS	A	-	A	-	-	
HCM 95th %tile Q(veh)	0	-	-	-	-	

Intersection												
Int Delay, s/veh	4.1											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	0	11	5	1	1	41	9	11	0	36	1
Future Vol, veh/h	0	0	11	5	1	1	41	9	11	0	36	1
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	Stop	-	-	None	-	-	None	-	-	None
Storage Length	-	-	0	-	-	-	100	-	-	115	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	79	79	79	79	79	79	79	79	79	79	79	79
Heavy Vehicles, %	0	0	33	0	0	0	22	30	0	0	7	0
Mvmt Flow	0	0	14	6	1	1	52	11	14	0	46	1
Major/Minor	Minor2		Minor1		Major1		Major2					
Conflicting Flow All	-	-	47	169	169	18	47	0	0	25	0	0
Stage 1	-	-	-	122	122	-	-	-	-	-	-	-
Stage 2	-	-	-	47	47	-	-	-	-	-	-	-
Critical Hdwy	-	-	6.53	7.1	6.5	6.2	4.32	-	-	4.1	-	-
Critical Hdwy Stg 1	-	-	-	6.1	5.5	-	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	6.1	5.5	-	-	-	-	-	-	-
Follow-up Hdwy	-	-	3.597	3.5	4	3.3	2.398	-	-	2.2	-	-
Pot Cap-1 Maneuver	0	0	941	799	728	1066	1441	-	-	1603	-	-
Stage 1	0	0	-	887	799	-	-	-	-	-	-	-
Stage 2	0	0	-	972	860	-	-	-	-	-	-	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	-	-	941	765	702	1066	1441	-	-	1603	-	-
Mov Cap-2 Maneuver	-	-	-	765	702	-	-	-	-	-	-	-
Stage 1	-	-	-	855	770	-	-	-	-	-	-	-
Stage 2	-	-	-	958	860	-	-	-	-	-	-	-
Approach	EB		WB		NB		SB					
HCM Control Delay, s	8.9		9.6		5.1		0					
HCM LOS	A		A									
Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1WBLn1	SBL	SBT	SBR					
Capacity (veh/h)	1441	-	-	941	787	1603	-	-				
HCM Lane V/C Ratio	0.036	-	-	0.015	0.011	-	-	-				
HCM Control Delay (s)	7.6	-	-	8.9	9.6	0	-	-				
HCM Lane LOS	A	-	-	A	A	A	-	-				
HCM 95th %tile Q(veh)	0.1	-	-	0	0	0	-	-				

HCM 6th TWSC
9: Wilke Road & Northerly Access Drive

04/06/2021

Intersection						
Int Delay, s/veh	0.2					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	3	2	347	11	7	321
Future Vol, veh/h	3	2	347	11	7	321
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	33	0	2	55	0	2
Mvmt Flow	3	2	365	12	7	338
Major/Minor	Minor1	Major1		Major2		
Conflicting Flow All	554	189	0	0	377	0
Stage 1	371	-	-	-	-	-
Stage 2	183	-	-	-	-	-
Critical Hdwy	7.46	6.9	-	-	4.1	-
Critical Hdwy Stg 1	6.46	-	-	-	-	-
Critical Hdwy Stg 2	6.46	-	-	-	-	-
Follow-up Hdwy	3.83	3.3	-	-	2.2	-
Pot Cap-1 Maneuver	395	827	-	-	1193	-
Stage 1	585	-	-	-	-	-
Stage 2	745	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	392	827	-	-	1193	-
Mov Cap-2 Maneuver	392	-	-	-	-	-
Stage 1	585	-	-	-	-	-
Stage 2	740	-	-	-	-	-
Approach	WB	NB		SB		
HCM Control Delay, s	12.3	0		0.2		
HCM LOS	B					
Minor Lane/Major Mvmt	NBT	NBRWBLn1	SBL	SBT		
Capacity (veh/h)	-	-	496	1193	-	
HCM Lane V/C Ratio	-	-	0.011	0.006	-	
HCM Control Delay (s)	-	-	12.3	8	0	
HCM Lane LOS	-	-	B	A	A	
HCM 95th %tile Q(veh)	-	-	0	0	-	

HCM 6th TWSC
10: Wilke Road & Southerly Access Drive

04/06/2021

Intersection

Int Delay, s/veh 0.2

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	5	2	356	11	6	318
Future Vol, veh/h	5	2	356	11	6	318
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	0	0	2	0	0	4
Mvmt Flow	5	2	375	12	6	335

Major/Minor	Minor1	Major1	Major2
Conflicting Flow All	561	194	0
Stage 1	381	-	-
Stage 2	180	-	-
Critical Hdwy	6.8	6.9	-
Critical Hdwy Stg 1	5.8	-	-
Critical Hdwy Stg 2	5.8	-	-
Follow-up Hdwy	3.5	3.3	-
Pot Cap-1 Maneuver	462	821	-
Stage 1	666	-	-
Stage 2	839	-	-
Platoon blocked, %		-	-
Mov Cap-1 Maneuver	459	821	-
Mov Cap-2 Maneuver	459	-	-
Stage 1	666	-	-
Stage 2	834	-	-

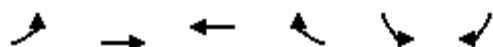
Approach	WB	NB	SB
HCM Control Delay, s	12	0	0.1
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBRWBLn1	SBL	SBT
Capacity (veh/h)	-	-	525	1183
HCM Lane V/C Ratio	-	-	0.014	0.005
HCM Control Delay (s)	-	-	12	8.1
HCM Lane LOS	-	-	B	A
HCM 95th %tile Q(veh)	-	-	0	0

Lanes, Volumes, Timings

1: Dundee Road & I-53 Southbound Ramps

04/06/2021

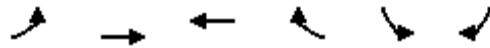


Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↑↑	↑↑	↑	↑	↑
Traffic Volume (vph)	0	843	1901	860	25	34
Future Volume (vph)	0	843	1901	860	25	34
Ideal Flow (vphpl)	1900	2000	2000	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12
Grade (%)		0%	0%		0%	
Storage Length (ft)	0			250	0	0
Storage Lanes	0			1	1	1
Taper Length (ft)	25				25	
Lane Util. Factor	1.00	0.95	0.95	1.00	1.00	1.00
Ped Bike Factor						
Frt				0.850		0.850
Flt Protected					0.950	
Satd. Flow (prot)	0	3762	3725	1568	1805	1615
Flt Permitted					0.950	
Satd. Flow (perm)	0	3762	3725	1568	1805	1615
Right Turn on Red				Yes		Yes
Satd. Flow (RTOR)				243		36
Link Speed (mph)		35	35		30	
Link Distance (ft)		684	1282		381	
Travel Time (s)		13.3	25.0		8.7	
Confl. Peds. (#/hr)						
Confl. Bikes (#/hr)						
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Growth Factor	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	0%	1%	2%	3%	0%	0%
Bus Blockages (#/hr)	0	0	0	0	0	0
Parking (#/hr)						
Mid-Block Traffic (%)		0%	0%		0%	
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	887	2001	905	26	36
Turn Type		NA	NA	Free	Prot	Perm
Protected Phases		2	6		4	
Permitted Phases				Free		4
Detector Phase		2	6		4	4
Switch Phase						
Minimum Initial (s)		15.0	15.0		4.0	4.0
Minimum Split (s)		21.0	21.0		10.0	10.0
Total Split (s)		118.0	118.0		22.0	22.0
Total Split (%)		84.3%	84.3%		15.7%	15.7%
Yellow Time (s)		4.5	4.5		4.5	4.5
All-Red Time (s)		1.5	1.5		1.5	1.5
Lost Time Adjust (s)		0.0	0.0		0.0	0.0
Total Lost Time (s)		6.0	6.0		6.0	6.0
Lead/Lag						
Lead-Lag Optimize?						
Recall Mode		C-Min	C-Min		None	None
Act Effect Green (s)		124.0	124.0	140.0	7.5	7.5
Actuated g/C Ratio		0.89	0.89	1.00	0.05	0.05

Lanes, Volumes, Timings

1: Dundee Road & I-53 Southbound Ramps

04/06/2021



Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
v/c Ratio		0.27	0.61	0.58	0.27	0.30
Control Delay		1.9	6.8	0.7	69.8	24.9
Queue Delay		0.0	0.0	0.0	0.0	0.0
Total Delay		1.9	6.8	0.7	69.8	24.9
LOS		A	A	A	E	C
Approach Delay		1.9	4.9		43.7	
Approach LOS		A	A		D	
Queue Length 50th (ft)		56	461	0	23	0
Queue Length 95th (ft)		81	m674	m0	55	36
Internal Link Dist (ft)		604	1202		301	
Turn Bay Length (ft)				250		
Base Capacity (vph)		3331	3298	1568	206	216
Starvation Cap Reductn		0	0	0	0	0
Spillback Cap Reductn		0	0	0	0	0
Storage Cap Reductn		0	0	0	0	0
Reduced v/c Ratio		0.27	0.61	0.58	0.13	0.17

Intersection Summary

Area Type: Other

Cycle Length: 140

Actuated Cycle Length: 140

Offset: 108 (77%), Referenced to phase 2:EBT and 6:WBT, Start of Green

Natural Cycle: 50

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.61

Intersection Signal Delay: 4.8

Intersection LOS: A

Intersection Capacity Utilization 63.3%

ICU Level of Service B

Analysis Period (min) 15

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

Splits and Phases: 1: Dundee Road & I-53 Southbound Ramps

→ Ø2 (R)	118 s	→ Ø4	22 s
← Ø6 (R)	118 s		

Lanes, Volumes, Timings

2: I-53 Northbound Ramps & Dundee Road

04/06/2021

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		 			 		 		 			
Traffic Volume (vph)	22	846	0	0	2147	48	614	0	813	0	0	0
Future Volume (vph)	22	846	0	0	2147	48	614	0	813	0	0	0
Ideal Flow (vphpl)	1900	2000	1900	1900	2000	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	255		0	0		340	400		0	0		0
Storage Lanes	1		0	0		1	1		2	0		0
Taper Length (ft)	150			25			185			25		
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	1.00	0.97	1.00	0.88	1.00	1.00	1.00
Ped Bike Factor												
Frt						0.850			0.850			
Flt Protected	0.950						0.950					
Satd. Flow (prot)	1805	3762	0	0	3762	1615	3467	0	2787	0	0	0
Flt Permitted	0.950						0.950					
Satd. Flow (perm)	1805	3762	0	0	3762	1615	3467	0	2787	0	0	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)						49			*258			
Link Speed (mph)		35			35			30			30	
Link Distance (ft)		1282			624			717			248	
Travel Time (s)		25.0			12.2			16.3			5.6	
Confl. Peds. (#/hr)												
Confl. Bikes (#/hr)												
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	0%	1%	0%	0%	1%	0%	1%	0%	2%	0%	0%	0%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Shared Lane Traffic (%)												
Lane Group Flow (vph)	23	872	0	0	2213	49	633	0	838	0	0	0
Turn Type	Prot	NA			NA	custom	Prot		Prot			
Protected Phases	5	2			6	3	3		3			
Permitted Phases						6						
Detector Phase	5	2			6	3	3		3			
Switch Phase												
Minimum Initial (s)	3.0	15.0			15.0	12.0	12.0		12.0			
Minimum Split (s)	7.5	21.0			21.0	18.0	18.0		18.0			
Total Split (s)	14.0	99.0			85.0	41.0	41.0		41.0			
Total Split (%)	10.0%	70.7%			60.7%	29.3%	29.3%		29.3%			
Yellow Time (s)	3.5	4.5			4.5	4.5	4.5		4.5			
All-Red Time (s)	1.0	1.5			1.5	1.5	1.5		1.5			
Lost Time Adjust (s)	0.0	0.0			0.0	0.0	0.0		0.0			
Total Lost Time (s)	4.5	6.0			6.0	6.0	6.0		6.0			
Lead/Lag	Lead				Lag							
Lead-Lag Optimize?	Yes				Yes							
Recall Mode	None	C-Min			C-Min	None	None		None			
Act Effect Green (s)	7.3	93.0			85.3	128.7	35.0		35.0			
Actuated g/C Ratio	0.05	0.66			0.61	0.92	0.25		0.25			

Lanes, Volumes, Timings

2: I-53 Northbound Ramps & Dundee Road

04/06/2021

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
v/c Ratio	0.24	0.35			0.97	0.03	0.73		0.94			
Control Delay	68.6	10.6			24.2	0.0	54.0		54.4			
Queue Delay	0.0	0.1			0.7	0.0	0.0		7.3			
Total Delay	68.6	10.7			24.9	0.0	54.0		61.7			
LOS	E	B			C	A	D		E			
Approach Delay		12.2			24.4			58.4				
Approach LOS		B			C			E				
Queue Length 50th (ft)	20	164			~804	0	274		315			
Queue Length 95th (ft)	51	206			#1262	m0	344		#459			
Internal Link Dist (ft)		1202			544			637			168	
Turn Bay Length (ft)	255					340	400					
Base Capacity (vph)	122	2499			2292	1489	866		890			
Starvation Cap Reductn	0	0			16	0	0		0			
Spillback Cap Reductn	0	650			0	0	0		44			
Storage Cap Reductn	0	0			0	0	0		0			
Reduced v/c Ratio	0.19	0.47			0.97	0.03	0.73		0.99			

Intersection Summary

Area Type: Other

Cycle Length: 140

Actuated Cycle Length: 140

Offset: 56 (40%), Referenced to phase 2:EBT and 6:WBT, Start of Green

Natural Cycle: 100

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.97

Intersection Signal Delay: 32.8

Intersection LOS: C

Intersection Capacity Utilization 82.2%

ICU Level of Service E

Analysis Period (min) 15

* User Entered Value

~ Volume exceeds capacity, queue is theoretically infinite.

Queue shown is maximum after two cycles.

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

Queue shown is maximum after two cycles.

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

Splits and Phases: 2: I-53 Northbound Ramps & Dundee Road

 Ø2 (R)	 Ø3
99 s	41 s
 Ø5	 Ø6 (R)
14 s	85 s

Lanes, Volumes, Timings

3: Wilke Road & Dundee Road

04/06/2021

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	137	1486	37	69	1797	94	81	55	75	104	64	316
Future Volume (vph)	137	1486	37	69	1797	94	81	55	75	104	64	316
Ideal Flow (vphpl)	1900	2000	1900	1900	2000	1900	1900	1900	1900	1900	2000	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	210		115	195		230	125		0	255		0
Storage Lanes	1		1	1		1	1		0	1		1
Taper Length (ft)	140			155			145			160		
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor												
Frt			0.850			0.850		0.914				0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1770	3762	1615	1770	3725	1583	1805	1737	0	1805	2000	1583
Flt Permitted	0.047			0.114			0.569			0.610		
Satd. Flow (perm)	88	3762	1615	212	3725	1583	1081	1737	0	1159	2000	1583
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			51			78		40				79
Link Speed (mph)		35			35			15			20	
Link Distance (ft)		624			1173			415			586	
Travel Time (s)		12.2			22.9			18.9			20.0	
Confl. Peds. (#/hr)												
Confl. Bikes (#/hr)												
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	2%	1%	0%	2%	2%	2%	0%	0%	0%	0%	0%	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)	141	1532	38	71	1853	97	84	134	0	107	66	326
Turn Type	pm+pt	NA	pm+ov	pm+pt	NA	pm+ov	pm+pt	NA		pm+pt	NA	pm+ov
Protected Phases	5	2	3	1	6	7	3	8		7	4	5
Permitted Phases	2		2	6		6	8			4		4
Detector Phase	5	2	3	1	6	7	3	8		7	4	5
Switch Phase												
Minimum Initial (s)	3.0	15.0	3.0	3.0	15.0	3.0	3.0	6.0		3.0	6.0	3.0
Minimum Split (s)	6.5	21.0	6.5	6.5	21.0	6.5	6.5	42.0		6.5	12.0	6.5
Total Split (s)	20.0	88.0	15.0	14.0	82.0	14.0	15.0	24.0		14.0	23.0	20.0
Total Split (%)	14.3%	62.9%	10.7%	10.0%	58.6%	10.0%	10.7%	17.1%		10.0%	16.4%	14.3%
Yellow Time (s)	3.5	4.5	3.5	3.5	4.5	3.5	3.5	4.5		3.5	4.5	3.5
All-Red Time (s)	0.0	1.5	0.0	0.0	1.5	0.0	0.0	1.5		0.0	1.5	0.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Total Lost Time (s)	3.5	6.0	3.5	3.5	6.0	3.5	3.5	6.0		3.5	6.0	3.5
Lead/Lag	Lead	Lag	Lead	Lead	Lag	Lead	Lead	Lag		Lead	Lag	Lead
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes		Yes	Yes	Yes
Recall Mode	None	C-Min	None	None	C-Min	None	None	None		None	None	None
Act Effect Green (s)	103.1	92.1	111.9	93.1	83.5	99.6	27.1	13.6		23.9	13.2	30.4
Actuated g/C Ratio	0.74	0.66	0.80	0.66	0.60	0.71	0.19	0.10		0.17	0.09	0.22

Lanes, Volumes, Timings

3: Wilke Road & Dundee Road

04/06/2021

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
v/c Ratio	0.61	0.62	0.03	0.32	0.83	0.08	0.30	0.66		0.44	0.35	0.80
Control Delay	37.4	25.1	3.0	8.7	19.8	1.2	47.3	57.1		52.0	63.4	53.6
Queue Delay	0.0	0.4	0.0	0.0	12.8	0.0	0.0	0.0		0.0	0.0	0.3
Total Delay	37.4	25.5	3.0	8.7	32.6	1.2	47.3	57.1		52.0	63.4	53.9
LOS	D	C	A	A	C	A	D	E		D	E	D
Approach Delay		26.0			30.2			53.3			54.7	
Approach LOS		C			C			D			D	
Queue Length 50th (ft)	69	650	2	12	335	1	63	83		82	57	218
Queue Length 95th (ft)	m111	m753	m9	m25	502	m3	108	152		133	105	311
Internal Link Dist (ft)		544			1093			335			506	
Turn Bay Length (ft)	210		115	195		230	125			255		
Base Capacity (vph)	266	2473	1307	262	2221	1153	284	258		249	242	437
Starvation Cap Reductn	0	411	0	0	0	0	0	0		0	0	0
Spillback Cap Reductn	0	0	0	0	386	0	0	0		0	0	7
Storage Cap Reductn	0	0	0	0	0	0	0	0		0	0	0
Reduced v/c Ratio	0.53	0.74	0.03	0.27	1.01	0.08	0.30	0.52		0.43	0.27	0.76

Intersection Summary

Area Type: Other

Cycle Length: 140

Actuated Cycle Length: 140

Offset: 60 (43%), Referenced to phase 2:EBTL and 6:WBTL, Start of Green

Natural Cycle: 130

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.83

Intersection Signal Delay: 32.5

Intersection LOS: C

Intersection Capacity Utilization 84.7%

ICU Level of Service E

Analysis Period (min) 15

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

Splits and Phases: 3: Wilke Road & Dundee Road

 Ø1	 Ø2 (R)	 Ø3	 Ø4
14 s	88 s	15 s	23 s
 Ø5	 Ø6 (R)	 Ø7	 Ø8
20 s	82 s	14 s	24 s

Lanes, Volumes, Timings

4: Kennicott Avenue & Dundee Road

04/06/2021

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	134	1404	95	42	1477	17	279	48	189	48	35	163
Future Volume (vph)	134	1404	95	42	1477	17	279	48	189	48	35	163
Ideal Flow (vphpl)	1900	2000	1900	1900	1900	1900	1900	2000	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	150		150	150		0	0		145	130		0
Storage Lanes	1		1	1		0	1		1	1		0
Taper Length (ft)	155			155			25			185		
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor												
Frt			0.850		0.998				0.850		0.876	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1787	3762	1583	1805	3531	0	1787	2000	1599	1805	1656	0
Flt Permitted	0.051			0.087			0.225			0.724		
Satd. Flow (perm)	96	3762	1583	165	3531	0	423	2000	1599	1376	1656	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			78		1				118		138	
Link Speed (mph)		35			35			30			30	
Link Distance (ft)		1173			1261			389			941	
Travel Time (s)		22.9			24.6			8.8			21.4	
Confl. Peds. (#/hr)												
Confl. Bikes (#/hr)												
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	1%	1%	2%	0%	2%	6%	1%	0%	1%	0%	3%	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)	143	1494	101	45	1589	0	297	51	201	51	210	0
Turn Type	pm+pt	NA	pm+ov	pm+pt	NA		pm+pt	NA	pm+ov	pm+pt	NA	
Protected Phases	5	2	3	1	6		3	8	1	7	4	
Permitted Phases	2		2	6			8		8	4		
Detector Phase	5	2	3	1	6		3	8	1	7	4	
Switch Phase												
Minimum Initial (s)	3.0	15.0	3.0	3.0	15.0		3.0	8.0	3.0	3.0	8.0	
Minimum Split (s)	6.5	36.0	6.5	6.5	25.0		6.5	35.0	6.5	6.5	24.0	
Total Split (s)	15.0	77.0	25.0	14.0	76.0		25.0	35.0	14.0	14.0	24.0	
Total Split (%)	10.7%	55.0%	17.9%	10.0%	54.3%		17.9%	25.0%	10.0%	10.0%	17.1%	
Yellow Time (s)	3.5	4.5	3.5	3.5	4.5		3.5	4.5	3.5	3.5	4.5	
All-Red Time (s)	0.0	1.5	0.0	0.0	1.5		0.0	1.5	0.0	0.0	1.5	
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Total Lost Time (s)	3.5	6.0	3.5	3.5	6.0		3.5	6.0	3.5	3.5	6.0	
Lead/Lag	Lead	Lag	Lead	Lead	Lag		Lead	Lag	Lead	Lead	Lag	
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes		Yes	Yes	Yes	Yes	Yes	
Recall Mode	None	C-Min	None	None	C-Min		None	None	None	None	None	
Act Effect Green (s)	91.9	79.6	106.7	85.1	75.9		40.6	28.3	41.0	24.2	13.5	
Actuated g/C Ratio	0.66	0.57	0.76	0.61	0.54		0.29	0.20	0.29	0.17	0.10	

Lanes, Volumes, Timings

4: Kennicott Avenue & Dundee Road

04/06/2021

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
v/c Ratio	0.76	0.70	0.08	0.25	0.83		0.91	0.13	0.36	0.19	0.74	
Control Delay	72.9	8.3	0.2	13.2	32.6		73.1	46.9	17.8	37.3	37.4	
Queue Delay	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Total Delay	72.9	8.3	0.2	13.2	32.6		73.1	46.9	17.8	37.3	37.4	
LOS	E	A	A	B	C		E	D	B	D	D	
Approach Delay		13.2			32.0			50.4			37.4	
Approach LOS		B			C			D			D	
Queue Length 50th (ft)	92	116	0	14	637		229	39	57	34	63	
Queue Length 95th (ft)	#183	151	m1	31	793		#352	77	124	65	150	
Internal Link Dist (ft)		1093			1181			309			861	
Turn Bay Length (ft)	150		150	150					145	130		
Base Capacity (vph)	205	2138	1229	227	1914		331	421	591	292	333	
Starvation Cap Reductn	0	0	0	0	0		0	0	0	0	0	
Spillback Cap Reductn	0	0	0	0	0		0	0	0	0	0	
Storage Cap Reductn	0	0	0	0	0		0	0	0	0	0	
Reduced v/c Ratio	0.70	0.70	0.08	0.20	0.83		0.90	0.12	0.34	0.17	0.63	

Intersection Summary

Area Type: Other

Cycle Length: 140

Actuated Cycle Length: 140

Offset: 66 (47%), Referenced to phase 2:EBTL and 6:WBTL, Start of Green

Natural Cycle: 95

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.91

Intersection Signal Delay: 26.9

Intersection LOS: C

Intersection Capacity Utilization 92.8%

ICU Level of Service F

Analysis Period (min) 15

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

Queue shown is maximum after two cycles.

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

Splits and Phases: 4: Kennicott Avenue & Dundee Road

														
14 s	77 s					25 s			24 s					
														
15 s	76 s					14 s			35 s					

Lanes, Volumes, Timings
5: Wilke Road & Lake Cook Road

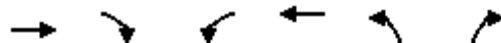
04/06/2021

						
Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	 			 		
Traffic Volume (vph)	1372	77	55	1885	141	71
Future Volume (vph)	1372	77	55	1885	141	71
Ideal Flow (vphpl)	1900	1900	1900	2000	1900	1900
Lane Width (ft)	12	12	12	12	12	12
Grade (%)	0%			0%	0%	
Storage Length (ft)		0	200		0	0
Storage Lanes		0	1		1	1
Taper Length (ft)			175		25	
Lane Util. Factor	0.95	0.95	1.00	0.95	1.00	1.00
Ped Bike Factor						
Frt	0.992					0.850
Flt Protected			0.950		0.950	
Satd. Flow (prot)	3511	0	1805	3725	1805	1568
Flt Permitted			0.135		0.950	
Satd. Flow (perm)	3511	0	256	3725	1805	1568
Right Turn on Red		Yes				Yes
Satd. Flow (RTOR)	9					59
Link Speed (mph)	45			45	35	
Link Distance (ft)	1328			1272	2044	
Travel Time (s)	20.1			19.3	39.8	
Confl. Peds. (#/hr)						
Confl. Bikes (#/hr)						
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98
Growth Factor	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	2%	2%	0%	2%	0%	3%
Bus Blockages (#/hr)	0	0	0	0	0	0
Parking (#/hr)						
Mid-Block Traffic (%)	0%			0%	0%	
Shared Lane Traffic (%)						
Lane Group Flow (vph)	1479	0	56	1923	144	72
Turn Type	NA		pm+pt	NA	Prot	pm+ov
Protected Phases	2		1	6	8	1
Permitted Phases			6			8
Detector Phase	2		1	6	8	1
Switch Phase						
Minimum Initial (s)	15.0		3.0	15.0	8.0	3.0
Minimum Split (s)	21.5		6.0	21.5	14.0	6.0
Total Split (s)	90.0		20.0	110.0	20.0	20.0
Total Split (%)	69.2%		15.4%	84.6%	15.4%	15.4%
Yellow Time (s)	4.5		3.0	4.5	4.5	3.0
All-Red Time (s)	2.0		0.0	2.0	1.5	0.0
Lost Time Adjust (s)	0.0		0.0	0.0	0.0	0.0
Total Lost Time (s)	6.5		3.0	6.5	6.0	3.0
Lead/Lag	Lag		Lead			Lead
Lead-Lag Optimize?	Yes		Yes			Yes
Recall Mode	None		None	None	None	None
Act Effect Green (s)	94.3		107.0	103.5	13.5	25.7
Actuated g/C Ratio	0.73		0.83	0.80	0.10	0.20

Lanes, Volumes, Timings

5: Wilke Road & Lake Cook Road

04/06/2021



Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
v/c Ratio	0.58		0.20	0.65	0.77	0.20
Control Delay	9.4		3.6	6.7	82.5	15.4
Queue Delay	0.0		0.0	0.0	0.0	0.0
Total Delay	9.4		3.6	6.7	82.5	15.4
LOS	A		A	A	F	B
Approach Delay	9.4			6.6	60.1	
Approach LOS	A			A	E	
Queue Length 50th (ft)	275		7	298	120	9
Queue Length 95th (ft)	337		14	350	#220	51
Internal Link Dist (ft)	1248			1192	1964	
Turn Bay Length (ft)			200			
Base Capacity (vph)	2560		415	2978	195	483
Starvation Cap Reductn	0		0	0	0	0
Spillback Cap Reductn	0		0	0	0	0
Storage Cap Reductn	0		0	0	0	0
Reduced v/c Ratio	0.58		0.13	0.65	0.74	0.15

Intersection Summary

Area Type: Other

Cycle Length: 130

Actuated Cycle Length: 129.5

Natural Cycle: 60

Control Type: Actuated-Uncoordinated

Maximum v/c Ratio: 0.77

Intersection Signal Delay: 10.9

Intersection LOS: B

Intersection Capacity Utilization 67.7%

ICU Level of Service C

Analysis Period (min) 15

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

Queue shown is maximum after two cycles.

Splits and Phases: 5: Wilke Road & Lake Cook Road



HCM 6th AWSC
6: Wilke Road & Nichols Road

04/06/2021

Intersection	
Intersection Delay, s/veh	9.1
Intersection LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	9	16	56	23	17	5	102	176	25	5	64	7
Future Vol, veh/h	9	16	56	23	17	5	102	176	25	5	64	7
Peak Hour Factor	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89
Heavy Vehicles, %	0	0	0	0	0	0	0	1	0	0	3	0
Mvmt Flow	10	18	63	26	19	6	115	198	28	6	72	8
Number of Lanes	0	1	0	0	1	0	0	2	0	0	2	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	2	2
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	2	2	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	2	2	1	1
HCM Control Delay	8.2	8.5	9.6	8.2
HCM LOS	A	A	A	A

Lane	NBLn1	NBLn2	EBLn1	WBLn1	SBLn1	SBLn2
Vol Left, %	54%	0%	11%	51%	14%	0%
Vol Thru, %	46%	78%	20%	38%	86%	82%
Vol Right, %	0%	22%	69%	11%	0%	18%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	190	113	81	45	37	39
LT Vol	102	0	9	23	5	0
Through Vol	88	88	16	17	32	32
RT Vol	0	25	56	5	0	7
Lane Flow Rate	213	127	91	51	42	44
Geometry Grp	7	7	2	2	7	7
Degree of Util (X)	0.308	0.169	0.115	0.071	0.06	0.062
Departure Headway (Hd)	5.186	4.778	4.56	5.037	5.229	5.086
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes
Cap	694	750	785	710	684	703
Service Time	2.916	2.508	2.592	3.073	2.967	2.824
HCM Lane V/C Ratio	0.307	0.169	0.116	0.072	0.061	0.063
HCM Control Delay	10.2	8.5	8.2	8.5	8.3	8.2
HCM Lane LOS	B	A	A	A	A	A
HCM 95th-tile Q	1.3	0.6	0.4	0.2	0.2	0.2

HCM 6th TWSC
7: Kennicott Avenue & Northerly Access Easement

05/20/2021

Intersection						
Int Delay, s/veh	0.5					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	3	2	1	56	43	0
Future Vol, veh/h	3	2	1	56	43	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	80	80	80	80	80	80
Heavy Vehicles, %	0	44	50	0	2	0
Mvmt Flow	4	3	1	70	54	0
Major/Minor	Minor2	Major1		Major2		
Conflicting Flow All	126	54	54	0	-	0
Stage 1	54	-	-	-	-	-
Stage 2	72	-	-	-	-	-
Critical Hdwy	6.4	6.64	4.6	-	-	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	3.696	2.65	-	-	-
Pot Cap-1 Maneuver	874	906	1293	-	-	-
Stage 1	974	-	-	-	-	-
Stage 2	956	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	873	906	1293	-	-	-
Mov Cap-2 Maneuver	873	-	-	-	-	-
Stage 1	973	-	-	-	-	-
Stage 2	956	-	-	-	-	-
Approach	EB	NB		SB		
HCM Control Delay, s	9.1	0.1		0		
HCM LOS	A					
Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR	
Capacity (veh/h)	1293	-	886	-	-	
HCM Lane V/C Ratio	0.001	-	0.007	-	-	
HCM Control Delay (s)	7.8	0	9.1	-	-	
HCM Lane LOS	A	A	A	-	-	
HCM 95th %tile Q(veh)	0	-	0	-	-	

Intersection												
Int Delay, s/veh	3.2											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	2	1	42	7	0	0	16	59	11	0	43	2
Future Vol, veh/h	2	1	42	7	0	0	16	59	11	0	43	2
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	Stop	-	-	None	-	-	None	-	-	None
Storage Length	-	-	0	-	-	-	100	-	-	115	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	94	94	94	94	94	94	94	94	94	94	94	94
Heavy Vehicles, %	50	0	0	0	0	0	0	5	0	0	13	50
Mvmt Flow	2	1	45	7	0	0	17	63	12	0	46	2
Major/Minor	Minor2		Minor1		Major1		Major2					
Conflicting Flow All	150	156	47	151	151	69	48	0	0	75	0	0
Stage 1	47	47	-	103	103	-	-	-	-	-	-	-
Stage 2	103	109	-	48	48	-	-	-	-	-	-	-
Critical Hdwy	7.6	6.5	6.2	7.1	6.5	6.2	4.1	-	-	4.1	-	-
Critical Hdwy Stg 1	6.6	5.5	-	6.1	5.5	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.6	5.5	-	6.1	5.5	-	-	-	-	-	-	-
Follow-up Hdwy	3.95	4	3.3	3.5	4	3.3	2.2	-	-	2.2	-	-
Pot Cap-1 Maneuver	720	740	1028	821	744	1000	1572	-	-	1537	-	-
Stage 1	858	860	-	908	814	-	-	-	-	-	-	-
Stage 2	798	809	-	971	859	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	714	732	1028	778	736	1000	1572	-	-	1537	-	-
Mov Cap-2 Maneuver	714	732	-	778	736	-	-	-	-	-	-	-
Stage 1	849	860	-	898	805	-	-	-	-	-	-	-
Stage 2	789	800	-	928	859	-	-	-	-	-	-	-
Approach	EB		WB		NB		SB					
HCM Control Delay, s	8.7		9.7		1.4		0					
HCM LOS	A		A									
Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1WBLn1	SBL	SBT	SBR					
Capacity (veh/h)	1572	-	-	1028	778	1537	-	-				
HCM Lane V/C Ratio	0.011	-	-	0.043	0.01	-	-	-				
HCM Control Delay (s)	7.3	-	-	8.7	9.7	0	-	-				
HCM Lane LOS	A	-	-	A	A	A	-	-				
HCM 95th %tile O(veh)	0	-	-	0.1	0	0	-	-				

HCM 6th TWSC
9: Wilke Road & Northerly Access Drive

04/06/2021

Intersection						
Int Delay, s/veh	0.4					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	11	7	285	4	3	463
Future Vol, veh/h	11	7	285	4	3	463
Conflicting Peds, #/hr	60	0	0	50	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	0	0	2	0	0	2
Mvmt Flow	12	7	300	4	3	487
Major/Minor	Minor1	Major1		Major2		
Conflicting Flow All	662	202	0	0	354	0
Stage 1	352	-	-	-	-	-
Stage 2	310	-	-	-	-	-
Critical Hdwy	6.8	6.9	-	-	4.1	-
Critical Hdwy Stg 1	5.8	-	-	-	-	-
Critical Hdwy Stg 2	5.8	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	-	-	2.2	-
Pot Cap-1 Maneuver	399	811	-	-	1216	-
Stage 1	689	-	-	-	-	-
Stage 2	723	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	357	772	-	-	1158	-
Mov Cap-2 Maneuver	357	-	-	-	-	-
Stage 1	656	-	-	-	-	-
Stage 2	679	-	-	-	-	-
Approach	WB	NB		SB		
HCM Control Delay, s	13.3	0		0.1		
HCM LOS	B					
Minor Lane/Major Mvmt	NBT	NBRWBLn1		SBL	SBT	
Capacity (veh/h)	-	-		451	1158	
HCM Lane V/C Ratio	-	-		0.042	0.003	
HCM Control Delay (s)	-	-		13.3	8.1	
HCM Lane LOS	-	-		B	A	
HCM 95th %tile Q(veh)	-	-		0.1	0	

HCM 6th TWSC
10: Wilke Road & Southerly Access Drive

04/06/2021

Intersection						
Int Delay, s/veh	0.3					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	12	7	282	4	2	472
Future Vol, veh/h	12	7	282	4	2	472
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	0	0	3	0	0	3
Mvmt Flow	13	7	297	4	2	497
Major/Minor	Minor1	Major1		Major2		
Conflicting Flow All	552	151	0	0	301	0
Stage 1	299	-	-	-	-	-
Stage 2	253	-	-	-	-	-
Critical Hdwy	6.8	6.9	-	-	4.1	-
Critical Hdwy Stg 1	5.8	-	-	-	-	-
Critical Hdwy Stg 2	5.8	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	-	-	2.2	-
Pot Cap-1 Maneuver	469	875	-	-	1272	-
Stage 1	732	-	-	-	-	-
Stage 2	772	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	468	875	-	-	1272	-
Mov Cap-2 Maneuver	468	-	-	-	-	-
Stage 1	732	-	-	-	-	-
Stage 2	770	-	-	-	-	-
Approach	WB	NB		SB		
HCM Control Delay, s	11.6	0		0		
HCM LOS	B					
Minor Lane/Major Mvmt	NBT	NBRWBLn1	SBL	SBT		
Capacity (veh/h)	-	-	565	1272	-	
HCM Lane V/C Ratio	-	-	0.035	0.002	-	
HCM Control Delay (s)	-	-	11.6	7.8	0	
HCM Lane LOS	-	-	B	A	A	
HCM 95th %tile Q(veh)	-	-	0.1	0	-	