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

9575 West Higgins Road, Suite 400 | Rosemont, Illinois 60018
p: 847-518-9990 | f: 847-518-9987

MEMORANDUM TO: David Larrance
NewHope Academy

FROM: Elise Purguette
Consultant

Luay R. Aboona, PE, PTOE
Principal

DATE: August 16, 2021

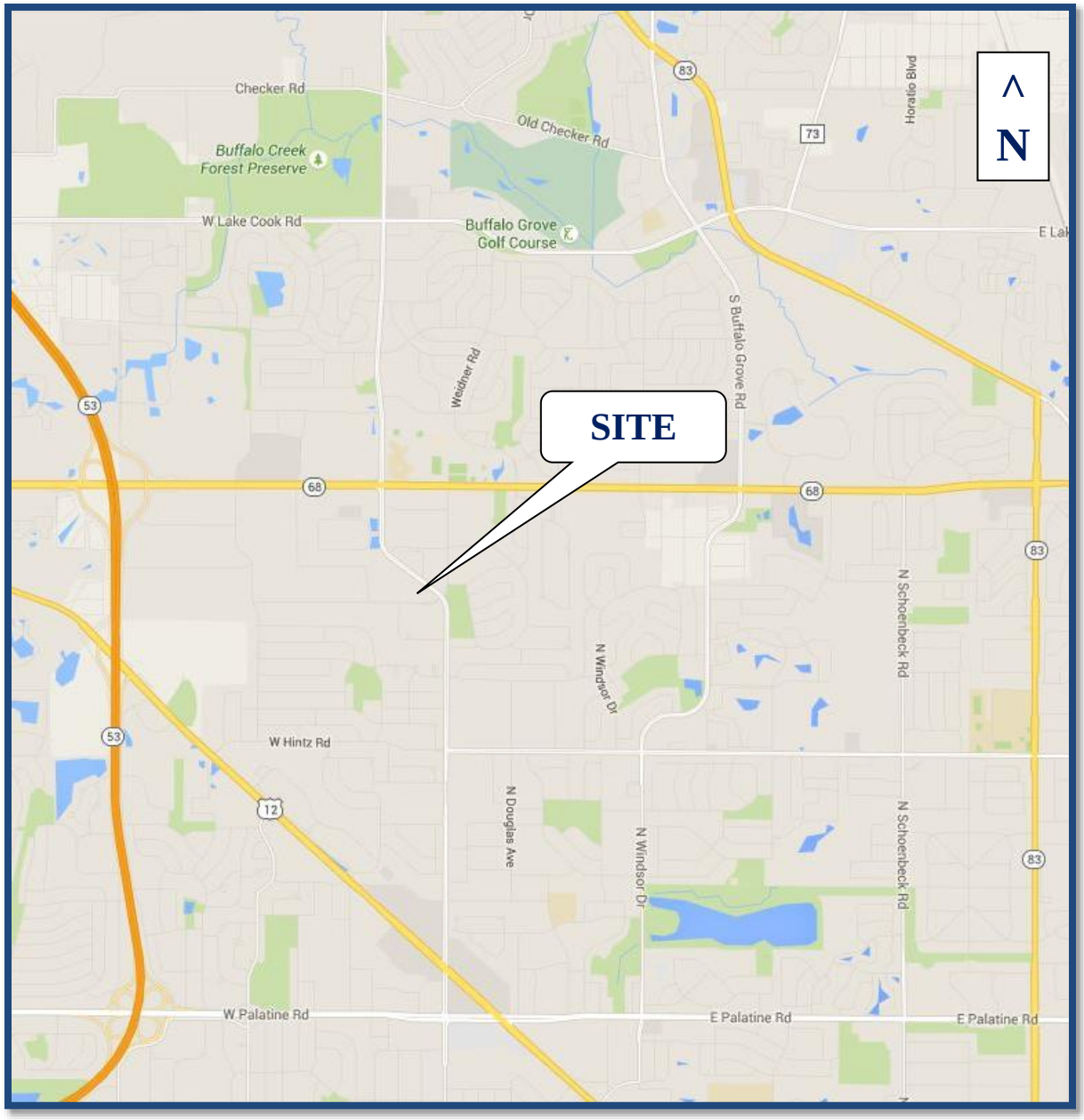
SUBJECT: Traffic and Parking Study
NewHope Academy Expansion
Arlington Heights, Illinois

This memorandum summarizes the methodologies, results and findings of a traffic impact study conducted by Kenig, Lindgren, O'Hara, Aboona, Inc. (KLOA, Inc.) for the proposed expansion of New Hope Academy located at 3250 Arlington Heights Road in Arlington Heights, Illinois. The site is located on the west side of Arlington Heights Road approximately 550 feet north of University Drive. **Figure 1** shows the location of the site in relation to the area roadway system. **Figure 2** shows an aerial view of the site as it relates to the surrounding area.

The NewHope Academy (NHA) is a free standing therapeutic day school serving the needs of students with emotional challenges. NHA serves students grades 6 through 12 with emotional disabilities, autism, learning disabilities, and other health impairments who are in need of an alternative school program which is supportive, therapeutic, and educational. As proposed, NHA will be expanded with an additional 9,600 square feet within the office building. Access to the building is to be provided via the two existing access drives off Arlington Heights Road.

The sections of this memorandum present the following:

- Existing roadway conditions including traffic volumes for the weekday morning and weekday midday peak hours
- A detailed description of the school and proposed operations
- Vehicle trip generation for the proposed school
- Directional distribution of school-generated traffic
- Future transportation conditions including access to and from the school
- Evaluation of the parking supply



Site Location **Figure 1**

Aerial View of Proposed Expansion **Figure 2**

Existing Conditions

Existing traffic and roadway conditions were documented based on field visits and traffic counts conducted by KLOA, Inc. The following provides a detailed description of the physical characteristics of the roadways including geometry and traffic control, adjacent land uses, and peak hour traffic flows along area roadways.

Site Location

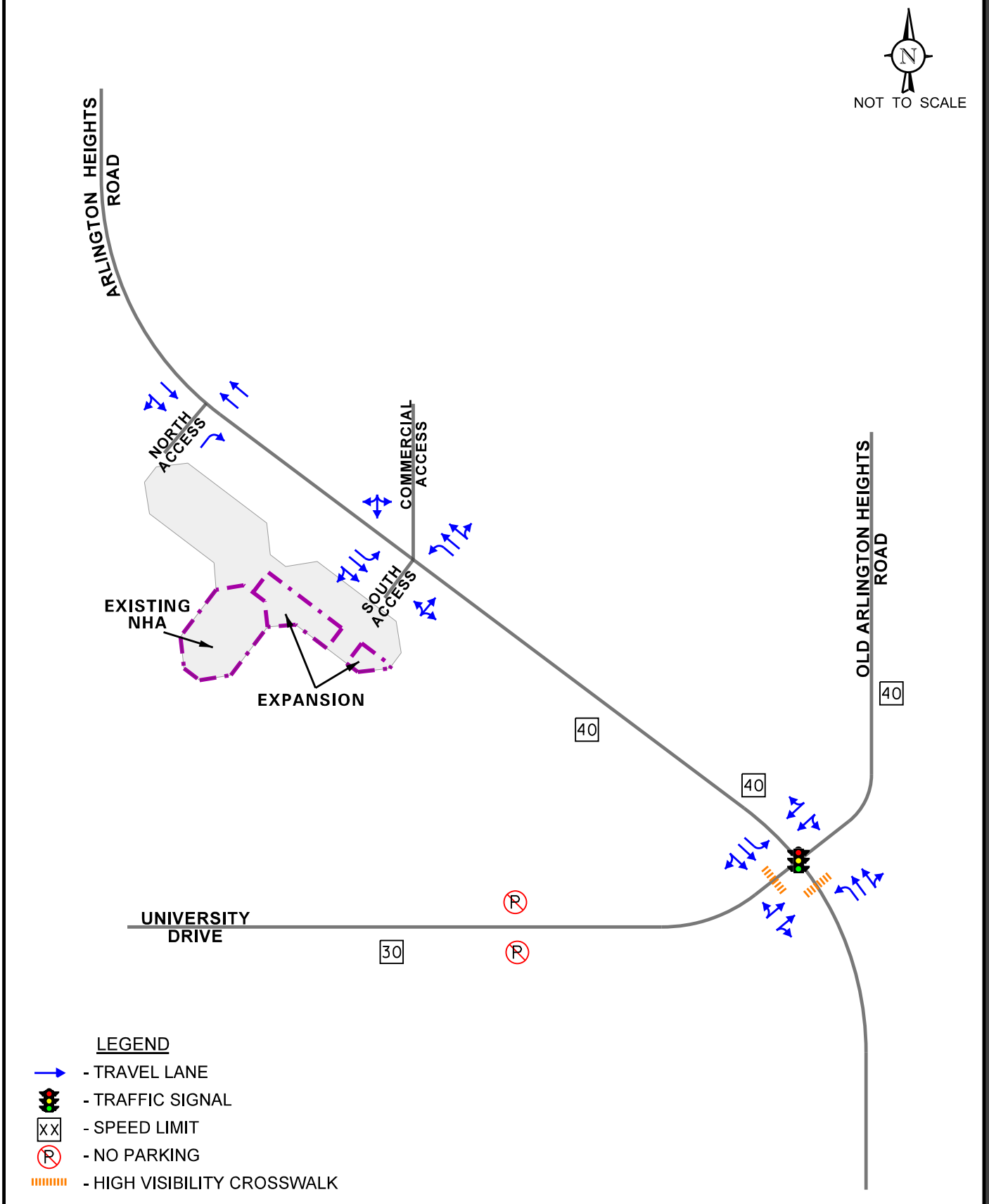
The site is located at 3250 N. Arlington Heights Road and contains a three-wing office building totaling approximately 72,000 square feet with approximately 12,007 square feet of available tenant space. As proposed, the school will occupy Wing 100 of the office building, which is 9,600 square feet in size. Access to the site is currently provided via two access drives on Arlington Heights Road. The site provides a total of 271 parking spaces. Land uses in the vicinity of the site are primarily commercial and industrial to the north, south, and west and primarily residential to the east.

Existing Roadway System Characteristics

The characteristics of the existing roadways that surround the proposed location of the schools are illustrated in **Figure 3** and described below.

Arlington Heights Road is a north-south roadway that provides two lanes in each direction separated by a raised landscaped median. At its signalized intersection with University Drive, Arlington Heights Road provides an exclusive left-turn lane, a through lane, and a shared through/right-turn lane on both approaches. The northbound approach provides a high visibility crosswalk. At its unsignalized intersection with the site's southern access drive and the commercial access drive located opposite the south access drive, Arlington Heights Road provides an exclusive left-turn lane, a through lane, and a shared through/right-turn lane on both approaches. At its unsignalized intersection with the site's northern access drive, Arlington Heights Road provides a through lane and a shared through/right-turn lane on the southbound approach. The raised landscape median creates a physical barrier limiting the north access drive to right-in/right-out movements only. Arlington Heights Road is under the jurisdiction of the Cook County Department of Transportation and Highways, carries an average daily traffic (ADT) volume of 22,600 vehicles (IDOT 2018), and has a posted speed limit of 40 miles per hour.

University Drive is an east-west roadway that provides one lane in each direction. At its signalized intersection with Arlington Heights Road, University Drive provides a shared left-turn/through lane, a shared through/right-turn lane, and a high visibility crosswalk on the eastbound approach. The westbound approach at this intersection is Old Arlington Heights Road, which provides a shared left-turn/through lane and a shared through/right-turn lane. University Drive is under the jurisdiction of the Village of Arlington Heights and has a posted speed limit of 30 miles per hour. Old Arlington Heights Road is under the jurisdiction of the Illinois Department of Transportation (IDOT) and has a posted speed limit of 40 miles per hour.



NewHope Academy
Expansion
Arlington Heights, Illinois

Existing Roadway Characteristics

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Job No: 21-194 Figure: 3

NewHope Academy Operations

The NHA is an alternative day school for students in grades 6 to 12 who are in need of an alternative school program which is supportive, therapeutic, and educational and for students who may be identified with emotional disabilities, autism, learning disabilities, and other health impairments. Based on the information provided by the operator, on a regular school day, NHA is open from 8:15 A.M. to 2:30 P.M. Monday through Thursday and from 9:00 A.M. to 2:30 P.M. on Friday. Pick-up time during summer hours is 1:00 P.M. It should be noted that at the time the counts were conducted, the school was operating with summer hours. With summer hours, NHA is open from 8:15 A.M. to 1:00 P.M. Monday through Thursday and from 9:00 A.M. to 1:00 P.M. on Friday. In addition, NHA currently has approximately 35 staff members and approximately 95 students. There are 43 cabs/buses with the majority of students arriving in a cab.

Pick-Up/Drop-Off Operations

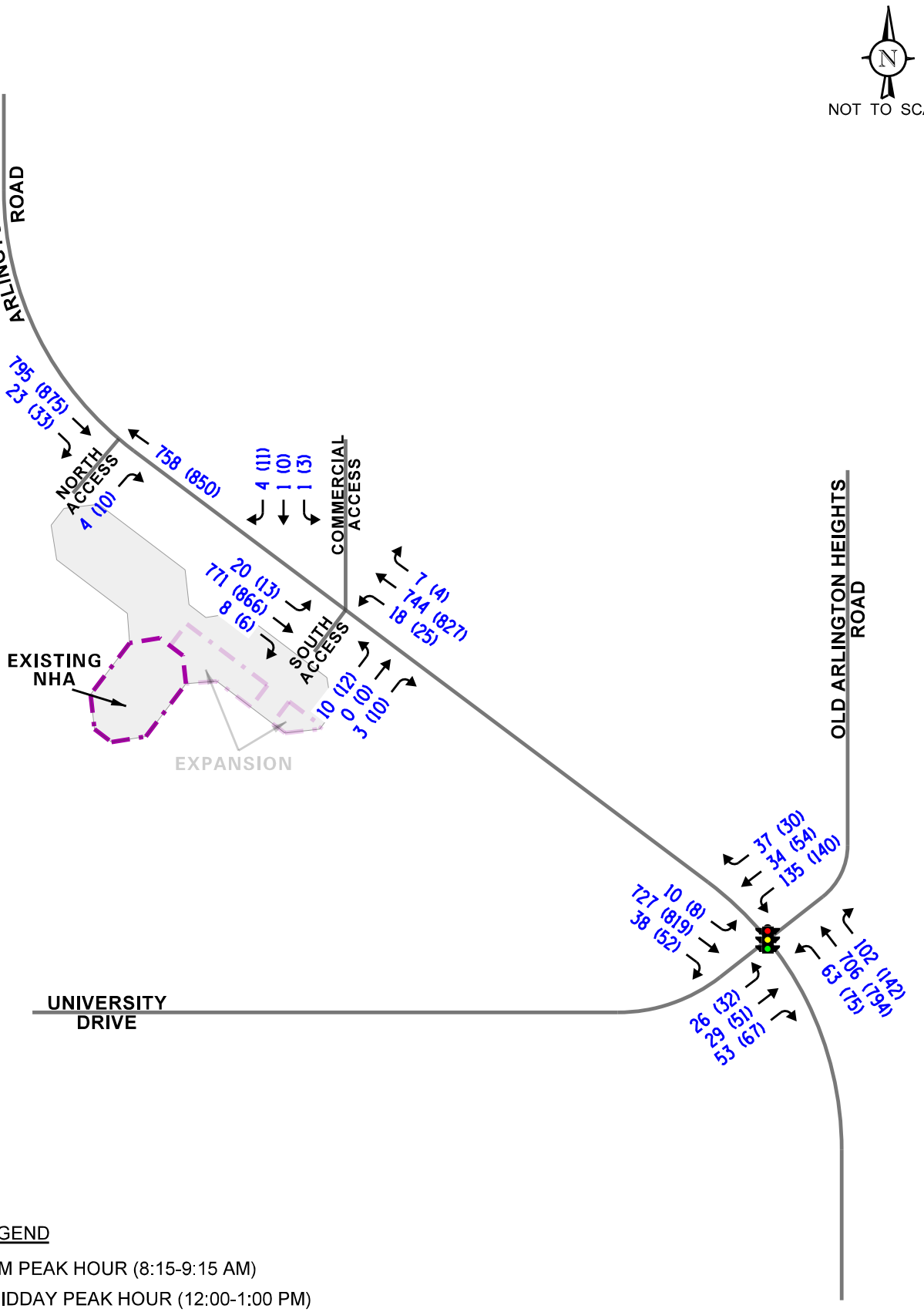
NHA students arrive via buses, vans, or taxis. These vehicles transport the students from their home school and are provided by the home school district in which the student lives. Drop-off operations for NHA begin at 8:15 A.M. with vehicles beginning to queue at 8:00 A.M. Pick-up operations begin at 2:30 P.M. with vehicles beginning to queue at 2:00 P.M. During both activities, multiple staff members advance vehicles waiting in queue to the front door while other faculty members walk students between the school building and their vehicle. There are currently 19 parking spaces within the vicinity of the existing school reserved for use by NHA. Pick-up/drop-off activities occur in front of these parking spaces so as not to obstruct parking spaces of other businesses while loading students. Based on the operations of NHA, staff arrival/departure occurs before and after student drop-off/pick-up

Existing Traffic Volumes

Manual turning movement traffic counts using Miovision Scout Collection Units were conducted on Tuesday, July 6, 2021, during the morning (7:30 to 9:30 A.M.) and midday (11:30 A.M. to 2:00 P.M.) peak periods at the following intersections:

- Arlington Heights Road with University Drive
- Arlington Heights Road with the Southern Full Movement Access Drive
- Arlington Heights Road with the Northern Right-In/Right-Out Access Drive

In order to represent Year 2021 normal conditions, the Year 2021 traffic volumes on Arlington Heights Road were compared with the traffic counts conducted at the same intersections in Year 2017 by KLOA, Inc (taking into account an annual regional growth factor increase each year for four years). Therefore, the traffic counts along Arlington Heights Road were increased by 40 percent during the weekday morning and evening peak hours. The results of the traffic counts showed that the weekday morning peak hour of traffic occurs from 8:15 A.M. to 9:15 A.M. and the midday peak hour of traffic occurs from 12:00 P.M. to 1:00 P.M. The existing peak hour traffic volumes are illustrated in **Figure 4**. These peak hours were utilized in the traffic study even though the student drop-off activities occur after 8:00 A.M. and pick-up activities occur at 2:30 P.M. Copies of the 2021 traffic count summary sheets are included in the Appendix.



LEGEND

00 - AM PEAK HOUR (8:15-9:15 AM)

(00) - MIDDAY PEAK HOUR (12:00-1:00 PM)

NewHope Academy
Expansion
Arlington Heights, Illinois

Year 2021 Base Traffic Volumes

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Traffic Characteristics and Operation of NewHope Academy

To evaluate the impact of the school on the area roadway system, it was necessary to quantify the number of vehicle trips the school will generate during the weekday morning and weekday afternoon peak hours and then determine the directions from which this traffic will approach and depart the site.

Proposed Operations of NewHope Academy

As proposed, NHA will be expanded with an additional 9,600 square feet within the office building. The expansion will be located in the southeast wing of the building and will occupy approximately 9,600 square-feet of building space. With the expansion, the school is projected to maintain their current hours of operation. However, the number of staff is projected to increase to 50 and the number of students is projected to increase to 135. Access to the school will continue to be provided via the two existing access drives on Arlington Heights Road. The southern access drive is a full movement access drive and provides one inbound lane and one outbound lane and the northern right-in/right-out access drive provides one inbound lane and one outbound lane. Both access drives are under stop sign control.

Pick-Up and Drop-Off Operations

Based on field observations, the pick-up and drop-off traffic enter the parking lot via the southern access drive and circulate clockwise around the site. The loading zone for NHA is located along the south side of the building. With queues starting at the intersection of the east-west drive aisle with the north-south drive aisle to the west of the vestibule. Consistent with the existing pick-up and drop-off operations and with the assistance of staff members, students are unloaded one vehicle at a time at the main entrance. One or more staff members are used to advance vehicles within the loading zone to efficiently manage the queue of vehicles. The pick-up and drop-off traffic then exit the site via the northern access drive. Queue's observations indicated the following:

- On average, queue lengths on Tuesday and Wednesday mornings were approximately 18 vehicles with a maximum queue length of 29 vehicles occurring at 8:10 A.M.

- On average, queue lengths on Tuesday and Wednesday afternoon were approximately 18 vehicles with a maximum queue length of 26 vehicles occurring at 12:55 P.M.

- The drop-off/pick-up queues took about 10 minutes to clear.

These operations will continue be similar to the operations currently in effect at the school, which will be a system familiar by both staff and the drivers of student transportation vehicles. It is recommended that an additional 15 parking spaces should be reserved for NHA due to the projected increase in the number of staff members.

Directional Distribution of Site Traffic

The directional distribution of how traffic will approach and depart NHA was based on the existing travel patterns, the existing roadway characteristics, and the traffic controls surrounding the site. **Figure 5** illustrates the estimated directional distribution for NHA traffic.

Site Traffic Generation

The estimate of traffic to be generated by the proposed school expansion was based on observations of drop-off and pick-up activity occurring at the existing school during the drop-off/pick-up time periods. School officials have indicated that they expect the number of students to increase from 95 to 135 students and the number of staff to increase from 35 to 50. Therefore, the existing student transportation vehicles observed were increased proportionally to reflect the increased number of students and staff. It was assumed that each additional staff member will drive and were conservatively assumed to arrive and depart during the same time as the students. **Table 1** summarizes the existing student transportation vehicles observed, the projected number of student transportation vehicles, the projected number of staff vehicles, and the total projected trips.

Site Traffic Assignment

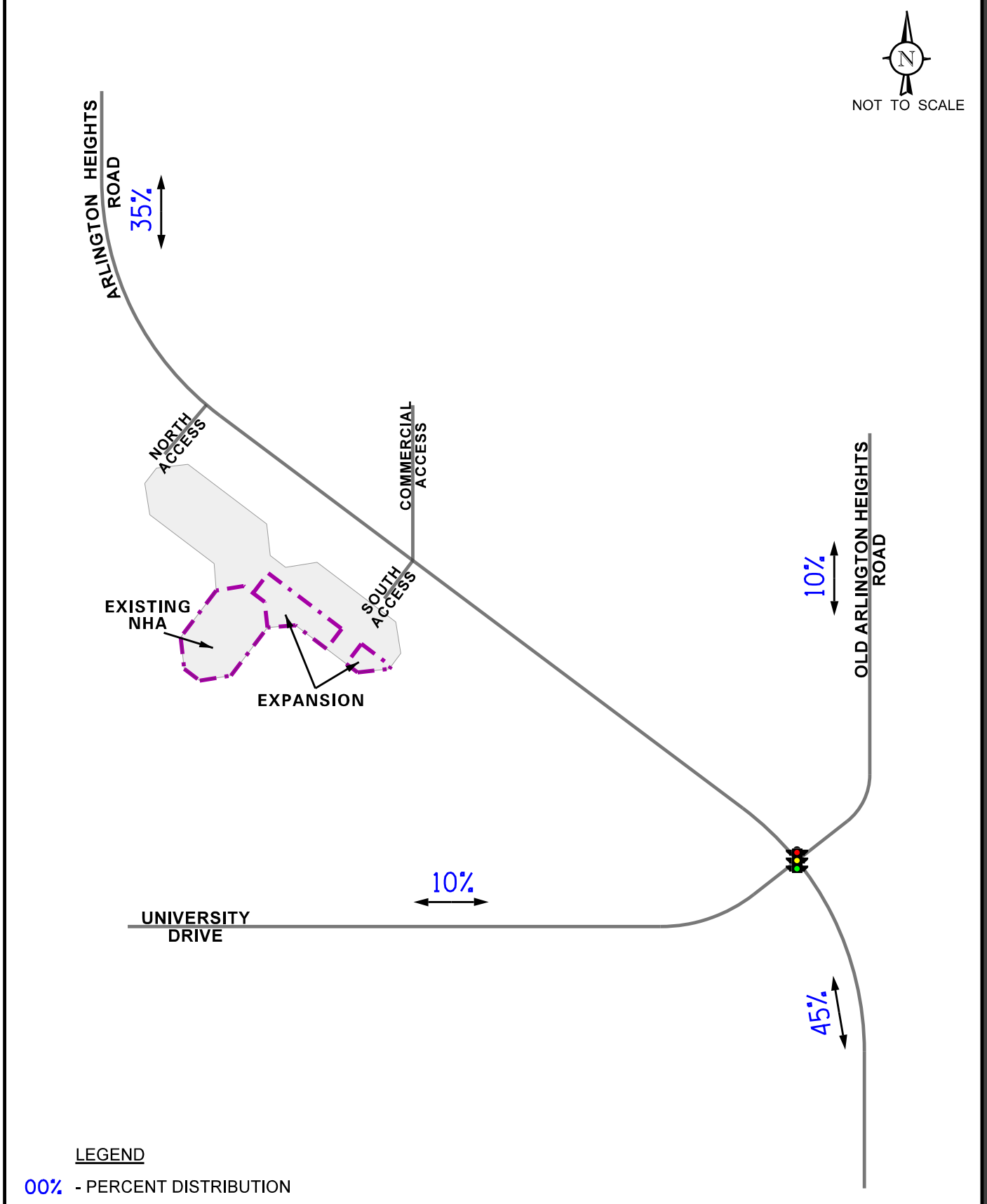
The peak hour traffic volumes projected to be generated by the school were assigned to the area roadways based on the directional distribution analysis (Figure 5) and are shown in **Figure 6**.

Full Occupancy of the Office Building

To account for the full occupancy of the office building, vehicle trips were generated for the remaining 2,407 square-feet of vacant tenant space located in the southeast wing of the office building. The volume of traffic generated was estimated using data published in the Institute of Transportation Engineers (ITE) *Trip Generation Manual*, 10th Edition. **Table 2** tabulates the total trips anticipated from this vacant office space for the weekday morning and weekday evening peak hours and the peak hour traffic volumes were assigned to the area roadway based on the direction distribution analysis (Figure 5) and are shown in **Figure 7**.

Total Projected Traffic Conditions

Figure 8 illustrates the total projected traffic volumes that include the existing traffic volumes (Figure 4), the traffic projected to be generated by the school drop-off/pick-up activity (Figure 6), and the traffic projected to be generated by the vacant office space (Figure 7).



NewHope Academy
Expansion
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Estimated Directional Distribution

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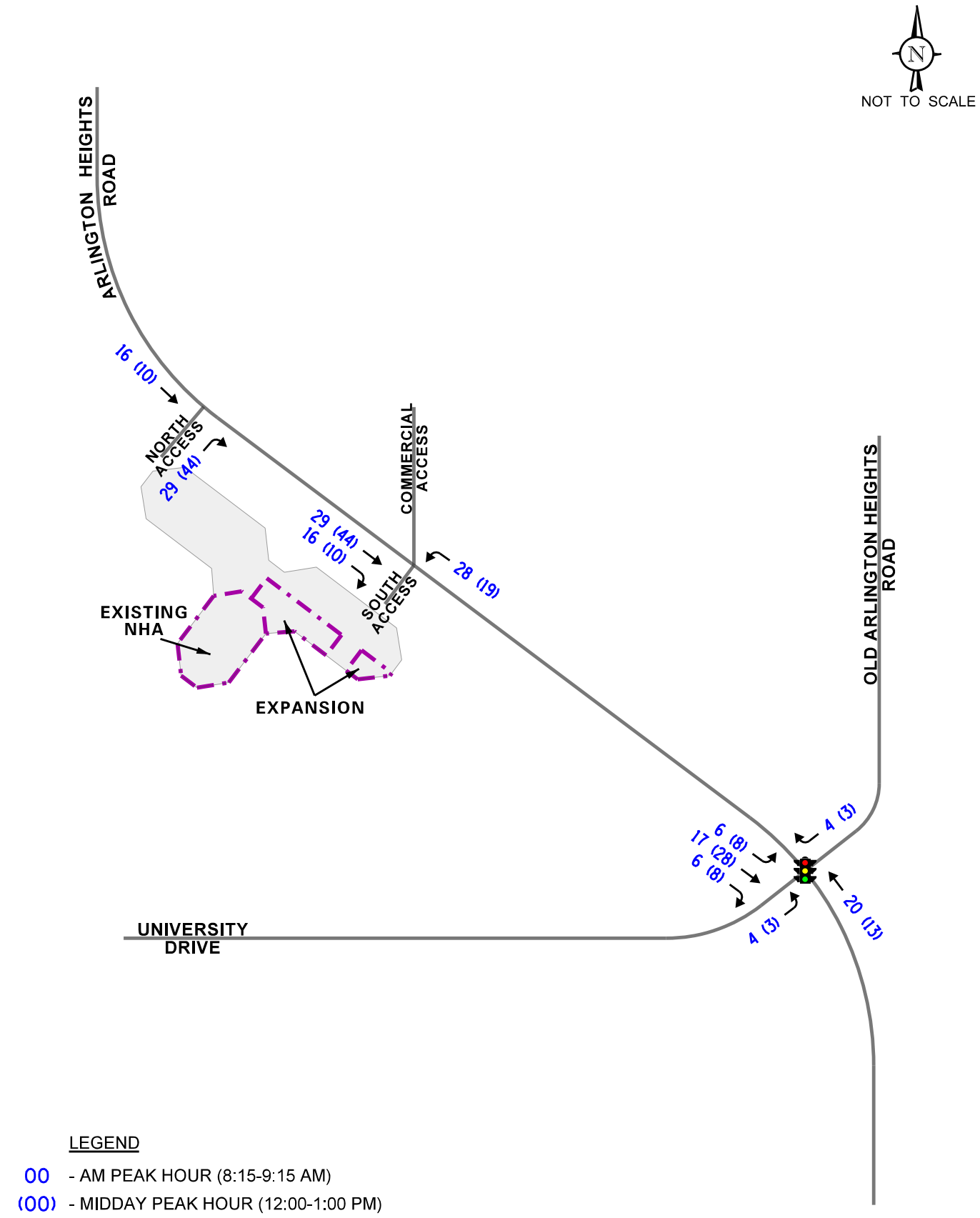
Table 1
ESTIMATED SCHOOL-GENERATED TRAFFIC VOLUMES

NewHope Academy	Morning Peak Hour			Afternoon. Peak Hour		
	In	Out	Total	In	Out	Total
Existing Student Transportation Vehicles	44	44	88	44	44	88
New Student Transportation Vehicles[1]	**+29**	**+29**	**+58**	**+29**	**+29**	**+58**
New Faculty Vehicles	**+15**	**+0**	**+15**	**+0**	**+15**	**+15**
Total New Trips	**+44**	**+29**	**+73**	**+29**	**+44**	**+73**

1-As observed at the existing school
2- Assuming that each staff member will be using one vehicle.

Table 2
ESTIMATED VACANT OFFICE BUILDING-GENERATED TRAFFIC VOLUMES

Land Use	Morning Peak Hour			Evening Peak Hour		
	In	Out	Total	In	Out	Total
Vacant Office Building Tenant Space (2,407 s.f.)	2	1	3	1	2	3



LEGEND

00 - AM PEAK HOUR (8:15-9:15 AM)

(00) - MIDDAY PEAK HOUR (12:00-1:00 PM)

NewHope Academy
Expansion
Arlington Heights, Illinois

Estimated Site-Generated
Traffic Volumes

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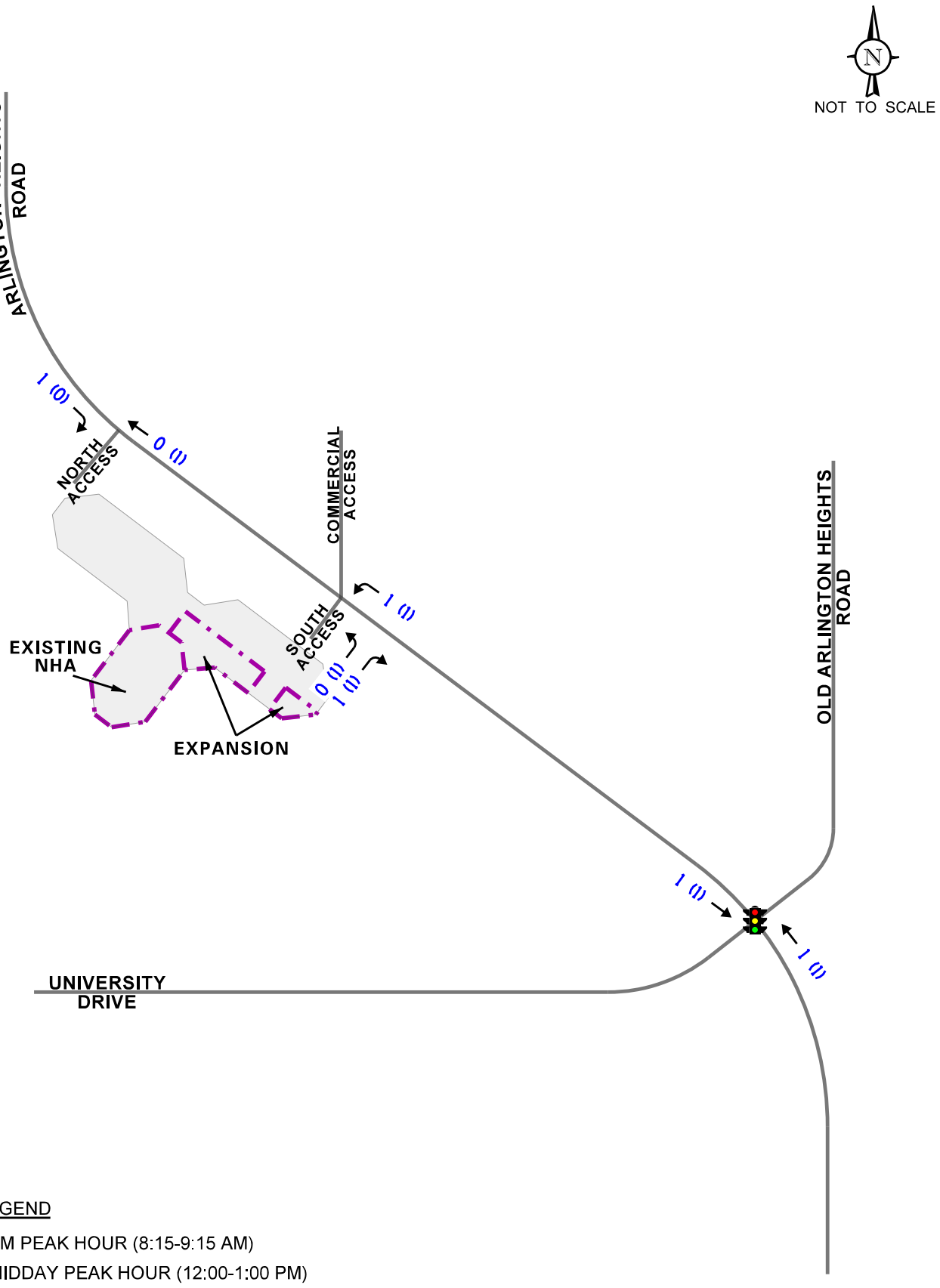

LEGEND

00 - AM PEAK HOUR (8:15-9:15 AM)

(00) - MIDDAY PEAK HOUR (12:00-1:00 PM)

NewHope Academy
Expansion
Arlington Heights, Illinois

Vacant Office Space Traffic Volumes

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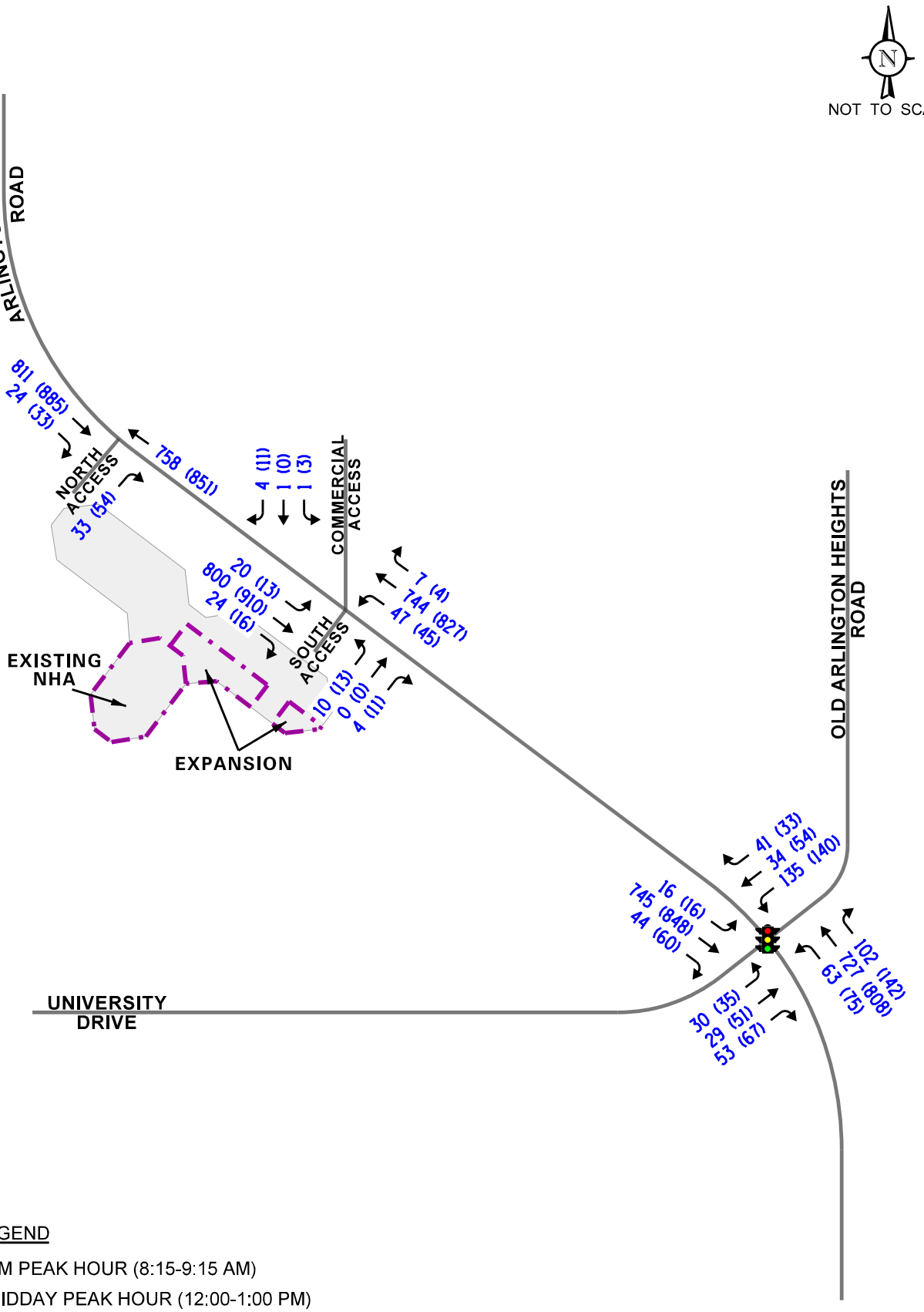

LEGEND

00 - AM PEAK HOUR (8:15-9:15 AM)

(00) - MIDDAY PEAK HOUR (12:00-1:00 PM)

NewHope Academy
Expansion
Arlington Heights, Illinois

Total Projected Traffic Volumes

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Job No: 21-194 Figure: 8

Traffic Analysis and Recommendations

The following provides an evaluation conducted for the weekday morning and weekday afternoon peak hour periods. 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 afternoon peak hours for the existing and projected 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 11 software. The analysis for the traffic-signal controlled intersections were accomplished using field measured 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 and projected conditions are presented in **Tables 3** and **4**, respectively. A discussion of the intersections follows. Summary sheets for the capacity analyses are included in the Appendix.

Table 3
CAPACITY ANALYSES RESULTS – BASE CONDITIONS

Location	Morning Peak Hour		Afternoon. Peak Hour	
	LOS	Delay	LOS	Delay
Arlington Heights Road with University Drive[1]				
- Overall	B	11.1	B	11.9
- Northbound Approach	A	8.0	A	7.8
- Southbound Approach	B	10.9	B	11.3
- Eastbound Approach	B	14.3	B	17.2
- Westbound Approach	C	23.3	C	29.1
Arlington Heights Road with South Access Drive[2]				
- Eastbound Approach	D	33.7	D	35.3
- Westbound Approach	C	21.2	C	19.4
- Northbound Lefts	A	9.5	B	10.0
- Southbound Lefts	A	9.4	A	9.7
Arlington Heights Road with North Access Drive[2]				
- Eastbound Approach	B	11.6	B	12.7

LOS - Level of Service
Delay is measured in seconds.
1-Signalized Intersection
2-Unsignalized Intersection

Table 4
CAPACITY ANALYSES RESULTS – PROJECTED CONDITIONS

Location	Morning Peak Hour		Afternoon. Peak Hour	
	LOS	Delay	LOS	Delay
Arlington Heights Road with University Drive[1]				
- Overall	B	11.6	B	12.0
- Northbound Approach	A	8.7	A	7.9
- Southbound Approach	B	11.7	B	11.5
- Eastbound Approach	B	14.7	B	17.4
- Westbound Approach	C	21.5	C	28.7
Arlington Heights Road with South Access Drive[2]				
- Eastbound Approach	E	39.2	E	42.9
- Westbound Approach	C	23.9	C	20.9
- Northbound Lefts	A	9.9	B	10.4
- Southbound Lefts	A	9.4	A	9.7
Arlington Heights Road with North Access Drive[2]				
- Eastbound Approach	B	12.2	B	13.6

LOS - Level of Service
Delay is measured in seconds.
1-Signalized Intersection
2-Unsignalized Intersection

Discussion and Recommendations

The following summarizes how the intersections are projected to operate and identify any roadway and traffic control improvements needed to accommodate the school traffic.

Arlington Heights Road with University Drive and Old Arlington Heights Road

The results of the capacity analyses indicate that overall this intersection currently operates at level of service (LOS) B during the weekday morning and weekday evening peak hours. Assuming future conditions, this intersection is projected to continue operating at LOS B during both peak hours with increases in delay of less than one second. Furthermore, all of the approaches are projected to continue operating at existing levels of service with increases in delay of approximately one second. As such, the proposed relocation of NHA will have a limited impact on the operations of this intersection and no roadway improvements or signal modifications will be required.

Arlington Heights Road with South Access Drive and Commercial Access Drive

The results of the capacity analyses indicate that the eastbound approach at this intersection currently operates at LOS D during the weekday morning and evening peak hours. Assuming future conditions, the eastbound approach is projected to operate at LOS E during the weekday morning and evening peak hours with increase in delay of approximately six seconds and eight seconds, respectively. Furthermore, the 95th percentile queues for the eastbound approach are projected to be one to two vehicles during both peak hours. The westbound approach currently operates at LOS C during the weekday evening peak hour and is projected to continue operating at LOS C with increases in delay of approximately three seconds or less. Additionally, northbound and southbound left-turns onto the access drives are projected to operate at LOS B or better during the peak hours with 95th percentile queues of one to two vehicles which can be contained within the provided storage. As such, this access drive will be adequate in accommodating the traffic projected to be generated by the proposed development and will continue to provide flexible access and efficient on-site circulation.

Arlington Heights Road with Northern Access Drive

The results of the capacity analyses indicate that the eastbound approach currently operates at LOS B during the weekday morning and evening peak hours. Assuming future conditions, the eastbound approach is projected to continue operating at LOS B during the peak hours with increases in delay of approximately one second and 95th percentile queues of one to two vehicles. As such, this access drive will be adequate in accommodating the traffic projected to be generated by the proposed development and will provide flexible access and promote efficient on-site circulation.

Pick-Up and Drop-Off Operations Evaluation

The pick-up and drop-off traffic enter the parking lot via the southern access drive and circulate clockwise around the site and exit at the northern access drive. The loading zone for NHA is located along the south side of the building. Using the southern access drive for inbound movements only and the northern access drive for outbound movements only promotes one-way circulation around the site and minimizes the potential conflicts between inbound and outbound vehicles at the southern access drive. As previously indicated, peak pick-up and drop-off activity lasts for approximately 15 to 20-minutes for the school and this activity will not occur during the peak hour activity for the faculty and staff of the school or the peak hour of activity for the remainder of the office building tenants.

It should be noted that the queueing of vehicles along the school's southern frontage will continue to block the parking spaces for the proposed school and a portion of the existing office building tenant parking. Since all faculty and staff will continue to arrive before drop-off and leave prior to pick-up operations, blocking the school spaces will not have an impact on site circulation considering that these spaces are reserved for NHA use only. Additionally, faculty and staff should continue to be used to ensure loading zone queueing advances promptly and does not obstruct office tenant parking spaces.

Parking Evaluation

Existing Parking Demand

In order to determine the existing parking demand at the existing parking lot, KLOA, Inc. conducted parking occupancy surveys on Tuesday, July 6, 2021; Wednesday, July 7, 2021; Thursday, July 8, 2021; Friday, July 9, 2021; every quarter hour from 7:30 A.M. to 9:30 P.M. and from 11:30 A.M. to 2:00 P.M. The results of the surveys are summarized in **Table 5**. Based on the results of the surveys, the following has been determined:

- The existing parking lot provides a total of 271 parking spaces including 19 parking spaces reserved for NHA.
- On Tuesday, the peak parking demand was 112 spaces (41 percent occupancy) occurring at 1:00 P.M.
- On Wednesday, the peak parking demand was 102 spaces (38 percent occupancy) occurring at 1:00 P.M.
- On Thursday, the peak parking demand was 125 spaces (46 percent occupancy) occurring at 9:15 A.M.
- On Friday, the peak parking demand was 101 spaces (37 percent occupancy) occurring at 1:00 P.M.

Table 5
PARKING OCCUPANCY RESULTS

Time	Tuesday	Wednesday	Thursday	Friday
7:30 AM	26	19	32	33
7:45 AM	35	29	43	52
8:00 AM	55	44	67	66
8:15 AM	73	51	82	79
8:30 AM	81	52	91	85
8:45 AM	91	55	104	86
9:00 AM	99	59	120	96
9:15 AM	105	63	125	98
9:30 AM	109	74	124	95
11:30 AM	105	92	108	92
11:45 AM	104	99	109	93
12:00 PM	103	98	105	96
12:15 PM	100	98	103	89
12:30 PM	108	95	101	89
12:45 PM	108	102	108	99
1:00 PM	112	102	106	101
1:15 PM	108	92	98	95
1:30 PM	112	91	98	93
1:45 PM	109	88	98	91
2:00 PM	99	67	88	79
Inventory	**271**	**271**	**271**	**271**

In order to reflect normal parking demand conditions, the results of the parking occupancy surveys were adjusted based on a comparison with parking ratios published by the Institute of Transportation Engineers (ITE) *Parking Generation Manual*, 5th Edition. On average, the comparison indicated that the parking demand for the office space should be increased by approximately 68 percent to account for normal (non-COVID-19) conditions.

The adjusted parking demands are summarized in **Table 6** and are as follows:

- On Tuesday, the peak parking demand was 165 spaces (61 percent occupancy) occurring at 1:00 P.M.
- On Wednesday, the peak parking demand was 149 spaces (55 percent occupancy) occurring at 1:00 P.M.
- On Thursday, the peak parking demand was 187 spaces (69 percent occupancy) occurring at 9:15 A.M.
- On Friday, the peak parking demand was 147 spaces (54 percent occupancy) occurring at 1:00 P.M.

Projected Parking Demand

As previously indicated, school officials have indicated that they expect the number of staff to increase from 35 to 50 staff, with a net increase of 15 staff. Furthermore, it was assumed that each staff member will need one parking space. Therefore, it is recommended that additional 15 parking spaces should be reserved for NHA due to the projected increase in the number of staff members.

In addition, based on the Institute of Transportation Engineers (ITE) *Parking Generation Manual*, 5th Edition, the vacant office space should provide six parking spaces on a weekday. In order to provide a conservative analysis, 20 required parking spaces will be utilized as the estimated peak parking demand of the expansion and the vacant office space.

Table 7 shows the hourly distribution of the parking demand for the existing parking lot taking into consideration the adjustments to the existing parking demand to account for normal (non-COVID 19) conditions as well as the demand of the existing vacant office space within the office complex and the proposed expansion.

Table 6
PARKING OCCUPANCY RESULTS - ADJUSTED

Time	Tuesday	Wednesday	Thursday	Friday
7:30 AM	26	19	32	33
7:45 AM	35	29	43	52
8:00 AM	55	44	67	66
8:15 AM	73	51	82	79
8:30 AM	81	52	91	85
8:45 AM	91	55	104	86
9:00 AM	99	59	120	96
9:15 AM	105	63	125	98
9:30 AM	109	74	124	95
11:30 AM	105	92	108	92
11:45 AM	104	99	109	93
12:00 PM	103	98	105	96
12:15 PM	100	98	103	89
12:30 PM	108	95	101	89
12:45 PM	108	102	108	99
1:00 PM	112	102	106	101
1:15 PM	108	92	98	95
1:30 PM	112	91	98	93
1:45 PM	109	88	98	91
2:00 PM	99	67	88	79
Inventory	**271**	**271**	**271**	**271**

Table 7
TOTAL PROJECTED PARKING OCCUPANCY RESULTS

Time	Tuesday	Wednesday	Thursday	Friday
7:30 AM	41	29	51	52
7:45 AM	56	46	69	84
8:00 AM	89	71	110	108
8:15 AM	120	83	135	130
8:30 AM	133	84	150	140
8:45 AM	150	89	172	142
9:00 AM	163	96	199	158
9:15 AM	174	103	207	162
9:30 AM	180	121	206	157
11:30 AM	20	20	20	20
11:45 AM	174	152	179	152
12:00 PM	172	163	180	153
12:15 PM	170	162	174	158
12:30 PM	165	162	170	147
12:45 PM	179	157	167	147
1:00 PM	179	169	179	163
1:15 PM	185	169	175	167
1:30 PM	179	152	162	157
1:45 PM	185	150	162	153
2:00 PM	180	145	162	150
Inventory	**271**	**271**	**271**	**271**

The projected parking demand will be as follows:

- On Tuesday, the peak parking demand will be 185 spaces (68 percent occupancy) occurring at 1:00 P.M.
- On Wednesday, the peak parking demand will be 169 spaces (62 percent occupancy) occurring at 1:00 P.M.
- On Thursday, the peak parking demand will be 207 spaces (76 percent occupancy) occurring at 9:15 A.M.
- On Friday, the peak parking demand will be 167 spaces (61 percent occupancy) occurring at 1:00 P.M.

Therefore, the parking supply within the parking lot will be adequate in accommodating the future parking demand of the full occupancy of the office complex, as well as the proposed expansion.

Conclusion

Based on the proposed school plans and the preceding traffic impact study the following was determined.

- The traffic to be generated by the proposed expansion will not have a significant impact on the operations of the site or the surrounding roadway network.

- The existing access system can accommodate the traffic projected to be generated by NHA and full occupancy of the vacant office building space.

- The peak hours of the pick-up and drop-off operations of the school do not coincide with the peak hours for the arrival and departure of faculty and staff and the full occupancy of the office space.

- Pick-up and drop-off queuing will continue to occur along the south frontage of the school wing. A queue of approximately 19 vehicles (mix of buses and passenger vehicles) can be accommodated on the south frontage of the school with vehicles double-stacked within the drive aisle.

- It is recommended that 15 parking spaces should be reserved for NHA due to the projected increase in the number of staff members.

- Student transportation vehicles will continue to enter the site via the southern access drive and exit via the northern access drive, which will continue to ensure vehicles will travel clockwise around the subject office building and will continue to minimize conflicts occurring between inbound and outbound vehicles at the southern access drive.

- The parking supply within the parking lot will be adequate in accommodating the future parking demand of the full occupancy of the office complex, as well as the proposed expansion.

Appendix

Traffic Count Summary Sheets
Level of Service Criteria
Capacity Analysis Summary Sheets

Traffic Count Summary Sheets

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

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

Count Name: Arlington Heights Road with University Drive
Site Code:
Start Date: 07/06/2021

Turning Movement Data

Start Time	Arlington Heights Road Eastbound						Arlington Heights Road Westbound						University Drive Northbound						Old Arlington Heights Road Southbound						Int. Total
	U-Turn	Left	Thru	Right	Peds	App. Total	U-Turn	Left	Thru	Right	Peds	App. Total	U-Turn	Left	Thru	Right	Peds	App. Total	U-Turn	Left	Thru	Right	Peds	App. Total	
7:30 AM	0	2	151	9	0	162	0	23	105	18	0	146	0	7	14	12	0	33	0	28	10	4	0	42	383
7:45 AM	0	4	122	18	0	144	0	26	125	21	0	172	0	4	13	5	0	22	0	29	20	4	0	53	391
Hourly Total	0	6	273	27	0	306	0	49	230	39	0	318	0	11	27	17	0	55	0	57	30	8	0	95	774
8:00 AM	0	4	140	10	0	154	0	22	103	17	0	142	0	5	8	6	1	19	0	29	6	5	0	40	355
8:15 AM	0	2	123	12	0	137	0	15	93	20	0	128	0	9	15	24	1	48	0	23	6	7	0	36	349
8:30 AM	0	3	109	9	0	121	0	11	148	30	0	189	0	6	4	16	0	26	0	30	14	15	0	59	395
8:45 AM	0	1	159	8	0	168	0	20	131	31	0	182	0	9	4	8	0	21	0	38	8	7	0	53	424
Hourly Total	0	10	531	39	0	580	0	68	475	98	0	641	0	29	31	54	2	114	0	120	34	34	0	188	1523
9:00 AM	0	4	124	9	0	137	0	17	132	21	0	170	0	2	6	5	1	13	0	44	6	8	0	58	378
9:15 AM	0	1	132	9	0	142	0	14	106	20	0	140	0	5	3	11	0	19	0	31	5	2	0	38	339
*** BREAK ***	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Hourly Total	0	5	256	18	0	279	0	31	238	41	0	310	0	7	9	16	1	32	0	75	11	10	0	96	717
11:00 AM	0	1	123	7	0	131	0	3	118	31	0	152	0	6	4	12	0	22	0	26	7	4	0	37	342
11:15 AM	0	3	129	7	0	139	0	14	139	25	0	178	0	2	7	15	0	24	0	36	1	3	1	40	381
11:30 AM	0	3	131	8	0	142	0	11	158	25	0	194	0	8	5	7	2	20	0	43	10	8	0	61	417
11:45 AM	0	2	148	8	0	158	0	18	150	37	0	205	0	8	9	15	0	32	0	31	13	6	0	50	445
Hourly Total	0	9	531	30	0	570	0	46	565	118	0	729	0	24	25	49	2	98	0	136	31	21	1	188	1585
12:00 PM	0	2	166	18	0	186	0	8	135	23	1	166	0	11	18	24	0	53	0	37	10	5	0	52	457
12:15 PM	0	1	136	14	0	151	0	20	153	46	0	219	0	5	13	10	0	28	0	32	14	9	0	55	453
12:30 PM	0	2	141	10	0	153	0	18	141	33	1	192	0	7	14	16	0	37	0	35	10	7	0	52	434
12:45 PM	0	3	142	10	0	155	0	29	138	40	1	207	0	9	6	17	0	32	0	36	20	9	0	65	459
Hourly Total	0	8	585	52	0	645	0	75	567	142	3	784	0	32	51	67	0	150	0	140	54	30	0	224	1803
1:00 PM	1	3	155	13	0	172	0	12	137	30	0	179	0	14	7	29	0	50	0	22	11	6	0	39	440
1:15 PM	0	3	129	9	0	141	0	18	158	45	0	221	0	6	6	23	0	35	0	35	8	4	0	47	444
1:30 PM	0	7	166	9	0	182	0	12	127	45	0	184	0	4	7	18	0	29	0	35	6	9	0	50	445
1:45 PM	0	3	152	5	0	160	0	13	156	32	0	201	0	5	6	12	0	23	0	47	5	5	0	57	441
Hourly Total	1	16	602	36	0	655	0	55	578	152	0	785	0	29	26	82	0	137	0	139	30	24	0	193	1770
Grand Total	1	54	2778	202	0	3035	0	324	2653	590	3	3567	0	132	169	285	5	586	0	667	190	127	1	984	8172
Approach %	0.0	1.8	91.5	6.7	-	-	0.0	9.1	74.4	16.5	-	-	0.0	22.5	28.8	48.6	-	-	0.0	67.8	19.3	12.9	-	-	-
Total %	0.0	0.7	34.0	2.5	-	37.1	0.0	4.0	32.5	7.2	-	43.6	0.0	1.6	2.1	3.5	-	7.2	0.0	8.2	2.3	1.6	-	12.0	-
Lights	1	51	2702	189	-	2943	0	289	2577	579	-	3445	0	115	159	257	-	531	0	657	188	123	-	968	7887
% Lights	100.0	94.4	97.3	93.6	-	97.0	-	89.2	97.1	98.1	-	96.6	-	87.1	94.1	90.2	-	90.6	-	98.5	98.9	96.9	-	98.4	96.5
Buses	0	1	5	1	-	7	0	0	6	1	-	7	0	4	2	1	-	7	0	3	0	2	-	5	26
% Buses	0.0	1.9	0.2	0.5	-	0.2	-	0.0	0.2	0.2	-	0.2	-	3.0	1.2	0.4	-	1.2	-	0.4	0.0	1.6	-	0.5	0.3
Single-Unit Trucks	0	1	56	8	-	65	0	27	48	8	-	83	0	8	8	21	-	37	0	4	2	1	-	7	192

% Single-Unit Trucks	0.0	1.9	2.0	4.0	-	2.1	-	8.3	1.8	1.4	-	2.3	-	6.1	4.7	7.4	-	6.3	-	0.6	1.1	0.8	-	0.7	2.3
Articulated Trucks	0	1	15	4	-	20	0	7	22	2	-	31	0	5	0	6	-	11	0	3	0	1	-	4	66
% Articulated Trucks	0.0	1.9	0.5	2.0	-	0.7	-	2.2	0.8	0.3	-	0.9	-	3.8	0.0	2.1	-	1.9	-	0.4	0.0	0.8	-	0.4	0.8
Bicycles on Road	0	0	0	0	-	0	0	1	0	0	-	1	0	0	0	0	-	0	0	0	0	0	-	0	1
% Bicycles on Road	0.0	0.0	0.0	0.0	-	0.0	-	0.3	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	-	-	-	-	-	3	-	-	-	-	-	5	-	-	-	-	-	1	-	-
% Pedestrians	-	-	-	-	-	-	-	-	-	-	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: Arlington Heights Road with University Drive
Site Code:
Start Date: 07/06/2021

Turning Movement Peak Hour Data (8:15 AM)

Start Time	Arlington Heights Road Eastbound						Arlington Heights Road Westbound						University Drive Northbound						Old Arlington Heights 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	
8:15 AM	0	2	123	12	0	137	0	15	93	20	0	128	0	9	15	24	1	48	0	23	6	7	0	36	349
8:30 AM	0	3	109	9	0	121	0	11	148	30	0	189	0	6	4	16	0	26	0	30	14	15	0	59	395
8:45 AM	0	1	159	8	0	168	0	20	131	31	0	182	0	9	4	8	0	21	0	38	8	7	0	53	424
9:00 AM	0	4	124	9	0	137	0	17	132	21	0	170	0	2	6	5	1	13	0	44	6	8	0	58	378
Total	0	10	515	38	0	563	0	63	504	102	0	669	0	26	29	53	2	108	0	135	34	37	0	206	1546
Approach %	0.0	1.8	91.5	6.7	-	-	0.0	9.4	75.3	15.2	-	-	0.0	24.1	26.9	49.1	-	-	0.0	65.5	16.5	18.0	-	-	-
Total %	0.0	0.6	33.3	2.5	-	36.4	0.0	4.1	32.6	6.6	-	43.3	0.0	1.7	1.9	3.4	-	7.0	0.0	8.7	2.2	2.4	-	13.3	-
PHF	0.000	0.625	0.810	0.792	-	0.838	0.000	0.788	0.851	0.823	-	0.885	0.000	0.722	0.483	0.552	-	0.563	0.000	0.767	0.607	0.617	-	0.873	0.912
Lights	0	8	499	35	-	542	0	59	488	102	-	649	0	20	27	48	-	95	0	131	33	36	-	200	1486
% Lights	-	80.0	96.9	92.1	-	96.3	-	93.7	96.8	100.0	-	97.0	-	76.9	93.1	90.6	-	88.0	-	97.0	97.1	97.3	-	97.1	96.1
Buses	0	1	0	0	-	1	0	0	1	0	-	1	0	3	1	1	-	5	0	1	0	1	-	2	9
% Buses	-	10.0	0.0	0.0	-	0.2	-	0.0	0.2	0.0	-	0.1	-	11.5	3.4	1.9	-	4.6	-	0.7	0.0	2.7	-	1.0	0.6
Single-Unit Trucks	0	1	14	3	-	18	0	2	13	0	-	15	0	3	1	2	-	6	0	2	1	0	-	3	42
% Single-Unit Trucks	-	10.0	2.7	7.9	-	3.2	-	3.2	2.6	0.0	-	2.2	-	11.5	3.4	3.8	-	5.6	-	1.5	2.9	0.0	-	1.5	2.7
Articulated Trucks	0	0	2	0	-	2	0	1	2	0	-	3	0	0	0	2	-	2	0	1	0	0	-	1	8
% Articulated Trucks	-	0.0	0.4	0.0	-	0.4	-	1.6	0.4	0.0	-	0.4	-	0.0	0.0	3.8	-	1.9	-	0.7	0.0	0.0	-	0.5	0.5
Bicycles on Road	0	0	0	0	-	0	0	1	0	0	-	1	0	0	0	0	-	0	0	0	0	0	-	0	1
% Bicycles on Road	-	0.0	0.0	0.0	-	0.0	-	1.6	0.0	0.0	-	0.1	-	0.0	0.0	0.0	-	0.0	-	0.0	0.0	0.0	-	0.0	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: Arlington Heights Road with University Drive
Site Code:
Start Date: 07/06/2021

Turning Movement Peak Hour Data (12:00 PM)

Start Time	Arlington Heights Road Eastbound						Arlington Heights Road Westbound						University Drive Northbound						Old Arlington Heights 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	
12:00 PM	0	2	166	18	0	186	0	8	135	23	1	166	0	11	18	24	0	53	0	37	10	5	0	52	457
12:15 PM	0	1	136	14	0	151	0	20	153	46	0	219	0	5	13	10	0	28	0	32	14	9	0	55	453
12:30 PM	0	2	141	10	0	153	0	18	141	33	1	192	0	7	14	16	0	37	0	35	10	7	0	52	434
12:45 PM	0	3	142	10	0	155	0	29	138	40	1	207	0	9	6	17	0	32	0	36	20	9	0	65	459
Total	0	8	585	52	0	645	0	75	567	142	3	784	0	32	51	67	0	150	0	140	54	30	0	224	1803
Approach %	0.0	1.2	90.7	8.1	-	-	0.0	9.6	72.3	18.1	-	-	0.0	21.3	34.0	44.7	-	-	0.0	62.5	24.1	13.4	-	-	-
Total %	0.0	0.4	32.4	2.9	-	35.8	0.0	4.2	31.4	7.9	-	43.5	0.0	1.8	2.8	3.7	-	8.3	0.0	7.8	3.0	1.7	-	12.4	-
PHF	0.000	0.667	0.881	0.722	-	0.867	0.000	0.647	0.926	0.772	-	0.895	0.000	0.727	0.708	0.698	-	0.708	0.000	0.946	0.675	0.833	-	0.862	0.982
Lights	0	8	580	48	-	636	0	67	558	138	-	763	0	31	48	59	-	138	0	138	53	30	-	221	1758
% Lights	-	100.0	99.1	92.3	-	98.6	-	89.3	98.4	97.2	-	97.3	-	96.9	94.1	88.1	-	92.0	-	98.6	98.1	100.0	-	98.7	97.5
Buses	0	0	1	0	-	1	0	0	1	1	-	2	0	0	0	0	-	0	0	1	0	0	-	1	4
% Buses	-	0.0	0.2	0.0	-	0.2	-	0.0	0.2	0.7	-	0.3	-	0.0	0.0	0.0	-	0.0	-	0.7	0.0	0.0	-	0.4	0.2
Single-Unit Trucks	0	0	4	3	-	7	0	6	5	2	-	13	0	0	3	6	-	9	0	0	1	0	-	1	30
% Single-Unit Trucks	-	0.0	0.7	5.8	-	1.1	-	8.0	0.9	1.4	-	1.7	-	0.0	5.9	9.0	-	6.0	-	0.0	1.9	0.0	-	0.4	1.7
Articulated Trucks	0	0	0	1	-	1	0	2	3	1	-	6	0	1	0	2	-	3	0	1	0	0	-	1	11
% Articulated Trucks	-	0.0	0.0	1.9	-	0.2	-	2.7	0.5	0.7	-	0.8	-	3.1	0.0	3.0	-	2.0	-	0.7	0.0	0.0	-	0.4	0.6
Bicycles on Road	0	0	0	0	-	0	0	0	0	0	-	0	0	0	0	0	-	0	0	0	0	0	-	0	0
% Bicycles on Road	-	0.0	0.0	0.0	-	0.0	-	0.0	0.0	0.0	-	0.0	-	0.0	0.0	0.0	-	0.0	-	0.0	0.0	0.0	-	0.0	0.0
Pedestrians	-	-	-	-	0	-	-	-	-	-	3	-	-	-	-	-	0	-	-	-	-	-	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: Arlington Heights Road with MOB Drives
Site Code:
Start Date: 07/06/2021

Turning Movement Data

Start Time	Arlington Heights Road Eastbound						Arlington Heights Road Westbound						Access Drive Northbound						Access Drive Southbound						Int. Total
	U-Turn	Left	Thru	Right	Peds	App. Total	U-Turn	Left	Thru	Right	Peds	App. Total	U-Turn	Left	Thru	Right	Peds	App. Total	U-Turn	Left	Thru	Right	Peds	App. Total	
7:30 AM	0	0	160	1	0	161	0	2	113	1	0	116	0	0	0	0	0	0	0	0	0	1	1	1	278
7:45 AM	0	2	151	5	0	158	0	7	109	0	0	116	0	0	0	1	0	1	0	0	0	1	0	1	276
Hourly Total	0	2	311	6	0	319	0	9	222	1	0	232	0	0	0	1	0	1	0	0	0	2	1	2	554
8:00 AM	0	3	137	2	0	142	0	10	103	1	0	114	0	1	0	0	2	1	0	0	0	0	1	0	257
8:15 AM	0	3	144	1	0	148	0	4	104	1	0	109	0	1	0	0	0	1	0	0	1	0	0	1	259
8:30 AM	0	2	123	3	0	128	0	5	155	0	0	160	0	1	0	1	1	2	0	0	0	0	1	0	290
8:45 AM	0	7	153	2	0	162	0	5	132	4	0	141	0	3	0	0	0	3	0	1	0	1	0	2	308
Hourly Total	0	15	557	8	0	580	0	24	494	6	0	524	0	6	0	1	3	7	0	1	1	1	2	3	1114
9:00 AM	0	8	143	2	0	153	0	4	135	2	0	141	0	5	0	2	1	7	0	0	0	3	0	3	304
9:15 AM	0	2	142	0	0	144	0	3	108	1	0	112	0	3	0	0	0	3	0	0	1	1	0	2	261
*** BREAK ***	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Hourly Total	0	10	285	2	0	297	0	7	243	3	0	253	0	8	0	2	1	10	0	0	1	4	0	5	565
11:30 AM	0	2	152	1	0	155	0	4	160	1	0	165	0	4	0	2	0	6	0	1	0	4	0	5	331
11:45 AM	3	1	165	2	0	171	0	0	151	1	0	152	0	5	0	4	0	9	0	0	0	3	0	3	335
Hourly Total	3	3	317	3	0	326	0	4	311	2	0	317	0	9	0	6	0	15	0	1	0	7	0	8	666
12:00 PM	0	3	168	0	0	171	0	1	159	2	0	162	0	3	0	5	1	8	0	1	0	5	0	6	347
12:15 PM	0	1	147	3	0	151	0	9	156	0	0	165	0	4	0	0	1	4	0	0	0	1	0	1	321
12:30 PM	2	3	156	2	0	163	0	6	147	0	0	153	0	1	0	2	0	3	0	1	0	3	0	4	323
12:45 PM	1	3	152	1	0	157	0	9	141	2	0	152	0	4	0	3	0	7	0	1	0	2	0	3	319
Hourly Total	3	10	623	6	0	642	0	25	603	4	0	632	0	12	0	10	2	22	0	3	0	11	0	14	1310
1:00 PM	1	7	163	1	0	172	0	7	142	3	0	152	0	7	0	1	0	8	0	3	0	4	1	7	339
1:15 PM	1	4	147	1	0	153	0	4	162	1	0	167	0	3	0	1	0	4	0	0	0	2	0	2	326
1:30 PM	0	3	192	0	0	195	0	5	135	0	0	140	0	2	0	3	0	5	0	2	0	0	0	2	342
1:45 PM	2	3	139	1	0	145	0	2	143	1	0	146	0	7	0	1	0	8	0	0	0	4	1	4	303
Hourly Total	4	17	641	3	0	665	0	18	582	5	0	605	0	19	0	6	0	25	0	5	0	10	2	15	1310
Grand Total	10	57	2734	28	0	2829	0	87	2455	21	0	2563	0	54	0	26	6	80	0	10	2	35	5	47	5519
Approach %	0.4	2.0	96.6	1.0	-	-	0.0	3.4	95.8	0.8	-	-	0.0	67.5	0.0	32.5	-	-	0.0	21.3	4.3	74.5	-	-	-
Total %	0.2	1.0	49.5	0.5	-	51.3	0.0	1.6	44.5	0.4	-	46.4	0.0	1.0	0.0	0.5	-	1.4	0.0	0.2	0.0	0.6	-	0.9	-
Lights	10	56	2651	26	-	2743	0	85	2367	21	-	2473	0	54	0	22	-	76	0	10	2	34	-	46	5338
% Lights	100.0	98.2	97.0	92.9	-	97.0	-	97.7	96.4	100.0	-	96.5	-	100.0	-	84.6	-	95.0	-	100.0	100.0	97.1	-	97.9	96.7
Buses	0	0	6	2	-	8	0	1	9	0	-	10	0	0	0	1	-	1	0	0	0	0	-	0	19
% Buses	0.0	0.0	0.2	7.1	-	0.3	-	1.1	0.4	0.0	-	0.4	-	0.0	-	3.8	-	1.3	-	0.0	0.0	0.0	-	0.0	0.3
Single-Unit Trucks	0	1	59	0	-	60	0	1	53	0	-	54	0	0	0	2	-	2	0	0	0	1	-	1	117
% Single-Unit Trucks	0.0	1.8	2.2	0.0	-	2.1	-	1.1	2.2	0.0	-	2.1	-	0.0	-	7.7	-	2.5	-	0.0	0.0	2.9	-	2.1	2.1
Articulated Trucks	0	0	18	0	-	18	0	0	26	0	-	26	0	0	0	1	-	1	0	0	0	0	-	0	45

% Articulated Trucks	0.0	0.0	0.7	0.0	-	0.6	-	0.0	1.1	0.0	-	1.0	-	0.0	-	3.8	-	1.3	-	0.0	0.0	0.0	-	0.0	0.8
Bicycles on Road	0	0	0	0	-	0	0	0	0	0	-	0	0	0	0	0	-	0	0	0	0	0	-	0	0
% Bicycles on Road	0.0	0.0	0.0	0.0	-	0.0	-	0.0	0.0	0.0	-	0.0	-	0.0	-	0.0	-	0.0	-	0.0	0.0	0.0	-	0.0	0.0
Pedestrians	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	6	-	-	-	-	-	5	-	-
% Pedestrians	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	100.0	-	-	-	-	-	100.0	-	-

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

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

Count Name: Arlington Heights Road with MOB Drives
Site Code:
Start Date: 07/06/2021

Turning Movement Peak Hour Data (8:15 AM)

Start Time	Arlington Heights Road Eastbound						Arlington Heights Road Westbound						Access Drive Northbound						Access Drive Southbound						
	U-Turn	Left	Thru	Right	Peds	App. Total	U-Turn	Left	Thru	Right	Peds	App. Total	U-Turn	Left	Thru	Right	Peds	App. Total	U-Turn	Left	Thru	Right	Peds	App. Total	Int. Total
8:15 AM	0	3	144	1	0	148	0	4	104	1	0	109	0	1	0	0	0	1	0	0	1	0	0	1	259
8:30 AM	0	2	123	3	0	128	0	5	155	0	0	160	0	1	0	1	1	2	0	0	0	0	1	0	290
8:45 AM	0	7	153	2	0	162	0	5	132	4	0	141	0	3	0	0	0	3	0	1	0	1	0	2	308
9:00 AM	0	8	143	2	0	153	0	4	135	2	0	141	0	5	0	2	1	7	0	0	0	3	0	3	304
Total	0	20	563	8	0	591	0	18	526	7	0	551	0	10	0	3	2	13	0	1	1	4	1	6	1161
Approach %	0.0	3.4	95.3	1.4	-	-	0.0	3.3	95.5	1.3	-	-	0.0	76.9	0.0	23.1	-	-	0.0	16.7	16.7	66.7	-	-	-
Total %	0.0	1.7	48.5	0.7	-	50.9	0.0	1.6	45.3	0.6	-	47.5	0.0	0.9	0.0	0.3	-	1.1	0.0	0.1	0.1	0.3	-	0.5	-
PHF	0.000	0.625	0.920	0.667	-	0.912	0.000	0.900	0.848	0.438	-	0.861	0.000	0.500	0.000	0.375	-	0.464	0.000	0.250	0.250	0.333	-	0.500	0.942
Lights	0	20	543	8	-	571	0	18	502	7	-	527	0	10	0	1	-	11	0	1	1	4	-	6	1115
% Lights	-	100.0	96.4	100.0	-	96.6	-	100.0	95.4	100.0	-	95.6	-	100.0	-	33.3	-	84.6	-	100.0	100.0	100.0	-	100.0	96.0
Buses	0	0	0	0	-	0	0	0	3	0	-	3	0	0	0	1	-	1	0	0	0	0	-	0	4
% Buses	-	0.0	0.0	0.0	-	0.0	-	0.0	0.6	0.0	-	0.5	-	0.0	-	33.3	-	7.7	-	0.0	0.0	0.0	-	0.0	0.3
Single-Unit Trucks	0	0	16	0	-	16	0	0	17	0	-	17	0	0	0	1	-	1	0	0	0	0	-	0	34
% Single-Unit Trucks	-	0.0	2.8	0.0	-	2.7	-	0.0	3.2	0.0	-	3.1	-	0.0	-	33.3	-	7.7	-	0.0	0.0	0.0	-	0.0	2.9
Articulated Trucks	0	0	4	0	-	4	0	0	4	0	-	4	0	0	0	0	-	0	0	0	0	0	-	0	8
% Articulated Trucks	-	0.0	0.7	0.0	-	0.7	-	0.0	0.8	0.0	-	0.7	-	0.0	-	0.0	-	0.0	-	0.0	0.0	0.0	-	0.0	0.7
Bicycles on Road	0	0	0	0	-	0	0	0	0	0	-	0	0	0	0	0	-	0	0	0	0	0	-	0	0
% Bicycles on Road	-	0.0	0.0	0.0	-	0.0	-	0.0	0.0	0.0	-	0.0	-	0.0	-	0.0	-	0.0	-	0.0	0.0	0.0	-	0.0	0.0
Pedestrians	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	2	-	-	-	-	-	1	-	-
% Pedestrians	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	100.0	-	-	-	-	-	100.0	-	-

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

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

Count Name: Arlington Heights Road with MOB Drives
Site Code:
Start Date: 07/06/2021

Turning Movement Peak Hour Data (12:00 PM)

Start Time	Arlington Heights Road Eastbound						Arlington Heights Road Westbound						Access Drive Northbound						Access Drive Southbound						
	U-Turn	Left	Thru	Right	Peds	App. Total	U-Turn	Left	Thru	Right	Peds	App. Total	U-Turn	Left	Thru	Right	Peds	App. Total	U-Turn	Left	Thru	Right	Peds	App. Total	Int. Total
12:00 PM	0	3	168	0	0	171	0	1	159	2	0	162	0	3	0	5	1	8	0	1	0	5	0	6	347
12:15 PM	0	1	147	3	0	151	0	9	156	0	0	165	0	4	0	0	1	4	0	0	0	1	0	1	321
12:30 PM	2	3	156	2	0	163	0	6	147	0	0	153	0	1	0	2	0	3	0	1	0	3	0	4	323
12:45 PM	1	3	152	1	0	157	0	9	141	2	0	152	0	4	0	3	0	7	0	1	0	2	0	3	319
Total	3	10	623	6	0	642	0	25	603	4	0	632	0	12	0	10	2	22	0	3	0	11	0	14	1310
Approach %	0.5	1.6	97.0	0.9	-	-	0.0	4.0	95.4	0.6	-	-	0.0	54.5	0.0	45.5	-	-	0.0	21.4	0.0	78.6	-	-	-
Total %	0.2	0.8	47.6	0.5	-	49.0	0.0	1.9	46.0	0.3	-	48.2	0.0	0.9	0.0	0.8	-	1.7	0.0	0.2	0.0	0.8	-	1.1	-
PHF	0.375	0.833	0.927	0.500	-	0.939	0.000	0.694	0.948	0.500	-	0.958	0.000	0.750	0.000	0.500	-	0.688	0.000	0.750	0.000	0.550	-	0.583	0.944
Lights	3	10	613	6	-	632	0	25	594	4	-	623	0	12	0	9	-	21	0	3	0	10	-	13	1289
% Lights	100.0	100.0	98.4	100.0	-	98.4	-	100.0	98.5	100.0	-	98.6	-	100.0	-	90.0	-	95.5	-	100.0	-	90.9	-	92.9	98.4
Buses	0	0	1	0	-	1	0	0	1	0	-	1	0	0	0	0	-	0	0	0	0	0	-	0	2
% Buses	0.0	0.0	0.2	0.0	-	0.2	-	0.0	0.2	0.0	-	0.2	-	0.0	-	0.0	-	0.0	-	0.0	-	0.0	-	0.0	0.2
Single-Unit Trucks	0	0	7	0	-	7	0	0	4	0	-	4	0	0	0	1	-	1	0	0	0	1	-	1	13
% Single-Unit Trucks	0.0	0.0	1.1	0.0	-	1.1	-	0.0	0.7	0.0	-	0.6	-	0.0	-	10.0	-	4.5	-	0.0	-	9.1	-	7.1	1.0
Articulated Trucks	0	0	2	0	-	2	0	0	4	0	-	4	0	0	0	0	-	0	0	0	0	0	-	0	6
% Articulated Trucks	0.0	0.0	0.3	0.0	-	0.3	-	0.0	0.7	0.0	-	0.6	-	0.0	-	0.0	-	0.0	-	0.0	-	0.0	-	0.0	0.5
Bicycles on Road	0	0	0	0	-	0	0	0	0	0	-	0	0	0	0	0	-	0	0	0	0	0	-	0	0
% Bicycles on Road	0.0	0.0	0.0	0.0	-	0.0	-	0.0	0.0	0.0	-	0.0	-	0.0	-	0.0	-	0.0	-	0.0	-	0.0	-	0.0	0.0
Pedestrians	-	-	-	-	0	-	-	-	-	-	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: Arlington Heights Road with MOB Access
Site Code:
Start Date: 07/08/2021

Turning Movement Data

Start Time	Access Drive Eastbound					Arlington Heights Road Northbound					Arlington Heights Road Southbound					
	U-Turn	Left	Right	Peds	App. Total	U-Turn	Left	Thru	Peds	App. Total	U-Turn	Thru	Right	Peds	App. Total	Int. Total
7:30 AM	0	0	1	0	1	0	0	107	0	107	0	165	7	0	172	280
7:45 AM	0	0	1	0	1	0	0	127	0	127	0	155	22	0	177	305
Hourly Total	0	0	2	0	2	0	0	234	0	234	0	320	29	0	349	585
8:00 AM	0	0	0	0	0	0	0	125	0	125	0	150	23	0	173	298
8:15 AM	0	0	0	0	0	0	0	132	0	132	0	133	9	0	142	274
8:30 AM	0	0	0	0	0	0	0	143	0	143	0	174	4	0	178	321
8:45 AM	0	0	2	0	2	0	0	145	0	145	0	128	7	0	135	282
Hourly Total	0	0	2	0	2	0	0	545	0	545	0	585	43	0	628	1175
9:00 AM	0	0	2	0	2	0	0	144	0	144	0	133	3	0	136	282
9:15 AM	0	0	2	0	2	0	0	126	0	126	0	147	6	0	153	281
*** BREAK ***	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Hourly Total	0	0	4	0	4	0	0	270	0	270	0	280	9	0	289	563
11:30 AM	0	0	7	1	7	0	0	167	0	167	0	188	1	0	189	363
11:45 AM	0	0	5	8	5	0	0	173	0	173	0	184	9	0	193	371
Hourly Total	0	0	12	9	12	0	0	340	0	340	0	372	10	0	382	734
12:00 PM	0	0	2	0	2	0	0	162	0	162	0	179	3	0	182	346
12:15 PM	0	0	3	1	3	0	0	199	0	199	0	173	7	0	180	382
12:30 PM	0	0	1	0	1	0	0	151	0	151	0	178	7	0	185	337
12:45 PM	0	0	4	0	4	0	0	175	0	175	0	140	16	0	156	335
Hourly Total	0	0	10	1	10	0	0	687	0	687	0	670	33	0	703	1400
1:00 PM	0	0	2	0	2	0	0	178	0	178	0	191	4	0	195	375
1:15 PM	0	0	1	0	1	0	0	139	0	139	0	163	3	0	166	306
1:30 PM	0	0	1	0	1	0	0	165	0	165	0	192	0	0	192	358
1:45 PM	0	0	3	0	3	0	0	150	0	150	0	164	3	0	167	320
Hourly Total	0	0	7	0	7	0	0	632	0	632	0	710	10	0	720	1359
Grand Total	0	0	37	10	37	0	0	2708	0	2708	0	2937	134	0	3071	5816
Approach %	0.0	0.0	100.0	-	-	0.0	0.0	100.0	-	-	0.0	95.6	4.4	-	-	-
Total %	0.0	0.0	0.6	-	0.6	0.0	0.0	46.6	-	46.6	0.0	50.5	2.3	-	52.8	-
Lights	0	0	37	-	37	0	0	2631	-	2631	0	2845	121	-	2966	5634
% Lights	-	-	100.0	-	100.0	-	-	97.2	-	97.2	-	96.9	90.3	-	96.6	96.9
Buses	0	0	0	-	0	0	0	12	-	12	0	12	10	-	22	34
% Buses	-	-	0.0	-	0.0	-	-	0.4	-	0.4	-	0.4	7.5	-	0.7	0.6
Single-Unit Trucks	0	0	0	-	0	0	0	41	-	41	0	52	3	-	55	96
% Single-Unit Trucks	-	-	0.0	-	0.0	-	-	1.5	-	1.5	-	1.8	2.2	-	1.8	1.7
Articulated Trucks	0	0	0	-	0	0	0	24	-	24	0	28	0	-	28	52
% Articulated Trucks	-	-	0.0	-	0.0	-	-	0.9	-	0.9	-	1.0	0.0	-	0.9	0.9

Bicycles on Road	0	0	0	-	0	0	0	0	-	0	0	0	0	-	0	0
% Bicycles on Road	-	-	0.0	-	0.0	-	-	0.0	-	0.0	-	0.0	0.0	-	0.0	0.0
Pedestrians	-	-	-	10	-	-	-	-	0	-	-	-	-	0	-	-
% Pedestrians	-	-	-	100.0	-	-	-	-	-	-	-	-	-	-	-	-

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Count Name: Arlington Heights Road with MOB Access
Site Code:
Start Date: 07/08/2021

Turning Movement Peak Hour Data (8:15 AM)

Start Time	Access Drive Eastbound					Arlington Heights Road Northbound					Arlington Heights Road Southbound					
	U-Turn	Left	Right	Peds	App. Total	U-Turn	Left	Thru	Peds	App. Total	U-Turn	Thru	Right	Peds	App. Total	Int. Total
8:15 AM	0	0	0	0	0	0	0	132	0	132	0	133	9	0	142	274
8:30 AM	0	0	0	0	0	0	0	143	0	143	0	174	4	0	178	321
8:45 AM	0	0	2	0	2	0	0	145	0	145	0	128	7	0	135	282
9:00 AM	0	0	2	0	2	0	0	144	0	144	0	133	3	0	136	282
Total	0	0	4	0	4	0	0	564	0	564	0	568	23	0	591	1159
Approach %	0.0	0.0	100.0	-	-	0.0	0.0	100.0	-	-	0.0	96.1	3.9	-	-	-
Total %	0.0	0.0	0.3	-	0.3	0.0	0.0	48.7	-	48.7	0.0	49.0	2.0	-	51.0	-
PHF	0.000	0.000	0.500	-	0.500	0.000	0.000	0.972	-	0.972	0.000	0.816	0.639	-	0.830	0.903
Lights	0	0	4	-	4	0	0	546	-	546	0	550	22	-	572	1122
% Lights	-	-	100.0	-	100.0	-	-	96.8	-	96.8	-	96.8	95.7	-	96.8	96.8
Buses	0	0	0	-	0	0	0	7	-	7	0	2	0	-	2	9
% Buses	-	-	0.0	-	0.0	-	-	1.2	-	1.2	-	0.4	0.0	-	0.3	0.8
Single-Unit Trucks	0	0	0	-	0	0	0	10	-	10	0	15	1	-	16	26
% Single-Unit Trucks	-	-	0.0	-	0.0	-	-	1.8	-	1.8	-	2.6	4.3	-	2.7	2.2
Articulated Trucks	0	0	0	-	0	0	0	1	-	1	0	1	0	-	1	2
% Articulated Trucks	-	-	0.0	-	0.0	-	-	0.2	-	0.2	-	0.2	0.0	-	0.2	0.2
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
Pedestrians	-	-	-	0	-	-	-	-	0	-	-	-	-	0	-	-
% Pedestrians	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

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(847)518-9990

Count Name: Arlington Heights Road with MOB Access
Site Code:
Start Date: 07/08/2021

Turning Movement Peak Hour Data (12:00 PM)

Start Time	Access Drive Eastbound					Arlington Heights Road Northbound					Arlington Heights Road Southbound					
	U-Turn	Left	Right	Peds	App. Total	U-Turn	Left	Thru	Peds	App. Total	U-Turn	Thru	Right	Peds	App. Total	Int. Total
12:00 PM	0	0	2	0	2	0	0	162	0	162	0	179	3	0	182	346
12:15 PM	0	0	3	1	3	0	0	199	0	199	0	173	7	0	180	382
12:30 PM	0	0	1	0	1	0	0	151	0	151	0	178	7	0	185	337
12:45 PM	0	0	4	0	4	0	0	175	0	175	0	140	16	0	156	335
Total	0	0	10	1	10	0	0	687	0	687	0	670	33	0	703	1400
Approach %	0.0	0.0	100.0	-	-	0.0	0.0	100.0	-	-	0.0	95.3	4.7	-	-	-
Total %	0.0	0.0	0.7	-	0.7	0.0	0.0	49.1	-	49.1	0.0	47.9	2.4	-	50.2	-
PHF	0.000	0.000	0.625	-	0.625	0.000	0.000	0.863	-	0.863	0.000	0.936	0.516	-	0.950	0.916
Lights	0	0	10	-	10	0	0	675	-	675	0	651	27	-	678	1363
% Lights	-	-	100.0	-	100.0	-	-	98.3	-	98.3	-	97.2	81.8	-	96.4	97.4
Buses	0	0	0	-	0	0	0	1	-	1	0	2	5	-	7	8
% Buses	-	-	0.0	-	0.0	-	-	0.1	-	0.1	-	0.3	15.2	-	1.0	0.6
Single-Unit Trucks	0	0	0	-	0	0	0	6	-	6	0	9	1	-	10	16
% Single-Unit Trucks	-	-	0.0	-	0.0	-	-	0.9	-	0.9	-	1.3	3.0	-	1.4	1.1
Articulated Trucks	0	0	0	-	0	0	0	5	-	5	0	8	0	-	8	13
% Articulated Trucks	-	-	0.0	-	0.0	-	-	0.7	-	0.7	-	1.2	0.0	-	1.1	0.9
Bicycles on Road	0	0	0	-	0	0	0	0	-	0	0	0	0	-	0	0
% Bicycles on Road	-	-	0.0	-	0.0	-	-	0.0	-	0.0	-	0.0	0.0	-	0.0	0.0
Pedestrians	-	-	-	1	-	-	-	-	0	-	-	-	-	0	-	-
% Pedestrians	-	-	-	100.0	-	-	-	-	-	-	-	-	-	-	-	-

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

Weekday Morning Peak Hour – Base Conditions

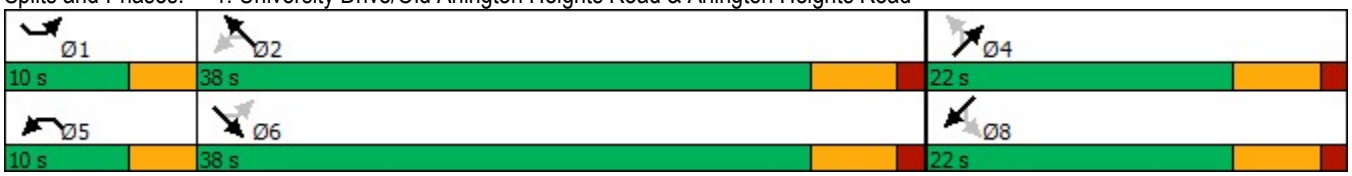
Lane Group	SEL	SET	SER	NWL	NWT	NWR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations												
Traffic Volume (vph)	10	727	38	63	706	102	26	29	53	135	34	37
Future Volume (vph)	10	727	38	63	706	102	26	29	53	135	34	37
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	150		0	190		0	0		0	0		0
Storage Lanes	1		0	1		0	0		0	0		0
Taper Length (ft)	140			100			25			25		
Lane Util. Factor	1.00	0.95	0.95	1.00	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Ped Bike Factor												
Frt		0.993			0.981			0.927			0.973	
Flt Protected	0.950			0.950				0.988			0.968	
Satd. Flow (prot)	1504	3472	0	1703	3451	0	0	2955	0	0	3301	0
Flt Permitted	0.310			0.278				0.822			0.742	
Satd. Flow (perm)	491	3472	0	498	3451	0	0	2459	0	0	2530	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		10			30			58			35	
Link Speed (mph)		40			40			30			40	
Link Distance (ft)		859			737			497			467	
Travel Time (s)		14.6			12.6			11.3			8.0	
Confl. Peds. (#/hr)												
Confl. Bikes (#/hr)												
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	20%	3%	8%	6%	3%	0%	23%	7%	9%	3%	3%	3%
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)	11	841	0	69	888	0	0	119	0	0	226	0
Turn Type	pm+pt	NA		pm+pt	NA		Perm	NA		Perm	NA	
Protected Phases	1	6		5	2			4			8	
Permitted Phases	6			2			4			8		
Detector Phase	1	6		5	2		4	4		8	8	
Switch Phase												
Minimum Initial (s)	3.0	15.0		3.0	15.0		8.0	8.0		8.0	8.0	
Minimum Split (s)	10.0	38.0		10.0	38.0		22.0	22.0		22.0	22.0	
Total Split (s)	10.0	38.0		10.0	38.0		22.0	22.0		22.0	22.0	
Total Split (%)	14.3%	54.3%		14.3%	54.3%		31.4%	31.4%		31.4%	31.4%	
Yellow Time (s)	3.5	4.5		3.5	4.5		4.5	4.5		4.5	4.5	
All-Red Time (s)	0.0	1.5		0.0	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)	3.5	6.0		3.5	6.0			6.0			6.0	
Lead/Lag	Lead	Lag		Lead	Lag							
Lead-Lag Optimize?	Yes	Yes		Yes	Yes							
Recall Mode	None	Max		None	Max		None	None		None	None	
Act Effct Green (s)	40.2	34.4		42.0	38.3			11.2			11.2	
Actuated g/C Ratio	0.64	0.54		0.66	0.61			0.18			0.18	

Lane Group	SEL	SET	SER	NWL	NWT	NWR	NEL	NET	NER	SWL	SWT	SWR
v/c Ratio	0.03	0.44		0.15	0.42			0.25			0.48	
Control Delay	4.4	11.0		4.9	8.2			14.3			23.3	
Queue Delay	0.0	0.0		0.0	0.0			0.0			0.0	
Total Delay	4.4	11.0		4.9	8.2			14.3			23.3	
LOS	A	B		A	A			B			C	
Approach Delay		10.9			8.0			14.3			23.3	
Approach LOS		B			A			B			C	
Queue Length 50th (ft)	1	108		7	72			11			36	
Queue Length 95th (ft)	6	173		21	180			31			66	
Internal Link Dist (ft)		779			657			417			387	
Turn Bay Length (ft)	150			190								
Base Capacity (vph)	419	1890		455	2098			669			670	
Starvation Cap Reductn	0	0		0	0			0			0	
Spillback Cap Reductn	0	0		0	0			0			0	
Storage Cap Reductn	0	0		0	0			0			0	
Reduced v/c Ratio	0.03	0.44		0.15	0.42			0.18			0.34	

Intersection Summary

Area Type: Other
Cycle Length: 70
Actuated Cycle Length: 63.3
Natural Cycle: 70
Control Type: Actuated-Uncoordinated
Maximum v/c Ratio: 0.48
Intersection Signal Delay: 11.1 Intersection LOS: B
Intersection Capacity Utilization 53.6% ICU Level of Service A
Analysis Period (min) 15

Splits and Phases: 1: University Drive/Old Arlington Heights Road & Arlington Heights Road



Intersection	
Int Delay, s/veh	0.6

Movement	SEL	SET	SER	NWL	NWT	NWR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations												
Traffic Vol, veh/h	20	771	8	18	744	7	10	0	3	1	1	4
Future Vol, veh/h	20	771	8	18	744	7	10	0	3	1	1	4
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	150	-	-	150	-	-	-	-	-	-	-	-
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, %	0	4	0	0	5	0	0	0	67	0	0	0
Mvmt Flow	21	820	9	19	791	7	11	0	3	1	1	4

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	798	0	0	829	0	0	1301	1703	415	1285	1704	399
Stage 1	-	-	-	-	-	-	867	867	-	833	833	-
Stage 2	-	-	-	-	-	-	434	836	-	452	871	-
Critical Hdwy	4.1	-	-	4.1	-	-	7.5	6.5	8.24	7.5	6.5	6.9
Critical Hdwy Stg 1	-	-	-	-	-	-	6.5	5.5	-	6.5	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.5	5.5	-	6.5	5.5	-
Follow-up Hdwy	2.2	-	-	2.2	-	-	3.5	4	3.97	3.5	4	3.3
Pot Cap-1 Maneuver	833	-	-	811	-	-	121	93	437	124	93	606
Stage 1	-	-	-	-	-	-	318	373	-	334	386	-
Stage 2	-	-	-	-	-	-	576	385	-	562	371	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	833	-	-	811	-	-	115	89	437	119	89	606
Mov Cap-2 Maneuver	-	-	-	-	-	-	115	89	-	119	89	-
Stage 1	-	-	-	-	-	-	310	364	-	326	377	-
Stage 2	-	-	-	-	-	-	557	376	-	544	362	-

Approach	SE	NW	NE	SW
HCM Control Delay, s	0.2	0.2	33.7	21.2
HCM LOS			D	C

Minor Lane/Major Mvmt	NELn1	NWL	NWT	NWR	SEL	SET	SER	SWLn1
Capacity (veh/h)	139	811	-	-	833	-	-	229
HCM Lane V/C Ratio	0.099	0.024	-	-	0.026	-	-	0.028
HCM Control Delay (s)	33.7	9.5	-	-	9.4	-	-	21.2
HCM Lane LOS	D	A	-	-	A	-	-	C
HCM 95th %tile Q(veh)	0.3	0.1	-	-	0.1	-	-	0.1

Intersection	
Int Delay, s/veh	0

Movement	SET	SER	NWL	NWT	NEL	NER
Lane Configurations						
Traffic Vol, veh/h	795	23	0	758	0	4
Future Vol, veh/h	795	23	0	758	0	4
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	-	0
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	0	0	0	3	3	4
Mvmt Flow	883	26	0	842	0	4

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	-	-	-	455
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	-	-	-	-	6.98
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	-	-	-	-	3.34
Pot Cap-1 Maneuver	-	-	0	-	0	547
Stage 1	-	-	0	-	0	-
Stage 2	-	-	0	-	0	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	-	-	-	547
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-

Approach	SE	NW	NE
HCM Control Delay, s	0	0	11.6
HCM LOS			B

Minor Lane/Major Mvmt	NELn1	NWT	SET	SER
Capacity (veh/h)	547	-	-	-
HCM Lane V/C Ratio	0.008	-	-	-
HCM Control Delay (s)	11.6	-	-	-
HCM Lane LOS	B	-	-	-
HCM 95th %tile Q(veh)	0	-	-	-

Capacity Analysis Summary Sheets

Weekday Afternoon Peak Hour – Base Conditions

Lane Group	SEL	SET	SER	NWL	NWT	NWR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations												
Traffic Volume (vph)	8	819	52	75	794	142	32	51	67	140	54	30
Future Volume (vph)	8	819	52	75	794	142	32	51	67	140	54	30
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	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)	150		0	190		0	0		0	0		0
Storage Lanes	1		0	1		0	0		0	0		0
Taper Length (ft)	140			100			25			25		
Lane Util. Factor	1.00	0.95	0.95	1.00	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Ped Bike Factor												
Frt		0.991			0.977			0.933			0.980	
Flt Protected	0.950			0.950				0.989			0.970	
Satd. Flow (prot)	1805	3528	0	1626	3453	0	0	3084	0	0	3394	0
Flt Permitted	0.291			0.257				0.829			0.732	
Satd. Flow (perm)	553	3528	0	440	3453	0	0	2585	0	0	2561	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		9			29			68			20	
Link Speed (mph)		40			40			30			40	
Link Distance (ft)		859			737			503			467	
Travel Time (s)		14.6			12.6			11.4			8.0	
Confl. Peds. (#/hr)												
Confl. Bikes (#/hr)												
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	0%	1%	8%	11%	2%	3%	3%	6%	12%	1%	2%	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)	8	889	0	77	955	0	0	153	0	0	229	0
Turn Type	pm+pt	NA		pm+pt	NA		Perm	NA		Perm	NA	
Protected Phases	1	6		5	2			4			8	
Permitted Phases	6			2			4			8		
Detector Phase	1	6		5	2		4	4		8	8	
Switch Phase												
Minimum Initial (s)	3.0	15.0		3.0	15.0		8.0	8.0		8.0	8.0	
Minimum Split (s)	10.0	45.0		10.0	45.0		35.0	35.0		35.0	35.0	
Total Split (s)	10.0	45.0		10.0	45.0		35.0	35.0		35.0	35.0	
Total Split (%)	11.1%	50.0%		11.1%	50.0%		38.9%	38.9%		38.9%	38.9%	
Yellow Time (s)	3.5	4.5		3.5	4.5		4.5	4.5		4.5	4.5	
All-Red Time (s)	0.0	1.5		0.0	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)	3.5	6.0		3.5	6.0			6.0			6.0	
Lead/Lag	Lead	Lag		Lead	Lag							
Lead-Lag Optimize?	Yes	Yes		Yes	Yes							
Recall Mode	None	Max		None	Max		None	None		None	None	
Act Effct Green (s)	46.7	39.8		49.5	45.8			12.2			12.2	
Actuated g/C Ratio	0.65	0.55		0.69	0.64			0.17			0.17	

Lane Group	SEL	SET	SER	NWL	NWT	NWR	NEL	NET	NER	SWL	SWT	SWR
v/c Ratio	0.02	0.45		0.19	0.43			0.31			0.51	
Control Delay	4.1	11.4		5.1	8.0			17.2			29.1	
Queue Delay	0.0	0.0		0.0	0.0			0.0			0.0	
Total Delay	4.1	11.4		5.1	8.0			17.2			29.1	
LOS	A	B		A	A			B			C	
Approach Delay		11.3			7.8			17.2			29.1	
Approach LOS		B			A			B			C	
Queue Length 50th (ft)	1	121		9	84			17			45	
Queue Length 95th (ft)	5	186		24	198			42			78	
Internal Link Dist (ft)		779			657			423			387	
Turn Bay Length (ft)	150			190								
Base Capacity (vph)	478	1959		411	2211			1090			1052	
Starvation Cap Reductn	0	0		0	0			0			0	
Spillback Cap Reductn	0	0		0	0			0			0	
Storage Cap Reductn	0	0		0	0			0			0	
Reduced v/c Ratio	0.02	0.45		0.19	0.43			0.14			0.22	

Intersection Summary

Area Type: Other
Cycle Length: 90
Actuated Cycle Length: 71.8
Natural Cycle: 90
Control Type: Actuated-Uncoordinated
Maximum v/c Ratio: 0.51
Intersection Signal Delay: 11.9 Intersection LOS: B
Intersection Capacity Utilization 57.6% ICU Level of Service B
Analysis Period (min) 15

Splits and Phases: 1: University Drive/Old Arlington Heights Road & Arlington Heights Road

Intersection	
Int Delay, s/veh	0.8

Movement	SEL	SET	SER	NWL	NWT	NWR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations												
Traffic Vol, veh/h	13	866	6	25	827	4	12	0	10	3	0	11
Future Vol, veh/h	13	866	6	25	827	4	12	0	10	3	0	11
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	150	-	-	150	-	-	-	-	-	-	-	-
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, %	0	2	0	0	2	0	0	0	10	0	0	9
Mvmt Flow	14	921	6	27	880	4	13	0	11	3	0	12

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	884	0	0	927	0	0	1446	1890	464	1425	1891	442
Stage 1	-	-	-	-	-	-	952	952	-	936	936	-
Stage 2	-	-	-	-	-	-	494	938	-	489	955	-
Critical Hdwy	4.1	-	-	4.1	-	-	7.5	6.5	7.1	7.5	6.5	7.08
Critical Hdwy Stg 1	-	-	-	-	-	-	6.5	5.5	-	6.5	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.5	5.5	-	6.5	5.5	-
Follow-up Hdwy	2.2	-	-	2.2	-	-	3.5	4	3.4	3.5	4	3.39
Pot Cap-1 Maneuver	774	-	-	746	-	-	94	71	524	98	71	544
Stage 1	-	-	-	-	-	-	283	341	-	289	346	-
Stage 2	-	-	-	-	-	-	531	346	-	534	339	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	774	-	-	746	-	-	88	67	524	92	67	544
Mov Cap-2 Maneuver	-	-	-	-	-	-	88	67	-	92	67	-
Stage 1	-	-	-	-	-	-	278	335	-	284	334	-
Stage 2	-	-	-	-	-	-	501	334	-	514	333	-

Approach	SE	NW	NE	SW
HCM Control Delay, s	0.1	0.3	35.3	19.4
HCM LOS			E	C

Minor Lane/Major Mvmt	NELn1	NWL	NWT	NWR	SEL	SET	SER	SWLn1
Capacity (veh/h)	142	746	-	-	774	-	-	265
HCM Lane V/C Ratio	0.165	0.036	-	-	0.018	-	-	0.056
HCM Control Delay (s)	35.3	10	-	-	9.7	-	-	19.4
HCM Lane LOS	E	B	-	-	A	-	-	C
HCM 95th %tile Q(veh)	0.6	0.1	-	-	0.1	-	-	0.2

Intersection	
Int Delay, s/veh	0.1

Movement	SET	SER	NWL	NWT	NEL	NER
Lane Configurations						
Traffic Vol, veh/h	875	33	0	850	0	10
Future Vol, veh/h	875	33	0	850	0	10
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	-	0
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	0	0	0	2	3	18
Mvmt Flow	951	36	0	924	0	11

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	-	-	-	494
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	-	-	-	-	7.26
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	-	-	-	-	3.48
Pot Cap-1 Maneuver	-	-	0	-	0	480
Stage 1	-	-	0	-	0	-
Stage 2	-	-	0	-	0	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	-	-	-	480
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-

Approach	SE	NW	NE
HCM Control Delay, s	0	0	12.7
HCM LOS			B

Minor Lane/Major Mvmt	NELn1	NWT	SET	SER
Capacity (veh/h)	480	-	-	-
HCM Lane V/C Ratio	0.023	-	-	-
HCM Control Delay (s)	12.7	-	-	-
HCM Lane LOS	B	-	-	-
HCM 95th %tile Q(veh)	0.1	-	-	-

Capacity Analysis Summary Sheets

Weekday Morning Peak Hour – Projected Conditions

Lane Group	SEL	SET	SER	NWL	NWT	NWR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations												
Traffic Volume (vph)	16	745	44	63	727	102	30	29	53	135	34	41
Future Volume (vph)	16	745	44	63	727	102	30	29	53	135	34	41
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	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)	150		0	190		0	0		0	0		0
Storage Lanes	1		0	1		0	0		0	0		0
Taper Length (ft)	140			100			25			25		
Lane Util. Factor	1.00	0.95	0.95	1.00	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Ped Bike Factor												
Frt		0.992			0.982			0.929			0.971	
Flt Protected	0.950			0.950				0.987			0.969	
Satd. Flow (prot)	1504	3467	0	1703	3454	0	0	2949	0	0	3298	0
Flt Permitted	0.293			0.261				0.811			0.742	
Satd. Flow (perm)	464	3467	0	468	3454	0	0	2423	0	0	2525	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		11			29			58			39	
Link Speed (mph)		40			40			30			40	
Link Distance (ft)		859			737			499			467	
Travel Time (s)		14.6			12.6			11.3			8.0	
Confl. Peds. (#/hr)												
Confl. Bikes (#/hr)												
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	20%	3%	8%	6%	3%	0%	23%	7%	9%	3%	3%	3%
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)	18	867	0	69	911	0	0	123	0	0	230	0
Turn Type	pm+pt	NA		pm+pt	NA		Perm	NA		Perm	NA	
Protected Phases	1	6		5	2			4			8	
Permitted Phases	6			2			4			8		
Detector Phase	1	6		5	2		4	4		8	8	
Switch Phase												
Minimum Initial (s)	3.0	15.0		3.0	15.0		8.0	8.0		8.0	8.0	
Minimum Split (s)	10.0	38.0		10.0	38.0		17.0	17.0		17.0	17.0	
Total Split (s)	10.0	38.0		10.0	38.0		22.0	22.0		22.0	22.0	
Total Split (%)	14.3%	54.3%		14.3%	54.3%		31.4%	31.4%		31.4%	31.4%	
Yellow Time (s)	3.5	4.5		3.5	4.5		4.5	4.5		4.5	4.5	
All-Red Time (s)	0.0	1.5		0.0	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)	3.5	6.0		3.5	6.0			6.0			6.0	
Lead/Lag	Lead	Lag		Lead	Lag							
Lead-Lag Optimize?	Yes	Yes		Yes	Yes							
Recall Mode	None	Min		None	Min		None	None		None	None	
Act Effct Green (s)	34.1	28.4		35.6	31.9			11.3			11.3	
Actuated g/C Ratio	0.59	0.49		0.62	0.56			0.20			0.20	

Lane Group	SEL	SET	SER	NWL	NWT	NWR	NEL	NET	NER	SWL	SWT	SWR
v/c Ratio	0.05	0.50		0.16	0.47			0.24			0.44	
Control Delay	4.4	11.9		5.0	9.0			14.7			21.5	
Queue Delay	0.0	0.0		0.0	0.0			0.0			0.0	
Total Delay	4.4	11.9		5.0	9.0			14.7			21.5	
LOS	A	B		A	A			B			C	
Approach Delay		11.7			8.7			14.7			21.5	
Approach LOS		B			A			B			C	
Queue Length 50th (ft)	2	113		7	74			11			36	
Queue Length 95th (ft)	8	180		22	188			32			66	
Internal Link Dist (ft)		779			657			419			387	
Turn Bay Length (ft)	150			190								
Base Capacity (vph)	401	2040		437	2248			752			769	
Starvation Cap Reductn	0	0		0	0			0			0	
Spillback Cap Reductn	0	0		0	0			0			0	
Storage Cap Reductn	0	0		0	0			0			0	
Reduced v/c Ratio	0.04	0.42		0.16	0.41			0.16			0.30	

Intersection Summary

Area Type: Other
Cycle Length: 70
Actuated Cycle Length: 57.4
Natural Cycle: 65
Control Type: Actuated-Uncoordinated
Maximum v/c Ratio: 0.50
Intersection Signal Delay: 11.6 Intersection LOS: B
Intersection Capacity Utilization 54.2% ICU Level of Service A
Analysis Period (min) 15

Splits and Phases: 1: University Drive/Old Arlington Heights Road & Arlington Heights Road

Intersection	
Int Delay, s/veh	0.8

Movement	SEL	SET	SER	NWL	NWT	NWR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations												
Traffic Vol, veh/h	20	800	24	47	744	7	10	0	4	1	1	4
Future Vol, veh/h	20	800	24	47	744	7	10	0	4	1	1	4
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	150	-	-	150	-	-	-	-	-	-	-	-
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, %	0	4	0	0	5	0	0	0	67	0	0	0
Mvmt Flow	21	851	26	50	791	7	11	0	4	1	1	4

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	798	0	0	877	0	0	1402	1804	439	1363	1814	399
Stage 1	-	-	-	-	-	-	906	906	-	895	895	-
Stage 2	-	-	-	-	-	-	496	898	-	468	919	-
Critical Hdwy	4.1	-	-	4.1	-	-	7.5	6.5	8.24	7.5	6.5	6.9
Critical Hdwy Stg 1	-	-	-	-	-	-	6.5	5.5	-	6.5	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.5	5.5	-	6.5	5.5	-
Follow-up Hdwy	2.2	-	-	2.2	-	-	3.5	4	3.97	3.5	4	3.3
Pot Cap-1 Maneuver	833	-	-	779	-	-	102	80	419	109	79	606
Stage 1	-	-	-	-	-	-	301	358	-	306	362	-
Stage 2	-	-	-	-	-	-	529	361	-	550	353	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	833	-	-	779	-	-	93	73	419	101	72	606
Mov Cap-2 Maneuver	-	-	-	-	-	-	93	73	-	101	72	-
Stage 1	-	-	-	-	-	-	293	349	-	298	339	-
Stage 2	-	-	-	-	-	-	490	338	-	531	344	-

Approach	SE	NW	NE	SW
HCM Control Delay, s	0.2	0.6	39.2	23.9
HCM LOS			E	C

Minor Lane/Major Mvmt	NELn1	NWL	NWT	NWR	SEL	SET	SER	SWLn1
Capacity (veh/h)	120	779	-	-	833	-	-	197
HCM Lane V/C Ratio	0.124	0.064	-	-	0.026	-	-	0.032
HCM Control Delay (s)	39.2	9.9	-	-	9.4	-	-	23.9
HCM Lane LOS	E	A	-	-	A	-	-	C
HCM 95th %tile Q(veh)	0.4	0.2	-	-	0.1	-	-	0.1

Intersection	
Int Delay, s/veh	0.2

Movement	SET	SER	NWL	NWT	NEL	NER
Lane Configurations						
Traffic Vol, veh/h	811	24	0	758	0	33
Future Vol, veh/h	811	24	0	758	0	33
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	-	0
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	0	0	0	3	3	4
Mvmt Flow	901	27	0	842	0	37

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	-	-	-	464
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	-	-	-	-	6.98
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	-	-	-	-	3.34
Pot Cap-1 Maneuver	-	-	0	-	0	539
Stage 1	-	-	0	-	0	-
Stage 2	-	-	0	-	0	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	-	-	-	539
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-

Approach	SE	NW	NE
HCM Control Delay, s	0	0	12.2
HCM LOS			B

Minor Lane/Major Mvmt	NELn1	NWT	SET	SER
Capacity (veh/h)	539	-	-	-
HCM Lane V/C Ratio	0.068	-	-	-
HCM Control Delay (s)	12.2	-	-	-
HCM Lane LOS	B	-	-	-
HCM 95th %tile Q(veh)	0.2	-	-	-

Capacity Analysis Summary Sheets

Weekday Afternoon Peak Hour – Projected Conditions

Lane Group	SEL	SET	SER	NWL	NWT	NWR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations												
Traffic Volume (vph)	16	848	60	75	808	142	35	51	67	140	54	33
Future Volume (vph)	16	848	60	75	808	142	35	51	67	140	54	33
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	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)	150		0	190		0	0		0	0		0
Storage Lanes	1		0	1		0	0		0	0		0
Taper Length (ft)	140			100			25			25		
Lane Util. Factor	1.00	0.95	0.95	1.00	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Ped Bike Factor												
Frt		0.990			0.978			0.935			0.978	
Flt Protected	0.950			0.950				0.989			0.970	
Satd. Flow (prot)	1805	3522	0	1626	3456	0	0	3093	0	0	3388	0
Flt Permitted	0.284			0.243				0.818			0.733	
Satd. Flow (perm)	540	3522	0	416	3456	0	0	2558	0	0	2560	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		10			28			68			23	
Link Speed (mph)		40			40			30			40	
Link Distance (ft)		859			737			503			467	
Travel Time (s)		14.6			12.6			11.4			8.0	
Confl. Peds. (#/hr)												
Confl. Bikes (#/hr)												
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	0%	1%	8%	11%	2%	3%	3%	6%	12%	1%	2%	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)	16	926	0	77	969	0	0	156	0	0	232	0
Turn Type	pm+pt	NA		pm+pt	NA		Perm	NA		Perm	NA	
Protected Phases	1	6		5	2			4			8	
Permitted Phases	6			2			4			8		
Detector Phase	1	6		5	2		4	4		8	8	
Switch Phase												
Minimum Initial (s)	3.0	15.0		3.0	15.0		8.0	8.0		8.0	8.0	
Minimum Split (s)	10.0	45.0		10.0	45.0		35.0	35.0		35.0	35.0	
Total Split (s)	10.0	45.0		10.0	45.0		35.0	35.0		35.0	35.0	
Total Split (%)	11.1%	50.0%		11.1%	50.0%		38.9%	38.9%		38.9%	38.9%	
Yellow Time (s)	3.5	4.5		3.5	4.5		4.5	4.5		4.5	4.5	
All-Red Time (s)	0.0	1.5		0.0	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)	3.5	6.0		3.5	6.0			6.0			6.0	
Lead/Lag	Lead	Lag		Lead	Lag							
Lead-Lag Optimize?	Yes	Yes		Yes	Yes							
Recall Mode	None	Max		None	Max		None	None		None	None	
Act Effct Green (s)	46.7	39.7		49.3	45.6			12.2			12.2	
Actuated g/C Ratio	0.65	0.55		0.69	0.64			0.17			0.17	

Lane Group	SEL	SET	SER	NWL	NWT	NWR	NEL	NET	NER	SWL	SWT	SWR
v/c Ratio	0.04	0.47		0.20	0.44			0.32			0.51	
Control Delay	4.2	11.6		5.2	8.1			17.4			28.7	
Queue Delay	0.0	0.0		0.0	0.0			0.0			0.0	
Total Delay	4.2	11.6		5.2	8.1			17.4			28.7	
LOS	A	B		A	A			B			C	
Approach Delay		11.5			7.9			17.4			28.7	
Approach LOS		B			A			B			C	
Queue Length 50th (ft)	2	128		9	86			18			45	
Queue Length 95th (ft)	8	197		24	205			43			78	
Internal Link Dist (ft)		779			657			423			387	
Turn Bay Length (ft)	150			190								
Base Capacity (vph)	471	1954		396	2208			1081			1055	
Starvation Cap Reductn	0	0		0	0			0			0	
Spillback Cap Reductn	0	0		0	0			0			0	
Storage Cap Reductn	0	0		0	0			0			0	
Reduced v/c Ratio	0.03	0.47		0.19	0.44			0.14			0.22	

Intersection Summary

Area Type: Other
Cycle Length: 90
Actuated Cycle Length: 71.7
Natural Cycle: 90
Control Type: Actuated-Uncoordinated
Maximum v/c Ratio: 0.51
Intersection Signal Delay: 12.0 Intersection LOS: B
Intersection Capacity Utilization 58.0% ICU Level of Service B
Analysis Period (min) 15

Splits and Phases: 1: University Drive/Old Arlington Heights Road & Arlington Heights Road

Intersection	
Int Delay, s/veh	1

Movement	SEL	SET	SER	NWL	NWT	NWR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations												
Traffic Vol, veh/h	13	910	16	45	827	4	13	0	11	3	0	11
Future Vol, veh/h	13	910	16	45	827	4	13	0	11	3	0	11
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	150	-	-	150	-	-	-	-	-	-	-	-
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, %	0	2	0	0	2	0	0	0	10	0	0	9
Mvmt Flow	14	968	17	48	880	4	14	0	12	3	0	12

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	884	0	0	985	0	0	1541	1985	493	1490	1991	442
Stage 1	-	-	-	-	-	-	1005	1005	-	978	978	-
Stage 2	-	-	-	-	-	-	536	980	-	512	1013	-
Critical Hdwy	4.1	-	-	4.1	-	-	7.5	6.5	7.1	7.5	6.5	7.08
Critical Hdwy Stg 1	-	-	-	-	-	-	6.5	5.5	-	6.5	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.5	5.5	-	6.5	5.5	-
Follow-up Hdwy	2.2	-	-	2.2	-	-	3.5	4	3.4	3.5	4	3.39
Pot Cap-1 Maneuver	774	-	-	709	-	-	80	62	501	87	61	544
Stage 1	-	-	-	-	-	-	263	322	-	273	331	-
Stage 2	-	-	-	-	-	-	501	331	-	518	319	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	774	-	-	709	-	-	73	57	501	79	56	544
Mov Cap-2 Maneuver	-	-	-	-	-	-	73	57	-	79	56	-
Stage 1	-	-	-	-	-	-	258	316	-	268	308	-
Stage 2	-	-	-	-	-	-	457	308	-	497	313	-

Approach	SE	NW	NE	SW
HCM Control Delay, s	0.1	0.5	42.9	20.9
HCM LOS			E	C

Minor Lane/Major Mvmt	NELn1	NWL	NWT	NWR	SEL	SET	SER	SWLn1
Capacity (veh/h)	120	709	-	-	774	-	-	241
HCM Lane V/C Ratio	0.213	0.068	-	-	0.018	-	-	0.062
HCM Control Delay (s)	42.9	10.4	-	-	9.7	-	-	20.9
HCM Lane LOS	E	B	-	-	A	-	-	C
HCM 95th %tile Q(veh)	0.8	0.2	-	-	0.1	-	-	0.2

Intersection	
Int Delay, s/veh	0.4

Movement	SET	SER	NWL	NWT	NEL	NER
Lane Configurations						
Traffic Vol, veh/h	885	33	0	851	0	54
Future Vol, veh/h	885	33	0	851	0	54
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	-	0
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	0	0	0	2	3	18
Mvmt Flow	962	36	0	925	0	59

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	-	-	-	499
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	-	-	-	-	7.26
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	-	-	-	-	3.48
Pot Cap-1 Maneuver	-	-	0	-	0	477
Stage 1	-	-	0	-	0	-
Stage 2	-	-	0	-	0	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	-	-	-	477
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-

Approach	SE	NW	NE
HCM Control Delay, s	0	0	13.6
HCM LOS			B

Minor Lane/Major Mvmt	NELn1	NWT	SET	SER
Capacity (veh/h)	477	-	-	-
HCM Lane V/C Ratio	0.123	-	-	-
HCM Control Delay (s)	13.6	-	-	-
HCM Lane LOS	B	-	-	-
HCM 95th %tile Q(veh)	0.4	-	-	-