Traffic and Parking Impact Study

Kensington School

Arlington Heights, Illinois

Prepared By:

KLOA
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Introduction

This report summarizes the methodologies, results, and findings of a traffic and parking impact study conducted by Kenig, Lindgren, O'Hara, Aboona, Inc. (KLOA, Inc.) for the proposed Kensington School to be located in Arlington Heights, Illinois. The site, which is currently vacant, is located in the northwest quadrant of the intersection of Kensington Road and Dryden Place directly east of the Arlington Market 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 area.

As proposed, the school will provide a preschool program and a full-day program with a maximum of 150 students and approximately 21 to 23 staff members. The following summarizes the proposed operation of the school:

- The full-day program will operate between 6:30 A.M. and 6:30 P.M. and will have a total of approximately 130 students. According to the operator, most students will be dropped off between 6:30 and 8:30 A.M. and picked up between 3:30 and 6:00 P.M. All parents will be required to park and walk their children to and from the school.

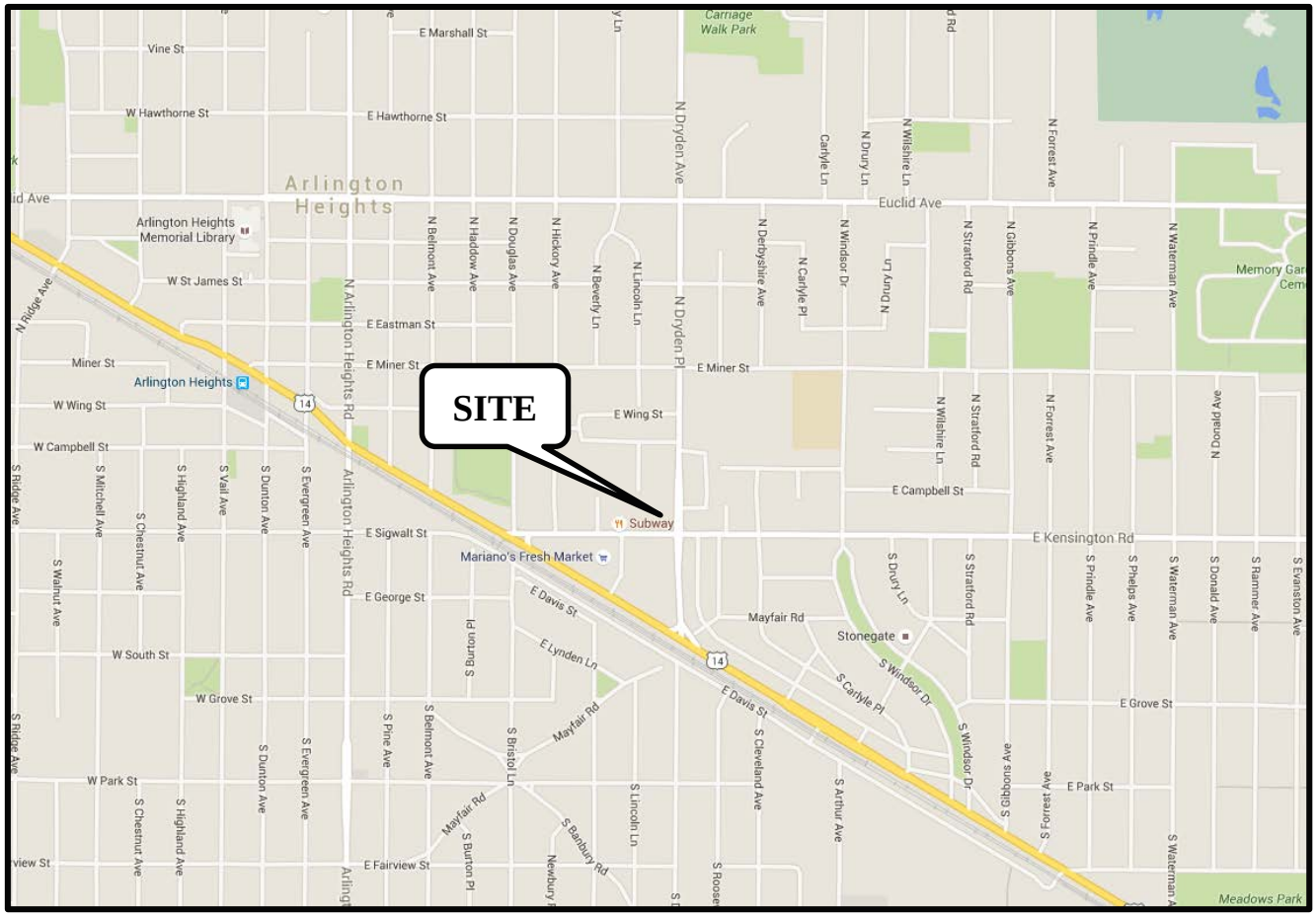
- The preschool program will have a total of approximately 20 students and will operate from 9:00 A.M. to 11:30 A.M. All parents will be required to park and walk their children to and from the school.

The school is proposed to have a total of 46 parking spaces. Per the Arlington Market development agreement, cross access and shared parking will be provided between the proposed school and the existing Arlington Market.

The purpose of this study was to examine existing traffic conditions, assess the impact that the proposed school would have on traffic conditions in the area, and determine the need for roadway or traffic control improvements that are directly related to the proposed school.

The sections of this report present the following:

- Existing roadway conditions including traffic volumes for the weekday morning and weekday evening peak hours
- A detailed description of the proposed school
- Vehicle trip generation for the proposed school
- Directional distribution of school-generated traffic
- Future transportation conditions including access to and from the school
- Projected parking conditions of the school and the Arlington Market development



Site Location **Figure 1**

Aerial View of Development Site **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

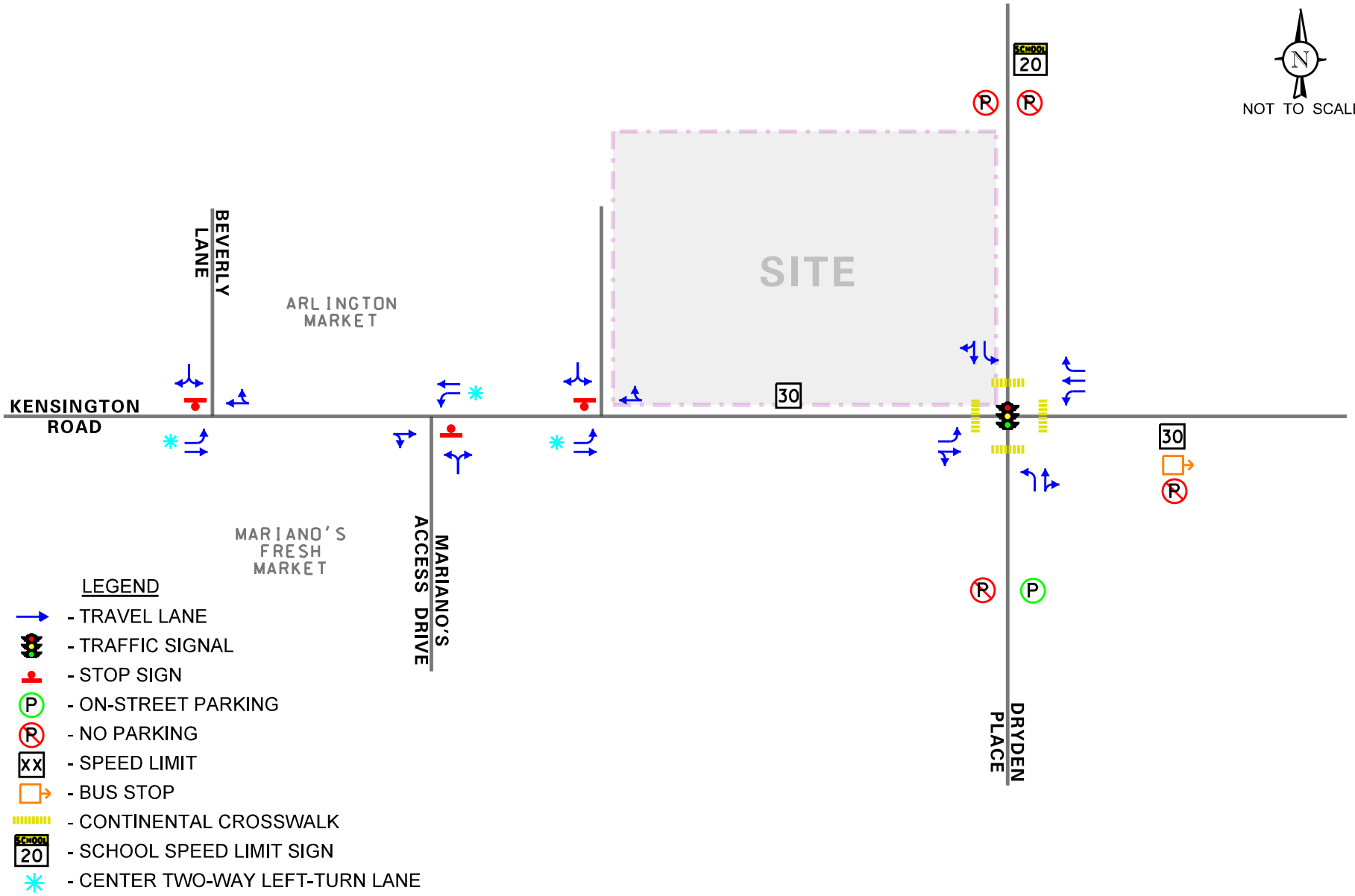
The site is located in the northwest quadrant of the intersection of Kensington Road and Dryden Place. Land uses in the area include the Arlington Market commercial development located directly west of the site, residential homes located directly north and east of the site, and Mariano's Fresh Market located directly south of the site. Miner Special Education School and Windsor Elementary School are located to the northeast of the site and are in session from mid-August to early June and from late August to late May, respectively.

Existing Roadway System Characteristics

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

Dryden Place is a north-south, major collector roadway providing one lane in each direction separated by a two-way left-turn lane that extends from Northwest Highway to Miner Street. At its signalized intersection with Kensington Road, Dryden Place provides an exclusive left-turn lane and a shared through/right-turn lane on both approaches. Continental style crosswalks are provided on both approaches of Dryden Place at its intersection with Kensington Road. Dryden Place is under the jurisdiction of the Village of Arlington Heights, has an annual average daily traffic (AADT) volume of 3,850 vehicles, and has a posted speed limit of 30 mph with a school zone speed limit of 20 mph north of Kensington Road.

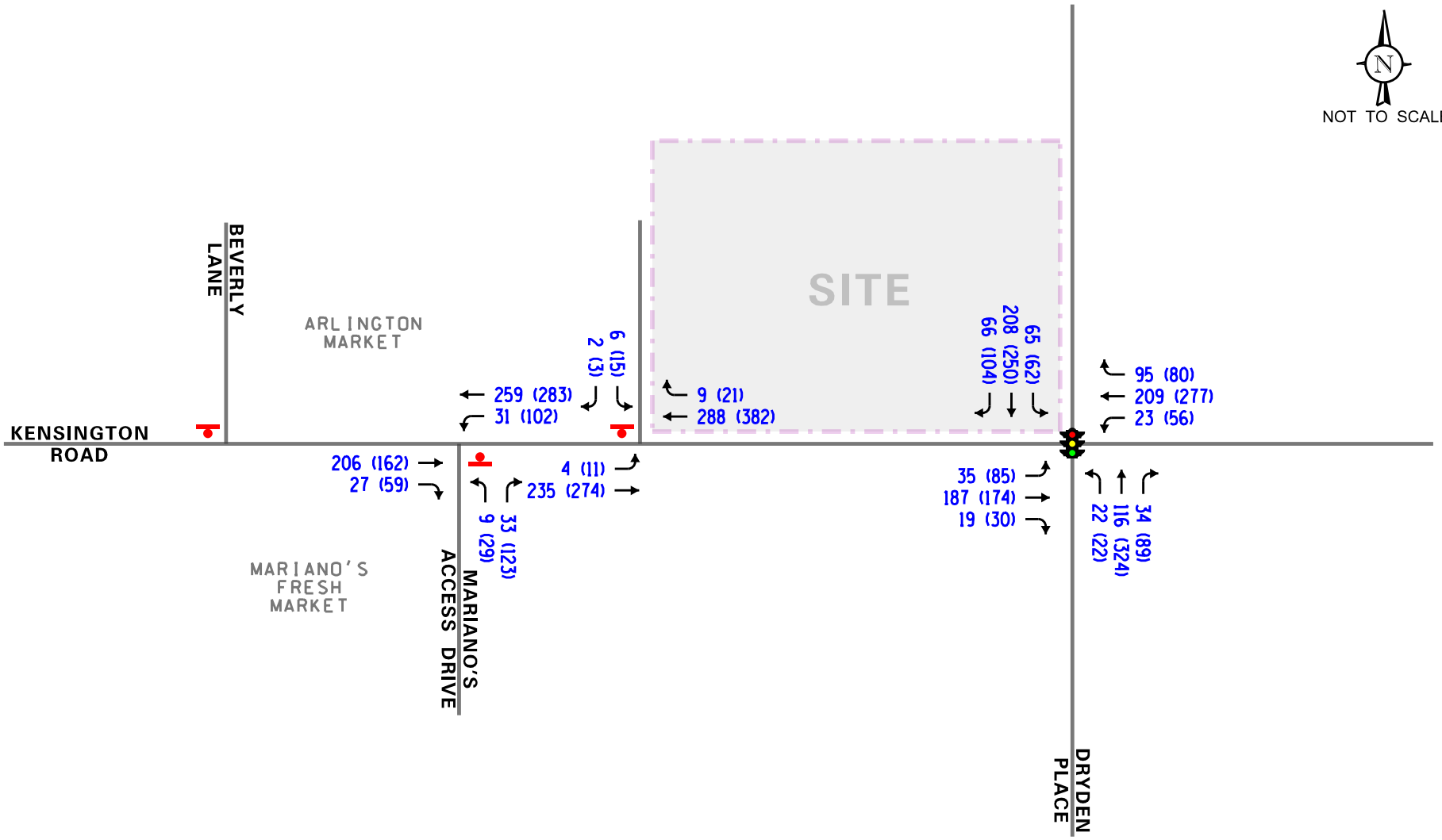
Kensington Road is an east-west, major collector roadway that provides one lane in each direction separated by a two-way left-turn lane. At its signalized intersection with Dryden Place, Kensington Road provides an exclusive left-turn lane and a shared through/right-turn lane on the eastbound approach and an exclusive left-turn lane, a though lane, and a right-turn lane on the westbound approach. Continental style crosswalks are provided on both approaches of Kensington Road at its intersection with Dryden Place. Kensington Road is under the jurisdiction of the Village of Arlington Heights, carries an AADT volume of 5,500 vehicles, and has a posted speed limit of 30 mph.



PROJECT:	TITLE:	
Kensington School Arlington Heights, Illinois	Existing Roadway Characteristics	KLOA Job No: 16-105 Figure: 3

Existing Traffic Volumes

In order to determine existing traffic conditions, vehicle, pedestrian, and bicycle traffic counts were conducted at the intersections of Kensington Road with Dryden Place and Kensington Road with the Arlington Market and Mariano's access drives. The traffic counts were conducted on Thursday, July 7, 2016 during the morning (7:00 to 9:00 A.M.) and evening (4:00 to 6:00 P.M.) peak periods. From the turning movement count data, it was determined that the weekday morning peak hour generally occurs between 7:15 A.M. and 8:15 A.M. and the weekday evening peak hour generally occurs between 5:00 P.M. and 6:00 P.M. It should be noted that the counts were performed when the schools in the area were closed for the summer. Pedestrian and bicycle activity was observed and was reported to be very low at the study intersections. The existing peak hour traffic volumes are shown in **Figure 4**.



LEGEND

00 - AM PEAK HOUR (7:15-8:15 AM)

(00) - PM PEAK HOUR (5:00-6:00 PM)

PROJECT:	TITLE:	
Kensington School Arlington Heights, Illinois	Existing Traffic Volumes	KLOA Job No: 16-105 Figure: 4

Traffic Characteristics of the Proposed School

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

Proposed Development Plan

The site is to be developed with an approximate 15,300 square-foot school. As proposed, the school will provide a preschool program and a full-day program with a maximum enrollment of 150 students and approximately 21 to 23 staff members. The following summarizes the proposed operation of the school:

- The full-day program will operate between 6:30 A.M. and 6:30 P.M. and will have a total of approximately 130 students. According to the operator, most students will be dropped off between 6:30 and 8:30 A.M. and picked up between 3:30 and 6:00 P.M. All parents will be required to park and walk their children to and from the school.

- The preschool program will have a total of approximately 20 students and will operate from 9:00 A.M. to 11:30 A.M. All parents will be required to park and walk their children to and from the school.

The school is proposed to have a total of 46 parking spaces.

Site Access

Per the Arlington Market development agreement, cross access and shared parking will be provided between the proposed school and the existing Arlington Market development. Access to the Arlington Market development is currently provided via one access drive on Kensington Road and four access drives on Beverly Lane as discussed below.

- The *Kensington Road access drive* is located on the north side of the road at the east end of the existing Arlington Market parcel approximately 100 feet east of the Mariano's access drive. This access drive provides access to the main north-south circulation road/parking aisle serving the Arlington Market and provides one inbound lane and one outbound lane.

- The *northern Beverly Lane access drive* is located on the east side of the road at the north end of the existing Arlington Market parcel. This access drive provides access to the main east-west circulation road/parking aisle serving the Arlington Market and provides one inbound lane and one outbound lane.

- The *southern Beverly Lane access drive* is located on the east side of the road at the south end of the existing Arlington Market parcel. This access drive provides access to the parking lot located in the southwest corner of the site and provides one inbound lane and one outbound lane.

- The *two middle Beverly Lane access drives* are located on the east side of the road towards the middle of the existing Arlington Market parcel. These access drives are restricted to one-way flow and serve the Ben Franklin Bank of Illinois drive-through facility which is located on the west side of the building.

As proposed, access to the school is proposed to be provided via a single access drive located along the Arlington Market's main north-south circulation/parking aisle, aligned opposite an east-west parking aisle. This north-south parking aisle provides direct access to the Kensington Road access drive and secondary access to the northern Beverly Lane access drive. As such, the school will have access to the external roadway system via multiple access drives. As proposed, the access drive will be under stop sign control at its intersection with the Arlington Market's north-south circulation/parking aisle.

Directional Distribution of Site Traffic

The directional distribution of how traffic will approach and depart the development was based on the existing travel patterns, as determined from the traffic counts and the existing roadway characteristics and traffic controls surrounding the site. **Figure 5** illustrates the directional distribution for the proposed school.

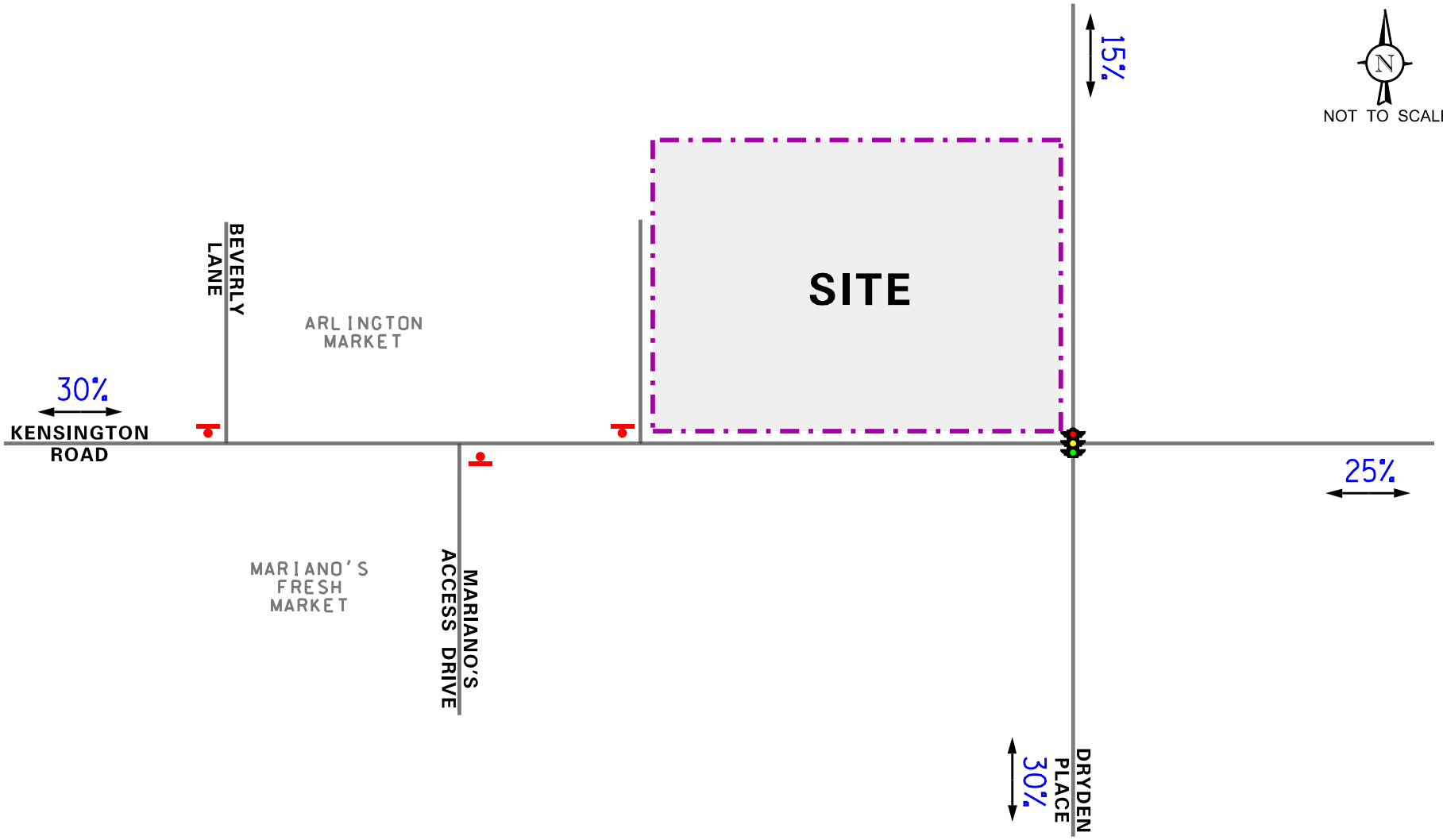
Site Traffic Generation

The traffic estimated to be generated by the proposed school was based on surveys of an existing Kensington School located in Elmhurst, Illinois. According to Kensington School officials, the Elmhurst school is approximately 15,000 square feet in size and has a licensed capacity for 160 students and a total of 24 to 26 employees, all of which is very similar to the size and operation of the proposed Arlington Heights school. Further, on the day the surveys were performed, the school had an attendance of 158 students with 26 employees working that day. The surveys were performed on Wednesday, December 9, 2015 during the morning (6:00 A.M. to 9:00 A.M.) and evening (4:00 P.M. to 6:00 P.M.) peak periods. **Table 1** tabulates the vehicle trips anticipated to be generated by the school and was based on the surveys at the existing Elmhurst school.

Table 1
ESTIMATED SCHOOL-GENERATED PEAK HOUR TRAFFIC VOLUMES

	Weekday Morning Peak Hour		Weekday Evening Peak Hour	
	In	Out	In	Out
Proposed Kensington School	54	45	53	59

The school primarily generates traffic during the drop-off and pick-up periods. Further, the school is typically closed after 6:30 P.M. on weeknights and on weekends. As such, other than during the morning and evening peak periods, the school generates a very limited volume of traffic during weekdays and little, if any, traffic during weekday evenings or weekends.



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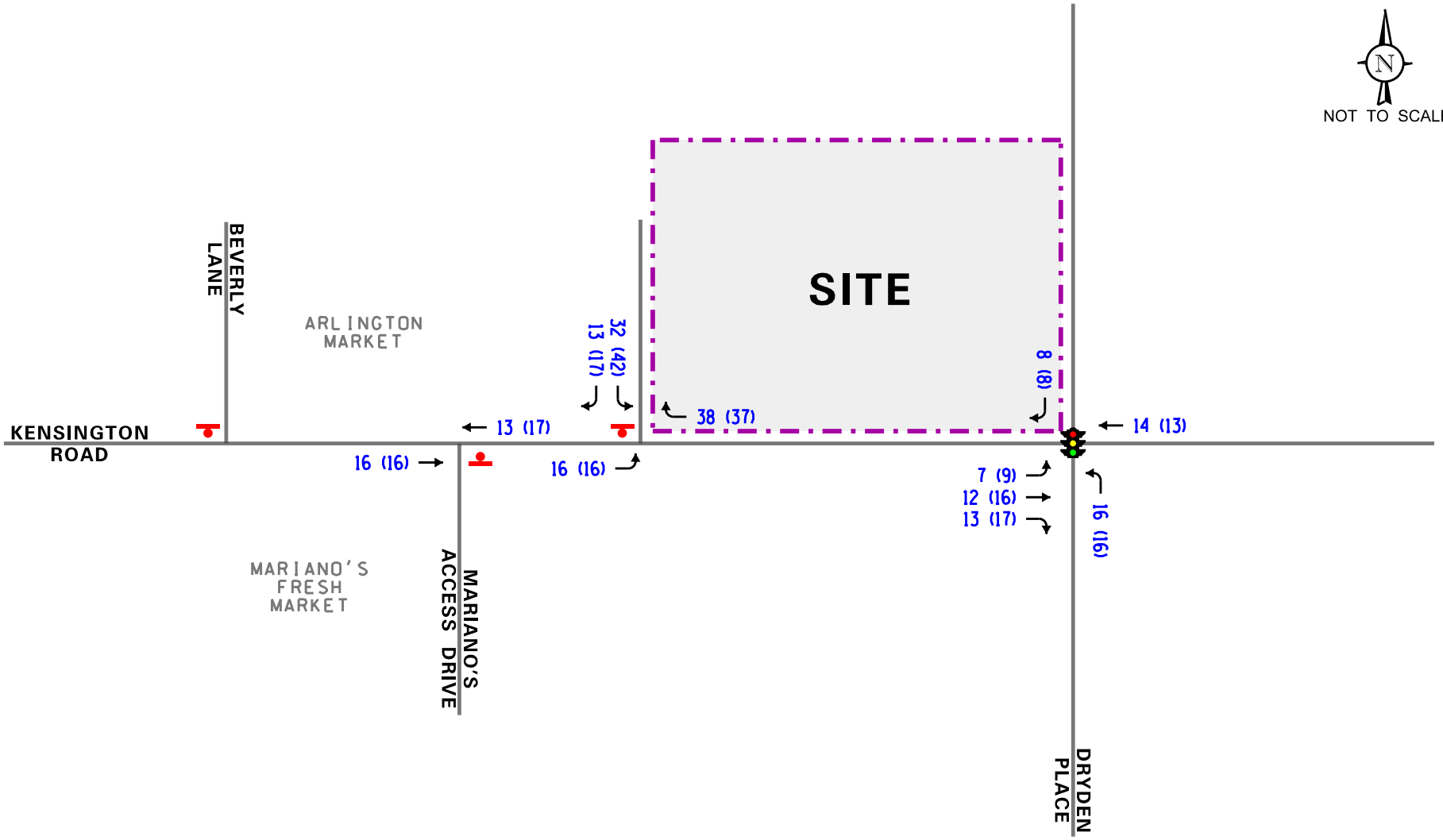
PROJECT:	TITLE:	
Kensington School Arlington Heights, Illinois	Estimated Directional Distribution	KLOA Job No: 16-105 Figure: 5

Total Projected Traffic Volumes

The school-generated peak hour traffic volumes (Table 1) were assigned to the area roadways based on the directional distribution analysis (Figure 5) and are shown in **Figure 6.** To account for the increase in existing traffic related to regional growth in the area (i.e. not attributable to any particular planned development) and the fact that the traffic counts were conducted when the nearby Miner School and Windsor Elementary School were not in session, the existing traffic volumes (Figure 4) were increased by twenty percent. The total projected traffic volumes include the existing traffic volumes plus the regional or background growth in traffic plus the traffic to be generated by the proposed school. **Figure 7** illustrates the total projected traffic volumes.



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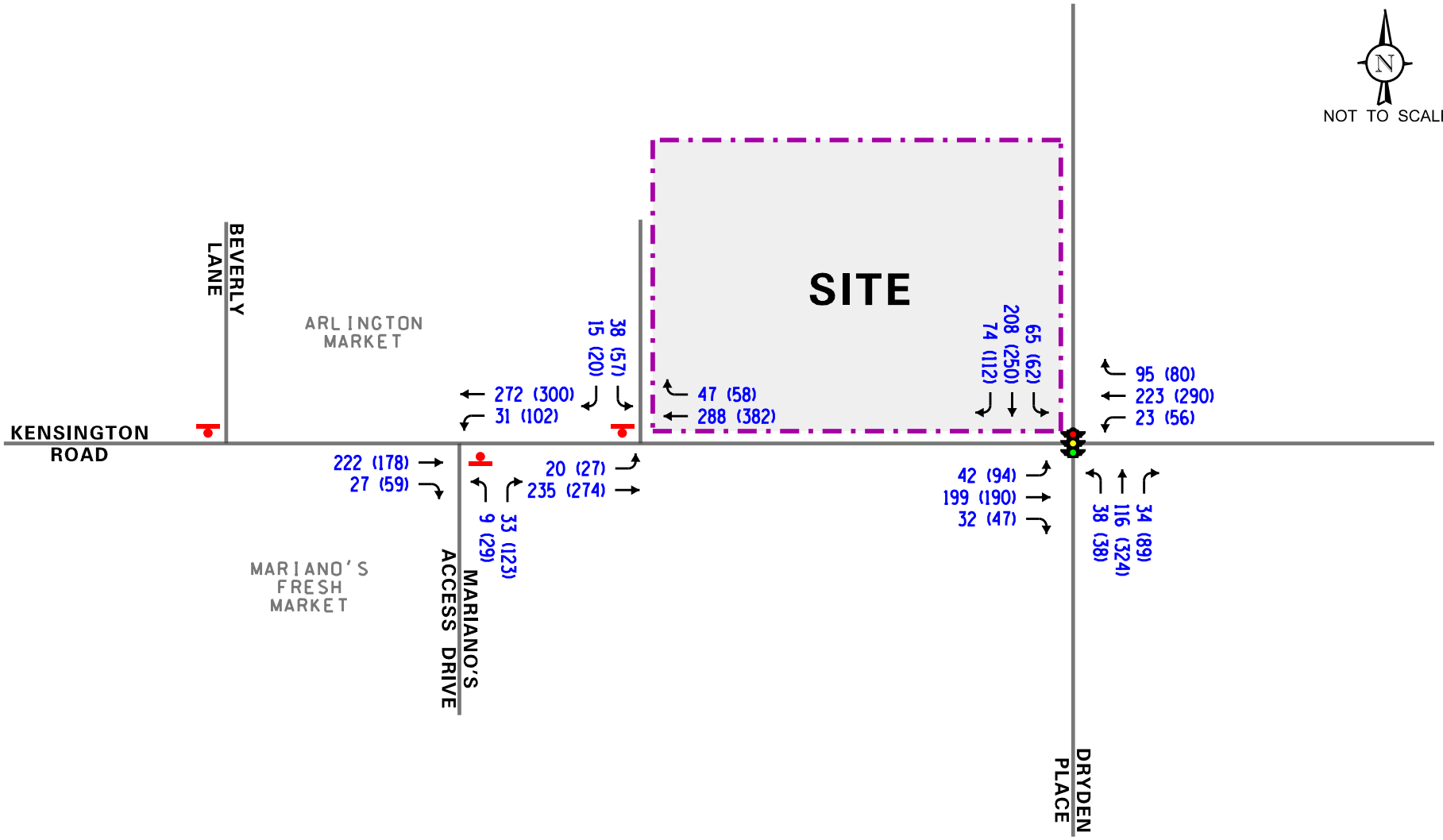
PROJECT:	TITLE:	
Kensington School Arlington Heights, Illinois	Estimated Site-Generated Traffic Volumes	KLOA Job No: 16-105 Figure: 6



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PROJECT:	TITLE:	
Kensington School Arlington Heights, Illinois	Total Projected Traffic Volumes	KLOA Job No: 16-105 Figure: 7

Traffic Evaluation

The following provides an evaluation conducted for the weekday morning and weekday evening peak hours. The analysis includes conducting capacity analyses to provide an indication of how well the roadway facilities serve the anticipated traffic demands placed upon them assuming the total projected traffic volumes.

Traffic Analyses

Capacity analyses were performed for the key intersections included in the study area to determine the ability of the existing roadway system to accommodate existing and future traffic demands. Traffic capacity analyses were performed for the existing and total projected peak hour traffic conditions.

The traffic analyses were performed using the methodologies outlined in the Transportation Research Board's *Highway Capacity Manual (HCM), 2010* and using HCS (Highway Capacity Software) software.

The analysis for the traffic-signal controlled intersections were accomplished using existing signal timing data to determine the average overall vehicle delay, volume-to-capacity ratios, 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 grade from A to F based on the average control delay experienced by vehicles passing through the intersection. Control delay is that portion of the total delay attributed to the traffic signal or stop sign control operation, and includes initial deceleration delay, queue move-up time, stopped delay, and final acceleration delay. Level of Service A is the highest grade (best traffic flow and least delay), Level of Service E represents saturated or at-capacity conditions, and Level of Service F is the lowest grade (oversaturated conditions, extensive delays).

Summaries of the traffic analysis results showing the level of service and overall intersection delay (measured in seconds) for the analyzed conditions are presented in **Tables 2 and 3.** A discussion of the intersections follows.

Table 2
CAPACITY ANALYSIS RESULTS - EXISTING CONDITIONS

Intersection	Weekday Morning Peak Hour		Weekday Evening Peak Hour	
	LOS	Delay	LOS	Delay
Kensington Road with Dryden Place[1]				
Overall	C	26.3	C	25.1
Westbound Approach	D	39.5	D	40.2
Northbound Approach	B	11.0	B	14.9
Eastbound Approach	D	40.1	D	35.3
Southbound Approach	B	11.6	B	13.5
Kensington Road with Arlington Market Access Drive[2]				
Eastbound Left Turn	A	7.9	A	8.2
Southbound Approach	B	11.4	B	12.3
Kensington Road with Mariano's Access Drive[2]				
Westbound Left Turn	A	7.8	A	7.9
Northbound Approach	B	10.4	B	11.6

LOS = Level of Service
Delay is measured in seconds.
1. Signalized intersection
2. Stop sign controlled intersection

Table 3
CAPACITY ANALYSIS RESULTS – PROJECTED CONDITIONS

	Weekday Morning Peak Hour		Weekday Evening Peak Hour	
Intersection	LOS	Delay	LOS	Delay
Kensington Road with Dryden Place[1]				
Overall	C	27.1	C	25.8
Westbound Approach	D	39.0	D	40.5
Northbound Approach	B	11.6	B	15.5
Eastbound Approach	D	41.0	D	35.7
Southbound Approach	B	12.7	B	14.2
Kensington Road with Arlington Market Access Drive[2]				
Eastbound Left Turn	A	8.1	A	8.3
Southbound Approach	B	12.4	B	13.7
Kensington Road with Mariano's Access Drive[2]				
Westbound Left Turn	A	7.9	A	8.0
Northbound Approach	B	10.6	B	11.8

LOS = Level of Service
Delay is measured in seconds.
1. Signalized intersection
2. Stop sign controlled intersection

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 proposed development traffic.

Kensington Road with Dryden Place

The results of the capacity analyses have shown that this overall intersection is currently operating at a good Level of Service (LOS) C. With the addition of the traffic to be generated by the proposed development and the other growth in the area, the overall intersection is projected to continue to operate at a good LOS C. Further, all of the approaches currently and are projected to operate at a LOS D or better. As such, the intersection has sufficient reserve capacity to accommodate the additional traffic to be generated by the proposed development.

Kensington Road with Arlington Market Access Drive

The results of the capacity analyses have shown that the Arlington Market southbound approach and the inbound left-turn movement are currently operating at a good LOS B or better. With the addition of the traffic to be generated by the proposed development, the Arlington Market southbound approach and the inbound left-turn movement are projected to continue to operate at a good LOS B or better. As such, the intersection has sufficient reserve capacity to accommodate the additional traffic to be generated by the proposed development.

Kensington Road with Mariano's Access Drive

The results of the capacity analyses have shown that the Mariano's northbound approach and the inbound left-turn movement are currently operating at a good LOS B or better. With the addition of the traffic to be generated by the proposed development, the Mariano's northbound approach and the inbound left-turn movement are projected to continue to operate at a good LOS B or better. As such, the intersection has sufficient reserve capacity to accommodate the additional traffic to be generated by the proposed development.

Kensington Road Center Left-Turn Lane

Left-turn movements from Kensington Road to the Mariano's access drive and the Arlington Market access drive are accommodated via the center two-way left-turn lane on Kensington Road. With the centerlines of the two access drives approximately 100 feet apart, the two-way left-turn lane can accommodate three to four vehicles between the two access drives. According to the capacity analyses, both access drives are projected to have a 95th percentile inbound left-turn queue length of approximately one vehicle during both the weekday morning and evening peak hours. As such, the center two-way left-turn lane on Kensington Road should be sufficient to accommodate the projected maximum left-turn queue to both access drives.

Further, it should be noted that the school primarily generates traffic during the weekday morning (6:30 A.M. to 8:30 A.M.) and evening (3:30 P.M. to 6:00 P.M.) peak periods. In addition, it is closed on weekends. As such, the school and the Mariano's only generate higher or peak volumes of traffic at the same time during a two to two and a half hour period on weekday evenings. In contrast, if the subject parcel were developed with a commercial development, it would likely generate traffic all day long on both weekdays and weekends.

Internal Circulation

The school is proposed to have a 46-space parking lot that will be located along the south side of the site and will be designed with perpendicular parking and two-way circulation. In addition, a one-way westbound circulation road will be located along the front of the building. It should be noted that parents and staff will have two means to exit the parking lot which will help to distribute the outbound traffic and reduce any internal queueing within the school site.

Access to the site is to be provided via cross access to the Arlington Market via a single access drive to be located along the Arlington Market's main north-south circulation/parking aisle, aligned opposite an east-west parking aisle. The school's access drive is proposed to be under stop sign control at its intersection with the Arlington Market's main north-south circulation/parking aisle. The north-south parking aisle provides direct access to the Kensington Road access drive and secondary access to the northern Beverly Lane access drive. As such, the school will have access to the external roadway system via multiple access drives.

It is anticipated that the 21 to 23 staff members will park along the outside of the parking lot. The 11 parking spaces along the inside of the parking lot will be used by parents. As indicated previously, all parents will be required to park and walk their children to and from school and no drop-offs or pick-ups will be permitted. It is important to note that the arrival and departure of the full-day students is typically distributed over a two-hour period (6:30 A.M. to 8:30 A.M.) in the morning and a two and one half hour period (3:30 P.M. to 6:00 P.M.) in the evening. Finally, the site has been designed with sidewalks and a crosswalk across the circulation road that will provide pedestrian connections between the parking spaces and the school.

Finally, AutoTurn exhibits are provided in the Appendix showing how the Arlington Heights Fire Department's ladder truck can circulate the parking lot.

Parking Study

Existing Development

Currently, the western portion of the Arlington Market is developed with a commercial building that contains the Ben Franklin Bank of Illinois, Eros Restaurant, DeLuxe Nails Spa, Definite Dental Solutions, and a Subway restaurant. It is important to note that the existing building is 100 percent occupied. The Arlington Market currently provides a total of 88 parking spaces with 81 parking spaces provided in the main parking lot that extends along the east and north sides of the building and seven spaces located on the southwest side of the building.

Existing Parking Demand

Parking inventory and occupancy surveys were conducted at the two parking lots located within the Arlington Market. The surveys were performed from 6:00 A.M. to 6:30 P.M. on the following days:

- Thursday, December 3, 2015
- Friday, December 4, 2015
- Saturday, April 2, 2016
- Thursday, April 7, 2016
- Friday, April 8, 2016
- Saturday, April 9, 2016

It should be noted that the surveys were conducted during the hours of operation of the proposed school which is generally from 6:30 A.M. to 6:30 P.M. Monday through Friday. As such, all of the school's 46 parking spaces will typically be available for use by the existing Arlington Market after 6:30 P.M. to 7:00 P.M. on weekdays and all day on weekends. The results of the parking inventory and occupancy surveys are shown in **Tables 4** through **9**. A summary of the peak parking demand and the time it occurred for each of the surveyed days is shown in **Table 10**.

The results of the parking surveys showed that the existing Arlington Market had a peak parking demand of 63 to 64 vehicles on a weekday and 50 vehicles on a Saturday. A maximum of approximately 74 percent of the total parking spaces were occupied on a weekday and a maximum of approximately 57 percent of the spaces were occupied on a Saturday. At a minimum, 24 parking spaces were available within the parking lot on a weekday or Saturday between 6:00 A.M. and 6:30 P.M. As such, it can be seen that the existing 88 parking spaces are sufficient to meet the peak parking demand of the existing Arlington Market during the operating hours of the school. As noted above, all of the school's 46 parking spaces will typically be available for use by the existing Arlington Market after 6:30 P.M. to 7:00 P.M. on weekdays and all day on weekends.

Table 4
ARLINGTON MARKET PARKING SURVEYS
THURSDAY, DECEMBER 3, 2015

Time	Main Lot	Secondary Lot	Total	Percentage Occupied
Inventory	81	7	88	n/a
6:00 AM	8	1	9	10%
6:30 AM	16	1	17	19%
7:00 AM	14	2	16	18%
7:30 AM	10	2	12	14%
8:00 AM	12	2	14	16%
8:30 AM	18	3	21	24%
9:00 AM	28	3	31	35%
9:30 AM	34	5	39	44%
10:00 AM	34	6	40	45%
11:00 AM	36	7	43	49%
11:30 AM	40	6	46	52%
12:00 PM	46	5	51	58%
12:30 PM	**54**	**5**	**59**	**67%**
1:00 PM	42	5	47	53%
1:30 PM	25	5	30	34%
2:00 PM	37	5	42	48%
3:00 PM	34	4	38	43%
3:30 PM	33	6	39	44%
4:00 PM	37	7	45	51%
4:30 PM	32	4	36	41%
5:00 PM	36	5	41	47%
5:30 PM	40	6	46	52%
6:00 PM	46	5	51	58%

Note: Secondary lot is the lot located in the southwest corner of the site.

Table 5
ARLINGTON MARKET PARKING SURVEYS
FRIDAY, DECEMBER 4, 2015

Time	Main Lot	Secondary Lot	Total	Percentage Occupied
Inventory	81	7	88	n/a
6:00 AM	7	2	9	10%
6:30 AM	11	2	13	15%
7:00 AM	15	3	18	20%
7:30 AM	12	3	15	17%
8:00 AM	13	3	16	18%
8:30 AM	22	4	26	30%
9:00 AM	31	3	34	39%
9:30 AM	38	3	41	47%
10:00 AM	44	6	50	57%
11:00 AM	45	6	51	58%
11:30 AM	**56**	**6**	**62**	**70%**
12:00 PM	**56**	**6**	**62**	**70%**
12:30 PM	50	6	56	64%
1:00 PM	49	6	55	63%
1:30 PM	48	7	55	63%
2:00 PM	49	6	55	63%
3:00 PM	39	6	45	52%
3:30 PM	32	2	34	39%
4:00 PM	37	2	39	44%
4:30 PM	39	2	41	47%
5:00 PM	40	2	42	48%
5:30 PM	39	2	41	47%
6:00 PM	40	2	42	48%

Note: Secondary lot is the lot located in the southwest corner of the site.

Table 6
ARLINGTON MARKET PARKING SURVEYS
SATURDAY, APRIL 2, 2016

Time	Main Lot	Secondary Lot	Total	Percentage Occupied
Inventory	81	7	88	n/a
6:00 AM	4	2	6	7%
6:30 AM	8	2	10	11%
7:00 AM	12	3	15	17%
7:30 AM	12	4	16	18%
8:00 AM	16	4	20	23%
8:30 AM	24	5	29	33%
9:00 AM	30	5	35	40%
9:30 AM	**43**	**5**	**48**	**55%**
10:00 AM	39	5	44	50%
10:30 AM	41	5	46	52%
11:00 AM	35	5	40	45%
11:30 AM	33	4	37	42%
12:00 PM	34	4	38	43%
12:30 PM	40	3	43	49%
1:00 PM	36	4	40	45%
1:30 PM	29	5	34	39%
2:00 PM	31	5	36	41%
2:30 PM	30	4	34	39%
3:00 PM	25	1	26	30%
3:30 PM	23	1	24	27%
4:00 PM	21	2	23	26%
4:30 PM	22	2	24	27%
5:00 PM	22	2	24	27%
5:30 PM	24	2	26	30%
6:00 PM	36	2	38	43%

Note: Secondary lot is the lot located in the southwest corner of the site.

Table 7
ARLINGTON MARKET PARKING SURVEYS
THURSDAY, APRIL 7, 2016

Time	Main Lot	Secondary Lot	Total	Percentage Occupied
Inventory	81	7	88	n/a
6:00 AM	6	1	7	8%
6:30 AM	15	1	16	18%
7:00 AM	18	1	19	22%
7:30 AM	8	2	10	11%
8:00 AM	8	3	11	13%
8:30 AM	19	3	22	25%
9:00 AM	29	3	32	36%
9:30 AM	39	3	42	48%
10:00 AM	40	5	45	51%
10:30 AM	43	5	48	55%
11:00 AM	42	5	47	53%
11:30 AM	48	5	53	60%
12:00 PM	**58**	**5**	**63**	**72%**
12:30 PM	51	5	56	64%
1:00 PM	34	4	38	43%
1:30 PM	33	4	37	42%
2:00 PM	40	4	44	50%
2:30 PM	35	4	39	44%
3:00 PM	35	3	38	43%
3:30 PM	31	3	34	39%
4:00 PM	35	4	39	44%
4:30 PM	36	4	40	45%
5:00 PM	34	4	38	43%
5:30 PM	35	3	38	43%
6:00 PM	42	4	46	52%

Note: Secondary lot is the lot located in the southwest corner of the site.

Table 8
ARLINGTON MARKET PARKING SURVEYS
FRIDAY, APRIL 8, 2016

Time	Main Lot	Secondary Lot	Total	Percentage Occupied
Inventory	81	7	88	n/a
6:00 AM	5	2	7	8%
6:30 AM	7	2	9	10%
7:00 AM	10	2	12	14%
7:30 AM	11	2	13	15%
8:00 AM	12	2	14	16%
8:30 AM	18	3	21	24%
9:00 AM	22	3	25	28%
9:30 AM	29	3	32	36%
10:00 AM	34	3	37	42%
10:30 AM	40	4	44	50%
11:00 AM	45	4	49	56%
11:30 AM	47	4	51	58%
12:00 PM	59	4	63	72%
12:30 PM	59	4	63	72%
1:00 PM	55	3	58	66%
1:30 PM	53	3	56	64%
2:00 PM	44	3	47	53%
2:30 PM	38	5	43	49%
3:00 PM	37	3	40	45%
3:30 PM	33	2	35	40%
4:00 PM	30	1	31	35%
4:30 PM	31	3	34	39%
5:00 PM	36	3	39	44%
5:30 PM	49	3	52	59%
6:00 PM	**61**	**3**	**64**	**73%**

Note: Secondary lot is the lot located in the southwest corner of the site.

Table 9
ARLINGTON MARKET PARKING SURVEYS
SATURDAY, APRIL 9, 2016

Time	Main Lot	Secondary Lot	Total	Percentage Occupied
Inventory	81	7	88	n/a
6:00 AM	5	2	7	8%
6:30 AM	5	2	7	8%
7:00 AM	7	3	10	11%
7:30 AM	10	4	14	16%
8:00 AM	23	4	27	31%
8:30 AM	26	4	30	34%
9:00 AM	38	5	43	49%
9:30 AM	**45**	**5**	**50**	**57%**
10:00 AM	43	5	48	55%
10:30 AM	37	5	42	48%
11:00 AM	38	5	43	49%
11:30 AM	37	4	41	47%
12:00 PM	42	4	46	52%
12:30 PM	44	3	47	53%
1:00 PM	45	3	48	55%
1:30 PM	38	3	41	47%
2:00 PM	33	3	36	41%
2:30 PM	31	3	34	39%
3:00 PM	29	2	31	35%
3:30 PM	20	1	21	24%
4:00 PM	17	1	18	20%
4:30 PM	20	2	22	25%
5:00 PM	21	2	23	26%
5:30 PM	21	2	23	26%
6:00 PM	25	2	27	31%

Note: Secondary lot is the lot located in the southwest corner of the site.

Table 10
ARLINGTON MARKET - SUMMARY OF PEAK PARKING DEMAND

Time	Time of Day	Parking Demand	Percentage Occupied
Inventory	n/a	88	n/a
Thursday, December 3, 2015	12:30 PM	59	67%
Friday, December 4, 2015	12:00 PM	62	70%
Thursday, April 7, 2016	12:00 PM	63	72%
Friday, April 8, 2016	6:00 P.M.	64	73%
Saturday, April 2, 2016	9:30 A.M.	48	55%
Saturday, April 9, 2016	9:30 A.M.	50	57%

Projected Parking Demand of the School

The peak parking estimated to be generated by the proposed school was based on surveys of an existing Kensington School located in Elmhurst, Illinois. The parking surveys were performed on Wednesday, December 9, 2015 generally during the operating hours of the school (6:30 A.M. to 6:30 P.M.). According to Kensington School officials, the Elmhurst school is approximately 15,000 square feet in size and has a licensed capacity for 160 students and a total of 24 to 26 employees, all of which is very similar to the size and operation of the proposed Arlington Heights school. Further, on the day the surveys were performed, the school had an attendance of 158 students with 26 employees working that day. **Table 11** shows the results of the parking surveys at the existing Elmhurst school.

From Table 11 it can be seen that the proposed school is projected to have a peak parking demand of approximately 37 vehicles which will occur during the morning drop-off period. With a total of 46 parking spaces, it can be seen that the number of parking spaces to be provided by the school will be more than sufficient to meet its peak parking demand and the school will not need to utilize any of the existing 88 parking spaces currently serving the Arlington Market.

Table 11
KENSINGTON SCHOOL, ELMHURST, ILLINOIS
PARKING SURVEYS
WEDNESDAY, DECEMBER 9, 2016

Time	Parking Demand
6:00 AM	1
6:30 AM	7
7:00 AM	14
7:30 AM	18
8:00 AM	22
8:30 AM	27
9:00 AM	**37**
9:30 AM	29
10:00 AM	24
10:30 AM	22
11:00 AM	24
11:30 AM	25
12:00 PM	**25**
12:30 PM	**24**
1:00 PM	24
1:30 PM	21
2:00 PM	21
2:30 PM	20
3:00 PM	20
3:30 PM	23
4:00 PM	19
4:30 PM	26
5:00 PM	**27**
5:30 PM	20
6:00 PM	8

Conclusion

Based on the proposed development plan and the preceding evaluation, the following conclusions and recommendations are made:

- The school primarily generates traffic during the drop-off and pick-up periods. Further, the school is typically closed after 6:30 P.M. on weeknights and on weekends. As such, other than during the weekday morning and evening peak periods, the school generates a very limited volume of traffic during weekdays and little, if any, traffic during weekday evenings or weekends.

- The traffic volumes were increased by 20 percent in order to account for any background growth and the fact that the Miner Special Education School and Windsor Elementary School were not in session when the traffic counts were conducted.

- The results of the capacity analyses show that all of the intersections in the study area currently operate at a good level of service and are projected to continue to operate at a good level of service with the addition of the school-generated traffic. As such, the existing roadway system has sufficient reserve capacity to accommodate the traffic to be generated by the school.

- Access to the site is to be provided via cross access to the Arlington Market via a single access drive to be located along the Arlington Market's main north-south circulation/parking aisle, aligned opposite an east-west parking aisle. The north-south parking aisle provides direct access to the Kensington Road access drive and secondary access to the northern Beverly Lane access drive. As such, the school will have access to the external roadway system via multiple access drives.

- The center two-way left-turn lane on Kensington Road will continue to provide safe and efficient access to the Arlington Market and Mariano's access drives with a 95th percentile queue of one vehicle at both access drives.

- The results of existing parking surveys performed at the Arlington Market, which is 100 percent occupied, have shown that the existing 88 parking spaces are sufficient to meet the peak parking demand of the existing development during the school's operating hours. All of the school's 46 parking spaces will generally be available to the Arlington Market after 6:30 P.M. to 7:00 P.M. on weekdays and all day on weekends.

- The proposed school is projected to have a peak parking demand of approximately 37 vehicles which will occur during the morning drop-off period. With a total of 46 parking spaces, the number of parking spaces to be provided by the school will be more than sufficient to meet its peak parking demand and the school will not need to utilize any of the existing 88 parking spaces currently serving the Arlington Market.

- Assuming the peak parking demand of the existing Arlington Market and the proposed school, which provides for a worst-case analysis as they occur at different times of the day, the overall development is projected to have a peak parking demand of 101 vehicles. As such, the 134 parking spaces to be provided by the Arlington Market and the proposed school will be more than sufficient to meet their peak parking demand.

Appendix

Traffic Count Summary Sheets
Level of Service Criteria
Capacity Analysis Summary Sheets
Fire Truck AutoTurn Exhibits

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: Kensington Road and Dryden Place
Site Code:
Start Date: 07/07/2016

Turning Movement Data

Start Time	Kensington Road Eastbound						Kensington Road Westbound						Dryden Place Northbound						Dryden Place Southbound						Int. Total
	U-Turn	Left	Thru	Right	Peds	App. Total	U-Turn	Left	Thru	Right	Peds	App. Total	U-Turn	Left	Thru	Right	Peds	App. Total	U-Turn	Left	Thru	Right	Peds	App. Total	
7:00 AM	0	2	38	3	0	43	0	6	31	10	0	47	0	1	27	9	0	37	0	18	35	5	2	58	185
7:15 AM	0	7	56	2	1	65	0	5	51	31	0	87	0	6	30	8	0	44	0	25	42	12	1	79	275
7:30 AM	0	6	32	6	1	44	0	3	56	20	2	79	0	2	25	6	1	33	0	9	40	15	1	64	220
7:45 AM	0	9	39	5	0	53	0	5	30	16	0	51	0	6	20	7	1	33	0	6	49	12	2	67	204
Hourly Total	0	24	165	16	2	205	0	19	168	77	2	264	0	15	102	30	2	147	0	58	166	44	6	268	884
8:00 AM	0	7	29	3	0	39	0	6	37	12	3	55	0	4	22	7	4	33	0	14	42	16	0	72	199
8:15 AM	0	8	28	3	0	39	0	5	36	10	1	51	0	2	36	0	5	38	0	8	44	12	3	64	192
8:30 AM	0	9	20	4	1	33	0	7	41	9	2	57	0	0	26	4	2	30	0	7	48	16	2	71	191
8:45 AM	0	9	29	5	0	43	0	6	35	12	1	53	0	3	32	6	1	41	0	7	28	11	1	46	183
Hourly Total	0	33	106	15	1	154	0	24	149	43	7	216	0	9	116	17	12	142	0	36	162	55	6	253	765
*** BREAK ***	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
4:00 PM	0	14	20	4	0	38	0	7	36	14	2	57	0	5	34	15	3	54	0	10	53	25	0	88	237
4:15 PM	0	14	22	5	1	41	0	12	55	17	0	84	0	1	49	18	1	68	0	20	40	18	0	78	271
4:30 PM	0	17	28	8	0	53	0	12	49	14	0	75	0	9	60	17	3	86	0	13	56	18	0	87	301
4:45 PM	0	13	46	5	1	64	0	11	45	16	1	72	0	4	53	20	5	77	0	14	42	29	0	85	298
Hourly Total	0	58	116	22	2	196	0	42	185	61	3	288	0	19	196	70	12	285	0	57	191	90	0	338	1107
5:00 PM	0	13	32	7	0	52	0	13	48	15	1	76	0	7	73	15	2	95	0	10	59	22	0	91	314
5:15 PM	0	20	40	6	2	66	0	13	60	22	1	95	0	6	67	18	0	91	0	14	46	14	2	74	326
5:30 PM	0	21	30	5	1	56	0	12	57	14	1	83	0	3	65	20	1	88	0	13	48	29	1	90	317
5:45 PM	0	17	43	7	1	67	0	9	66	16	0	91	0	2	65	21	2	88	0	15	55	22	1	92	338
Hourly Total	0	71	145	25	4	241	0	47	231	67	3	345	0	18	270	74	5	362	0	52	208	87	4	347	1295
Grand Total	0	186	532	78	9	796	0	132	733	248	15	1113	0	61	684	191	31	936	0	203	727	276	16	1206	4051
Approach %	0.0	23.4	66.8	9.8	-	-	0.0	11.9	65.9	22.3	-	-	0.0	6.5	73.1	20.4	-	-	0.0	16.8	60.3	22.9	-	-	-
Total %	0.0	4.6	13.1	1.9	-	19.6	0.0	3.3	18.1	6.1	-	27.5	0.0	1.5	16.9	4.7	-	23.1	0.0	5.0	17.9	6.8	-	29.8	-
Lights	0	182	512	72	-	766	0	131	712	242	-	1085	0	55	673	191	-	919	0	199	716	274	-	1189	3959
% Lights	-	97.8	96.2	92.3	-	96.2	-	99.2	97.1	97.6	-	97.5	-	90.2	98.4	100.0	-	98.2	-	98.0	98.5	99.3	-	98.6	97.7
Buses	0	0	8	0	-	8	0	0	12	3	-	15	0	0	7	0	-	7	0	3	4	0	-	7	37
% Buses	-	0.0	1.5	0.0	-	1.0	-	0.0	1.6	1.2	-	1.3	-	0.0	1.0	0.0	-	0.7	-	1.5	0.6	0.0	-	0.6	0.9
Single-Unit Trucks	0	4	11	5	-	20	0	1	7	2	-	10	0	5	3	0	-	8	0	1	6	2	-	9	47
% Single-Unit Trucks	-	2.2	2.1	6.4	-	2.5	-	0.8	1.0	0.8	-	0.9	-	8.2	0.4	0.0	-	0.9	-	0.5	0.8	0.7	-	0.7	1.2
Articulated Trucks	0	0	0	0	-	0	0	0	1	0	-	1	0	0	1	0	-	1	0	0	0	0	-	0	2
% Articulated Trucks	-	0.0	0.0	0.0	-	0.0	-	0.0	0.1	0.0	-	0.1	-	0.0	0.1	0.0	-	0.1	-	0.0	0.0	0.0	-	0.0	0.0
Bicycles on Road	0	0	1	1	-	2	0	0	1	1	-	2	0	1	0	0	-	1	0	0	1	0	-	1	6
% Bicycles on Road	-	0.0	0.2	1.3	-	0.3	-	0.0	0.1	0.4	-	0.2	-	1.6	0.0	0.0	-	0.1	-	0.0	0.1	0.0	-	0.1	0.1
Pedestrians	-	-	-	-	9	-	-	-	-	-	15	-	-	-	-	-	31	-	-	-	-	-	16	-	-

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

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

Count Name: Kensington Road and Dryden Place
Site Code:
Start Date: 07/07/2016

Turning Movement Peak Hour Data (7:15 AM)

Start Time	Kensington Road Eastbound						Kensington Road Westbound						Dryden Place Northbound						Dryden Place Southbound						
	U-Turn	Left	Thru	Right	Peds	App. Total	U-Turn	Left	Thru	Right	Peds	App. Total	U-Turn	Left	Thru	Right	Peds	App. Total	U-Turn	Left	Thru	Right	Peds	App. Total	Int. Total
7:15 AM	0	7	56	2	1	65	0	5	51	31	0	87	0	6	30	8	0	44	0	25	42	12	1	79	275
7:30 AM	0	6	32	6	1	44	0	3	56	20	2	79	0	2	25	6	1	33	0	9	40	15	1	64	220
7:45 AM	0	9	39	5	0	53	0	5	30	16	0	51	0	6	20	7	1	33	0	6	49	12	2	67	204
8:00 AM	0	7	29	3	0	39	0	6	37	12	3	55	0	4	22	7	4	33	0	14	42	16	0	72	199
Total	0	29	156	16	2	201	0	19	174	79	5	272	0	18	97	28	6	143	0	54	173	55	4	282	898
Approach %	0.0	14.4	77.6	8.0	-	-	0.0	7.0	64.0	29.0	-	-	0.0	12.6	67.8	19.6	-	-	0.0	19.1	61.3	19.5	-	-	-
Total %	0.0	3.2	17.4	1.8	-	22.4	0.0	2.1	19.4	8.8	-	30.3	0.0	2.0	10.8	3.1	-	15.9	0.0	6.0	19.3	6.1	-	31.4	-
PHF	0.000	0.806	0.696	0.667	-	0.773	0.000	0.792	0.777	0.637	-	0.782	0.000	0.750	0.808	0.875	-	0.813	0.000	0.540	0.883	0.859	-	0.892	0.816
Lights	0	27	149	13	-	189	0	19	163	76	-	258	0	15	93	28	-	136	0	53	168	55	-	276	859
% Lights	-	93.1	95.5	81.3	-	94.0	-	100.0	93.7	96.2	-	94.9	-	83.3	95.9	100.0	-	95.1	-	98.1	97.1	100.0	-	97.9	95.7
Buses	0	0	2	0	-	2	0	0	9	1	-	10	0	0	3	0	-	3	0	1	3	0	-	4	19
% Buses	-	0.0	1.3	0.0	-	1.0	-	0.0	5.2	1.3	-	3.7	-	0.0	3.1	0.0	-	2.1	-	1.9	1.7	0.0	-	1.4	2.1
Single-Unit Trucks	0	2	5	3	-	10	0	0	1	2	-	3	0	3	1	0	-	4	0	0	2	0	-	2	19
% Single-Unit Trucks	-	6.9	3.2	18.8	-	5.0	-	0.0	0.6	2.5	-	1.1	-	16.7	1.0	0.0	-	2.8	-	0.0	1.2	0.0	-	0.7	2.1
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
Bicycles on Road	0	0	0	0	-	0	0	0	1	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	0.6	0.0	-	0.4	-	0.0	0.0	0.0	-	0.0	-	0.0	0.0	0.0	-	0.0	0.1
Pedestrians	-	-	-	-	2	-	-	-	-	-	5	-	-	-	-	-	6	-	-	-	-	-	4	-	-
% 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: Kensington Road and Dryden Place
Site Code:
Start Date: 07/07/2016

Turning Movement Peak Hour Data (5:00 PM)

Start Time	Kensington Road Eastbound						Kensington Road Westbound						Dryden Place Northbound						Dryden Place 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
5:00 PM	0	13	32	7	0	52	0	13	48	15	1	76	0	7	73	15	2	95	0	10	59	22	0	91	314
5:15 PM	0	20	40	6	2	66	0	13	60	22	1	95	0	6	67	18	0	91	0	14	46	14	2	74	326
5:30 PM	0	21	30	5	1	56	0	12	57	14	1	83	0	3	65	20	1	88	0	13	48	29	1	90	317
5:45 PM	0	17	43	7	1	67	0	9	66	16	0	91	0	2	65	21	2	88	0	15	55	22	1	92	338
Total	0	71	145	25	4	241	0	47	231	67	3	345	0	18	270	74	5	362	0	52	208	87	4	347	1295
Approach %	0.0	29.5	60.2	10.4	-	-	0.0	13.6	67.0	19.4	-	-	0.0	5.0	74.6	20.4	-	-	0.0	15.0	59.9	25.1	-	-	-
Total %	0.0	5.5	11.2	1.9	-	18.6	0.0	3.6	17.8	5.2	-	26.6	0.0	1.4	20.8	5.7	-	28.0	0.0	4.0	16.1	6.7	-	26.8	-
PHF	0.000	0.845	0.843	0.893	-	0.899	0.000	0.904	0.875	0.761	-	0.908	0.000	0.643	0.925	0.881	-	0.953	0.000	0.867	0.881	0.750	-	0.943	0.958
Lights	0	71	141	25	-	237	0	47	230	67	-	344	0	18	269	74	-	361	0	52	206	87	-	345	1287
% Lights	-	100.0	97.2	100.0	-	98.3	-	100.0	99.6	100.0	-	99.7	-	100.0	99.6	100.0	-	99.7	-	100.0	99.0	100.0	-	99.4	99.4
Buses	0	0	1	0	-	1	0	0	0	0	-	0	0	0	0	0	-	0	0	0	0	0	-	0	1
% Buses	-	0.0	0.7	0.0	-	0.4	-	0.0	0.0	0.0	-	0.0	-	0.0	0.0	0.0	-	0.0	-	0.0	0.0	0.0	-	0.0	0.1
Single-Unit Trucks	0	0	3	0	-	3	0	0	0	0	-	0	0	0	1	0	-	1	0	0	2	0	-	2	6
% Single-Unit Trucks	-	0.0	2.1	0.0	-	1.2	-	0.0	0.0	0.0	-	0.0	-	0.0	0.4	0.0	-	0.3	-	0.0	1.0	0.0	-	0.6	0.5
Articulated Trucks	0	0	0	0	-	0	0	0	1	0	-	1	0	0	0	0	-	0	0	0	0	0	-	0	1
% Articulated Trucks	-	0.0	0.0	0.0	-	0.0	-	0.0	0.4	0.0	-	0.3	-	0.0	0.0	0.0	-	0.0	-	0.0	0.0	0.0	-	0.0	0.1
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	-	-	-	-	4	-	-	-	-	-	3	-	-	-	-	-	5	-	-	-	-	-	4	-	-
% 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: Kensington Road and Access Drives
Site Code:
Start Date: 07/07/2016

Turning Movement Data

Start Time	Kensington Road Eastbound						Kensington Road Westbound						Marianos Access Drive Northbound						Plaza Access Drive Southbound						Int. Total
	U-Turn	Left	Thru	Right	Peds	App. Total	U-Turn	Left	Thru	Right	Peds	App. Total	U-Turn	Left	Thru	Right	Peds	App. Total	U-Turn	Left	Thru	Right	Peds	App. Total	
7:00 AM	0	1	42	6	0	49	0	4	34	1	0	39	0	1	0	5	0	6	0	1	1	1	3	3	97
7:15 AM	0	0	55	5	1	60	0	8	63	1	0	72	0	4	0	5	0	9	0	0	0	0	1	0	141
7:30 AM	0	2	35	8	0	45	0	6	60	2	0	68	0	1	0	13	0	14	0	0	0	1	2	1	128
7:45 AM	0	1	43	5	5	49	0	7	39	3	0	49	0	1	0	6	0	7	0	3	0	0	0	3	108
Hourly Total	0	4	175	24	6	203	0	25	196	7	0	228	0	7	0	29	0	36	0	4	1	2	6	7	474
8:00 AM	0	1	22	9	0	32	0	10	45	3	0	58	0	3	0	9	10	12	0	3	0	1	0	4	106
8:15 AM	0	0	30	9	0	39	0	11	34	3	0	48	0	5	0	7	6	12	0	2	0	1	1	3	102
8:30 AM	0	0	25	10	1	35	0	9	41	4	0	54	0	1	0	11	2	12	0	1	0	0	1	1	102
8:45 AM	0	2	29	9	1	40	0	4	46	5	0	55	0	4	0	8	1	12	0	1	0	0	1	1	108
Hourly Total	0	3	106	37	2	146	0	34	166	15	0	215	0	13	0	35	19	48	0	7	0	2	3	9	418
*** BREAK ***	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
4:00 PM	0	0	14	16	1	30	1	18	38	3	0	60	0	4	1	19	1	24	0	4	1	0	0	5	119
4:15 PM	0	2	19	20	0	41	0	17	53	2	0	72	1	9	0	22	0	32	0	2	1	0	0	3	148
4:30 PM	0	1	37	24	2	62	0	21	51	5	0	77	0	9	0	24	4	33	0	2	0	0	2	2	174
4:45 PM	0	2	37	17	1	56	0	23	54	3	0	80	0	12	0	19	3	31	0	1	0	0	1	1	168
Hourly Total	0	5	107	77	4	189	1	79	196	13	0	289	1	34	1	84	8	120	0	9	2	0	3	11	609
5:00 PM	0	2	30	15	1	47	0	22	47	5	0	74	0	9	0	22	0	31	0	4	0	1	0	5	157
5:15 PM	0	5	25	17	1	47	0	19	62	6	0	87	0	5	1	33	0	39	0	4	1	0	3	5	178
5:30 PM	0	2	26	14	1	42	0	36	59	4	0	99	0	7	1	29	0	37	0	4	2	1	0	7	185
5:45 PM	0	2	26	13	1	41	0	25	51	6	0	82	0	8	2	39	1	49	0	3	0	1	0	4	176
Hourly Total	0	11	107	59	4	177	0	102	219	21	0	342	0	29	4	123	1	156	0	15	3	3	3	21	696
Grand Total	0	23	495	197	16	715	1	240	777	56	0	1074	1	83	5	271	28	360	0	35	6	7	15	48	2197
Approach %	0.0	3.2	69.2	27.6	-	-	0.1	22.3	72.3	5.2	-	-	0.3	23.1	1.4	75.3	-	-	0.0	72.9	12.5	14.6	-	-	-
Total %	0.0	1.0	22.5	9.0	-	32.5	0.0	10.9	35.4	2.5	-	48.9	0.0	3.8	0.2	12.3	-	16.4	0.0	1.6	0.3	0.3	-	2.2	-
Lights	0	23	473	195	-	691	0	239	750	56	-	1045	0	82	5	270	-	357	0	35	6	7	-	48	2141
% Lights	-	100.0	95.6	99.0	-	96.6	0.0	99.6	96.5	100.0	-	97.3	0.0	98.8	100.0	99.6	-	99.2	-	100.0	100.0	100.0	-	100.0	97.5
Buses	0	0	7	0	-	7	0	0	15	0	-	15	1	1	0	0	-	2	0	0	0	0	-	0	24
% Buses	-	0.0	1.4	0.0	-	1.0	0.0	0.0	1.9	0.0	-	1.4	100.0	1.2	0.0	0.0	-	0.6	-	0.0	0.0	0.0	-	0.0	1.1
Single-Unit Trucks	0	0	13	0	-	13	1	1	7	0	-	9	0	0	0	1	-	1	0	0	0	0	-	0	23
% Single-Unit Trucks	-	0.0	2.6	0.0	-	1.8	100.0	0.4	0.9	0.0	-	0.8	0.0	0.0	0.0	0.4	-	0.3	-	0.0	0.0	0.0	-	0.0	1.0
Articulated Trucks	0	0	0	0	-	0	0	0	2	0	-	2	0	0	0	0	-	0	0	0	0	0	-	0	2
% Articulated Trucks	-	0.0	0.0	0.0	-	0.0	0.0	0.0	0.3	0.0	-	0.2	0.0	0.0	0.0	0.0	-	0.0	-	0.0	0.0	0.0	-	0.0	0.1
Bicycles on Road	0	0	2	2	-	4	0	0	3	0	-	3	0	0	0	0	-	0	0	0	0	0	-	0	7
% Bicycles on Road	-	0.0	0.4	1.0	-	0.6	0.0	0.0	0.4	0.0	-	0.3	0.0	0.0	0.0	0.0	-	0.0	-	0.0	0.0	0.0	-	0.0	0.3
Pedestrians	-	-	-	-	16	-	-	-	-	-	0	-	-	-	-	-	28	-	-	-	-	-	15	-	-

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

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

Count Name: Kensington Road and Access Drives
Site Code:
Start Date: 07/07/2016

Turning Movement Peak Hour Data (7:15 AM)

Start Time	Kensington Road Eastbound						Kensington Road Westbound						Marianos Access Drive Northbound						Plaza 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	
7:15 AM	0	0	55	5	1	60	0	8	63	1	0	72	0	4	0	5	0	9	0	0	0	0	1	0	141
7:30 AM	0	2	35	8	0	45	0	6	60	2	0	68	0	1	0	13	0	14	0	0	0	1	2	1	128
7:45 AM	0	1	43	5	5	49	0	7	39	3	0	49	0	1	0	6	0	7	0	3	0	0	0	3	108
8:00 AM	0	1	22	9	0	32	0	10	45	3	0	58	0	3	0	9	10	12	0	3	0	1	0	4	106
Total	0	4	155	27	6	186	0	31	207	9	0	247	0	9	0	33	10	42	0	6	0	2	3	8	483
Approach %	0.0	2.2	83.3	14.5	-	-	0.0	12.6	83.8	3.6	-	-	0.0	21.4	0.0	78.6	-	-	0.0	75.0	0.0	25.0	-	-	-
Total %	0.0	0.8	32.1	5.6	-	38.5	0.0	6.4	42.9	1.9	-	51.1	0.0	1.9	0.0	6.8	-	8.7	0.0	1.2	0.0	0.4	-	1.7	-
PHF	0.000	0.500	0.705	0.750	-	0.775	0.000	0.775	0.821	0.750	-	0.858	0.000	0.563	0.000	0.635	-	0.750	0.000	0.500	0.000	0.500	-	0.500	0.856
Lights	0	4	147	27	-	178	0	31	194	9	-	234	0	9	0	33	-	42	0	6	0	2	-	8	462
% Lights	-	100.0	94.8	100.0	-	95.7	-	100.0	93.7	100.0	-	94.7	-	100.0	-	100.0	-	100.0	-	100.0	-	100.0	-	100.0	95.7
Buses	0	0	1	0	-	1	0	0	7	0	-	7	0	0	0	0	-	0	0	0	0	0	-	0	8
% Buses	-	0.0	0.6	0.0	-	0.5	-	0.0	3.4	0.0	-	2.8	-	0.0	-	0.0	-	0.0	-	0.0	-	0.0	-	0.0	1.7
Single-Unit Trucks	0	0	7	0	-	7	0	0	3	0	-	3	0	0	0	0	-	0	0	0	0	0	-	0	10
% Single-Unit Trucks	-	0.0	4.5	0.0	-	3.8	-	0.0	1.4	0.0	-	1.2	-	0.0	-	0.0	-	0.0	-	0.0	-	0.0	-	0.0	2.1
Articulated Trucks	0	0	0	0	-	0	0	0	1	0	-	1	0	0	0	0	-	0	0	0	0	0	-	0	1
% Articulated Trucks	-	0.0	0.0	0.0	-	0.0	-	0.0	0.5	0.0	-	0.4	-	0.0	-	0.0	-	0.0	-	0.0	-	0.0	-	0.0	0.2
Bicycles on Road	0	0	0	0	-	0	0	0	2	0	-	2	0	0	0	0	-	0	0	0	0	0	-	0	2
% Bicycles on Road	-	0.0	0.0	0.0	-	0.0	-	0.0	1.0	0.0	-	0.8	-	0.0	-	0.0	-	0.0	-	0.0	-	0.0	-	0.0	0.4
Pedestrians	-	-	-	-	6	-	-	-	-	-	0	-	-	-	-	-	10	-	-	-	-	-	3	-	-
% 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: Kensington Road and Access Drives
Site Code:
Start Date: 07/07/2016

Turning Movement Peak Hour Data (5:00 PM)

Start Time	Kensington Road Eastbound						Kensington Road Westbound						Marianos Access Drive Northbound						Plaza 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	
5:00 PM	0	2	30	15	1	47	0	22	47	5	0	74	0	9	0	22	0	31	0	4	0	1	0	5	157
5:15 PM	0	5	25	17	1	47	0	19	62	6	0	87	0	5	1	33	0	39	0	4	1	0	3	5	178
5:30 PM	0	2	26	14	1	42	0	36	59	4	0	99	0	7	1	29	0	37	0	4	2	1	0	7	185
5:45 PM	0	2	26	13	1	41	0	25	51	6	0	82	0	8	2	39	1	49	0	3	0	1	0	4	176
Total	0	11	107	59	4	177	0	102	219	21	0	342	0	29	4	123	1	156	0	15	3	3	3	21	696
Approach %	0.0	6.2	60.5	33.3	-	-	0.0	29.8	64.0	6.1	-	-	0.0	18.6	2.6	78.8	-	-	0.0	71.4	14.3	14.3	-	-	-
Total %	0.0	1.6	15.4	8.5	-	25.4	0.0	14.7	31.5	3.0	-	49.1	0.0	4.2	0.6	17.7	-	22.4	0.0	2.2	0.4	0.4	-	3.0	-
PHF	0.000	0.550	0.892	0.868	-	0.941	0.000	0.708	0.883	0.875	-	0.864	0.000	0.806	0.500	0.788	-	0.796	0.000	0.938	0.375	0.750	-	0.750	0.941
Lights	0	11	105	59	-	175	0	102	217	21	-	340	0	29	4	122	-	155	0	15	3	3	-	21	691
% Lights	-	100.0	98.1	100.0	-	98.9	-	100.0	99.1	100.0	-	99.4	-	100.0	100.0	99.2	-	99.4	-	100.0	100.0	100.0	-	100.0	99.3
Buses	0	0	1	0	-	1	0	0	1	0	-	1	0	0	0	0	-	0	0	0	0	0	-	0	2
% Buses	-	0.0	0.9	0.0	-	0.6	-	0.0	0.5	0.0	-	0.3	-	0.0	0.0	0.0	-	0.0	-	0.0	0.0	0.0	-	0.0	0.3
Single-Unit Trucks	0	0	1	0	-	1	0	0	1	0	-	1	0	0	0	1	-	1	0	0	0	0	-	0	3
% Single-Unit Trucks	-	0.0	0.9	0.0	-	0.6	-	0.0	0.5	0.0	-	0.3	-	0.0	0.0	0.8	-	0.6	-	0.0	0.0	0.0	-	0.0	0.4
Articulated Trucks	0	0	0	0	-	0	0	0	0	0	-	0	0	0	0	0	-	0	0	0	0	0	-	0	0
% Articulated Trucks	-	0.0	0.0	0.0	-	0.0	-	0.0	0.0	0.0	-	0.0	-	0.0	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
Pedestrians	-	-	-	-	4	-	-	-	-	-	0	-	-	-	-	-	1	-	-	-	-	-	3	-	-
% Pedestrians	-	-	-	-	100.0	-	-	-	-	-	-	-	-	-	-	-	100.0	-	-	-	-	-	100.0	-	-

Level of Service Criteria

LEVEL OF SERVICE CRITERIA FOR 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

Source: *Highway Capacity Manual*, 2010.

LEVEL OF SERVICE CRITERIA FOR UNSIGNALIZED INTERSECTIONS

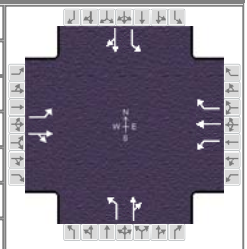
Level of Service	Average Total Delay (SEC/VEH)
A	0 - 10
B	> 10 - 15
C	> 15 - 25
D	> 25 - 35
E	> 35 - 50
F	> 50

Source: *Highway Capacity Manual*, 2010.

Capacity Analysis Summary Sheets

HCS 2010 Signalized Intersection Input Data

General Information				Intersection Information	
Agency	KLOA, Inc.			Duration, h	0.25
Analyst	NJB	Analysis Date	7/13/2016	Area Type	Other
Jurisdiction	Arlington Heights	Time Period	AM	PHF	0.82
Urban Street	Kensington Road	Analysis Year	2016	Analysis Period	1> 7:00
Intersection	Kensington Road and D…	File Name	Kensington and Dryden Existing AM.xus		
Project Description	AM Existing Peak Hour				



Demand Information	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Demand (*v*), veh/h	35	187	19	23	209	95	22	116	34	65	208	66

Signal Information			
Cycle, s	95.0	Reference Phase	2
Offset, s	0	Reference Point	Begin
Uncoordinated	No	Simult. Gap E/W	On
Force Mode	Fixed	Simult. Gap N/S	On

Green	3.0	1.0		52.1	3.2	0.7	17.0					
Yellow	3.0	0.0		4.5	3.0	0.0	4.5					
Red	0.0	0.0		1.5	0.0	0.0	1.5					

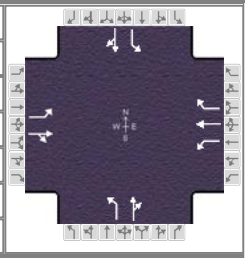
Traffic Information	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Demand (*v*), veh/h	35	187	19	23	209	95	22	116	34	65	208	66
Initial Queue (Q_b), veh/h	0	0	0	0	0	0	0	0	0	0	0	0
Base Saturation Flow Rate (s_o), veh/h	1900	1900	1900	1900	2000	1900	1900	1900	1900	1900	1900	1900
Parking (N_m), man/h		None			None			None			None	
Heavy Vehicles (P_{HV}), %	7	5		0	6	4	17	4		2	3	
Ped / Bike / RTOR, /h	0	0	0	0	0	0	0	0	0	0	0	0
Buses (N_b), buses/h	0	0	0	0	0	0	0	0	0	0	0	0
Arrival Type (*AT*)	3	3	3	3	3	3	3	3	3	3	3	3
Upstream Filtering (*I*)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lane Width (*W*), ft	12.0	12.0		12.0	12.0	12.0	12.0	12.0		12.0	12.0	
Turn Bay Length, ft	115	0		115	0	160	95	0		120	0	
Grade (*Pg*), %		0			0			0			0	
Speed Limit, mi/h	30	30	30	30	30	30	30	30	30	20	20	20

Phase Information	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Maximum Green (G_{max}) or Phase Split, s	9.0	30.0	9.0	30.0	12.0	44.0	12.0	44.0
Yellow Change Interval (*Y*), s	3.0	4.5	3.0	4.5	3.0	4.5	3.0	4.5
Red Clearance Interval (R_c), s	0.0	1.5	0.0	1.5	0.0	1.5	0.0	1.5
Minimum Green (G_{min}), s	3	10	3	10	3	15	3	15
Start-Up Lost Time (*lt*), s	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Extension of Effective Green (*e*), s	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Passage (*PT*), s	3.0	4.0	3.0	4.0	3.0	7.0	3.0	7.0
Recall Mode	Off	Off	Off	Off	Off	Min	Off	Min
Dual Entry	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Walk (*Walk*), s	0.0	7.0	0.0	7.0	0.0	7.0	0.0	7.0
Pedestrian Clearance Time (*PC*), s	0.0	14.0	0.0	15.0	0.0	14.0	0.0	15.0

Multimodal Information	EB			WB			NB			SB		
85th % Speed / Rest in Walk / Corner Radius	0	No	25	0	No	25	0	No	25	0	No	25
Walkway / Crosswalk Width / Length, ft	9.0	12	0	9.0	12	0	9.0	12	0	9.0	12	0
Street Width / Island / Curb	0	0	No	0	0	No	0	0	No	0	0	No
Width Outside / Bike Lane / Shoulder, ft	12	5.0	2.0	12	5.0	2.0	12	5.0	2.0	12	5.0	2.0
Pedestrian Signal / Occupied Parking	No	0.50		No	0.50		No	0.50		No	0.50	

HCS 2010 Signalized Intersection Results Summary

General Information				Intersection Information	
Agency	KLOA, Inc.			Duration, h	0.25
Analyst	NJB	Analysis Date	7/13/2016	Area Type	Other
Jurisdiction	Arlington Heights	Time Period	AM	PHF	0.82
Urban Street	Kensington Road	Analysis Year	2016	Analysis Period	1> 7:00
Intersection	Kensington Road and D…	File Name	Kensington and Dryden Existing AM.xus		
Project Description	AM Existing Peak Hour				



Demand Information	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Demand (*v*), veh/h	35	187	19	23	209	95	22	116	34	65	208	66

Signal Information			
Cycle, s	95.0	Reference Phase	2
Offset, s	0	Reference Point	Begin
Uncoordinated	No	Simult. Gap E/W	On
Force Mode	Fixed	Simult. Gap N/S	On

Green	3.0	1.0	52.1	3.2	0.7	17.0
Yellow	3.0	0.0	4.5	3.0	0.0	4.5
Red	0.0	0.0	1.5	0.0	0.0	1.5

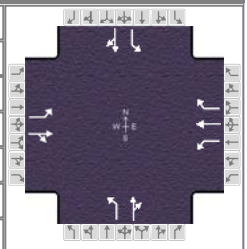
Timer Results	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Assigned Phase	7	4	3	8	5	2	1	6
Case Number	1.1	4.0	1.1	3.0	1.1	4.0	1.1	4.0
Phase Duration, s	6.9	23.7	6.2	23.0	6.0	58.1	7.0	59.1
Change Period, ($Y+R_c$), s	3.0	6.0	3.0	6.0	3.0	6.0	3.0	6.0
Max Allow Headway (*MAH*), s	4.1	5.1	4.1	5.1	4.1	0.0	4.2	0.0
Queue Clearance Time (g_s), s	3.9	14.7	3.2	14.2	2.7		3.8	
Green Extension Time (g_e), s	0.0	2.8	0.0	2.8	0.0	0.0	0.2	0.0
Phase Call Probability	1.00	1.00	1.00	1.00	1.00		1.00	
Max Out Probability	1.00	0.21	1.00	0.22	0.00		0.00	

Movement Group Results	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Assigned Movement	7	4	14	3	8	18	5	2	12	1	6	16
Adjusted Flow Rate (*v*), veh/h	43	251		28	255	116	27	183		79	334	
Adjusted Saturation Flow Rate (*s*), veh/h/ln	1691	1780		1810	1887	1548	1547	1755		1774	1768	
Queue Service Time (g_s), s	1.9	12.7		1.2	12.2	6.3	0.7	5.0		1.8	9.8	
Cycle Queue Clearance Time (g_c), s	1.9	12.7		1.2	12.2	6.3	0.7	5.0		1.8	9.8	
Green Ratio (*g/C*)	0.22	0.19		0.21	0.18	0.18	0.58	0.55		0.59	0.56	
Capacity (*c*), veh/h	199	332		173	337	276	520	963		744	988	
Volume-to-Capacity Ratio (*X*)	0.214	0.757		0.162	0.757	0.419	0.052	0.190		0.107	0.338	
Back of Queue (*Q*), ft/ln (95 th percentile)	38.1	246.7		25.2	260.3	110.7	10.9	88		33.5	181.9	
Back of Queue (*Q*), veh/ln (95 th percentile)	1.4	9.9		1.0	10.0	4.4	0.4	3.5		1.3	7.3	
Queue Storage Ratio (*RQ*) (95 th percentile)	0.33	0.00		0.21	0.00	0.71	0.12	0.00		0.27	0.00	
Uniform Delay (d_1), s/veh	30.5	36.6		31.0	37.1	34.6	9.1	10.8		8.5	11.4	
Incremental Delay (d_2), s/veh	0.5	5.0		0.4	4.9	1.4	0.0	0.4		0.1	0.9	
Initial Queue Delay (d_3), s/veh	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Control Delay (*d*), s/veh	31.0	41.6		31.4	42.0	36.1	9.2	11.2		8.5	12.3	
Level of Service (LOS)	C	D		C	D	D	A	B		A	B	
Approach Delay, s/veh / LOS	40.1	D		39.5	D		11.0	B		11.6	B	
Intersection Delay, s/veh / LOS	26.3						C					

Multimodal Results	EB		WB		NB		SB	
Pedestrian LOS Score / LOS	2.3	B	2.3	B	2.4	B	2.2	B
Bicycle LOS Score / LOS	1.0	A	1.1	A	0.8	A	1.2	A

HCS 2010 Signalized Intersection Intermediate Values

General Information				Intersection Information	
Agency	KLOA, Inc.			Duration, h	0.25
Analyst	NJB	Analysis Date	7/13/2016	Area Type	Other
Jurisdiction	Arlington Heights	Time Period	AM	PHF	0.82
Urban Street	Kensington Road	Analysis Year	2016	Analysis Period	1> 7:00
Intersection	Kensington Road and D…	File Name	Kensington and Dryden Existing AM.xus		
Project Description	AM Existing Peak Hour				



Demand Information	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Demand (*v*), veh/h	35	187	19	23	209	95	22	116	34	65	208	66

Signal Information			
Cycle, s	95.0	Reference Phase	2
Offset, s	0	Reference Point	Begin
Uncoordinated	No	Simult. Gap E/W	On
Force Mode	Fixed	Simult. Gap N/S	On

	EB			WB			NB			SB		
Saturation Flow / Delay	L	T	R	L	T	R	L	T	R	L	T	R
Green	3.0	1.0		52.1	3.2	0.7	17.0					
Yellow	3.0	0.0		4.5	3.0	0.0	4.5					
Red	0.0	0.0		1.5	0.0	0.0	1.5					
Lane Width Adjustment Factor (f_w)	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
Heavy Vehicle Adjustment Factor (f_{HV})	0.935	0.952	1.000	1.000	0.943	0.962	0.855	0.962	1.000	0.980	0.971	1.000
Approach Grade Adjustment Factor (f_g)	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
Parking Activity Adjustment Factor (f_p)	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
Bus Blockage Adjustment Factor (f_{bb})	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
Area Type Adjustment Factor (f_a)	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
Lane Utilization Adjustment Factor (f_{LU})	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
Left-Turn Adjustment Factor (f_{LT})	0.952	0.000		0.952	0.000		0.952	0.000		0.952	0.000	
Right-Turn Adjustment Factor (f_{RT})		0.984			0.000			0.961			0.958	
Left-Turn Pedestrian Adjustment Factor (f_{Lpb})	1.000			1.000			1.000			1.000		
Right-Turn Ped-Bike Adjustment Factor (f_{Rpb})			1.000			1.000			1.000			1.000
Movement Saturation Flow Rate (s), veh/h	1691	1616		1810	1887		1547	1357		1774	1342	
Proportion of Vehicles Arriving on Green (P)	0.04	0.19	0.19	0.03	0.18	0.18	0.03	0.55	0.55	0.04	0.56	0.56
Incremental Delay Factor (k)	0.11	0.15		0.11	0.15	0.15	0.11	0.50		0.11	0.50	

Signal Timing / Movement Groups	EBL	EBT/R	WBL	WBT/R	NBL	NBT/R	SBL	SBT/R
Lost Time (t_L)	3.0	6.0	3.0	6.0	3.0	6.0	3.0	6.0
Green Ratio (g/C)	0.22	0.19	0.21	0.18	0.58	0.55	0.59	0.56
Permitted Saturation Flow Rate (s_p), veh/h/ln	1068	0	1146	0	908	0	1196	0
Shared Saturation Flow Rate (s_{sh}), veh/h/ln								
Permitted Effective Green Time (g_p), s	17.0	0.0	17.0	0.0	52.1	0.0	52.1	0.0
Permitted Service Time (g_u), s	4.8	0.0	3.0	0.0	41.3	0.0	47.1	0.0
Permitted Queue Service Time (g_{ps}), s	0.5		0.4		0.3		0.4	
Time to First Blockage (g_f), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Queue Service Time Before Blockage (g_{fs}), s								
Protected Right Saturation Flow (s_R), veh/h/ln				0				
Protected Right Effective Green Time (g_R), s				0.0				

Multimodal	EB		WB		NB		SB	
Pedestrian F_w / F_v	1.557	0.00	1.557	0.00	1.710	0.00	1.557	0.00
Pedestrian F_s / F_{delay}	0.000	0.138	0.000	0.139	0.000	0.091	0.000	0.089
Pedestrian M_{corner} / M_{cw}								
Bicycle c_b / d_b	372.69	31.45	357.04	32.05	1097.42	9.67	1118.16	9.23
Bicycle F_w / F_v	-3.64	0.48	-3.64	0.66	-3.64	0.35	-3.64	0.68

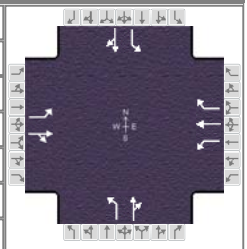
--- Messages ---

No errors or warnings exist.

--- Comments ---

HCS 2010 Signalized Intersection Input Data

General Information				Intersection Information	
Agency	KLOA, Inc.			Duration, h	0.25
Analyst	NJB	Analysis Date	7/13/2016	Area Type	Other
Jurisdiction	Arlington Heights	Time Period	PM	PHF	0.96
Urban Street	Kensington Road	Analysis Year	2016	Analysis Period	1> 7:00
Intersection	Kensington Road and D…	File Name	Kensington and Dryden Existing PM.xus		
Project Description	PM Existing Peak Hour				



Demand Information	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Demand (*v*), veh/h	85	174	30	56	277	80	22	324	89	62	250	104

Signal Information			
Cycle, s	95.0	Reference Phase	2
Offset, s	0	Reference Point	Begin
Uncoordinated	No	Simult. Gap E/W	On
Force Mode	Fixed	Simult. Gap N/S	On

Green	3.0	0.6	50.3	4.5	1.2	17.3						
Yellow	3.0	0.0	4.5	3.0	0.0	4.5						
Red	0.0	0.0	1.5	0.0	0.0	1.5						

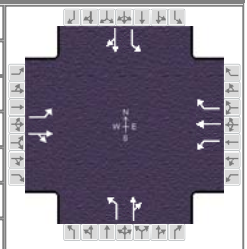
Traffic Information	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Demand (*v*), veh/h	85	174	30	56	277	80	22	324	89	62	250	104
Initial Queue (Q_b), veh/h	0	0	0	0	0	0	0	0	0	0	0	0
Base Saturation Flow Rate (s_o), veh/h	1900	1900	1900	1900	2000	1900	1900	1900	1900	1900	1900	1900
Parking (N_m), man/h		None			None			None			None	
Heavy Vehicles (P_{HV}), %	0	3		0	0	0	0	0		0	1	
Ped / Bike / RTOR, /h	0	0	0	0	0	0	0	0	0	0	0	0
Buses (N_b), buses/h	0	0	0	0	0	0	0	0	0	0	0	0
Arrival Type (*AT*)	3	3	3	3	3	3	3	3	3	3	3	3
Upstream Filtering (*I*)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lane Width (*W*), ft	12.0	12.0		12.0	12.0	12.0	12.0	12.0		12.0	12.0	
Turn Bay Length, ft	115	0		115	0	160	95	0		120	0	
Grade (*Pg*), %		0			0			0			0	
Speed Limit, mi/h	30	30	30	30	30	30	30	30	30	20	20	20

Phase Information	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Maximum Green (G_{max}) or Phase Split, s	9.0	30.0	9.0	30.0	12.0	44.0	12.0	44.0
Yellow Change Interval (*Y*), s	3.0	4.5	3.0	4.5	3.0	4.5	3.0	4.5
Red Clearance Interval (R_c), s	0.0	1.5	0.0	1.5	0.0	1.5	0.0	1.5
Minimum Green (G_{min}), s	3	10	3	10	3	15	3	15
Start-Up Lost Time (*lt*), s	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Extension of Effective Green (*e*), s	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Passage (*PT*), s	3.0	4.0	3.0	4.0	3.0	7.0	3.0	7.0
Recall Mode	Off	Off	Off	Off	Off	Min	Off	Min
Dual Entry	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Walk (*Walk*), s	0.0	7.0	0.0	7.0	0.0	7.0	0.0	7.0
Pedestrian Clearance Time (*PC*), s	0.0	14.0	0.0	15.0	0.0	14.0	0.0	15.0

Multimodal Information	EB			WB			NB			SB		
85th % Speed / Rest in Walk / Corner Radius	0	No	25	0	No	25	0	No	25	0	No	25
Walkway / Crosswalk Width / Length, ft	9.0	12	0	9.0	12	0	9.0	12	0	9.0	12	0
Street Width / Island / Curb	0	0	No	0	0	No	0	0	No	0	0	No
Width Outside / Bike Lane / Shoulder, ft	12	5.0	2.0	12	5.0	2.0	12	5.0	2.0	12	5.0	2.0
Pedestrian Signal / Occupied Parking	No	0.50		No	0.50		No	0.50		No	0.50	

HCS 2010 Signalized Intersection Results Summary

General Information				Intersection Information	
Agency	KLOA, Inc.			Duration, h	0.25
Analyst	NJB	Analysis Date	7/13/2016	Area Type	Other
Jurisdiction	Arlington Heights	Time Period	PM	PHF	0.96
Urban Street	Kensington Road	Analysis Year	2016	Analysis Period	1> 7:00
Intersection	Kensington Road and D…	File Name	Kensington and Dryden Existing PM.xus		
Project Description	PM Existing Peak Hour				



Demand Information	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Demand (*v*), veh/h	85	174	30	56	277	80	22	324	89	62	250	104

Signal Information			
Cycle, s	95.0	Reference Phase	2
Offset, s	0	Reference Point	Begin
Uncoordinated	No	Simult. Gap E/W	On
Force Mode	Fixed	Simult. Gap N/S	On

Green	3.0	0.6	50.3	4.5	1.2	17.3
Yellow	3.0	0.0	4.5	3.0	0.0	4.5
Red	0.0	0.0	1.5	0.0	0.0	1.5

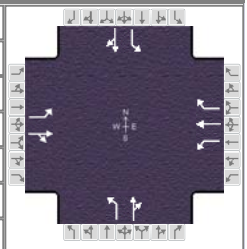
Timer Results	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Assigned Phase	7	4	3	8	5	2	1	6
Case Number	1.1	4.0	1.1	3.0	1.1	4.0	1.1	4.0
Phase Duration, s	8.7	24.6	7.5	23.3	6.0	56.3	6.6	57.0
Change Period, ($Y+R_c$), s	3.0	6.0	3.0	6.0	3.0	6.0	3.0	6.0
Max Allow Headway (*MAH*), s	4.1	5.1	4.1	5.1	4.1	0.0	4.2	0.0
Queue Clearance Time (g_s), s	5.7	12.2	4.4	15.1	2.5		3.5	
Green Extension Time (g_e), s	0.0	2.7	0.0	2.2	0.0	0.0	0.1	0.0
Phase Call Probability	1.00	1.00	1.00	1.00	1.00		1.00	
Max Out Probability	1.00	0.14	1.00	0.38	0.00		0.00	

Movement Group Results	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Assigned Movement	7	4	14	3	8	18	5	2	12	1	6	16
Adjusted Flow Rate (*v*), veh/h	89	213		58	289	83	23	430		65	369	
Adjusted Saturation Flow Rate (*s*), veh/h/ln	1810	1797		1810	2000	1610	1810	1829		1810	1787	
Queue Service Time (g_s), s	3.7	10.2		2.4	13.1	4.2	0.5	13.7		1.5	11.5	
Cycle Queue Clearance Time (g_c), s	3.7	10.2		2.4	13.1	4.2	0.5	13.7		1.5	11.5	
Green Ratio (*g/C*)	0.25	0.20		0.23	0.18	0.18	0.56	0.53		0.57	0.54	
Capacity (*c*), veh/h	234	352		240	365	294	539	969		520	959	
Volume-to-Capacity Ratio (*X*)	0.379	0.604		0.243	0.790	0.284	0.042	0.444		0.124	0.385	
Back of Queue (*Q*), ft/ln (95 th percentile)	74.2	204.8		48.7	290.2	76.5	9.2	242.1		27.5	211.9	
Back of Queue (*Q*), veh/ln (95 th percentile)	3.0	8.2		1.9	11.3	3.1	0.4	9.7		1.1	8.5	
Queue Storage Ratio (*RQ*) (95 th percentile)	0.65	0.00		0.42	0.00	0.48	0.10	0.00		0.23	0.00	
Uniform Delay (d_1), s/veh	29.5	34.9		29.8	37.1	33.5	10.1	13.7		10.3	12.9	
Incremental Delay (d_2), s/veh	1.0	2.4		0.5	6.9	0.7	0.0	1.5		0.1	1.2	
Initial Queue Delay (d_3), s/veh	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Control Delay (*d*), s/veh	30.5	37.2		30.3	44.0	34.2	10.2	15.2		10.4	14.0	
Level of Service (LOS)	C	D		C	D	C	B	B		B	B	
Approach Delay, s/veh / LOS	35.3	D		40.2	D		14.9	B		13.5	B	
Intersection Delay, s/veh / LOS	25.1						C					

Multimodal Results	EB		WB		NB		SB	
Pedestrian LOS Score / LOS	2.3	B	2.3	B	2.4	B	2.3	B
Bicycle LOS Score / LOS	1.0	A	1.2	A	1.2	A	1.2	A

HCS 2010 Signalized Intersection Intermediate Values

General Information				Intersection Information	
Agency	KLOA, Inc.			Duration, h	0.25
Analyst	NJB	Analysis Date	7/13/2016	Area Type	Other
Jurisdiction	Arlington Heights	Time Period	PM	PHF	0.96
Urban Street	Kensington Road	Analysis Year	2016	Analysis Period	1> 7:00
Intersection	Kensington Road and D…	File Name	Kensington and Dryden Existing PM.xus		
Project Description	PM Existing Peak Hour				



Demand Information	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Demand (*v*), veh/h	85	174	30	56	277	80	22	324	89	62	250	104

Signal Information			
Cycle, s	95.0	Reference Phase	2
Offset, s	0	Reference Point	Begin
Uncoordinated	No	Simult. Gap E/W	On
Force Mode	Fixed	Simult. Gap N/S	On

Green	3.0	0.6		50.3	4.5	1.2	17.3					
Yellow	3.0	0.0		4.5	3.0	0.0	4.5					
Red	0.0	0.0		1.5	0.0	0.0	1.5					

	EB			WB			NB			SB		
Saturation Flow / Delay	L	T	R	L	T	R	L	T	R	L	T	R
Lane Width Adjustment Factor (f_w)	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
Heavy Vehicle Adjustment Factor (f_{HV})	1.000	0.971	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	0.990	1.000
Approach Grade Adjustment Factor (f_g)	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
Parking Activity Adjustment Factor (f_p)	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
Bus Blockage Adjustment Factor (f_{bb})	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
Area Type Adjustment Factor (f_a)	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
Lane Utilization Adjustment Factor (f_{LU})	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
Left-Turn Adjustment Factor (f_{LT})	0.952	0.000		0.952	0.000		0.952	0.000		0.952	0.000	
Right-Turn Adjustment Factor (f_{RT})		0.974			0.000			0.963			0.950	
Left-Turn Pedestrian Adjustment Factor (f_{Lpb})	1.000			1.000			1.000			1.000		
Right-Turn Ped-Bike Adjustment Factor (f_{Rpb})			1.000			1.000			1.000			1.000
Movement Saturation Flow Rate (s), veh/h	1810	1533		1810	2000		1810	1435		1810	1262	
Proportion of Vehicles Arriving on Green (P)	0.06	0.20	0.20	0.05	0.18	0.18	0.03	0.53	0.53	0.04	0.54	0.54
Incremental Delay Factor (k)	0.11	0.15		0.11	0.20	0.15	0.11	0.50		0.11	0.50	

Signal Timing / Movement Groups	EBL	EBT/R	WBL	WBT/R	NBL	NBT/R	SBL	SBT/R
Lost Time (t_L)	3.0	6.0	3.0	6.0	3.0	6.0	3.0	6.0
Green Ratio (g/C)	0.25	0.20	0.23	0.18	0.56	0.53	0.57	0.54
Permitted Saturation Flow Rate (s_p), veh/h/ln	1108	0	1188	0	1029	0	973	0
Shared Saturation Flow Rate (s_{sh}), veh/h/ln								
Permitted Effective Green Time (g_p), s	17.6	0.0	17.3	0.0	50.3	0.0	50.3	0.0
Permitted Service Time (g_u), s	4.2	0.0	6.3	0.0	37.5	0.0	36.6	0.0
Permitted Queue Service Time (g_{ps}), s	1.2		0.6		0.3		1.0	
Time to First Blockage (g_f), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Queue Service Time Before Blockage (g_{fs}), s								
Protected Right Saturation Flow (s_R), veh/h/ln				0				
Protected Right Effective Green Time (g_R), s				0.0				

Multimodal	EB		WB		NB		SB	
Pedestrian F_w / F_v	1.557	0.00	1.557	0.00	1.710	0.00	1.557	0.00
Pedestrian F_s / F_{delay}	0.000	0.137	0.000	0.139	0.000	0.094	0.000	0.093
Pedestrian M_{corner} / M_{cw}								
Bicycle c_b / d_b	391.23	30.73	365.07	31.74	1059.66	10.50	1072.92	10.21
Bicycle F_w / F_v	-3.64	0.50	-3.64	0.71	-3.64	0.75	-3.64	0.72

--- Messages ---

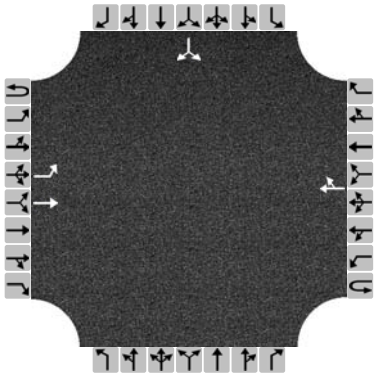
No errors or warnings exist.

--- Comments ---

HCS 2010 Two-Way Stop Control Summary Report

General Information		Site Information	
Analyst	NJB	Intersection	Kensington and Market
Agency/Co.	KLOA, Inc.	Jurisdiction	Arlington Heights
Date Performed	7/13/2016	East/West Street	Kensington Road
Analysis Year	2016	North/South Street	Arlington Market Access
Time Analyzed	AM	Peak Hour Factor	0.86
Intersection Orientation	East-West	Analysis Time Period (hrs)	0.25
Project Description	AM Existing Peak Hour		

Lanes



Major Street: East-West

Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Priority	1U	1	2	3	4U	4	5	6		7	8	9		10	11	12
Number of Lanes	0	1	1	0	0	0	1	0		0	0	0		0	0	0
Configuration		L	T					TR							LR	
Volume (veh/h)		4	235				288	9						6		2
Percent Heavy Vehicles		0												0		0
Proportion Time Blocked																
Right Turn Channelized	No				No				No				No			
Median Type	Left Only															
Median Storage	1															

Delay, Queue Length, and Level of Service

Flow Rate (veh/h)		5													9	
Capacity		1225													574	
v/c Ratio		0.00													0.02	
95% Queue Length		0.0													0.0	
Control Delay (s/veh)		7.9													11.4	
Level of Service (LOS)		A													B	
Approach Delay (s/veh)	0.1												11.4			
Approach LOS													B			

HCS 2010 Two-Way Stop Control Summary Report

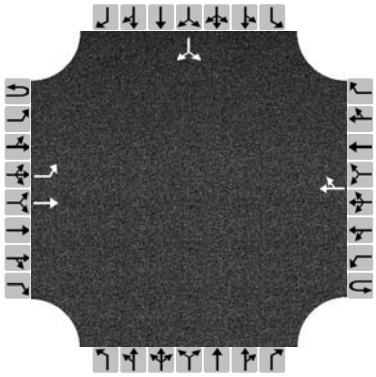
General Information

Analyst	NJB
Agency/Co.	KLOA, Inc.
Date Performed	7/13/2016
Analysis Year	2016
Time Analyzed	PM
Intersection Orientation	East-West
Project Description	PM Existing Peak Hour

Site Information

Intersection	Kensington and Market
Jurisdiction	Arlington Heights
East/West Street	Kensington Road
North/South Street	Arlington Market Access
Peak Hour Factor	0.94
Analysis Time Period (hrs)	0.25

Lanes



Major Street: East-West

Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Priority	1U	1	2	3	4U	4	5	6		7	8	9		10	11	12
Number of Lanes	0	1	1	0	0	0	1	0		0	0	0		0	0	0
Configuration		L	T					TR							LR	
Volume (veh/h)		11	274				382	21						15		3
Percent Heavy Vehicles		0												0		0
Proportion Time Blocked																
Right Turn Channelized	No				No				No				No			
Median Type	Left Only															
Median Storage	1															

Delay, Queue Length, and Level of Service

Flow Rate (veh/h)		12													19	
Capacity		1142													512	
v/c Ratio		0.01													0.04	
95% Queue Length		0.0													0.1	
Control Delay (s/veh)		8.2													12.3	
Level of Service (LOS)		A													B	
Approach Delay (s/veh)	0.3												12.3			
Approach LOS													B			

HCS 2010 Two-Way Stop Control Summary Report

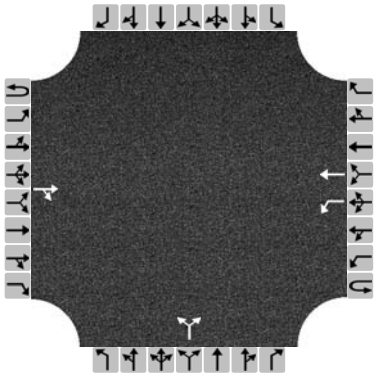
General Information

Analyst	NJB
Agency/Co.	KLOA, Inc.
Date Performed	7/13/2016
Analysis Year	2016
Time Analyzed	AM
Intersection Orientation	East-West
Project Description	AM Existing Peak Hour

Site Information

Intersection	Kensington and Mariano's
Jurisdiction	Arlington Heights
East/West Street	Kensington Road
North/South Street	Mariano's Access Drive
Peak Hour Factor	0.86
Analysis Time Period (hrs)	0.25

Lanes



Major Street: East-West

Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Priority	1U	1	2	3	4U	4	5	6		7	8	9		10	11	12
Number of Lanes	0	0	1	0	0	1	1	0		0	0	0		0	0	0
Configuration				TR		L	T				LR					
Volume (veh/h)			206	27		31	259			9		33				
Percent Heavy Vehicles						0				0		0				
Proportion Time Blocked																
Right Turn Channelized	No				No				No				No			
Median Type	Left Only															
Median Storage	1															

Delay, Queue Length, and Level of Service

Flow Rate (veh/h)						36					48					
Capacity						1304					712					
v/c Ratio						0.03					0.07					
95% Queue Length						0.1					0.2					
Control Delay (s/veh)						7.8					10.4					
Level of Service (LOS)						A					B					
Approach Delay (s/veh)					0.8				10.4							
Approach LOS									B							

HCS 2010 Two-Way Stop Control Summary Report

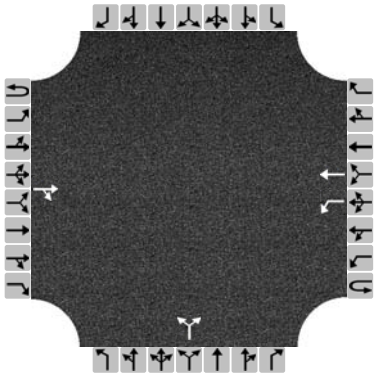
General Information

Analyst	NJB
Agency/Co.	KLOA, Inc.
Date Performed	7/13/2016
Analysis Year	2016
Time Analyzed	PM
Intersection Orientation	East-West
Project Description	PM Existing Peak Hour

Site Information

Intersection	Kensington and Mariano's
Jurisdiction	Arlington Heights
East/West Street	Kensington Road
North/South Street	Mariano's Access Drive
Peak Hour Factor	0.94
Analysis Time Period (hrs)	0.25

Lanes



Major Street: East-West

Vehicle Volumes and Adjustments

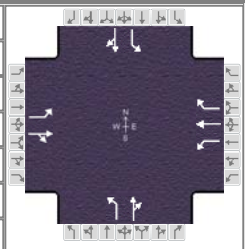
Approach	Eastbound				Westbound				Northbound				Southbound			
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Priority	1U	1	2	3	4U	4	5	6		7	8	9		10	11	12
Number of Lanes	0	0	1	0	0	1	1	0		0	0	0		0	0	0
Configuration				TR		L	T				LR					
Volume (veh/h)			162	59		102	283			29		123				
Percent Heavy Vehicles						0				0		1				
Proportion Time Blocked																
Right Turn Channelized	No				No				No				No			
Median Type	Left Only															
Median Storage	1															

Delay, Queue Length, and Level of Service

Flow Rate (veh/h)						109					162					
Capacity						1344					705					
v/c Ratio						0.08					0.23					
95% Queue Length						0.3					0.9					
Control Delay (s/veh)						7.9					11.6					
Level of Service (LOS)						A					B					
Approach Delay (s/veh)					2.1				11.6							
Approach LOS									B							

HCS 2010 Signalized Intersection Input Data

General Information				Intersection Information	
Agency	KLOA, Inc.			Duration, h	0.25
Analyst	NJB	Analysis Date	7/13/2016	Area Type	Other
Jurisdiction	Arlington Heights	Time Period	AM	PHF	0.82
Urban Street	Kensington Road	Analysis Year	2016	Analysis Period	1> 7:00
Intersection	Kensington Road and D…	File Name	Kensington and Dryden Future AM.xus		
Project Description	AM Future Peak Hour				



Demand Information	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Demand (*v*), veh/h	42	199	32	23	223	95	38	116	34	65	208	74

Signal Information			
Cycle, s	95.0	Reference Phase	2
Offset, s	0	Reference Point	Begin
Uncoordinated	No	Simult. Gap E/W	On
Force Mode	Fixed	Simult. Gap N/S	On

Green	3.3	0.7		50.6	3.2	1.1	18.1					
Yellow	3.0	0.0		4.5	3.0	0.0	4.5					
Red	0.0	0.0		1.5	0.0	0.0	1.5					

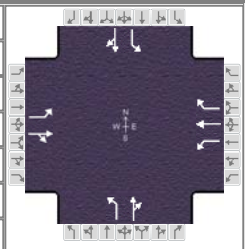
Traffic Information	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Demand (*v*), veh/h	42	199	32	23	223	95	38	116	34	65	208	74
Initial Queue (Q_b), veh/h	0	0	0	0	0	0	0	0	0	0	0	0
Base Saturation Flow Rate (s_o), veh/h	1900	1900	1900	1900	2000	1900	1900	1900	1900	1900	1900	1900
Parking (N_m), man/h		None			None			None			None	
Heavy Vehicles (P_{HV}), %	7	5		0	6	4	17	4		2	3	
Ped / Bike / RTOR, /h	0	0	0	0	0	0	0	0	0	0	0	0
Buses (N_b), buses/h	0	0	0	0	0	0	0	0	0	0	0	0
Arrival Type (*AT*)	3	3	3	3	3	3	3	3	3	3	3	3
Upstream Filtering (*I*)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lane Width (*W*), ft	12.0	12.0		12.0	12.0	12.0	12.0	12.0		12.0	12.0	
Turn Bay Length, ft	115	0		115	0	160	95	0		120	0	
Grade (*Pg*), %		0			0			0			0	
Speed Limit, mi/h	30	30	30	30	30	30	30	30	30	20	20	20

Phase Information	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Maximum Green (G_{max}) or Phase Split, s	9.0	30.0	9.0	30.0	12.0	44.0	12.0	44.0
Yellow Change Interval (*Y*), s	3.0	4.5	3.0	4.5	3.0	4.5	3.0	4.5
Red Clearance Interval (R_c), s	0.0	1.5	0.0	1.5	0.0	1.5	0.0	1.5
Minimum Green (G_{min}), s	3	10	3	10	3	15	3	15
Start-Up Lost Time (*lt*), s	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Extension of Effective Green (*e*), s	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Passage (*PT*), s	3.0	4.0	3.0	4.0	3.0	7.0	3.0	7.0
Recall Mode	Off	Off	Off	Off	Off	Min	Off	Min
Dual Entry	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Walk (*Walk*), s	0.0	7.0	0.0	7.0	0.0	7.0	0.0	7.0
Pedestrian Clearance Time (*PC*), s	0.0	14.0	0.0	15.0	0.0	14.0	0.0	15.0

Multimodal Information	EB			WB			NB			SB		
85th % Speed / Rest in Walk / Corner Radius	0	No	25	0	No	25	0	No	25	0	No	25
Walkway / Crosswalk Width / Length, ft	9.0	12	0	9.0	12	0	9.0	12	0	9.0	12	0
Street Width / Island / Curb	0	0	No	0	0	No	0	0	No	0	0	No
Width Outside / Bike Lane / Shoulder, ft	12	5.0	2.0	12	5.0	2.0	12	5.0	2.0	12	5.0	2.0
Pedestrian Signal / Occupied Parking	No	0.50		No	0.50		No	0.50		No	0.50	

HCS 2010 Signalized Intersection Results Summary

General Information				Intersection Information	
Agency	KLOA, Inc.			Duration, h	0.25
Analyst	NJB	Analysis Date	7/13/2016	Area Type	Other
Jurisdiction	Arlington Heights	Time Period	AM	PHF	0.82
Urban Street	Kensington Road	Analysis Year	2016	Analysis Period	1> 7:00
Intersection	Kensington Road and D…	File Name	Kensington and Dryden Future AM.xus		
Project Description	AM Future Peak Hour				



Demand Information	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Demand (*v*), veh/h	42	199	32	23	223	95	38	116	34	65	208	74

Signal Information			
Cycle, s	95.0	Reference Phase	2
Offset, s	0	Reference Point	Begin
Uncoordinated	No	Simult. Gap E/W	On
Force Mode	Fixed	Simult. Gap N/S	On

Green	3.3	0.7	50.6	3.2	1.1	18.1
Yellow	3.0	0.0	4.5	3.0	0.0	4.5
Red	0.0	0.0	1.5	0.0	0.0	1.5

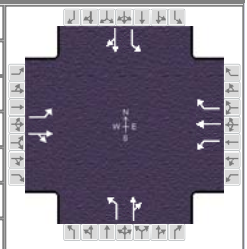
Timer Results	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Assigned Phase	7	4	3	8	5	2	1	6
Case Number	1.1	4.0	1.1	3.0	1.1	4.0	1.1	4.0
Phase Duration, s	7.3	25.2	6.2	24.1	6.3	56.6	7.0	57.3
Change Period, ($Y+R_c$), s	3.0	6.0	3.0	6.0	3.0	6.0	3.0	6.0
Max Allow Headway (*MAH*), s	4.1	5.1	4.1	5.1	4.1	0.0	4.2	0.0
Queue Clearance Time (g_s), s	4.3	16.4	3.2	15.0	3.3		3.9	
Green Extension Time (g_e), s	0.0	2.8	0.0	2.9	0.1	0.0	0.2	0.0
Phase Call Probability	1.00	1.00	1.00	1.00	1.00		1.00	
Max Out Probability	1.00	0.33	1.00	0.31	0.00		0.00	

Movement Group Results	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Assigned Movement	7	4	14	3	8	18	5	2	12	1	6	16
Adjusted Flow Rate (*v*), veh/h	51	282		28	272	116	46	183		79	344	
Adjusted Saturation Flow Rate (*s*), veh/h/ln	1691	1766		1810	1887	1548	1547	1755		1774	1761	
Queue Service Time (g_s), s	2.3	14.4		1.2	13.0	6.2	1.3	5.2		1.9	10.6	
Cycle Queue Clearance Time (g_c), s	2.3	14.4		1.2	13.0	6.2	1.3	5.2		1.9	10.6	
Green Ratio (*g/C*)	0.24	0.20		0.22	0.19	0.19	0.57	0.53		0.58	0.54	
Capacity (*c*), veh/h	209	357		169	359	295	497	935		723	951	
Volume-to-Capacity Ratio (*X*)	0.245	0.789		0.166	0.757	0.393	0.093	0.196		0.110	0.362	
Back of Queue (*Q*), ft/ln (95 th percentile)	44.9	276.3		24.8	274.3	108.5	19.8	92.4		35.1	197	
Back of Queue (*Q*), veh/ln (95 th percentile)	1.7	11.1		0.9	10.5	4.3	0.7	3.7		1.3	7.9	
Queue Storage Ratio (*RQ*) (95 th percentile)	0.39	0.00		0.20	0.00	0.70	0.22	0.00		0.28	0.00	
Uniform Delay (d_1), s/veh	29.5	36.0		30.3	36.4	33.6	9.9	11.6		9.1	12.5	
Incremental Delay (d_2), s/veh	0.6	7.0		0.5	5.2	1.2	0.1	0.5		0.1	1.1	
Initial Queue Delay (d_3), s/veh	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Control Delay (*d*), s/veh	30.1	43.0		30.8	41.6	34.9	10.0	12.1		9.2	13.6	
Level of Service (LOS)	C	D		C	D	C	B	B		A	B	
Approach Delay, s/veh / LOS	41.0	D		39.0	D		11.6	B		12.7	B	
Intersection Delay, s/veh / LOS	27.1						C					

Multimodal Results	EB		WB		NB		SB	
Pedestrian LOS Score / LOS	2.3	B	2.3	B	2.4	B	2.2	B
Bicycle LOS Score / LOS	1.0	A	1.2	A	0.9	A	1.2	A

HCS 2010 Signalized Intersection Intermediate Values

General Information				Intersection Information	
Agency	KLOA, Inc.			Duration, h	0.25
Analyst	NJB	Analysis Date	7/13/2016	Area Type	Other
Jurisdiction	Arlington Heights	Time Period	AM	PHF	0.82
Urban Street	Kensington Road	Analysis Year	2016	Analysis Period	1> 7:00
Intersection	Kensington Road and D…	File Name	Kensington and Dryden Future AM.xus		
Project Description	AM Future Peak Hour				



Demand Information	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Demand (*v*), veh/h	42	199	32	23	223	95	38	116	34	65	208	74

Signal Information			
Cycle, s	95.0	Reference Phase	2
Offset, s	0	Reference Point	Begin
Uncoordinated	No	Simult. Gap E/W	On
Force Mode	Fixed	Simult. Gap N/S	On

	EB			WB			NB			SB		
Green	3.3	0.7		50.6	3.2	1.1	18.1					
Yellow	3.0	0.0		4.5	3.0	0.0	4.5					
Red	0.0	0.0		1.5	0.0	0.0	1.5					

Saturation Flow / Delay	EB			WB			NB			SB		
	L	T	R	L	T	R	L	T	R	L	T	R
Lane Width Adjustment Factor (f_w)	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
Heavy Vehicle Adjustment Factor (f_{HV})	0.935	0.952	1.000	1.000	0.943	0.962	0.855	0.962	1.000	0.980	0.971	1.000
Approach Grade Adjustment Factor (f_g)	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
Parking Activity Adjustment Factor (f_p)	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
Bus Blockage Adjustment Factor (f_{bb})	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
Area Type Adjustment Factor (f_a)	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
Lane Utilization Adjustment Factor (f_{LU})	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
Left-Turn Adjustment Factor (f_{LT})	0.952	0.000		0.952	0.000		0.952	0.000		0.952	0.000	
Right-Turn Adjustment Factor (f_{RT})		0.976			0.000			0.961			0.955	
Left-Turn Pedestrian Adjustment Factor (f_{Lpb})	1.000			1.000			1.000			1.000		
Right-Turn Ped-Bike Adjustment Factor (f_{Rpb})			1.000			1.000			1.000			1.000
Movement Saturation Flow Rate (s), veh/h	1691	1521		1810	1887		1547	1357		1774	1299	
Proportion of Vehicles Arriving on Green (P)	0.05	0.20	0.20	0.03	0.19	0.19	0.04	0.53	0.53	0.04	0.54	0.54
Incremental Delay Factor (k)	0.11	0.20		0.11	0.18	0.15	0.11	0.50		0.11	0.50	

Signal Timing / Movement Groups	EBL	EBT/R	WBL	WBT/R	NBL	NBT/R	SBL	SBT/R
Lost Time (t_L)	3.0	6.0	3.0	6.0	3.0	6.0	3.0	6.0
Green Ratio (g/C)	0.24	0.20	0.22	0.19	0.57	0.53	0.58	0.54
Permitted Saturation Flow Rate (s_p), veh/h/ln	1051	0	1115	0	900	0	1196	0
Shared Saturation Flow Rate (s_{sh}), veh/h/ln								
Permitted Effective Green Time (g_p), s	18.2	0.0	18.1	0.0	50.6	0.0	50.6	0.0
Permitted Service Time (g_u), s	5.1	0.0	2.8	0.0	38.7	0.0	45.4	0.0
Permitted Queue Service Time (g_{ps}), s	0.7		0.4		0.6		0.4	
Time to First Blockage (g_f), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Queue Service Time Before Blockage (g_{fs}), s								
Protected Right Saturation Flow (s_R), veh/h/ln				0				
Protected Right Effective Green Time (g_R), s				0.0				

Multimodal	EB		WB		NB		SB	
Pedestrian F_w / F_v	1.557	0.00	1.557	0.00	1.710	0.00	1.557	0.00
Pedestrian F_s / F_{delay}	0.000	0.137	0.000	0.138	0.000	0.094	0.000	0.093
Pedestrian M_{corner} / M_{cw}								
Bicycle c_b / d_b	404.25	30.24	380.90	31.13	1065.03	10.38	1079.90	10.05
Bicycle F_w / F_v	-3.64	0.55	-3.64	0.69	-3.64	0.38	-3.64	0.70

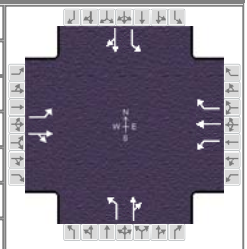
--- Messages ---

No errors or warnings exist.

--- Comments ---

HCS 2010 Signalized Intersection Input Data

General Information				Intersection Information	
Agency	KLOA, Inc.			Duration, h	0.25
Analyst	NJB	Analysis Date	7/13/2016	Area Type	Other
Jurisdiction	Arlington Heights	Time Period	PM	PHF	0.96
Urban Street	Kensington Road	Analysis Year	2016	Analysis Period	1> 7:00
Intersection	Kensington Road and D…	File Name	Kensington and Dryden Future PM.xus		
Project Description	PM Future Peak Hour				



Demand Information	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Demand (*v*), veh/h	94	190	47	56	290	80	38	324	89	62	250	112

Signal Information			
Cycle, s	95.0	Reference Phase	2
Offset, s	0	Reference Point	Begin
Uncoordinated	No	Simult. Gap E/W	On
Force Mode	Fixed	Simult. Gap N/S	On

Green	3.0	0.7	49.3	4.4	1.6	18.0
Yellow	3.0	0.0	4.5	3.0	0.0	4.5
Red	0.0	0.0	1.5	0.0	0.0	1.5

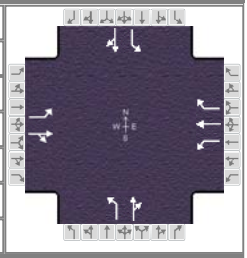
Traffic Information	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Demand (*v*), veh/h	94	190	47	56	290	80	38	324	89	62	250	112
Initial Queue (Q_b), veh/h	0	0	0	0	0	0	0	0	0	0	0	0
Base Saturation Flow Rate (s_o), veh/h	1900	1900	1900	1900	2000	1900	1900	1900	1900	1900	1900	1900
Parking (N_m), man/h		None			None			None			None	
Heavy Vehicles (P_{HV}), %	0	3		0	0	0	0	0		0	1	
Ped / Bike / RTOR, /h	0	0	0	0	0	0	0	0	0	0	0	0
Buses (N_b), buses/h	0	0	0	0	0	0	0	0	0	0	0	0
Arrival Type (*AT*)	3	3	3	3	3	3	3	3	3	3	3	3
Upstream Filtering (*I*)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lane Width (*W*), ft	12.0	12.0		12.0	12.0	12.0	12.0	12.0		12.0	12.0	
Turn Bay Length, ft	115	0		115	0	160	95	0		120	0	
Grade (*Pg*), %		0			0			0			0	
Speed Limit, mi/h	30	30	30	30	30	30	30	30	30	20	20	20

Phase Information	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Maximum Green (G_{max}) or Phase Split, s	9.0	30.0	9.0	30.0	12.0	44.0	12.0	44.0
Yellow Change Interval (*Y*), s	3.0	4.5	3.0	4.5	3.0	4.5	3.0	4.5
Red Clearance Interval (R_c), s	0.0	1.5	0.0	1.5	0.0	1.5	0.0	1.5
Minimum Green (G_{min}), s	3	10	3	10	3	15	3	15
Start-Up Lost Time (*lt*), s	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Extension of Effective Green (*e*), s	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Passage (*PT*), s	3.0	4.0	3.0	4.0	3.0	7.0	3.0	7.0
Recall Mode	Off	Off	Off	Off	Off	Min	Off	Min
Dual Entry	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Walk (*Walk*), s	0.0	7.0	0.0	7.0	0.0	7.0	0.0	7.0
Pedestrian Clearance Time (*PC*), s	0.0	14.0	0.0	15.0	0.0	14.0	0.0	15.0

Multimodal Information	EB			WB			NB			SB		
85th % Speed / Rest in Walk / Corner Radius	0	No	25	0	No	25	0	No	25	0	No	25
Walkway / Crosswalk Width / Length, ft	9.0	12	0	9.0	12	0	9.0	12	0	9.0	12	0
Street Width / Island / Curb	0	0	No	0	0	No	0	0	No	0	0	No
Width Outside / Bike Lane / Shoulder, ft	12	5.0	2.0	12	5.0	2.0	12	5.0	2.0	12	5.0	2.0
Pedestrian Signal / Occupied Parking	No	0.50		No	0.50		No	0.50		No	0.50	

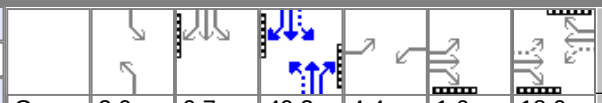
HCS 2010 Signalized Intersection Results Summary

General Information				Intersection Information	
Agency	KLOA, Inc.			Duration, h	0.25
Analyst	NJB	Analysis Date	7/13/2016	Area Type	Other
Jurisdiction	Arlington Heights	Time Period	PM	PHF	0.96
Urban Street	Kensington Road	Analysis Year	2016	Analysis Period	1> 7:00
Intersection	Kensington Road and D…	File Name	Kensington and Dryden Future PM.xus		
Project Description	PM Future Peak Hour				

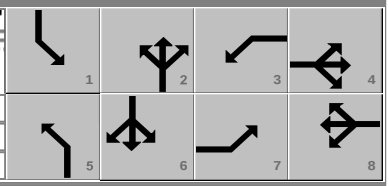


Demand Information	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Demand (*v*), veh/h	94	190	47	56	290	80	38	324	89	62	250	112

Signal Information			
Cycle, s	95.0	Reference Phase	2
Offset, s	0	Reference Point	Begin
Uncoordinated	No	Simult. Gap E/W	On
Force Mode	Fixed	Simult. Gap N/S	On



Green	3.0	0.7	49.3	4.4	1.6	18.0
Yellow	3.0	0.0	4.5	3.0	0.0	4.5
Red	0.0	0.0	1.5	0.0	0.0	1.5



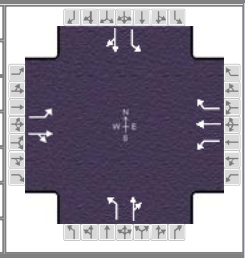
Timer Results	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Assigned Phase	7	4	3	8	5	2	1	6
Case Number	1.1	4.0	1.1	3.0	1.1	4.0	1.1	4.0
Phase Duration, s	9.0	25.6	7.4	24.0	6.0	55.3	6.7	56.0
Change Period, ($Y+R_c$), s	3.0	6.0	3.0	6.0	3.0	6.0	3.0	6.0
Max Allow Headway (*MAH*), s	4.1	5.1	4.1	5.1	4.1	0.0	4.2	0.0
Queue Clearance Time (g_s), s	6.0	14.1	4.4	15.7	3.0		3.6	
Green Extension Time (g_e), s	0.0	2.8	0.0	2.3	0.0	0.0	0.1	0.0
Phase Call Probability	1.00	1.00	1.00	1.00	1.00		1.00	
Max Out Probability	1.00	0.25	1.00	0.50	0.00		0.00	

Movement Group Results	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Assigned Movement	7	4	14	3	8	18	5	2	12	1	6	16
Adjusted Flow Rate (*v*), veh/h	98	247		58	302	83	40	430		65	377	
Adjusted Saturation Flow Rate (*s*), veh/h/ln	1810	1781		1810	2000	1610	1810	1829		1810	1782	
Queue Service Time (g_s), s	4.0	12.1		2.4	13.7	4.2	1.0	14.0		1.6	12.1	
Cycle Queue Clearance Time (g_c), s	4.0	12.1		2.4	13.7	4.2	1.0	14.0		1.6	12.1	
Green Ratio (*g/C*)	0.26	0.21		0.24	0.19	0.19	0.55	0.52		0.56	0.53	
Capacity (*c*), veh/h	240	367		226	379	305	519	950		507	938	
Volume-to-Capacity Ratio (*X*)	0.409	0.673		0.258	0.797	0.273	0.076	0.453		0.127	0.402	
Back of Queue (*Q*), ft/ln (95 th percentile)	80.9	233.9		48.4	303	75.6	16.6	247.8		28.4	221.9	
Back of Queue (*Q*), veh/ln (95 th percentile)	3.2	9.4		1.9	11.8	3.0	0.7	9.9		1.1	8.9	
Queue Storage Ratio (*RQ*) (95 th percentile)	0.70	0.00		0.42	0.00	0.47	0.18	0.00		0.24	0.00	
Uniform Delay (d_1), s/veh	28.8	34.8		29.5	36.8	32.9	10.8	14.3		10.7	13.5	
Incremental Delay (d_2), s/veh	1.1	3.2		0.6	7.6	0.7	0.1	1.6		0.1	1.3	
Initial Queue Delay (d_3), s/veh	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Control Delay (*d*), s/veh	29.9	38.0		30.1	44.4	33.6	10.8	15.9		10.9	14.8	
Level of Service (LOS)	C	D		C	D	C	B	B		B	B	
Approach Delay, s/veh / LOS	35.7	D		40.5	D		15.5	B		14.2	B	
Intersection Delay, s/veh / LOS	25.8						C					

Multimodal Results	EB		WB		NB		SB	
Pedestrian LOS Score / LOS	2.3	B	2.3	B	2.4	B	2.3	B
Bicycle LOS Score / LOS	1.1	A	1.2	A	1.3	A	1.2	A

HCS 2010 Signalized Intersection Intermediate Values

General Information				Intersection Information	
Agency	KLOA, Inc.			Duration, h	0.25
Analyst	NJB	Analysis Date	7/13/2016	Area Type	Other
Jurisdiction	Arlington Heights	Time Period	PM	PHF	0.96
Urban Street	Kensington Road	Analysis Year	2016	Analysis Period	1> 7:00
Intersection	Kensington Road and D…	File Name	Kensington and Dryden Future PM.xus		
Project Description	PM Future Peak Hour				



Demand Information	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Demand (*v*), veh/h	94	190	47	56	290	80	38	324	89	62	250	112

Signal Information			
Cycle, s	95.0	Reference Phase	2
Offset, s	0	Reference Point	Begin
Uncoordinated	No	Simult. Gap E/W	On
Force Mode	Fixed	Simult. Gap N/S	On

	EB			WB			NB			SB		
Green	3.0	0.7		49.3	4.4	1.6	18.0					
Yellow	3.0	0.0		4.5	3.0	0.0	4.5					
Red	0.0	0.0		1.5	0.0	0.0	1.5					

Saturation Flow / Delay	EB			WB			NB			SB		
	L	T	R	L	T	R	L	T	R	L	T	R
Lane Width Adjustment Factor (f_w)	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
Heavy Vehicle Adjustment Factor (f_{HV})	1.000	0.971	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	0.990	1.000
Approach Grade Adjustment Factor (f_g)	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
Parking Activity Adjustment Factor (f_p)	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
Bus Blockage Adjustment Factor (f_{bb})	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
Area Type Adjustment Factor (f_a)	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
Lane Utilization Adjustment Factor (f_{LU})	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
Left-Turn Adjustment Factor (f_{LT})	0.952	0.000		0.952	0.000		0.952	0.000		0.952	0.000	
Right-Turn Adjustment Factor (f_{RT})		0.966			0.000			0.963			0.947	
Left-Turn Pedestrian Adjustment Factor (f_{Lpb})	1.000			1.000			1.000			1.000		
Right-Turn Ped-Bike Adjustment Factor (f_{Rpb})			1.000			1.000			1.000			1.000
Movement Saturation Flow Rate (s), veh/h	1810	1428		1810	2000		1810	1435		1810	1231	
Proportion of Vehicles Arriving on Green (P)	0.06	0.21	0.21	0.05	0.19	0.19	0.03	0.52	0.52	0.04	0.53	0.53
Incremental Delay Factor (k)	0.11	0.16		0.11	0.22	0.15	0.11	0.50		0.11	0.50	

Signal Timing / Movement Groups	EBL	EBT/R	WBL	WBT/R	NBL	NBT/R	SBL	SBT/R
Lost Time (t_L)	3.0	6.0	3.0	6.0	3.0	6.0	3.0	6.0
Green Ratio (g/C)	0.26	0.21	0.24	0.19	0.55	0.52	0.56	0.53
Permitted Saturation Flow Rate (s_p), veh/h/ln	1094	0	1151	0	1022	0	973	0
Shared Saturation Flow Rate (s_{sh}), veh/h/ln								
Permitted Effective Green Time (g_p), s	18.6	0.0	18.0	0.0	49.3	0.0	49.3	0.0
Permitted Service Time (g_u), s	4.3	0.0	5.4	0.0	35.9	0.0	35.3	0.0
Permitted Queue Service Time (g_{ps}), s	1.4		0.7		0.5		1.0	
Time to First Blockage (g_f), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Queue Service Time Before Blockage (g_{fs}), s								
Protected Right Saturation Flow (s_R), veh/h/ln				0				
Protected Right Effective Green Time (g_R), s				0.0				

Multimodal	EB		WB		NB		SB	
Pedestrian F_w / F_v	1.557	0.00	1.557	0.00	1.710	0.00	1.557	0.00
Pedestrian F_s / F_{delay}	0.000	0.136	0.000	0.138	0.000	0.096	0.000	0.095
Pedestrian M_{corner} / M_{cw}								
Bicycle c_b / d_b	412.04	29.94	379.03	31.20	1038.67	10.97	1052.51	10.66
Bicycle F_w / F_v	-3.64	0.57	-3.64	0.73	-3.64	0.78	-3.64	0.73

--- Messages ---

No errors or warnings exist.

--- Comments ---

HCS 2010 Two-Way Stop Control Summary Report

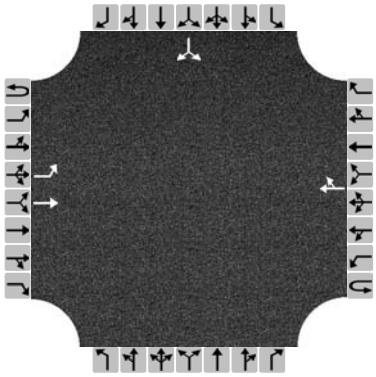
General Information

Analyst	NJB
Agency/Co.	KLOA, Inc.
Date Performed	7/13/2016
Analysis Year	2016
Time Analyzed	AM
Intersection Orientation	East-West
Project Description	AM Future Peak Hour

Site Information

Intersection	Kensington and Market
Jurisdiction	Arlington Heights
East/West Street	Kensington Road
North/South Street	Arlington Market Access
Peak Hour Factor	0.86
Analysis Time Period (hrs)	0.25

Lanes



Major Street: East-West

Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Priority	1U	1	2	3	4U	4	5	6		7	8	9		10	11	12
Number of Lanes	0	1	1	0	0	0	1	0		0	0	0		0	0	0
Configuration		L	T					TR							LR	
Volume (veh/h)		20	235				288	47						38		15
Percent Heavy Vehicles		0												0		0
Proportion Time Blocked																
Right Turn Channelized	No				No				No				No			
Median Type	Left Only															
Median Storage	1															

Delay, Queue Length, and Level of Service

Flow Rate (veh/h)		23													61	
Capacity		1180													549	
v/c Ratio		0.02													0.11	
95% Queue Length		0.1													0.4	
Control Delay (s/veh)		8.1													12.4	
Level of Service (LOS)		A													B	
Approach Delay (s/veh)	0.6												12.4			
Approach LOS													B			

HCS 2010 Two-Way Stop Control Summary Report

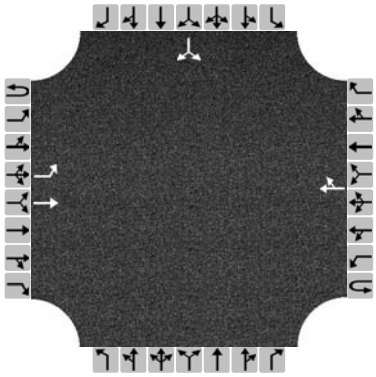
General Information

Analyst	NJB
Agency/Co.	KLOA, Inc.
Date Performed	7/13/2016
Analysis Year	2016
Time Analyzed	PM
Intersection Orientation	East-West
Project Description	PM Future Peak Hour

Site Information

Intersection	Kensington and Market
Jurisdiction	Arlington Heights
East/West Street	Kensington Road
North/South Street	Arlington Market Access
Peak Hour Factor	0.94
Analysis Time Period (hrs)	0.25

Lanes



Major Street: East-West

Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Priority	1U	1	2	3	4U	4	5	6		7	8	9		10	11	12
Number of Lanes	0	1	1	0	0	0	1	0		0	0	0		0	0	0
Configuration		L	T					TR							LR	
Volume (veh/h)		27	274				382	58						57		20
Percent Heavy Vehicles		0												0		0
Proportion Time Blocked																
Right Turn Channelized	No				No				No				No			
Median Type	Left Only															
Median Storage	1															

Delay, Queue Length, and Level of Service

Flow Rate (veh/h)		29													82	
Capacity		1104													496	
v/c Ratio		0.03													0.17	
95% Queue Length		0.1													0.6	
Control Delay (s/veh)		8.3													13.7	
Level of Service (LOS)		A													B	
Approach Delay (s/veh)	0.8												13.7			
Approach LOS													B			

HCS 2010 Two-Way Stop Control Summary Report

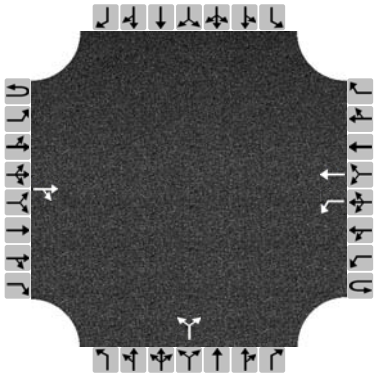
General Information

Analyst	NJB
Agency/Co.	KLOA, Inc.
Date Performed	7/13/2016
Analysis Year	2016
Time Analyzed	AM
Intersection Orientation	East-West
Project Description	AM Future Peak Hour

Site Information

Intersection	Kensington and Mariano's
Jurisdiction	Arlington Heights
East/West Street	Kensington Road
North/South Street	Mariano's Access Drive
Peak Hour Factor	0.86
Analysis Time Period (hrs)	0.25

Lanes



Major Street: East-West

Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Priority	1U	1	2	3	4U	4	5	6		7	8	9		10	11	12
Number of Lanes	0	0	1	0	0	1	1	0		0	0	0		0	0	0
Configuration				TR		L	T				LR					
Volume (veh/h)			222	27		31	272			9		33				
Percent Heavy Vehicles						0				0		0				
Proportion Time Blocked																
Right Turn Channelized	No				No				No				No			
Median Type	Left Only															
Median Storage	1															

Delay, Queue Length, and Level of Service

Flow Rate (veh/h)						36					48					
Capacity						1285					695					
v/c Ratio						0.03					0.07					
95% Queue Length						0.1					0.2					
Control Delay (s/veh)						7.9					10.6					
Level of Service (LOS)						A					B					
Approach Delay (s/veh)					0.8				10.6							
Approach LOS									B							

HCS 2010 Two-Way Stop Control Summary Report

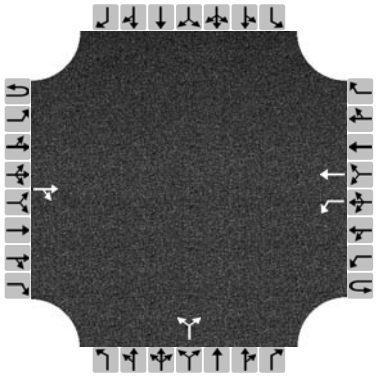
General Information

Analyst	NJB
Agency/Co.	KLOA, Inc.
Date Performed	7/13/2016
Analysis Year	2016
Time Analyzed	PM
Intersection Orientation	East-West
Project Description	PM Future Peak Hour

Site Information

Intersection	Kensington and Mariano's
Jurisdiction	Arlington Heights
East/West Street	Kensington Road
North/South Street	Mariano's Access Drive
Peak Hour Factor	0.94
Analysis Time Period (hrs)	0.25

Lanes



Major Street: East-West

Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Priority	1U	1	2	3	4U	4	5	6		7	8	9		10	11	12
Number of Lanes	0	0	1	0	0	1	1	0		0	0	0		0	0	0
Configuration				TR		L	T				LR					
Volume (veh/h)			178	59		102	300			29		123				
Percent Heavy Vehicles						0				0		1				
Proportion Time Blocked																
Right Turn Channelized	No				No				No				No			
Median Type	Left Only															
Median Storage	1															

Delay, Queue Length, and Level of Service

Flow Rate (veh/h)						109					162					
Capacity						1325					689					
v/c Ratio						0.08					0.24					
95% Queue Length						0.3					0.9					
Control Delay (s/veh)						8.0					11.8					
Level of Service (LOS)						A					B					
Approach Delay (s/veh)					2.0				11.8							
Approach LOS									B							

Fire Truck AutoTurn Exhibits

Kensington School
Glenview, Illinois

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

SCALE: 1" = 40'

REMOVE EXISTING CURB AND REPLACE WITH B.612 CURB AND GUTTER

EXISTING DEPRESSED CURB TO REMAIN

REMOVE EXISTING CURB AND REPLACE WITH TOPSOIL AND SOD

REMOVE EXISTING ASPHALT PAVEMENT AND REPLACE WITH TOPSOIL AND SOD

REMOVE EXISTING CURB AND REPLACE WITH B.612 CURB AND GUTTER

REMOVE EXISTING CURB AND REPLACE WITH TOPSOIL AND SOD

PLAY STRUCTURE

1-STORY PRESCHOOL

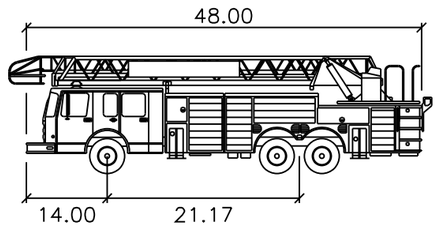
PLAY STRUCTURE

NORTH DRYDEN PLACE

KENSINGTON SCHOOL MONUMENT SIGN

REMOVE EXISTING DRIVEWAY & CURB DEPRESSION AND REPLACE WITH TOPSOIL, SOD AND BARRIER CURB & GUTTER

DESIGN VEHICLE



Arlington Hts FT
Tower 131 feet

Width	: 8.50
Track	: 8.00
Lock to Lock Time	: 6.0
Steering Angle	: 40.0

- BODY OF VEHICLE (OVERHANG)
- FRONT TIRES PATH
- REAR TIRES PATH

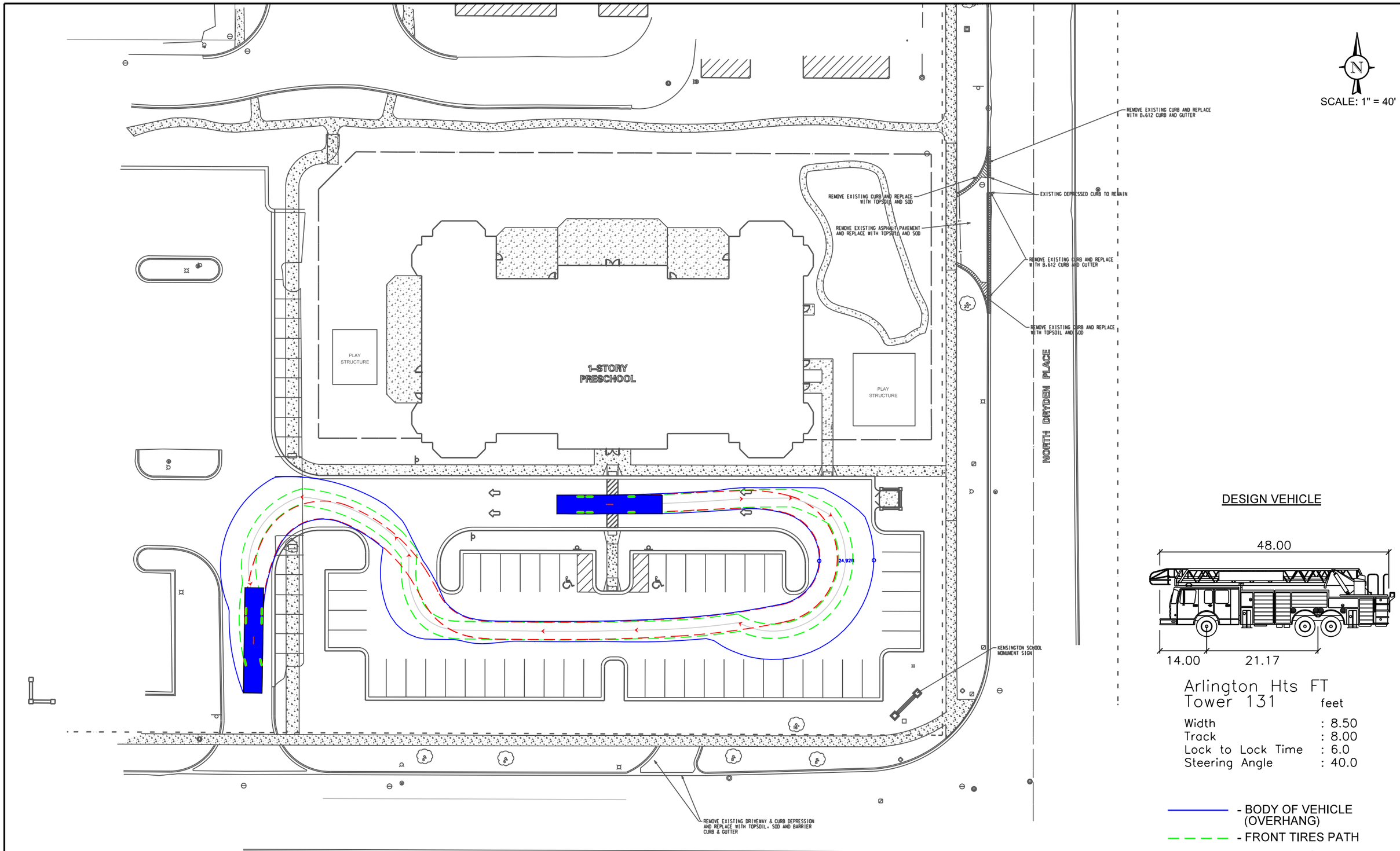
KLOA
Kenig,Lindgren,O'Hara,Aboona,Inc.
9575 West Higgins Road, Suite 400
Rosemont, Illinois 60018
P: (847) 518-9990 F: (847) 518-9987
PROJECT # 15-278

SCALE:	-	1" = 40'
DRAWN	-	MD
CHECKED	-	MAW
DATE	-	08-11-2016

KENSINGTON SCHOOL
ARLINGTON HEIGHTS, ILLINOIS

FIRE TRUCK INBOUND MANEUVER

EXHIBIT NO.
A



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KENSINGTON SCHOOL
ARLINGTON HEIGHTS, ILLINOIS

FIRE TRUCK OUTBOUND MANEUVER

EXHIBIT NO.
B