Olive-Mary Stitt Elementary School
Traffic and Parking Study
Arlington Heights, Illinois

Prepared For:

Arlington Heights
School District 25

Prepared by:

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INTRODUCTION

Eriksson Engineering Associates, Ltd. (EEA) was retained by Arlington Heights School District 25 (AHSD 25) to conduct a traffic and parking study for the addition of an all-day kindergarten program at Olive-Mary Stitt Elementary School in Arlington Heights, Illinois. Olive-Mary Stitt School is located on the south side of Olive Street east of Arlington Heights Road. The current enrollment of the school is 624 students in Kindergarten through 5th grade with 70 staff members.

The school expansion will serve the all-day kindergarten program and a slight decrease in the student population with classrooms. Student population is expected to grow 628 students with the number of staff expected to increase to 72.

The purpose of the study was to observe the existing traffic patterns around the school, determine the traffic characteristics of the existing and expanded school, review the parking needs, and develop roadway and parking recommendations.

EXISTING CONDITIONS

Site Location and Area Land-Uses

The existing school is located at the southeast corner of Arlington Heights Road and Olive Street in Arlington Heights, Illinois within in a single-family neighborhood. Two churches are west and northeast of the school. Thomas Middle School is located a quarter mile to the north. **Figure 1** illustrates the site location and the surrounding land-uses and roads.

Bicycle and Pedestrian Routes

Douglas and Belmont Avenues are designated on-street bike routes. Olive Street, east of Belmont Avenue, is a proposed bikeway route. Public sidewalks are located on both sides of the streets around the school. The All-Way Stop Controlled (AWSC) intersections on Olive Street at Belmont and Douglas Avenues have crosswalks.

Roadway Characteristics

A description of the area roadways providing access to the site is provided below:

Arlington Heights Road is a north-south major arterial roadway extending from Elk Grove Village thru Arlington Heights to Long Grove. It has two travel lanes in each direction without a center median. At Olive Street, Arlington Heights Road is signalized and has shared thru/right and shared thru/left-turn lanes with painted crosswalks in both directions. The posted speed limit is 30 miles per hour and is under the jurisdiction of the Illinois Department of Transportation (IDOT).

Olive Street is a local road that extends between Windsor Drive and Ridge Road. It has one travel lane in each direction at its signalized intersection with Arlington Heights Road and its AWSC intersections at Belmont and Douglas Avenues. The posted speed limit is 25 miles per hour with a 20-mph school speed zone by the school. It is under the jurisdiction of the Village of Arlington Heights.

Douglas Avenue is a local road that extends east of the school with one travel lane in each direction. The posted speed limit is 25 miles per hour and is under the jurisdiction of the Village of Arlington Heights.

Belmont Avenue is a local road extending north of Olive Street and is a cul-de-sac south of the school. The posted speed limit is 25 miles per hour and is under the jurisdiction of the Village of Arlington Heights.

Haddow Avenue is a local residential road that ends in a cul-de-sac north of Olive Street. It has a speed limit of 25 miles per hour and is under the jurisdiction of the Village of Arlington Heights.

Pine Avenue is a local residential road that ends in a cul-de-sac north of Olive Street and is a cul-de-sac south of the school. It has a speed limit of 25 miles per hour and is under the jurisdiction of the Village of Arlington Heights.

Figure 2 illustrates the existing roadway geometrics around the school and a copy of the signage plan from the Village is in the **Appendix**.

Existing Traffic Volumes

Olive-Mary Stitt School starts the school day at 9:05 AM and ends at 3:35 PM. The half-day kindergarten program runs from 9:05 to 11:50 AM and 12:50 to3:35 PM. Weekday morning (8:00 to 9:30 AM) and afternoon (3:00 to 4:30 PM) manual traffic counts of vehicles and pedestrians were conducted in September 2022 at the following intersections:

- Arlington Heights Road and Olive Street
- Belmont Avenue and Olive Street
- Haddow Avenue/School Parking Lot and Olive Street
- The Orchard Evangelical Free Church Parking Lot Drive on Olive Street
- Douglas Avenue and Olive Street
- Belmont Avenue and Clarendon Street

These counts showed the peak-hours of traffic occurring from 8:15 to 9:15 AM and 3:00 to 4:00 PM on a weekday. The existing traffic volumes are shown in **Figure 3A** and included in the **Appendix**. **Figures 3B** and **3C** separate the school related traffic from the background traffic volumes. **Figure 4** summarizes the pedestrian and bike volumes.

School Observations

School bus loading occurs in a pull off lane on the south side of Olive Street by the west end of the school. This area is 165 feet long and is used by two school buses that carry 44 students (7%).

The student loading area is located in the school parking lot. Parents enter the entrance and travel counter-clockwise through the lot and unload/load their students. Staff members assist in loading students out of or into the vehicle. A sidewalk is provided on the perimeter of the lot. The doors for the school are near the southwest corner of the lot.

During the morning arrival, parent enter the lot and drop-off their students in the parking lot with minimal congestion. In the afternoon dismissal, parents fill up the parking lot perimeter occasional back up onto Olive Street by one or two cars.

Some of the staff and parents use the church parking lot on the north side of Olive Street to park or to walk their students to and from school. The main entrance to the lot for the school is on Olive Street with secondary access on Belmont Avenue. On-street loading is permitted on the south side of Olive Street east of the parking lot exit.

As with most other schools, congestion occurs in the area and lasts 10 to 15 minutes during the peak arrival and dismissal periods.

Exhibits 1 and **2** illustrates the arrival and dismissal activity around the school.

Exhibit 1
Morning Arrival
Thursday September 8, 2022 8:54 AM

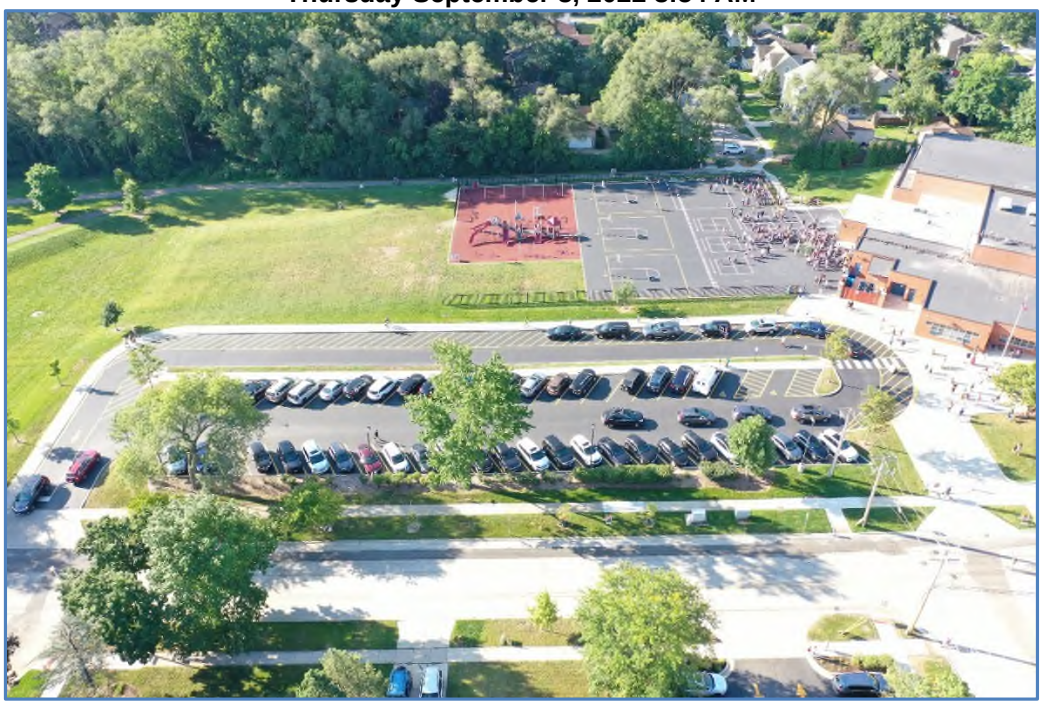
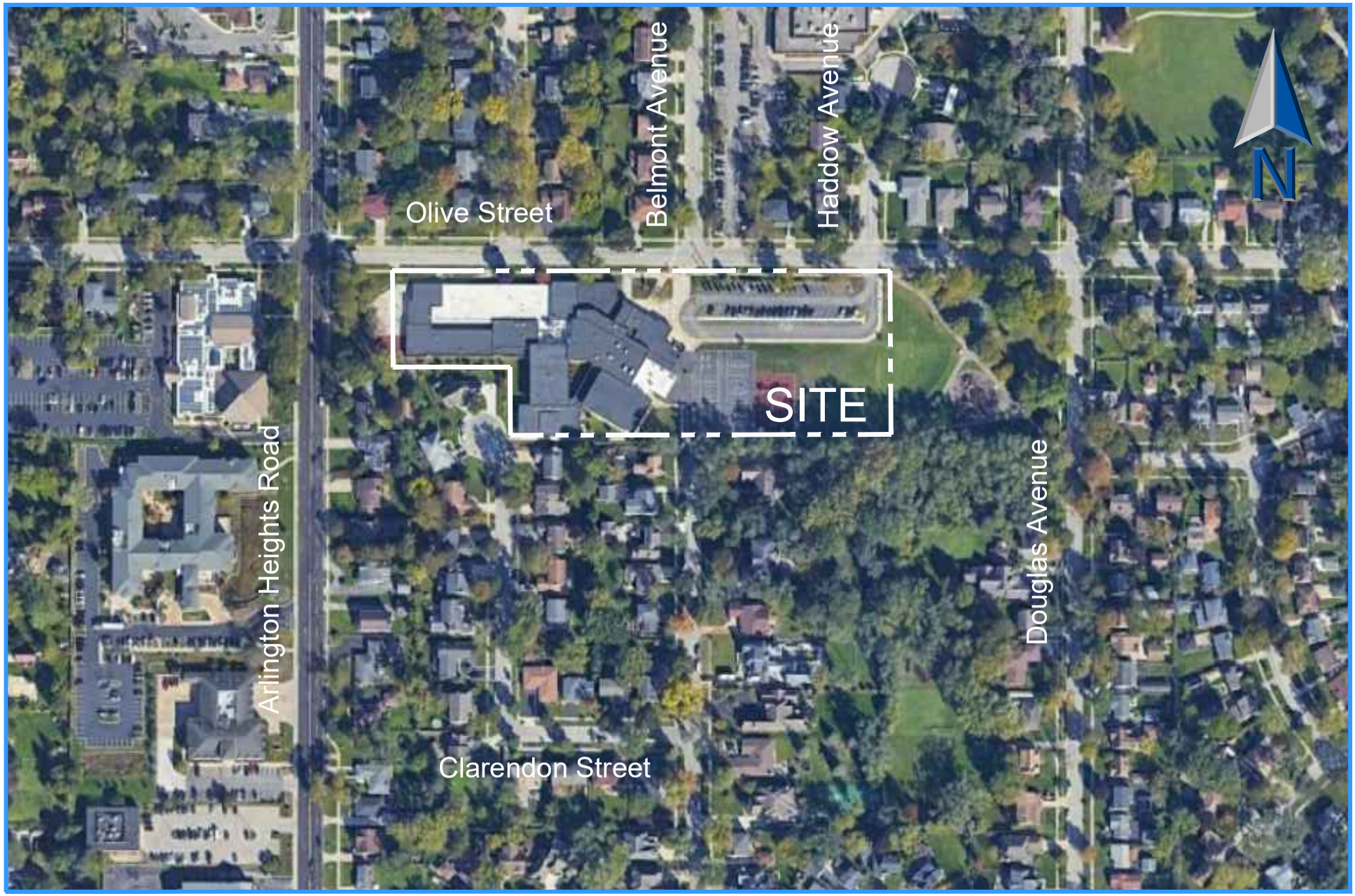


Exhibit 2
Afternoon Departure
Thursday September 8, 2022 8:35 PM



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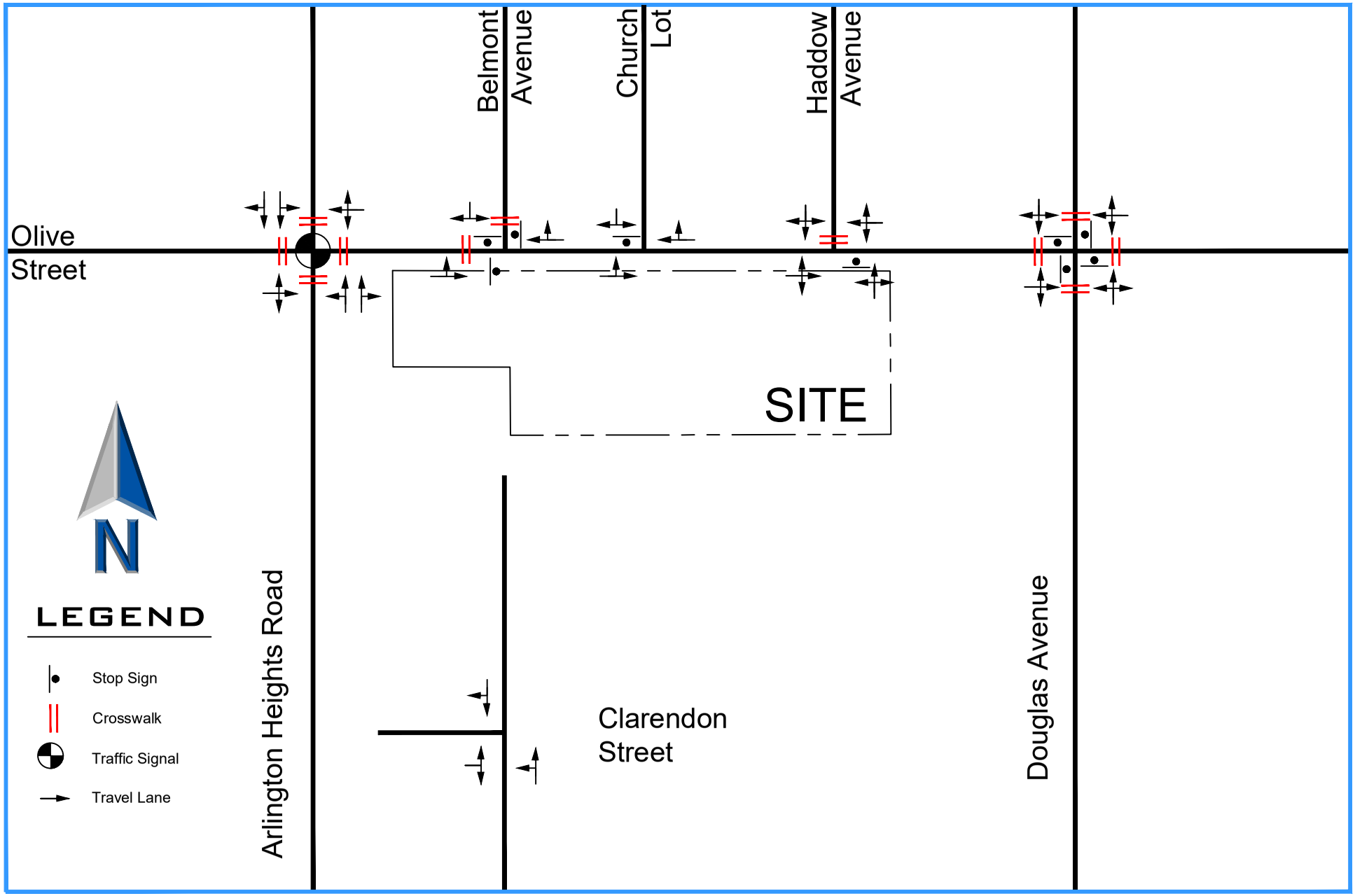
Site Location and Area Roadways

Figure 1



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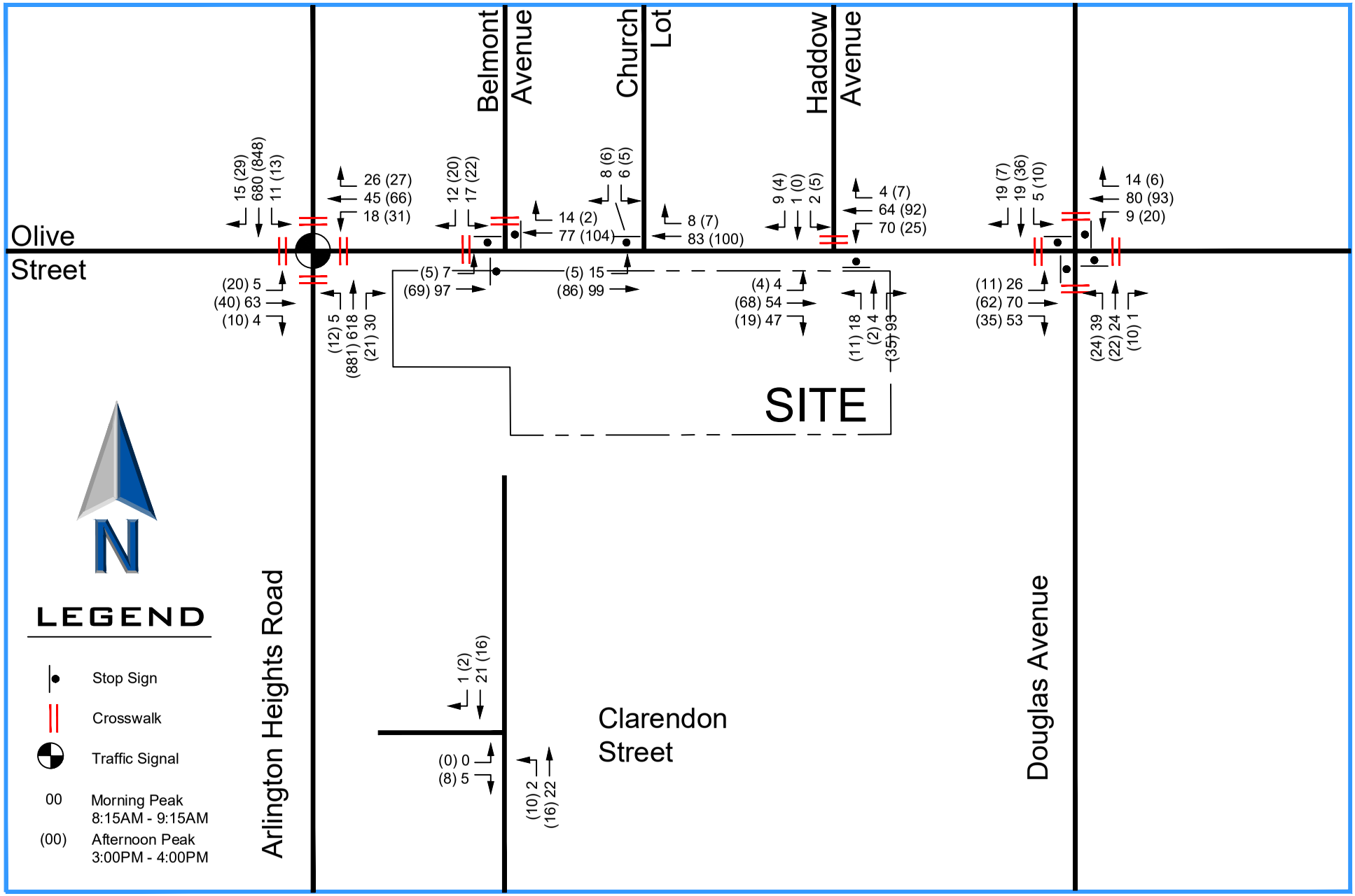
Existing Roadway Geometrics

Figure 2



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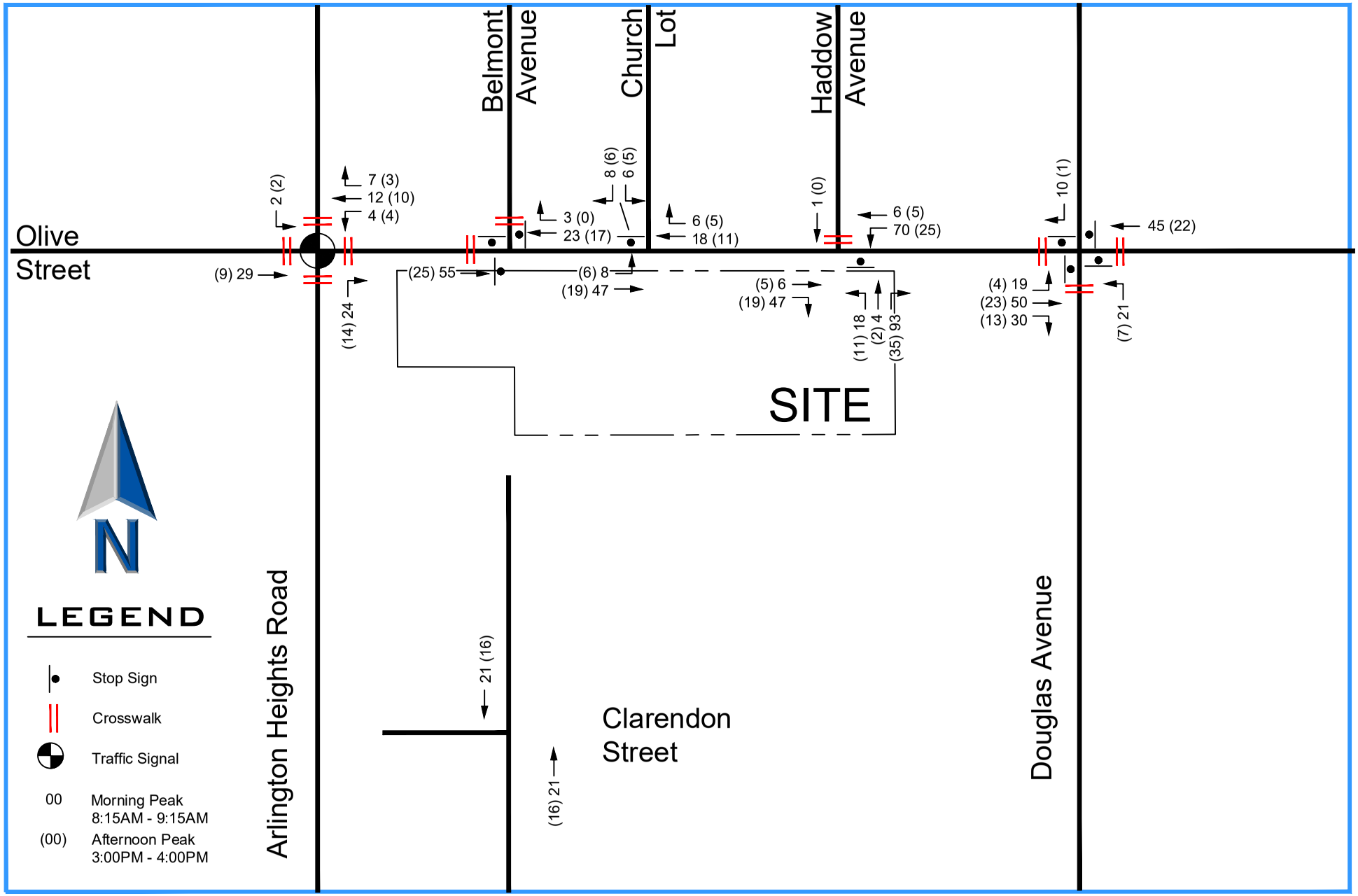
Existing Traffic Volumes

Figure 3A



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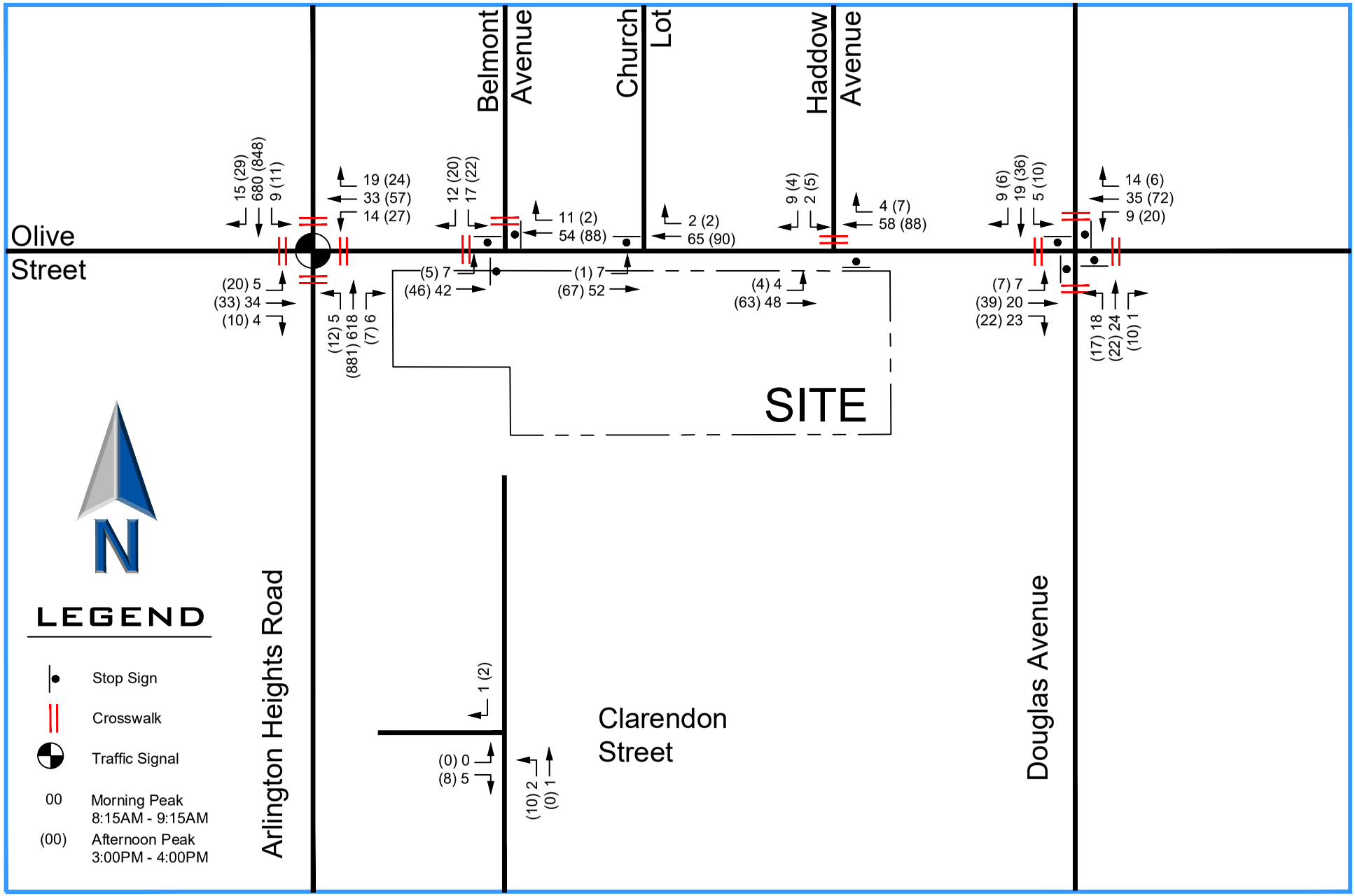
Existing School Traffic Volumes

Figure 3B



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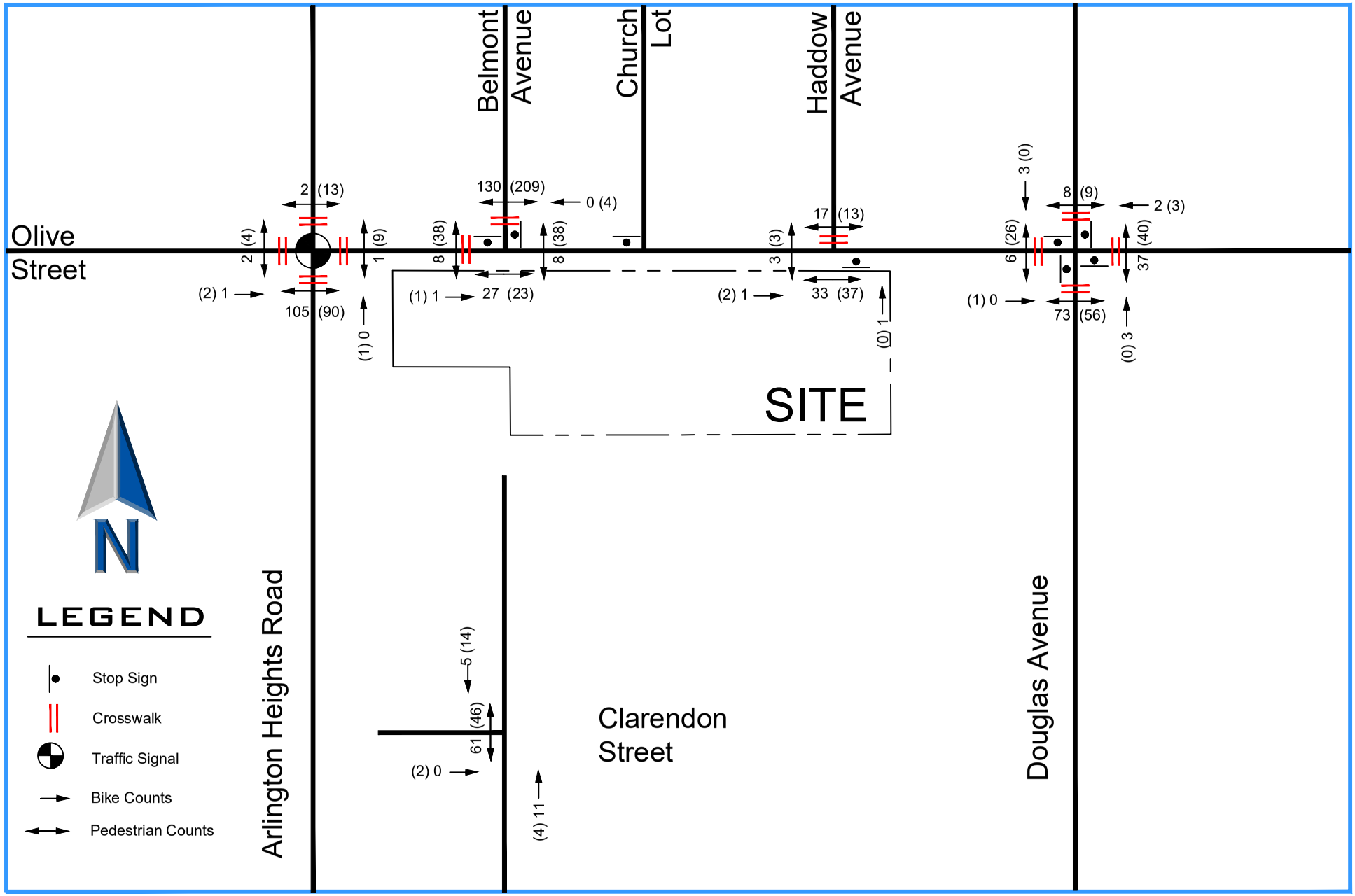
Existing Non-School Traffic Volumes

Figure 3C



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Year 2022 Pedestrian and Bike Volumes

Figure 4

SITE TRAFFIC CHARACTERISTICS

Site Plan

The proposed building plan includes four additional classrooms. No other traffic or parking related changes are proposed.

Trip Generation

Olive-Mary Stitt School currently serves 624 students and uses two school buses for transportation. With the expansion, the school will have 628 students or a net increase of 4 additional students over the next several years. Additional school buses will not be needed.

Traffic estimates were made for the additional students using the traffic counts at the current school. The trip generation rates for the existing school are higher than the data provided by the Institute of Transportation Engineer's Trip Generation 11th Ed. manual for elementary schools due to the low percentage of Olive bus usage. The rate of vehicle trip generation was applied to the proposed increase in students with the results shown in **Table 1.**

Table 1
School Expansion Traffic Volumes

Scenario	Morning Arrival			Afternoon Dismissal		
	In	Out	Total	In	Out	Total
Trip Generation Based on Existing Traffic Volumes						
Existing 624 Students	153	150	303	71	75	146
Total 628 Students	164	161	325	76	80	156
Net Additional Traffic	**+11**	**+11**	**+22**	**+5**	**+5**	**+10**
ITE Trip Generation Comparison(1)						
Existing 624 Students	234	200	434	121	143	264
Total 628 Students	251	214	465	130	153	283
Net Additional Traffic(2)	**+17**	**+14**	**+31**	**+9**	**+10**	**+19**

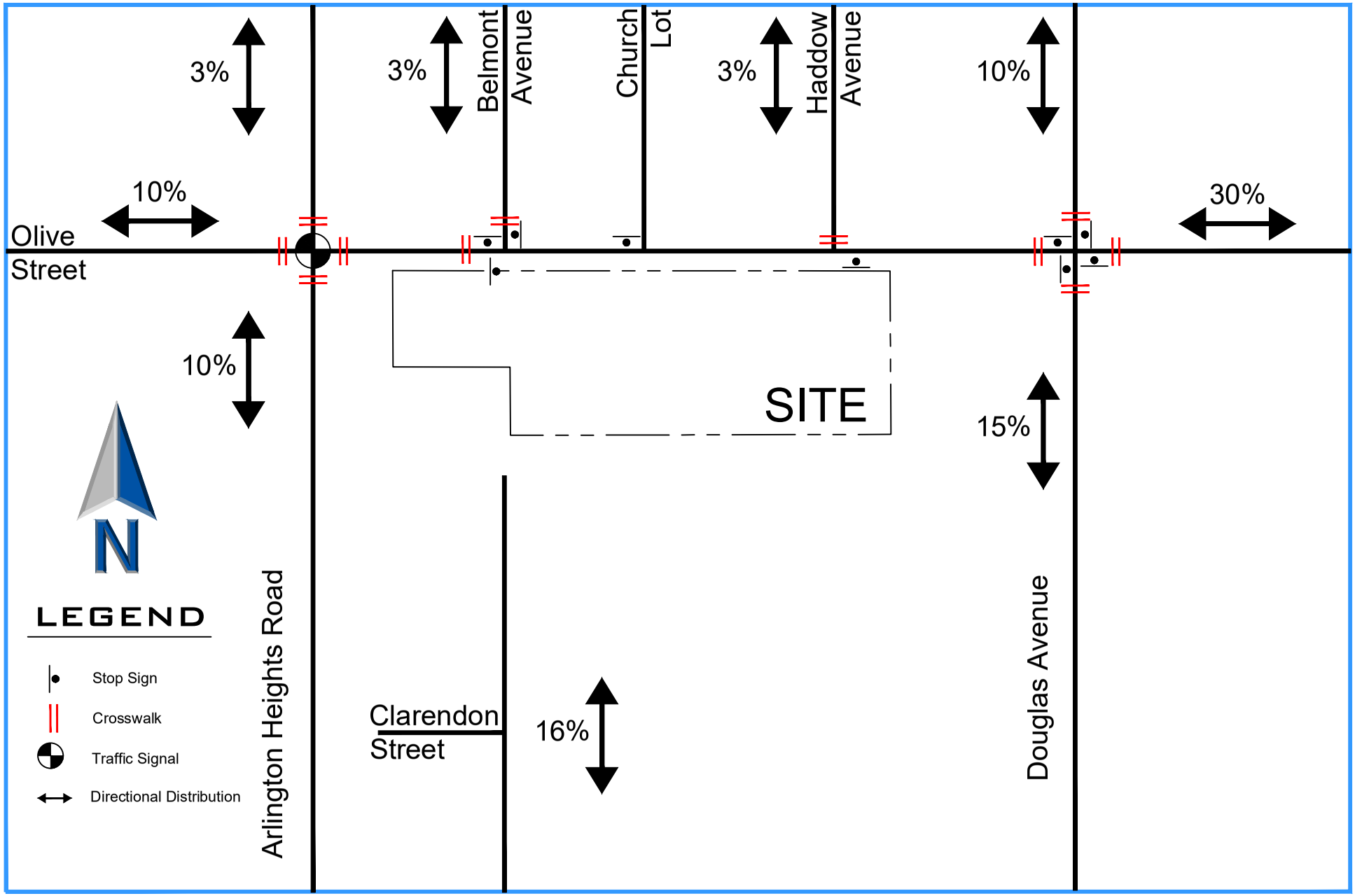
(1) ITE Trip Generation Manual, 11th Edition – Land Use Code 520 (Elementary School)
(2) For comparison only – Not used for analyses

Trip Distribution

The trip distribution for school is based on the existing traffic volumes at the school, the existing road network, and the proposed circulation system. The trip distribution for the site is shown in **Table 2** and **Figure 5**.

Trip Assignment

The future vehicular trips that are generated by the development were distributed to the area roadways based on the directional distribution analysis and the proposed expansion plan. **Figure 6** displays the trip assignment for the projected site traffic volumes. **Figure 7** shows the Total Traffic volumes, which are the sum of the existing traffic volumes and the site traffic volumes.



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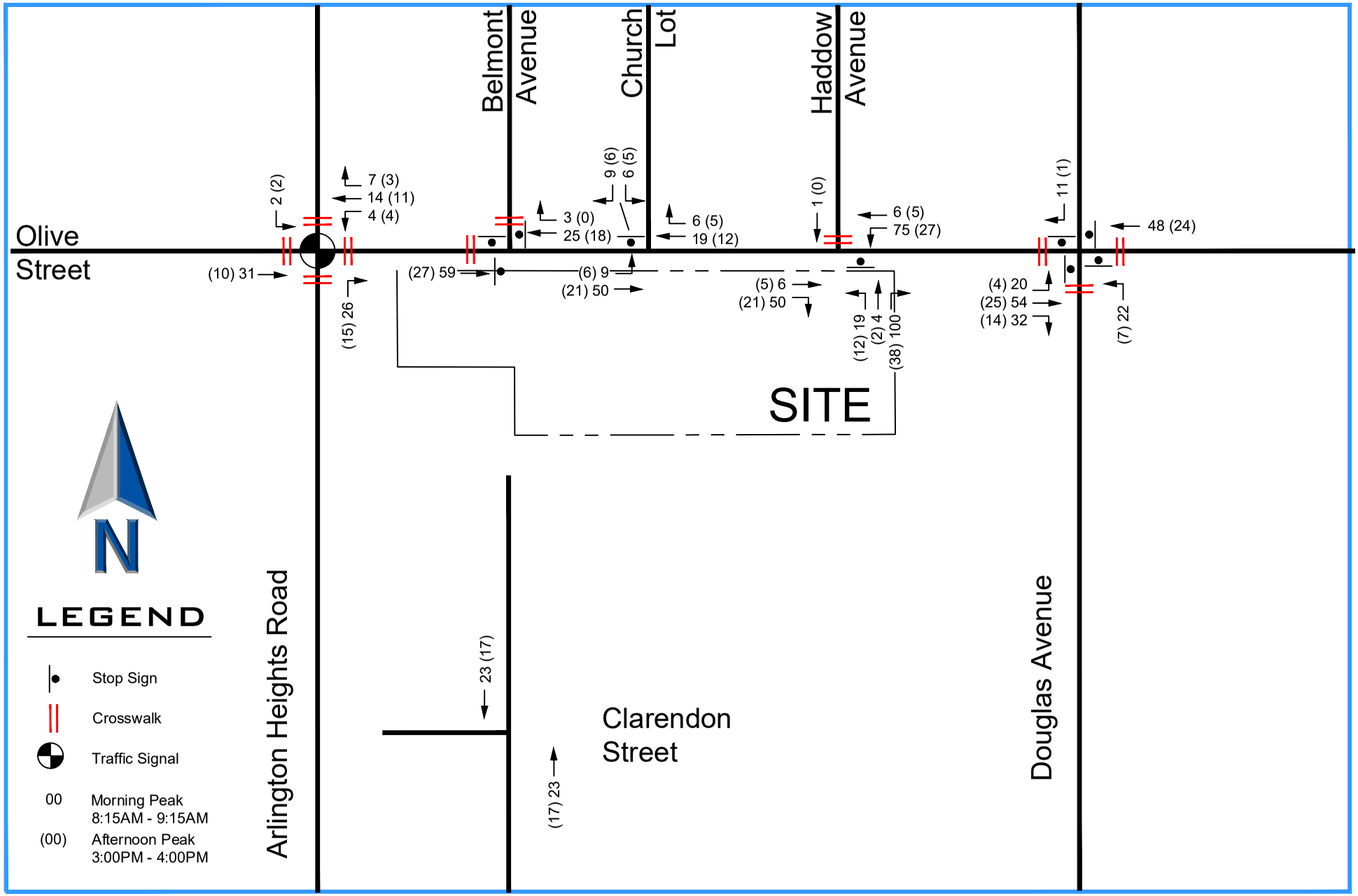
Directional Distribution

Figure 5



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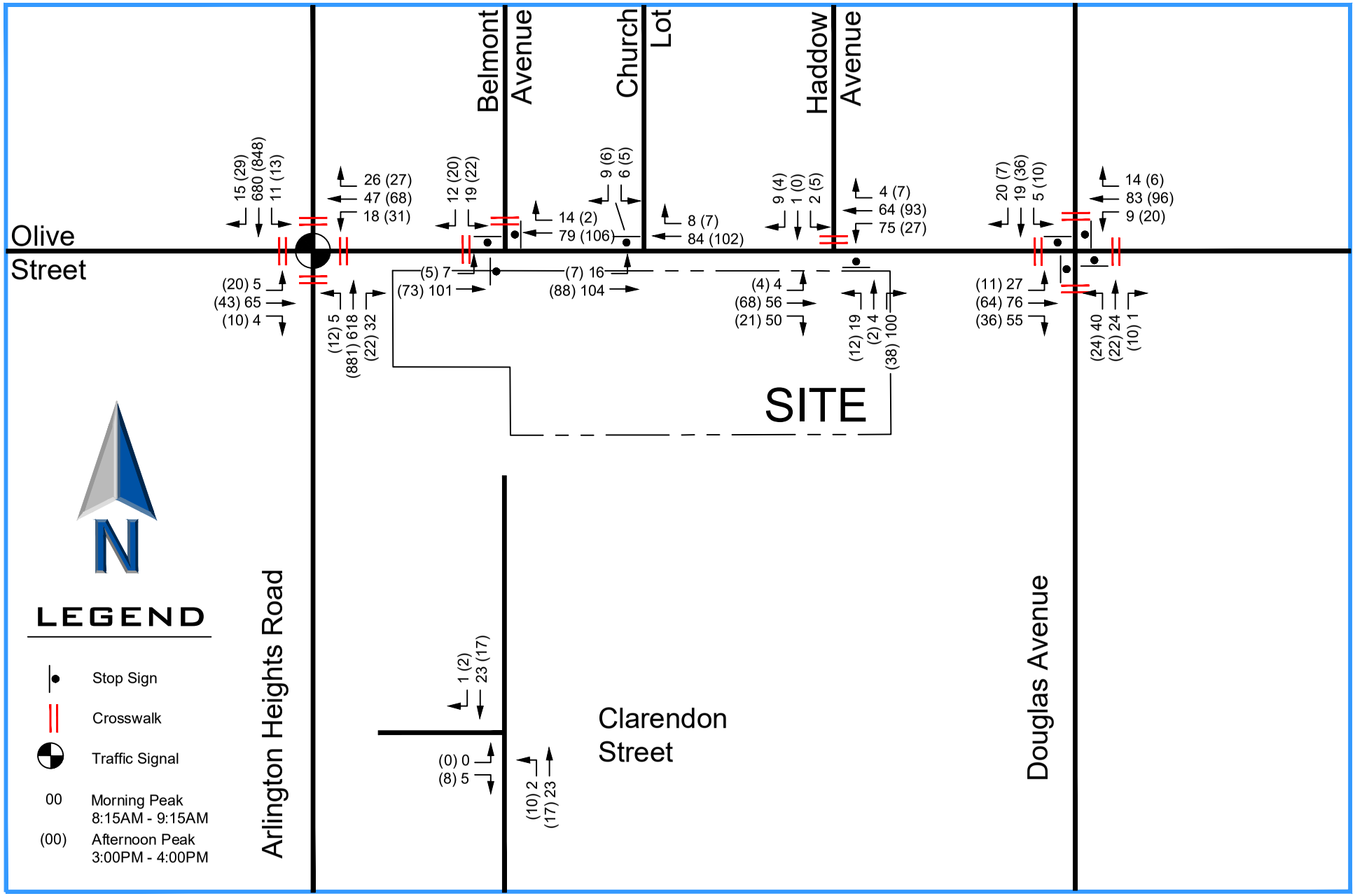
Projected School Traffic Volumes

Figure 6



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Projected Traffic Volumes

Figure 7

Table 2
Directional Distribution

Direction	Percentage
North on Arlington Heights Road	3%
South on Arlington Heights Road	10%
West on Olive Street	10%
East on Olive Street	30%
North on Belmont Avenue	3%
North on Douglas Road	10%
South on Douglas Road	15%
South on Belmont Avenue	16%
North on Haddow Avenue	3%
Total	**100%**

Intersection Capacity Analyses

An intersection's ability to accommodate traffic flow is based on the average control delay experienced by vehicles passing through the intersection. The intersection and individual traffic movements are assigned a level of service (LOS), ranging from A to F based on the control delay created by a traffic signal or stop sign. Control delay consists of the initial deceleration delay, queue move-up time, stopped delay, and final acceleration delay. LOS A has the best traffic flow and least delay. LOS E represents saturated or at capacity conditions. LOS F experiences oversaturated conditions and extensive delays. The Highway Capacity Manual definitions for levels of service and the corresponding control delay for both signalized and unsignalized intersections are shown in **Table 3**.

Table 3
Level of Service Criteria for Intersections

Level of Service	Description	Control Delay (seconds/vehicle)	
		Signals	Stop Signs
A	Minimal delay and few stops	<10	<10
B	Low delay with more stops	>10-20	>10-15
C	Light congestion	>20-35	>15-25
D	Congestion is more noticeable with longer delays	>35-55	>25-35
E	High delays and number of stops	>55-80	>35-50
F	Unacceptable delays and over capacity	>80	>50

Source: Highway Capacity Manual 2010

Capacity analyses were conducted for each intersection using the computer program Highway Capacity Software (HCS) to determine the existing operating conditions of the access system. These analyses were performed for the school's peak arrival and dismissal periods.

Table 4 shows the existing and future level of service results for each intersection. Copies of the capacity analysis summaries are included in the **Appendix**.

Table 4
Intersection Level of Service and Delay

Intersection	Movement	AM Arrival		PM Dismissal	
		Existing	Future	Existing	Future
Olive Street at:					
Arlington Heights Road (Traffic Signal)	**Intersection**	A-5.8	A-5.9	A-5.8	A-5.9
Belmont Avenue (All-Way Stop)	**SB Lt/Rt**	A-7.7	A-7.7	A-7.6	A-7.5
	WB Lt/Th	A-7.9	A-7.9	A-8.0	A-7.9
	EB Lt/Th	A-8.1	A-8.2	A-7.8	A-7.7
Church Parking Access (Two-Way Stop)	**SB Lt /Rt**	B-11.4	B-11.0	B-10.5	B-10.6
	EB Left	A-7.8	A-7.7	A-7.6	A-7.7
Haddow Avenue And School Lot (Two-Way Stop)	**SB Lt/Th/Rt**	B-11.3	B-11.6	B-10.1	B-10.2
	WB Lt/Th/Rt	A-7.8	A-7.9	A-7.4	A-7.5
	EB Lt/Th/Rt	A-7.5	A-7.5	A-7.4	A-7.4
	NB Lt/Th/Rt	B-12.8	B-13.2	A-9.6	A-9.6
Douglas Avenue (All-Way Stop)	**SB Lt/Th/Rt**	A-8.8	A-8.9	A-7.9	A-8.0
	WB Lt/Th/Rt	A-9.6	A-9.7	A-8.2	A-8.3
	NB Lt/Th/Rt	A-9.6	A-9.7	A-8.0	A-8.0
	EB Lt/Th/Rt	B-10.3	B-10.7	A-7.9	A-8.0
Belmont Avenue and Clarendon Street (No Control)	**SB Th/Rt**	A-0.0	A-0.0	A-0.0	A-0.0
	NB Lt/Th	A-7.3	A-7.3	A-7.3	A-7.3
	EB Lt /Rt	A-9.0	A-9.1	A-8.5	A-8.5

Arlington Height Road at Olive Street

Overall, the traffic signal at Arlington Height Road and Olive Street works well and will continue to do so after the school expansion. Since Arlington Heights Road is an arterial route, it gets the majority of the green time at the signal (70-76%) and the side street gets less. Olive Street traffic has higher delays but still falls within acceptable ranges. No improvements are needed to accommodate the school expansion.

Belmont Avenue at Olive Street

The intersection operates as a three-legged AWSC intersection and the stop signs on Olive Street to stop traffic at the pedestrian crosswalk (with crossing guard) will remain. The intersection will continue to operate well.

Church Lot Access at Olive Lot

The spaces used by the school in the church lot will not be changed and the access does not require additional improvements. Parents should be reminded to use the crosswalk when walking to and from the school.

Haddow Avenue/School Parking Access

School traffic turns off of Olive Street and then turn right in a counter-clockwise direction thru the existing angled parking and then around to the existing loading area. Parent traffic will then exit onto Olive Street. No additional improvements are required.

Douglas Avenue at Belmont Avenue

This AWSC intersection works well and will continue to do so after the school expansion.

South Belmont Avenue and Clarendon Street

South of the school, students are dropped-off and picked-up in the cul-de-sacs on Belmont and Pine Avenue. The intersection of these two streets does not have any traffic control (yield or stop signs) but operates well due to the low speeds and the traffic volumes. No changes are proposed to this intersection.

Parking

The existing school on-site parking supply provides a total of 49 parking spaces including two accessible spaces. Additional off-site parking is provided through an agreement with the Orchard Evangelical Free Church parking lot (290 spaces) to the north. A total of 339 off-street parking spaces are currently available to the school (See **Table 5**).

Table 5
Westgate School Parking Inventory and Survey

Lot	Parking Inventory			Parking Survey (8/30/2022)	
	Standard	Accessible	Total	Vehicles	Occupancy
North	47	2	49	39	80%
Church	282	8	290	21	7%
Total	**329**	**10**	**339**	**60**	**18%**

The Village of Arlington Heights Zoning Ordinance requires elementary schools to provide one parking space per each employee (72 staff) and one per every five classrooms (35 rooms) for a total of 79 spaces. A parking variation of 30 spaces would be required.

National parking data is available from the Institute of Transportation Engineers (ITE) in their publication *Parking Generation*, 5th Edition for elementary schools (Land Use Code 520). The peak demand in the ITE data was 0.13 spaces per student (628 students) or 82 spaces.

With 72 staff members (+2), the total school demand would be 62 spaces based on the school parking surveys.

Based on the ITE and school parking data, the proposed 339 on-site and off-site parking spaces will adequately serve the school's needs. A parking variation of 30 parking spaces is justified. Two on-site accessible stalls are required and two are provided. Parking for special events at the school can be accommodated by a combination of the school and church off-street parking and on-street parking by the school.

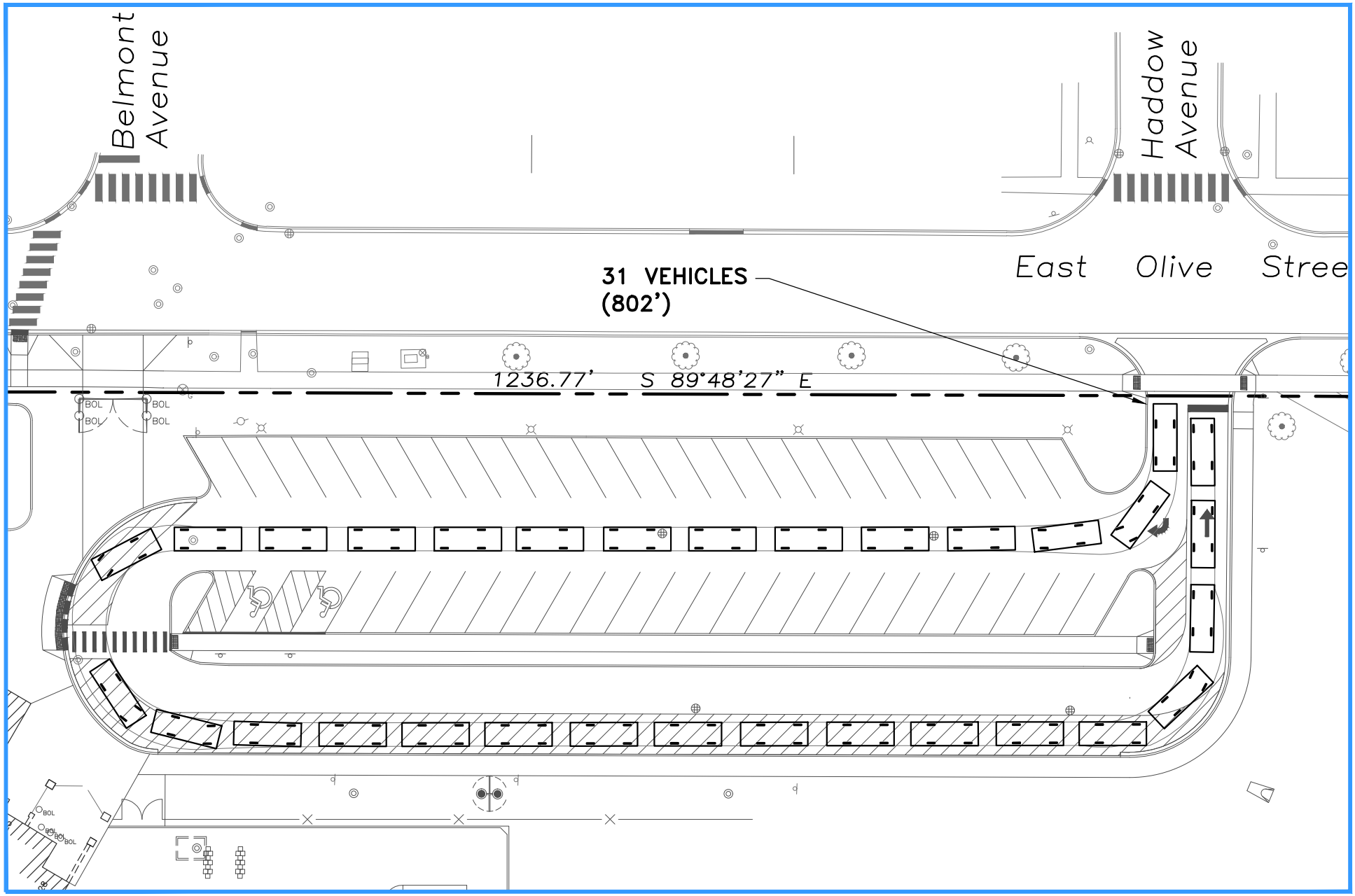
Stacking

Figure 8 illustrates the existing on-site stacking available for use at Olive-Mary Stitt School. The lot has room for 31 vehicles The observed back-up was one or two vehicles on-street which lasted momentarily.

SUMMARY

This report summarizes the results of traffic and parking study for the expansion of Olive-Mary Stitt Elementary School in Arlington Heights, Illinois. The findings of the study area:

- The volume of additional school traffic generated by the school expansion is low due to small increase in students. The net change in area traffic volumes is nominal.
- While there is a slight increase in traffic from the expansion of the school the proposed changes to the parking lot will offset the increased traffic volumes and improve the existing traffic congestion caused by afternoon back-ups out of the school lot.
- Parking for the school provides 49 on-site and 290 off-site parking spaces will meet its projected needs but will require a variation of 30 spaces from the zoning code requirements.



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Parent On-Site Stacking

Figure 8

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Appendix

- Existing 2022 Traffic Counts
- Arlington Heights Signage
- Arlington Heights Bike Map
- School Info
    - Bussing Schedule
    - Taxi Data
    - Crossing Guard Locations
    - School Boundary Map
    - Traffic Plan
- ITE Traffic and Parking Calculations
- Intersection Capacity Analyses
    - 2022 Existing Conditions
    - 2028 Total Traffic Volumes

Belmont Avenue and Clarendon Street

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Arlington Heights, IL										
	Belmont Avenue Southbound			Belmont Avenue Northbound		Clarendon Street Eastbound		15	60	Peak
Begin Time	Right Turn	Through		Through	Left Turn	Right Turn	Left Turn	Minute Totals	Minute Totals	Hour Factor
	Thursday September 15, 2022									
8:00 AM	1	3		6	1	4	0	15	56	0.54
8:15 AM	0	2		1	0	1	0	4	**51**	**0.49**
8:30 AM	0	2		8	1	0	0	11	50	0.48
8:45 AM	0	13		11	1	1	0	26		
9:00 AM	1	4		2	0	3	0	10		
9:15 AM	0	1		0	1	1	0	3		
Total	2	25		28	4	10	0			
8:15-9:15 AM	**1**	**21**		**22**	**2**	**5**	**0**	**51**		
	Thursday September 15, 2022									
2:30 PM	1	1		1	3	3	0	9	52	0.65
2:45 PM	0	7		6	2	4	1	20	66	0.72
3:00 PM	1	1		3	3	1	0	9	**52**	**0.57**
3:15 PM	1	1		9	2	1	0	14		
3:30 PM	0	12		2	4	5	0	23		
3:45 PM	0	2		2	1	1	0	6		
Total	3	24		23	15	15	1			
3:00-4:00 PM	**2**	**16**		**16**	**10**	**8**	**0**	**52**		

Olive Street and Belmont Avenue

Arlington Heights, IL

Begin Time	Belmont Avenue Southbound		Olive Street Westbound		Olive Street Eastbound		15 Minute Totals	60 Minute Totals	Peak Hour Factor
	Right Turn	Left Turn	Right Turn	Through	Through	Left Turn			
	Thursday September 15, 2022								
8:00 AM	3	3	3	15	46	2	72	203	0.70
8:15 AM	2	4	1	8	26	1	42	**167**	**0.64**
8:30 AM	2	1	1	9	9	2	24	145	0.56
8:45 AM	3	8	1	6	47	0	65		
9:00 AM	5	3	3	10	11	4	36		
9:15 AM	2	1	1	5	10	1	20		
Total	17	20	10	53	149	10			
8:15-9:15 AM	**12**	**16**	**6**	**33**	**93**	**7**	**167**		
	Thursday September 15, 2022								
2:30 PM	3	2	4	8	13	3	33	201	0.58
2:45 PM	29	15	8	16	19	0	87	208	0.60
3:00 PM	1	6	1	19	12	0	39	**181**	**0.75**
3:15 PM	7	2	0	8	24	1	42		
3:30 PM	7	5	0	16	10	2	40		
3:45 PM	5	9	0	21	23	2	60		
Total	52	39	13	88	101	8			
3:00-4:00 PM	**20**	**22**	**1**	**64**	**69**	**5**	**181**		

Olive Street and Belmont Avenue

Arlington Heights, IL

Begin Time	Belmont Avenue Southbound Right Turn	Belmont Avenue Southbound Left Turn	Olive Street Westbound Right Turn	Olive Street Eastbound Left Turn	15 Minute Totals	60 Minute Totals	Peak Hour Factor
	Thursday September 15, 2022						
8:00 AM	0	0	1	2	3	32	0.35
8:15 AM	0	0	0	2	2	**37**	**0.40**
8:30 AM	0	0	2	2	4	38	0.41
8:45 AM	5	2	6	10	23		
9:00 AM	3	4	0	1	8		
9:15 AM	1	2	0	0	3		
Total	9	8	9	17			
8:15-9:15 AM	**8**	**6**	**8**	**15**	**37**		
	Thursday September 15, 2022						
2:30 PM	3	5	2	3	13	41	0.79
2:45 PM	1	1	10	0	12	32	0.67
3:00 PM	3	1	7	0	11	**23**	**0.52**
3:15 PM	0	4	0	1	5		
3:30 PM	2	0	0	2	4		
3:45 PM	1	0	0	2	3		
Total	10	11	19	8			
3:00-4:00 PM	**6**	**5**	**7**	**5**	**23**		

Olive Street and Haddow Avenue/ School Access Drive

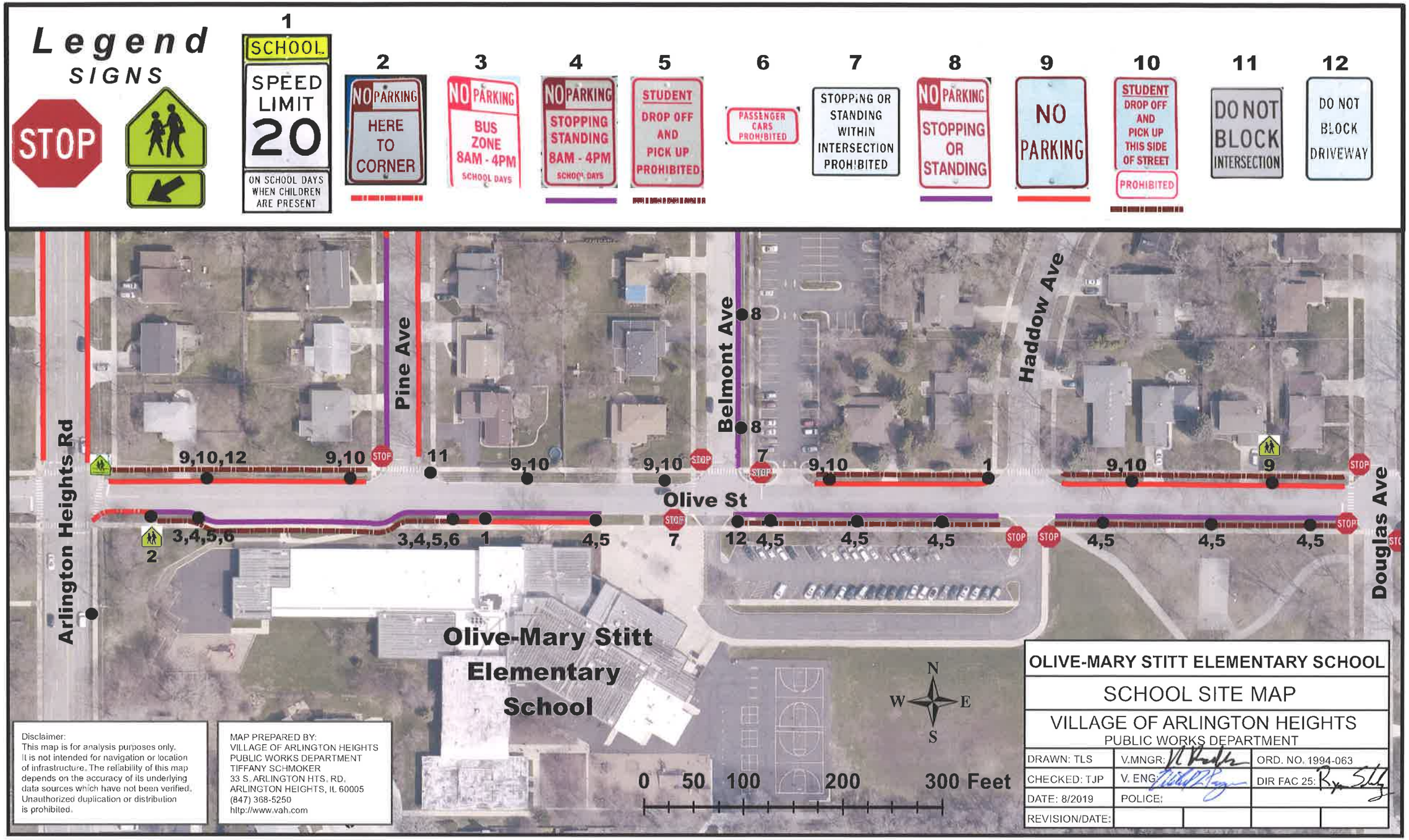
Arlington Heights, IL															
	Haddow Avenue Southbound			Olive Street Westbound			School Access Northbound			Olive Street Eastbound			15	60	Peak
Begin Time	Right Turn	Through	Left Turn	Right Turn	Through	Left Turn	Right Turn	Through	Left Turn	Right Turn	Through	Left Turn	Minute Totals	Minute Totals	Hour Factor
	Friday September 16, 2022														
8:00 AM	1	0	0	0	19	17	5	1	5	9	21	0	78	383	0.56
8:15 AM	1	1	1	2	19	8	7	0	4	13	13	1	70	**364**	**0.54**
8:30 AM	1	0	0	2	21	12	7	2	6	6	7	1	65	319	0.47
8:45 AM	4	0	0	0	15	43	65	1	2	26	13	1	170		
9:00 AM	3	0	1	0	9	7	14	1	6	2	15	1	59		
9:15 AM	0	0	0	1	9	0	2	0	1	0	12	0	25		
Total	10	1	2	5	92	87	100	5	24	56	81	4			
8:15-9:15 AM	**9**	**1**	**2**	**4**	**64**	**70**	**93**	**4**	**18**	**47**	**48**	**4**	**364**		
	Friday September 16, 2022														
2:30 PM	0	0	0	0	13	0	0	0	0	1	13	0	27	186	0.67
2:45 PM	0	0	0	1	15	1	0	0	0	2	20	0	39	228	0.83
3:00 PM	1	0	0	2	19	6	0	0	0	7	16	0	51	**243**	**0.88**
3:15 PM	1	0	0	1	29	11	0	0	2	8	16	1	69		
3:30 PM	1	0	2	1	14	4	28	1	3	1	13	1	69		
3:45 PM	1	0	3	1	12	4	7	1	6	3	15	1	54		
Total	4	0	5	6	102	26	35	2	11	22	93	3			
3:00-4:00 PM	**4**	**0**	**5**	**5**	**74**	**25**	**35**	**2**	**11**	**19**	**60**	**3**	**243**		

Arlington Heights Road Olive Street

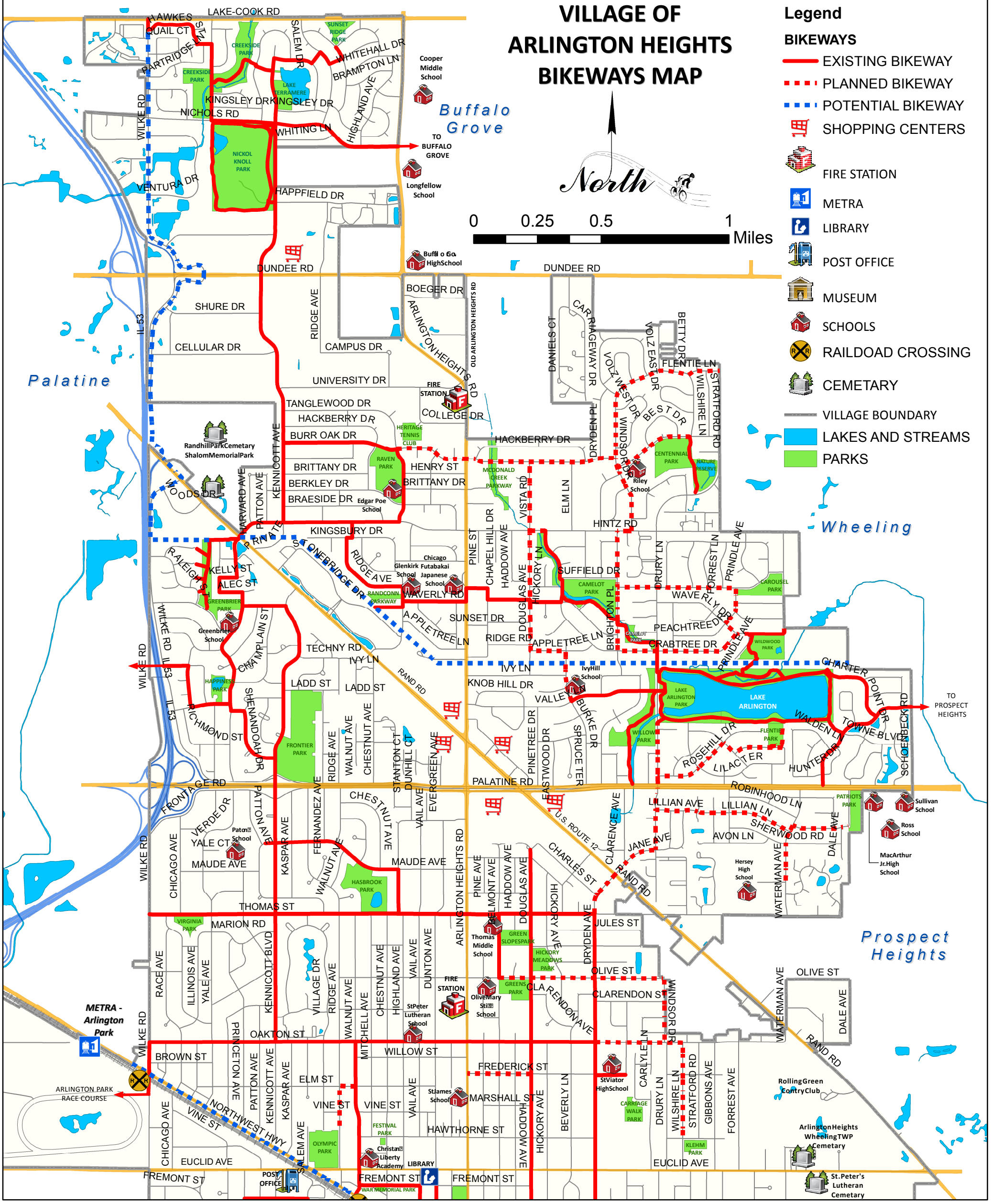
Arlington Heights, IL															
	Arlington Heights Road Southbound			Olive Street Westbound			Arlington Heights, IL Northbound			Olive Street Eastbound			15 Minute Totals	60 Minute Totals	Peak Hour Factor
Begin Time	Right Turn	Through	Left Turn	Right Turn	Through	Left Turn	Right Turn	Through	Left Turn	Right Turn	Through	Left Turn			
	Monday September 19, 2022														
8:00 AM	10	225	5	6	5	2	17	188	2	11	20	15	506	1634	0.81
8:15 AM	5	193	1	4	7	2	6	179	1	1	12	0	411	**1485**	**0.90**
8:30 AM	3	178	4	4	5	4	9	160	0	0	12	1	380	1373	0.90
8:45 AM	3	139	4	5	8	1	9	141	3	1	22	1	337		
9:00 AM	4	170	1	6	14	7	2	138	1	2	9	3	357		
9:15 AM	6	150	4	3	2	1	3	122	2	4	2	0	299		
Total	31	1055	19	28	41	17	46	928	9	19	77	20			
8:15-9:15 AM	**15**	**680**	**10**	**19**	**34**	**14**	**26**	**618**	**5**	**4**	**55**	**5**	**1485**		
	Monday September 19, 2022														
2:30 PM	5	155	1	4	3	4	7	184	1	6	10	6	386	1690	0.88
2:45 PM	7	162	3	10	12	5	9	148	0	3	6	6	371	1831	0.87
3:00 PM	9	199	5	7	20	11	8	202	4	4	7	3	479	**1983**	**0.94**
3:15 PM	3	204	3	4	10	5	5	189	4	3	21	3	454		
3:30 PM	7	216	4	5	11	3	5	265	1	1	5	4	527		
3:45 PM	10	229	1	8	17	9	3	225	3	2	6	10	523		
Total	41	1165	17	38	73	37	37	1213	13	19	55	32			
3:00-4:00 PM	**29**	**848**	**13**	**24**	**58**	**28**	**21**	**881**	**12**	**10**	**39**	**20**	**1983**		

Olive Street and Douglas Avenue

Arlington Heights, IL															
	Douglas Avenue Southbound			Olive Street Westbound			Douglas Avenue Northbound			Olive Street Eastbound			15 Minute Totals	60 Minute Totals	Peak Hour Factor
Begin Time	Right Turn	Through	Left Turn	Right Turn	Through	Left Turn	Right Turn	Through	Left Turn	Right Turn	Through	Left Turn			
	Wednesday September 21, 2022														
8:00 AM	1	9	1	3	13	0	4	18	4	6	30	4	93	350	0.53
8:15 AM	0	4	1	0	7	0	0	10	2	1	12	0	37	**330**	**0.50**
8:30 AM	0	3	0	4	15	4	1	5	8	6	6	3	55	320	0.48
8:45 AM	13	3	0	7	32	3	0	5	21	35	31	15	165		
9:00 AM	0	9	4	3	9	2	0	4	2	11	21	8	73		
9:15 AM	0	0	0	3	6	1	2	2	1	2	8	2	27		
Total	14	28	6	20	82	10	7	44	38	61	108	32			
8:15-9:15 AM	**13**	**19**	**5**	**14**	**63**	**9**	**1**	**24**	**33**	**53**	**70**	**26**	**330**		
	Wednesday September 21, 2022														
2:30 PM	1	8	1	1	17	1	2	14	2	2	12	1	62	311	0.79
2:45 PM	2	20	6	2	15	2	0	8	4	8	22	4	93	348	0.88
3:00 PM	3	13	0	2	19	6	2	4	1	0	7	1	58	**332**	**0.84**
3:15 PM	3	9	3	1	35	9	1	6	13	8	8	2	98		
3:30 PM	1	9	5	1	18	2	3	10	5	17	21	7	99		
3:45 PM	0	5	2	2	21	3	4	2	5	10	22	1	77		
Total	10	64	17	9	125	23	12	44	30	45	92	16			
3:00-4:00 PM	**7**	**36**	**10**	**6**	**93**	**20**	**10**	**22**	**24**	**35**	**58**	**11**	**332**		


Legend
SIGNS
STOP
1
SCHOOL
SPEED LIMIT 20
ON SCHOOL DAYS WHEN CHILDREN ARE PRESENT
2
NO PARKING HERE TO CORNER
3
NO PARKING BUS ZONE 8AM - 4PM SCHOOL DAYS
4
NO PARKING STOPPING STANDING 8AM - 4PM SCHOOL DAYS
5
STUDENT DROP OFF AND PICK UP PROHIBITED
6
PASSENGER CARS PROHIBITED
7
STOPPING OR STANDING WITHIN INTERSECTION PROHIBITED
8
NO PARKING STOPPING OR STANDING
9
NO PARKING
10
STUDENT DROP OFF AND PICK UP THIS SIDE OF STREET
PROHIBITED
11
DO NOT BLOCK INTERSECTION
12
DO NOT BLOCK DRIVEWAY
Arlington Heights Rd
Pine Ave
Belmont Ave
Haddow Ave
Douglas Ave
Olive St
Olive-Mary Stitt Elementary School
9,10,12
9,10
11
9,10
9,10
8
8
7
9,10
1
9,10
9
2
3,4,5,6
3,4,5,6
1
4,5
7
12
4,5
4,5
4,5
4,5
4,5
4,5
N
W
E
S
0 50 100 200 300 Feet
Disclaimer:
This map is for analysis purposes only. It is not intended for navigation or location of infrastructure. The reliability of this map depends on the accuracy of its underlying data sources which have not been verified. Unauthorized duplication or distribution is prohibited.
MAP PREPARED BY:
VILLAGE OF ARLINGTON HEIGHTS
PUBLIC WORKS DEPARTMENT
TIFFANY SCHMOKER
33 S. ARLINGTON HTS. RD.
ARLINGTON HEIGHTS, IL 60005
(847) 368-5250
http://www.vah.com
OLIVE-MARY STITT ELEMENTARY SCHOOL
SCHOOL SITE MAP
VILLAGE OF ARLINGTON HEIGHTS
PUBLIC WORKS DEPARTMENT
DRAWN: TLS
V.MNGR:
ORD. NO. 1994-063
CHECKED: TJP
V. ENG:
DIR FAC 25:
DATE: 8/2019
POLICE:
REVISION/DATE:

VILLAGE OF ARLINGTON HEIGHTS BIKEWAYS MAP



BICYCLE SAFETY RULES

1. Always ride your bike in single file, in the same direction as traffic. Stay close to the right edge of the road.
2. Helmets are highly recommended for all bicyclists.
3. Bicycle riders are expected to know and obey all traffic regulations (signs, signals, pavement markings, etc.).
4. Riding on sidewalks is legal except in the Central Business District.
5. Indicate your intention to slow down, stop, turn or change lanes by using arm signals. This will prevent being cutoff.
6. Be extra careful at intersections and railroad crossings and when emerging from driveways, alleys or from behind parked cars. Establish eye contact with motorists who may not be looking for a cyclist.
7. Look out for motorists pulling into traffic. Keep a close watch for car doors opening suddenly in your path causing you to veer into traffic.
8. Maintain your bicycle in sake working order. Check brakes, tires and wheels.
9. Wear bright colored and reflective clothing when riding after dark. Make sure your bike has proper lights and reflectors before riding at night.
10. Stop before reaching a school bus which has s topped to load or unload passengers.
11. Be ready to yield the right-of-way to other moving vehicles.
12. Keep at least one hand on the handlebars at all times for control of the bicycle. Carry books, packages, or other items in a back pack or carrier.
13. Watch for poor road surfaces including drainage grates (tires may fall through grooves), pot holes, loose gravel, and unsafe shoulders.
14. Make sure that the bike you ride is the right size for you.
15. Right turns on red are permissible, after coming to complete stop, except where a sign is posted prohibiting such a turn. You must yield the right-of-way to other traffic lawfully using the intersection and to pedestrians.
16. Only one person should ride on a bicycle except on a tandem bicycle or with an attached child's seat if available.
17. Never hitch a ride with any motorized vehicle.
18. Do not wear headphones when riding a bicycle.

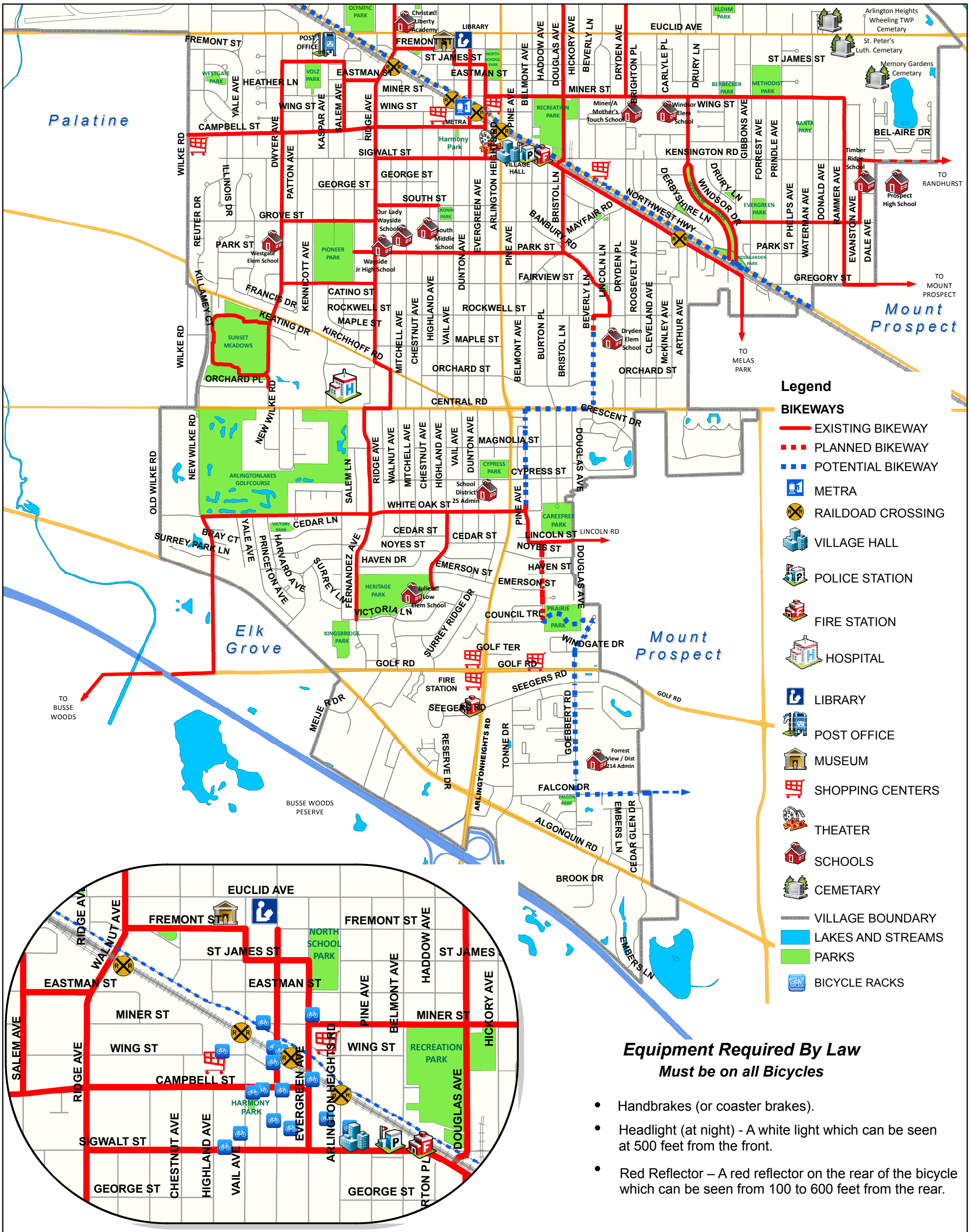
Source:

Portions of this list were excerpts from **Illinois Bicycle Rules of The Road.** Copies are available from the Arlington Heights Police Department, Village Hall, or Illinois Secretary of State, Woodfield Commons, Schaumburg, IL.

Prepared by the Village of Arlington Heights Engineering Department.

June, 2014

VILLAGE OF ARLINGTON HEIGHTS BIKEWAYS MAP



DOWNTOWN

Equipment Required By Law

Must be on all Bicycles

- Handbrakes (or coaster brakes).
- Headlight (at night) - A white light which can be seen at 500 feet from the front.
- Red Reflector – A red reflector on the rear of the bicycle which can be seen from 100 to 600 feet from the rear.

Village of Arlington Heights

Thomas W. Hayes, Mayor
33 South Arlington Heights Rd
Arlington Heights, IL 60005
(847) 368-5100

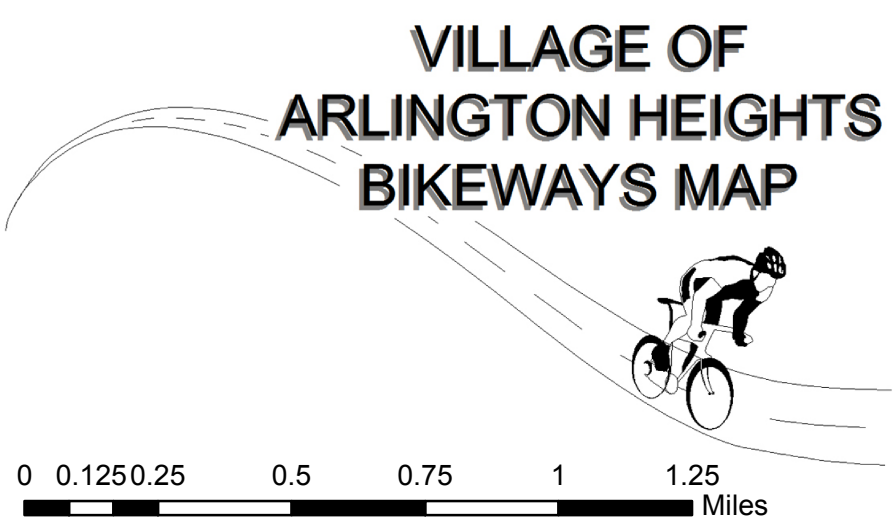
Reporting Bicycle Accidents

Police Department (847) 368-5300
Emergency 911

Bicycle Advisory Commission

Peter Szabo, Chairman
James K. Daley
Paul Danko
Janet Harlow
Alan Medsker
Mitchell D. Polonsky
Michael Walczak

Bike Map Information
(847) 368-5250



AM ROUTE THOMAS - IVY HILL - OLIVE - GREENBRIER SOUTH - WESTGATE - DRYDEN - PIONEER - OLIVE - REC PARK

1ST ROUTE 7:05-7:20AM		DRIVER	DRIVER SUB	X	BUS	BUS SUB	2ND ROUTE 8:20-8:40AM		DRIVER SUB	BUS SUB
THOMAS A	7:10				8		IVY HILL A	8:30		
THOMAS B	7:10				11		IVY HILL D (600, 700)	8:40		
THOMAS C	7:10				19		GREENBRIER A	8:35		
THOMAS D	7:10				22		IVY HILL E (800,900)	8:40		
THOMAS E	7:05				1909					
THOMAS F	7:05				5		IVY HILL B	8:35		
THOMAS G	7:15				21		IVY HILL C-(400, 500)			
THOMAS H	7:10				7GPT		OLIVE A	8:20		
THOMAS I	7:10				3		OLIVE-REC	8:40		
THOMAS J	7:10				9		DRYDEN C	8:15		
THOMAS K	7:20				1908					
THOMAS L	7:10				6GPT					

1ST ROUTE 7:05-7:20AM		DRIVER	DRIVER SUB	X	BUS	BUS SUB	2ND ROUTE 8:15-8:40AM		DRIVER SUB	BUS SUB
SOUTH A	7:10				16					
SOUTH B	7:15				4		DRYDEN B	8:15		
SOUTH C	7:10				58					
SOUTH D	7:20				24					
SOUTH E	7:20				1					
SOUTH F	7:05				2		WESTGATE A	8:20		
SOUTH G	7:15				20					
SOUTH H	7:15				1915					
SOUTH I	7:15				59		DRYDEN A	8:35		
SOUTH J	7:10				173		DRYDEN D	8:15		
SOUTH K	7:15				12		WESTGATE-PIONEER	8:35		

PM ROUTE THOMAS - IVY HILL - OLIVE **5/31/2022**

1ST ROUTE 2:45 PM		DRIVER	DRIVER SUB	X	BUS	BUS SUB	2ND ROUTE 3:35 PM	DRIVER SUB	BUS SUB
THOMAS A	2:40				8		IVY HILL A		
THOMAS B	2:40				11		IVY HILL D (600, 700)		
THOMAS C	2:40				19		GREENBRIER A		
THOMAS D	2:40				22		IVY HILL E (800,900)		
THOMAS E	2:40				1909				
THOMAS F	2:40				5		IVY HILL B		
THOMAS G	2:40				21		IVY HILL C (400,500)		
THOMAS H	2:40				7GPT		OLIVE A		
THOMAS I	2:40				3		OLIVE-REC 3:45		
THOMAS J	2:40				9		DRYDEN C		
THOMAS K	2:40				1908		ACTIVITY EAST THOMAS		
THOMAS L	2:40				6GPT		ACTIVITY WEST		

PM ROUTE SOUTH - WESTGATE - DRYDEN - PIONEER - OLIVE - REC-PARK

PUNCH	1ST ROUTE 2:45 PM		DRIVER	DRIVER SUB	X	BUS	BUS SUB	2ND ROUTE 3:35 PM	DRIVER SUB	BUS SUB
	SOUTH A	2:40				16		ACTIVITY SOUTH		
	SOUTH B	2:40				4		DRYDEN B		
	SOUTH C	2:40				58				
	SOUTH D	2:40				24		ACTIVITY NORTH		
	SOUTH E	2:40				1		ACTIVITY NORTHEAST		
	SOUTH F	2:40				2		WESTGATE A		
	SOUTH G	2:40				20				
	SOUTH H	2:40				1915				
	SOUTH I	2:40				59		DRYDEN A		
	SOUTH J	2:40				173		DRYDEN D		
	SOUTH K	2:40				12		WESTGATE-PIONEER 3:50		

MIDDAY ROUTE DRYDEN - IVY HILL - OLIVE - WESTGATE - DATE: **5/31/2022**

PUNCH	K ROUTE 11:45 AM		DRIVER	DRIVER SUB	X	BUS	BUS SUB	L ROUTE 12:20 - 12:40 PM		DRIVER SUB	BUS SUB
11:15 AM	DRYDEN	K2-31				21		DRYDEN 31L	12:20		
11:15 AM	DRYDEN	K31				1909					
11:15 AM	IVY HILL	K37				11		IVY HILL 37L	12:30		
11:15 AM	OLIVE	K34				8		OLIVE 34L	12:40		
11:15 AM						22		WESTGATE 32L	12:40		

NOTES.-

Taxi at Schools 21-22	AM	MID-DAY	PM
Dryden Elementary School	-	-	-
Greenbrier Elementary School	6	11	6
Ivy Hill Elementary School	1		1
Olive Mary Stitt Elementary School	-	-	-
Westgate Elementary School	8	3	8
Windsor Elementary School	6	1	6
Thomas Middle School	6	1	5
South Middle School	4	1	4
Total	31	17	30

Crossing Guard Locations

Location	AM	PM	K-5	Middle School	Parochial
Arlington & Olive	7:15-9:00	2:25-4:10	Olive		St. Peters
Arlington & Park	7:10-8:25	2:45-3:30		South	OLW
Arlington & Thomas	7:15-7:45	2:45-3:15		Thomas	
Arlington @ St. James	7:45-8:30	3:15-4:00			St. James
Belmont & Thomas	7:15-7:45	2:30-4:00	Olive	Thomas	St. James, St. Peter
	8:15-9:00				
Dryden & Miner	8:05-9:05	3:40-4:10	Windsor		St. James
Dryden & Rockwell	8:35-9:05	3:35-4:05	Dryden		
Dwyer & Grove	8:35-9:05	3:35-4:05	Westgate		
Dwyer & Harvard	8:35-9:05	3:35-4:05	Westgate		
Kennicott & Maude	8:35-9:05	3:35-4:05	Patton		
Maude & Patton	8:35-9:05	3:35-4:05	Patton		
Olive & Belmont	8:35-9:05	3:35-4:05	Olive		
Olive & Douglas	8:35-9:05	3:35-4:05	Olive		
Park & Highland	7:15-7:45	2:45-3:15		South	
Ridge & Park	7:55-8:25	2:55-3:25			OLW
Thomas & Harvard	8:35-9:05	3:35-4:05	Patton		
Windsor & Kensington	8:25-9:10	3:30-4:15	Windsor		
Windsor & Miner	8:20-9:05	3:35-4:05	Windsor		

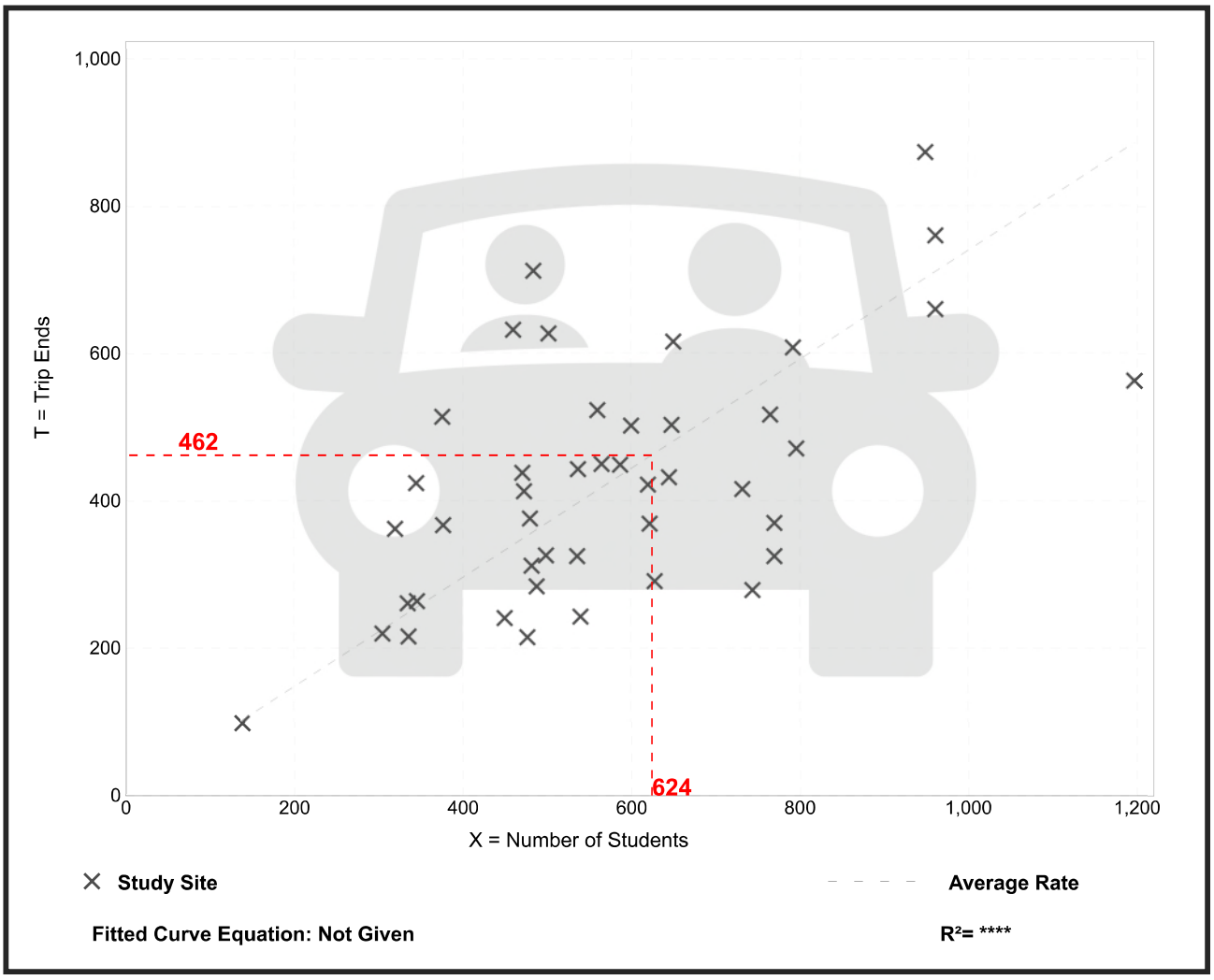
Elementary School
(520)

Vehicle Trip Ends vs: **Students**
On a: **Weekday,**
Peak Hour of Adjacent Street Traffic,
One Hour Between 7 and 9 a.m.
Setting/Location: **General Urban/Suburban**
Number of Studies: 44
Avg. Num. of Students: 575
Directional Distribution: 54% entering, 46% exiting

Vehicle Trip Generation per Student

Average Rate	Range of Rates	Standard Deviation
0.74	0.38 - 1.47	0.25

Data Plot and Equation



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Elementary School
(520)

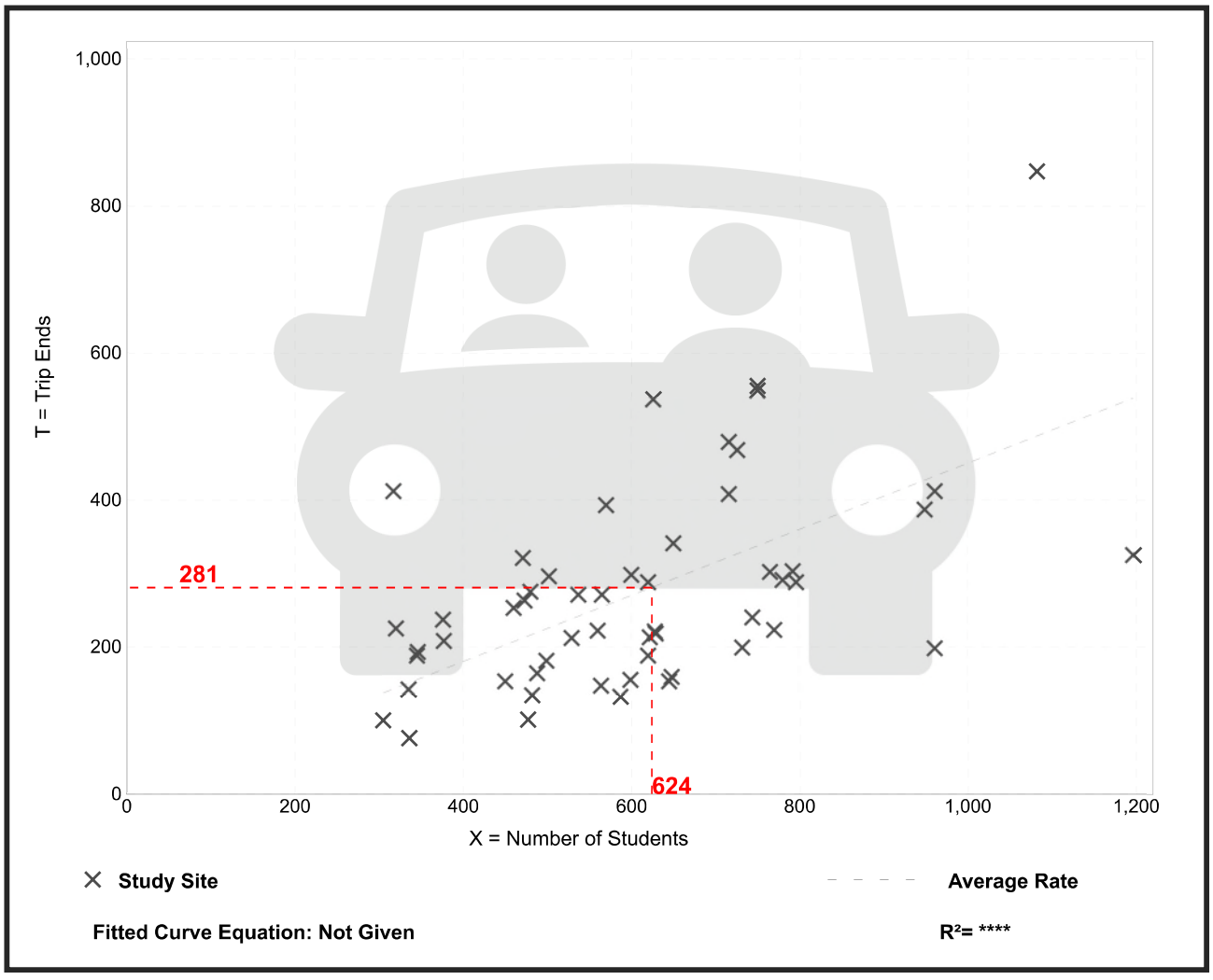
Vehicle Trip Ends vs: **Students**
On a: **Weekday,**
PM Peak Hour of Generator

Setting/Location: **General Urban/Suburban**
Number of Studies: 54
Avg. Num. of Students: 608
Directional Distribution: 46% entering, 54% exiting

Vehicle Trip Generation per Student

Average Rate	Range of Rates	Standard Deviation
0.45	0.21 - 1.30	0.19

Data Plot and Equation



Trip Gen Manual, 11th Edition ● Institute of Transportation Engineers

Elementary School
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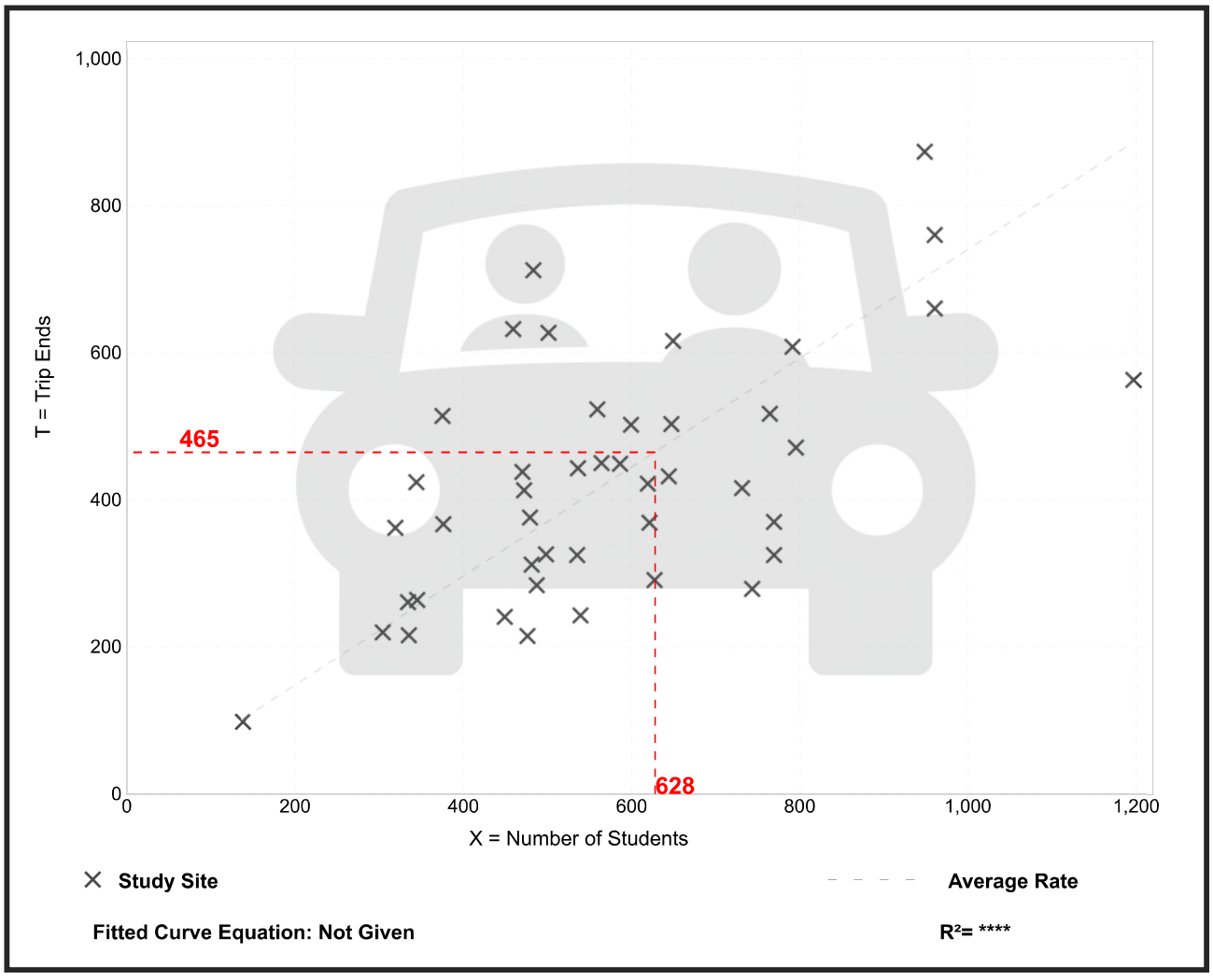

Trip Gen Manual, 11th Edition ● Institute of Transportation Engineers

Elementary School
(520)

Vehicle Trip Ends vs: **Students**
On a: **Weekday,**
PM Peak Hour of Generator

Setting/Location: **General Urban/Suburban**
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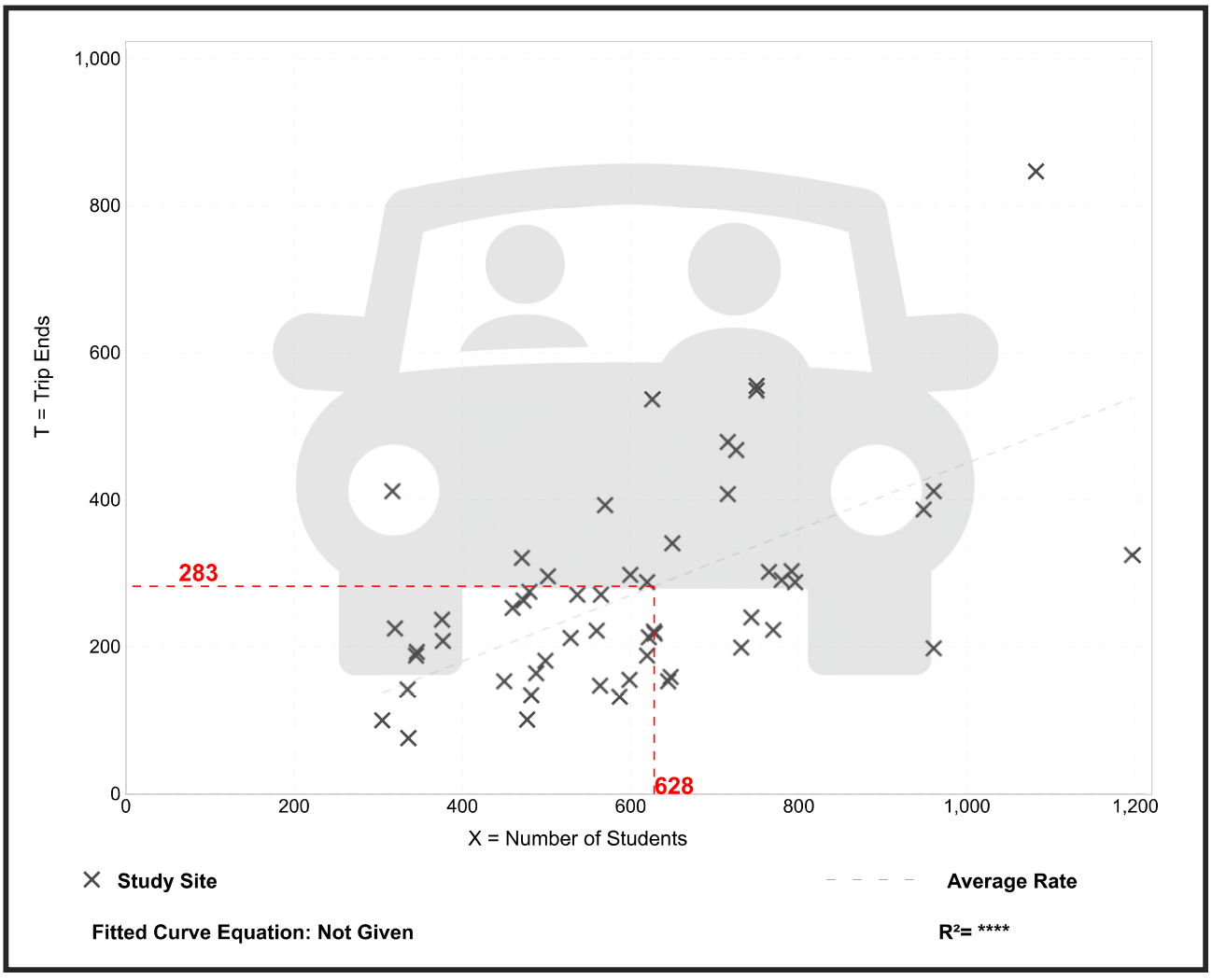

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HCS Two-Way Stop-Control Report

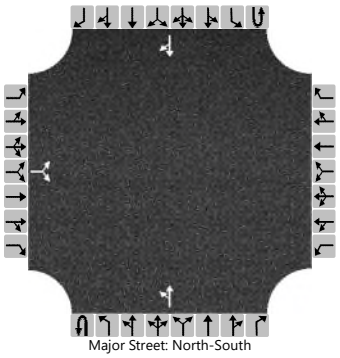
General Information

Analyst	AG
Agency/Co.	Eriksson
Date Performed	11/9/2022
Analysis Year	2022
Time Analyzed	AM Peak
Intersection Orientation	North-South
Project Description	Olive-Mary Stitt Elementary School

Site Information

Intersection	Belmont and Clarendon
Jurisdiction	Arlington Heights
East/West Street	Clarendon Street
North/South Street	Belmont Avenue
Peak Hour Factor	0.49
Analysis Time Period (hrs)	0.25

Lanes


Major Street: North-South

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		10	11	12		7	8	9	1U	1	2	3	4U	4	5	6
Number of Lanes		0	1	0		0	0	0	0	0	1	0	0	0	1	0
Configuration			LR							LT						TR
Volume (veh/h)		0		5						2	22				21	1
Percent Heavy Vehicles (%)		0		0						0						
Proportion Time Blocked																
Percent Grade (%)		0														
Right Turn Channelized																
Median Type | Storage		Undivided														

Critical and Follow-up Headways

Base Critical Headway (sec)		7.1		6.2						4.1						
Critical Headway (sec)		6.40		6.20						4.10						
Base Follow-Up Headway (sec)		3.5		3.3						2.2						
Follow-Up Headway (sec)		3.50		3.30						2.20						

Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)			10							4						
Capacity, c (veh/h)			900							1576						
v/c Ratio			0.01							0.00						
95% Queue Length, Q_{95} (veh)			0.0							0.0						
Control Delay (s/veh)			9.0							7.3	0.0					
Level of Service (LOS)			A							A	A					
Approach Delay (s/veh)		9.0								0.6						
Approach LOS		A								A						

HCS Two-Way Stop-Control Report

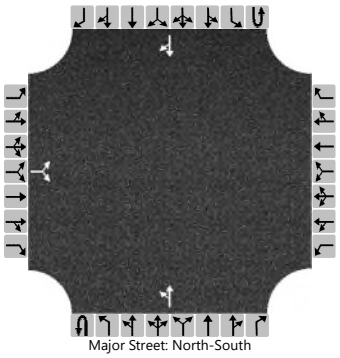
General Information

Analyst	AG
Agency/Co.	Eriksson
Date Performed	11/9/2022
Analysis Year	2028
Time Analyzed	AM Peak
Intersection Orientation	North-South
Project Description	Olive-Mary Stitt Elementary School

Site Information

Intersection	Belmont and Clarendon
Jurisdiction	Arlington Heights
East/West Street	Clarendon Street
North/South Street	Belmont Avenue
Peak Hour Factor	0.49
Analysis Time Period (hrs)	0.25

Lanes


Major Street: North-South

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		10	11	12		7	8	9	1U	1	2	3	4U	4	5	6
Number of Lanes		0	1	0		0	0	0	0	0	1	0	0	0	1	0
Configuration			LR							LT						TR
Volume (veh/h)		0		5						2	23				23	1
Percent Heavy Vehicles (%)		0		0						0						
Proportion Time Blocked																
Percent Grade (%)		0														
Right Turn Channelized																
Median Type | Storage		Undivided														

Critical and Follow-up Headways

Base Critical Headway (sec)		7.1		6.2						4.1						
Critical Headway (sec)		6.40		6.20						4.10						
Base Follow-Up Headway (sec)		3.5		3.3						2.2						
Follow-Up Headway (sec)		3.50		3.30						2.20						

Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)			10							4						
Capacity, c (veh/h)			895							1571						
v/c Ratio			0.01							0.00						
95% Queue Length, Q_{95} (veh)			0.0							0.0						
Control Delay (s/veh)			9.1							7.3	0.0					
Level of Service (LOS)			A							A	A					
Approach Delay (s/veh)		9.1								0.6						
Approach LOS		A								A						

HCS Two-Way Stop-Control Report

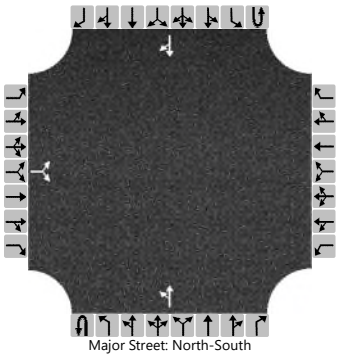
General Information

Analyst	AG
Agency/Co.	Eriksson
Date Performed	11/9/2022
Analysis Year	2022
Time Analyzed	PM Peak
Intersection Orientation	North-South
Project Description	Olive-Mary Stitt Elementary School

Site Information

Intersection	Belmont and Clarendon
Jurisdiction	Arlington Heights
East/West Street	Clarendon Street
North/South Street	Belmont Avenue
Peak Hour Factor	0.57
Analysis Time Period (hrs)	0.25

Lanes


Major Street: North-South

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		10	11	12		7	8	9	1U	1	2	3	4U	4	5	6
Number of Lanes		0	1	0		0	0	0	0	0	1	0	0	0	1	0
Configuration			LR							LT						TR
Volume (veh/h)		0		8						10	16				16	2
Percent Heavy Vehicles (%)		0		0						0						
Proportion Time Blocked																
Percent Grade (%)		0														
Right Turn Channelized																
Median Type | Storage		Undivided														

Critical and Follow-up Headways

Base Critical Headway (sec)		7.1		6.2						4.1						
Critical Headway (sec)		6.40		6.20						4.10						
Base Follow-Up Headway (sec)		3.5		3.3						2.2						
Follow-Up Headway (sec)		3.50		3.30						2.20						

Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)			14							18						
Capacity, c (veh/h)			1051							1594						
v/c Ratio			0.01							0.01						
95% Queue Length, Q_{95} (veh)			0.0							0.0						
Control Delay (s/veh)			8.5							7.3	0.1					
Level of Service (LOS)			A							A	A					
Approach Delay (s/veh)		8.5								2.9						
Approach LOS		A								A						

HCS Two-Way Stop-Control Report

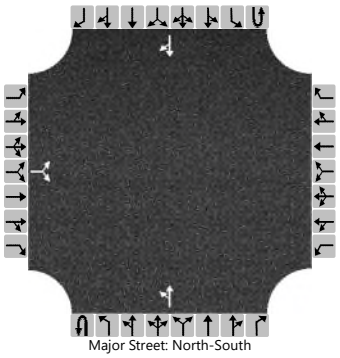
General Information

Analyst	AG
Agency/Co.	Eriksson
Date Performed	11/9/2022
Analysis Year	2028
Time Analyzed	PM Peak
Intersection Orientation	North-South
Project Description	Olive-Mary Stitt Elementary School

Site Information

Intersection	Belmont and Clarendon
Jurisdiction	Arlington Heights
East/West Street	Clarendon Street
North/South Street	Belmont Avenue
Peak Hour Factor	0.57
Analysis Time Period (hrs)	0.25

Lanes


Major Street: North-South

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		10	11	12		7	8	9	1U	1	2	3	4U	4	5	6
Number of Lanes		0	1	0		0	0	0	0	0	1	0	0	0	1	0
Configuration			LR							LT						TR
Volume (veh/h)		0		8						10	17				17	2
Percent Heavy Vehicles (%)		0		0						0						
Proportion Time Blocked																
Percent Grade (%)		0														
Right Turn Channelized																
Median Type | Storage		Undivided														

Critical and Follow-up Headways

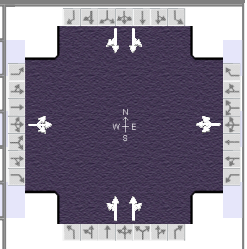
Base Critical Headway (sec)		7.1		6.2						4.1						
Critical Headway (sec)		6.40		6.20						4.10						
Base Follow-Up Headway (sec)		3.5		3.3						2.2						
Follow-Up Headway (sec)		3.50		3.30						2.20						

Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)			14							18						
Capacity, c (veh/h)			1048							1592						
v/c Ratio			0.01							0.01						
95% Queue Length, Q_{95} (veh)			0.0							0.0						
Control Delay (s/veh)			8.5							7.3	0.1					
Level of Service (LOS)			A							A	A					
Approach Delay (s/veh)		8.5								2.8						
Approach LOS		A								A						

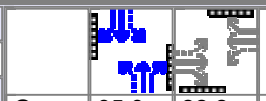
HCS Signalized Intersection Input Data

General Information				Intersection Information	
Agency	Eriksson			Duration, h	0.250
Analyst	AG	Analysis Date	Jan 19, 2023	Area Type	Other
Jurisdiction	Arlington Heights	Time Period	AM Peak	PHF	0.90
Urban Street	Arlington Heights Road	Analysis Year	2022	Analysis Period	1> 7:00
Intersection	Olive Street	File Name	Olive and AHR AM 2022.xus		
Project Description	Olive-Mary Stitt Elementary School				

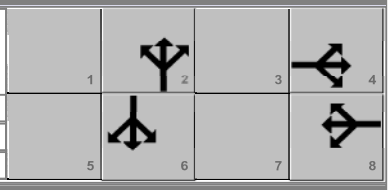


Demand Information	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Demand (*v*), veh/h	5	63	4	18	45	26	5	618	30	11	680	15

Signal Information			
Cycle, s	120.0	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	85.8	22.2	0.0	0.0	0.0	0.0						
Yellow	4.5	4.5	0.0	0.0	0.0	0.0						
Red	1.5	1.5	0.0	0.0	0.0	0.0						



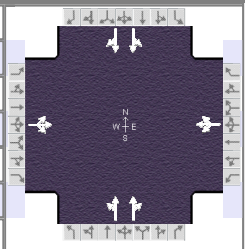
Traffic Information	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Demand (*v*), veh/h	5	63	4	18	45	26	5	618	30	11	680	15
Initial Queue (Q_b), veh/h	0	0	0	0	0	0	0	0	0	0	0	0
Base Saturation Flow Rate (s_o), veh/h	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Parking (N_m), man/h		None			None			None			None	
Heavy Vehicles (P_{HV}), %		0			0			0			0	
Ped / Bike / RTOR, /h	105	1	0	2	0	0	1	0	0	2	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	4	4	3	4	4
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	
Turn Bay Length, ft		0			0			0			0	
Grade (*Pg*), %		0			0			0			0	
Speed Limit, mi/h	35	35	35	35	35	35	35	35	35	35	35	35

Phase Information	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Maximum Green (G_{max}) or Phase Split, s		36.0		36.0		84.0		84.0
Yellow Change Interval (*Y*), s		4.5		4.5		4.5		4.5
Red Clearance Interval (R_c), s		1.5		1.5		1.5		1.5
Minimum Green (G_{min}), s		8		8		15		15
Start-Up Lost Time (*l*t), 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		2.0		2.0		2.0		2.0
Recall Mode		Off		Off		Max		Max
Dual Entry		Yes		Yes		Yes		Yes
Walk (*Walk*), s		10.0		10.0		10.0		10.0
Pedestrian Clearance Time (*PC*), s		14.0		15.0		12.0		13.0

Multimodal Information	EB			WB			NB			SB		
85th % Speed / Rest in Walk / Corner Radius	0.0	No	25.0	0.0	No	25.0	0.0	No	25.0	0.0	No	25.0
Walkway / Crosswalk Width / Length, ft	9.0	12.0	0.0	9.0	12.0	0.0	9.0	12.0	0.0	9.0	12.0	0.0
Street Width / Island / Curb, ft	0.0	0	No	0.0	0	No	0.0	0	No	0.0	0	No
Width Outside / Bike Lane / Shoulder, ft	12.0	5.0	2.0	12.0	5.0	2.0	12.0	5.0	2.0	12.0	5.0	2.0
Pedestrian Signal / Occupied Parking	No	0.50		No	0.50		No	0.50		No	0.50	

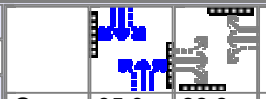
HCS Signalized Intersection Results Summary

General Information				Intersection Information	
Agency	Eriksson			Duration, h	0.250
Analyst	AG	Analysis Date	Jan 19, 2023	Area Type	Other
Jurisdiction	Arlington Heights	Time Period	AM Peak	PHF	0.90
Urban Street	Arlington Heights Road	Analysis Year	2022	Analysis Period	1> 7:00
Intersection	Olive Street	File Name	Olive and AHR AM 2022.xus		
Project Description	Olive-Mary Stitt Elementary School				

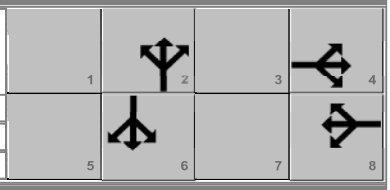


Demand Information	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Demand (*v*), veh/h	5	63	4	18	45	26	5	618	30	11	680	15

Signal Information			
Cycle, s	120.0	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	85.8	22.2	0.0	0.0	0.0	0.0	
Yellow	4.5	4.5	0.0	0.0	0.0	0.0	
Red	1.5	1.5	0.0	0.0	0.0	0.0	



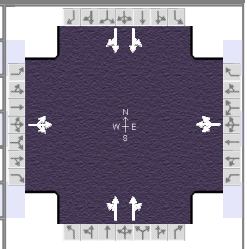
Timer Results	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Assigned Phase		4		8		2		6
Case Number		8.0		8.0		8.0		8.0
Phase Duration, s		28.2		28.2		91.8		91.8
Change Period, ($Y+R_c$), s		6.0		6.0		6.0		6.0
Max Allow Headway (*MAH*), s		3.2		3.2		0.0		0.0
Queue Clearance Time (g_s), s		6.4		7.7				
Green Extension Time (g_e), s		0.3		0.3		0.0		0.0
Phase Call Probability		1.00		1.00				
Max Out Probability		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		80			99		382		344	409		376
Adjusted Saturation Flow Rate (*s*), veh/h/ln		1837			1671		1888		1699	1862		1715
Queue Service Time (g_s), s		0.0			0.0		0.0		1.6	0.0		1.8
Cycle Queue Clearance Time (g_c), s		4.4			5.7		1.7		1.6	2.0		1.8
Green Ratio (*g/C*)		0.19			0.19		0.71		0.71	0.71		0.71
Capacity (*c*), veh/h		373			346		1380		1214	1362		1226
Volume-to-Capacity Ratio (*X*)		0.215			0.286		0.277		0.283	0.300		0.307
Back of Queue (*Q*), ft/ln (95 th percentile)		91			114		28.8		25.8	32.9		28.5
Back of Queue (*Q*), veh/ln (95 th percentile)		3.6			4.6		1.2		1.0	1.3		1.1
Queue Storage Ratio (*RQ*) (95 th percentile)		0.00			0.00		0.00		0.00	0.00		0.00
Uniform Delay (d_1), s/veh		41.6			42.1		0.9		0.8	1.0		0.8
Incremental Delay (d_2), s/veh		0.1			0.2		0.5		0.6	0.6		0.6
Initial Queue Delay (d_3), s/veh		0.0			0.0		0.0		0.0	0.0		0.0
Control Delay (*d*), s/veh		41.7			42.3		1.4		1.4	1.5		1.5
Level of Service (LOS)		D			D		A		A	A		A
Approach Delay, s/veh / LOS	41.7	D		42.3	D		1.4	A		1.5	A	
Intersection Delay, s/veh / LOS	5.8						A					

Multimodal Results	EB		WB		NB		SB	
Pedestrian LOS Score / LOS	2.14	B	2.14	B	1.64	B	1.64	B
Bicycle LOS Score / LOS	0.62	A	0.65	A	1.09	A	1.13	A

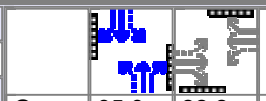
HCS Signalized Intersection Intermediate Values

General Information				Intersection Information	
Agency	Eriksson			Duration, h	0.250
Analyst	AG	Analysis Date	Jan 19, 2023	Area Type	Other
Jurisdiction	Arlington Heights	Time Period	AM Peak	PHF	0.90
Urban Street	Arlington Heights Road	Analysis Year	2022	Analysis Period	1> 7:00
Intersection	Olive Street	File Name	Olive and AHR AM 2022.xus		
Project Description	Olive-Mary Stitt Elementary School				



Demand Information	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Demand (*v*), veh/h	5	63	4	18	45	26	5	618	30	11	680	15

Signal Information			
Cycle, s	120.0	Reference Phase	2
Offset, s	0	Reference Point	Begin
Uncoordinated	No	Simult. Gap E/W	On
Force Mode	Fixed	Simult. Gap N/S	On



							1	2	3	4
Green	85.8	22.2	0.0	0.0	0.0	0.0	5	6	7	8
Yellow	4.5	4.5	0.0	0.0	0.0	0.0				
Red	1.5	1.5	0.0	0.0	0.0	0.0				

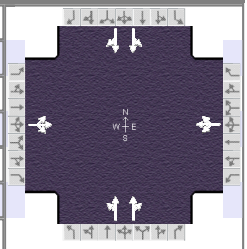
Saturation Flow / Delay	L	T	R	L	T	R	L	T	R	L	T	R
Lane Width Adjustment Factor (f_w)	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
Heavy Vehicles and Grade Factor (f_{HVg})	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
Parking Activity Adjustment Factor (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})	0.990	0.967		0.923	0.879		0.994	0.994		0.980	0.980	
Right-Turn Adjustment Factor (f_{RT})		0.000	0.967		0.000	0.879		0.894	0.894		0.903	0.903
Left-Turn Pedestrian Adjustment Factor (f_{Lpb})	0.997			0.862			1.000			1.000		
Right-Turn Ped-Bike Adjustment Factor (f_{Rpb})			0.821			0.997			0.999			0.999
Work Zone Adjustment Factor (f_{wz})	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
DDI Factor (f_{DDI})	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 Prot. CAV Adj. Factor ($f_{CAV,prot}$)												
Left-Turn Perm. CAV Adj. Factor ($f_{CAV,perm}$)	1.00			1.00			1.00			1.00		
Movement Saturation Flow Rate (s), veh/h	128	1607	102	338	845	488	27	3395	165	56	3445	76
Proportion of Vehicles Arriving on Green (P)	0.19	0.19	0.19	0.19	0.19	0.19	0.71	0.95	0.95	0.71	0.95	0.95
Incremental Delay Factor (k)		0.04			0.04		0.50		0.50	0.50		0.50

Signal Timing / Movement Groups	EBL	EBT/R	WBL	WBT/R	NBL	NBT/R	SBL	SBT/R
Lost Time (t_L)		6.0		6.0		6.0		6.0
Green Ratio (g/C)		0.19		0.19		0.71		0.71
Permitted Saturation Flow Rate (s_p), veh/h/ln		1337		1160		708		744
Shared Saturation Flow Rate (s_{sh}), veh/h/ln		1846		1607		0		0
Permitted Effective Green Time (g_p), s		22.2		22.2		85.8		85.8
Permitted Service Time (g_u), s		16.6		17.8		84.0		84.2
Permitted Queue Service Time (g_{ps}), s		0.0		0.0		0.0		0.0
Time to First Blockage (g_f), s		14.5		7.2		63.2		47.2
Queue Service Time Before Blockage (g_{fs}), s		4.0		3.5		1.7		2.0
Protected Right Saturation Flow (s_R), veh/h/ln								
Protected Right Effective Green Time (g_R), s								

Multimodal	EB		WB		NB		SB	
Pedestrian F_w / F_v	1.389	0.000	1.389	0.000	0.972	0.000	0.972	0.000
Pedestrian F_s / F_{delay}	0.000	0.148	0.000	0.148	0.000	0.064	0.000	0.064
Pedestrian M_{corner} / M_{cw}	0.00		0.00		0.00		0.00	
Bicycle c_b / d_b	370.66	39.84	370.66	39.82	1429.34	4.88	1429.34	4.88
Bicycle F_w / F_v	-3.64	0.13	-3.64	0.16	-3.64	0.60	-3.64	0.65

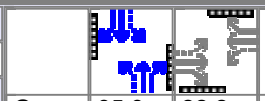
HCS Signalized Intersection Results Graphical Summary

General Information				Intersection Information	
Agency	Eriksson			Duration, h	0.250
Analyst	AG	Analysis Date	Jan 19, 2023	Area Type	Other
Jurisdiction	Arlington Heights	Time Period	AM Peak	PHF	0.90
Urban Street	Arlington Heights Road	Analysis Year	2022	Analysis Period	1> 7:00
Intersection	Olive Street	File Name	Olive and AHR AM 2022.xus		
Project Description	Olive-Mary Stitt Elementary School				



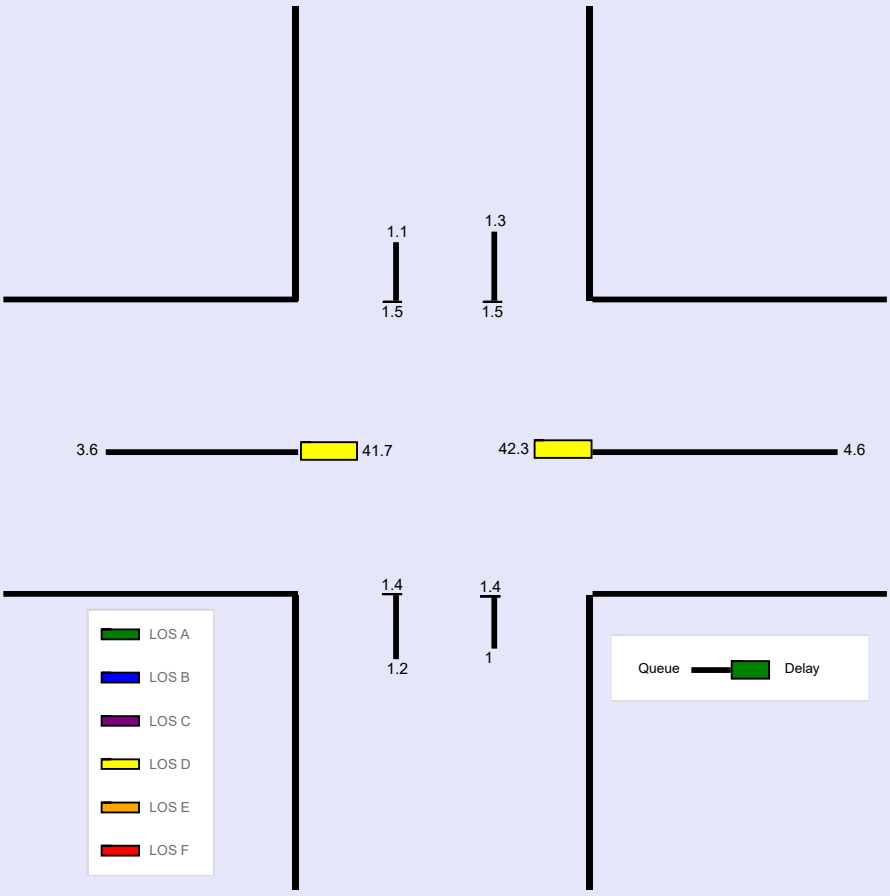
Demand Information	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Demand (*v*), veh/h	5	63	4	18	45	26	5	618	30	11	680	15

Signal Information			
Cycle, s	120.0	Reference Phase	2
Offset, s	0	Reference Point	Begin
Uncoordinated	No	Simult. Gap E/W	On
Force Mode	Fixed	Simult. Gap N/S	On



							1	2	3	4
Green	85.8	22.2	0.0	0.0	0.0	0.0				
Yellow	4.5	4.5	0.0	0.0	0.0	0.0				
Red	1.5	1.5	0.0	0.0	0.0	0.0	5	6	7	8

Movement Group Results	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Back of Queue (*Q*), ft/ln (95 th percentile)		91			114		28.8		25.8	32.9		28.5
Back of Queue (*Q*), veh/ln (95 th percentile)		3.6			4.6		1.2		1.0	1.3		1.1
Queue Storage Ratio (*RQ*) (95 th percentile)		0.00			0.00		0.00		0.00	0.00		0.00
Control Delay (*d*), s/veh		41.7			42.3		1.4		1.4	1.5		1.5
Level of Service (LOS)		D			D		A		A	A		A
Approach Delay, s/veh / LOS	41.7	D		42.3	D		1.4	A		1.5	A	
Intersection Delay, s/veh / LOS	5.8						A					



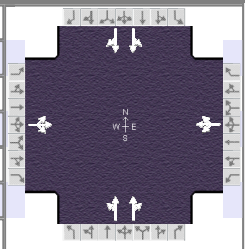
--- Messages ---

No errors or warnings exist.

--- Comments ---

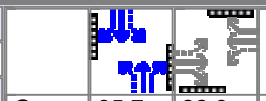
HCS Signalized Intersection Input Data

General Information				Intersection Information	
Agency	Eriksson			Duration, h	0.250
Analyst	AG	Analysis Date	Nov 9, 2022	Area Type	Other
Jurisdiction	Arlington Heights	Time Period	AM Peak	PHF	0.90
Urban Street	Arlington Heights Road	Analysis Year	2028	Analysis Period	1> 7:00
Intersection	Olive Street	File Name	Olive and AHR AM 2028.xus		
Project Description	Olive-Mary Stitt Elementary School				

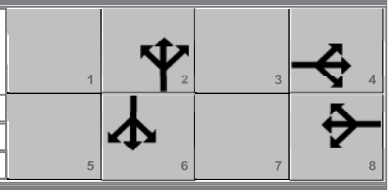


Demand Information	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Demand (*v*), veh/h	5	65	4	18	47	26	5	618	32	11	680	15

Signal Information			
Cycle, s	120.0	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	85.7	22.3	0.0	0.0	0.0	0.0						
Yellow	4.5	4.5	0.0	0.0	0.0	0.0						
Red	1.5	1.5	0.0	0.0	0.0	0.0						



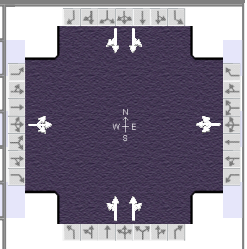
Traffic Information	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Demand (*v*), veh/h	5	65	4	18	47	26	5	618	32	11	680	15
Initial Queue (Q_b), veh/h	0	0	0	0	0	0	0	0	0	0	0	0
Base Saturation Flow Rate (s_o), veh/h	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Parking (N_m), man/h		None			None			None			None	
Heavy Vehicles (P_{HV}), %		0			0			0			0	
Ped / Bike / RTOR, /h	105	1	0	2	0	0	1	0	0	2	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	4	4	3	4	4
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	
Turn Bay Length, ft		0			0			0			0	
Grade (*Pg*), %		0			0			0			0	
Speed Limit, mi/h	35	35	35	35	35	35	35	35	35	35	35	35

Phase Information	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Maximum Green (G_{max}) or Phase Split, s		36.0		36.0		84.0		84.0
Yellow Change Interval (*Y*), s		4.5		4.5		4.5		4.5
Red Clearance Interval (R_c), s		1.5		1.5		1.5		1.5
Minimum Green (G_{min}), s		8		8		15		15
Start-Up Lost Time (*l*t), 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		2.0		2.0		2.0		2.0
Recall Mode		Off		Off		Max		Max
Dual Entry		Yes		Yes		Yes		Yes
Walk (*Walk*), s		10.0		10.0		10.0		10.0
Pedestrian Clearance Time (*PC*), s		14.0		15.0		12.0		13.0

Multimodal Information	EB			WB			NB			SB		
85th % Speed / Rest in Walk / Corner Radius	0.0	No	25.0	0.0	No	25.0	0.0	No	25.0	0.0	No	25.0
Walkway / Crosswalk Width / Length, ft	9.0	12.0	0.0	9.0	12.0	0.0	9.0	12.0	0.0	9.0	12.0	0.0
Street Width / Island / Curb, ft	0.0	0	No	0.0	0	No	0.0	0	No	0.0	0	No
Width Outside / Bike Lane / Shoulder, ft	12.0	5.0	2.0	12.0	5.0	2.0	12.0	5.0	2.0	12.0	5.0	2.0
Pedestrian Signal / Occupied Parking	No	0.50		No	0.50		No	0.50		No	0.50	

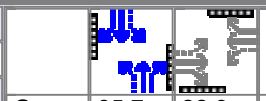
HCS Signalized Intersection Results Summary

General Information				Intersection Information	
Agency	Eriksson			Duration, h	0.250
Analyst	AG	Analysis Date	Nov 9, 2022	Area Type	Other
Jurisdiction	Arlington Heights	Time Period	AM Peak	PHF	0.90
Urban Street	Arlington Heights Road	Analysis Year	2028	Analysis Period	1> 7:00
Intersection	Olive Street	File Name	Olive and AHR AM 2028.xus		
Project Description	Olive-Mary Stitt Elementary School				



Demand Information	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Demand (*v*), veh/h	5	65	4	18	47	26	5	618	32	11	680	15

Signal Information			
Cycle, s	120.0	Reference Phase	2
Offset, s	0	Reference Point	Begin
Uncoordinated	No	Simult. Gap E/W	On
Force Mode	Fixed	Simult. Gap N/S	On



							1	2	3	4
Green	85.7	22.3	0.0	0.0	0.0	0.0	5	6	7	8
Yellow	4.5	4.5	0.0	0.0	0.0	0.0				
Red	1.5	1.5	0.0	0.0	0.0	0.0				

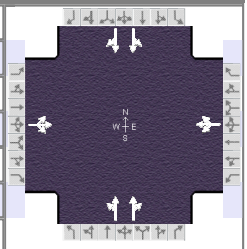
Timer Results	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Assigned Phase		4		8		2		6
Case Number		8.0		8.0		8.0		8.0
Phase Duration, s		28.3		28.3		91.7		91.7
Change Period, ($Y+R_c$), s		6.0		6.0		6.0		6.0
Max Allow Headway (*MAH*), s		3.2		3.2		0.0		0.0
Queue Clearance Time (g_s), s		6.5		7.8				
Green Extension Time (g_e), s		0.3		0.3		0.0		0.0
Phase Call Probability		1.00		1.00				
Max Out Probability		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		82			101		383		345	409		376
Adjusted Saturation Flow Rate (*s*), veh/h/ln		1839			1676		1888		1697	1862		1715
Queue Service Time (g_s), s		0.0			0.0		0.0		1.6	0.0		1.8
Cycle Queue Clearance Time (g_c), s		4.5			5.8		1.7		1.6	2.0		1.8
Green Ratio (*g/C*)		0.19			0.19		0.71		0.71	0.71		0.71
Capacity (*c*), veh/h		373			347		1380		1213	1361		1226
Volume-to-Capacity Ratio (*X*)		0.220			0.292		0.278		0.284	0.300		0.307
Back of Queue (*Q*), ft/ln (95 th percentile)		93.6			116.6		29		26	33		28.5
Back of Queue (*Q*), veh/ln (95 th percentile)		3.7			4.7		1.2		1.0	1.3		1.1
Queue Storage Ratio (*RQ*) (95 th percentile)		0.00			0.00		0.00		0.00	0.00		0.00
Uniform Delay (d_1), s/veh		41.7			42.2		0.9		0.8	1.0		0.9
Incremental Delay (d_2), s/veh		0.1			0.2		0.5		0.6	0.6		0.6
Initial Queue Delay (d_3), s/veh		0.0			0.0		0.0		0.0	0.0		0.0
Control Delay (*d*), s/veh		41.8			42.3		1.4		1.4	1.6		1.5
Level of Service (LOS)		D			D		A		A	A		A
Approach Delay, s/veh / LOS	41.8	D		42.3	D		1.4	A		1.5	A	
Intersection Delay, s/veh / LOS	5.9						A					

Multimodal Results	EB		WB		NB		SB	
Pedestrian LOS Score / LOS	2.14	B	2.14	B	1.64	B	1.64	B
Bicycle LOS Score / LOS	0.62	A	0.65	A	1.09	A	1.13	A

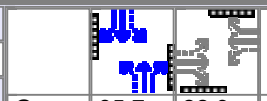
HCS Signalized Intersection Intermediate Values

General Information				Intersection Information	
Agency	Eriksson			Duration, h	0.250
Analyst	AG	Analysis Date	Nov 9, 2022	Area Type	Other
Jurisdiction	Arlington Heights	Time Period	AM Peak	PHF	0.90
Urban Street	Arlington Heights Road	Analysis Year	2028	Analysis Period	1> 7:00
Intersection	Olive Street	File Name	Olive and AHR AM 2028.xus		
Project Description	Olive-Mary Stitt Elementary School				



Demand Information	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Demand (*v*), veh/h	5	65	4	18	47	26	5	618	32	11	680	15

Signal Information			
Cycle, s	120.0	Reference Phase	2
Offset, s	0	Reference Point	Begin
Uncoordinated	No	Simult. Gap E/W	On
Force Mode	Fixed	Simult. Gap N/S	On



							1	2	3	4
Green	85.7	22.3	0.0	0.0	0.0	0.0	5	6	7	8
Yellow	4.5	4.5	0.0	0.0	0.0	0.0				
Red	1.5	1.5	0.0	0.0	0.0	0.0				

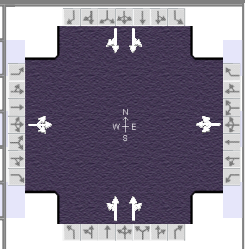
Saturation Flow / Delay	L	T	R	L	T	R	L	T	R	L	T	R
Lane Width Adjustment Factor (f_w)	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
Heavy Vehicles and Grade Factor (f_{HVg})	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
Parking Activity Adjustment Factor (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})	0.990	0.968		0.925	0.882		0.994	0.994		0.980	0.980	
Right-Turn Adjustment Factor (f_{RT})		0.000	0.968		0.000	0.882		0.893	0.893		0.903	0.903
Left-Turn Pedestrian Adjustment Factor (f_{Lpb})	0.997			0.863			1.000			1.000		
Right-Turn Ped-Bike Adjustment Factor (f_{Rpb})			0.821			0.997			0.999			0.999
Work Zone Adjustment Factor (f_{wz})	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
DDI Factor (f_{DDI})	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 Prot. CAV Adj. Factor ($f_{CAV,prot}$)												
Left-Turn Perm. CAV Adj. Factor ($f_{CAV,perm}$)	1.00			1.00			1.00			1.00		
Movement Saturation Flow Rate (s), veh/h	124	1615	99	332	866	479	27	3383	175	56	3445	76
Proportion of Vehicles Arriving on Green (P)	0.19	0.19	0.19	0.19	0.19	0.19	0.71	0.95	0.95	0.71	0.95	0.95
Incremental Delay Factor (k)		0.04			0.04		0.50		0.50	0.50		0.50

Signal Timing / Movement Groups	EBL	EBT/R	WBL	WBT/R	NBL	NBT/R	SBL	SBT/R
Lost Time (t_L)		6.0		6.0		6.0		6.0
Green Ratio (g/C)		0.19		0.19		0.71		0.71
Permitted Saturation Flow Rate (s_p), veh/h/ln		1335		1159		708		742
Shared Saturation Flow Rate (s_{sh}), veh/h/ln		1847		1613		0		0
Permitted Effective Green Time (g_p), s		22.3		22.3		85.7		85.7
Permitted Service Time (g_u), s		16.5		17.7		84.0		84.2
Permitted Queue Service Time (g_{ps}), s		0.0		0.0		0.0		0.0
Time to First Blockage (g_f), s		14.5		7.4		63.3		47.2
Queue Service Time Before Blockage (g_{fs}), s		4.1		3.6		1.7		2.0
Protected Right Saturation Flow (s_R), veh/h/ln								
Protected Right Effective Green Time (g_R), s								

Multimodal	EB		WB		NB		SB	
Pedestrian F_w / F_v	1.389	0.000	1.389	0.000	0.972	0.000	0.972	0.000
Pedestrian F_s / F_{delay}	0.000	0.148	0.000	0.148	0.000	0.064	0.000	0.064
Pedestrian M_{corner} / M_{cw}	0.00		0.00		0.00		0.00	
Bicycle c_b / d_b	370.97	39.83	370.97	39.81	1429.03	4.89	1429.03	4.89
Bicycle F_w / F_v	-3.64	0.14	-3.64	0.17	-3.64	0.60	-3.64	0.65

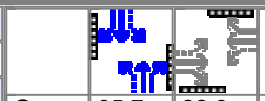
HCS Signalized Intersection Results Graphical Summary

General Information				Intersection Information	
Agency	Eriksson			Duration, h	0.250
Analyst	AG	Analysis Date	Nov 9, 2022	Area Type	Other
Jurisdiction	Arlington Heights	Time Period	AM Peak	PHF	0.90
Urban Street	Arlington Heights Road	Analysis Year	2028	Analysis Period	1> 7:00
Intersection	Olive Street	File Name	Olive and AHR AM 2028.xus		
Project Description	Olive-Mary Stitt Elementary School				



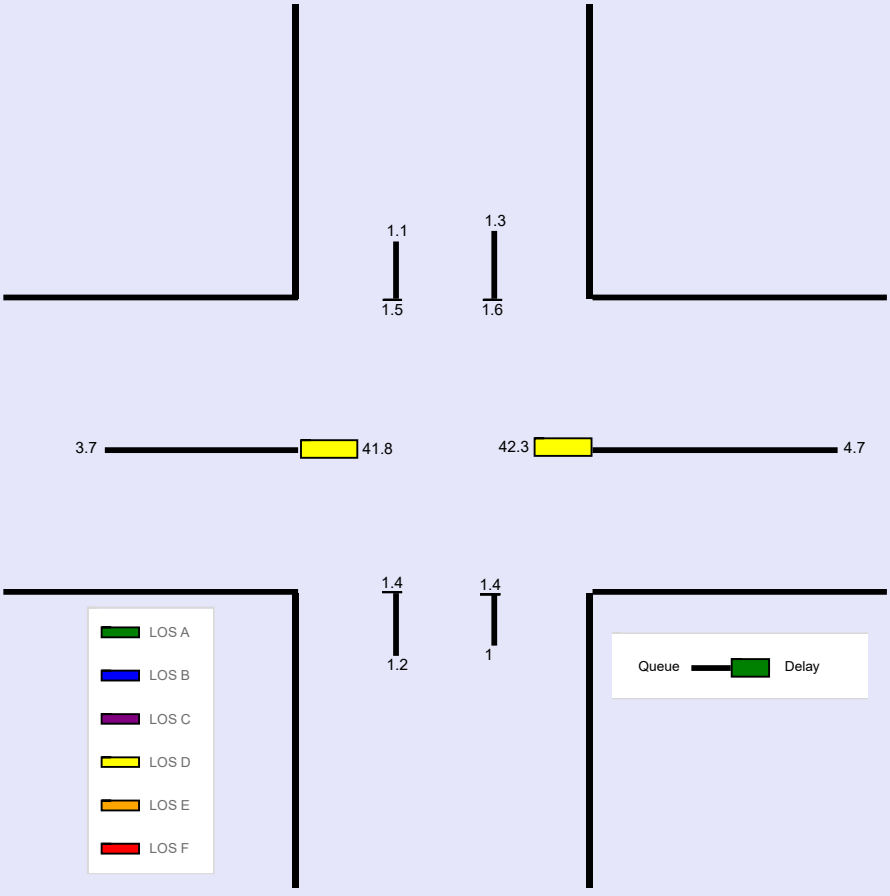
Demand Information	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Demand (*v*), veh/h	5	65	4	18	47	26	5	618	32	11	680	15

Signal Information			
Cycle, s	120.0	Reference Phase	2
Offset, s	0	Reference Point	Begin
Uncoordinated	No	Simult. Gap E/W	On
Force Mode	Fixed	Simult. Gap N/S	On



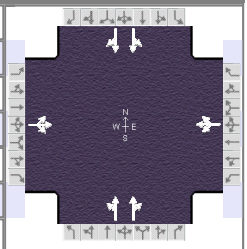
							1	2	3	4
Green	85.7	22.3	0.0	0.0	0.0	0.0				
Yellow	4.5	4.5	0.0	0.0	0.0	0.0	5	6	7	8
Red	1.5	1.5	0.0	0.0	0.0	0.0				

Movement Group Results	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Back of Queue (*Q*), ft/ln (95 th percentile)		93.6			116.6		29		26	33		28.5
Back of Queue (*Q*), veh/ln (95 th percentile)		3.7			4.7		1.2		1.0	1.3		1.1
Queue Storage Ratio (*RQ*) (95 th percentile)		0.00			0.00		0.00		0.00	0.00		0.00
Control Delay (*d*), s/veh		41.8			42.3		1.4		1.4	1.6		1.5
Level of Service (LOS)		D			D		A		A	A		A
Approach Delay, s/veh / LOS	41.8	D		42.3	D		1.4	A		1.5	A	
Intersection Delay, s/veh / LOS	5.9						A					



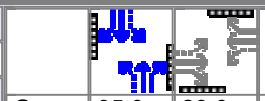
HCS Signalized Intersection Input Data

General Information				Intersection Information	
Agency	Eriksson			Duration, h	0.250
Analyst	AG	Analysis Date	11/9/2022	Area Type	Other
Jurisdiction	Arlington Heights	Time Period	PM Peak	PHF	0.94
Urban Street	Arlington Heights Road	Analysis Year	2022	Analysis Period	1> 7:00
Intersection	Olive Street	File Name	Olive and AHR PM 2022.xus		
Project Description	Olive-Mary Stitt Elementary School				

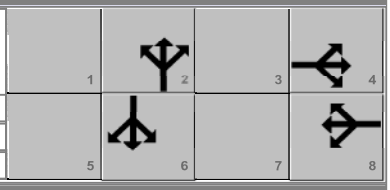


Demand Information	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Demand (*v*), veh/h	20	40	10	31	66	27	12	881	21	13	848	29

Signal Information			
Cycle, s	130.0	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	95.0	23.0	0.0	0.0	0.0	0.0						
Yellow	4.5	4.5	0.0	0.0	0.0	0.0						
Red	1.5	1.5	0.0	0.0	0.0	0.0						



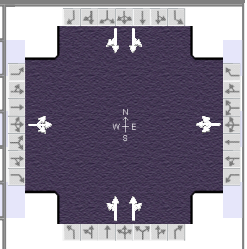
Traffic Information	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Demand (*v*), veh/h	20	40	10	31	66	27	12	881	21	13	848	29
Initial Queue (Q_b), veh/h	0	0	0	0	0	0	0	0	0	0	0	0
Base Saturation Flow Rate (s_o), veh/h	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Parking (N_m), man/h		None			None			None			None	
Heavy Vehicles (P_{HV}), %		0			0			0			0	
Ped / Bike / RTOR, /h	13	0	0	90	2	0	9	1	0	4	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	4	4	3	4	4
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	
Turn Bay Length, ft		0			0			0			0	
Grade (*Pg*), %		0			0			0			0	
Speed Limit, mi/h	35	35	35	35	35	35	35	35	35	35	35	35

Phase Information	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Maximum Green (G_{max}) or Phase Split, s		37.7		37.7		92.3		92.3
Yellow Change Interval (*Y*), s		4.5		4.5		4.5		4.5
Red Clearance Interval (R_c), s		1.5		1.5		1.5		1.5
Minimum Green (G_{min}), s		8		8		15		15
Start-Up Lost Time (*l*t), 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		2.0		2.0		2.0		2.0
Recall Mode		Off		Off		Max		Max
Dual Entry		Yes		Yes		Yes		Yes
Walk (*Walk*), s		10.0		10.0		10.0		10.0
Pedestrian Clearance Time (*PC*), s		14.0		15.0		12.0		13.0

Multimodal Information	EB			WB			NB			SB		
85th % Speed / Rest in Walk / Corner Radius	0.0	No	25.0	0.0	No	25.0	0.0	No	25.0	0.0	No	25.0
Walkway / Crosswalk Width / Length, ft	9.0	12.0	0.0	9.0	12.0	0.0	9.0	12.0	0.0	9.0	12.0	0.0
Street Width / Island / Curb, ft	0.0	0	No	0.0	0	No	0.0	0	No	0.0	0	No
Width Outside / Bike Lane / Shoulder, ft	12.0	5.0	2.0	12.0	5.0	2.0	12.0	5.0	2.0	12.0	5.0	2.0
Pedestrian Signal / Occupied Parking	No	0.50		No	0.50		No	0.50		No	0.50	

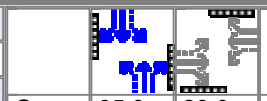
HCS Signalized Intersection Results Summary

General Information				Intersection Information	
Agency	Eriksson			Duration, h	0.250
Analyst	AG	Analysis Date	11/9/2022	Area Type	Other
Jurisdiction	Arlington Heights	Time Period	PM Peak	PHF	0.94
Urban Street	Arlington Heights Road	Analysis Year	2022	Analysis Period	1> 7:00
Intersection	Olive Street	File Name	Olive and AHR PM 2022.xus		
Project Description	Olive-Mary Stitt Elementary School				



Demand Information	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Demand (*v*), veh/h	20	40	10	31	66	27	12	881	21	13	848	29

Signal Information			
Cycle, s	130.0	Reference Phase	2
Offset, s	0	Reference Point	Begin
Uncoordinated	No	Simult. Gap E/W	On
Force Mode	Fixed	Simult. Gap N/S	On



							1	2	3	4
Green	95.0	23.0	0.0	0.0	0.0	0.0	5	6	7	8
Yellow	4.5	4.5	0.0	0.0	0.0	0.0				
Red	1.5	1.5	0.0	0.0	0.0	0.0				

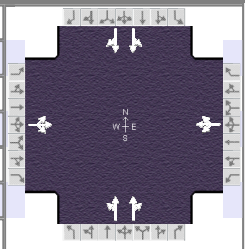
Timer Results	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Assigned Phase		4		8		2		6
Case Number		8.0		8.0		8.0		8.0
Phase Duration, s		29.0		29.0		101.0		101.0
Change Period, ($Y+R_c$), s		6.0		6.0		6.0		6.0
Max Allow Headway (*MAH*), s		3.2		3.2		0.0		0.0
Queue Clearance Time (g_s), s		6.5		11.1				
Green Extension Time (g_e), s		0.4		0.4		0.0		0.0
Phase Call Probability		1.00		1.00				
Max Out Probability		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		74			132		506		466	492		454
Adjusted Saturation Flow Rate (*s*), veh/h/ln		1628			1632		1859		1712	1849		1708
Queue Service Time (g_s), s		0.0			3.3		0.0		1.4	0.0		1.4
Cycle Queue Clearance Time (g_c), s		4.5			9.1		1.7		1.4	1.6		1.4
Green Ratio (*g/C*)		0.18			0.18		0.73		0.73	0.73		0.73
Capacity (*c*), veh/h		323			323		1387		1251	1380		1248
Volume-to-Capacity Ratio (*X*)		0.230			0.409		0.365		0.372	0.357		0.364
Back of Queue (*Q*), ft/ln (90 th percentile)		93.5			158.5		31		26.7	30.5		25.9
Back of Queue (*Q*), veh/ln (90 th percentile)		3.7			6.3		1.2		1.1	1.2		1.0
Queue Storage Ratio (*RQ*) (90 th percentile)		0.00			0.00		0.00		0.00	0.00		0.00
Uniform Delay (d_1), s/veh		45.9			47.7		0.6		0.5	0.6		0.5
Incremental Delay (d_2), s/veh		0.1			0.3		0.7		0.9	0.7		0.8
Initial Queue Delay (d_3), s/veh		0.0			0.0		0.0		0.0	0.0		0.0
Control Delay (*d*), s/veh		46.1			48.0		1.3		1.3	1.3		1.3
Level of Service (LOS)		D			D		A		A	A		A
Approach Delay, s/veh / LOS	46.1	D		48.0	D		1.3	A		1.3	A	
Intersection Delay, s/veh / LOS	5.8						A					

Multimodal Results	EB		WB		NB		SB	
Pedestrian LOS Score / LOS	2.14	B	2.14	B	1.63	B	1.63	B
Bicycle LOS Score / LOS	0.61	A	0.71	A	1.29	A	1.27	A

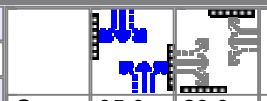
HCS Signalized Intersection Intermediate Values

General Information				Intersection Information	
Agency	Eriksson			Duration, h	0.250
Analyst	AG	Analysis Date	11/9/2022	Area Type	Other
Jurisdiction	Arlington Heights	Time Period	PM Peak	PHF	0.94
Urban Street	Arlington Heights Road	Analysis Year	2022	Analysis Period	1> 7:00
Intersection	Olive Street	File Name	Olive and AHR PM 2022.xus		
Project Description	Olive-Mary Stitt Elementary School				



Demand Information	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Demand (*v*), veh/h	20	40	10	31	66	27	12	881	21	13	848	29

Signal Information			
Cycle, s	130.0	Reference Phase	2
Offset, s	0	Reference Point	Begin
Uncoordinated	No	Simult. Gap E/W	On
Force Mode	Fixed	Simult. Gap N/S	On



							1	2	3	4
Green	95.0	23.0	0.0	0.0	0.0	0.0	5	6	7	8
Yellow	4.5	4.5	0.0	0.0	0.0	0.0				
Red	1.5	1.5	0.0	0.0	0.0	0.0				

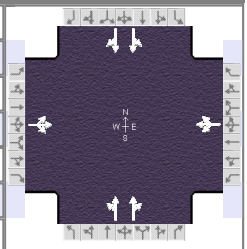
Saturation Flow / Delay	L	T	R	L	T	R	L	T	R	L	T	R
Lane Width Adjustment Factor (f_w)	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
Heavy Vehicles and Grade Factor (f_{HVg})	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
Parking Activity Adjustment Factor (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})	0.875	0.857		0.930	0.859		0.978	0.978		0.973	0.973	
Right-Turn Adjustment Factor (f_{RT})		0.000	0.857		0.000	0.859		0.901	0.901		0.899	0.899
Left-Turn Pedestrian Adjustment Factor (f_{Lpb})	0.893			0.982			0.999			0.999		
Right-Turn Ped-Bike Adjustment Factor (f_{Rpb})			0.978			0.836			0.973			0.997
Work Zone Adjustment Factor (f_{wz})	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
DDI Factor (f_{DDI})	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 Prot. CAV Adj. Factor ($f_{CAV,prot}$)												
Left-Turn Perm. CAV Adj. Factor ($f_{CAV,perm}$)	1.00			1.00			1.00			1.00		
Movement Saturation Flow Rate (s), veh/h	465	930	233	408	868	355	47	3441	82	52	3389	116
Proportion of Vehicles Arriving on Green (P)	0.18	0.18	0.18	0.18	0.18	0.18	0.73	0.97	0.97	0.73	0.97	0.97
Incremental Delay Factor (k)		0.04			0.04		0.50		0.50	0.50		0.50

Signal Timing / Movement Groups	EBL	EBT/R	WBL	WBT/R	NBL	NBT/R	SBL	SBT/R
Lost Time (t_L)		6.0		6.0		6.0		6.0
Green Ratio (g/C)		0.18		0.18		0.73		0.73
Permitted Saturation Flow Rate (s_p), veh/h/ln		1176		1347		609		594
Shared Saturation Flow Rate (s_{sh}), veh/h/ln		1543		1713		0		0
Permitted Effective Green Time (g_p), s		23.0		23.0		95.0		95.0
Permitted Service Time (g_u), s		13.9		18.5		93.7		93.6
Permitted Queue Service Time (g_{ps}), s		0.0		3.3		0.0		0.0
Time to First Blockage (g_f), s		4.9		5.8		54.3		51.3
Queue Service Time Before Blockage (g_{fs}), s		3.6		5.8		1.7		1.6
Protected Right Saturation Flow (s_R), veh/h/ln								
Protected Right Effective Green Time (g_R), s								

Multimodal	EB		WB		NB		SB	
Pedestrian F_w / F_v	1.389	0.000	1.389	0.000	0.972	0.000	0.972	0.000
Pedestrian F_s / F_{delay}	0.000	0.152	0.000	0.152	0.000	0.062	0.000	0.062
Pedestrian M_{corner} / M_{cw}	0.00		0.00		0.00		0.00	
Bicycle c_b / d_b	353.29	44.06	353.29	44.11	1462.09	4.70	1462.09	4.70
Bicycle F_w / F_v	-3.64	0.12	-3.64	0.22	-3.64	0.80	-3.64	0.78

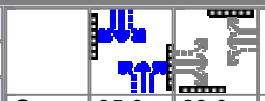
HCS Signalized Intersection Results Graphical Summary

General Information				Intersection Information	
Agency	Eriksson			Duration, h	0.250
Analyst	AG	Analysis Date	11/9/2022	Area Type	Other
Jurisdiction	Arlington Heights	Time Period	PM Peak	PHF	0.94
Urban Street	Arlington Heights Road	Analysis Year	2022	Analysis Period	1> 7:00
Intersection	Olive Street	File Name	Olive and AHR PM 2022.xus		
Project Description	Olive-Mary Stitt Elementary School				

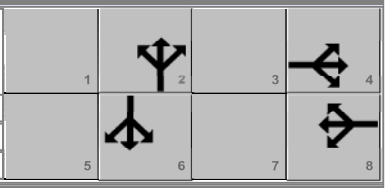


Demand Information	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Demand (*v*), veh/h	20	40	10	31	66	27	12	881	21	13	848	29

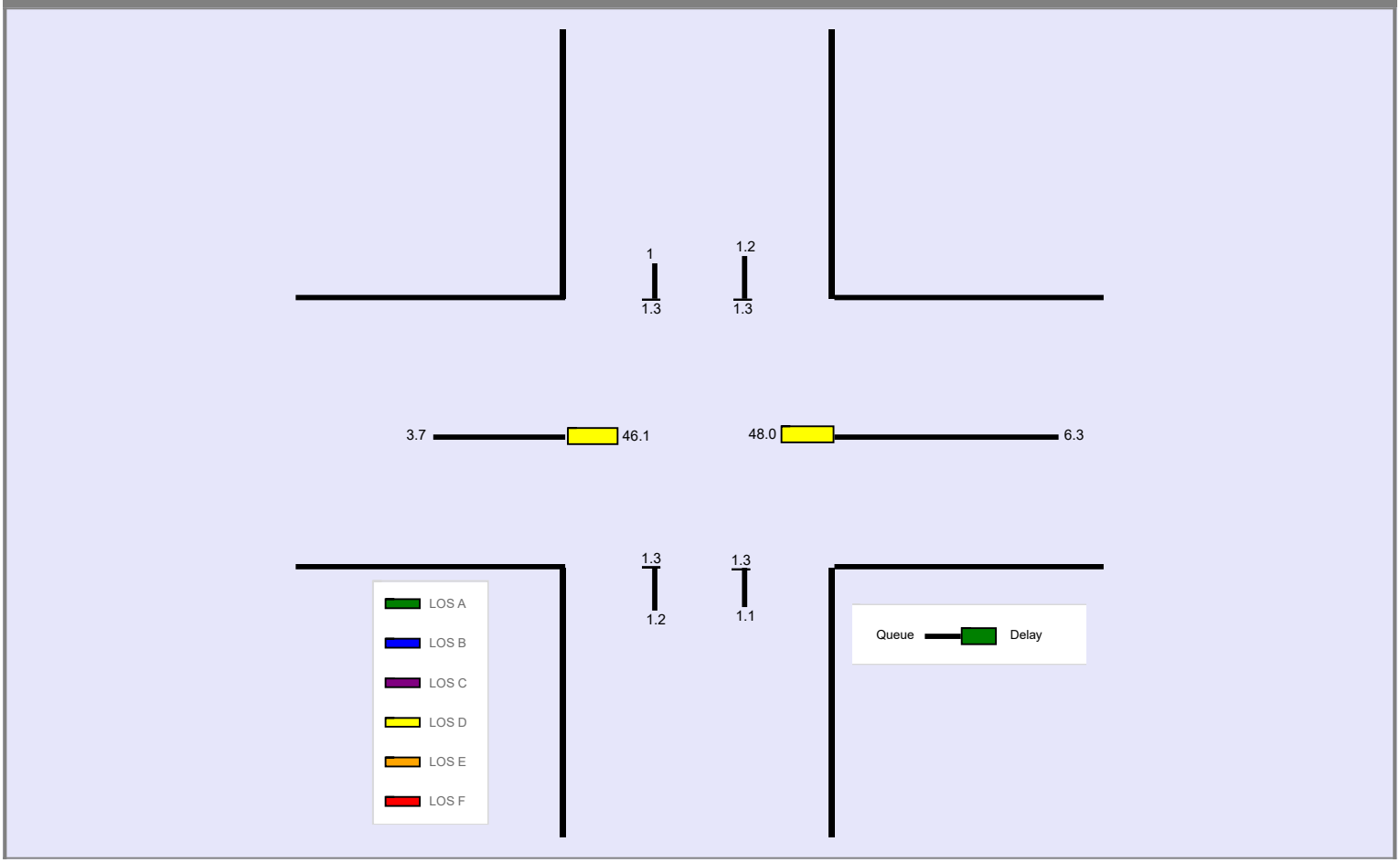
Signal Information			
Cycle, s	130.0	Reference Phase	2
Offset, s	0	Reference Point	Begin
Uncoordinated	No	Simult. Gap E/W	On
Force Mode	Fixed	Simult. Gap N/S	On



Green	95.0	23.0	0.0	0.0	0.0	0.0						
Yellow	4.5	4.5	0.0	0.0	0.0	0.0						
Red	1.5	1.5	0.0	0.0	0.0	0.0						



Movement Group Results	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Back of Queue (*Q*), ft/ln (90 th percentile)		93.5			158.5		31		26.7	30.5		25.9
Back of Queue (*Q*), veh/ln (90 th percentile)		3.7			6.3		1.2		1.1	1.2		1.0
Queue Storage Ratio (*RQ*) (90 th percentile)		0.00			0.00		0.00		0.00	0.00		0.00
Control Delay (*d*), s/veh		46.1			48.0		1.3		1.3	1.3		1.3
Level of Service (LOS)		D			D		A		A	A		A
Approach Delay, s/veh / LOS	46.1	D		48.0	D		1.3	A		1.3	A	
Intersection Delay, s/veh / LOS	5.8						A					



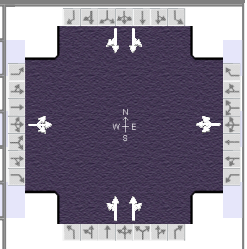
--- Messages ---

No errors or warnings exist.

--- Comments ---

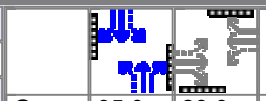
HCS Signalized Intersection Input Data

General Information				Intersection Information	
Agency	Eriksson			Duration, h	0.250
Analyst	AG	Analysis Date	11/9/2022	Area Type	Other
Jurisdiction	Arlington Heights	Time Period	PM Peak	PHF	0.94
Urban Street	Arlington Heights Road	Analysis Year	2028	Analysis Period	1> 7:00
Intersection	Olive Street	File Name	Olive and AHR PM 2028.xus		
Project Description	Olive-Mary Stitt Elementary School				

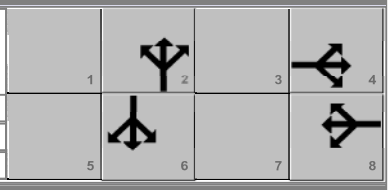


Demand Information	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Demand (*v*), veh/h	20	43	10	31	68	27	12	881	22	13	848	29

Signal Information			
Cycle, s	130.0	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	95.0	23.0	0.0	0.0	0.0	0.0						
Yellow	4.5	4.5	0.0	0.0	0.0	0.0						
Red	1.5	1.5	0.0	0.0	0.0	0.0						



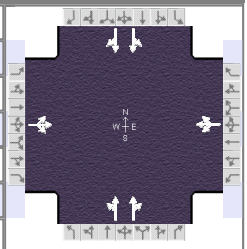
Traffic Information	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Demand (*v*), veh/h	20	43	10	31	68	27	12	881	22	13	848	29
Initial Queue (Q_b), veh/h	0	0	0	0	0	0	0	0	0	0	0	0
Base Saturation Flow Rate (s_o), veh/h	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Parking (N_m), man/h		None			None			None			None	
Heavy Vehicles (P_{HV}), %		0			0			0			0	
Ped / Bike / RTOR, /h	13	0	0	90	2	0	9	1	0	4	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	4	4	3	4	4
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	
Turn Bay Length, ft		0			0			0			0	
Grade (*Pg*), %		0			0			0			0	
Speed Limit, mi/h	35	35	35	35	35	35	35	35	35	35	35	35

Phase Information	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Maximum Green (G_{max}) or Phase Split, s		37.7		37.7		92.3		92.3
Yellow Change Interval (*Y*), s		4.5		4.5		4.5		4.5
Red Clearance Interval (R_c), s		1.5		1.5		1.5		1.5
Minimum Green (G_{min}), s		8		8		15		15
Start-Up Lost Time (*l*t), 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		2.0		2.0		2.0		2.0
Recall Mode		Off		Off		Max		Max
Dual Entry		Yes		Yes		Yes		Yes
Walk (*Walk*), s		10.0		10.0		10.0		10.0
Pedestrian Clearance Time (*PC*), s		14.0		15.0		12.0		13.0

Multimodal Information	EB			WB			NB			SB		
85th % Speed / Rest in Walk / Corner Radius	0.0	No	25.0	0.0	No	25.0	0.0	No	25.0	0.0	No	25.0
Walkway / Crosswalk Width / Length, ft	9.0	12.0	0.0	9.0	12.0	0.0	9.0	12.0	0.0	9.0	12.0	0.0
Street Width / Island / Curb, ft	0.0	0	No	0.0	0	No	0.0	0	No	0.0	0	No
Width Outside / Bike Lane / Shoulder, ft	12.0	5.0	2.0	12.0	5.0	2.0	12.0	5.0	2.0	12.0	5.0	2.0
Pedestrian Signal / Occupied Parking	No	0.50		No	0.50		No	0.50		No	0.50	

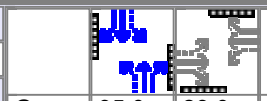
HCS Signalized Intersection Results Summary

General Information				Intersection Information	
Agency	Eriksson			Duration, h	0.250
Analyst	AG	Analysis Date	11/9/2022	Area Type	Other
Jurisdiction	Arlington Heights	Time Period	PM Peak	PHF	0.94
Urban Street	Arlington Heights Road	Analysis Year	2028	Analysis Period	1> 7:00
Intersection	Olive Street	File Name	Olive and AHR PM 2028.xus		
Project Description	Olive-Mary Stitt Elementary School				



Demand Information	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Demand (*v*), veh/h	20	43	10	31	68	27	12	881	22	13	848	29

Signal Information			
Cycle, s	130.0	Reference Phase	2
Offset, s	0	Reference Point	Begin
Uncoordinated	No	Simult. Gap E/W	On
Force Mode	Fixed	Simult. Gap N/S	On



							1	2	3	4
Green	95.0	23.0	0.0	0.0	0.0	0.0	5	6	7	8
Yellow	4.5	4.5	0.0	0.0	0.0	0.0				
Red	1.5	1.5	0.0	0.0	0.0	0.0				

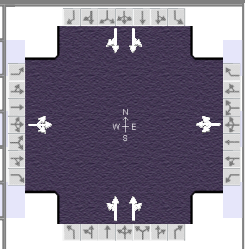
Timer Results	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Assigned Phase		4		8		2		6
Case Number		8.0		8.0		8.0		8.0
Phase Duration, s		29.0		29.0		101.0		101.0
Change Period, ($Y+R_c$), s		6.0		6.0		6.0		6.0
Max Allow Headway (*MAH*), s		3.2		3.2		0.0		0.0
Queue Clearance Time (g_s), s		6.7		11.2				
Green Extension Time (g_e), s		0.4		0.4		0.0		0.0
Phase Call Probability		1.00		1.00				
Max Out Probability		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		78			134		507		466	492		454
Adjusted Saturation Flow Rate (*s*), veh/h/ln		1640			1635		1859		1711	1849		1708
Queue Service Time (g_s), s		0.0			3.3		0.0		1.4	0.0		1.4
Cycle Queue Clearance Time (g_c), s		4.7			9.2		1.7		1.4	1.7		1.4
Green Ratio (*g/C*)		0.18			0.18		0.73		0.73	0.73		0.73
Capacity (*c*), veh/h		325			324		1387		1250	1380		1248
Volume-to-Capacity Ratio (*X*)		0.239			0.414		0.366		0.373	0.357		0.364
Back of Queue (*Q*), ft/ln (95 th percentile)		97.7			175.5		31.2		26.8	30.6		26
Back of Queue (*Q*), veh/ln (95 th percentile)		3.9			7.0		1.2		1.1	1.2		1.0
Queue Storage Ratio (*RQ*) (95 th percentile)		0.00			0.00		0.00		0.00	0.00		0.00
Uniform Delay (d_1), s/veh		46.0			47.8		0.6		0.5	0.6		0.5
Incremental Delay (d_2), s/veh		0.1			0.3		0.7		0.9	0.7		0.8
Initial Queue Delay (d_3), s/veh		0.0			0.0		0.0		0.0	0.0		0.0
Control Delay (*d*), s/veh		46.1			48.1		1.3		1.3	1.3		1.3
Level of Service (LOS)		D			D		A		A	A		A
Approach Delay, s/veh / LOS	46.1	D		48.1	D		1.3	A		1.3	A	
Intersection Delay, s/veh / LOS	5.9						A					

Multimodal Results	EB		WB		NB		SB	
Pedestrian LOS Score / LOS	2.14	B	2.14	B	1.63	B	1.63	B
Bicycle LOS Score / LOS	0.62	A	0.71	A	1.29	A	1.27	A

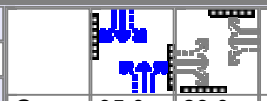
HCS Signalized Intersection Intermediate Values

General Information				Intersection Information	
Agency	Eriksson			Duration, h	0.250
Analyst	AG	Analysis Date	11/9/2022	Area Type	Other
Jurisdiction	Arlington Heights	Time Period	PM Peak	PHF	0.94
Urban Street	Arlington Heights Road	Analysis Year	2028	Analysis Period	1> 7:00
Intersection	Olive Street	File Name	Olive and AHR PM 2028.xus		
Project Description	Olive-Mary Stitt Elementary School				



Demand Information	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Demand (*v*), veh/h	20	43	10	31	68	27	12	881	22	13	848	29

Signal Information			
Cycle, s	130.0	Reference Phase	2
Offset, s	0	Reference Point	Begin
Uncoordinated	No	Simult. Gap E/W	On
Force Mode	Fixed	Simult. Gap N/S	On



							1	2	3	4
Green	95.0	23.0	0.0	0.0	0.0	0.0	5	6	7	8
Yellow	4.5	4.5	0.0	0.0	0.0	0.0				
Red	1.5	1.5	0.0	0.0	0.0	0.0				

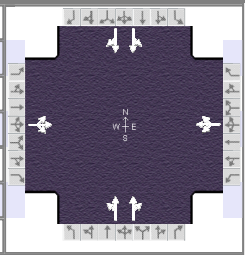
Saturation Flow / Delay	L	T	R	L	T	R	L	T	R	L	T	R
Lane Width Adjustment Factor (f_w)	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
Heavy Vehicles and Grade Factor (f_{HVg})	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
Parking Activity Adjustment Factor (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})	0.881	0.863		0.931	0.861		0.978	0.978		0.973	0.973	
Right-Turn Adjustment Factor (f_{RT})		0.000	0.863		0.000	0.861		0.900	0.900		0.899	0.899
Left-Turn Pedestrian Adjustment Factor (f_{Lpb})	0.894			0.982			0.999			0.999		
Right-Turn Ped-Bike Adjustment Factor (f_{Rpb})			0.978			0.836			0.973			0.997
Work Zone Adjustment Factor (f_{wz})	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
DDI Factor (f_{DDI})	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 Prot. CAV Adj. Factor ($f_{CAV,prot}$)												
Left-Turn Perm. CAV Adj. Factor ($f_{CAV,perm}$)	1.00			1.00			1.00			1.00		
Movement Saturation Flow Rate (s), veh/h	449	966	225	402	882	350	47	3437	86	52	3389	116
Proportion of Vehicles Arriving on Green (P)	0.18	0.18	0.18	0.18	0.18	0.18	0.73	0.97	0.97	0.73	0.97	0.97
Incremental Delay Factor (k)		0.04			0.04		0.50		0.50	0.50		0.50

Signal Timing / Movement Groups	EBL	EBT/R	WBL	WBT/R	NBL	NBT/R	SBL	SBT/R
Lost Time (t_L)		6.0		6.0		6.0		6.0
Green Ratio (g/C)		0.18		0.18		0.73		0.73
Permitted Saturation Flow Rate (s_p), veh/h/ln		1175		1343		609		593
Shared Saturation Flow Rate (s_{sh}), veh/h/ln		1555		1714		0		0
Permitted Effective Green Time (g_p), s		23.0		23.0		95.0		95.0
Permitted Service Time (g_u), s		13.8		18.3		93.6		93.6
Permitted Queue Service Time (g_{ps}), s		0.0		3.3		0.0		0.0
Time to First Blockage (g_f), s		5.2		5.9		54.4		51.3
Queue Service Time Before Blockage (g_{fs}), s		3.8		5.9		1.7		1.7
Protected Right Saturation Flow (s_R), veh/h/ln								
Protected Right Effective Green Time (g_R), s								

Multimodal	EB		WB		NB		SB	
Pedestrian F_w / F_v	1.389	0.000	1.389	0.000	0.972	0.000	0.972	0.000
Pedestrian F_s / F_{delay}	0.000	0.152	0.000	0.152	0.000	0.062	0.000	0.062
Pedestrian M_{corner} / M_{cw}	0.00		0.00		0.00		0.00	
Bicycle c_b / d_b	353.64	44.05	353.64	44.09	1461.74	4.71	1461.74	4.71
Bicycle F_w / F_v	-3.64	0.13	-3.64	0.22	-3.64	0.80	-3.64	0.78

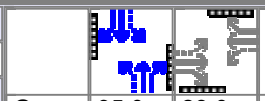
HCS Signalized Intersection Results Graphical Summary

General Information				Intersection Information	
Agency	Eriksson			Duration, h	0.250
Analyst	AG	Analysis Date	11/9/2022	Area Type	Other
Jurisdiction	Arlington Heights	Time Period	PM Peak	PHF	0.94
Urban Street	Arlington Heights Road	Analysis Year	2028	Analysis Period	1> 7:00
Intersection	Olive Street	File Name	Olive and AHR PM 2028.xus		
Project Description	Olive-Mary Stitt Elementary School				

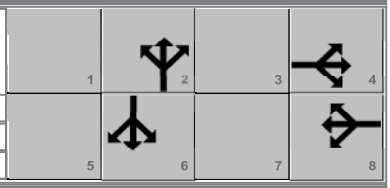


Demand Information	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Demand (*v*), veh/h	20	43	10	31	68	27	12	881	22	13	848	29

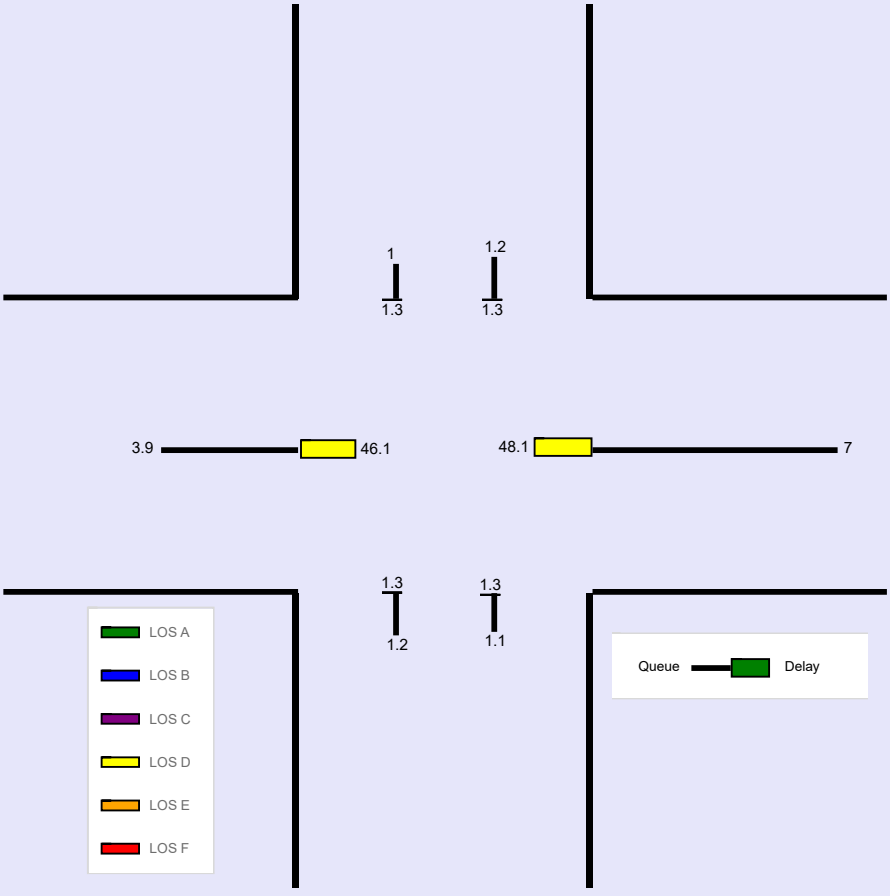
Signal Information			
Cycle, s	130.0	Reference Phase	2
Offset, s	0	Reference Point	Begin
Uncoordinated	No	Simult. Gap E/W	On
Force Mode	Fixed	Simult. Gap N/S	On



Green	95.0	23.0	0.0	0.0	0.0	0.0						
Yellow	4.5	4.5	0.0	0.0	0.0	0.0						
Red	1.5	1.5	0.0	0.0	0.0	0.0						



Movement Group Results	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Back of Queue (*Q*), ft/ln (95 th percentile)		97.7			175.5		31.2		26.8	30.6		26
Back of Queue (*Q*), veh/ln (95 th percentile)		3.9			7.0		1.2		1.1	1.2		1.0
Queue Storage Ratio (*RQ*) (95 th percentile)		0.00			0.00		0.00		0.00	0.00		0.00
Control Delay (*d*), s/veh		46.1			48.1		1.3		1.3	1.3		1.3
Level of Service (LOS)		D			D		A		A	A		A
Approach Delay, s/veh / LOS	46.1	D		48.1	D		1.3	A		1.3	A	
Intersection Delay, s/veh / LOS	5.9						A					



--- Messages ---

No errors or warnings exist.

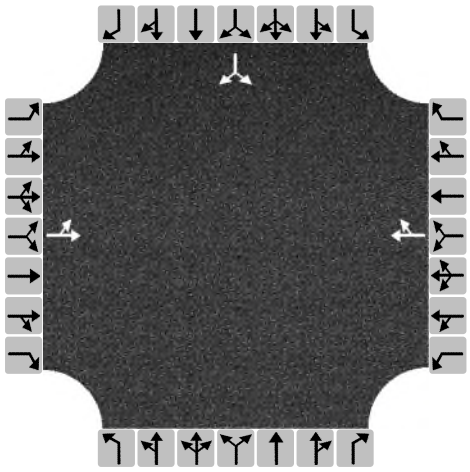
--- Comments ---

HCS All-Way Stop Control Report

General and Site Information

Analyst	AG
Agency/Co.	Eriksson
Date Performed	9/9/2022
Analysis Year	2022
Analysis Time Period (hrs)	0.25
Time Analyzed	AM Peak
Project Description	Olive-Mary Stitt School
Intersection	Olive and Belmont
Jurisdiction	Arlington Heights
East/West Street	Olive Street
North/South Street	Belmont Avenue
Peak Hour Factor	0.64

Lanes



Turning Movement Demand Volumes

Approach	Eastbound			Westbound			Northbound			Southbound		
Movement	L	T	R	L	T	R	L	T	R	L	T	R
Volume (veh/h)	7	97			77	14				17		12
% Thrus in Shared Lane												

Lane Flow Rate and Adjustments

Approach	Eastbound			Westbound			Northbound			Southbound		
Lane	L1	L2	L3	L1	L2	L3	L1	L2	L3	L1	L2	L3
Configuration	LT			TR						LR		
Flow Rate, v (veh/h)	163			142						45		
Percent Heavy Vehicles	0			0						0		
Initial Departure Headway, h_d (s)	3.20			3.20						3.20		
Initial Degree of Utilization, x	0.144			0.126						0.040		
Final Departure Headway, h_d (s)	4.16			4.07						4.41		
Final Degree of Utilization, x	0.188			0.161						0.056		
Move-Up Time, m (s)	2.0			2.0						2.0		
Service Time, t_s (s)	2.16			2.07						2.41		

Capacity, Delay and Level of Service

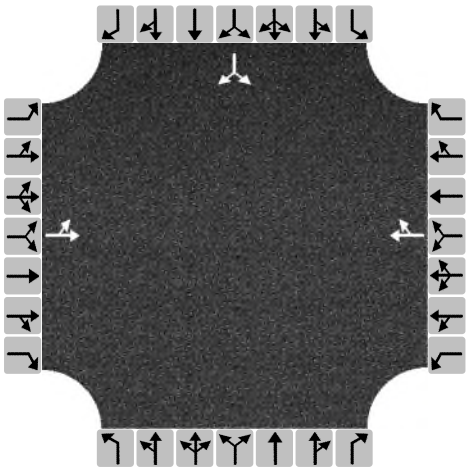
Approach	Eastbound			Westbound			Northbound			Southbound		
Lane	L1	L2	L3	L1	L2	L3	L1	L2	L3	L1	L2	L3
Configuration	LT			TR						LR		
Flow Rate, v (veh/h)	163			142						45		
Capacity (veh/h)	866			884						816		
95% Queue Length, Q_{95} (veh)	0.7			0.6						0.2		
Control Delay (s/veh)	8.1			7.9						7.7		
Level of Service, LOS	A			A						A		
Approach Delay (s/veh) | LOS	8.1	A		7.9	A					7.7	A	
Intersection Delay (s/veh) | LOS	8.0						A					

HCS All-Way Stop Control Report

General and Site Information

Analyst	AG
Agency/Co.	Eriksson
Date Performed	9/9/2022
Analysis Year	2028
Analysis Time Period (hrs)	0.25
Time Analyzed	AM Peak
Project Description	Olive-Mary Stitt School
Intersection	Olive and Belmont
Jurisdiction	Arlington Heights
East/West Street	Olive Street
North/South Street	Belmont Avenue
Peak Hour Factor	0.64

Lanes



Turning Movement Demand Volumes

Approach	Eastbound			Westbound			Northbound			Southbound		
Movement	L	T	R	L	T	R	L	T	R	L	T	R
Volume (veh/h)	7	101			79	14				19		12
% Thrus in Shared Lane												

Lane Flow Rate and Adjustments

Approach	Eastbound			Westbound			Northbound			Southbound		
Lane	L1	L2	L3	L1	L2	L3	L1	L2	L3	L1	L2	L3
Configuration	LT			TR						LR		
Flow Rate, v (veh/h)	169			145						48		
Percent Heavy Vehicles	0			0						0		
Initial Departure Headway, h_d (s)	3.20			3.20						3.20		
Initial Degree of Utilization, x	0.150			0.129						0.043		
Final Departure Headway, h_d (s)	4.17			4.09						4.45		
Final Degree of Utilization, x	0.195			0.165						0.060		
Move-Up Time, m (s)	2.0			2.0						2.0		
Service Time, t_s (s)	2.17			2.09						2.45		

Capacity, Delay and Level of Service

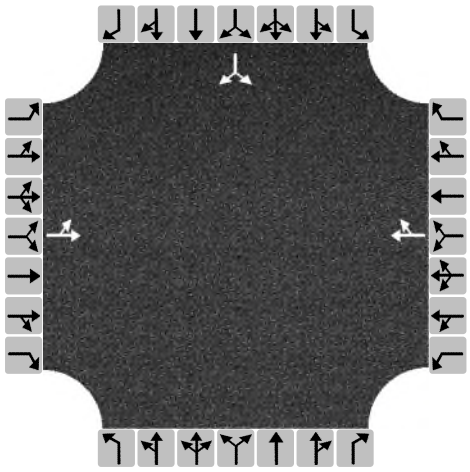
Approach	Eastbound			Westbound			Northbound			Southbound		
Lane	L1	L2	L3	L1	L2	L3	L1	L2	L3	L1	L2	L3
Configuration	LT			TR						LR		
Flow Rate, v (veh/h)	169			145						48		
Capacity (veh/h)	864			880						809		
95% Queue Length, Q_{95} (veh)	0.7			0.6						0.2		
Control Delay (s/veh)	8.2			7.9						7.7		
Level of Service, LOS	A			A						A		
Approach Delay (s/veh) | LOS	8.2	A		7.9	A					7.7	A	
Intersection Delay (s/veh) | LOS	8.0						A					

HCS All-Way Stop Control Report

General and Site Information

Analyst	AG
Agency/Co.	Eriksson
Date Performed	9/9/2022
Analysis Year	2022
Analysis Time Period (hrs)	0.25
Time Analyzed	PM Peak
Project Description	Olive-Mary Stitt School
Intersection	Olive and Belmont
Jurisdiction	Arlington Heights
East/West Street	Olive Street
North/South Street	Belmont Avenue
Peak Hour Factor	0.75

Lanes



Turning Movement Demand Volumes

Approach	Eastbound			Westbound			Northbound			Southbound		
Movement	L	T	R	L	T	R	L	T	R	L	T	R
Volume (veh/h)	5	69			104	2				22		20
% Thrus in Shared Lane												

Lane Flow Rate and Adjustments

Approach	Eastbound			Westbound			Northbound			Southbound		
Lane	L1	L2	L3	L1	L2	L3	L1	L2	L3	L1	L2	L3
Configuration	LT			TR						LR		
Flow Rate, v (veh/h)	99			141						56		
Percent Heavy Vehicles	2			2						2		
Initial Departure Headway, h_d (s)	3.20			3.20						3.20		
Initial Degree of Utilization, x	0.088			0.126						0.050		
Final Departure Headway, h_d (s)	4.22			4.15						4.27		
Final Degree of Utilization, x	0.116			0.163						0.066		
Move-Up Time, m (s)	2.0			2.0						2.0		
Service Time, t_s (s)	2.22			2.15						2.27		

Capacity, Delay and Level of Service

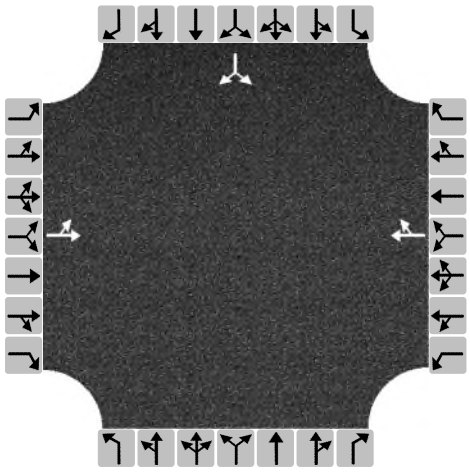
Approach	Eastbound			Westbound			Northbound			Southbound		
Lane	L1	L2	L3	L1	L2	L3	L1	L2	L3	L1	L2	L3
Configuration	LT			TR						LR		
Flow Rate, v (veh/h)	99			141						56		
Capacity (veh/h)	854			867						843		
95% Queue Length, Q_{95} (veh)	0.4			0.6						0.2		
Control Delay (s/veh)	7.8			8.0						7.6		
Level of Service, LOS	A			A						A		
Approach Delay (s/veh) | LOS	7.8	A		8.0	A					7.6	A	
Intersection Delay (s/veh) | LOS	7.8						A					

HCS All-Way Stop Control Report

General and Site Information

Analyst	AG
Agency/Co.	Eriksson
Date Performed	9/9/2022
Analysis Year	2028
Analysis Time Period (hrs)	0.25
Time Analyzed	PM Peak
Project Description	Olive-Mary Stitt School
Intersection	Olive and Belmont
Jurisdiction	Arlington Heights
East/West Street	Olive Street
North/South Street	Belmont Avenue
Peak Hour Factor	0.75

Lanes



Turning Movement Demand Volumes

Approach	Eastbound			Westbound			Northbound			Southbound		
Movement	L	T	R	L	T	R	L	T	R	L	T	R
Volume (veh/h)	5	70			106	2				22		20
% Thrus in Shared Lane												

Lane Flow Rate and Adjustments

Approach	Eastbound			Westbound			Northbound			Southbound		
Lane	L1	L2	L3	L1	L2	L3	L1	L2	L3	L1	L2	L3
Configuration	LT			TR						LR		
Flow Rate, v (veh/h)	100			144						56		
Percent Heavy Vehicles	0			0						0		
Initial Departure Headway, h_d (s)	3.20			3.20						3.20		
Initial Degree of Utilization, x	0.089			0.128						0.050		
Final Departure Headway, h_d (s)	4.18			4.12						4.24		
Final Degree of Utilization, x	0.116			0.165						0.066		
Move-Up Time, m (s)	2.0			2.0						2.0		
Service Time, t_s (s)	2.18			2.12						2.24		

Capacity, Delay and Level of Service

Approach	Eastbound			Westbound			Northbound			Southbound		
Lane	L1	L2	L3	L1	L2	L3	L1	L2	L3	L1	L2	L3
Configuration	LT			TR						LR		
Flow Rate, v (veh/h)	100			144						56		
Capacity (veh/h)	861			875						849		
95% Queue Length, Q_{95} (veh)	0.4			0.6						0.2		
Control Delay (s/veh)	7.7			7.9						7.5		
Level of Service, LOS	A			A						A		
Approach Delay (s/veh) | LOS	7.7	A		7.9	A					7.5	A	
Intersection Delay (s/veh) | LOS	7.8						A					

HCS Two-Way Stop-Control Report

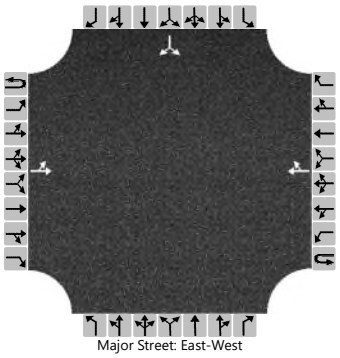
General Information

Analyst	AG
Agency/Co.	Eriksson
Date Performed	9/9/2022
Analysis Year	2022
Time Analyzed	AM Peak
Intersection Orientation	East-West
Project Description	Olive-Mary Stitt

Site Information

Intersection	Olive and Church Lot
Jurisdiction	Arlington Heights
East/West Street	Olive Street
North/South Street	Church Lot
Peak Hour Factor	0.40
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	0	1	0		0	0	0		0	1	0
Configuration		LT						TR							LR	
Volume (veh/h)		15	99				83	8						6		8
Percent Heavy Vehicles (%)		0												0		0
Proportion Time Blocked																
Percent Grade (%)														0		
Right Turn Channelized																
Median Type | Storage	Undivided															

Critical and Follow-up Headways

Base Critical Headway (sec)		4.1												7.1		6.2
Critical Headway (sec)		4.10												6.40		6.20
Base Follow-Up Headway (sec)		2.2												3.5		3.3
Follow-Up Headway (sec)		2.20												3.50		3.30

Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)		38													35	
Capacity, c (veh/h)		1345													594	
v/c Ratio		0.03													0.06	
95% Queue Length, Q_{95} (veh)		0.1													0.2	
Control Delay (s/veh)		7.8	0.3												11.4	
Level of Service (LOS)		A	A												B	
Approach Delay (s/veh)	1.2												11.4			
Approach LOS	A												B			

HCS Two-Way Stop-Control Report

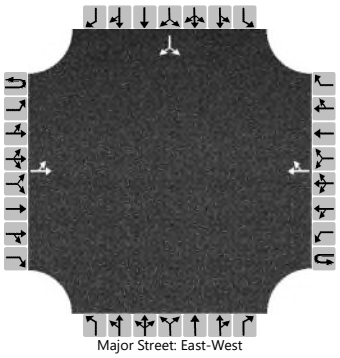
General Information

Analyst	AG
Agency/Co.	Eriksson
Date Performed	9/9/2022
Analysis Year	2028
Time Analyzed	AM Peak
Intersection Orientation	East-West
Project Description	Olive-Mary Stitt

Site Information

Intersection	Olive and Church Lot
Jurisdiction	Arlington Heights
East/West Street	Olive Street
North/South Street	Church Lot
Peak Hour Factor	0.40
Analysis Time Period (hrs)	0.25

Lanes



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	0	1	0		0	0	0		0	1	0
Configuration		LT						TR							LR	
Volume (veh/h)		16	104				84	8						6		9
Percent Heavy Vehicles (%)		0												0		0
Proportion Time Blocked																
Percent Grade (%)														0		
Right Turn Channelized																
Median Type | Storage	Undivided															

Critical and Follow-up Headways

Base Critical Headway (sec)		4.1												7.1		6.2
Critical Headway (sec)		4.10												6.40		6.20
Base Follow-Up Headway (sec)		2.2												3.5		3.3
Follow-Up Headway (sec)		2.20												3.50		3.30

Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)		40													38	
Capacity, c (veh/h)		1350													638	
v/c Ratio		0.03													0.06	
95% Queue Length, Q_{95} (veh)		0.1													0.2	
Control Delay (s/veh)		7.7	0.3												11.0	
Level of Service (LOS)		A	A												B	
Approach Delay (s/veh)	1.3												11.0			
Approach LOS	A												B			

HCS Two-Way Stop-Control Report

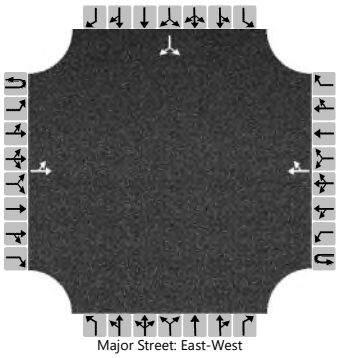
General Information

Analyst	AG
Agency/Co.	Eriksson
Date Performed	9/9/2022
Analysis Year	2022
Time Analyzed	PM Peak
Intersection Orientation	East-West
Project Description	Olive-Mary Stitt

Site Information

Intersection	Olive and Church Lot
Jurisdiction	Arlington Heights
East/West Street	Olive Street
North/South Street	Church Lot
Peak Hour Factor	0.52
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	0	1	0		0	0	0		0	1	0
Configuration		LT						TR							LR	
Volume (veh/h)		5	86				100	7						5		6
Percent Heavy Vehicles (%)		0												0		0
Proportion Time Blocked																
Percent Grade (%)														0		
Right Turn Channelized																
Median Type | Storage	Undivided															

Critical and Follow-up Headways

Base Critical Headway (sec)		4.1												7.1		6.2
Critical Headway (sec)		4.10												6.40		6.20
Base Follow-Up Headway (sec)		2.2												3.5		3.3
Follow-Up Headway (sec)		2.20												3.50		3.30

Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)		10													21	
Capacity, c (veh/h)		1370													676	
v/c Ratio		0.01													0.03	
95% Queue Length, Q_{95} (veh)		0.0													0.1	
Control Delay (s/veh)		7.6	0.1												10.5	
Level of Service (LOS)		A	A												B	
Approach Delay (s/veh)	0.5												10.5			
Approach LOS	A												B			

HCS Two-Way Stop-Control Report

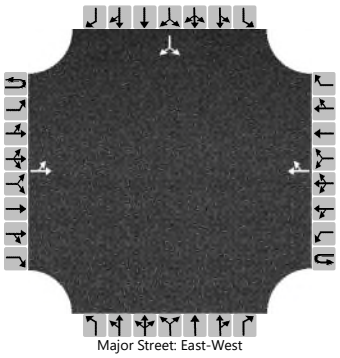
General Information

Analyst	AG
Agency/Co.	Eriksson
Date Performed	9/9/2022
Analysis Year	2028
Time Analyzed	PM Peak
Intersection Orientation	East-West
Project Description	Olive-Mary Stitt

Site Information

Intersection	Olive and Church Lot
Jurisdiction	Arlington Heights
East/West Street	Olive Street
North/South Street	Church Lot
Peak Hour Factor	0.52
Analysis Time Period (hrs)	0.25

Lanes



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	0	1	0		0	0	0		0	1	0
Configuration		LT						TR							LR	
Volume (veh/h)		7	88				102	7						5		6
Percent Heavy Vehicles (%)		0												0		0
Proportion Time Blocked																
Percent Grade (%)														0		
Right Turn Channelized																
Median Type | Storage	Undivided															

Critical and Follow-up Headways

Base Critical Headway (sec)		4.1												7.1		6.2
Critical Headway (sec)		4.10												6.40		6.20
Base Follow-Up Headway (sec)		2.2												3.5		3.3
Follow-Up Headway (sec)		2.20												3.50		3.30

Delay, Queue Length, and Level of Service

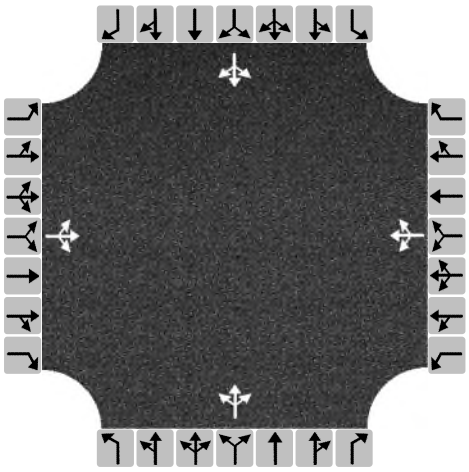
Flow Rate, v (veh/h)		13													21	
Capacity, c (veh/h)		1366													666	
v/c Ratio		0.01													0.03	
95% Queue Length, Q_{95} (veh)		0.0													0.1	
Control Delay (s/veh)		7.7	0.1												10.6	
Level of Service (LOS)		A	A												B	
Approach Delay (s/veh)	0.6												10.6			
Approach LOS	A												B			

HCS All-Way Stop Control Report

General and Site Information

Analyst	AG
Agency/Co.	Eriksson
Date Performed	11/9/2022
Analysis Year	2022
Analysis Time Period (hrs)	0.25
Time Analyzed	AM Peak
Project Description	Olive-Mary Stitt Elementary School
Intersection	Olive and Douglas
Jurisdiction	Arlington Heights
East/West Street	Olive Street
North/South Street	Douglas Avenue
Peak Hour Factor	0.50

Lanes



Turning Movement Demand Volumes

Approach	Eastbound			Westbound			Northbound			Southbound		
Movement	L	T	R	L	T	R	L	T	R	L	T	R
Volume (veh/h)	26	70	53	9	80	14	39	24	1	5	19	19
% Thrus in Shared Lane												

Lane Flow Rate and Adjustments

Approach	Eastbound			Westbound			Northbound			Southbound		
Lane	L1	L2	L3	L1	L2	L3	L1	L2	L3	L1	L2	L3
Configuration	LTR			LTR			LTR			LTR		
Flow Rate, v (veh/h)	298			206			128			86		
Percent Heavy Vehicles	0			0			0			0		
Initial Departure Headway, h_d (s)	3.20			3.20			3.20			3.20		
Initial Degree of Utilization, x	0.265			0.183			0.114			0.076		
Final Departure Headway, h_d (s)	4.56			4.78			5.34			5.06		
Final Degree of Utilization, x	0.378			0.274			0.190			0.121		
Move-Up Time, m (s)	2.0			2.0			2.0			2.0		
Service Time, t_s (s)	2.56			2.78			3.34			3.06		

Capacity, Delay and Level of Service

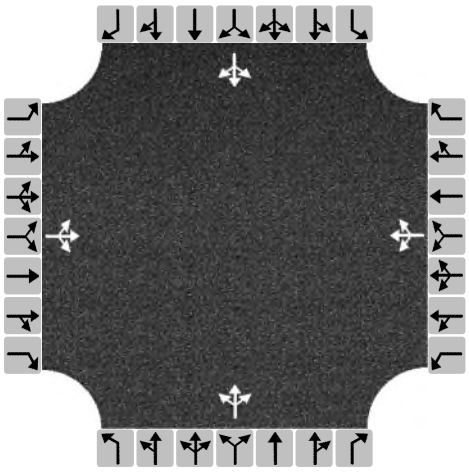
Approach	Eastbound			Westbound			Northbound			Southbound		
Lane	L1	L2	L3	L1	L2	L3	L1	L2	L3	L1	L2	L3
Configuration	LTR			LTR			LTR			LTR		
Flow Rate, v (veh/h)	298			206			128			86		
Capacity (veh/h)	789			753			674			711		
95% Queue Length, Q_{95} (veh)	1.8			1.1			0.7			0.4		
Control Delay (s/veh)	10.3			9.6			9.6			8.8		
Level of Service, LOS	B			A			A			A		
Approach Delay (s/veh) | LOS	10.3	B		9.6	A		9.6	A		8.8	A	
Intersection Delay (s/veh) | LOS	9.8						A					

HCS All-Way Stop Control Report

General and Site Information

Analyst	AG
Agency/Co.	Eriksson
Date Performed	11/9/2022
Analysis Year	2022
Analysis Time Period (hrs)	0.25
Time Analyzed	AM Peak
Project Description	Olive-Mary Stitt Elementary School
Intersection	Olive and Douglas
Jurisdiction	Arlington Heights
East/West Street	Olive Street
North/South Street	Douglas Avenue
Peak Hour Factor	0.50

Lanes



Turning Movement Demand Volumes

Approach	Eastbound			Westbound			Northbound			Southbound		
Movement	L	T	R	L	T	R	L	T	R	L	T	R
Volume (veh/h)	27	76	55	9	83	14	40	24	1	5	19	20
% Thrus in Shared Lane												

Lane Flow Rate and Adjustments

Approach	Eastbound			Westbound			Northbound			Southbound		
Lane	L1	L2	L3	L1	L2	L3	L1	L2	L3	L1	L2	L3
Configuration	LTR			LTR			LTR			LTR		
Flow Rate, v (veh/h)	316			212			130			88		
Percent Heavy Vehicles	0			0			0			0		
Initial Departure Headway, h_d (s)	3.20			3.20			3.20			3.20		
Initial Degree of Utilization, x	0.281			0.188			0.116			0.078		
Final Departure Headway, h_d (s)	4.60			4.83			5.41			5.13		
Final Degree of Utilization, x	0.403			0.284			0.195			0.125		
Move-Up Time, m (s)	2.0			2.0			2.0			2.0		
Service Time, t_s (s)	2.60			2.83			3.41			3.13		

Capacity, Delay and Level of Service

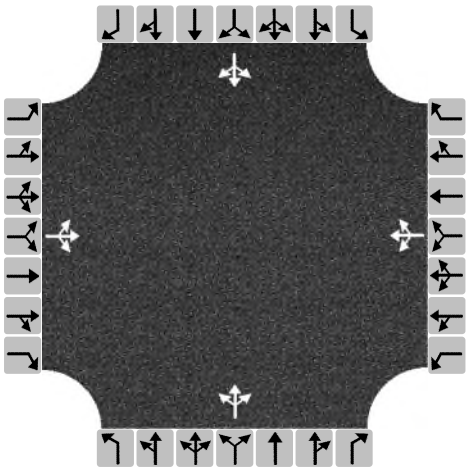
Approach	Eastbound			Westbound			Northbound			Southbound		
Lane	L1	L2	L3	L1	L2	L3	L1	L2	L3	L1	L2	L3
Configuration	LTR			LTR			LTR			LTR		
Flow Rate, v (veh/h)	316			212			130			88		
Capacity (veh/h)	783			746			666			702		
95% Queue Length, Q_{95} (veh)	2.0			1.2			0.7			0.4		
Control Delay (s/veh)	10.7			9.7			9.7			8.9		
Level of Service, LOS	B			A			A			A		
Approach Delay (s/veh) | LOS	10.7	B		9.7	A		9.7	A		8.9	A	
Intersection Delay (s/veh) | LOS	10.0						B					

HCS All-Way Stop Control Report

General and Site Information

Analyst	AG
Agency/Co.	Eriksson
Date Performed	11/9/2022
Analysis Year	2022
Analysis Time Period (hrs)	0.25
Time Analyzed	PM Peak
Project Description	Olive-Mary Stitt Elementary School
Intersection	Olive and Douglas
Jurisdiction	Arlington Heights
East/West Street	Olive Street
North/South Street	Douglas Avenue
Peak Hour Factor	0.84

Lanes



Turning Movement Demand Volumes

Approach	Eastbound			Westbound			Northbound			Southbound		
Movement	L	T	R	L	T	R	L	T	R	L	T	R
Volume (veh/h)	11	62	35	20	93	6	24	22	10	10	36	7
% Thrus in Shared Lane												

Lane Flow Rate and Adjustments

Approach	Eastbound			Westbound			Northbound			Southbound		
Lane	L1	L2	L3	L1	L2	L3	L1	L2	L3	L1	L2	L3
Configuration	LTR			LTR			LTR			LTR		
Flow Rate, v (veh/h)	129			142			67			63		
Percent Heavy Vehicles	0			0			0			0		
Initial Departure Headway, h_d (s)	3.20			3.20			3.20			3.20		
Initial Degree of Utilization, x	0.114			0.126			0.059			0.056		
Final Departure Headway, h_d (s)	4.19			4.35			4.56			4.54		
Final Degree of Utilization, x	0.150			0.171			0.084			0.080		
Move-Up Time, m (s)	2.0			2.0			2.0			2.0		
Service Time, t_s (s)	2.19			2.35			2.56			2.54		

Capacity, Delay and Level of Service

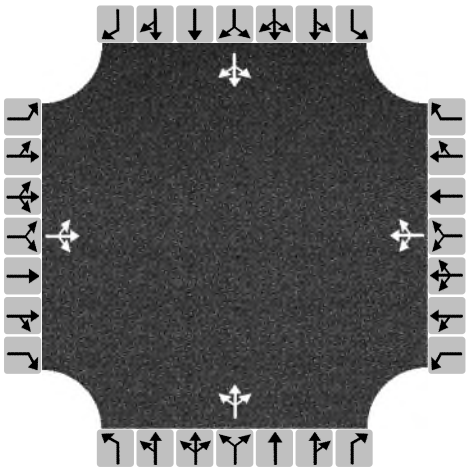
Approach	Eastbound			Westbound			Northbound			Southbound		
Lane	L1	L2	L3	L1	L2	L3	L1	L2	L3	L1	L2	L3
Configuration	LTR			LTR			LTR			LTR		
Flow Rate, v (veh/h)	129			142			67			63		
Capacity (veh/h)	859			828			790			792		
95% Queue Length, Q_{95} (veh)	0.5			0.6			0.3			0.3		
Control Delay (s/veh)	7.9			8.2			8.0			7.9		
Level of Service, LOS	A			A			A			A		
Approach Delay (s/veh) | LOS	7.9	A		8.2	A		8.0	A		7.9	A	
Intersection Delay (s/veh) | LOS	8.1						A					

HCS All-Way Stop Control Report

General and Site Information

Analyst	AG
Agency/Co.	Eriksson
Date Performed	11/9/2022
Analysis Year	2022
Analysis Time Period (hrs)	0.25
Time Analyzed	PM Peak
Project Description	Olive-Mary Stitt Elementary School
Intersection	Olive and Douglas
Jurisdiction	Arlington Heights
East/West Street	Olive Street
North/South Street	Douglas Avenue
Peak Hour Factor	0.84

Lanes



Turning Movement Demand Volumes

Approach	Eastbound			Westbound			Northbound			Southbound		
Movement	L	T	R	L	T	R	L	T	R	L	T	R
Volume (veh/h)	11	64	36	20	96	6	24	22	10	10	36	7
% Thrus in Shared Lane												

Lane Flow Rate and Adjustments

Approach	Eastbound			Westbound			Northbound			Southbound		
Lane	L1	L2	L3	L1	L2	L3	L1	L2	L3	L1	L2	L3
Configuration	LTR			LTR			LTR			LTR		
Flow Rate, v (veh/h)	132			145			67			63		
Percent Heavy Vehicles	0			0			0			0		
Initial Departure Headway, h_d (s)	3.20			3.20			3.20			3.20		
Initial Degree of Utilization, x	0.117			0.129			0.059			0.056		
Final Departure Headway, h_d (s)	4.20			4.36			4.58			4.56		
Final Degree of Utilization, x	0.154			0.176			0.085			0.080		
Move-Up Time, m (s)	2.0			2.0			2.0			2.0		
Service Time, t_s (s)	2.20			2.36			2.58			2.56		

Capacity, Delay and Level of Service

Approach	Eastbound			Westbound			Northbound			Southbound		
Lane	L1	L2	L3	L1	L2	L3	L1	L2	L3	L1	L2	L3
Configuration	LTR			LTR			LTR			LTR		
Flow Rate, v (veh/h)	132			145			67			63		
Capacity (veh/h)	858			827			787			789		
95% Queue Length, Q_{95} (veh)	0.5			0.6			0.3			0.3		
Control Delay (s/veh)	8.0			8.3			8.0			8.0		
Level of Service, LOS	A			A			A			A		
Approach Delay (s/veh) | LOS	8.0	A		8.3	A		8.0	A		8.0	A	
Intersection Delay (s/veh) | LOS	8.1						A					

HCS Two-Way Stop-Control Report

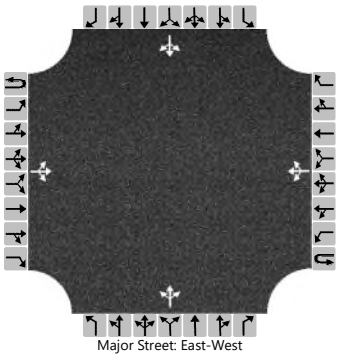
General Information

Analyst	AG
Agency/Co.	Eriksson
Date Performed	9/9/2022
Analysis Year	2022
Time Analyzed	AM Peak
Intersection Orientation	East-West
Project Description	Olive-Mary Stitt

Site Information

Intersection	Olive and Haddow
Jurisdiction	Arlington Heights
East/West Street	Olive Street
North/South Street	Haddow Avenue
Peak Hour Factor	0.54
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	0	1	0		0	1	0		0	1	0
Configuration			LTR				LTR				LTR				LTR	
Volume (veh/h)		4	54	47		70	64	4		18	4	93		2	1	9
Percent Heavy Vehicles (%)		0				0				0	0	0		0	0	0
Proportion Time Blocked																
Percent Grade (%)									0				0			
Right Turn Channelized																
Median Type | Storage	Undivided															

Critical and Follow-up Headways

Base Critical Headway (sec)		4.1				4.1				7.1	6.5	6.2		7.1	6.5	6.2
Critical Headway (sec)		4.10				4.10				7.10	6.50	6.20		7.10	6.50	6.20
Base Follow-Up Headway (sec)		2.2				2.2				3.5	4.0	3.3		3.5	4.0	3.3
Follow-Up Headway (sec)		2.20				2.20				3.50	4.00	3.30		3.50	4.00	3.30

Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)		7				130					213				22	
Capacity, c (veh/h)		1465				1399					676				594	
v/c Ratio		0.01				0.09					0.32				0.04	
95% Queue Length, Q_{95} (veh)		0.0				0.3					1.3				0.1	
Control Delay (s/veh)		7.5	0.0	0.0		7.8	0.8	0.8			12.8				11.3	
Level of Service (LOS)		A	A	A		A	A	A			B				B	
Approach Delay (s/veh)	0.3				4.4				12.8				11.3			
Approach LOS	A				A				B				B			

HCS Two-Way Stop-Control Report

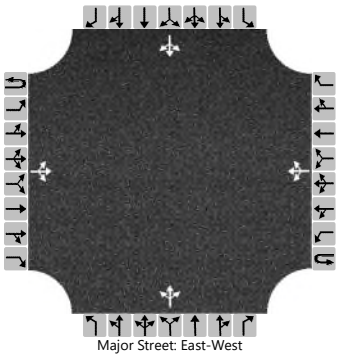
General Information

Analyst	AG
Agency/Co.	Eriksson
Date Performed	9/9/2022
Analysis Year	2022
Time Analyzed	AM Peak
Intersection Orientation	East-West
Project Description	Olive-Mary Stitt

Site Information

Intersection	Olive and Haddow
Jurisdiction	Arlington Heights
East/West Street	Olive Street
North/South Street	Haddow Avenue
Peak Hour Factor	0.54
Analysis Time Period (hrs)	0.25

Lanes



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	0	1	0		0	1	0		0	1	0
Configuration			LTR				LTR				LTR				LTR	
Volume (veh/h)		4	56	50		75	64	4		19	4	100		2	1	9
Percent Heavy Vehicles (%)		0				0				0	0	0		0	0	0
Proportion Time Blocked																
Percent Grade (%)										0				0		
Right Turn Channelized																
Median Type | Storage			Undivided													

Critical and Follow-up Headways

Base Critical Headway (sec)		4.1				4.1				7.1	6.5	6.2		7.1	6.5	6.2
Critical Headway (sec)		4.10				4.10				7.10	6.50	6.20		7.10	6.50	6.20
Base Follow-Up Headway (sec)		2.2				2.2				3.5	4.0	3.3		3.5	4.0	3.3
Follow-Up Headway (sec)		2.20				2.20				3.50	4.00	3.30		3.50	4.00	3.30

Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)		7				139					228				22	
Capacity, c (veh/h)		1465				1389					664				572	
v/c Ratio		0.01				0.10					0.34				0.04	
95% Queue Length, Q_{95} (veh)		0.0				0.3					1.5				0.1	
Control Delay (s/veh)		7.5	0.0	0.0		7.9	0.8	0.8			13.2				11.6	
Level of Service (LOS)		A	A	A		A	A	A			B				B	
Approach Delay (s/veh)	0.3				4.5				13.2				11.6			
Approach LOS	A				A				B				B			

HCS Two-Way Stop-Control Report

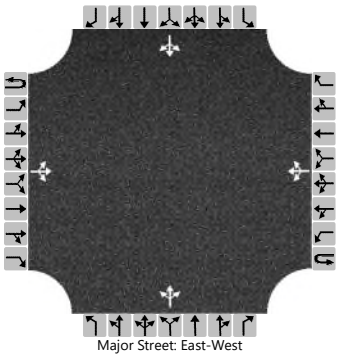
General Information

Analyst	AG
Agency/Co.	Eriksson
Date Performed	9/9/2022
Analysis Year	2022
Time Analyzed	PM Peak
Intersection Orientation	East-West
Project Description	Olive-Mary Stitt

Site Information

Intersection	Olive and Haddow
Jurisdiction	Arlington Heights
East/West Street	Olive Street
North/South Street	Haddow Avenue
Peak Hour Factor	0.88
Analysis Time Period (hrs)	0.25

Lanes



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	0	1	0		0	1	0		0	1	0
Configuration			LTR				LTR				LTR				LTR	
Volume (veh/h)		4	68	19		25	92	7		11	2	35		5	0	4
Percent Heavy Vehicles (%)		0				0				0	0	0		0	0	0
Proportion Time Blocked																
Percent Grade (%)									0				0			
Right Turn Channelized																
Median Type | Storage	Undivided															

Critical and Follow-up Headways

Base Critical Headway (sec)		4.1				4.1				7.1	6.5	6.2		7.1	6.5	6.2
Critical Headway (sec)		4.10				4.10				7.10	6.50	6.20		7.10	6.50	6.20
Base Follow-Up Headway (sec)		2.2				2.2				3.5	4.0	3.3		3.5	4.0	3.3
Follow-Up Headway (sec)		2.20				2.20				3.50	4.00	3.30		3.50	4.00	3.30

Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)		5				28					55				10	
Capacity, c (veh/h)		1490				1499					841				710	
v/c Ratio		0.00				0.02					0.06				0.01	
95% Queue Length, Q_{95} (veh)		0.0				0.1					0.2				0.0	
Control Delay (s/veh)		7.4	0.0	0.0		7.4	0.2	0.2			9.6				10.1	
Level of Service (LOS)		A	A	A		A	A	A			A				B	
Approach Delay (s/veh)	0.3				1.6				9.6				10.1			
Approach LOS	A				A				A				B			

HCS Two-Way Stop-Control Report

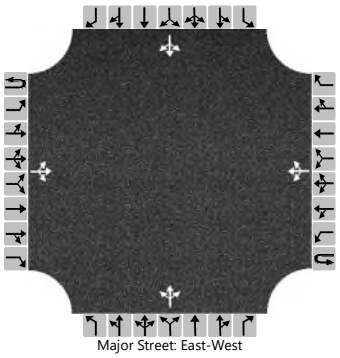
General Information

Analyst	AG
Agency/Co.	Eriksson
Date Performed	9/9/2022
Analysis Year	2022
Time Analyzed	PM Peak
Intersection Orientation	East-West
Project Description	Olive-Mary Stitt

Site Information

Intersection	Olive and Haddow
Jurisdiction	Arlington Heights
East/West Street	Olive Street
North/South Street	Haddow Avenue
Peak Hour Factor	0.88
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	0	1	0		0	1	0		0	1	0
Configuration			LTR				LTR				LTR				LTR	
Volume (veh/h)		4	68	21		27	93	7		12	2	38		5	0	4
Percent Heavy Vehicles (%)		0				0				0	0	0		0	0	0
Proportion Time Blocked																
Percent Grade (%)									0				0			
Right Turn Channelized																
Median Type | Storage	Undivided															

Critical and Follow-up Headways

Base Critical Headway (sec)		4.1				4.1				7.1	6.5	6.2		7.1	6.5	6.2
Critical Headway (sec)		4.10				4.10				7.10	6.50	6.20		7.10	6.50	6.20
Base Follow-Up Headway (sec)		2.2				2.2				3.5	4.0	3.3		3.5	4.0	3.3
Follow-Up Headway (sec)		2.20				2.20				3.50	4.00	3.30		3.50	4.00	3.30

Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)		5				31					59				10	
Capacity, c (veh/h)		1488				1496					838				702	
v/c Ratio		0.00				0.02					0.07				0.01	
95% Queue Length, Q_{95} (veh)		0.0				0.1					0.2				0.0	
Control Delay (s/veh)		7.4	0.0	0.0		7.5	0.2	0.2			9.6				10.2	
Level of Service (LOS)		A	A	A		A	A	A			A				B	
Approach Delay (s/veh)	0.3				1.7				9.6				10.2			
Approach LOS	A				A				A				B			