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# Greenbrier Elementary School

## Traffic and Parking Study

### Arlington Heights, Illinois

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**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 proposed addition of all-day Kindergarten classes at Greenbrier School in Arlington Heights, Illinois. The purpose of the study was to observe the existing traffic patterns around the school, to determine the traffic characteristics of the existing and expanded school, to review its parking needs, and to develop roadway and parking recommendations.

## EXISTING CONDITIONS

### Site Location and Area Land-Uses

Greenbrier School is located at 2330 N. Verde Drive in Arlington Heights, Illinois. The site is bounded by Verde Drive to the east, Greenbrier Park to the north, and Roanoke Drive to the southwest within a single-family residential neighborhood. **Figure 1** illustrates the site location and the surrounding land-uses and roads.

### Bicycle and Pedestrian Routes

Verde and Alleghany Drives are designated on-street bike routes. An off-street bike route extends north thru Greenbrier Park west of the school. Public sidewalks are located on both sides of the surrounding neighborhood streets.

The All-Way Stop Controlled (AWSC) intersection of Verde and Roanoke Drives has crosswalks on the north and west legs. The intersection of Verde and Alleghany Drives has crosswalks on the north, south, and east legs. During the school's arrival and dismissal periods no crossing guards are used by the school.

### Roadway Characteristics

The roads surrounding the school are under the jurisdiction of the Village of Arlington Heights. A description of the area roadways accessing the school is provided below:

**Verde Drive** is a north-south local residential roadway with one travel lane in each direction. It has a 25-mph speed limit with a 20-mph school speed limit approaching the school. All-Way-Stop-Controlled intersections are provided at Alleghany and Roanoke Drives. No Standing, Parking or Stopping is posted on northbound Verde Drive between Roanoke and Alleghany Drives and on southbound Verde Drive from Greenbrier Park to the south side of the east parking area. Parking is permitted on the west side between the east parking area and Roanoke Drive except near the corners. Parking is permitted on both sides of Verde Drive south of Roanoke Drive.

**Roanoke Drive** is an east-west local residential roadway with one travel lane in each direction. It has a 25-mph speed limit with a 20-mph school speed limit approaching the school. Parking is permitted on both sides of the street.

**Alleghany Drive** is an east-west local residential roadway with one travel lane in each direction. It has a 25-mph speed limit with a 20-mph school speed limit approaching the school. Parking is permitted on both sides of the street.

### Existing Traffic Volumes

Weekday morning arrival (8:00-9:30 AM) and afternoon dismissal (2:30-4:00 PM) manual traffic counts were conducted along Verde and Roanoke Drives. Peak-hours of school traffic occurred from 8:15 to 9:15 AM and 3:00 to 4:00 PM on a school weekday which coincides with the school's 9:05 AM start and 3:35 PM dismissal times. The existing traffic volumes are shown on **Figure 3A** and included in the **Appendix**. EEA then separated the school traffic from the background non-school traffic in **Figures 3B and 3C**. **Figure 4** summarizes the existing pedestrian and bicycle volumes observed.

**School Observations**

Greenbrier School’s attendance boundaries are Palatine Road to the south, Rand Road to the northeast and IL Route 53 to the west. The school has staggered start and dismissal times as follows:

- 1. First thru 5<sup>th</sup> Grade – 9:05 AM to 3:35 PM
- 2. Half Day Kindergarten
  - a. 9:05 to 11:50 AM
  - b. 12:50 PM to 3:35 PM
- 3. Earl Childhood Program
  - a. 9:10 AM to 11:40 AM
  - b. 12:50 AM to 3:20 PM

In conjunction with the staggered school times, each class has specific traffic procedures to follow for arrival and dismissal. Copies of the procedures are included in the **Appendix**.

- 1. Kindergarten thru Fifth Grade – Use the west lot for arrival and dismissal
- 2. Early Childhood (Partial) - Use the east lot for arrival and dismissal
- 3. Early Childhood (Partial) – Use the west lot for arrival and dismissal

During the morning arrival period, traffic worked smoothly with little congestion. Parents were observed queueing on the north side of Roanoke Drive east of the school drive in anticipation of the second arrival period. As a result, cars were stacked side by side and blocking the westbound lane on Roanoke Drive. This left the south curb lane acting as a single lane used for two-way traffic along the south side of the school. This is an undesirable situation that must be addressed. **Exhibit 1** shows an aerial view of the morning arrival in the west parking lot.

**Exhibit 1  
Greenbrier School Arrival  
Thursday September 29, 2022 (8:59 AM)**

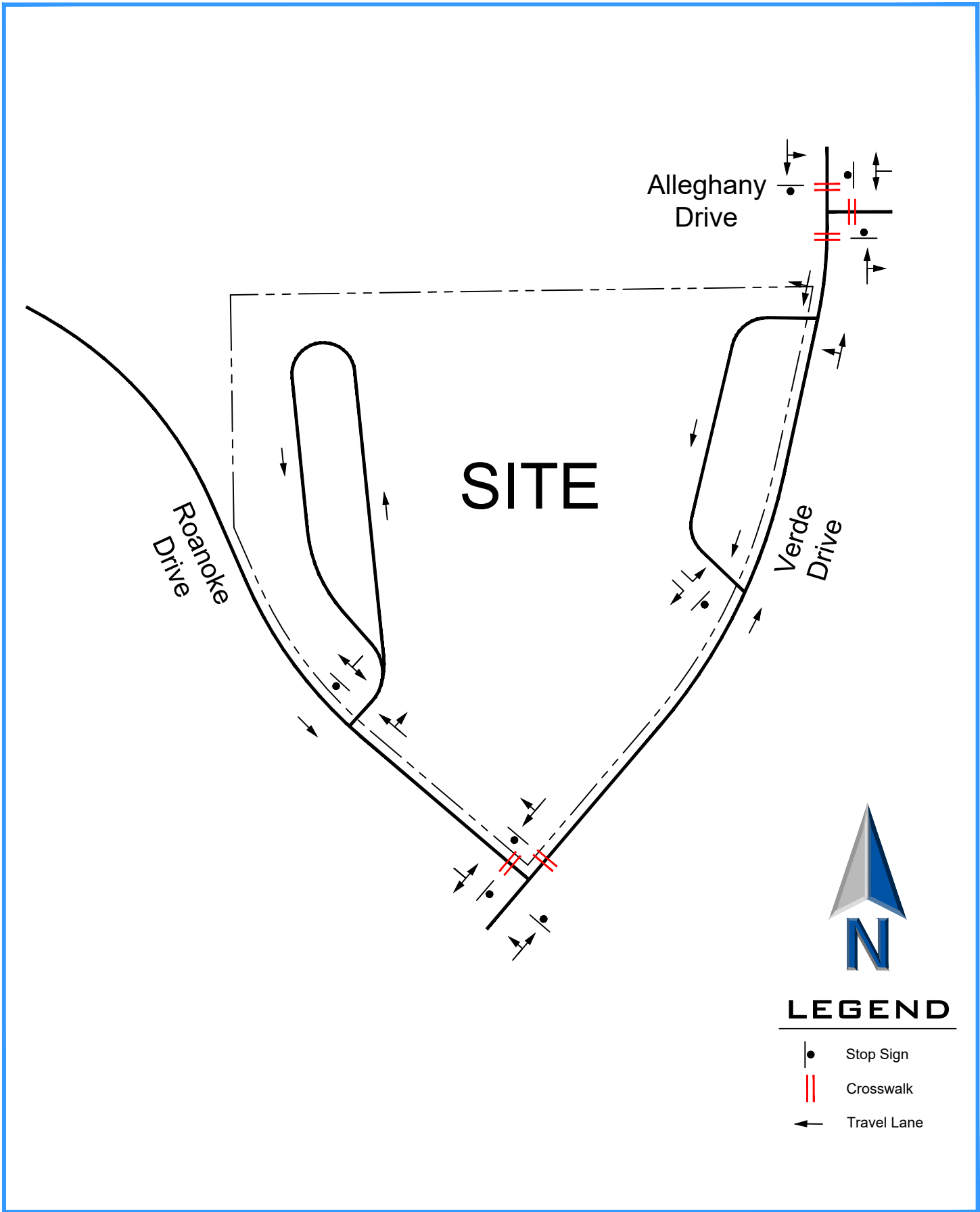


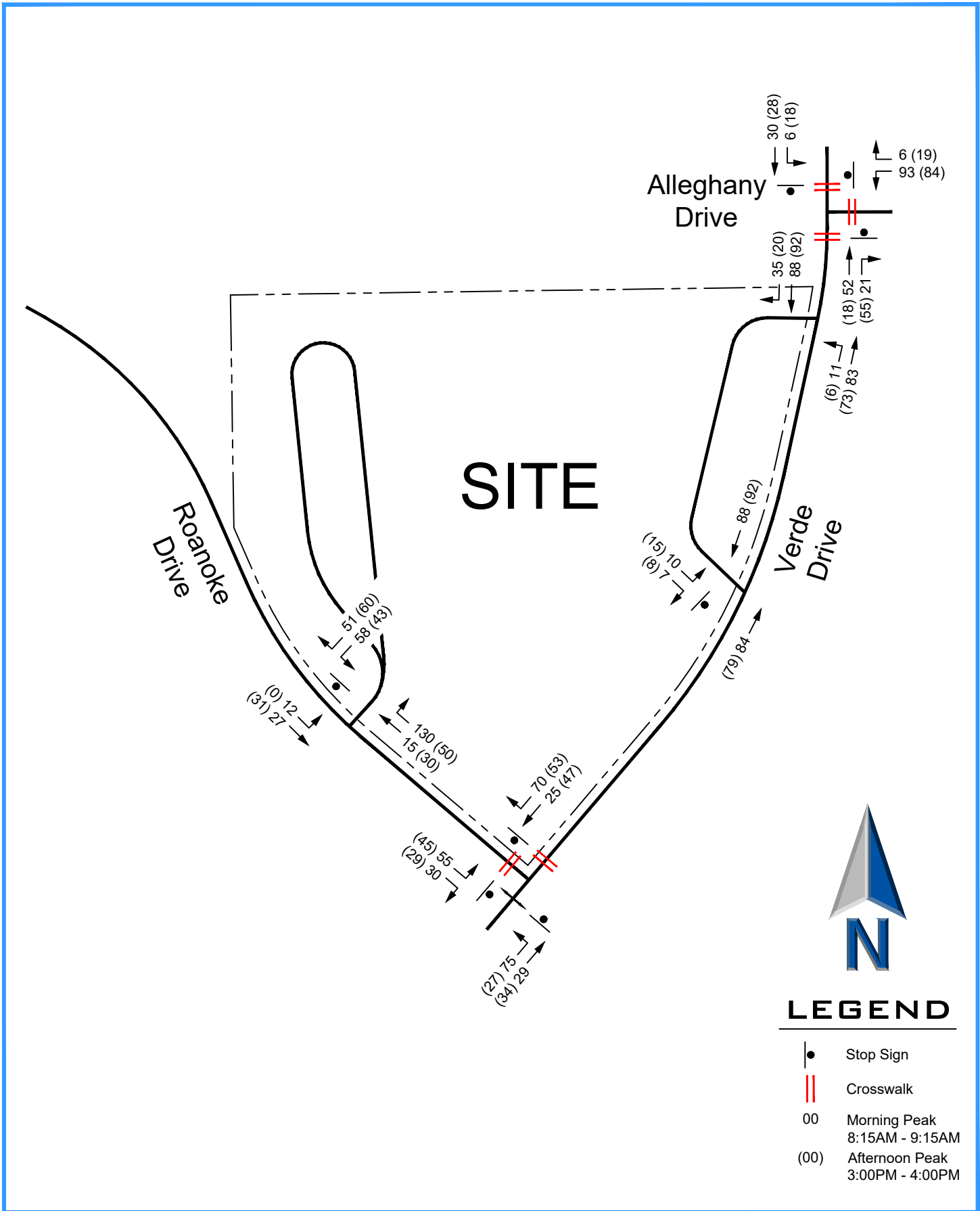
During the afternoon, parents started lining up around 3:07 PM in the west and east parking lots and on street. Parents were observed queuing on the north side of Roanoke Drive and the west side of Verde Drive in anticipation of the 3:35 PM dismissal. Parents arriving for the 3:20 PM early childhood dismissal started queuing in the west lot but eventually queued onto Roanoke Drive and Verde Drive next to the cars waiting for the later dismissal. As a result, cars were stacked side by side and blocking the westbound lane on Roanoke Drive. This left the south curb lane acting as a single lane used for two-way traffic along the south side of the school. This is an undesirable situation that must be addressed. **Exhibit 2** shows the afternoon dismissal period.

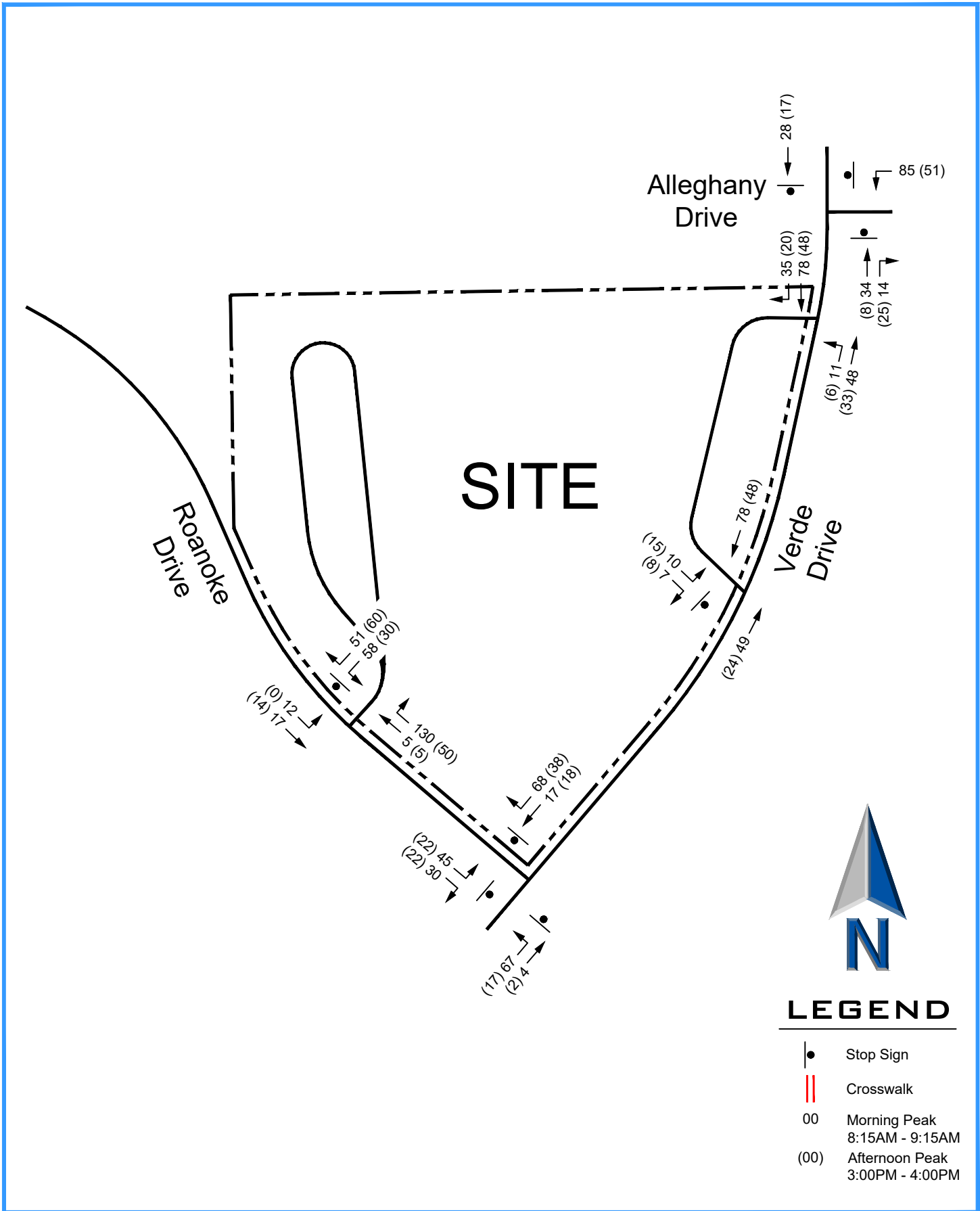
**Exhibit 2**  
**Greenbrier School Dismissal**  
**Thursday September 29, 2022 (3:36 PM )**



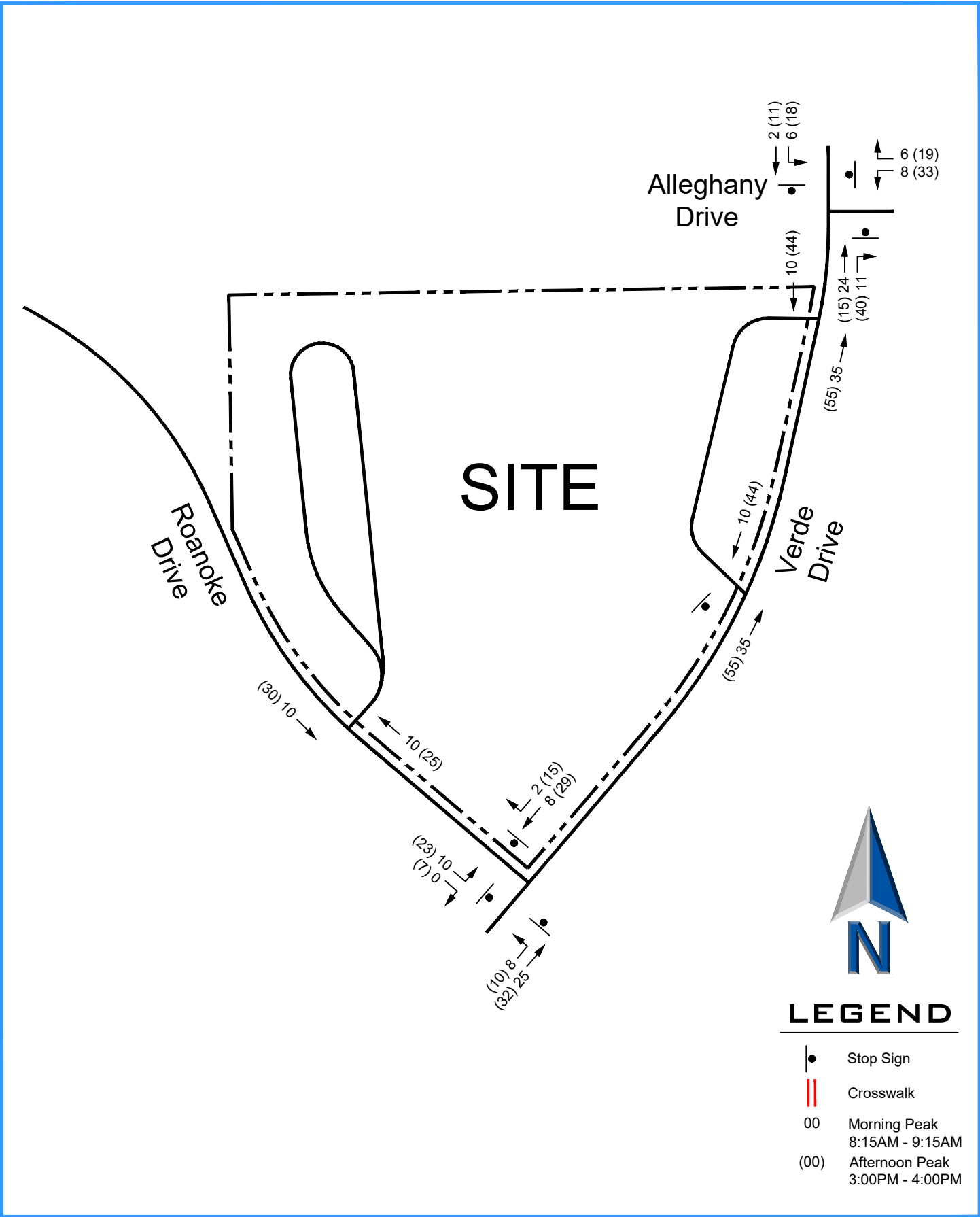


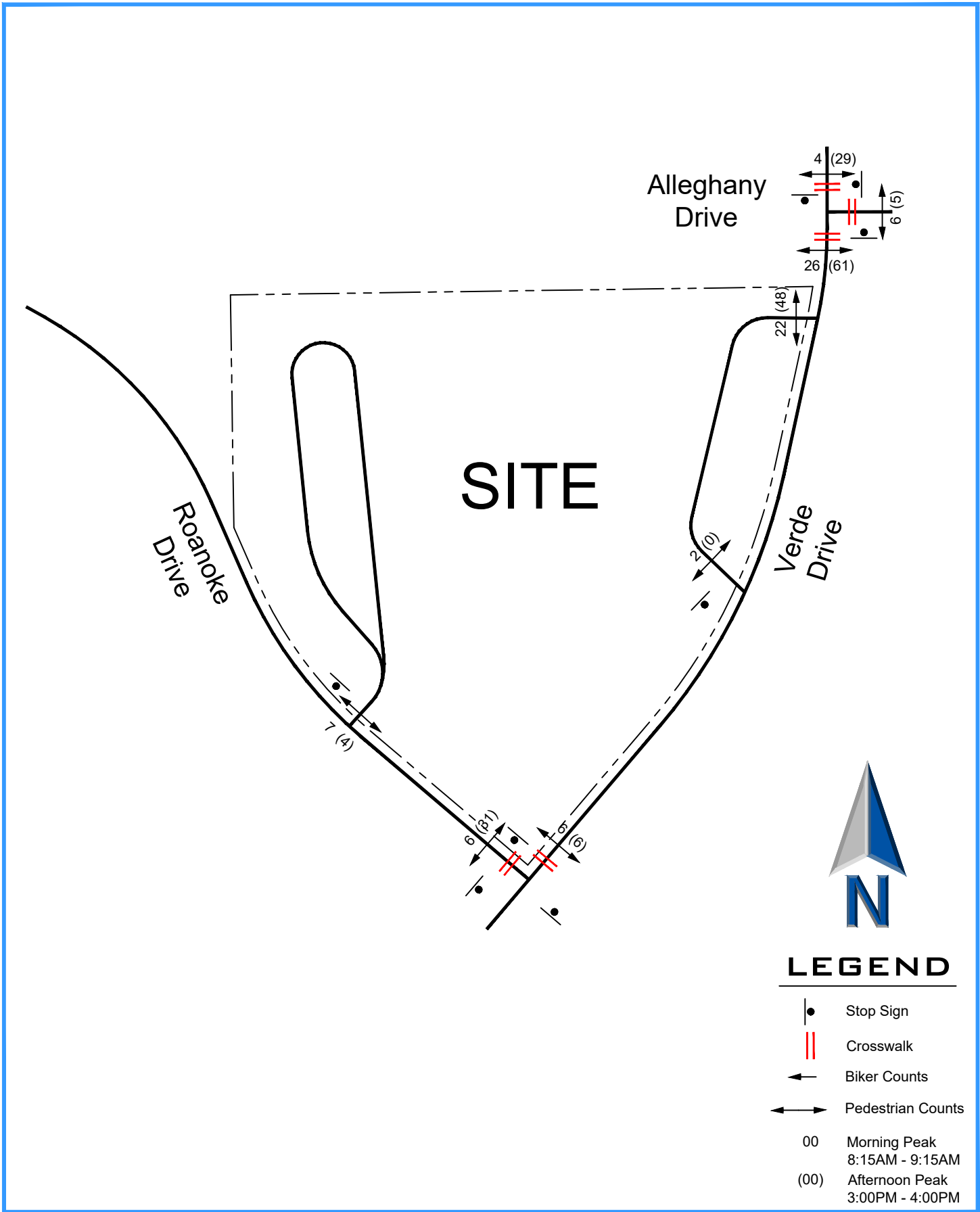












# SITE TRAFFIC CHARACTERISTICS

## Site Plan

The school currently serves 386 children with 79 staff. A building addition is proposed to add two classrooms. Total classrooms will increase from 23 to 25. Student population is expected to grow to 406 students (+5%) over the next five years. The number of staff is expected to grow from 79 to 81 persons.

## School Trip Generation and Distribution

Traffic estimates were made for the additional students using the traffic counts at the current school. The trip generation rates for the school are higher than the data provided by the Institute of Transportation Engineer’s Trip Generation, 11<sup>th</sup> Ed. manual for elementary schools due to a higher percentage of automobile usage and minimal busing. 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
<b>Trip Generation Based on Existing Traffic Volumes</b>						
Existing 386 Students	213	151	364	101	138	239
Total 406 Students	239	169	408	113	155	268
<b>Net Additional Traffic</b>	<b>+26</b>	<b>+18</b>	<b>+44</b>	<b>+12</b>	<b>+17</b>	<b>+29</b>
<b>ITE Trip Generation Comparison<sup>(1)</sup></b>						
Existing 386 Students	154	132	286	80	94	174
Total 406 Students	164	140	304	85	100	185
<b>Net Additional Traffic<sup>(2)</sup></b>	<b>+10</b>	<b>+8</b>	<b>+18</b>	<b>+5</b>	<b>+6</b>	<b>+11</b>

(1) ITE Trip Generation Manual, 11<sup>th</sup> Edition – Land Use Code 520 (Elementary School)

(2) For comparison only – Not used for analyses

The directional distribution for school traffic is based on the existing school traffic counts and is shown in **Table 2** and on **Figure 5**.

**Table 2**  
**Existing Directional Distribution**

Direction	Distribution
North on Verde Drive	15%
East on Alleghany Drive	30%
South on Verde Drive	30%
West on Roanoke Drive	25%
<b>Total</b>	<b>100%</b>

**Trip Assignment**

The future vehicular trips that are generated by the school were distributed to the area roadways based on the site plan, projected school volumes, and the directional distribution analysis. **Figure 6** illustrates the total traffic generated by the school (existing and expansion) and its assignment on the road system.

**Figure 7** shows the total traffic volumes which a combination of Figure 3C (Non-School traffic) and Figure 6 (Projected School Volumes).

**ANALYSES**

**Intersection Capacity Analyses**

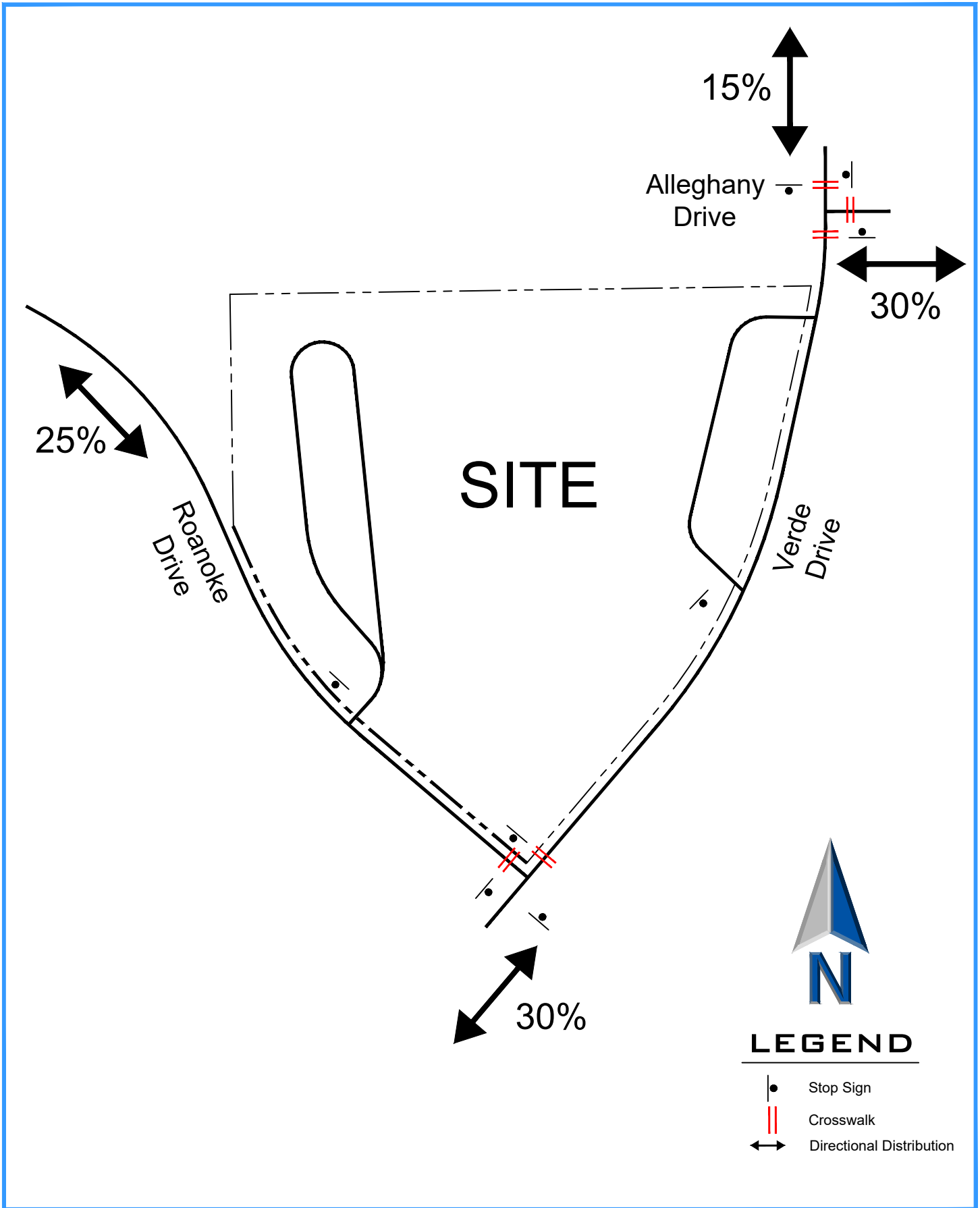
An intersection’s ability to accommodate traffic flow is based on the average control delay experienced by vehicles passing through the intersection. The intersection and individual traffic movements are assigned a level of service (LOS), ranging from A to F based on the control delay created by a traffic 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**.

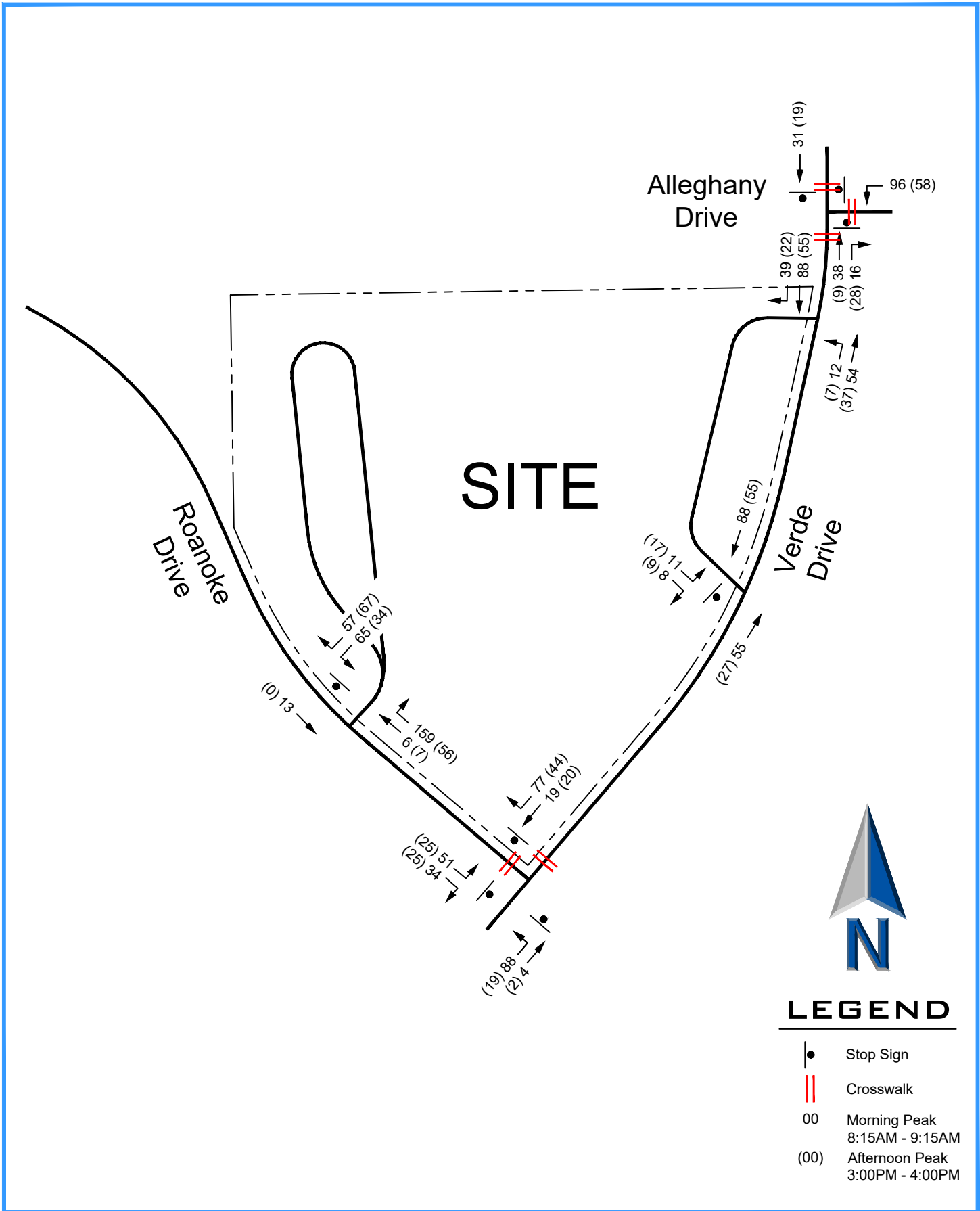
**Table 3  
Level of Service Criteria for Intersections**

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

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**.







**Alleghany Drive at Verde Drive**

The all-way-stop intersection north of the school will continue to operate at an acceptable level of service and no improvements are needed.

**East Parking Lot Entrance and Exit**

The East Parking Lot will operate well with the additional school traffic. No improvements are needed.

**Verde Drive at Roanoke Drive**

The all-way-stop intersection will continue to operate at an acceptable level of service and no improvements are needed. During the afternoon dismissal period, there will be vehicles stacking around the corner on Verde Drive when the dismissal begins.

**Verde Drive at West Parking Lot**

The West Parking Lot will operate well with the additional school traffic. No improvements are needed.

**Table 4  
Intersection Level of Service and Delay**

Intersection	Movement	AM Arrival		PM Dismissal	
		Existing	Future	Existing	Future
Verde Drive at Alleghany Drive (All-Way Stop)	SB Lt/Th	A-7.7	A-7.8	A-7.9	A-8.0
	WB Lt/Rt	A-8.3	A-8.5	A-8.4	A-8.6
	NB Th/Rt	A-7.7	A-7.8	A-7.4	A-7.7
Verde Drive at East Lot Entrance	NB Lt	A-7.6	A-7.6	A-7.6	A-7.7
Verde Drive at East Lot Exit (Stop Control)	EB Lt/Rt	B-9.6	A-9.7	B-10.1	B-10.2
Verde Drive At Roanoke Drive (All-Way Stop)	SB Th/Rt	A-8.3	A-8.7	A-7.8	A-7.9
	NB Lt/Th	A-9.4	B-10.2	A-8.0	A-8.1
	EB Lt/Rt	A-9.1	A-9.6	A-8.0	A-8.2
Roanoke Drive At West Lot Exit (Stop Control)	SB Lt/Rt	B-12.3	B-12.7	B-10.0	B-10.3
	EB Lt	A-8.0	-	A-7.5	-



**Parking**

The Village of Arlington Heights Zoning Ordinance requires elementary schools to provide one parking spaces per each employee (81 staff) and one per five classrooms (25 rooms) for a total of 86 spaces. A parking variation of 11 spaces would be required.

National parking data is available from the Institute of Transportation Engineers (ITE) in their publication *Parking Generation*, 5<sup>th</sup> Edition for elementary schools (Land Use Code 520). The peak demand in the ITE data was 0.13 spaces per student (406 students) or 53 spaces.

The existing school on-site parking supply provides a total of 75 parking spaces including four accessible spaces. The East Lot has 13 diagonal spaces including two accessible spaces. The West Lot has 62 spaces including two accessible spaces.

Parking counts were conducted in September, 2022 after the morning arrival period which found the both lots nearly full (91%) with 5 staff members parking along Verde Drive. There was a total of 68 vehicles parked in 75 spaces and on-street. **Table 5** summarizes the parking inventory and survey by lot.

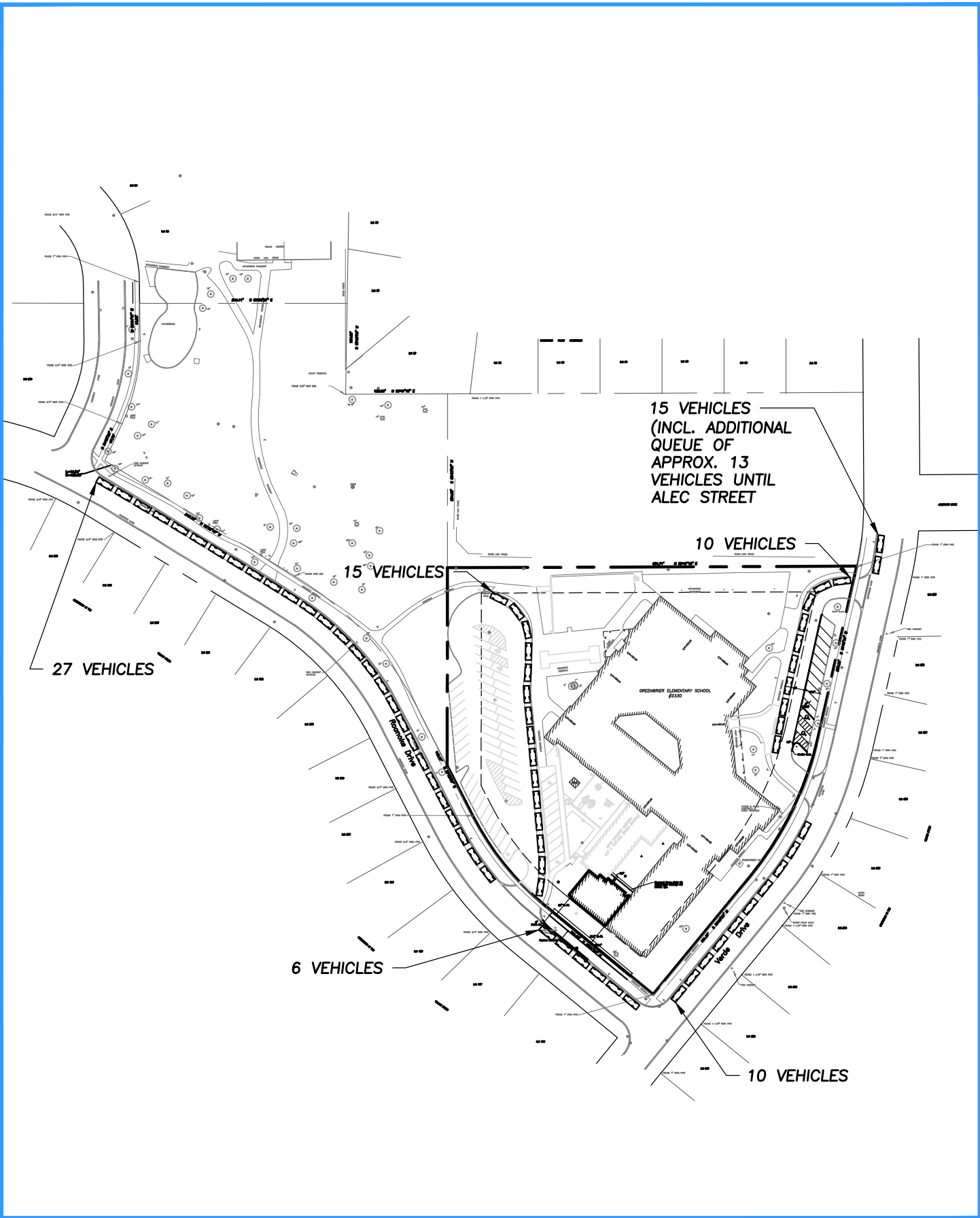
**Table 5  
Existing Greenbrier School Parking Inventory and Survey**

Lot	Parking Inventory			Parking Survey	
	Standard	Accessible	Total	Vehicles	Occupancy
West	60	2	62	53	85%
East	11	2	13	10	77%
On-Street				5	
<b>Total</b>	<b>71</b>	<b>4</b>	<b>75</b>	<b>68</b>	<b>91%</b>

In the future with the all-day kindergarten and a small growth in the other grades and ECC, the overall parking demand is expected to increase to 76 vehicles which exceeds the current supply by one space. The current site constraints prevent additional parking to be constructed on-site. There is room along Verde Drive and Roanoke Drive. Parking for special events at the school can be accommodated by a combination of the off-street parking and on-street parking by the school.

**Stacking**

**Figure 8** illustrates the existing on-site stacking available for use at Greenbrier School. The west lot has room for 15 vehicles and 10 vehicles in the east lot. The observed back-up was one or two vehicles from the east lot lasted momentarily. The west lot backed up onto Roanoke Drive onto Verde Drive in the afternoon. Increasing the loading area is limited by the size of the site. Along Verde and Roanoke Drive, there plenty of space available for parents to pick up their students.



## **SUMMARY**

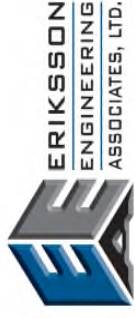
This report summarizes the results of traffic and parking study for the expansion of Greenbrier School in Arlington Heights, Illinois. The following recommendations were developed:

1. The proposed expansion of Greenbrier School from 386 to 406 students will add 29 to 44 trips during the peak school hours will not adversely impact the level-of-service of study area intersections.
2. The north side of Roanoke Drive during the afternoon dismissal periods requires communication and monitoring by the school district so that parents do not arrive before their designated pick-up time and creates traffic congestion by double parking.
3. Parking counts at the school show that the 75 proposed parking spaces will serve the majority of the needs of the expanded school. A parking variation of 11 spaces is needed from the 86 spaces required by code.

## **Appendix**

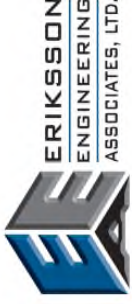
- **Existing 2022 Traffic Counts**
- **School Signage Plan**
- **Arlington Heights Bike Map**
- **School Info**
  - **Bussing Schedule**
  - **Taxi Data**
  - **Crossing Guard Locations**
  - **Traffic Plan**
- **ITE Traffic and Parking Calculations**
- **Intersection Capacity Analyses**
  - **2022 Existing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





**Intersection Counts**  
**Verde Drive at Roanoke Drive**      **Arlington Heights, Illinois**

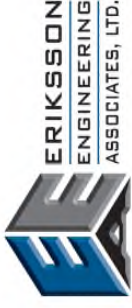
Begin Time	Verde Drive Southbound		Verde Drive Northbound		Roanoke Drive Eastbound		15 Minute Totals	60 Minute Totals	Peak Hour Factor	Pedestrian Counts		
	Right Turn	Through	Through	Left Turn	Right Turn	Left Turn				North Leg	West Leg	South Leg
<b>Monday October 17, 2022</b>												
8:00 AM	13	5	2	7	0	2	29	218	0.41	0	0	0
8:15 AM	1	3	1	8	0	4	17	<b>264</b>	<b>0.50</b>	1	1	0
8:30 AM	11	3	9	11	3	2	39	268	0.50	2	0	0
8:45 AM	33	6	5	47	19	23	133			3	5	0
9:00 AM	21	8	8	9	7	22	75			0	0	0
9:15 AM	5	5	2	0	3	6	21			1	0	0
Total	84	30	27	82	32	59				7	6	0
<b>8:15-9:15 AM</b>	<b>66</b>	<b>20</b>	<b>23</b>	<b>75</b>	<b>29</b>	<b>51</b>	<b>264</b>			<b>6</b>	<b>6</b>	<b>0</b>
<b>Monday October 17, 2022</b>												
2:30 PM	4	2	4	2	1	3	16	133	0.49	0	0	0
2:45 PM	4	5	2	3	0	5	19	205	0.58	0	0	0
3:00 PM	13	4	5	3	2	3	30	<b>220</b>	<b>0.63</b>	0	2	0
3:15 PM	19	12	4	11	9	13	68	190	0.54	0	0	0
3:30 PM	18	23	4	13	12	18	88	122	0.35	4	29	0
3:45 PM	3	8	6	0	6	11	34			2	0	0
Total	61	54	25	32	30	53				6	31	0
<b>3:00-4:00 PM</b>	<b>53</b>	<b>47</b>	<b>19</b>	<b>27</b>	<b>29</b>	<b>45</b>	<b>220</b>			<b>6</b>	<b>31</b>	<b>0</b>



**Intersection Counts**  
**Verde Drive at East Parking Lot**

Arlington Heights, Illinois

Begin Time	Verde Drive Southbound		Verde Drive Northbound		School Access Drive Eastbound		15 Minute Totals	60 Minute Totals	Peak Hour Factor	Pedestrian Counts	
	Right Turn-In	Thru	Thru	Left Turn-In	Right Turn-Out	Left Turn-Out				Inbound Leg	Outbound Leg
<b>Thursday October 13, 2022</b>											
8:00 AM	14	12	19	9	10	8	72	216	0.75	0	0
8:15 AM	8	11	13	3	2	3	40	194	<b>0.71</b>	0	2
8:30 AM	5	16	7	3	2	3	36	189	0.69	5	0
8:45 AM	7	34	21	3	2	1	68			17	0
9:00 AM	15	22	7	2	1	3	50			0	0
9:15 AM	1	4	12	1	8	9	35			2	0
Total	50	99	79	21	25	27				24	2
<b>8:15-9:15 AM</b>	<b>35</b>	<b>83</b>	<b>48</b>	<b>11</b>	<b>7</b>	<b>10</b>	<b>194</b>			<b>22</b>	<b>2</b>
<b>Thursday October 13, 2022</b>											
2:30 PM	0	1	5	0	0	0	6	147	0.44	0	1
2:45 PM	1	12	6	0	0	1	20	178	0.53	0	0
3:00 PM	11	16	8	1	0	1	37	<b>190</b>	<b>0.57</b>	1	0
3:15 PM	7	30	29	3	4	11	84	153	0.46	4	0
3:30 PM	1	16	16	1	1	2	37	69	0.47	39	0
3:45 PM	1	6	20	1	3	1	32			4	0
Total	21	81	84	6	8	16	<b>190</b>			48	1
<b>3:00-4:00 PM</b>	<b>20</b>	<b>68</b>	<b>73</b>	<b>6</b>	<b>8</b>	<b>15</b>				<b>48</b>	<b>0</b>



Intersection Counts  
Verde Drive at Allegheny Drive

Begin Time	Verde Drive Southbound		Allegheny Drive Westbound		Verde Drive Northbound		15 Minute Totals	60 Minute Totals	Peak Hour Factor	Pedestrian Counts	
	Through	Left Turn	Right Turn	Left Turn	Right Turn	Through				North Leg	South Leg
<b>Thursday October 13, 2022</b>											
8:00 AM	6	6	2	21	8	13	56	198	0.68	0	0
8:15 AM	5	3	2	16	9	5	40	<b>208</b>	<b>0.71</b>	1	0
8:30 AM	6	1	2	13	1	6	29	186	0.64	0	8
8:45 AM	14	2	2	31	4	20	73			1	18
9:00 AM	5	0	0	33	7	21	66			2	0
9:15 AM	2	1	2	3	2	8	18			0	2
Total	38	13	10	117	31	73				4	28
<b>8:15-9:15 AM</b>	<b>30</b>	<b>6</b>	<b>6</b>	<b>93</b>	<b>21</b>	<b>52</b>	<b>208</b>			<b>4</b>	<b>26</b>
<b>3:00-4:00 PM</b>											
2:30 PM	0	1	0	3	2	3	9	146	0.48	0	0
2:45 PM	0	0	1	10	5	1	17	181	0.60	0	0
3:00 PM	5	4	2	26	4	3	44	<b>197</b>	<b>0.65</b>	2	2
3:15 PM	11	4	9	26	22	4	76	153	0.50	6	5
3:30 PM	4	6	7	11	11	5	44	77	0.44	21	50
3:45 PM	3	4	1	5	14	6	33			0	4
Total	23	19	20	81	58	22				29	61
<b>3:00-4:00 PM</b>	<b>23</b>	<b>18</b>	<b>19</b>	<b>68</b>	<b>51</b>	<b>18</b>	<b>197</b>			<b>29</b>	<b>61</b>





**Intersection Counts**  
**Greenbrier Elementary School - Total Movements**      **Arlington Heights, Illinois**

Begin Time	Roanoke Drive at Parking Lot Entrance		Verde Drive at Roanoke Drive		Verde Drive at School Access Drive		Verde Drive at Alleghany Drive		15 Minute Totals	60 Minute Totals	Peak Hour Factor
	Total Movements		Total Movements		Total Movements		Total Movements				
8:00 AM	23		29		72		56		180	873	0.49
8:15 AM	18		17		40		40		115	<b>959</b>	<b>0.54</b>
8:30 AM	29		39		36		29		133	930	0.52
8:45 AM	171		133		68		73		445		
9:00 AM	75		75		50		66		266		
9:15 AM	12		21		35		18		86		
Total	328		314		301		282		<b>959</b>		
<b>8:15-9:15 AM</b>	<b>293</b>		<b>264</b>		<b>194</b>		<b>208</b>				
2:30 PM	11		16		6		9		42	522	0.47
2:45 PM	14		19		20		17		70	740	0.66
3:00 PM	20		30		37		44		131	<b>792</b>	<b>0.71</b>
3:15 PM	51		68		84		76		279	661	0.59
3:30 PM	91		88		37		44		260	382	0.37
3:45 PM	23		34		32		33		122		
Total	210		255		216		223		<b>792</b>		
<b>3:00-4:00 PM</b>	<b>185</b>		<b>220</b>		<b>190</b>		<b>197</b>				

# Legend

## SIGNS

- 1** **SCHOOL**  
ON SCHOOL DAYS  
WHEN CHILDREN  
ARE PRESENT
- 2** **SPEED LIMIT 20**  
ON SCHOOL DAYS  
WHEN CHILDREN  
ARE PRESENT
- 3** **NO PARKING HERE TO DRIVEWAY**
- 4** **NO PARKING HERE TO CORNER**
- 5** **STUDENT DROP-OFF AND PICK-UP ZONE 8:00 AM TO 4:00 PM SCHOOL DAYS**  
**NO UNATTENDED VEHICLES**
- 6** **NO PARKING STOPPING STANDING 8am - 4pm SCHOOL DAYS**
- 7** **NO PARKING STOPPING STANDING 8am - 4pm SCHOOL DAYS**
- 8** **NO PARKING STOPPING STANDING 8am - 4pm SCHOOL DAYS**
- 9** **STOPPING OR STANDING WITHIN INTERSECTION PROHIBITED**
- 10** **IDLE FREE ZONE**

### GREENBRIER ELEMENTARY SCHOOL

#### SCHOOL SITE MAP

VILLAGE OF ARLINGTON HEIGHTS  
PUBLIC WORKS DEPARTMENT

DRAWN: TLS	V.MNGR: <i>J. Kessler</i>	ORD. NO. 1994-063
CHECKED: TJP	V. ENG: <i>[Signature]</i>	DIR FAC 25: <i>Bo Sly</i>
DATE: 9/2019	POLICE:	
REVISION/DATE:		












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>

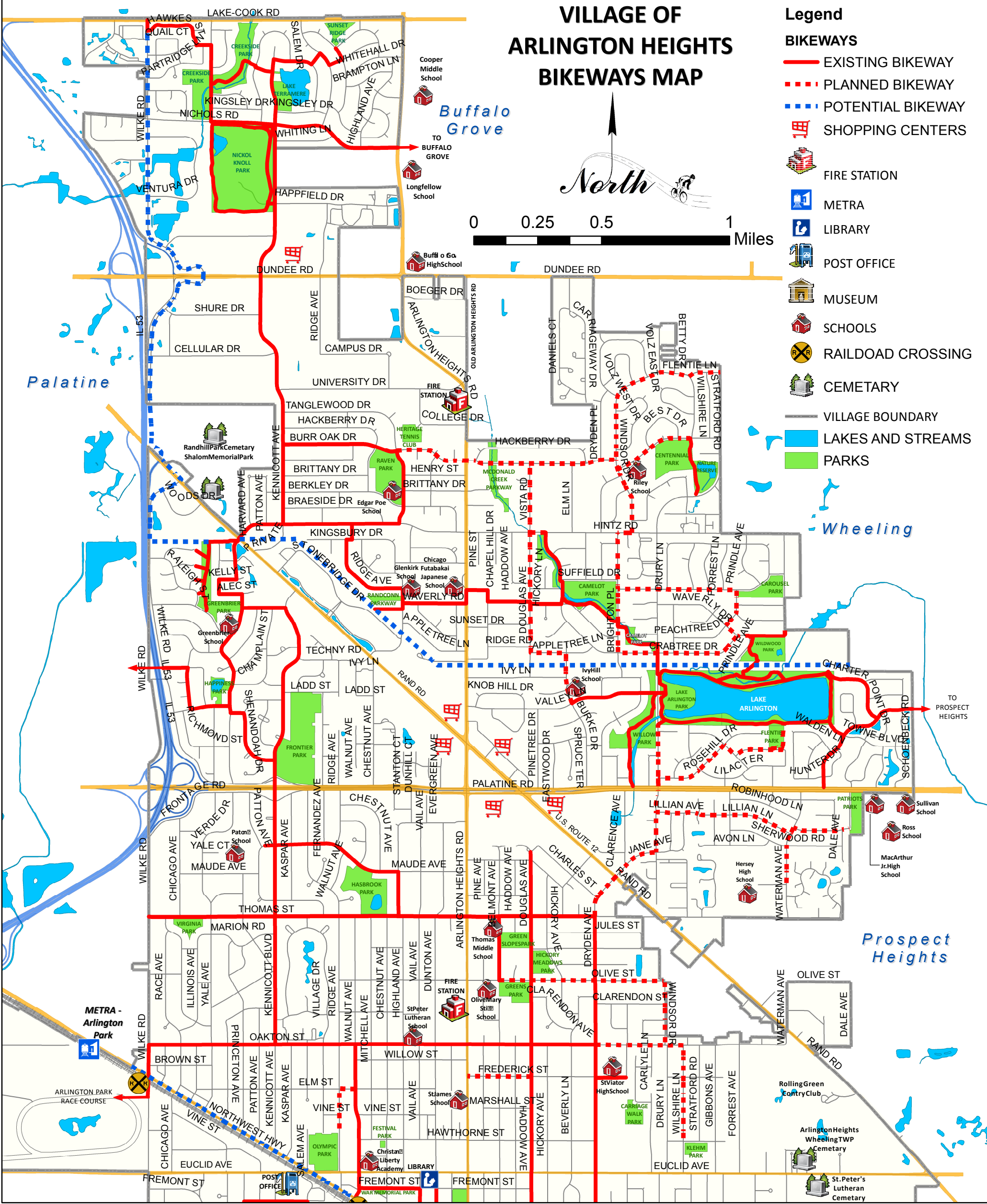
Disclaimer:  
This map is for analysis purposes only.  
It is not intended for navigation or location  
of infrastructure. The reliability of this map  
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# VILLAGE OF ARLINGTON HEIGHTS BIKEWAYS MAP

## Legend

### BIKEWAYS

- EXISTING BIKEWAY
- - - PLANNED BIKEWAY
- - - POTENTIAL BIKEWAY
-  SHOPPING CENTERS
-  FIRE STATION
-  METRA
-  LIBRARY
-  POST OFFICE
-  MUSEUM
-  SCHOOLS
-  RAILROAD CROSSING
-  CEMETARY
- VILLAGE BOUNDARY
- LAKES AND STREAMS
- PARKS

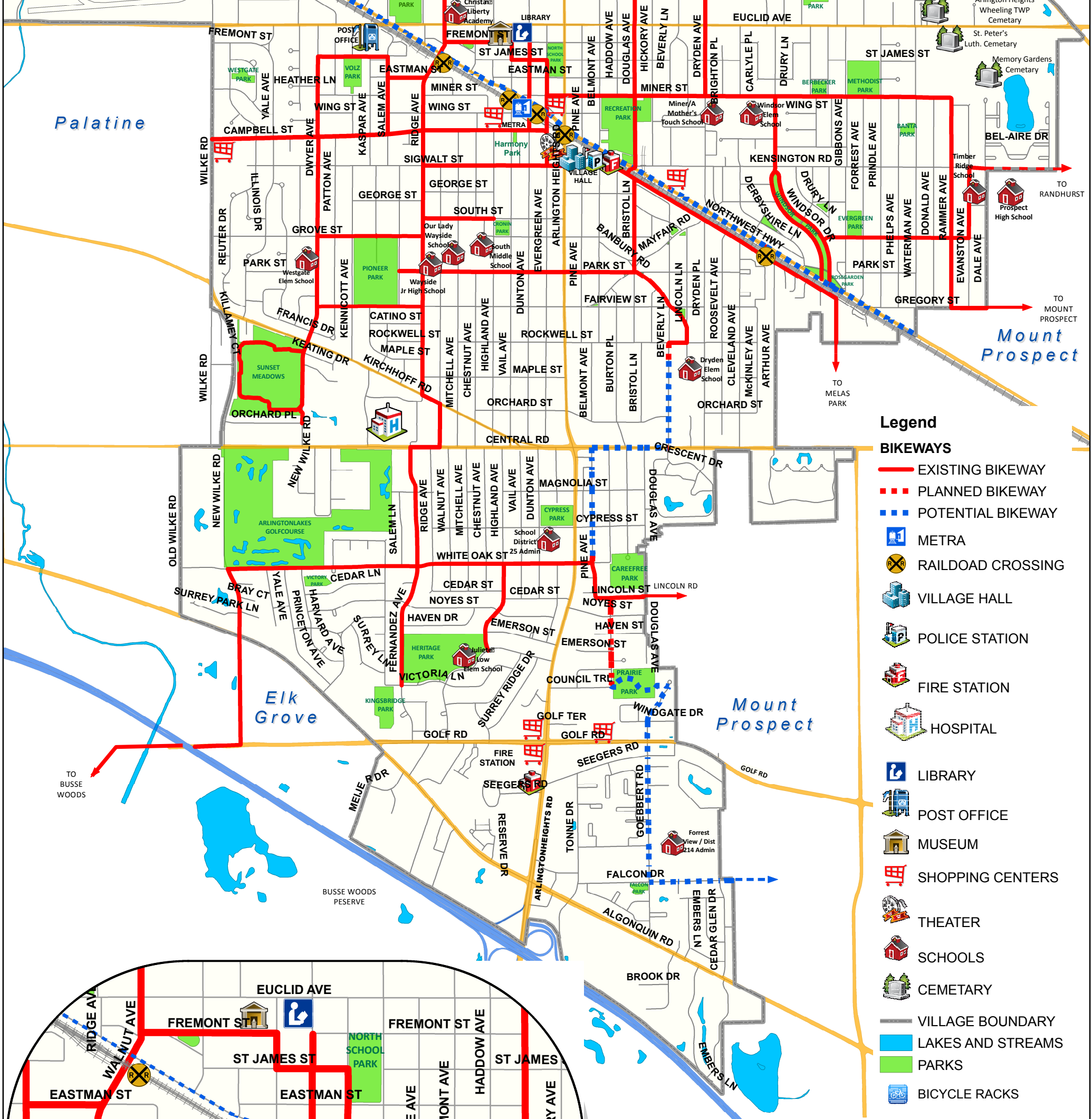


### BICYCLE SAFETY RULES

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 safe 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 stopped 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.



- Legend**
- BIKEWAYS**
- EXISTING BIKEWAY
  - - - PLANNED BIKEWAY
  - - - POTENTIAL BIKEWAY
  - METRA
  - RAILROAD CROSSING
  - VILLAGE HALL
  - POLICE STATION
  - FIRE STATION
  - HOSPITAL
  - LIBRARY
  - POST OFFICE
  - MUSEUM
  - SHOPPING CENTERS
  - THEATER
  - SCHOOLS
  - CEMETARY
  - VILLAGE BOUNDARY
  - LAKES AND STREAMS
  - PARKS
  - BICYCLE RACKS



**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**

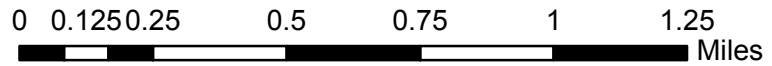
Thomas W. Hayes, Mayor  
33 South Arlington Heights Rd  
Arlington Heights, IL 60005  
(847) 368-5100

**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

**VILLAGE OF ARLINGTON HEIGHTS BIKeways MAP**



Bike Map Information  
(847) 368-5250

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

<u>1ST ROUTE</u>		<u>DRIVER</u>		<u>2ND ROUTE</u>		<u>DRIVER</u>	<u>BUS</u>
7:05-7:20AM		SUB	X	BUS	SUB	SUB	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			

<u>1ST ROUTE</u>		<u>DRIVER</u>		<u>2ND ROUTE</u>		<u>DRIVER</u>	<u>BUS</u>
7:05-7:20AM		SUB	X	BUS	SUB	SUB	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

<u>1ST ROUTE</u>		<u>DRIVER</u>		<u>2ND ROUTE</u>		5/31/2022	
2:45 PM		SUB	X	BUS	SUB	SUB	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

<u>1ST ROUTE</u>		<u>DRIVER</u>		<u>2ND ROUTE</u>		5/31/2022	
2:45 PM		SUB	X	BUS	SUB	SUB	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 -

<u>K ROUTE</u>		<u>DRIVER</u>		<u>L ROUTE</u>		5/31/2022	
11:45 AM		SUB	X	BUS	SUB	SUB	SUB
PUNCH	11:15 AM			21		DRYDEN 31L	12:20
	11:15 AM			1909			
	11:15 AM			11		IVY HILL 37L	12:30
	11:15 AM			8		OLIVE 34L	12:40
	11:15 AM			22		WESTGATE 32L	12:40

NOTES.-

<b>Taxi at Schools 21-22</b>	<b>AM</b>	<b>MID-DAY</b>	<b>PM</b>
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

<b>Location</b>	<b>AM</b>	<b>PM</b>	<b>K-5</b>	<b>Middle School</b>	<b>Parochial</b>
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		

# Traffic Safety Procedures

## Early Childhood

Ms Dunlap  
Mrs Kuehm  
Ms Koch  
Mrs Kross  
Mrs Serio  
Mrs Walsh

A.M. Drop Off 9:10  
A.M. Pick Up 11:40

P.M. Drop Off 12:50  
P.M. Pick Up 3:20

Do not line up for arrival or dismissal more than five minutes before the above times.

### Options:

1. You may walk your child to and from school at door 8.
2. Adults may park legally on the street and escort their child. Do not park in the staff parking lot.
3. Adults may use the car line to drop off and pick up in the back circle drive.

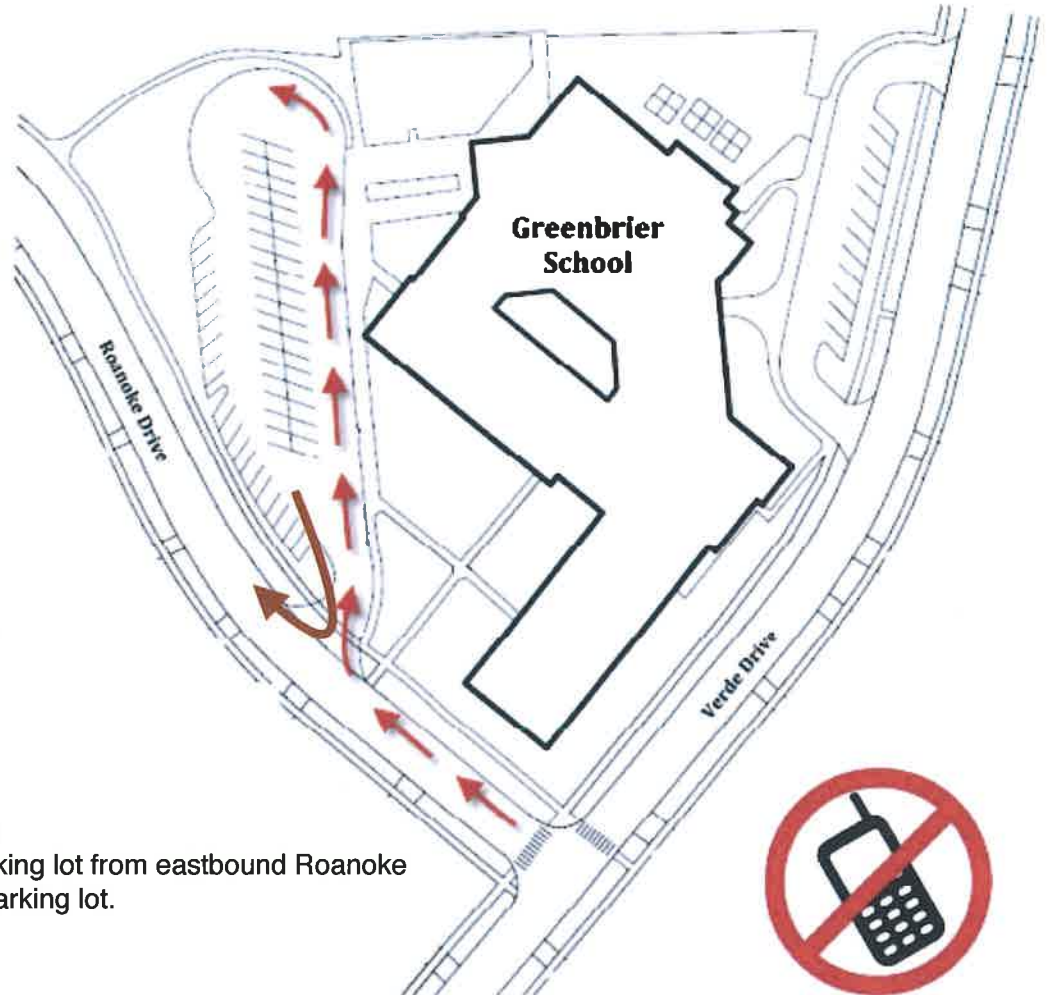
### Drop Off/ Pick Up Zone:

- Circle drive behind the school
- NO LEFT TURN into the parking lot from eastbound Roanoke
- NO LEFT TURN out of the parking lot.

### Car Line Drop Off/ Pick Up Procedures:

- Display the teacher nameplate in the right corner of your windshield.
- Enter the lot and pull forward along the curb to the beginning of student pick up/drop off zone.
- Proceed in a single file line of cars. **NO LINE JUMPING.**
- Parents must assist student in and out of the car.
- Do not leave car unattended.
- Students and parents should wait at the car for a staff member.
- To exit the parking lot, remain in line and wait for the car in front of you to move forward. **NO LINE JUMPING.**

**Be patient and courteous to other families. Bad weather days will cause the car line to move slower and make it more difficult to find a parking space.**



The safety of your child is our greatest priority. Keep this in your car as a reminder and share it with others who drive your children to and from school.



A.M. Drop Off 9:10  
A.M. Pick Up 11:40

Mrs Repsher  
Mrs Sullivan  
Phono Class

## Traffic Safety Procedures

P.M. Drop Off 12:50  
P.M. Pick Up 3:20

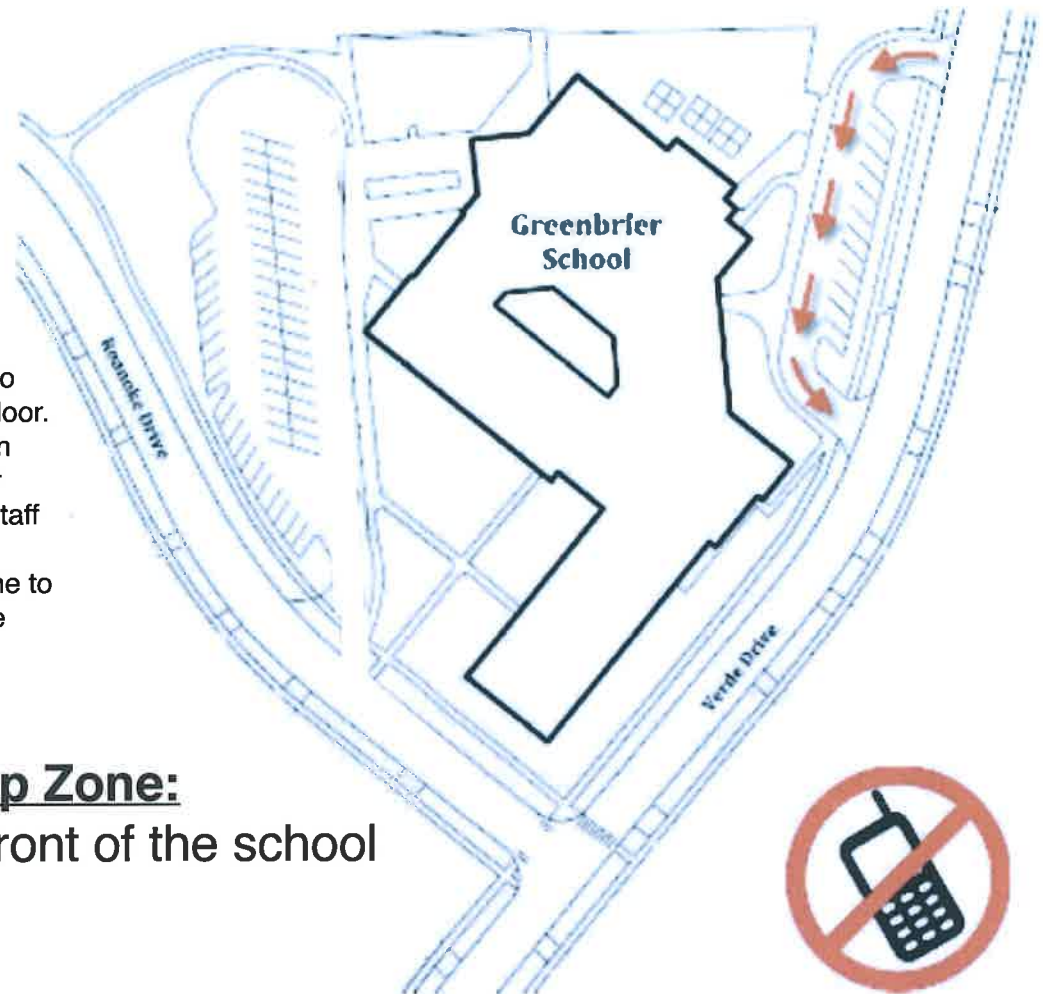
### Early Childhood

Phono Drop Off 1:20  
Phono Pick Up 3:20

Do not line up for arrival or dismissal more than five minutes before the above times.

#### Options:

1. You may walk your child to and from school at front door.
2. Adults may park legally on the street and escort their child. Do not park in the staff parking lot.
3. Adults may use the car line to drop off and pick up in the front circle drive.



### Drop Off/Pick up Zone:

- Circle drive in front of the school

#### Car Line Drop Off/ Pick Up Procedures:

- Display the teacher nameplate in the right corner of your windshield.
- Enter the lot and pull forward along the curb to the beginning of student pick up/drop off zone.
- Proceed in a single file line of cars. **NO LINE JUMPING.**
- Parents must assist student in and out of the car.
- Do not leave car unattended.
- Students and parents should wait at the car for a staff member.
- To exit the parking lot, remain in line and wait for the car in front of you to move forward. **NO LINE JUMPING.**

**Be patient and courteous to other families. Bad weather days will cause the car line to move slower and make it more difficult to find a parking space.**

The safety of your child is our greatest priority. Keep this in your car as a reminder and share it with others who drive your children to and from school.

# Greenbrier Elementary Traffic Safety Procedures

## First - Fifth Grade

**Drop Off 8:50 a.m.**

**Pick Up 3:35 p.m.**

Do not line up for arrival or dismissal more than five minutes before the above times.

Options:

1. Children may walk to and from school.
2. Adults may park legally on the street and escort their child or have them walk to and from the building.
3. Adults may use the car line to drop off and pick up in the back circle drive.

Walkers will exit the front doors of the school.

### **Drop Off/ Pick Up Zone:**

- Circle drive behind the school
- NO LEFT TURN into the parking lot from eastbound Roanoke
- NO LEFT TURN out of the parking lot.

### **Car Line Drop Off/ Pick Up Procedures:**

- Enter the lot and pull forward as far as possible along the curb to the student DROP OFF/ PICK UP ZONE.
- Students may only exit the car when your car is between the yellow cones.
- Proceed in a single file line of cars. **NO LINE JUMPING.**
- Students should be ready to enter and exit cars at the curb.
- **Parents must remain in the car.**
- To exit the parking lot, remain in line and wait for the car in front of you to move forward. **NO LINE JUMPING.**

**Be patient and courteous to other families. Bad weather days will cause the car line to move slower and make it more difficult to find a parking space.**



★ Morning line up location.

The safety of your child is our greatest priority. Keep this in your car as a reminder and share it with others who drive your children to and from school.

# Greenbrier Elementary Traffic Safety Procedures

**Drop Off 8:50 a.m.**

Rear Circle

**Pick Up 11:50 a.m.**

Front Circle

## A.M. Kindergarten

Do not line up for arrival or dismissal more than five minutes before the above times.

Options:

1. Children may walk to and from school.
2. Adults may park legally on the street and escort their child or have them walk to and from the building.
3. Adults may use the car line to drop off and pick up in the circle drive.

Students will exit the front doors of the school.

### Drop Off Zone:

- Circle drive behind the school
- NO LEFT TURN into the parking lot from eastbound Roanoke
- NO LEFT TURN out of the parking lot.

### Pick Up Zone:

- Circle drive in front of the school



★ Morning line up location.

### Car Line Drop Off/ Pick Up Procedures:

- Enter the lot and pull forward as far as possible along the curb to the student DROP OFF/ PICK UP ZONE.
- Students may only exit the car when your car is between the yellow cones.
- Proceed in a single file line of cars. **NO LINE JUMPING.**
- Students should be ready to enter and exit cars at the curb.
- **Parents must remain in the car.**
- To exit the parking lot, remain in line and wait for the car in front of you to move forward. **NO LINE JUMPING.**

**Be patient and courteous to other families. Bad weather days will cause the car line to move slower and make it more difficult to find a parking space.**

The safety of your child is our greatest priority. Keep this in your car as a reminder and share it with others who drive your children to and from school.



# Elementary School (520)

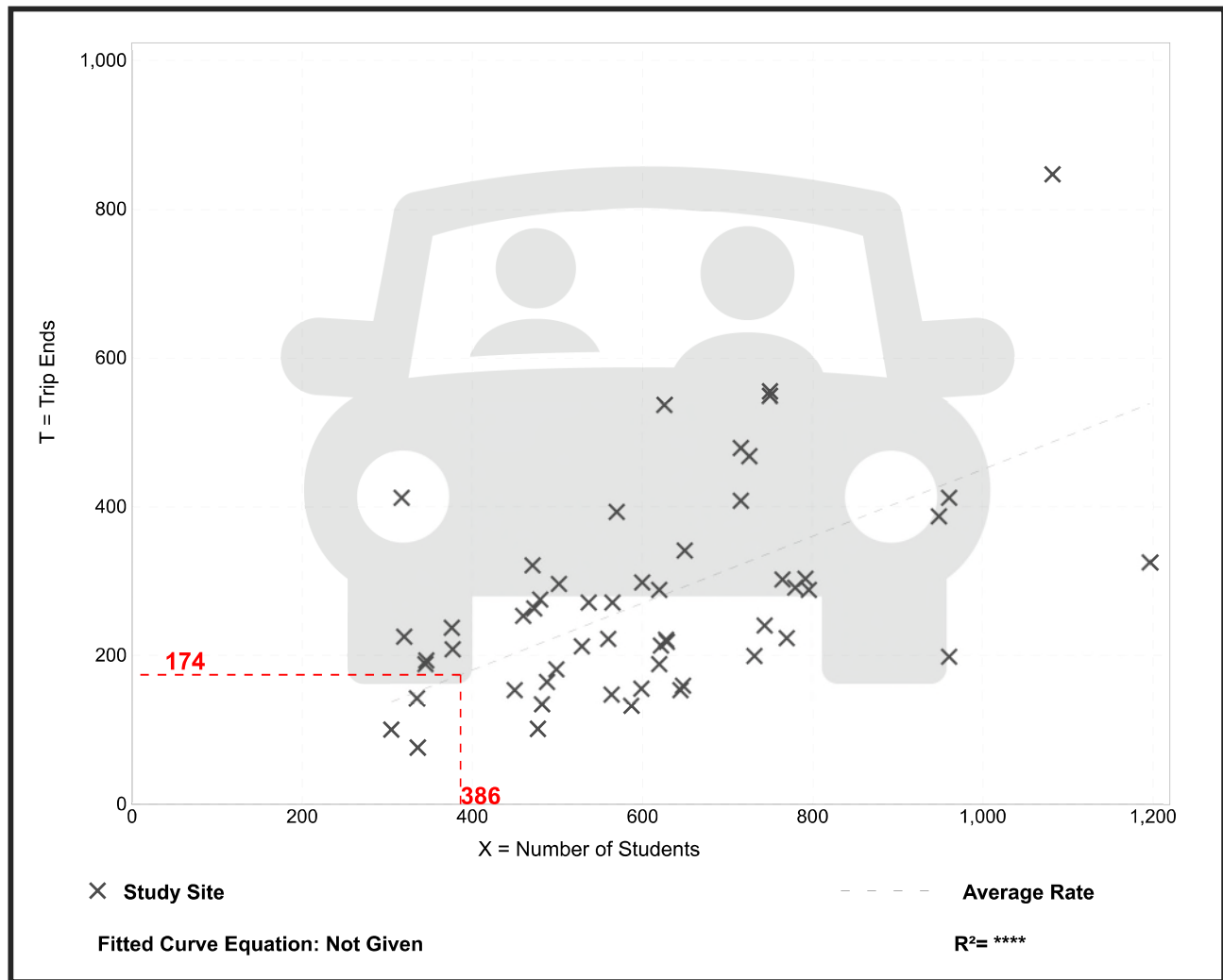
**Vehicle Trip Ends vs: Students**  
**On a: Weekday,**  
**PM Peak Hour of Generator**

**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





# Elementary School (520)

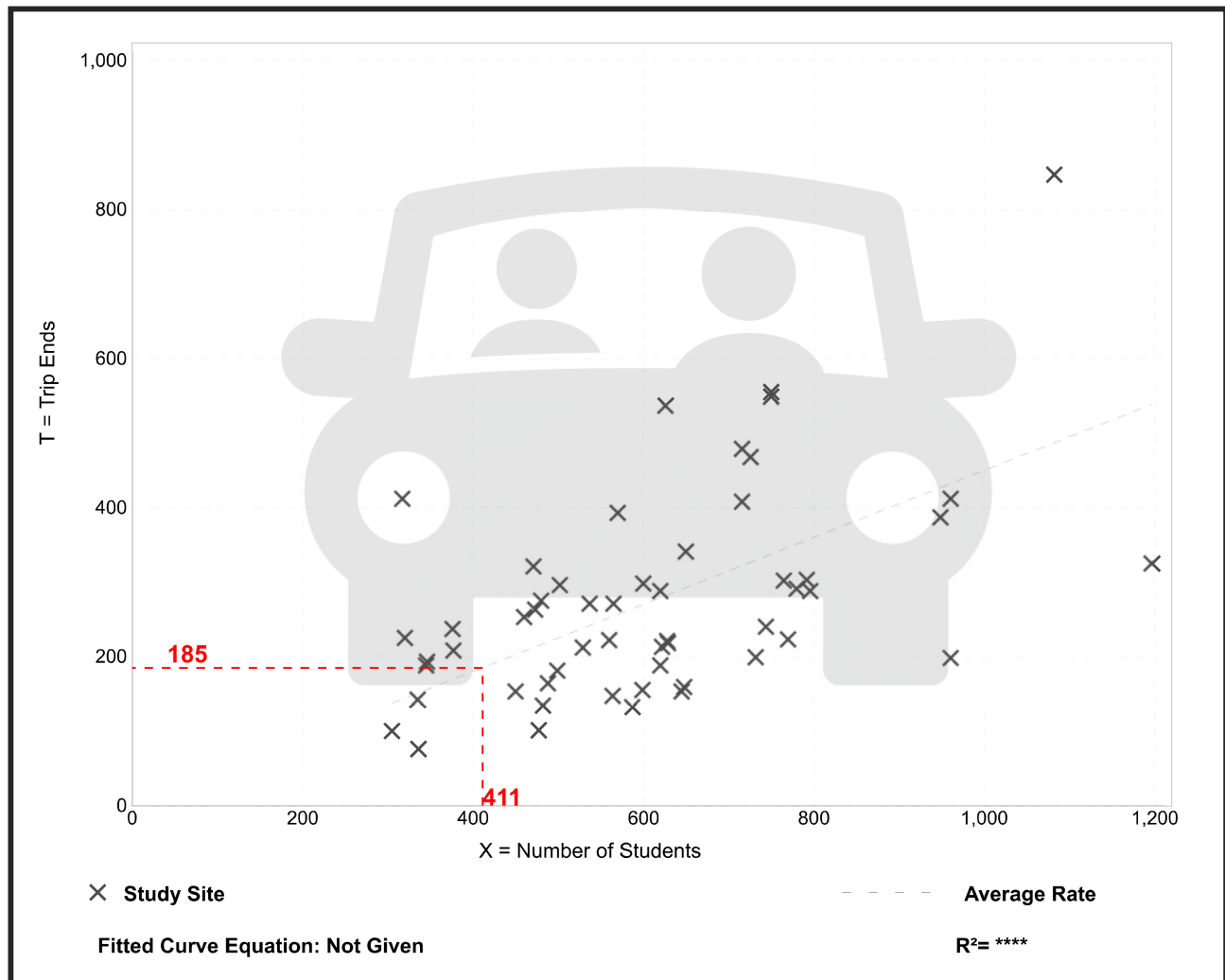
**Vehicle Trip Ends vs: Students**  
**On a: Weekday,**  
**PM Peak Hour of Generator**

**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

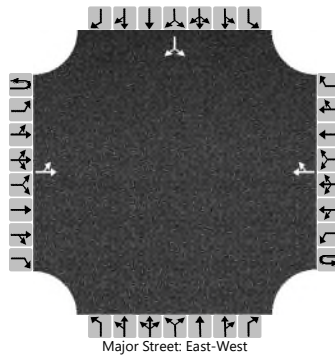
## Data Plot and Equation



# HCS Two-Way Stop-Control Report

General Information				Site Information			
Analyst	AG			Intersection	Roanoke and West Lot		
Agency/Co.	Eriksson			Jurisdiction	Arlington Heights		
Date Performed	9/9/2022			East/West Street	Roanoke Drive		
Analysis Year	2022			North/South Street	West Lot		
Time Analyzed	AM Peak			Peak Hour Factor	0.43		
Intersection Orientation	East-West			Analysis Time Period (hrs)	0.25		
Project Description	Greenbrier School						

## Lanes



## Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Movement	1U	1	2	3	4U	4	5	6		7	8	9		10	11	12
Priority																
Number of Lanes	0	0	1	0	0	0	1	0		0	0	0		0	1	0
Configuration		LT						TR							LR	
Volume (veh/h)		12	27				15	130						58		51
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

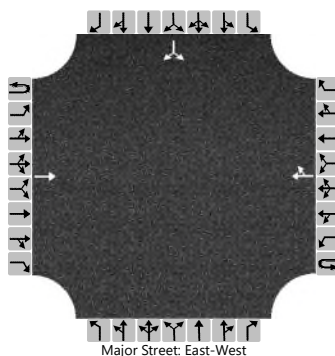
Flow Rate, v (veh/h)		28													253	
Capacity, c (veh/h)		1233													744	
v/c Ratio		0.02													0.34	
95% Queue Length, Q <sub>95</sub> (veh)		0.1													1.5	
Control Delay (s/veh)		8.0	0.2												12.3	
Level of Service (LOS)		A	A												B	
Approach Delay (s/veh)		2.6												12.3		
Approach LOS		A												B		



# HCS Two-Way Stop-Control Report

General Information				Site Information			
Analyst	AG			Intersection	Roanoke and West Lot		
Agency/Co.	Eriksson			Jurisdiction	Arlington Heights		
Date Performed	9/9/2022			East/West Street	Roanoke Drive		
Analysis Year	2028			North/South Street	West Lot		
Time Analyzed	AM Peak			Peak Hour Factor	0.43		
Intersection Orientation	East-West			Analysis Time Period (hrs)	0.25		
Project Description	Greenbrier School						

## Lanes



## Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Movement	1U	1	2	3	4U	4	5	6		7	8	9		10	11	12
Priority																
Number of Lanes	0	0	1	0	0	0	1	0		0	0	0		0	1	0
Configuration			T					TR							LR	
Volume (veh/h)			30				16	159						65		57
Percent Heavy Vehicles (%)														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
Critical Headway (sec)															6.40		6.20
Base Follow-Up Headway (sec)															3.5		3.3
Follow-Up Headway (sec)															3.50		3.30

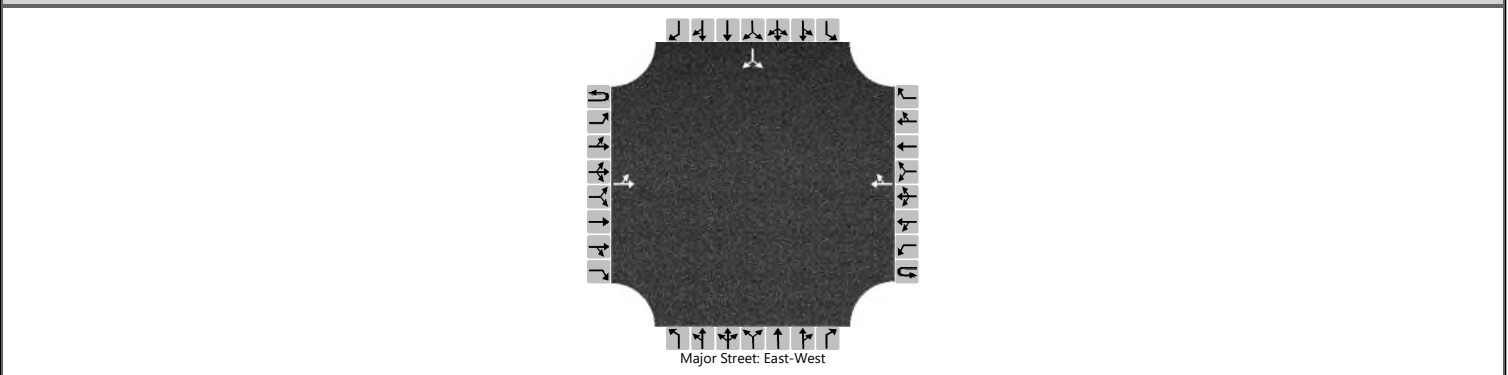
## Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)																	284
Capacity, c (veh/h)																	747
v/c Ratio																	0.38
95% Queue Length, Q <sub>95</sub> (veh)																	1.8
Control Delay (s/veh)																	12.7
Level of Service (LOS)																	B
Approach Delay (s/veh)																	12.7
Approach LOS																	B

# HCS Two-Way Stop-Control Report

General Information				Site Information			
Analyst	AG			Intersection	Roanoke and West Lot		
Agency/Co.	Eriksson			Jurisdiction	Arlington Heights		
Date Performed	9/9/2022			East/West Street	Roanoke Drive		
Analysis Year	2022			North/South Street	West Lot		
Time Analyzed	PM Peak			Peak Hour Factor	0.51		
Intersection Orientation	East-West			Analysis Time Period (hrs)	0.25		
Project Description	Greenbrier School						

## Lanes



## Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Movement	1U	1	2	3	4U	4	5	6		7	8	9		10	11	12
Priority																
Number of Lanes	0	0	1	0	0	0	1	0		0	0	0		0	1	0
Configuration		LT						TR							LR	
Volume (veh/h)		0	44				30	50						30		60
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

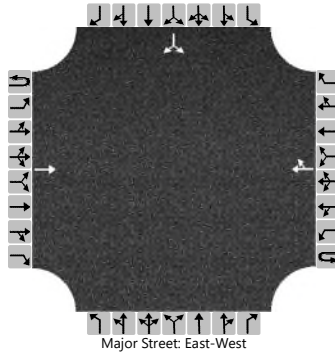
## Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)		0														176	
Capacity, c (veh/h)		1435														890	
v/c Ratio		0.00														0.20	
95% Queue Length, Q <sub>95</sub> (veh)		0.0														0.7	
Control Delay (s/veh)		7.5	0.0													10.0	
Level of Service (LOS)		A	A													B	
Approach Delay (s/veh)		0.0												10.0			
Approach LOS		A												B			

# HCS Two-Way Stop-Control Report

General Information				Site Information			
Analyst	AG			Intersection	Roanoke and West Lot		
Agency/Co.	Eriksson			Jurisdiction	Arlington Heights		
Date Performed	9/9/2022			East/West Street	Roanoke Drive		
Analysis Year	2028			North/South Street	West Lot		
Time Analyzed	PM Peak			Peak Hour Factor	0.51		
Intersection Orientation	East-West			Analysis Time Period (hrs)	0.25		
Project Description	Greenbrier School						

## Lanes



## Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Movement	1U	1	2	3	4U	4	5	6		7	8	9		10	11	12
Priority																
Number of Lanes	0	0	1	0	0	0	1	0		0	0	0		0	1	0
Configuration			T					TR							LR	
Volume (veh/h)			46				32	56						34		67
Percent Heavy Vehicles (%)														0		0
Proportion Time Blocked																
Percent Grade (%)														0		
Right Turn Channelized																
Median Type   Storage	Undivided															

## Critical and Follow-up Headways

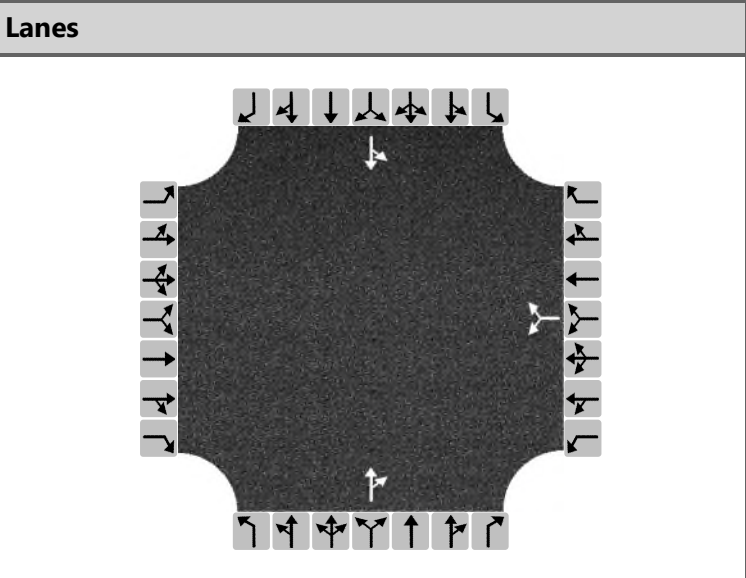
Base Critical Headway (sec)															7.1		6.2
Critical Headway (sec)															6.40		6.20
Base Follow-Up Headway (sec)															3.5		3.3
Follow-Up Headway (sec)															3.50		3.30

## Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)																198	
Capacity, c (veh/h)																876	
v/c Ratio																0.23	
95% Queue Length, Q <sub>95</sub> (veh)																0.9	
Control Delay (s/veh)																10.3	
Level of Service (LOS)																B	
Approach Delay (s/veh)																10.3	
Approach LOS																B	

# HCS All-Way Stop Control Report

General and Site Information	
Analyst	AG
Agency/Co.	Eriksson
Date Performed	10/25/2022
Analysis Year	2022
Analysis Time Period (hrs)	0.25
Time Analyzed	AM Peak
Project Description	Greenbrier School
Intersection	Verde and Alleghany
Jurisdiction	Arlington Heights
East/West Street	Alleghany Drive
North/South Street	Verde Drive
Peak Hour Factor	0.71



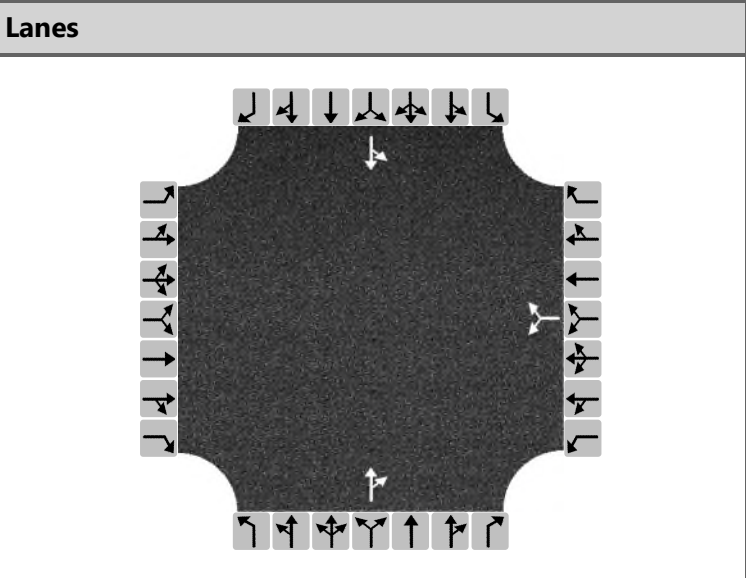
Turning Movement Demand Volumes												
Approach	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
Movement												
Volume (veh/h)				93		6		52	21	6	30	
% Thrus in Shared Lane												

Lane Flow Rate and Adjustments												
Approach	Eastbound			Westbound			Northbound			Southbound		
	L1	L2	L3	L1	L2	L3	L1	L2	L3	L1	L2	L3
Lane												
Configuration				LR			TR			LT		
Flow Rate, v (veh/h)				139			103			51		
Percent Heavy Vehicles				0			0			0		
Initial Departure Headway, $h_d$ (s)				3.20			3.20			3.20		
Initial Degree of Utilization, x				0.124			0.091			0.045		
Final Departure Headway, $h_d$ (s)				4.38			4.11			4.36		
Final Degree of Utilization, x				0.170			0.117			0.061		
Move-Up Time, m (s)				2.0			2.0			2.0		
Service Time, $t_s$ (s)				2.38			2.11			2.36		

Capacity, Delay and Level of Service															
Approach	Eastbound			Westbound			Northbound			Southbound					
	L1	L2	L3	L1	L2	L3	L1	L2	L3	L1	L2	L3			
Lane															
Configuration				LR			TR			LT					
Flow Rate, v (veh/h)				139			103			51					
Capacity (veh/h)				821			876			825					
95% Queue Length, $Q_{95}$ (veh)				0.6			0.4			0.2					
Control Delay (s/veh)				8.3			7.7			7.7					
Level of Service, LOS				A			A			A					
Approach Delay (s/veh)   LOS				8.3	A			7.7	A			7.7	A		
Intersection Delay (s/veh)   LOS	7.9						A								

# HCS All-Way Stop Control Report

General and Site Information	
Analyst	AG
Agency/Co.	Eriksson
Date Performed	10/25/2022
Analysis Year	2028
Analysis Time Period (hrs)	0.25
Time Analyzed	AM Peak
Project Description	Greenbrier School
Intersection	Verde and Alleghany
Jurisdiction	Arlington Heights
East/West Street	Alleghany Drive
North/South Street	Verde Drive
Peak Hour Factor	0.71



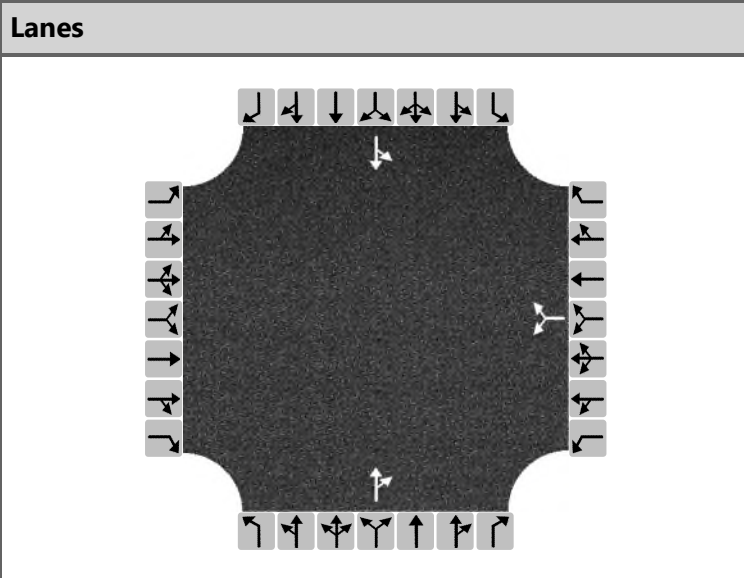
Turning Movement Demand Volumes													
Approach	Eastbound			Westbound			Northbound			Southbound			
	L	T	R	L	T	R	L	T	R	L	T	R	
Movement													
Volume (veh/h)				104		6		62	27	6	33		
% Thrus in Shared Lane													

Lane Flow Rate and Adjustments													
Approach	Eastbound			Westbound			Northbound			Southbound			
	L1	L2	L3	L1	L2	L3	L1	L2	L3	L1	L2	L3	
Lane													
Configuration				LR			TR			LT			
Flow Rate, v (veh/h)				155			125			55			
Percent Heavy Vehicles				0			0			0			
Initial Departure Headway, h <sub>d</sub> (s)				3.20			3.20			3.20			
Initial Degree of Utilization, x				0.138			0.111			0.049			
Final Departure Headway, h <sub>d</sub> (s)				4.46			4.15			4.43			
Final Degree of Utilization, x				0.192			0.144			0.068			
Move-Up Time, m (s)				2.0			2.0			2.0			
Service Time, t <sub>s</sub> (s)				2.46			2.15			2.43			

Capacity, Delay and Level of Service															
Approach	Eastbound			Westbound			Northbound			Southbound					
	L1	L2	L3	L1	L2	L3	L1	L2	L3	L1	L2	L3			
Lane															
Configuration				LR			TR			LT					
Flow Rate, v (veh/h)				155			125			55					
Capacity (veh/h)				808			868			812					
95% Queue Length, Q <sub>95</sub> (veh)				0.7			0.5			0.2					
Control Delay (s/veh)				8.5			7.8			7.8					
Level of Service, LOS				A			A			A					
Approach Delay (s/veh)   LOS				8.5	A			7.8	A			7.8	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	10/25/2022
Analysis Year	2022
Analysis Time Period (hrs)	0.25
Time Analyzed	PM Peak
Project Description	Greenbrier School
Intersection	Verde and Alleghany
Jurisdiction	Arlington Heights
East/West Street	Alleghany Drive
North/South Street	Verde Drive
Peak Hour Factor	0.65



## Turning Movement Demand Volumes

Approach	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
Movement												
Volume (veh/h)				84		19		18	55	18	28	
% Thrus in Shared Lane												

## Lane Flow Rate and Adjustments

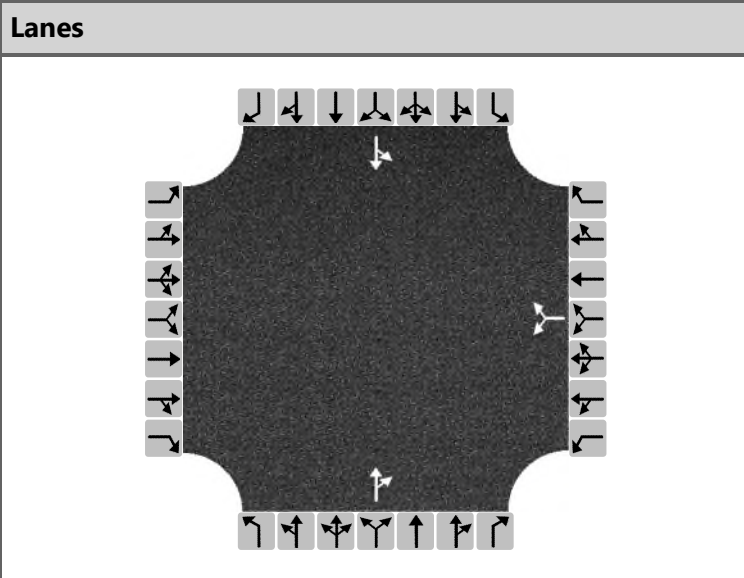
Approach	Eastbound			Westbound			Northbound			Southbound		
	L1	L2	L3	L1	L2	L3	L1	L2	L3	L1	L2	L3
Lane												
Configuration				LR			TR			LT		
Flow Rate, $v$ (veh/h)				158			112			71		
Percent Heavy Vehicles				0			0			0		
Initial Departure Headway, $h_d$ (s)				3.20			3.20			3.20		
Initial Degree of Utilization, $x$				0.141			0.100			0.063		
Final Departure Headway, $h_d$ (s)				4.35			3.89			4.46		
Final Degree of Utilization, $x$				0.191			0.121			0.088		
Move-Up Time, $m$ (s)				2.0			2.0			2.0		
Service Time, $t_s$ (s)				2.35			1.89			2.46		

## Capacity, Delay and Level of Service

Approach	Eastbound			Westbound			Northbound			Southbound					
	L1	L2	L3	L1	L2	L3	L1	L2	L3	L1	L2	L3			
Lane															
Configuration				LR			TR			LT					
Flow Rate, $v$ (veh/h)				158			112			71					
Capacity (veh/h)				828			924			808					
95% Queue Length, $Q_{95}$ (veh)				0.7			0.4			0.3					
Control Delay (s/veh)				8.4			7.4			7.9					
Level of Service, LOS				A			A			A					
Approach Delay (s/veh)   LOS				8.4	A			7.4	A			7.9	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	10/25/2022
Analysis Year	2028
Analysis Time Period (hrs)	0.25
Time Analyzed	PM Peak
Project Description	Greenbrier School
Intersection	Verde and Alleghany
Jurisdiction	Arlington Heights
East/West Street	Alleghany Drive
North/South Street	Verde Drive
Peak Hour Factor	0.65



## Turning Movement Demand Volumes

Approach	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
Movement												
Volume (veh/h)				91		19		24	68	18	30	
% Thrus in Shared Lane												

## Lane Flow Rate and Adjustments

Approach	Eastbound			Westbound			Northbound			Southbound		
	L1	L2	L3	L1	L2	L3	L1	L2	L3	L1	L2	L3
Lane												
Configuration				LR			TR			LT		
Flow Rate, v (veh/h)				169			142			74		
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			0.126			0.066		
Final Departure Headway, $h_d$ (s)				4.43			3.94			4.52		
Final Degree of Utilization, x				0.208			0.155			0.093		
Move-Up Time, m (s)				2.0			2.0			2.0		
Service Time, $t_s$ (s)				2.43			1.94			2.52		

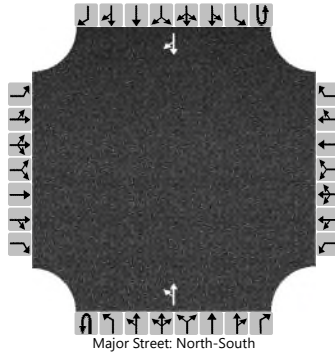
## Capacity, Delay and Level of Service

Approach	Eastbound			Westbound			Northbound			Southbound					
	L1	L2	L3	L1	L2	L3	L1	L2	L3	L1	L2	L3			
Lane															
Configuration				LR			TR			LT					
Flow Rate, v (veh/h)				169			142			74					
Capacity (veh/h)				813			914			797					
95% Queue Length, $Q_{95}$ (veh)				0.8			0.5			0.3					
Control Delay (s/veh)				8.6			7.7			8.0					
Level of Service, LOS				A			A			A					
Approach Delay (s/veh)   LOS				8.6	A			7.7	A			8.0	A		
Intersection Delay (s/veh)   LOS	8.1						A								

# HCS Two-Way Stop-Control Report

General Information				Site Information			
Analyst	AG			Intersection	Verde and East Lot		
Agency/Co.	Eriksson			Jurisdiction	Arlington Heights		
Date Performed	9/9/2022			East/West Street	East Lot		
Analysis Year	2022			North/South Street	Verde Drive		
Time Analyzed	AM Peak			Peak Hour Factor	0.71		
Intersection Orientation	North-South			Analysis Time Period (hrs)	0.25		
Project Description	Greenbrier School						

## Lanes



## Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Movement																
Priority		10	11	12		7	8	9	1U	1	2	3	4U	4	5	6
Number of Lanes		0	0	0		0	0	0		0	1	0		0	1	0
Configuration										LT						TR
Volume (veh/h)										11	83				88	35
Percent Heavy Vehicles (%)										0						
Proportion Time Blocked																
Percent Grade (%)																
Right Turn Channelized																
Median Type   Storage	Undivided															

## Critical and Follow-up Headways

Base Critical Headway (sec)											4.1					
Critical Headway (sec)											4.10					
Base Follow-Up Headway (sec)											2.2					
Follow-Up Headway (sec)											2.20					

## Delay, Queue Length, and Level of Service

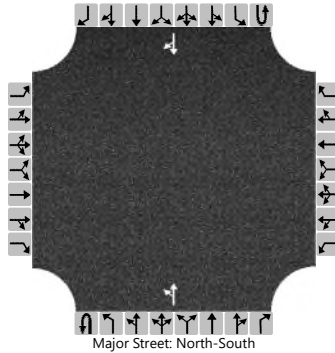
Flow Rate, v (veh/h)											15					
Capacity, c (veh/h)											1416					
v/c Ratio											0.01					
95% Queue Length, Q <sub>95</sub> (veh)											0.0					
Control Delay (s/veh)											7.6	0.1				
Level of Service (LOS)											A	A				
Approach Delay (s/veh)											1.0					
Approach LOS											A					



# HCS Two-Way Stop-Control Report

General Information				Site Information			
Analyst	AG			Intersection	Verde and East Lot		
Agency/Co.	Eriksson			Jurisdiction	Arlington Heights		
Date Performed	9/9/2022			East/West Street	East Lot		
Analysis Year	2028			North/South Street	Verde Drive		
Time Analyzed	AM Peak			Peak Hour Factor	0.71		
Intersection Orientation	North-South			Analysis Time Period (hrs)	0.25		
Project Description	Greenbrier School						

## Lanes



## Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Movement																
Priority		10	11	12		7	8	9	1U	1	2	3	4U	4	5	6
Number of Lanes		0	0	0		0	0	0		0	1	0		0	1	0
Configuration										LT						TR
Volume (veh/h)										12	89				98	39
Percent Heavy Vehicles (%)										0						
Proportion Time Blocked																
Percent Grade (%)																
Right Turn Channelized																
Median Type   Storage	Undivided															

## Critical and Follow-up Headways

Base Critical Headway (sec)													4.1			
Critical Headway (sec)													4.10			
Base Follow-Up Headway (sec)													2.2			
Follow-Up Headway (sec)													2.20			

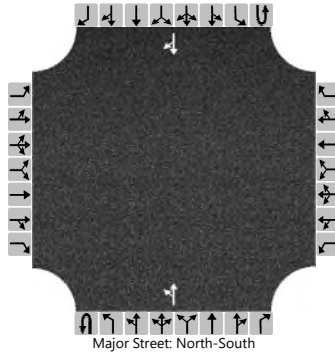
## Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)													17			
Capacity, c (veh/h)													1392			
v/c Ratio													0.01			
95% Queue Length, Q <sub>95</sub> (veh)													0.0			
Control Delay (s/veh)													7.6	0.1		
Level of Service (LOS)													A	A		
Approach Delay (s/veh)													1.0			
Approach LOS													A			

# HCS Two-Way Stop-Control Report

General Information				Site Information			
Analyst	AG			Intersection	Verde and East Lot		
Agency/Co.	Eriksson			Jurisdiction	Arlington Heights		
Date Performed	9/9/2022			East/West Street	East Lot		
Analysis Year	2022			North/South Street	Verde Drive		
Time Analyzed	PM Peak			Peak Hour Factor	0.57		
Intersection Orientation	North-South			Analysis Time Period (hrs)	0.25		
Project Description	Greenbrier School						

## Lanes



## Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Movement																
Priority		10	11	12		7	8	9	1U	1	2	3	4U	4	5	6
Number of Lanes		0	0	0		0	0	0		0	1	0		0	1	0
Configuration										LT						TR
Volume (veh/h)										6	73				92	20
Percent Heavy Vehicles (%)										0						
Proportion Time Blocked																
Percent Grade (%)																
Right Turn Channelized																
Median Type   Storage	Undivided															

## Critical and Follow-up Headways

Base Critical Headway (sec)											4.1					
Critical Headway (sec)											4.10					
Base Follow-Up Headway (sec)											2.2					
Follow-Up Headway (sec)											2.20					

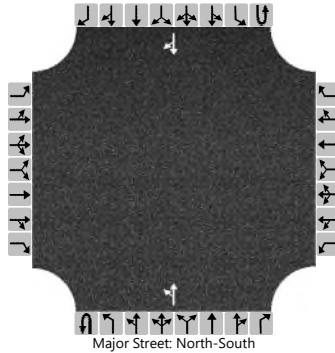
## Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)											11					
Capacity, c (veh/h)											1388					
v/c Ratio											0.01					
95% Queue Length, Q <sub>95</sub> (veh)											0.0					
Control Delay (s/veh)											7.6	0.1				
Level of Service (LOS)											A	A				
Approach Delay (s/veh)											0.6					
Approach LOS											A					

# HCS Two-Way Stop-Control Report

General Information				Site Information			
Analyst	AG			Intersection	Verde and East Lot		
Agency/Co.	Eriksson			Jurisdiction	Arlington Heights		
Date Performed	9/9/2022			East/West Street	East Lot		
Analysis Year	2028			North/South Street	Verde Drive		
Time Analyzed	PM Peak			Peak Hour Factor	0.57		
Intersection Orientation	North-South			Analysis Time Period (hrs)	0.25		
Project Description	Greenbrier School						

## Lanes



## Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Movement																
Priority		10	11	12		7	8	9	1U	1	2	3	4U	4	5	6
Number of Lanes		0	0	0		0	0	0		0	1	0		0	1	0
Configuration										LT						TR
Volume (veh/h)										7	92				99	22
Percent Heavy Vehicles (%)										0						
Proportion Time Blocked																
Percent Grade (%)																
Right Turn Channelized																
Median Type   Storage	Undivided															

## Critical and Follow-up Headways

Base Critical Headway (sec)											4.1					
Critical Headway (sec)											4.10					
Base Follow-Up Headway (sec)											2.2					
Follow-Up Headway (sec)											2.20					

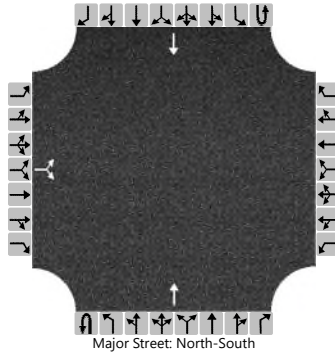
## Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)											12					
Capacity, c (veh/h)											1370					
v/c Ratio											0.01					
95% Queue Length, Q <sub>95</sub> (veh)											0.0					
Control Delay (s/veh)											7.7	0.1				
Level of Service (LOS)											A	A				
Approach Delay (s/veh)											0.6					
Approach LOS											A					

# HCS Two-Way Stop-Control Report

General Information				Site Information			
Analyst	AG			Intersection	Verde and East Lot		
Agency/Co.	Eriksson			Jurisdiction	Arlington Heights		
Date Performed	9/9/2022			East/West Street	East Lot		
Analysis Year	2022			North/South Street	Verde Drive		
Time Analyzed	AM Peak			Peak Hour Factor	0.71		
Intersection Orientation	North-South			Analysis Time Period (hrs)	0.25		
Project Description	Greenbrier School						

## Lanes



## Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
	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								T				T	
Volume (veh/h)		10		7							84				88	
Percent Heavy Vehicles (%)		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												
Critical Headway (sec)		6.40		6.20												
Base Follow-Up Headway (sec)		3.5		3.3												
Follow-Up Headway (sec)		3.50		3.30												

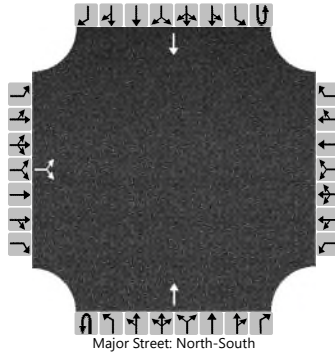
## Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)			24													
Capacity, c (veh/h)			815													
v/c Ratio			0.03													
95% Queue Length, Q <sub>95</sub> (veh)			0.1													
Control Delay (s/veh)			9.6													
Level of Service (LOS)			A													
Approach Delay (s/veh)	9.6															
Approach LOS	A															

# HCS Two-Way Stop-Control Report

General Information				Site Information			
Analyst	AG			Intersection	Verde and East Lot		
Agency/Co.	Eriksson			Jurisdiction	Arlington Heights		
Date Performed	9/9/2022			East/West Street	East Lot		
Analysis Year	2028			North/South Street	Verde Drive		
Time Analyzed	AM Peak			Peak Hour Factor	0.71		
Intersection Orientation	North-South			Analysis Time Period (hrs)	0.25		
Project Description	Greenbrier School						

## Lanes



## Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
	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								T				T	
Volume (veh/h)		11		8							90				98	
Percent Heavy Vehicles (%)		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												
Critical Headway (sec)		6.40		6.20												
Base Follow-Up Headway (sec)		3.5		3.3												
Follow-Up Headway (sec)		3.50		3.30												

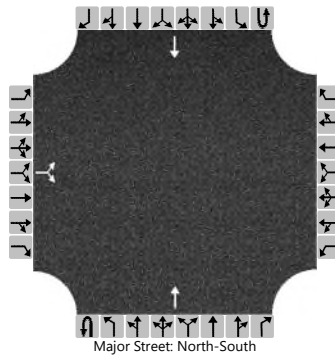
## Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)			27													
Capacity, c (veh/h)			796													
v/c Ratio			0.03													
95% Queue Length, Q <sub>95</sub> (veh)			0.1													
Control Delay (s/veh)			9.7													
Level of Service (LOS)			A													
Approach Delay (s/veh)		9.7														
Approach LOS		A														

# HCS Two-Way Stop-Control Report

General Information				Site Information			
Analyst	AG			Intersection	Verde and East Lot		
Agency/Co.	Eriksson			Jurisdiction	Arlington Heights		
Date Performed	9/9/2022			East/West Street	East Lot		
Analysis Year	2022			North/South Street	Verde Drive		
Time Analyzed	PM Peak			Peak Hour Factor	0.57		
Intersection Orientation	North-South			Analysis Time Period (hrs)	0.25		
Project Description	Greenbrier School						

## Lanes



## Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
	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								T				T	
Volume (veh/h)		15		8							79				92	
Percent Heavy Vehicles (%)		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												
Critical Headway (sec)		6.40		6.20												
Base Follow-Up Headway (sec)		3.5		3.3												
Follow-Up Headway (sec)		3.50		3.30												

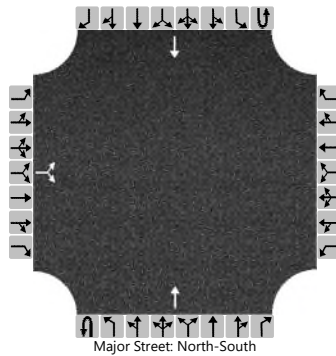
## Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)			40													
Capacity, c (veh/h)			753													
v/c Ratio			0.05													
95% Queue Length, Q <sub>95</sub> (veh)			0.2													
Control Delay (s/veh)			10.1													
Level of Service (LOS)			B													
Approach Delay (s/veh)	10.1															
Approach LOS	B															

# HCS Two-Way Stop-Control Report

General Information		Site Information	
Analyst	AG	Intersection	Verde and East Lot
Agency/Co.	Eriksson	Jurisdiction	Arlington Heights
Date Performed	9/9/2022	East/West Street	East Lot
Analysis Year	2028	North/South Street	Verde Drive
Time Analyzed	PM Peak	Peak Hour Factor	0.57
Intersection Orientation	North-South	Analysis Time Period (hrs)	0.25
Project Description	Greenbrier School		

## Lanes



## Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
	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								T				T	
Volume (veh/h)		17		9							82				99	
Percent Heavy Vehicles (%)		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												
Critical Headway (sec)		6.40		6.20												
Base Follow-Up Headway (sec)		3.5		3.3												
Follow-Up Headway (sec)		3.50		3.30												

## Delay, Queue Length, and Level of Service

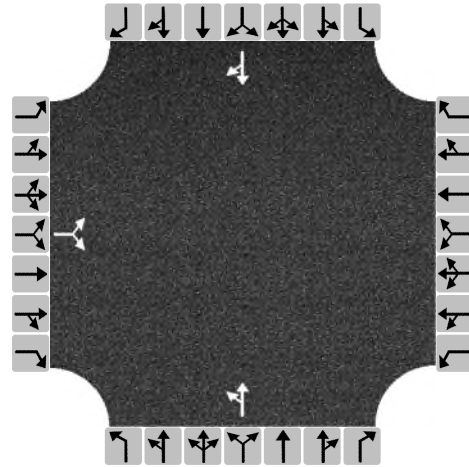
Flow Rate, v (veh/h)			46													
Capacity, c (veh/h)			737													
v/c Ratio			0.06													
95% Queue Length, Q <sub>95</sub> (veh)			0.2													
Control Delay (s/veh)			10.2													
Level of Service (LOS)			B													
Approach Delay (s/veh)	10.2															
Approach LOS	B															

# 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	Greenbrier School
Intersection	Verde and Roanoke
Jurisdiction	Arlington Heights
East/West Street	Roanoke Drive
North/South Street	Verde Drive
Peak Hour Factor	0.50

## Lanes



## Turning Movement Demand Volumes

Approach	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
Movement												
Volume (veh/h)	55		30				75	29			25	70
% Thrus in Shared Lane												

## Lane Flow Rate and Adjustments

Approach	Eastbound			Westbound			Northbound			Southbound		
	L1	L2	L3	L1	L2	L3	L1	L2	L3	L1	L2	L3
Lane												
Configuration	LR						LT			TR		
Flow Rate, $v$ (veh/h)	170						208			190		
Percent Heavy Vehicles	0						0			0		
Initial Departure Headway, $h_d$ (s)	3.20						3.20			3.20		
Initial Degree of Utilization, $x$	0.151						0.185			0.169		
Final Departure Headway, $h_d$ (s)	4.71						4.68			4.14		
Final Degree of Utilization, $x$	0.223						0.270			0.218		
Move-Up Time, $m$ (s)	2.0						2.0			2.0		
Service Time, $t_s$ (s)	2.71						2.68			2.14		

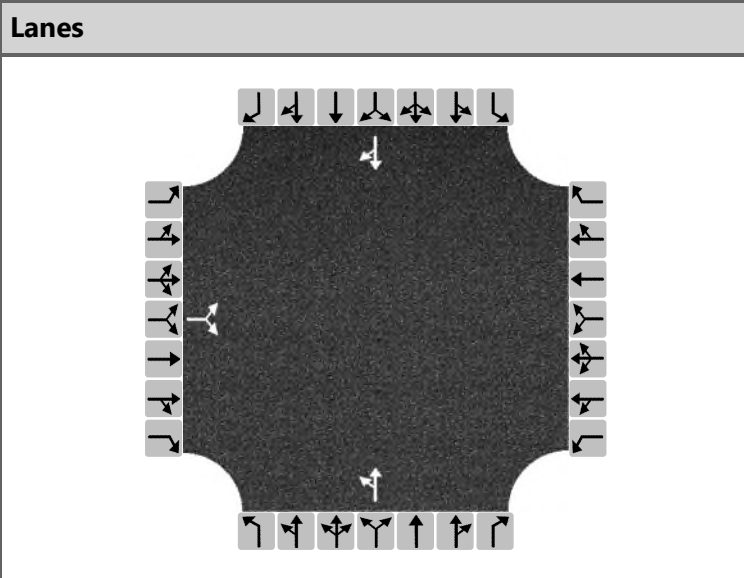
## Capacity, Delay and Level of Service

Approach	Eastbound			Westbound			Northbound			Southbound		
	L1	L2	L3	L1	L2	L3	L1	L2	L3	L1	L2	L3
Lane												
Configuration	LR						LT			TR		
Flow Rate, $v$ (veh/h)	170						208			190		
Capacity (veh/h)	764						769			870		
95% Queue Length, $Q_{95}$ (veh)	0.8						1.1			0.8		
Control Delay (s/veh)	9.1						9.4			8.3		
Level of Service, LOS	A						A			A		
Approach Delay (s/veh)   LOS	9.1		A				9.4		A	8.3		A
Intersection Delay (s/veh)   LOS	8.9						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	AM Peak
Project Description	Greenbrier School
Intersection	Verde and Roanoke
Jurisdiction	Arlington Heights
East/West Street	Roanoke Drive
North/South Street	Verde Drive
Peak Hour Factor	0.50



## Turning Movement Demand Volumes

Approach	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
Movement												
Volume (veh/h)	61		34				96	29			27	79
% Thrus in Shared Lane												

## Lane Flow Rate and Adjustments

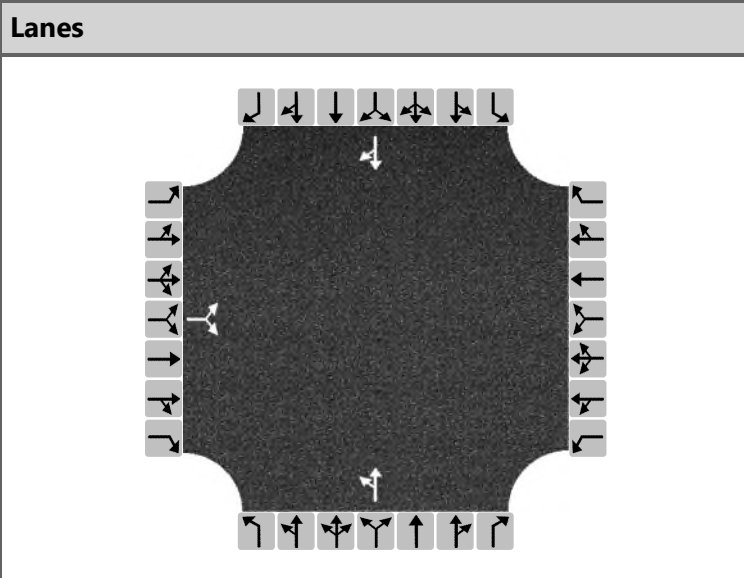
Approach	Eastbound			Westbound			Northbound			Southbound		
	L1	L2	L3	L1	L2	L3	L1	L2	L3	L1	L2	L3
Lane												
Configuration	LR						LT			TR		
Flow Rate, v (veh/h)	190						250			212		
Percent Heavy Vehicles	0						0			0		
Initial Departure Headway, h <sub>d</sub> (s)	3.20						3.20			3.20		
Initial Degree of Utilization, x	0.169						0.222			0.188		
Final Departure Headway, h <sub>d</sub> (s)	4.87						4.79			4.26		
Final Degree of Utilization, x	0.257						0.333			0.251		
Move-Up Time, m (s)	2.0						2.0			2.0		
Service Time, t <sub>s</sub> (s)	2.87						2.79			2.26		

## Capacity, Delay and Level of Service

Approach	Eastbound			Westbound			Northbound			Southbound			
	L1	L2	L3	L1	L2	L3	L1	L2	L3	L1	L2	L3	
Lane													
Configuration	LR						LT			TR			
Flow Rate, v (veh/h)	190						250			212			
Capacity (veh/h)	739						752			845			
95% Queue Length, Q <sub>95</sub> (veh)	1.0						1.5			1.0			
Control Delay (s/veh)	9.6						10.2			8.7			
Level of Service, LOS	A						B			A			
Approach Delay (s/veh)   LOS	9.6	A						10.2	B			8.7	A
Intersection Delay (s/veh)   LOS	9.5						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	Greenbrier School
Intersection	Verde and Roanoke
Jurisdiction	Arlington Heights
East/West Street	Roanoke Drive
North/South Street	Verde Drive
Peak Hour Factor	0.63



Turning Movement Demand Volumes												
Approach	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
Movement												
Volume (veh/h)	45		29				27	34			47	53
% Thrus in Shared Lane												

Lane Flow Rate and Adjustments												
Approach	Eastbound			Westbound			Northbound			Southbound		
	L1	L2	L3	L1	L2	L3	L1	L2	L3	L1	L2	L3
Lane	LR						LT			TR		
Flow Rate, $v$ (veh/h)	117						97			159		
Percent Heavy Vehicles	0						0			0		
Initial Departure Headway, $h_d$ (s)	3.20						3.20			3.20		
Initial Degree of Utilization, $x$	0.104						0.086			0.141		
Final Departure Headway, $h_d$ (s)	4.32						4.41			3.95		
Final Degree of Utilization, $x$	0.141						0.119			0.174		
Move-Up Time, $m$ (s)	2.0						2.0			2.0		
Service Time, $t_s$ (s)	2.32						2.41			1.95		

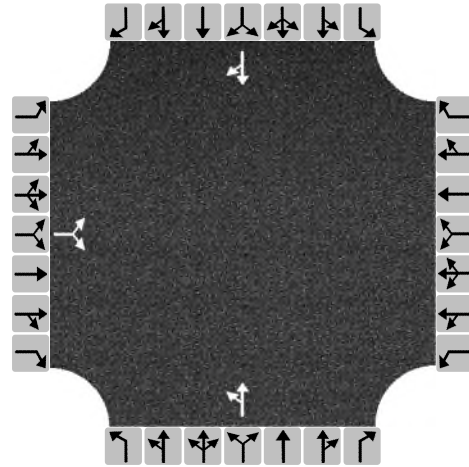
Capacity, Delay and Level of Service												
Approach	Eastbound			Westbound			Northbound			Southbound		
	L1	L2	L3	L1	L2	L3	L1	L2	L3	L1	L2	L3
Lane	LR						LT			TR		
Flow Rate, $v$ (veh/h)	117						97			159		
Capacity (veh/h)	833						816			910		
95% Queue Length, $Q_{95}$ (veh)	0.5						0.4			0.6		
Control Delay (s/veh)	8.0						8.0			7.8		
Level of Service, LOS	A						A			A		
Approach Delay (s/veh)   LOS	8.0		A				8.0		A	7.8		A
Intersection Delay (s/veh)   LOS	7.9						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	Greenbrier School
Intersection	Verde and Roanoke
Jurisdiction	Arlington Heights
East/West Street	Roanoke Drive
North/South Street	Verde Drive
Peak Hour Factor	0.63

## Lanes



## Turning Movement Demand Volumes

Approach	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
Movement												
Volume (veh/h)	48		32				29	34			49	59
% Thrus in Shared Lane												

## Lane Flow Rate and Adjustments

Approach	Eastbound			Westbound			Northbound			Southbound		
	L1	L2	L3	L1	L2	L3	L1	L2	L3	L1	L2	L3
Lane												
Configuration	LR						LT			TR		
Flow Rate, $v$ (veh/h)	127						100			171		
Percent Heavy Vehicles	0						0			0		
Initial Departure Headway, $h_d$ (s)	3.20						3.20			3.20		
Initial Degree of Utilization, $x$	0.113						0.089			0.152		
Final Departure Headway, $h_d$ (s)	4.37						4.46			3.98		
Final Degree of Utilization, $x$	0.154						0.124			0.190		
Move-Up Time, $m$ (s)	2.0						2.0			2.0		
Service Time, $t_s$ (s)	2.37						2.46			1.98		

## Capacity, Delay and Level of Service

Approach	Eastbound			Westbound			Northbound			Southbound		
	L1	L2	L3	L1	L2	L3	L1	L2	L3	L1	L2	L3
Lane												
Configuration	LR						LT			TR		
Flow Rate, $v$ (veh/h)	127						100			171		
Capacity (veh/h)	824						807			904		
95% Queue Length, $Q_{95}$ (veh)	0.5						0.4			0.7		
Control Delay (s/veh)	8.2						8.1			7.9		
Level of Service, LOS	A						A			A		
Approach Delay (s/veh)   LOS	8.2		A				8.1		A	7.9		A
Intersection Delay (s/veh)   LOS	8.0						A					