

**TRAFFIC IMPACT ANALYSIS
KELLY PARK ELEMENTARY SCHOOL
GAITHERSBURG, MARYLAND**

**Prepared For:
Montgomery County Public Schools**

December 10, 2019

**Project Managers: David A. Nelson, P.E.
Mike Nalepa**

STS Job No.: 6713

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INTRODUCTION

Montgomery County Public Schools is proposing to construct an elementary school within Kelly Park along Victory Farm Drive. The proposed school will have a core capacity of 740 students.

Access to Kelly Park is currently provided via a full movement access on Victory Farm Drive and this access is offset slightly (approx. 50') from the intersection of Victory Farm Drive at Belle Grove Road. The school will provide two full movement access points onto Victory Farm Drive, a loop for parent drop-offs and a bus loop. Street Traffic Studies, Ltd. (STSLTD) has prepared a traffic impact analysis related to this development.

The objective of the analysis was to evaluate the impact the proposed development will have on the road network in the vicinity of the subject site. The methodology used for the analysis followed guidelines established by the City of Gaithersburg and are outlined in the traffic study scope contained in Appendix A.

The principal scope of services performed as part of this study included:

- o Field inspection of the road network in the vicinity of the site to determine the existing pavement widths and traffic controls.
- o Conduct manual turning movement traffic counts at seven intersections in the study area plus the school access points.
- o Determination of planned development to be included in the analysis as background traffic.
- o Trip generation and distribution analyses for the planned development, as well as the subject site.

- o Analysis of the above data to determine the impact of the proposed development on the road network under study.

- o Preparation of a report detailing the results of the field studies and analyses performed.

BASE CONDITIONS

Kelly Park is located along the south side of Victory Farm Drive within the City of Gaithersburg and is shown in Exhibit 1. The proposed school will have a core capacity of 740 students. Access to the school will be provided via two (2) full movement access points onto Victory Farm Drive.

Existing Road Network

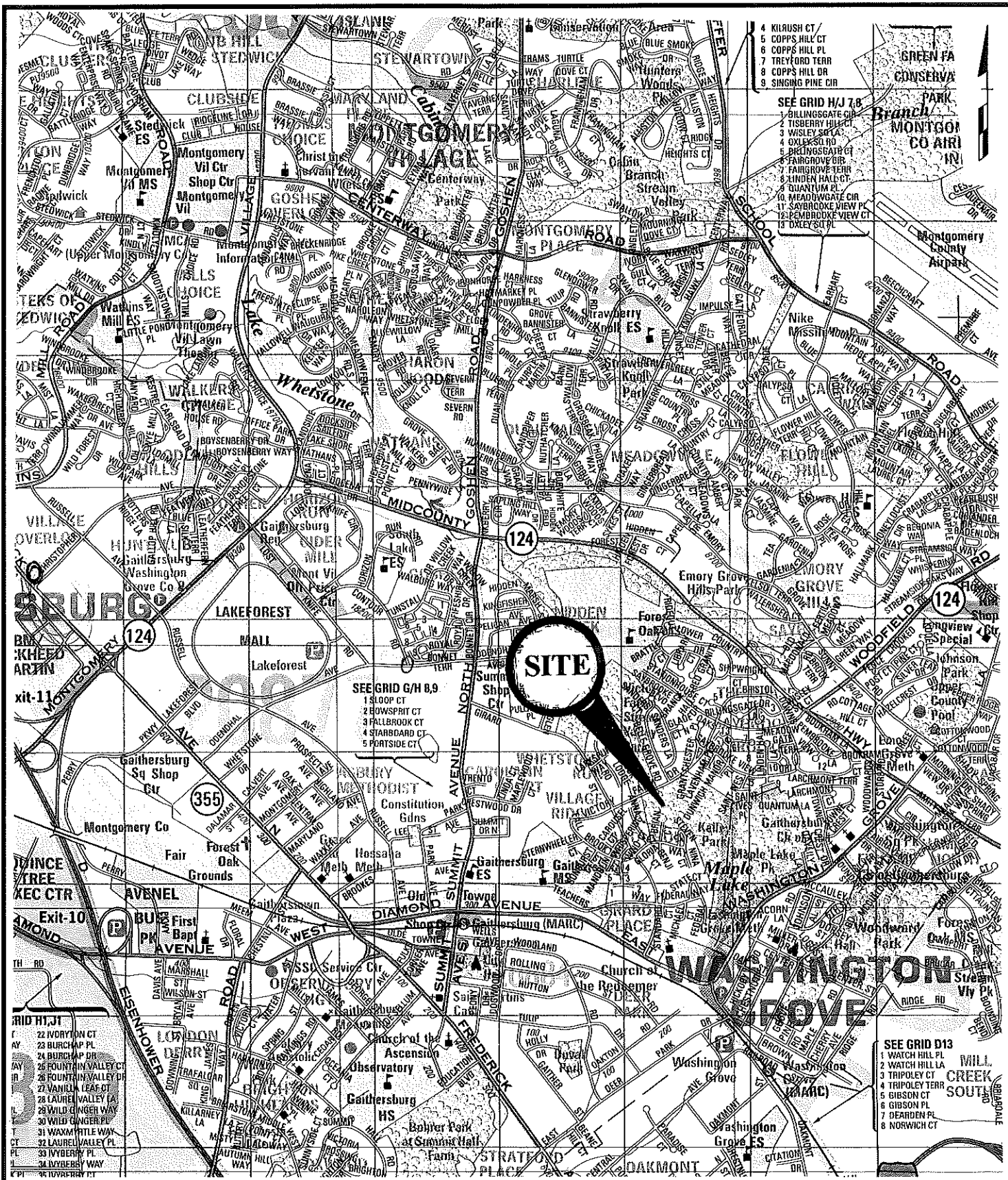
Based upon the direction provided by the City of Gaithersburg, the intersections required to be analyzed as part of this report are as follows:

- N Summit Avenue @ Girard Street
- Girard Street @ Victory Farm Drive
- Victory Farm Drive @ Belle Grove Road
- Saybrooke Oaks Boulevard @ Victory Farm Drive-Bristol Downs Drive
- Midcounty Highway @ Saybrooke Oaks Boulevard-Woodfield Road
- E Diamond Avenue @ Girard Street
- E Diamond Avenue @ Railroad Street-Washington Grove Road

Field inspection of the intersections under study revealed the existing lane uses as illustrated in Exhibit 2.

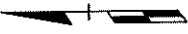
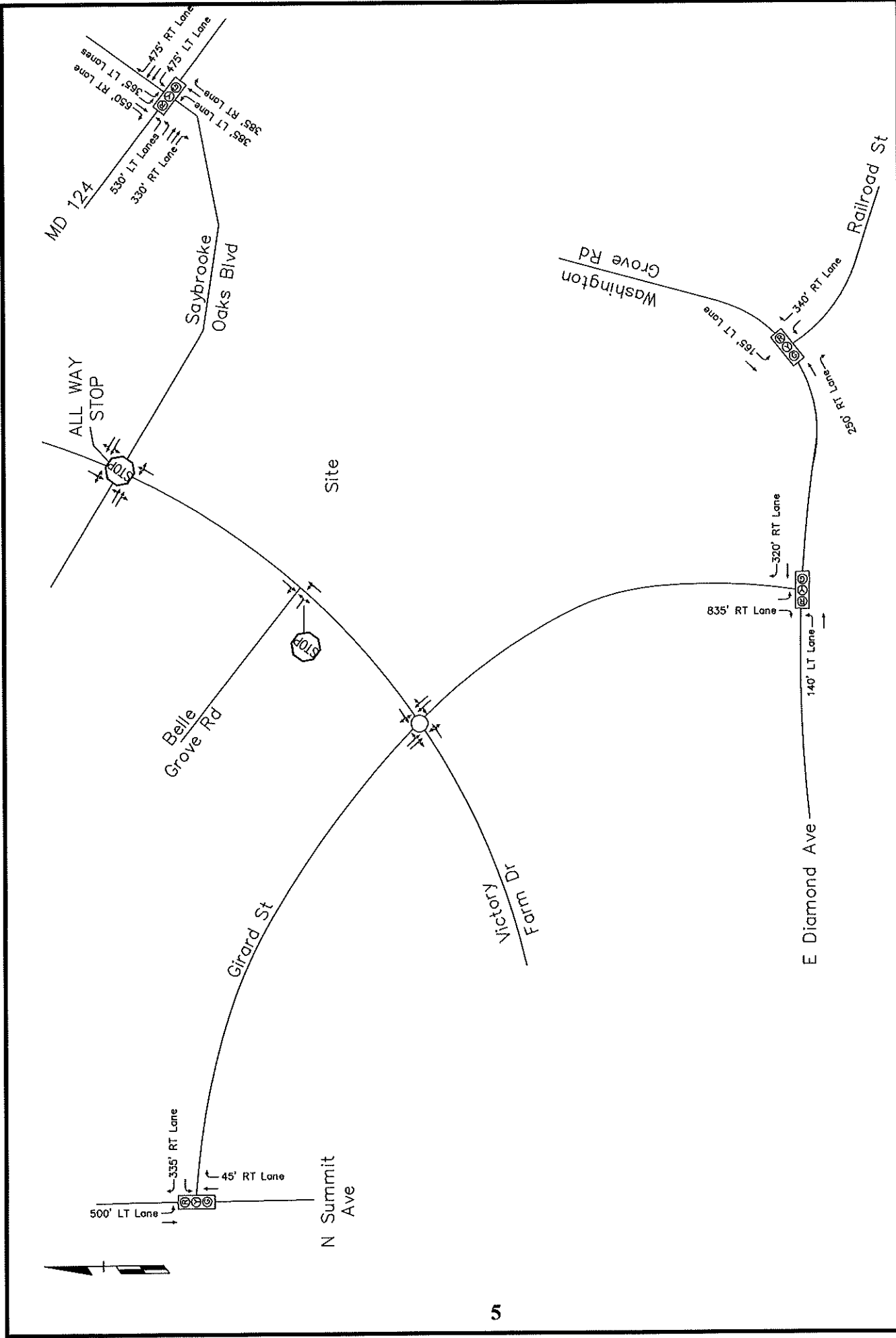
Existing Traffic Volumes

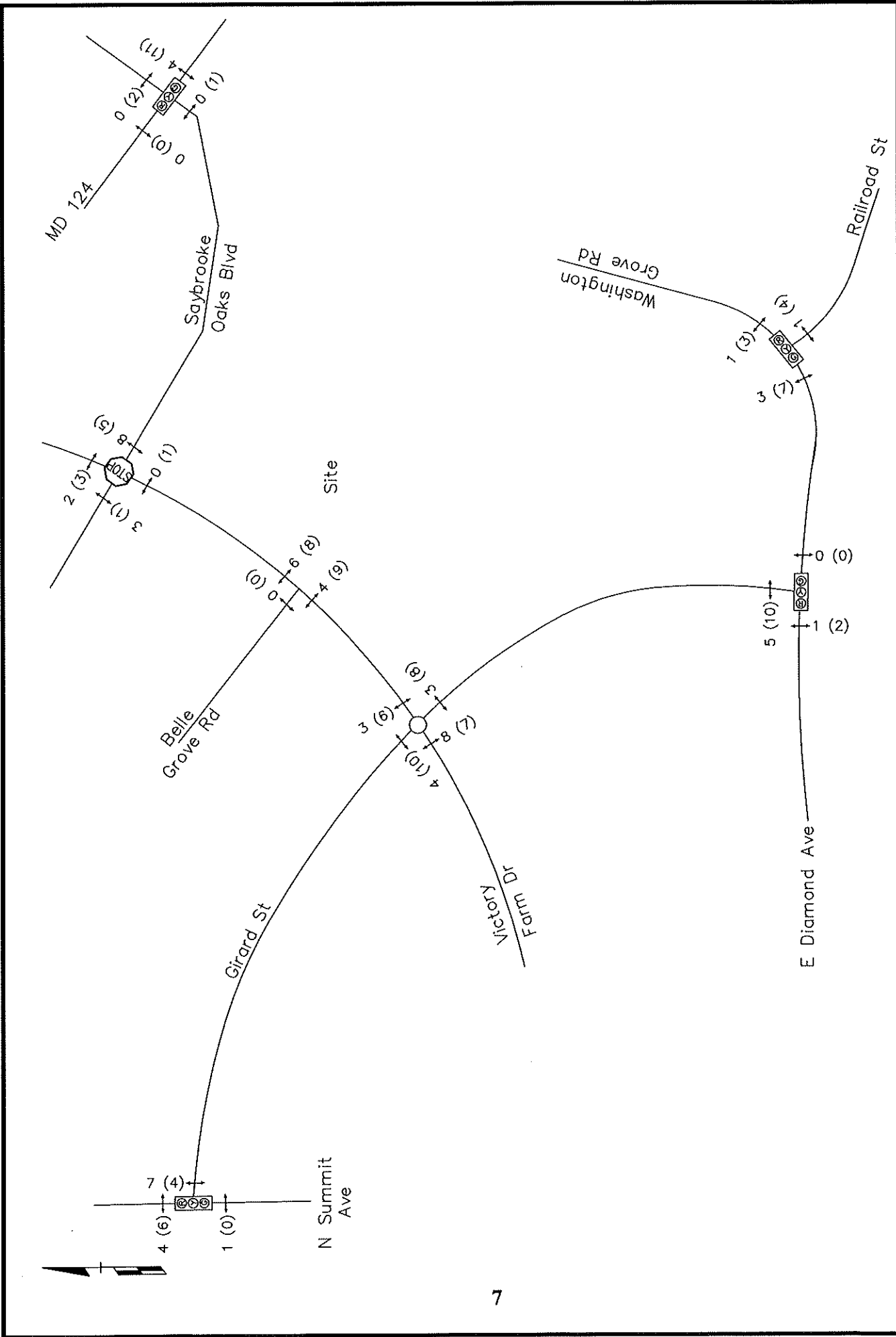
STS LTD conducted manual turning movement counts in September 2019 between the hours of 6:30 - 9:30 AM and 3:00 - 6:00 PM to determine the existing traffic conditions. The existing peak hour volumes are shown in Exhibit 3. Exhibits 4 and 5 were also prepared showing the peak hour pedestrian and bicycle volumes at the critical intersections.



SCALE: 1" = 2000'

EXHIBIT 2
EXISTING LANE USE

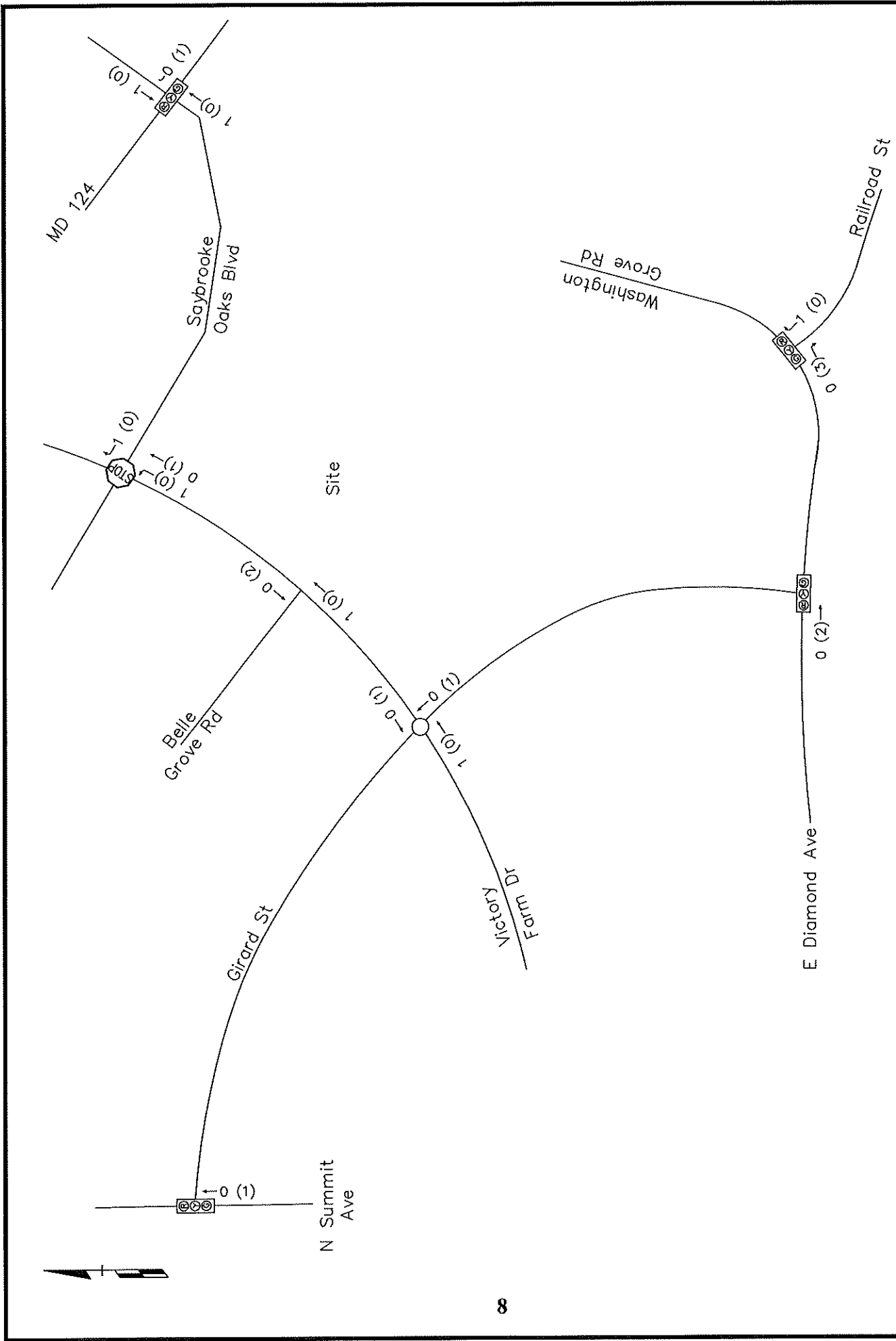




0000 - MORNING PEAK HOUR
 (0000) - EVENING PEAK HOUR

EXHIBIT 4
 EXISTING PEDESTRIAN VOLUMES

NO SCALE



0000 - MORNING PEAK HOUR
 (0000) - EVENING PEAK HOUR

EXHIBIT 5
 EXISTING BICYCLE VOLUMES

NO SCALE

Pedestrian and bicycle volumes were also recorded at the study intersections and those summaries are included along with the vehicle count summaries in Appendix B.

Analysis of Existing Traffic Conditions

Intersection capacity analyses were conducted using the critical lane technique and the Existing Traffic Volumes. The Girard Street/Victory Farm Drive intersection is controlled with a roundabout. Therefore, the capacity analyses at this intersection was performed using SIDRA. The results of the analyses are presented in Tables 1 and 2.

**TABLE 1
RESULTS OF CLV CAPACITY ANALYSES
EXISTING TRAFFIC CONDITIONS**

<u>INTERSECTION</u>	<u>MORNING PEAK HOUR</u>	<u>AFTERNOON PEAK HOUR</u>
N Summit Ave @ Girard St	A(648)	A(883)
Victory Farm Dr @ Belle Grove Rd	A(352)	A(266)
Saybrooke Oaks Blvd @ Victory Farm Dr	A(477)	A(377)
Midcounty Hwy @ Saybrooke Oaks Blvd	A(936)	A(901)
E Diamond Ave @ Girard St	A(713)	A(579)
E Diamond Ave @ Railroad St	A(543)	A(850)

X(0000) - Level of Service(Critical Lane Volume)

TABLE 2
RESULTS OF SIDRA CAPACITY ANALYSES
EXISTING TRAFFIC CONDITIONS

<u>INTERSECTION</u>	<u>MORNING PEAK HOUR</u>	<u>AFTERNOON PEAK HOUR</u>
Girard St @ Victory Farm Dr	A(0.297)	A(0.222)
X(0000) - Level of Service(v/c ratio)		

According to the City of Gaithersburg guidelines, an acceptable level of service is Critical Lane Volume of 1450. A review of the results shown in Table 1 reveal that all intersections are currently operating at acceptable levels of service under existing conditions. The SIDRA capacity worksheets show that the Girard Street/Victory Farm Drive roundabout is also currently operating at a very good level of service. The capacity calculations are contained in Appendix C.

BACKGROUND TRAFFIC

Proposed Road Improvements

There are no improvements funded for construction in either the State Highway Administration (SHA) publication Consolidated Transportation Program or the City of Gaithersburg Capital Improvement Program which would have a significant effect on traffic in the area.

Growth in Thru Traffic

The City of Gaithersburg guideline indicate that projects with a build-out schedule greater than three (3) years should apply a growth rate to existing volumes. It is anticipated that the proposed school will be completed in July/August 2022. Since this is within three (3) years a growth rate adjustment was not applied to the existing traffic volumes.

Planned Developments

To provide an adequate assessment of traffic volumes traffic from approved, but un-built or completed projects within the study area must be included. To acquire information regarding planned development in the area, the City of Gaithersburg provided information on four (4) developments in the area. The following list of developments were within the area which needed to included as background traffic. The developments are listed in Table 3.

TABLE 3
PLANNED DEVELOPMENT IN THE VICINITY OF THE SUBJECT SITE

<u>LOCATION</u>	<u>NAME</u>	<u>PROPOSED DEVELOPMENT</u>
1. 315 E Diamond Ave	Fishman	109 Apartments 8,663 s.f. Retail
2. 414 E Diamond Ave	Metropolitan Grove	1,380 s.f. office
3. Deer Park Dr/Central Ave		6 SFDU's
4. E Diamond Ave	Gaitherburg Station	11 Apartments 12,354 s.f. Retail
5. 214 Brooks Ave		1 SFDU

Trip Generation

To determine the traffic associated with the "planned" development STS LTD obtained trip generation rates from the M-NCPPC or the Institute of Transportation Engineers (ITE) publication Trip Generation, 10th Edition. The resulting generated trips are shown in Table 4.

TABLE 4
TRIP GENERATION
PLANNED DEVELOPMENT

<u>LAND USE</u>	<u>MORNING PEAK HOUR</u>			<u>EVENING PEAK HOUR</u>		
	<u>IN</u>	<u>OUT</u>	<u>TOTAL</u>	<u>IN</u>	<u>OUT</u>	<u>TOTAL</u>
1. Gaithersburg Station						
Trips/11 MFDU's	1	5	6	5	3	8
Trips/12,354 s.f.	7	5	12	56	60	116
Passby (0%/34%)	0	0	0	19	20	39
New Trips	<u>7</u>	<u>5</u>	<u>12</u>	<u>37</u>	<u>40</u>	<u>77</u>
Total Site Trips	8	10	18	42	43	85
2. 214 Brooks Ave						
Trips/1 SFDU	0	1	1	1	0	1
3. 315 E Diamond Ave						
Trips/109 MFDU's	12	40	52	40	24	64
Trips/8,663 s.f.	5	3	8	43	46	89
Passby (0%/34%)	0	0	0	15	15	30
New Trips	<u>5</u>	<u>3</u>	<u>8</u>	<u>28</u>	<u>31</u>	<u>59</u>
Total Site Trips	17	43	60	68	55	123
4. 414 E Diamond Ave						
Trips/1,380 s.f.	2	0	2	0	2	2
5. E Deer Park Dr/Central Ave						
Trips/6 SFDU's	2	7	9	4	3	7

Trip Distribution

The assumed trip distribution for the background developments was based on a review of M-NCPPC Trip Distribution percentages, previous traffic studies, existing traffic volumes, the location of employment centers and an overview of surrounding land uses.

The trips generated by the background sites were assigned to the road network and are shown in Exhibit 6. The Background Traffic Volumes are shown in Exhibit 7.

Analysis of Background Traffic Conditions

Intersection capacity analyses were performed, applying the critical lane technique to the background volumes. The results of the analysis are presented in Table 5.

**TABLE 5
RESULTS OF CLV CAPACITY ANALYSES
BACKGROUND TRAFFIC CONDITIONS**

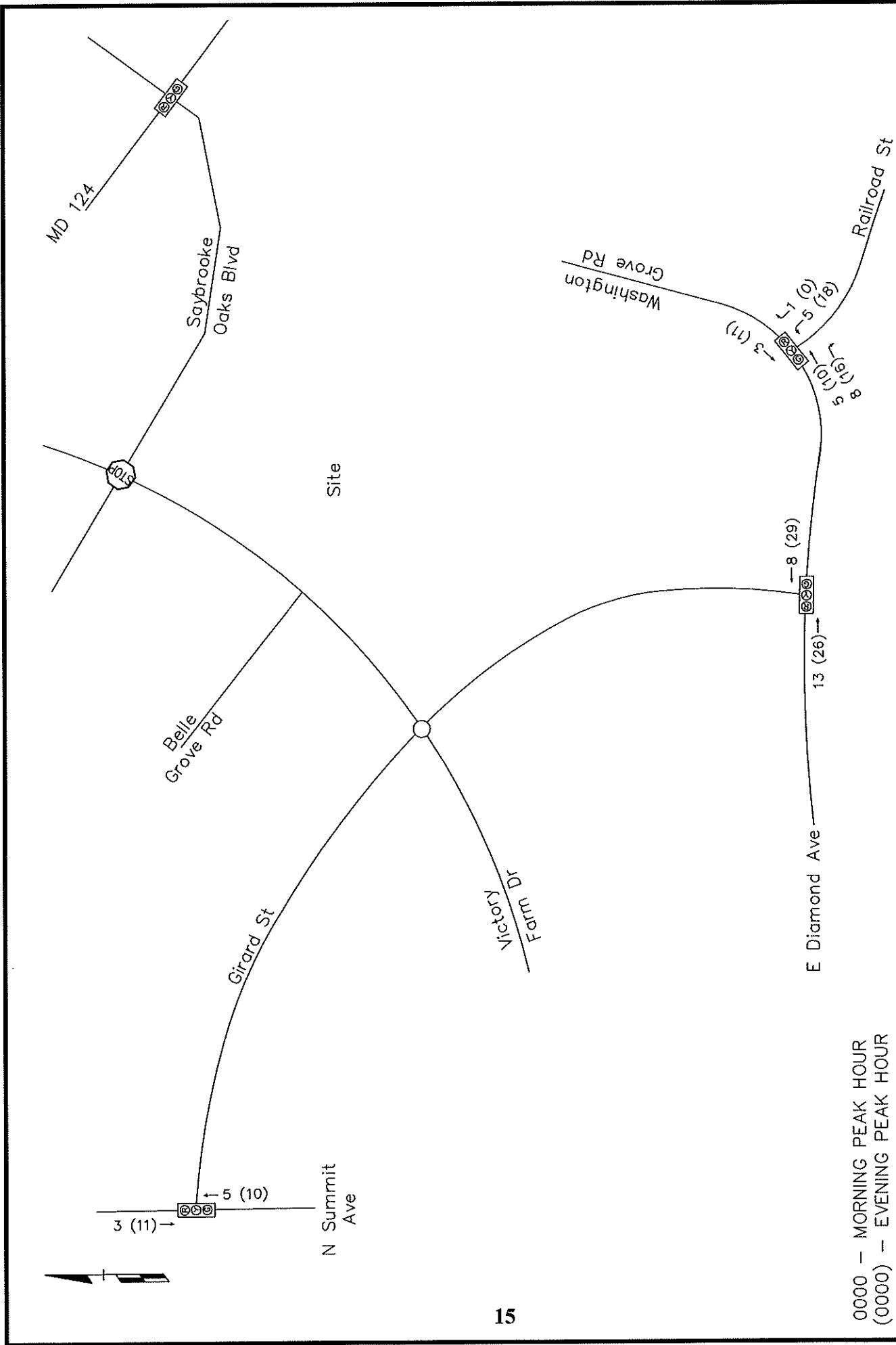
<u>INTERSECTION</u>	<u>MORNING PEAK HOUR</u>	<u>EVENING PEAK HOUR</u>
N Summit Ave @ Girard St	A(653)	A(893)
E Diamond Ave @ Girard St	A(721)	A(608)
E Diamond Ave @ Railroad St	A(553)	A(878)

X(0000) - Level of Service(Critical Lane Volume)

As shown above, the critical intersections are projected to operate at acceptable levels of service during the morning and evening peak hours under background traffic conditions. The other study intersections were not impacted by planned development trips; therefore background analyses were not required at these intersections since there was no change.

The capacity calculations are contained in Appendix F.

EXHIBIT 6
TRIPS GENERATED BY PLANNED DEVELOPMENTS



0000 - MORNING PEAK HOUR
(0000) - EVENING PEAK HOUR

NO SCALE

SITE TRAFFIC ANALYSIS

Kelly Park is located along the south side of Victory Farm Drive within the City of Gaithersburg. The proposed school will have a core capacity of 740 students. Access to the school will be provided via two (2) full movement access points onto Victory Farm Drive. The bus loop access will be located opposite of Belle Grove Road creating a 4 leg intersection. This access will also provide parking spaces for the school/park. Although access to this access will be restricted to school buses during the peak morning and afternoon peak times, access to other vehicles will be permitted at all other times. The student drop off loop will be located west of the bus loop and will create a T type intersection.

Trip Generation

Typically trip generation rates based on existing MCPS schools are used to generate trips for MCPS schools. However in this case the MCPS trip rates are slightly lower than the rates found in the ITE publication Trip Generation, 10th Edition. Therefore the ITE rates were used to provide a conservative projection of future traffic conditions. The trip generation rates and the trips projected to be generated by the proposed school are shown in Table 6.

TABLE 6
TRIP GENERATION
KELLY PARK ELEMENTARY SCHOOL

<u>LAND USE</u>	<u>MORNING PEAK HOUR</u>			<u>AFTERNOON PEAK HOUR</u>		
	<u>IN</u>	<u>OUT</u>	<u>TOTAL</u>	<u>IN</u>	<u>OUT</u>	<u>TOTAL</u>
Elementary School (520)						
Trips/Student	0.36	0.31	0.67	0.08	0.09	0.17
Trips/740 Students	268	228	496	60	66	126

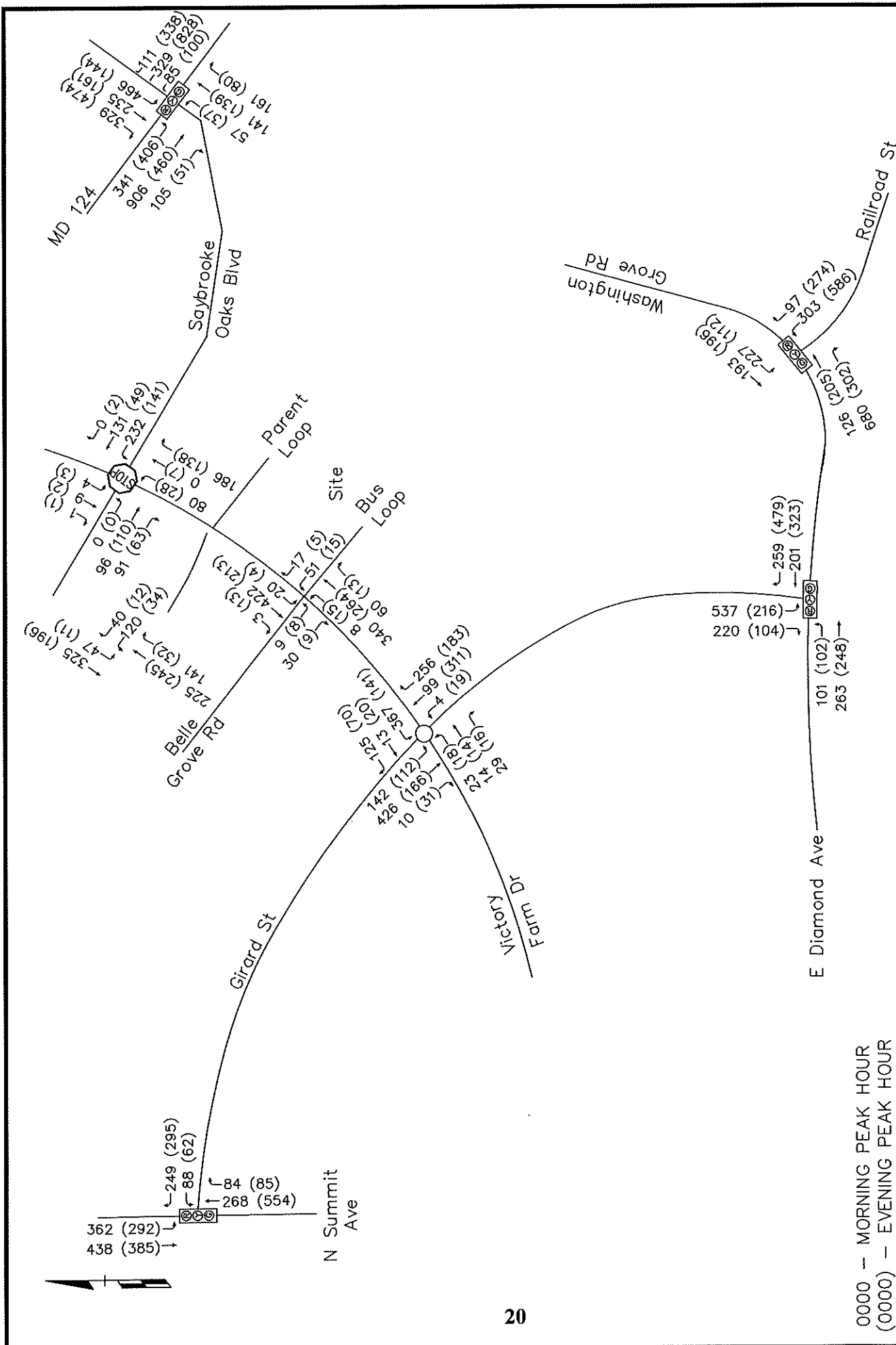
Trip Distribution

The site generated traffic was assigned to the road network as shown in Exhibit 8. The site generated traffic was combined with the Background Volumes to yield the Total Traffic Volumes shown in Exhibit 9. MCPS does not determine the service areas for schools until after the schools are under construction and close to opening. As a result the trip assignments are prepared using engineering judgement and are based on population centers and existing traffic volumes. The proposed trip assignments are based on these assumptions. Since it is not know if this will be a school serving the immediate neighborhood, all of the trips generated by the school were carried thru the study intersections. This provides a very conservative projection of future traffic conditions. In the event this school serves the neighboring community many of the trips shown would be replaced by pedestrians who would walk to the school.

Analysis of Total Traffic Conditions

Intersection capacity analyses were performed, applying the critical lane and SIDRA techniques to the total projected traffic volumes. The results of the analysis are presented in Tables 7 and 8.

EXHIBIT 9
TOTAL TRAFFIC VOLUMES



0000 - MORNING PEAK HOUR
(0000) - EVENING PEAK HOUR

NO SCALE

TABLE 7
RESULTS OF CLV CAPACITY ANALYSES
TOTAL TRAFFIC CONDITIONS

<u>INTERSECTION</u>	<u>MORNING PEAK HOUR</u>	<u>AFTERNOON PEAK HOUR</u>
N Summit Ave @ Girard St	A(718)	A(908)
Victory Farm Dr @ Belle Grove Rd	A(563)	A(343)
Saybrooke Oaks Blvd @ Victory Farm Dr	A(529)	A(409)
Midcounty Hwy @ Saybrooke Oaks Blvd	A(986)	A(908)
E Diamond Ave @ Girard St	A(839)	A(641)
E Diamond Ave @ Railroad St	A(656)	A(903)
Victory Farm Dr @ Student Drop-off	A(579)	A(334)

X(0000) - Level of Service(Critical Lane Volume)

TABLE 8
RESULTS OF SIDRA CAPACITY ANALYSES
TOTAL TRAFFIC CONDITIONS

<u>INTERSECTION</u>	<u>MORNING PEAK HOUR</u>	<u>AFTERNOON PEAK HOUR</u>
Girard St @ Victory Farm Dr	A(0.449)	A(0.254)

X(0000) - Level of Service(v/c ratio)

As shown above, the critical intersections will continue to operate at an acceptable level of service during both peak hours after the completion of the Kelly Park Elementary School.

The capacity calculations are contained in Appendix F.

Pedestrian/Bicycle Analysis

Pedestrian and bicycle counts were also conducted at the critical intersections and the count summaries are enclosed in Appendix A.

The counts reveal very low bicycle volumes at all of the intersections during the entire count period.

Pedestrian volumes were highest at the intersections along Victory Farm Drive. However, the volumes were not high and pedestrians were not observed to experience difficulty negotiating the intersections.

The City of Gaithersburg requested that an inventory of existing pedestrian facilities within a 1 mile radius of the site be performed. Further discussions with City staff refined the inventory to the major roads in the study area and not within subdivisions. With this in mind the following list of roadways were inventoried.

- o North Summit Avenue between Midcounty Highway and Diamond Avenue
- o Midcounty Highway between Summit Avenue and Washington Grove Road
- o Washington Grove Road between Midcounty Highway and East Diamond Avenue
- o Diamond Avenue between Summit Avenue and Washington Grove Road
- o Girard Street between Summit Avenue and Diamond Avenue
- o The entire length of Victory Farm Drive
- o The entire length of Saybrooke Oaks Boulevard

North Summit Avenue - An asphalt path exists along the west side of North Summit Avenue beginning at Midcounty Highway and continuing south to Diamond Avenue. Portions of this path are adjacent to the travel edge of the roadway and is essentially a paved shoulder. At Park Avenue the asphalt path is replaced with a concrete sidewalk which continues to Brookes Avenue where it changes to a decorative brick sidewalk.

A concrete sidewalk is provided along the east side of North Summit Avenue beginning at Odendhal Avenue and continues to Diamond Avenue. There is a short stretch of this sidewalk near Diamond Avenue where the concrete is replaced with decorative brick.

Midcounty Highway - An asphalt path exists along the south side of Midcounty Highway between Washington Grove Road and Woodward's Store Road and then with the exception of sidewalk around the radii of the Washington Grove Road, Saybrooke Oaks Boulevard-Woodfield Road and North Summit Avenue-Goshen Road intersections no sidewalks/paths are provided along Midcounty Highway.

Washington Grove Road - 5 foot wide concrete sidewalk exists along the east side of Washington Grove beginning at a point approximately 180 feet north of E Diamond Avenue continuing north to Midcounty Highway. With the exception of a short stretch of sidewalk along the east side of Washington Grove Road from Midcounty Highway to Broderick Circle no sidewalk exists along the remainder of the east side of Washington Grove Road.

Diamond Avenue - Sidewalk exists along the north side of Diamond Avenue from Summit Avenue to a point approximately 150 feet west of Railroad Street-Washington Grove Road. The sidewalk varies in width and composition along its length. Along the south side of Diamond Avenue sidewalk exists from Summit Avenue to a point approximately 140 feet west of Girard Street. The sidewalk varies in width and composition along its length.

Girard Street - 5 foot wide concrete sidewalk exists along the west side of Girard Street between Summit Avenue and Diamond Avenue. With the exception of a section between Victory Farm Drive and Larkspur Lane 5 foot wide concrete sidewalk exists along the east side of Girard Street.

Victory Farm Drive - 5 foot wide concrete sidewalk exists along the north side of Victory Farm Drive from the western terminus to Belle Grove Road; 4 foot wide concrete sidewalk exists from this point to Saybrooke Oaks Boulevard. 5 foot wide concrete sidewalk exists along the south side of Victory Farm Drive from the western terminus to the eastern access to Kelly Park; 4 foot wide concrete sidewalk exists from this point to Saybrooke Oaks Boulevard.

Saybrooke Oaks Boulevard - continuous 4 foot wide concrete sidewalk exists along both sides of Saybrooke Oaks Boulevard for it's entire length.

In addition to the above pedestrian sidewalks/walkways, Kelly Park has internal asphalt paths which connect the Saybrooke Oaks Boulevard near Forest Oak Middle School and continues thru the park to Washington Grove Road with connections to adjacent residential neighborhoods.

CONCLUSIONS

The field studies and analyses performed as part of this study demonstrate that the proposed Kelly Park Elementary School could be constructed without resulting in any adverse traffic impacts on the surrounding area road network.

APPENDIX A
SCOPING AGREEMENT



Street Traffic Studies, Ltd.

*A Maryland DOT Small Business Certified Company
A Virginia SWaM Certified Company*

May 30, 2019

Mark Kile, P.E.
City of Gaithersburg
Dept of Public Works
800 Rabbitt Road
Gaithersburg, MD 20878

RE: Kelly Park School Site

Dear Mr. Kile;

This is in reference to the proposed MCPS elementary school planned for the Kelly Park location along Victory Farm Drive in Gaithersburg.

MCPS is currently working on various concept plans for the proposed school; however the intention of MCPS is to construct an elementary school with a core capacity of 740 students. Access will be provided via Victory Farm Drive and separate school bus and parent drop-off loops will be provided.

Based on ITE trip generation rates, a 740 student elementary school would be expected to generate 496 trips during the morning peak hour and 126 trips during the evening peak hour.

City of Gaithersburg guidelines state that developments expected to generate between 250 to 749 peak hour trips would be subjected to a 2 tier traffic impact study. Typically the tiers are established based on signalized intersections. In this case, we would suggest that the Saybrooke Oaks Boulevard/Victory Farm Drive be considered as the first signalized intersection, west of the site, even though it is currently controlled as an All-Way Stop and that the Victory Farm Drive/Girard Street intersection be considered as the first signalized intersection, east of the site, even though it is currently under roundabout control.

All-Way Stop and roundabout control are often installed in lieu of signalized or in the case of All-Way Stop control, as an interim solution in advance of signalization. While we do not expect that the development of the elementary school will justify a change in the traffic controls at either intersection, we believe it would be appropriate to consider both as a significant intersection in terms of establishing the limits of the traffic study.

Mr. Mark Kile, P.E.
Page Two
May 30, 2019

If you concur with this position, then the second tier intersection to the west would be the Midcounty Highway/MD 124-Saybrooke Boulevard intersection and the second tier to the east would be the North Summit Avenue/Girard Street and the East Diamond Avenue/Girard Street intersections. In addition to these intersections a count would be conducted at the Victory Farm Drive/Belle Grove Road-Park Access Driveway intersection.

All counts would be conducted between the hours of 6:30 to 9:30 AM and 4:00 to 7:00 PM on a Tuesday, Wednesday or Thursday when schools are in session, in a week without a holiday. Pedestrian and bicycle volumes will also be included as part of the turning movement counts.

At the scoping meeting, the City would identify any approved but not constructed developments to be included in the traffic study and we can discuss an appropriate growth rate for thru trips in the study area. MCPS anticipates that the school will be open for the Fall 2022 school year and therefore, 2022 will be the design year for this study.

Any projects currently funded in the County or City Capital Improvement Programs or the State's Consolidated Transportation Program will be identified at the scoping meeting.

MCPS has not yet defined a service area for the proposed school so a proposed trip distribution will be difficult to establish at this time and we would suggest that this be discussed at the scoping meeting.

Intersection capacity analyses will be performed using the Critical Lane Volume technique, with the exception of the Victory Farm Drive/Girard Street intersection which will be analyzed using the SIDRA program for evaluating roundabout controlled intersections.

Please review the above and schedule a scoping meeting to finalize the study scope for this traffic study. If you have any questions or comments, please do not hesitate to call.

Sincerely,



Mike Nalepa
Senior Traffic Engineer

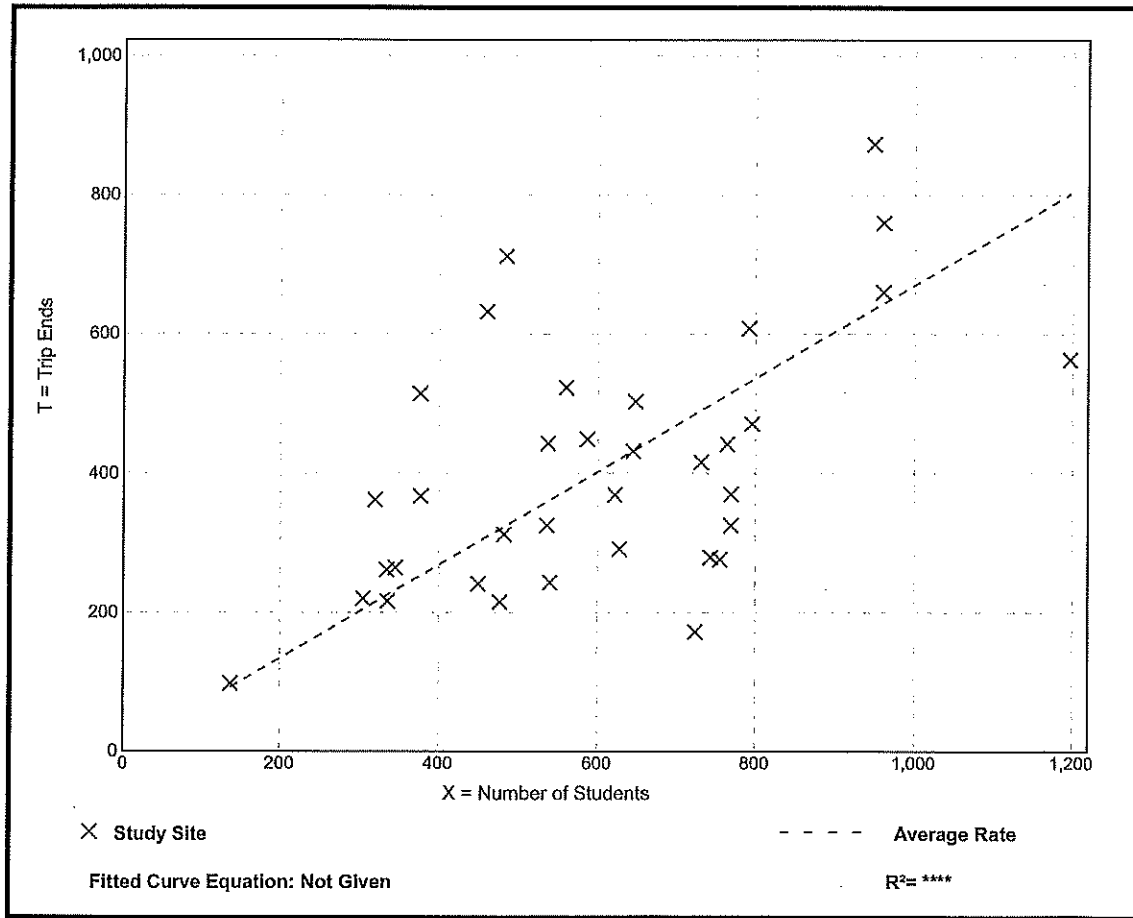
Elementary School (520)

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: 35
 Avg. Num. of Students: 603
 Directional Distribution: 54% entering, 46% exiting

Vehicle Trip Generation per Student

Average Rate	Range of Rates	Standard Deviation
0.67	0.24 - 1.47	0.27

Data Plot and Equation



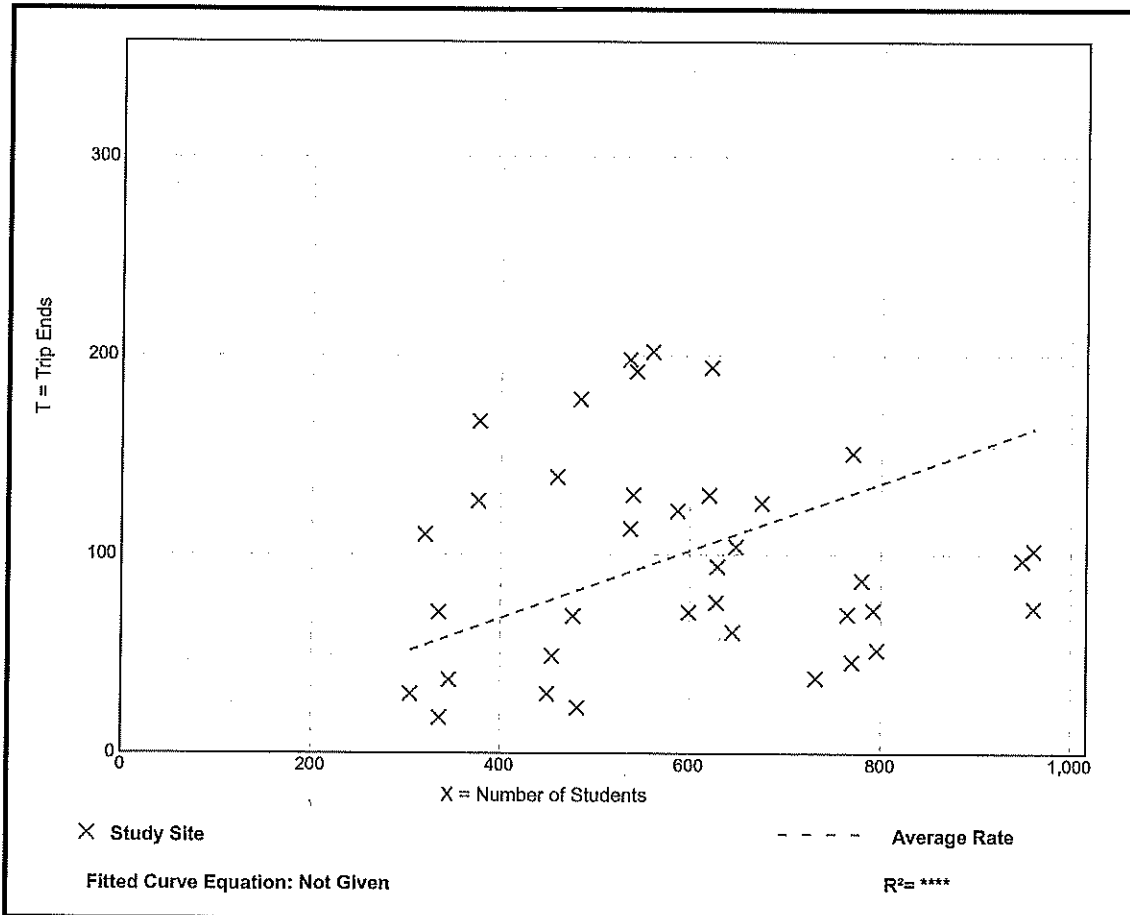
Elementary School (520)

Vehicle Trip Ends vs: Students
On a: Weekday,
Peak Hour of Adjacent Street Traffic,
One Hour Between 4 and 6 p.m.
Setting/Location: General Urban/Suburban
 Number of Studies: 37
 Avg. Num. of Students: 590
 Directional Distribution: 48% entering, 52% exiting

Vehicle Trip Generation per Student

Average Rate	Range of Rates	Standard Deviation
0.17	0.05 - 0.44	0.11

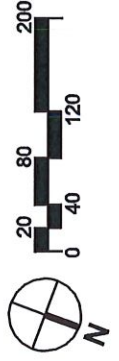
Data Plot and Equation



KEY LEGEND

- A. Beach Volleyball Court
- B. Field 1

1. New Building
2. Main Entry
3. Bus Loop
4. Service Entry
5. Student Drop Off
6. Paved Play Area
- 6a. Early Ed. Paved Play
7. Mulched Play Area
- 7a. Early Ed Mulched Play Area
8. Athletic Fields
9. Future Relocatables
10. Community 'Tot Lot'
11. Dedicated 'Tot Lot' Parking
12. Community Use Entrance (After Hours)
13. New Walkpath Connection





MEMORANDUM

TO: Mark Kile, PE
FROM: Lawrence Green, PE, PTOE
SUBJECT: Kelley Park School Site Traffic Impact Study Scoping
DATE: June 17, 2019

Meeting Attendees:

- Mark Kile, DPW Engineering, City of Gaithersburg
- Larry Green, DCI (Traffic Engineering Consultant for the City of Gaithersburg)
- Dave Fisher, Smolen EMR Ilkovitch Architects
- Mike Nalepa, Street Traffic Studies Ltd.
- Seth Feriano, MCPS
- Dennis Cross, MCPS
- Tony Tomasello, City Manager, City of Gaithersburg
- Michael Johnson, Director of Public Works, City of Gaithersburg

The purpose of this memorandum is to summarize the discussion of a Scoping Meeting held at the City of Gaithersburg City Hall on Friday, June 14, 2019, and follow-up internal discussions held immediately following meeting. The following traffic impact study elements were determined to be necessary:

1) INTERSECTIONS TO BE STUDIED

- Victory Farm Drive at Girard Street (Note: City of Gaithersburg has a roundabout study for this location, data can be relayed once study has been completed.)
- Girard Street at E. Diamond Avenue
- Girard Street at N. Summit Avenue
- Victory Farm Drive at Saybrooke Oaks Boulevard
- MD 124 (Midcounty Highway) at Saybrooke Oaks Boulevard
- E. Diamond Avenue/Washington Grove Lane at Railroad Street

2) TIME PERIODS TO BE STUDIED

- Morning Peak Data Collection – 6:30 -9:30 AM (Note: Analysis time should be conducted during peak hour of school traffic generated)
- Afternoon Peak Data Collection – 3:00 – 6:00 PM (Note: Analysis time should be conducted during peak hour of school traffic generated)

3) TRIP GENERATION RATES

- Average rates in ITE can be used if the development size is not within the typical range of data sample that was used to generate the trip generation equations.

4) INTERSECTION ANALYSIS PROCEDURES

- CLV analyses can be conducted at signalized and unsignalized intersections.
- SIDRA analyses should be conducted at roundabouts.

5) TRIP DISTRIBUTIONS

- The proposed distributions of site trips will be submitted by the applicant for review by the City of Gaithersburg prior to the preparation of the traffic study when the service area for the Kelley Park School is established by MCPS.

6) BACKGROUND DEVELOPMENT ASSUMPTIONS

- The City of Gaithersburg provided a preliminary list of adjacent approved background developments in the vicinity of the proposed site. The applicant should follow-up with the City of Gaithersburg in the fall just prior to the preparation of the traffic report to verify the completeness of the background developments.

7) WALKABLE PEDESTRIAN NETWORK

- Within 1 mile of proposed school, an assessment of the sidewalk and trail network should be conducted.
- The traffic report should identify any gaps in network that can be addressed by Montgomery County and/or the City of Gaithersburg.

8) REGIONAL IMPACT OF KELLY PARK SCHOOL

- If reductions of student populations at any area school will occur with the construction of the Kelley Park Elementary School, then these reductions should be identified.
- General reductions in the traffic activity surrounding the reduced student populated schools should be identified in the report (if applicable).

9) GENERAL INTERNAL ROADWAY DESIGNS

- Wherever possible, the internal roadway network should be designed with 90-degree roadway connections with all roadways aligned.

Also, Montgomery County has not yet finished their review of the Traffic Impact Study scope. However, Montgomery County has provided the following preliminary comments:

- 1) Saybrooke Oaks Boulevard/Victory Farm Drive is east of the site, not west, scoping report to be updated.
- 2) MCPS to line up the main school driveway with Belle Grove Road. Perhaps they should consider a pedestrian count at the trail west of Belle Grove Road since it will be close to the site.
- 3) If MCPS does not know where the kids will be coming from, examine E. Diamond Avenue/Washington Grove Lane/Railroad Street based on an atypical design.
- 4) Site visits during arrival and dismissal may generate fewer trips in the afternoon. 126 seems very low for a school of 740.

Mike Nalepa

From: Mark Kile <Mark.Kile@gaitthersburgmd.gov>
Sent: Tuesday, September 24, 2019 3:02 PM
To: Mike Nalepa
Subject: Kelley Park Additional Development Applications

Mike,

Below are two additions to the list previously provided, that may impact in very minor nature:

- Gaithersburg Station Apartments (12,354 square feet of retail and 11 new residential units) at Archstone downtown.
- One additional dwelling at 214 Brookes Avenue.

Cordially,

Mark D. Kile, P.E.

Department of Public Works

City of Gaithersburg | 800 Rabbitt Road | Gaithersburg, MD 20878

240-805-1322

mark.kile@gaitthersburgmd.gov

Here is a link to the Development Pipeline for Gaithersburg:
<https://www.gaithersburgmd.gov/Home/ShowDocument?id=3114>

Relevant development in the pipeline to these intersections:

1. 315 EAST DIAMOND AVE (FISHMAN) – 109 Apartment and 8,663 square feet of Retail - consisting of 10 studios, 70 one-bedrooms, 25 two-bedrooms and four (4) one-bedroom ground floor walk-up units
2. 414 EAST DIAMOND AVE (Identity) -1,380 square feet of office 68
3. Newly approved and not listed in the Development Pipeline
212, 216, 220 and 224 E. Deer Park Dr. 309 and 305 Central Avenue – Total of 6 single family detached units (5 in the City as well as one single family detached unit in the County.)
4. Potential bike facility from Olde Town Plaza to Washingtonian Grove

APPENDIX B

VEHICLE TURNING MOVEMENT COUNTS

MCV Associates, Inc.

4605-C Pincrest off Park Dr

Alexandria, VA - 22312

Phone: 703 914-4850

File Name : a. Victory Farm Dr @ Girard St

Site Code : 958-a

Start Date : 9/19/2019

Page No : 1

Groups Printed- Unshifted

Start Time	Girard Street From North				Victory Farm Dr From East				Girard Street From South				Victory Farm Dr From West				Exclu. Total	Inclu. Total	Int. Total
	Left	Thru	Right	U Turns	Left	Thru	Right	U Turns	Left	Thru	Right	U Turns	Left	Thru	Right	U Turns			
06:30 AM	23	46	3	0	14	1	3	0	1	20	15	0	6	4	7	0	0	143	143
06:45 AM	16	61	3	0	18	0	11	0	3	9	10	1	2	9	4	0	1	146	147
Total	39	107	6	0	32	1	14	0	4	29	25	1	8	13	11	0	1	289	290
07:00 AM	21	66	1	1	32	2	9	0	1	19	16	1	1	4	5	0	2	177	179
07:15 AM	8	102	4	0	44	3	14	0	0	16	13	1	6	4	6	0	1	220	221
07:30 AM	19	114	2	0	61	5	15	0	1	20	24	2	5	2	11	0	2	279	281
07:45 AM	34	123	2	1	77	1	26	1	1	36	56	0	9	3	8	0	2	376	378
Total	82	405	9	2	214	11	64	1	3	91	109	4	21	13	30	0	7	1052	1059
08:00 AM	14	87	2	0	71	4	13	0	2	27	29	3	3	5	4	0	3	261	264
08:15 AM	19	66	3	0	37	1	16	0	2	34	10	2	6	4	4	0	2	202	204
08:30 AM	9	86	3	0	21	1	8	0	1	32	15	0	8	3	10	0	0	197	197
08:45 AM	12	57	6	0	24	5	12	0	4	18	19	1	5	4	7	0	1	173	174
Total	54	296	14	0	153	11	49	0	9	111	73	6	22	16	25	0	6	833	839
09:00 AM	11	50	3	0	31	2	14	0	1	28	16	1	5	6	4	0	1	171	172
09:15 AM	7	41	2	0	15	1	11	0	0	34	16	2	2	1	1	0	2	131	133
Total	18	91	5	0	46	3	25	0	1	62	32	3	7	7	5	0	3	302	305
03:00 PM	13	38	5	0	49	3	18	0	6	57	45	2	3	3	2	1	3	242	245
03:15 PM	10	38	6	0	25	3	11	0	2	56	33	0	4	1	4	0	0	193	193
03:30 PM	12	41	9	0	37	4	16	0	4	70	29	2	5	2	2	0	2	231	233
03:45 PM	16	44	10	0	18	3	18	0	7	54	33	1	13	1	4	0	1	221	222
Total	51	161	30	0	129	13	63	0	19	237	140	5	25	7	12	1	6	887	893
04:00 PM	19	34	7	0	16	1	24	0	3	72	40	3	8	4	3	0	3	231	234
04:15 PM	17	30	5	0	16	2	14	0	6	72	34	2	3	3	4	0	2	206	208
04:30 PM	16	45	5	1	18	5	21	0	1	70	43	3	3	0	5	0	4	232	236
04:45 PM	18	39	6	0	24	2	17	0	5	82	28	0	4	3	3	0	0	231	231
Total	70	148	23	1	74	10	76	0	15	296	145	8	18	10	15	0	9	900	909
05:00 PM	22	37	7	0	34	3	16	0	7	86	38	1	3	2	3	0	1	258	259
05:15 PM	23	42	7	0	21	7	13	0	6	76	36	0	5	6	4	0	0	246	246
05:30 PM	28	37	12	1	26	6	22	0	2	71	39	0	5	3	2	0	1	253	254
05:45 PM	24	50	5	0	27	4	18	0	4	78	40	0	5	3	7	0	0	265	265
Total	97	166	31	1	108	20	69	0	19	311	153	1	18	14	16	0	2	1022	1024
Grand Total	411	1374	118	4	756	69	360	1	70	1137	677	28	119	80	114	1	34	5285	5319
Apprch %	21.6	72.2	6.2		63.8	5.8	30.4		3.7	60.4	35.9		38	25.6	36.4				
Total %	7.8	26	2.2		14.3	1.3	6.8		1.3	21.5	12.8		2.3	1.5	2.2		0.6	99.4	

MCV Associates, Inc.
4605-C Pinecrest off Park Dr
Alexandria, VA - 22312

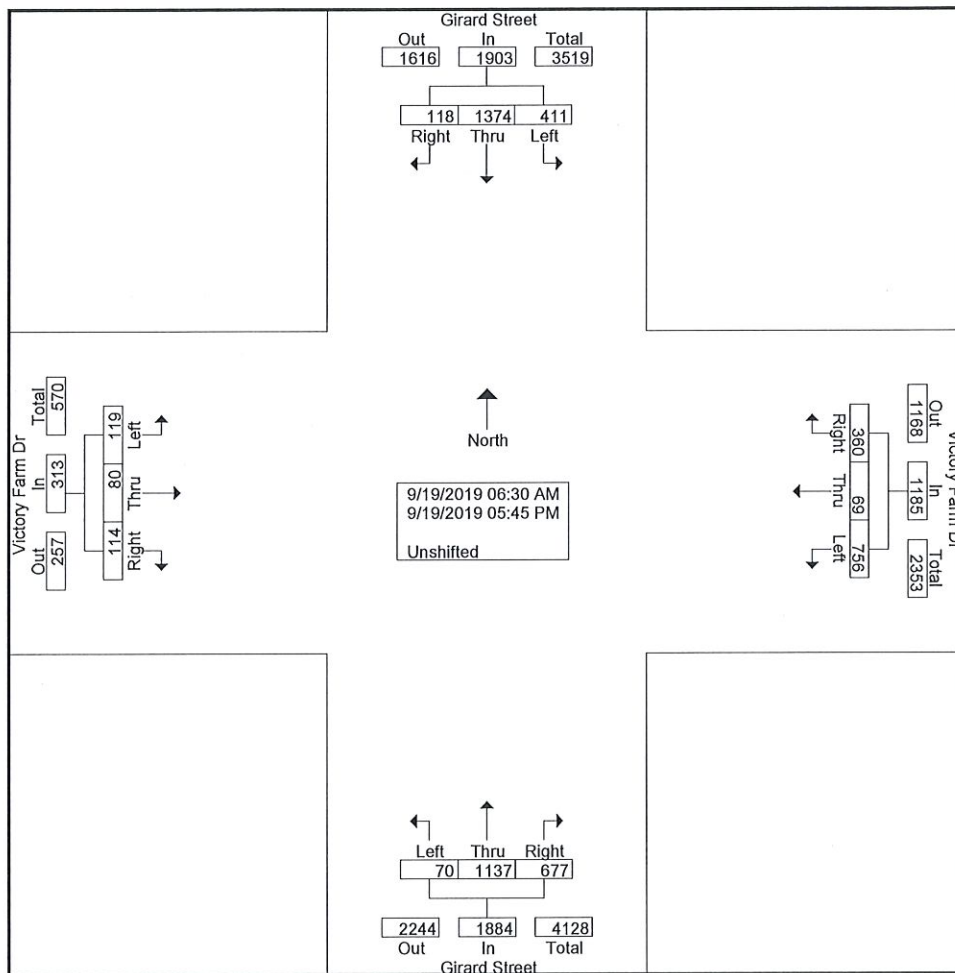
Phone: 703 914-4850

File Name : a. Victory Farm Dr @ Girard St

Site Code : 958-a

Start Date : 9/19/2019

Page No : 2



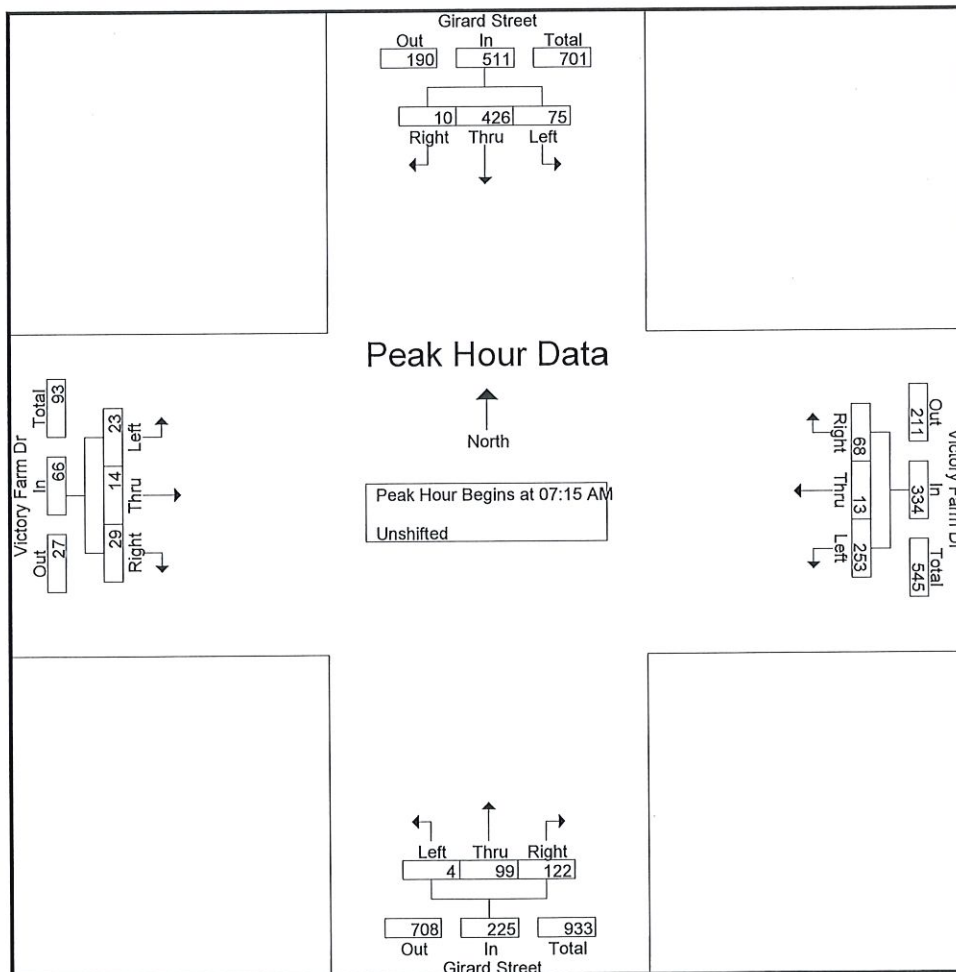
MCV Associates, Inc.

4605-C Pinecrest off Park Dr Alexandria, VA - 22312

Phone: 703 914-4850

File Name : a. Victory Farm Dr @ Girard St
 Site Code : 958-a
 Start Date : 9/19/2019
 Page No : 3

Start Time	Girard Street From North				Victory Farm Dr From East				Girard Street From South				Victory Farm Dr From West				Int. Total
	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	
Peak Hour Analysis From 06:30 AM to 09:15 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:15 AM																	
07:15 AM	8	102	4	114	44	3	14	61	0	16	13	29	6	4	6	16	220
07:30 AM	19	114	2	135	61	5	15	81	1	20	24	45	5	2	11	18	279
07:45 AM	34	123	2	159	77	1	26	104	1	36	56	93	9	3	8	20	376
08:00 AM	14	87	2	103	71	4	13	88	2	27	29	58	3	5	4	12	261
Total Volume	75	426	10	511	253	13	68	334	4	99	122	225	23	14	29	66	1136
% App. Total	14.7	83.4	2		75.7	3.9	20.4		1.8	44	54.2		34.8	21.2	43.9		
PHF	.551	.866	.625	.803	.821	.650	.654	.803	.500	.688	.545	.605	.639	.700	.659	.825	.755



MCV Associates, Inc.

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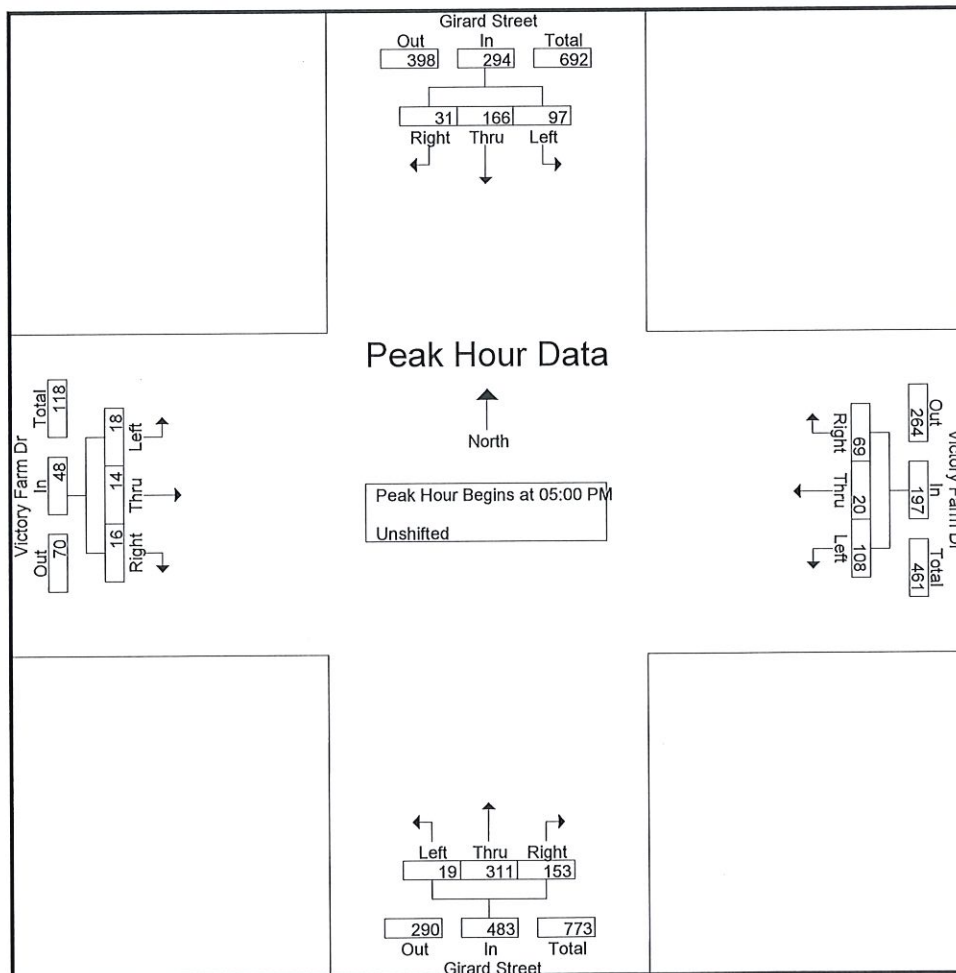
File Name : a. Victory Farm Dr @ Girard St

Site Code : 958-a

Start Date : 9/19/2019

Page No : 4

Start Time	Girard Street From North				Victory Farm Dr From East				Girard Street From South				Victory Farm Dr From West				Int. Total
	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	
Peak Hour Analysis From 03:00 PM to 05:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 05:00 PM																	
05:00 PM	22	37	7	66	34	3	16	53	7	86	38	131	3	2	3	8	258
05:15 PM	23	42	7	72	21	7	13	41	6	76	36	118	5	6	4	15	246
05:30 PM	28	37	12	77	26	6	22	54	2	71	39	112	5	3	2	10	253
05:45 PM	24	50	5	79	27	4	18	49	4	78	40	122	5	3	7	15	265
Total Volume	97	166	31	294	108	20	69	197	19	311	153	483	18	14	16	48	1022
% App. Total	33	56.5	10.5		54.8	10.2	35		3.9	64.4	31.7		37.5	29.2	33.3		
PHF	.866	.830	.646	.930	.794	.714	.784	.912	.679	.904	.956	.922	.900	.583	.571	.800	.964



File Name: a. Victory Farm Dr @ Girard St

Start Date: 9/19/2019

Start Time: 6:30:00 AM

Site Code: 958-a

Comment 1: Pedestrians Only

Comment 2:

Comment 3:

Comment 4:

Start Time	Girard Street From North				Victory Farm Dr From East				Girard Street From South				Victory Farm Dr From West				
	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds	
06:30 AM	0	0	0	0	0	0	0	0	1	0	0	0	1	0	0	0	2
06:45 AM	0	0	0	3	0	0	0	0	2	0	0	0	2	0	0	0	1
07:00 AM	0	0	0	0	0	0	0	0	1	0	0	0	3	0	0	0	3
07:15 AM	0	0	0	1	0	0	0	0	2	0	0	0	3	0	0	0	3
07:30 AM	0	0	0	2	0	0	0	0	1	0	0	0	0	0	0	0	2
07:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
08:00 AM	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	3
08:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	5
08:30 AM	0	0	0	3	0	0	0	0	3	0	0	0	3	0	0	0	3
08:45 AM	0	0	0	1	0	0	0	0	2	0	0	0	4	0	0	0	7
09:00 AM	0	0	0	1	0	0	0	0	1	0	0	0	2	0	0	0	2
09:15 AM	0	0	0	1	0	0	0	0	1	0	0	0	1	0	0	0	3
09:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
09:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
01:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
01:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
01:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
01:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
02:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
02:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
02:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
02:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
03:00 PM	0	0	0	4	0	0	0	0	2	0	0	0	3	0	0	0	4
03:15 PM	0	0	0	1	0	0	0	0	1	0	0	0	6	0	0	0	0
03:30 PM	0	0	0	0	0	0	0	0	1	0	0	0	4	0	0	0	1
03:45 PM	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	5
04:00 PM	0	0	0	7	0	0	0	0	3	0	0	0	4	0	0	0	3
04:15 PM	0	0	0	1	0	0	0	0	1	0	0	0	4	0	0	0	7
04:30 PM	0	0	0	1	0	0	0	0	0	0	0	0	4	0	0	0	1
04:45 PM	0	0	0	1	0	0	0	0	1	0	0	0	1	0	0	0	0
05:00 PM	0	0	0	2	0	0	0	0	1	0	0	0	0	0	0	0	0
05:15 PM	0	0	0	2	0	0	0	0	2	0	0	0	1	0	0	0	1
05:30 PM	0	0	0	3	0	0	0	0	1	0	0	0	6	0	0	0	3
05:45 PM	0	0	0	3	0	0	0	0	2	0	0	0	1	0	0	0	3



SB Girard St approaching Victory Farm Dr



EB Victory Farm Dr approaching Girard St



NB Girard St approaching Victory Farm Dr



WB Victory Farm Dr approaching Girard St

MCV Associates, Inc.

4605-C Pincrest off Park Dr

Alexandria, VA - 22312

Phone: 703 914-4850

File Name : b. Victory Farm Dr @ Saybrooke Oaks Blvd

Site Code : 958-b

Start Date : 9/19/2019

Page No : 1

Groups Printed- Unshifted

Start Time	Victory Farm Drive From North				VSaybrooke Oaks Blvd From East				Victory Farm Drive From South				Victory Farm Drive From West				Exclu. Total	Inclu. Total	Int. Total
	Left	Thru	Right	U Turns	Left	Thru	Right	U Turns	Left	Thru	Right	U Turns	Left	Thru	Right	U Turns			
06:30 AM	0	2	0	0	11	7	0	0	1	0	37	0	0	4	2	0	0	64	64
06:45 AM	0	0	0	0	12	4	0	0	2	1	40	0	0	7	6	0	0	72	72
Total	0	2	0	0	23	11	0	0	3	1	77	0	0	11	8	0	0	136	136
07:00 AM	0	1	0	0	17	10	0	0	2	0	41	0	0	8	10	0	0	89	89
07:15 AM	4	1	0	0	30	19	0	0	2	0	25	0	0	5	13	0	0	99	99
07:30 AM	0	3	0	0	55	32	0	0	13	0	25	0	0	16	9	0	0	153	153
07:45 AM	0	0	0	0	54	71	0	0	48	0	38	0	0	34	35	0	0	280	280
Total	4	5	0	0	156	132	0	0	65	0	129	0	0	63	67	0	0	621	621
08:00 AM	2	3	0	0	25	23	0	1	15	0	33	0	0	33	35	0	1	169	170
08:15 AM	2	3	1	0	31	5	0	0	4	0	33	0	0	13	12	0	0	104	104
08:30 AM	3	2	0	0	17	6	0	0	2	0	21	0	0	13	5	0	0	69	69
08:45 AM	2	2	0	0	21	7	0	1	8	1	32	0	0	13	12	0	1	98	99
Total	9	10	1	0	94	41	0	2	29	1	119	0	0	72	64	0	2	440	442
09:00 AM	0	2	0	0	24	4	0	1	4	2	30	0	0	5	4	0	1	75	76
09:15 AM	0	1	0	0	13	4	0	0	8	0	20	0	0	6	7	0	0	59	59
Total	0	3	0	0	37	8	0	1	12	2	50	0	0	11	11	0	1	134	135
03:00 PM	1	0	0	0	28	24	0	0	13	1	36	0	0	48	37	0	0	188	188
03:15 PM	1	0	0	0	26	13	1	0	4	4	24	0	0	28	9	0	0	110	110
03:30 PM	0	1	1	0	42	6	1	0	5	1	35	0	0	20	12	0	0	124	124
03:45 PM	1	1	0	0	30	6	0	0	6	1	26	0	0	14	5	0	0	90	90
Total	3	2	1	0	126	49	2	0	28	7	121	0	0	110	63	0	0	512	512
04:00 PM	2	0	0	0	31	7	0	0	9	3	39	0	0	16	3	0	0	110	110
04:15 PM	0	0	0	0	29	19	2	1	11	2	37	0	0	6	5	0	1	111	112
04:30 PM	1	0	0	0	35	6	0	0	4	2	38	0	0	25	7	0	0	118	118
04:45 PM	0	0	0	0	36	9	0	0	7	4	31	0	0	6	5	0	0	98	98
Total	3	0	0	0	131	41	2	1	31	11	145	0	0	53	20	0	1	437	438
05:00 PM	1	0	0	0	44	11	0	0	7	0	35	0	0	6	5	0	0	109	109
05:15 PM	2	0	1	0	26	8	3	1	7	3	39	0	0	4	6	1	2	99	101
05:30 PM	1	0	0	0	48	11	0	0	11	3	44	0	1	9	2	0	0	130	130
05:45 PM	2	0	0	0	44	18	0	0	13	3	33	0	0	3	6	0	0	122	122
Total	6	0	1	0	162	48	3	1	38	9	151	0	1	22	19	1	2	460	462
Grand Total	25	22	3	0	729	330	7	5	206	31	792	0	1	342	252	1	6	2740	2746
Apprch %	50	44	6		68.4	31	0.7		20	3	77		0.2	57.5	42.4				
Total %	0.9	0.8	0.1		26.6	12	0.3		7.5	1.1	28.9		0	12.5	9.2		0.2	99.8	

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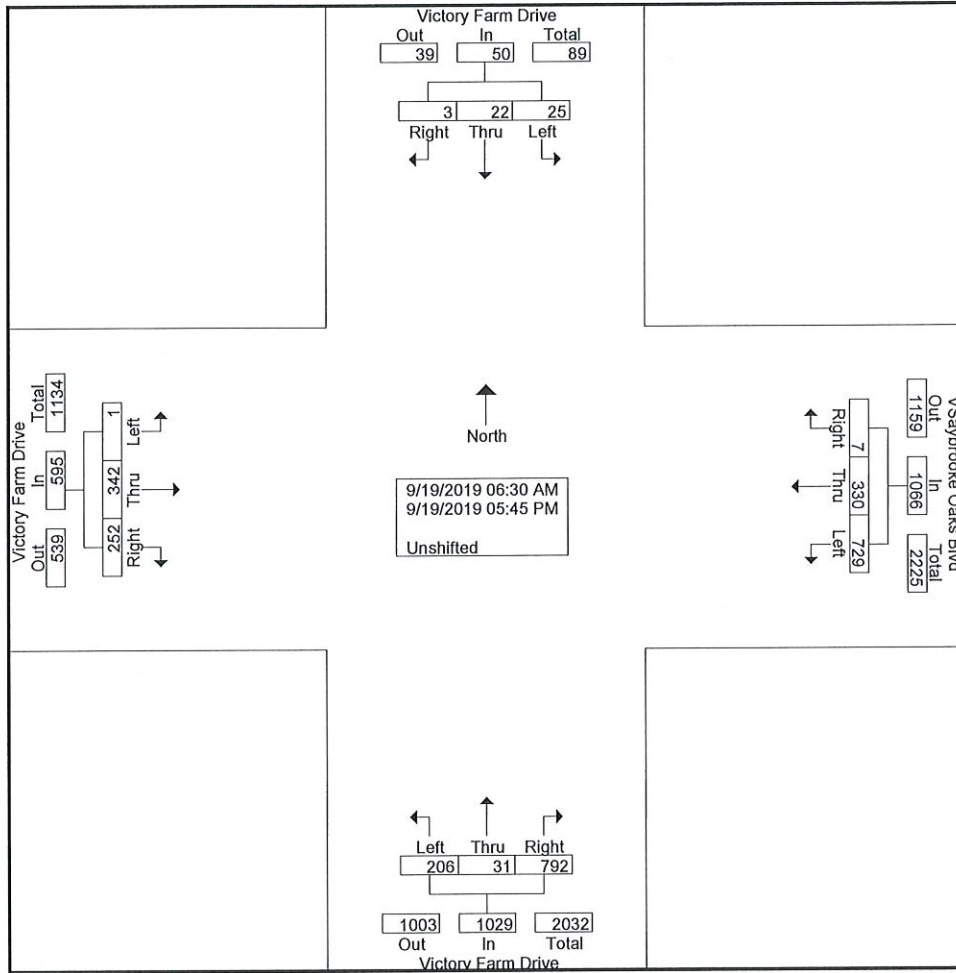
Phone: 703 914-4850

File Name : b. Victory Farm Dr @ Saybrooke Oaks Blvd

Site Code : 958-b

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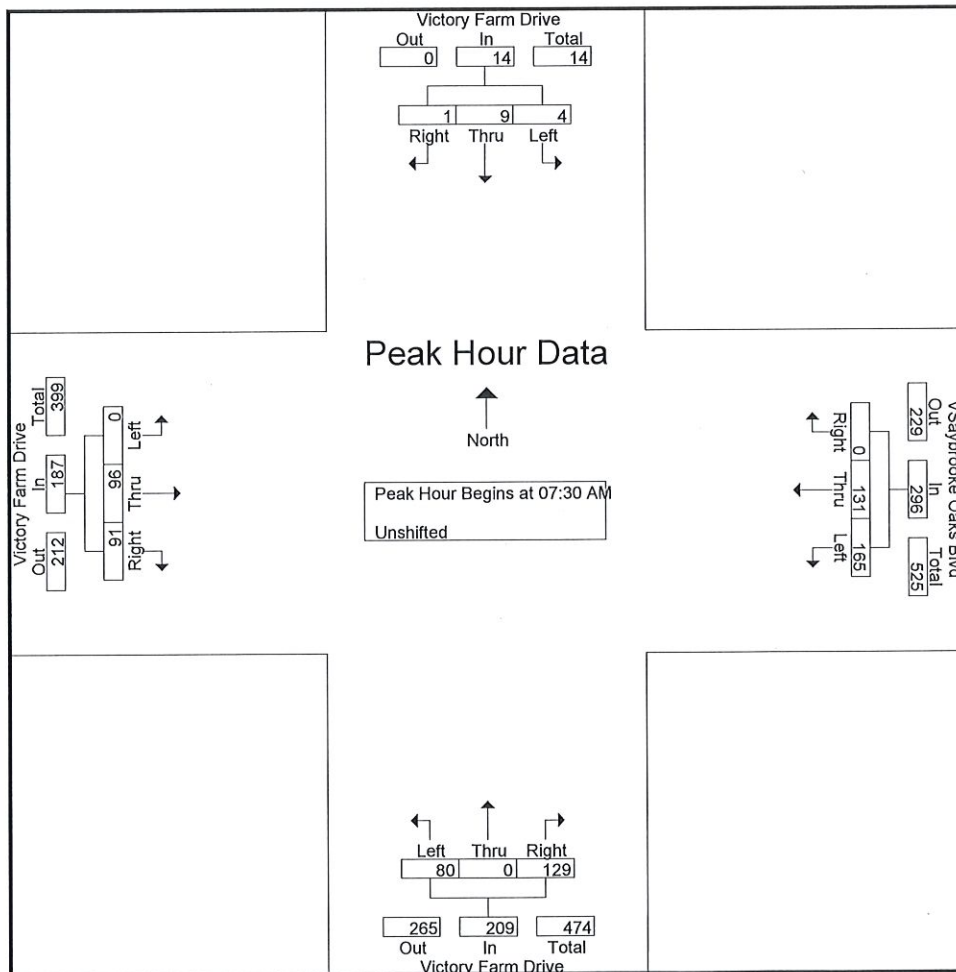
Start Date : 9/19/2019

Page No : 3

Start Time	Victory Farm Drive From North				VSaybrooke Oaks Blvd From East				Victory Farm Drive From South				Victory Farm Drive From West				Int. Total
	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	
07:30 AM	0	3	0	3	55	32	0	87	13	0	25	38	0	16	9	25	153
07:45 AM	0	0	0	0	54	71	0	125	48	0	38	86	0	34	35	69	280
08:00 AM	2	3	0	5	25	23	0	48	15	0	33	48	0	33	35	68	169
08:15 AM	2	3	1	6	31	5	0	36	4	0	33	37	0	13	12	25	104
Total Volume	4	9	1	14	165	131	0	296	80	0	129	209	0	96	91	187	706
% App. Total	28.6	64.3	7.1		55.7	44.3	0		38.3	0	61.7		0	51.3	48.7		
PHF	.500	.750	.250	.583	.750	.461	.000	.592	.417	.000	.849	.608	.000	.706	.650	.678	.630

Peak Hour Analysis From 06:30 AM to 09:15 AM - Peak 1 of 1

Peak Hour for Entire Intersection Begins at 07:30 AM



MCV Associates, Inc.

4605-C Pincrest off Park Dr

Alexandria, VA - 22312

Phone: 703 914-4850

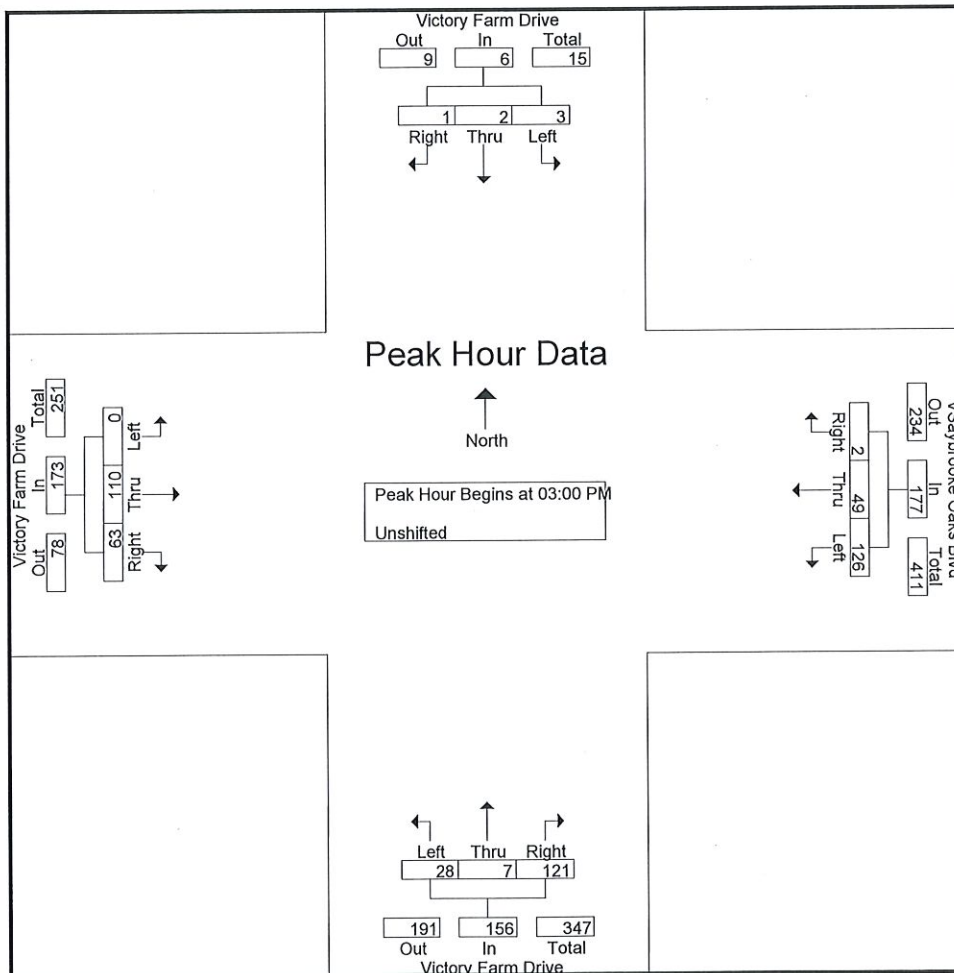
File Name : b. Victory Farm Dr @ Saybrooke Oaks Blvd

Site Code : 958-b

Start Date : 9/19/2019

Page No : 4

Start Time	Victory Farm Drive From North				VSaybrooke Oaks Blvd From East				Victory Farm Drive From South				Victory Farm Drive From West				Int. Total
	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	
Peak Hour Analysis From 03:00 PM to 05:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 03:00 PM																	
03:00 PM	1	0	0	1	28	24	0	52	13	1	36	50	0	48	37	85	188
03:15 PM	1	0	0	1	26	13	1	40	4	4	24	32	0	28	9	37	110
03:30 PM	0	1	1	2	42	6	1	49	5	1	35	41	0	20	12	32	124
03:45 PM	1	1	0	2	30	6	0	36	6	1	26	33	0	14	5	19	90
Total Volume	3	2	1	6	126	49	2	177	28	7	121	156	0	110	63	173	512
% App. Total	50	33.3	16.7		71.2	27.7	1.1		17.9	4.5	77.6		0	63.6	36.4		
PHF	.750	.500	.250	.750	.750	.510	.500	.851	.538	.438	.840	.780	.000	.573	.426	.509	.681





WB Victory Farm Dr approaching Saybrooke Oaks Blvd



SB Saybrooke Oaks Blvd approaching Victory Farm Dr



EB Bristol Downs Dr approaching Saybrooke Oaks Blvd



NB Saybrooke Oaks Blvd approaching Victory Farm Dr

MCV Associates, Inc.

4605-C Pinecrest off Park Dr

Alexandria, VA - 22312

Phone: 703 914-4850

File Name : c. Victory Farm Dr @ Belle Grove Rd

Site Code : 958-C

Start Date : 9/19/2019

Page No : 1

Groups Printed- Unshifted

Start Time	Belle Grove Rd From North				Victory Farm Dr From East				From South				Victory Farm Dr From West				Exclu. Total	Inclu. Total	Int. Total
	Left	Thru	Right	U Turns	Left	Thru	Right	U Turns	Left	Thru	Right	U Turns	Left	Thru	Right	U Turns			
06:30 AM	0	0	3	0	0	15	0	0	0	0	0	0	0	43	0	0	0	61	61
06:45 AM	2	0	2	0	1	28	0	0	0	0	0	0	0	34	1	0	0	68	68
Total	2	0	5	0	1	43	0	0	0	0	0	0	0	77	1	0	0	129	129
07:00 AM	3	0	4	0	0	39	1	0	0	0	0	0	1	39	0	0	0	87	87
07:15 AM	3	0	9	0	0	55	2	0	1	0	0	0	3	23	0	0	0	96	96
07:30 AM	1	0	7	0	0	77	1	0	1	0	1	0	1	38	1	1	1	128	129
07:45 AM	2	0	8	0	0	97	0	0	2	0	0	0	2	94	0	0	0	205	205
Total	9	0	28	0	0	268	4	0	4	0	1	0	7	194	1	1	1	516	517
08:00 AM	3	0	6	0	0	73	0	0	1	0	1	0	2	44	1	0	0	131	131
08:15 AM	0	0	2	0	0	50	1	0	1	0	0	0	2	31	0	0	0	87	87
08:30 AM	1	0	3	0	0	32	0	0	0	0	0	0	2	25	2	0	0	65	65
08:45 AM	3	0	1	0	0	38	1	0	1	0	0	0	1	32	1	0	0	78	78
Total	7	0	12	0	0	193	2	0	3	0	1	0	7	132	4	0	0	361	361
09:00 AM	4	0	4	0	0	37	2	0	0	0	0	0	1	31	0	2	2	79	81
09:15 AM	4	0	1	0	0	26	0	0	0	0	0	0	1	25	2	0	0	59	59
Total	8	0	5	0	0	63	2	0	0	0	0	0	2	56	2	2	2	138	140
03:00 PM	2	0	1	0	0	68	1	0	0	0	0	0	5	51	4	0	0	132	132
03:15 PM	0	0	3	0	1	37	2	0	1	0	1	0	3	38	3	0	0	89	89
03:30 PM	3	0	3	0	0	54	3	0	1	0	0	0	2	39	1	0	0	106	106
03:45 PM	2	0	2	0	0	30	1	0	3	0	0	0	4	37	13	0	0	92	92
Total	7	0	9	0	1	189	7	0	5	0	1	0	14	165	21	0	0	419	419
04:00 PM	3	0	2	0	0	38	0	1	2	0	1	0	3	54	6	0	1	109	110
04:15 PM	0	0	2	0	1	29	2	0	0	0	1	0	5	47	2	0	0	89	89
04:30 PM	4	0	2	0	0	40	4	0	3	0	0	0	5	50	5	0	0	113	113
04:45 PM	2	0	2	0	0	37	1	0	2	0	0	0	3	45	4	0	0	96	96
Total	9	0	8	0	1	144	7	1	7	0	2	0	16	196	17	0	1	407	408
05:00 PM	3	0	5	0	0	49	3	0	4	0	0	0	7	50	7	0	0	128	128
05:15 PM	2	0	1	0	0	35	4	0	1	0	0	0	4	57	6	0	0	110	110
05:30 PM	3	0	2	0	0	51	3	0	3	0	0	0	3	62	3	0	0	130	130
05:45 PM	0	0	1	0	2	44	3	0	1	0	2	0	1	63	7	1	1	124	125
Total	8	0	9	0	2	179	13	0	9	0	2	0	15	232	23	1	1	492	493
Grand Total	50	0	76	0	5	1079	35	1	28	0	7	0	61	1052	69	4	5	2462	2467
Apprch %	39.7	0	60.3		0.4	96.4	3.1		80	0	20		5.2	89	5.8				
Total %	2	0	3.1		0.2	43.8	1.4		1.1	0	0.3		2.5	42.7	2.8		0.2	99.8	

MCV Associates, Inc.

4605-C Pinecrest off Park Dr

Alexandria, VA - 22312

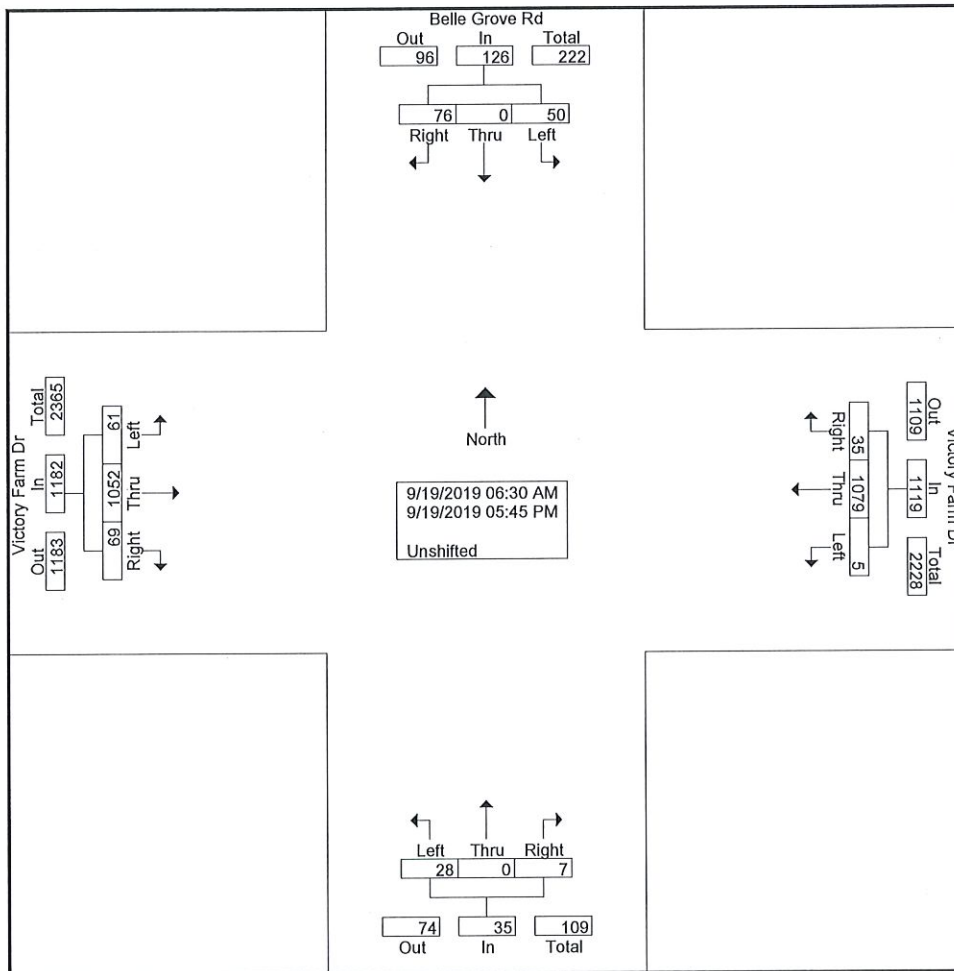
Phone: 703 914-4850

File Name : c. Victory Farm Dr @ Belle Grove Rd

Site Code : 958-C

Start Date : 9/19/2019

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4605-C Pinecrest off Park Dr

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Phone: 703 914-4850

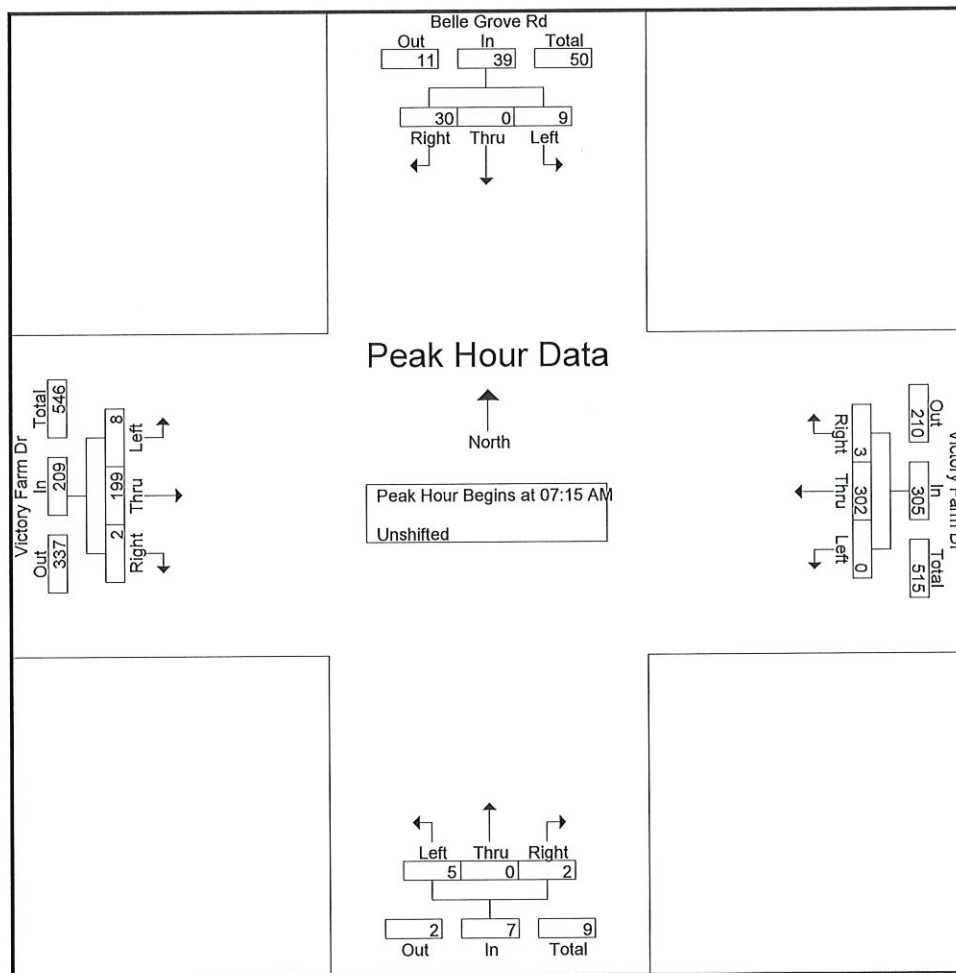
File Name : c. Victory Farm Dr @ Belle Grove Rd

Site Code : 958-C

Start Date : 9/19/2019

Page No : 3

Start Time	Belle Grove Rd From North				Victory Farm Dr From East				From South				Victory Farm Dr From West				Int. Total
	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	
Peak Hour Analysis From 06:30 AM to 09:15 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:15 AM																	
07:15 AM	3	0	9	12	0	55	2	57	1	0	0	1	3	23	0	26	96
07:30 AM	1	0	7	8	0	77	1	78	1	0	1	2	1	38	1	40	128
07:45 AM	2	0	8	10	0	97	0	97	2	0	0	2	2	94	0	96	205
08:00 AM	3	0	6	9	0	73	0	73	1	0	1	2	2	44	1	47	131
Total Volume	9	0	30	39	0	302	3	305	5	0	2	7	8	199	2	209	560
% App. Total	23.1	0	76.9		0	99	1		71.4	0	28.6		3.8	95.2	1		
PHF	.750	.000	.833	.813	.000	.778	.375	.786	.625	.000	.500	.875	.667	.529	.500	.544	.683



MCV Associates, Inc.

4605-C Pinecrest off Park Dr

Alexandria, VA - 22312

Phone: 703 914-4850

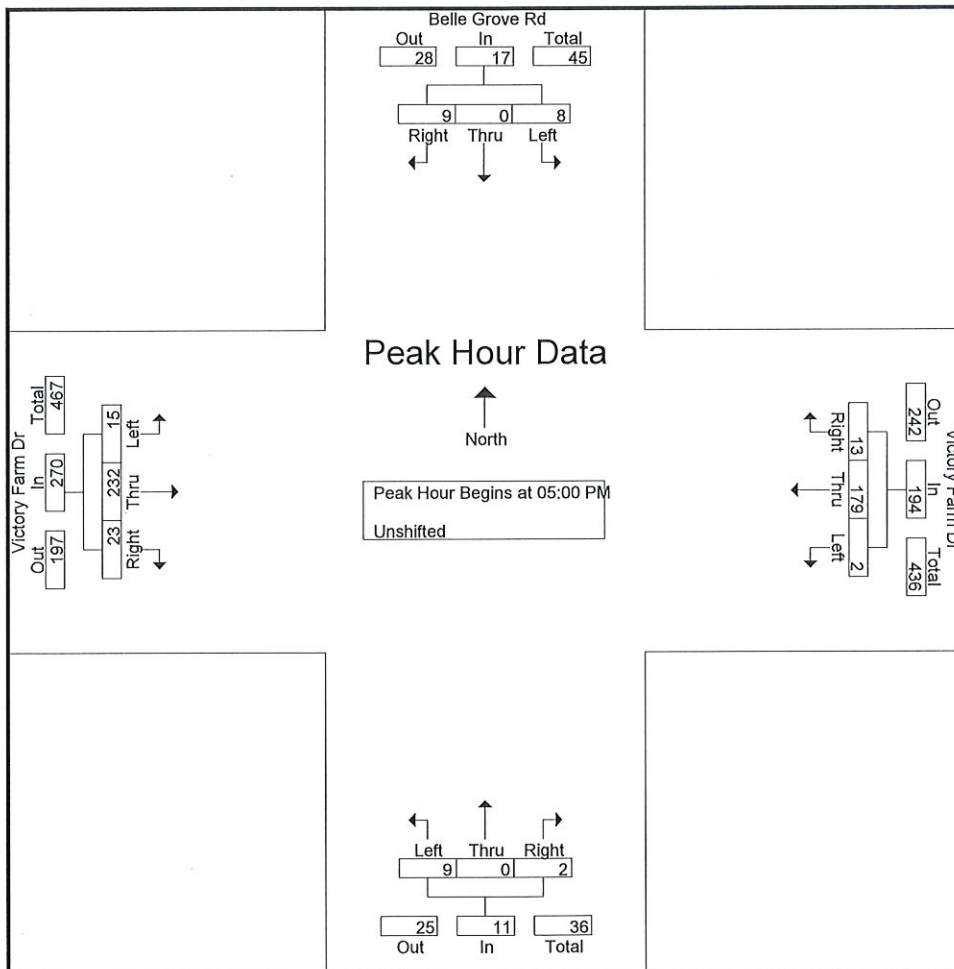
File Name : c. Victory Farm Dr @ Belle Grove Rd

Site Code : 958-C

Start Date : 9/19/2019

Page No : 4

Start Time	Belle Grove Rd From North				Victory Farm Dr From East				From South				Victory Farm Dr From West				Int. Total
	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	
Peak Hour Analysis From 03:00 PM to 05:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 05:00 PM																	
05:00 PM	3	0	5	8	0	49	3	52	4	0	0	4	7	50	7	64	128
05:15 PM	2	0	1	3	0	35	4	39	1	0	0	1	4	57	6	67	110
05:30 PM	3	0	2	5	0	51	3	54	3	0	0	3	3	62	3	68	130
05:45 PM	0	0	1	1	2	44	3	49	1	0	2	3	1	63	7	71	124
Total Volume	8	0	9	17	2	179	13	194	9	0	2	11	15	232	23	270	492
% App. Total	47.1	0	52.9		1	92.3	6.7		81.8	0	18.2		5.6	85.9	8.5		
PHF	.667	.000	.450	.531	.250	.877	.813	.898	.563	.000	.250	.688	.536	.921	.821	.951	.946



File Name: c. Victory Farm Dr @ Belle Grove Rd

Start Date: 9/19/2019

Start Time: 6:30:00 AM

Site Code: 958-C

Comment 1: Pedestrians Only

Comment 2:

Comment 3:

Comment 4:

Start Time	Belle Grove Rd From North				Victory Farm Dr From East				From South				Victory Farm Dr From West			
	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds
06:30 AM	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0
06:45 AM	0	0	0	0	0	0	0	1	0	0	0	3	0	0	0	0
07:00 AM	0	0	0	0	0	0	0	6	0	0	0	5	0	0	0	2
07:15 AM	0	0	0	0	0	0	0	2	0	0	0	6	0	0	0	3
07:30 AM	0	0	0	0	0	0	0	1	0	0	0	5	0	0	0	0
07:45 AM	0	0	0	0	0	0	0	2	0	0	0	8	0	0	0	1
08:00 AM	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0
08:15 AM	0	0	0	0	0	0	0	0	0	0	0	3	0	0	0	2
08:30 AM	0	0	0	0	0	0	0	3	0	0	0	4	0	0	0	0
08:45 AM	0	0	0	0	0	0	0	4	0	0	0	2	0	0	0	2
09:00 AM	0	0	0	0	0	0	0	1	0	0	0	2	0	0	0	1
09:15 AM	0	0	0	0	0	0	0	2	0	0	0	2	0	0	0	3
09:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
09:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
01:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
01:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
01:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
01:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
02:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
02:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
02:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
02:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
03:00 PM	0	0	0	0	0	0	0	3	0	0	0	11	0	0	0	2
03:15 PM	0	0	0	0	0	0	0	1	0	0	0	8	0	0	0	5
03:30 PM	0	0	0	0	0	0	0	1	0	0	0	3	0	0	0	0
03:45 PM	0	0	0	0	0	0	0	1	0	0	0	5	0	0	0	4
04:00 PM	0	0	0	0	0	0	0	0	0	0	0	3	0	0	0	3
04:15 PM	0	0	0	0	0	0	0	1	0	0	0	1	0	0	0	0
04:30 PM	0	0	0	1	0	0	0	0	0	0	0	3	0	0	0	0
04:45 PM	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0
05:00 PM	0	0	0	0	0	0	0	1	0	0	0	5	0	0	0	6
05:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:30 PM	0	0	0	0	0	0	0	3	0	0	0	9	0	0	0	3
05:45 PM	0	0	0	0	0	0	0	4	0	0	0	3	0	0	0	0



SB Belle Grove Rd approaching Victory Farm Dr



EB Victory Farm Dr approaching Belle Grove Rd



WB Victory Farm Dr approaching Belle Grove Rd

MCV Associates, Inc.
4605-C Pinecrest off Park Dr
Alexandria, VA - 22312

Phone: 703 914-4850

File Name : d. E. Diamond Ave @ GIRRARD ST

Site Code : 958-d

Start Date : 9/19/2019

Page No : 1

Groups Printed- Unshifted

Start Time	Girard Street From North				E Diamond Ave From East				From South				E Diamond Ave From West				Exclu. Total	Inclu. Total	Int. Total
	Left	Thru	Right	U Turns	Left	Thru	Right	U Turns	Left	Thru	Right	U Turns	Left	Thru	Right	U Turns			
06:30 AM	79	0	14	0	0	32	21	0	0	0	0	0	7	31	0	0	0	184	184
06:45 AM	80	0	21	0	0	34	15	0	0	0	0	0	5	50	0	0	0	205	205
Total	159	0	35	0	0	66	36	0	0	0	0	0	12	81	0	0	0	389	389
07:00 AM	83	0	30	0	0	36	23	0	0	0	0	0	7	43	0	0	0	222	222
07:15 AM	112	0	67	0	0	41	25	0	0	0	0	0	5	47	0	0	0	297	297
07:30 AM	120	0	52	0	0	53	36	0	0	0	0	0	25	65	0	0	0	351	351
07:45 AM	100	0	37	0	0	51	60	0	0	0	0	0	33	70	0	0	0	351	351
Total	415	0	186	0	0	181	144	0	0	0	0	0	70	225	0	0	0	1221	1221
08:00 AM	114	0	41	0	0	48	31	0	0	0	0	0	11	68	0	0	0	313	313
08:15 AM	82	0	22	0	0	58	38	0	0	0	0	0	8	55	0	0	0	263	263
08:30 AM	93	0	25	0	0	49	37	0	0	0	0	0	7	54	0	0	0	265	265
08:45 AM	70	0	23	0	0	42	27	0	0	0	0	0	21	54	0	0	0	237	237
Total	359	0	111	0	0	197	133	0	0	0	0	0	47	231	0	0	0	1078	1078
09:00 AM	70	0	30	0	0	40	45	0	0	0	0	0	19	56	0	0	0	260	260
09:15 AM	62	0	17	0	0	53	38	0	0	0	0	0	18	40	0	0	0	228	228
Total	132	0	47	0	0	93	83	0	0	0	0	0	37	96	0	0	0	488	488
03:00 PM	51	0	20	0	0	71	73	0	0	0	0	0	20	56	0	0	0	291	291
03:15 PM	49	0	31	0	0	49	67	0	0	0	0	0	16	54	0	0	0	266	266
03:30 PM	44	0	28	0	0	59	89	0	0	0	0	0	25	50	0	0	0	295	295
03:45 PM	48	0	26	0	0	76	73	0	0	0	0	0	27	56	0	0	0	306	306
Total	192	0	105	0	0	255	302	0	0	0	0	0	88	216	0	0	0	1158	1158
04:00 PM	40	0	18	0	0	61	104	0	0	0	0	0	23	53	0	0	0	299	299
04:15 PM	61	0	22	0	0	65	107	0	0	0	0	0	24	38	0	0	0	317	317
04:30 PM	64	0	32	0	0	47	90	0	0	0	0	0	24	54	0	0	0	311	311
04:45 PM	55	0	27	0	0	65	123	0	0	0	0	0	15	44	0	0	0	329	329
Total	220	0	99	0	0	238	424	0	0	0	0	0	86	189	0	0	0	1256	1256
05:00 PM	38	0	26	0	0	70	135	0	0	0	0	0	31	58	0	0	0	358	358
05:15 PM	51	0	30	0	0	87	93	0	0	0	0	0	23	65	0	0	0	349	349
05:30 PM	45	0	15	0	0	72	104	0	0	0	0	0	27	55	0	0	0	318	318
05:45 PM	50	0	32	0	0	60	102	0	0	0	0	0	18	51	0	0	0	313	313
Total	184	0	103	0	0	289	434	0	0	0	0	0	99	229	0	0	0	1338	1338
Grand Total	1661	0	686	0	0	1319	1556	0	0	0	0	0	439	1267	0	0	0	6928	6928
Apprch %	70.8	0	29.2		0	45.9	54.1		0	0	0		25.7	74.3	0				
Total %	24	0	9.9		0	19	22.5		0	0	0		6.3	18.3	0			100	

MCV Associates, Inc.
4605-C Pincrest off Park Dr
Alexandria, VA - 22312

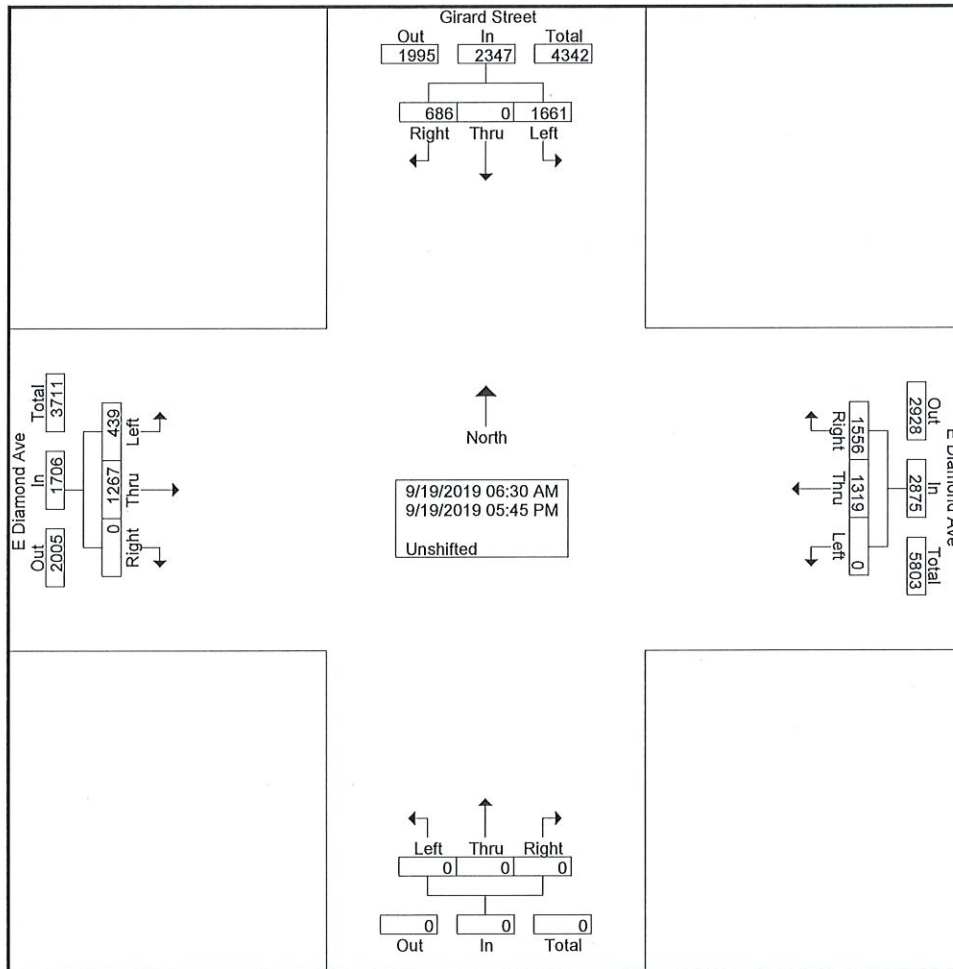
Phone: 703 914-4850

File Name : d. E. Diamond Ave @ GIRRARD St

Site Code : 958-d

Start Date : 9/19/2019

Page No : 2



MCV Associates, Inc.

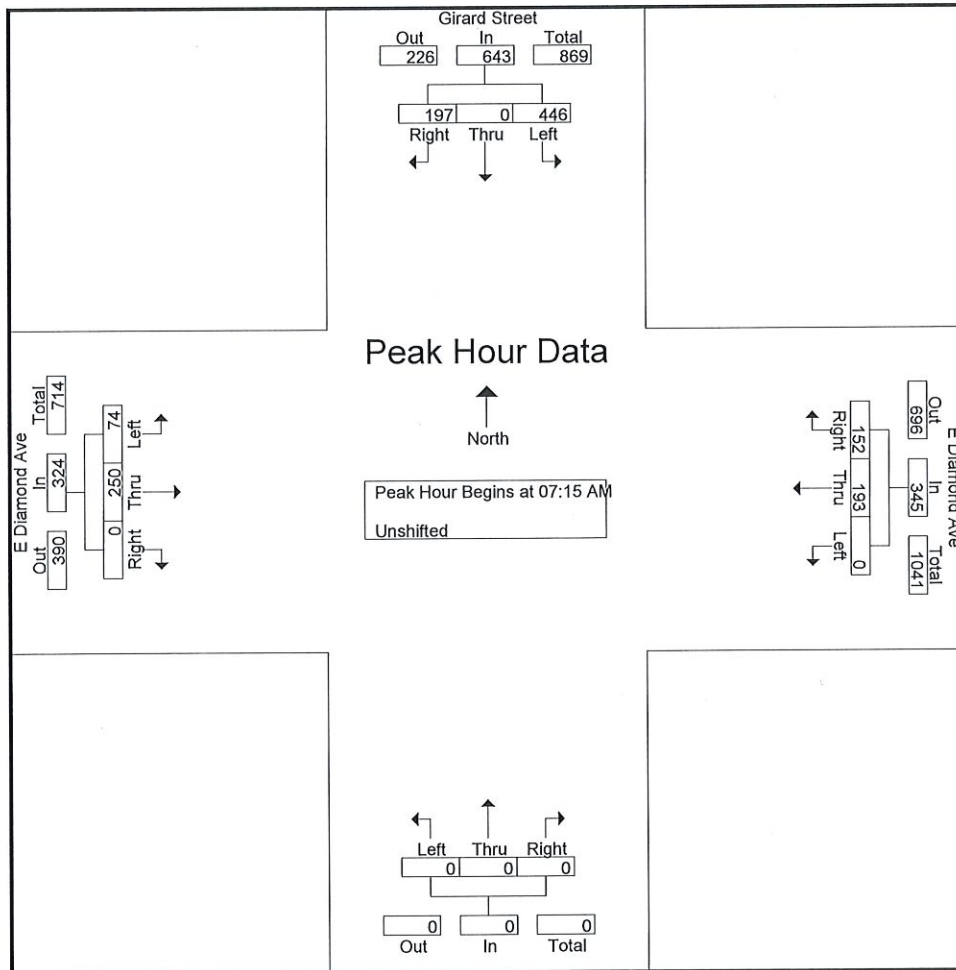
4605-C Pinecrest off Park Dr

Alexandria, VA - 22312

Phone: 703 914-4850

File Name : d. E. Diamond Ave @ Girard St
 Site Code : 958-d
 Start Date : 9/19/2019
 Page No : 3

Start Time	Girard Street From North				E Diamond Ave From East				From South				E Diamond Ave From West				Int. Total
	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	
Peak Hour Analysis From 06:30 AM to 09:15 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:15 AM																	
07:15 AM	112	0	67	179	0	41	25	66	0	0	0	0	5	47	0	52	297
07:30 AM	120	0	52	172	0	53	36	89	0	0	0	0	25	65	0	90	351
07:45 AM	100	0	37	137	0	51	60	111	0	0	0	0	33	70	0	103	351
08:00 AM	114	0	41	155	0	48	31	79	0	0	0	0	11	68	0	79	313
Total Volume	446	0	197	643	0	193	152	345	0	0	0	0	74	250	0	324	1312
% App. Total	69.4	0	30.6		0	55.9	44.1		0	0	0		22.8	77.2	0		
PHF	.929	.000	.735	.898	.000	.910	.633	.777	.000	.000	.000	.000	.561	.893	.000	.786	.934



MCV Associates, Inc.

4605-C Pincrest off Park Dr Alexandria, VA - 22312

Phone: 703 914-4850

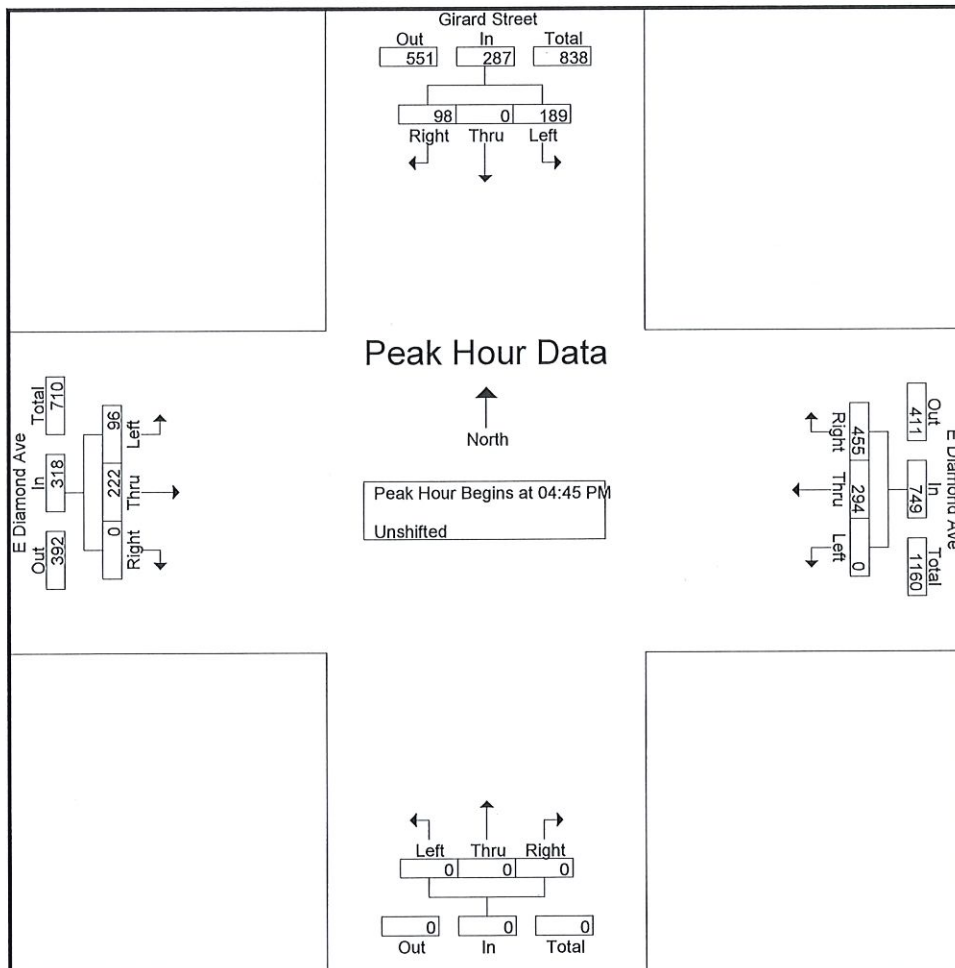
File Name : d. E. Diamond Ave @ Girard St

Site Code : 958-d

Start Date : 9/19/2019

Page No : 4

Start Time	Girard Street From North				E Diamond Ave From East				From South				E Diamond Ave From West				Int. Total
	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	
Peak Hour Analysis From 03:00 PM to 05:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 04:45 PM																	
04:45 PM	55	0	27	82	0	65	123	188	0	0	0	0	15	44	0	59	329
05:00 PM	38	0	26	64	0	70	135	205	0	0	0	0	31	58	0	89	358
05:15 PM	51	0	30	81	0	87	93	180	0	0	0	0	23	65	0	88	349
05:30 PM	45	0	15	60	0	72	104	176	0	0	0	0	27	55	0	82	318
Total Volume	189	0	98	287	0	294	455	749	0	0	0	0	96	222	0	318	1354
% App. Total	65.9	0	34.1		0	39.3	60.7		0	0	0		30.2	69.8	0		
PHF	.859	.000	.817	.875	.000	.845	.843	.913	.000	.000	.000	.000	.774	.854	.000	.893	.946





SB Girard St approaching E Diamond Ave



EB E Diamond Ave approaching Girard St



WB E Diamond Ave approaching Girard St

MCV Associates, Inc.
4605-C Pinecrest off Park Dr
Alexandria, VA - 22312

Phone: 703 914-4850

File Name : e. E. Diamond Ave @ Washington Grove Ln

Site Code : 958-e

Start Date : 9/19/2019

Page No : 1

Groups Printed- Unshifted

Start Time	Rail Road Street From North				Washington Grove Ln From East				Rail Road Street From South				E. Diamond Ave From West				Exclu. Total	Inclu. Total	Int. Total
	Left	Thru	Right	U Turns	Left	Thru	Right	U Turns	Left	Thru	Right	U Turns	Left	Thru	Right	U Turns			
06:30 AM	0	0	0	0	46	31	0	0	23	0	11	0	0	13	83	0	0	207	207
06:45 AM	0	0	0	0	53	32	0	0	23	0	15	0	0	20	109	0	0	252	252
Total	0	0	0	0	99	63	0	0	46	0	26	0	0	33	192	0	0	459	459
07:00 AM	0	0	0	0	61	41	0	0	21	0	17	0	0	19	96	0	0	255	255
07:15 AM	0	0	0	0	72	34	0	0	36	0	16	0	0	11	155	0	0	324	324
07:30 AM	0	0	0	0	49	43	0	0	56	0	24	0	0	20	157	0	0	349	349
07:45 AM	0	0	0	0	30	47	0	0	79	0	35	0	0	32	154	0	0	377	377
Total	0	0	0	0	212	165	0	0	192	0	92	0	0	82	562	0	0	1305	1305
08:00 AM	0	0	0	0	76	39	0	0	47	0	21	0	0	35	138	0	0	356	356
08:15 AM	0	0	0	0	40	41	0	0	50	0	19	0	0	23	122	0	0	295	295
08:30 AM	0	0	0	0	65	44	0	0	52	0	14	0	0	26	114	0	0	315	315
08:45 AM	0	0	0	0	57	38	0	0	45	0	20	0	0	30	103	0	0	293	293
Total	0	0	0	0	238	162	0	0	194	0	74	0	0	114	477	0	0	1259	1259
09:00 AM	0	0	0	0	47	39	0	0	63	0	19	0	0	25	95	0	0	288	288
09:15 AM	0	0	0	0	32	40	0	0	62	0	17	0	0	19	79	0	0	249	249
Total	0	0	0	0	79	79	0	0	125	0	36	0	0	44	174	0	0	537	537
03:00 PM	0	0	0	0	22	56	0	0	92	0	52	0	0	47	65	0	0	334	334
03:15 PM	0	0	0	0	26	35	0	0	85	0	43	0	0	42	55	0	0	286	286
03:30 PM	0	0	0	0	19	39	0	0	107	0	41	0	0	40	63	0	0	309	309
03:45 PM	0	0	0	0	29	54	0	0	96	0	46	0	0	49	60	0	0	334	334
Total	0	0	0	0	96	184	0	0	380	0	182	0	0	178	243	0	0	1263	1263
04:00 PM	0	0	0	0	17	42	0	0	130	0	67	0	0	42	61	0	0	359	359
04:15 PM	0	0	0	0	39	39	0	0	115	0	65	0	0	48	61	0	0	367	367
04:30 PM	0	0	0	0	31	24	0	0	104	0	70	0	0	46	82	0	0	357	357
04:45 PM	0	0	0	0	28	45	0	0	138	0	50	0	0	41	68	0	0	370	370
Total	0	0	0	0	115	150	0	0	487	0	252	0	0	177	272	0	0	1453	1453
05:00 PM	0	0	0	0	28	40	0	0	155	0	71	0	0	41	69	1	1	404	405
05:15 PM	0	0	0	0	28	49	0	0	118	0	67	0	0	55	73	0	0	390	390
05:30 PM	0	0	0	0	28	45	0	0	139	0	86	0	0	51	56	0	0	405	405
05:45 PM	0	0	0	0	33	44	0	0	111	0	67	0	0	41	66	0	0	362	362
Total	0	0	0	0	117	178	0	0	523	0	291	0	0	188	264	1	1	1561	1562
Grand Total	0	0	0	0	956	981	0	0	1947	0	953	0	0	816	2184	1	1	7837	7838
Apprch %	0	0	0		49.4	50.6	0		67.1	0	32.9		0	27.2	72.8				
Total %	0	0	0		12.2	12.5	0		24.8	0	12.2		0	10.4	27.9		0	100	

MCV Associates, Inc.

4605-C Pinecrest off Park Dr

Alexandria, VA - 22312

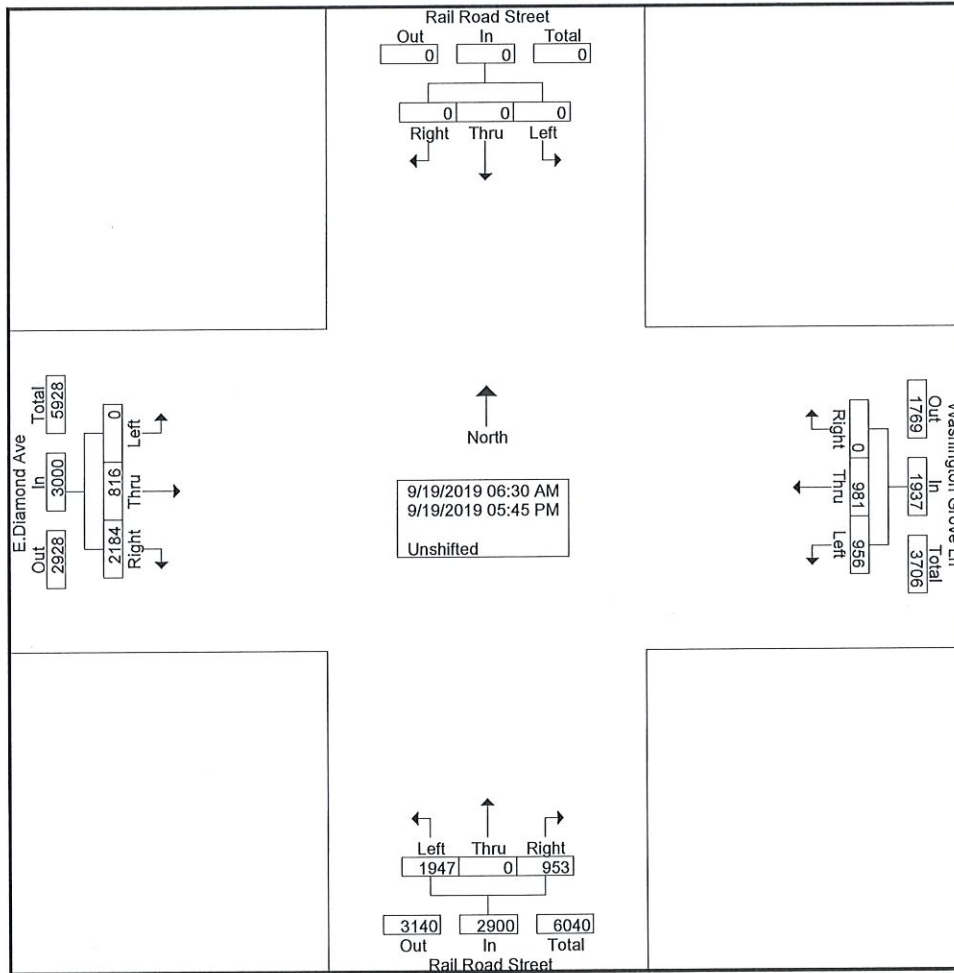
Phone: 703 914-4850

File Name : e. E. Diamond Ave @ Washington Grove Ln

Site Code : 958-e

Start Date : 9/19/2019

Page No : 2



MCV Associates, Inc.

4605-C Pinecrest off Park Dr Alexandria, VA - 22312

Phone: 703 914-4850

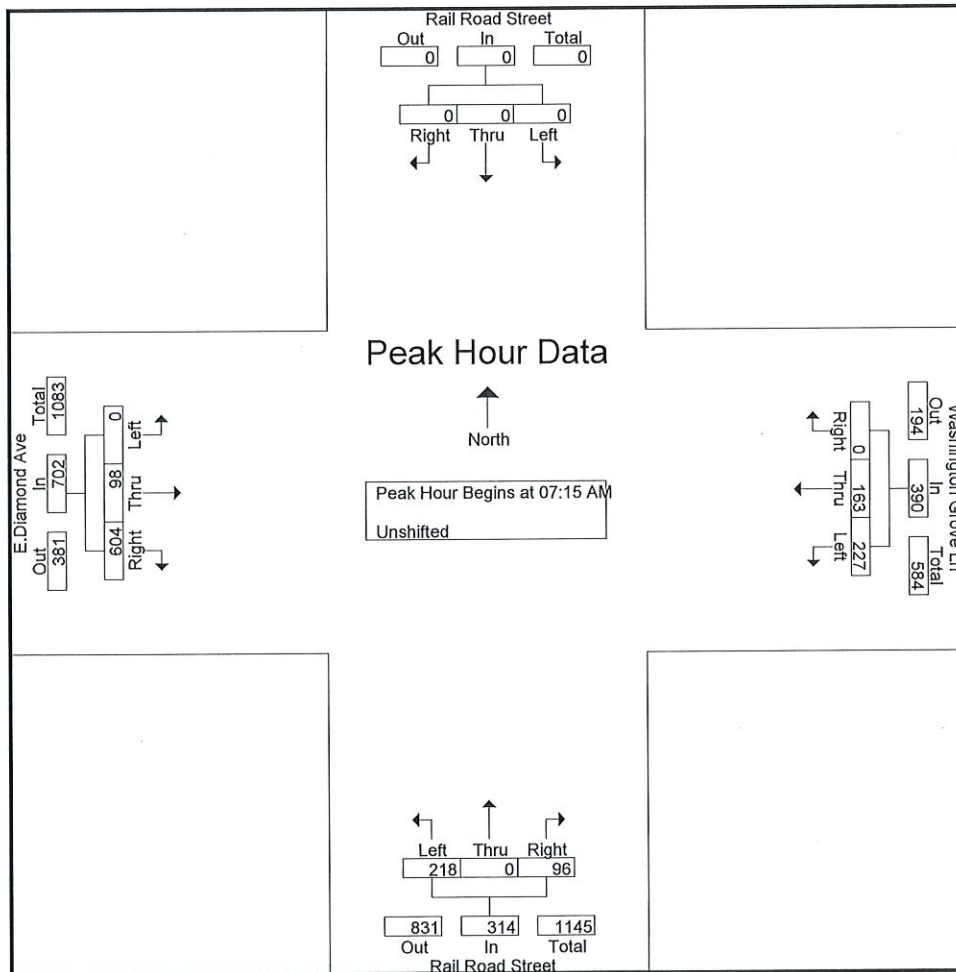
File Name : e. E. Diamond Ave @ Washington Grove Ln

Site Code : 958-e

Start Date : 9/19/2019

Page No : 3

Start Time	Rail Road Street From North				Washington Grove Ln From East				Rail Road Street From South				E.Diamond Ave From West				Int. Total
	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	
Peak Hour Analysis From 06:30 AM to 09:15 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:15 AM																	
07:15 AM	0	0	0	0	72	34	0	106	36	0	16	52	0	11	155	166	324
07:30 AM	0	0	0	0	49	43	0	92	56	0	24	80	0	20	157	177	349
07:45 AM	0	0	0	0	30	47	0	77	79	0	35	114	0	32	154	186	377
08:00 AM	0	0	0	0	76	39	0	115	47	0	21	68	0	35	138	173	356
Total Volume	0	0	0	0	227	163	0	390	218	0	96	314	0	98	604	702	1406
% App. Total	0	0	0	0	58.2	41.8	0		69.4	0	30.6		0	14	86		
PHF	.000	.000	.000	.000	.747	.867	.000	.848	.690	.000	.686	.689	.000	.700	.962	.944	.932



MCV Associates, Inc.

4605-C Pincrest off Park Dr

Alexandria, VA - 22312

Phone: 703 914-4850

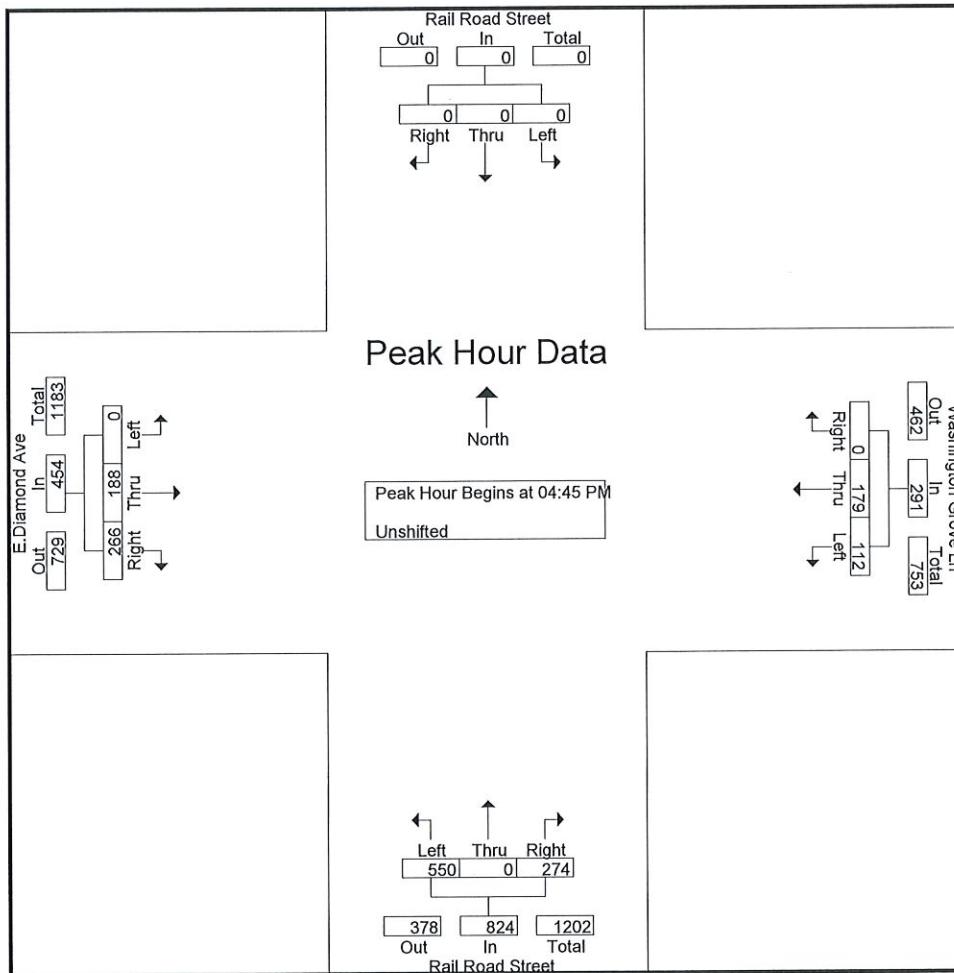
File Name : e. E. Diamond Ave @ Washington Grove Ln

Site Code : 958-e

Start Date : 9/19/2019

Page No : 4

Start Time	Rail Road Street From North				Washington Grove Ln From East				Rail Road Street From South				E. Diamond Ave From West				Int. Total
	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	
Peak Hour Analysis From 03:00 PM to 05:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 04:45 PM																	
04:45 PM	0	0	0	0	28	45	0	73	138	0	50	188	0	41	68	109	370
05:00 PM	0	0	0	0	28	40	0	68	155	0	71	226	0	41	69	110	404
05:15 PM	0	0	0	0	28	49	0	77	118	0	67	185	0	55	73	128	390
05:30 PM	0	0	0	0	28	45	0	73	139	0	86	225	0	51	56	107	405
Total Volume	0	0	0	0	112	179	0	291	550	0	274	824	0	188	266	454	1569
% App. Total	0	0	0	0	38.5	61.5	0		66.7	0	33.3		0	41.4	58.6		
PHF	.000	.000	.000	.000	1.00	.913	.000	.945	.887	.000	.797	.912	.000	.855	.911	.887	.969



File Name: e. E. Diamond Ave @ Washington Grove Ln

Start Date: 9/19/2019

Start Time: 6:30:00 AM

Site Code: 958-e

Comment 1: Pedestrians Only

Comment 2:

Comment 3:

Comment 4:

Start Time	Rail Road Street From North				Washington Grove Ln From East				Rail Road Street From South				E.Diamond Ave From West				
	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds	
06:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2
06:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
07:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
07:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
07:30 AM	0	0	0	0	0	0	0	0	1	0	0	0	1	0	0	0	0
07:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2
08:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
08:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
08:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
08:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	3	0	0	0	1
09:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
09:15 AM	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	1
09:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
09:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
01:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
01:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
01:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
01:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
02:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
02:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
02:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
02:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
03:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
03:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
03:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
03:45 PM	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0
04:00 PM	0	0	0	0	0	0	0	0	1	0	0	0	1	0	0	0	3
04:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3
04:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04:45 PM	0	0	0	0	0	0	0	0	1	0	0	0	1	0	0	0	5
05:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:15 PM	0	0	0	0	0	0	0	0	1	0	0	0	1	0	0	0	1
05:30 PM	0	0	0	0	0	0	0	0	1	0	0	0	2	0	0	0	1
05:45 PM	0	0	0	0	0	0	0	1	0	0	0	5	0	0	0	0	1



EB E Diamond Ave approaching Railroad St



NB Railroad St approaching E Diamond Ave



SB Washington Grove Rd approaching Railroad St

MCV Associates, Inc.
4605-C Pinecrest off Park Dr
Alexandria, VA - 22312

Phone: 703 914-4850

File Name : f. MD 124 @ Saybrooke Oks Blvd

Site Code : 958-f

Start Date : 9/19/2019

Page No : 1

Groups Printed- Unshifted

Start Time	Woodfield Rd From North				MD 124 From East				Saybrooke Oaks Blvd From South				MD 124 From West				Exclu. Total	Inclu. Total	Int. Total
	Left	Thru	Right	U Turns	Left	Thru	Right	U Turns	Left	Thru	Right	U Turns	Left	Thru	Right	U Turns			
06:30 AM	83	17	52	0	4	46	22	0	2	24	29	0	62	148	3	0	0	492	492
06:45 AM	108	15	55	1	2	53	17	0	5	31	33	0	69	212	4	0	1	604	605
Total	191	32	107	1	6	99	39	0	7	55	62	0	131	360	7	0	1	1096	1097
07:00 AM	123	23	57	0	3	62	26	0	5	26	39	0	58	204	7	1	1	633	634
07:15 AM	118	40	69	0	7	72	23	0	7	18	26	0	71	228	11	0	0	690	690
07:30 AM	125	55	78	0	20	81	26	0	7	20	33	0	81	214	27	0	0	767	767
07:45 AM	115	82	90	0	24	92	33	0	14	31	39	0	99	228	38	0	0	885	885
Total	481	200	294	0	54	307	108	0	33	95	137	0	309	874	83	1	1	2975	2976
08:00 AM	108	31	92	1	7	84	29	0	18	49	40	0	90	236	16	0	1	800	801
08:15 AM	86	31	116	0	12	84	26	0	5	26	35	0	64	187	11	0	0	683	683
08:30 AM	92	15	115	0	6	88	30	0	11	22	33	0	57	144	8	1	1	621	622
08:45 AM	99	17	93	0	11	96	33	0	7	20	28	2	75	140	5	0	2	624	626
Total	385	94	416	1	36	352	118	0	41	117	136	2	286	707	40	1	4	2728	2732
09:00 AM	61	24	99	0	8	81	23	0	8	20	22	1	70	143	4	0	1	563	564
09:15 AM	54	14	80	0	11	83	28	1	3	12	17	0	58	114	5	0	1	479	480
Total	115	38	179	0	19	164	51	1	11	32	39	1	128	257	9	0	2	1042	1044
03:00 PM	30	34	95	0	19	138	64	0	17	45	31	0	80	104	10	0	0	667	667
03:15 PM	31	27	75	1	12	106	68	1	13	39	15	1	85	115	13	0	3	599	602
03:30 PM	27	33	107	0	23	124	51	1	9	34	27	0	94	98	9	2	3	636	639
03:45 PM	40	33	93	0	12	134	61	1	8	23	11	0	91	111	8	0	1	625	626
Total	128	127	370	1	66	502	244	3	47	141	84	1	350	428	40	2	7	2527	2534
04:00 PM	32	32	89	1	18	120	66	0	12	31	23	0	99	114	8	2	3	644	647
04:15 PM	28	42	88	0	21	157	71	0	3	35	21	0	114	133	12	1	1	725	726
04:30 PM	37	24	93	0	20	181	55	0	15	44	23	0	99	112	13	1	1	716	717
04:45 PM	27	30	94	0	23	151	63	0	8	31	17	0	106	132	15	1	1	697	698
Total	124	128	364	1	82	609	255	0	38	141	84	0	418	491	48	5	6	2782	2788
05:00 PM	27	43	133	0	26	177	70	1	5	23	14	0	90	110	16	1	2	734	736
05:15 PM	33	28	116	1	19	220	95	0	12	43	18	0	113	115	9	1	2	821	823
05:30 PM	39	47	109	0	25	237	81	1	9	34	23	0	114	121	11	2	3	850	853
05:45 PM	45	37	116	0	24	194	92	0	8	32	18	0	89	114	12	1	1	781	782
Total	144	155	474	1	94	828	338	2	34	132	73	0	406	460	48	5	8	3186	3194
Grand Total	1568	774	2204	5	357	2861	1153	6	211	713	615	4	2028	3577	275	14	29	16336	16365
Apprch %	34.5	17	48.5		8.2	65.5	26.4		13.7	46.3	40		34.5	60.8	4.7		0.2	99.8	
Total %	9.6	4.7	13.5		2.2	17.5	7.1		1.3	4.4	3.8		12.4	21.9	1.7				

MCV Associates, Inc.
4605-C Pinecrest off Park Dr
Alexandria, VA - 22312

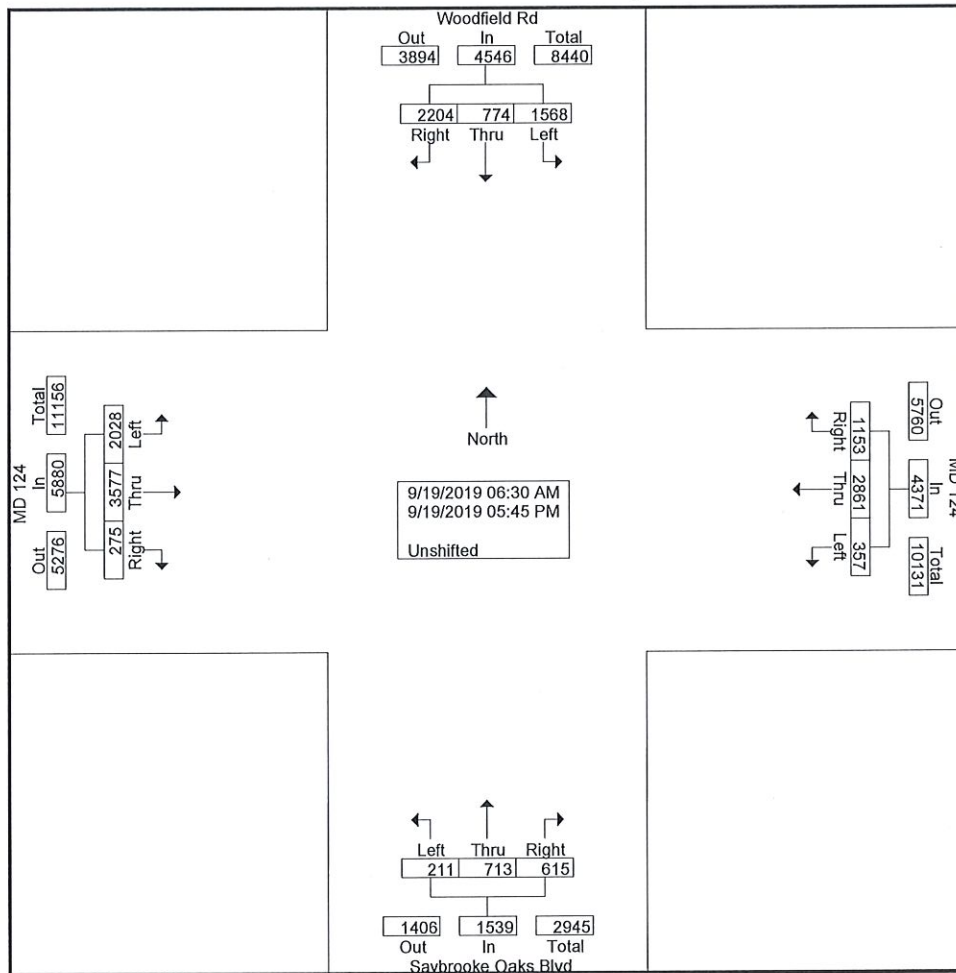
Phone: 703 914-4850

File Name : f. MD 124 @ Saybrooke Oks Blvd

Site Code : 958-f

Start Date : 9/19/2019

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MCV Associates, Inc.

4605-C Pinecrest off Park Dr Alexandria, VA - 22312

Phone: 703 914-4850

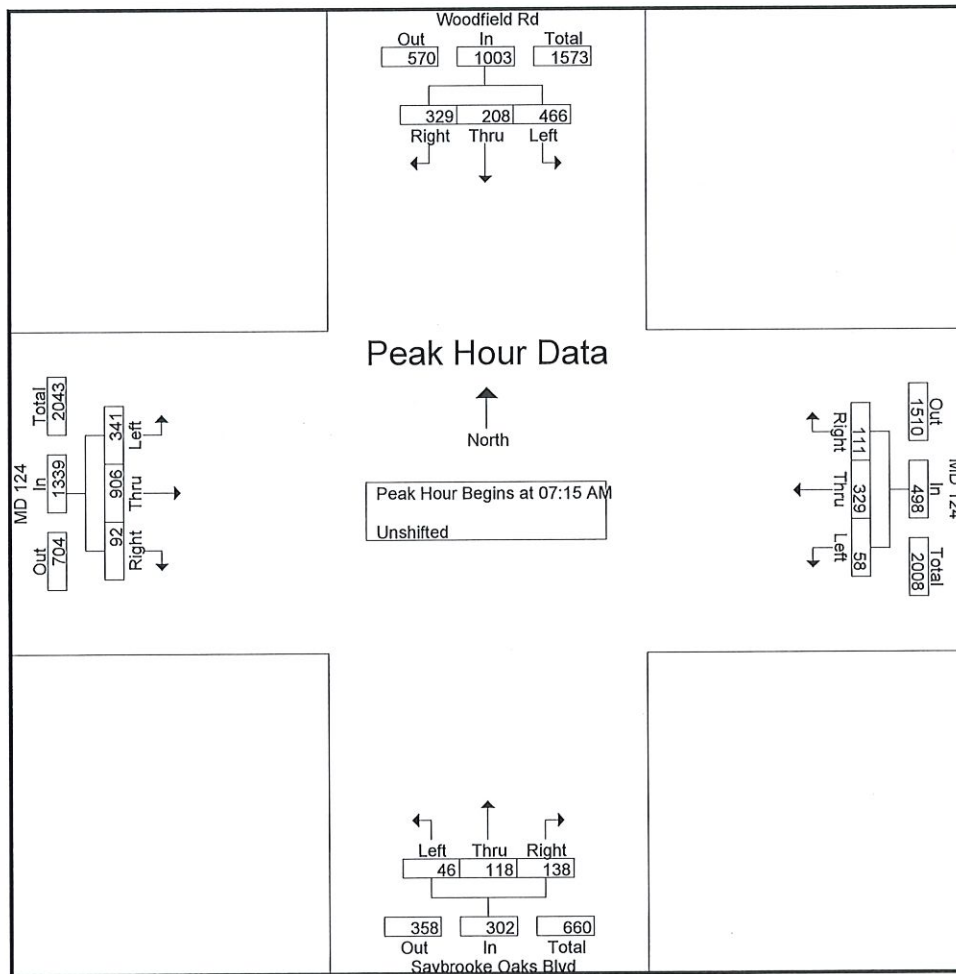
File Name : f. MD 124 @ Saybrooke Oks Blvd

Site Code : 958-f

Start Date : 9/19/2019

Page No : 3

Start Time	Woodfield Rd From North				MD 124 From East				Saybrooke Oaks Blvd From South				MD 124 From West				Int. Total
	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	
Peak Hour Analysis From 06:30 AM to 09:15 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:15 AM																	
07:15 AM	118	40	69	227	7	72	23	102	7	18	26	51	71	228	11	310	690
07:30 AM	125	55	78	258	20	81	26	127	7	20	33	60	81	214	27	322	767
07:45 AM	115	82	90	287	24	92	33	149	14	31	39	84	99	228	38	365	885
08:00 AM	108	31	92	231	7	84	29	120	18	49	40	107	90	236	16	342	800
Total Volume	466	208	329	1003	58	329	111	498	46	118	138	302	341	906	92	1339	3142
% App. Total	46.5	20.7	32.8		11.6	66.1	22.3		15.2	39.1	45.7		25.5	67.7	6.9		
PHF	.932	.634	.894	.874	.604	.894	.841	.836	.639	.602	.863	.706	.861	.960	.605	.917	.888



MCV Associates, Inc.

4605-C Pinecrest off Park Dr Alexandria, VA - 22312

Phone: 703 914-4850

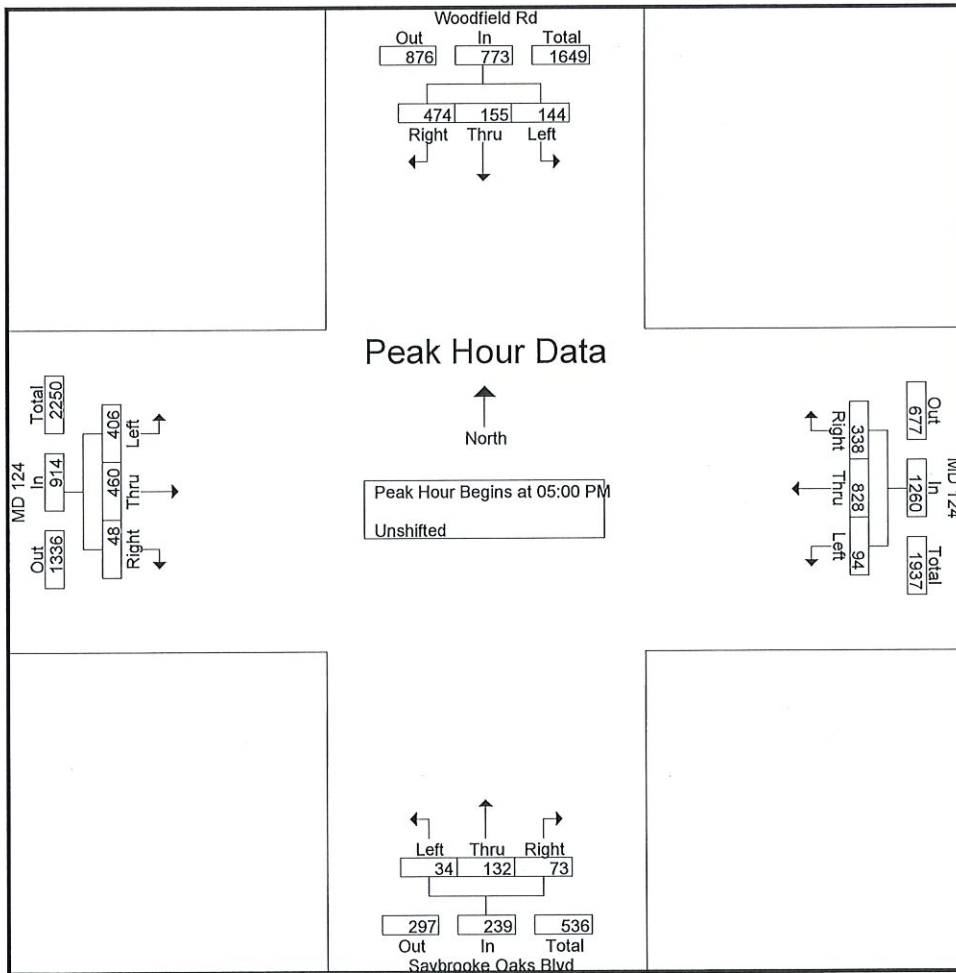
File Name : f. MD 124 @ Saybrooke Oks Blvd

Site Code : 958-f

Start Date : 9/19/2019

Page No : 4

Start Time	Woodfield Rd From North				MD 124 From East				Saybrooke Oaks Blvd From South				MD 124 From West				Int. Total
	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	
Peak Hour Analysis From 03:00 PM to 05:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 05:00 PM																	
05:00 PM	27	43	133	203	26	177	70	273	5	23	14	42	90	110	16	216	734
05:15 PM	33	28	116	177	19	220	95	334	12	43	18	73	113	115	9	237	821
05:30 PM	39	47	109	195	25	237	81	343	9	34	23	66	114	121	11	246	850
05:45 PM	45	37	116	198	24	194	92	310	8	32	18	58	89	114	12	215	781
Total Volume	144	155	474	773	94	828	338	1260	34	132	73	239	406	460	48	914	3186
% App. Total	18.6	20.1	61.3		7.5	65.7	26.8		14.2	55.2	30.5		44.4	50.3	5.3		
PHF	.800	.824	.891	.952	.904	.873	.889	.918	.708	.767	.793	.818	.890	.950	.750	.929	.937





NB Saybrooke Oaks Blvd approaching Midcounty Hwy



EB Midcounty Hwy approaching Woodfield Rd



SB Woodfield Rd approaching Midcounty Hwy



WB Midcounty Hwy approaching Woodfield Rd

MCV Associates, Inc.
4605-C Pinecrest off Park Dr
Alexandria, VA - 22312

Phone: 703 914-4850

File Name : g. N Summit Ave @ Girard Street

Site Code : 958-g

Start Date : 9/19/2019

Page No : 1

Groups Printed- Unshifted

Start Time	N. Summit Ave From North				Girard Street From East				N. Summit Ave From South				From West				Exclu. Total	Inclu. Total	Int. Total	
	Left	Thru	Right	U Turns	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	U Turns				
06:30 AM	39	58	0	0	15	0	46	0	0	42	7	0	0	0	0	0	0	0	207	207
06:45 AM	51	92	0	0	8	0	28	0	0	52	5	0	0	0	0	0	0	0	236	236
Total	90	150	0	0	23	0	74	0	0	94	12	0	0	0	0	0	0	0	443	443
07:00 AM	50	94	0	0	11	0	40	0	0	43	9	0	0	0	0	0	0	0	247	247
07:15 AM	56	106	0	0	14	0	43	0	0	52	9	0	0	0	0	0	0	0	280	280
07:30 AM	89	134	0	0	21	0	29	0	0	60	9	0	0	0	0	0	0	0	342	342
07:45 AM	86	122	0	0	11	0	77	0	0	86	30	0	0	0	0	0	0	0	412	412
Total	281	456	0	0	57	0	189	0	0	241	57	0	0	0	0	0	0	0	1281	1281
08:00 AM	79	87	0	0	16	0	46	0	0	68	19	0	0	0	0	0	0	0	315	315
08:15 AM	54	92	0	0	29	0	51	0	0	49	13	0	0	0	0	0	0	0	288	288
08:30 AM	58	63	0	0	18	0	44	0	0	48	16	0	0	0	0	0	0	0	247	247
08:45 AM	38	86	0	0	14	0	41	0	0	76	19	0	0	0	0	0	0	0	274	274
Total	229	328	0	0	77	0	182	0	0	241	67	0	0	0	0	0	0	0	1124	1124
09:00 AM	42	80	0	0	14	0	42	0	0	46	15	0	0	0	0	0	0	0	239	239
09:15 AM	42	69	0	0	12	0	41	0	0	48	6	0	0	0	0	0	0	0	218	218
Total	84	149	0	0	26	0	83	0	0	94	21	0	0	0	0	0	0	0	457	457
03:00 PM	43	82	0	0	13	0	61	0	0	96	12	0	0	0	0	0	0	0	307	307
03:15 PM	58	76	0	0	5	0	58	0	0	119	14	0	0	0	0	0	0	0	330	330
03:30 PM	63	79	0	0	16	0	74	0	0	99	26	0	0	0	0	0	0	0	357	357
03:45 PM	65	87	0	0	12	0	58	0	0	99	19	0	0	0	0	0	0	0	340	340
Total	229	324	0	0	46	0	251	0	0	413	71	0	0	0	0	0	0	0	1334	1334
04:00 PM	55	69	0	0	19	0	78	0	0	128	19	0	0	0	0	0	0	0	368	368
04:15 PM	56	79	0	0	9	0	73	0	0	112	18	0	0	0	0	0	0	0	347	347
04:30 PM	55	81	0	0	11	0	62	1	0	141	27	0	0	0	0	0	0	1	377	378
04:45 PM	54	95	0	0	13	0	64	0	0	115	26	0	0	0	0	0	0	0	367	367
Total	220	324	0	0	52	0	277	1	0	496	90	0	0	0	0	0	0	1	1459	1460
05:00 PM	66	93	0	0	12	0	83	0	0	130	19	0	0	0	0	0	0	0	403	403
05:15 PM	76	104	0	0	16	0	67	0	0	165	26	0	0	0	0	0	0	0	454	454
05:30 PM	80	95	0	0	17	0	67	0	0	121	11	0	0	0	0	0	0	0	391	391
05:45 PM	58	82	0	0	14	0	65	1	0	128	26	0	0	0	0	0	0	1	373	374
Total	280	374	0	0	59	0	282	1	0	544	82	0	0	0	0	0	0	1	1621	1622
Grand Total	1413	2105	0	0	340	0	1338	2	0	2123	400	0	0	0	0	0	0	2	7719	7721
Apprch %	40.2	59.8	0		20.3	0	79.7		0	84.1	15.9		0	0	0					
Total %	18.3	27.3	0		4.4	0	17.3		0	27.5	5.2		0	0	0				100	

MCV Associates, Inc.

4605-C Pinecrest off Park Dr Alexandria, VA - 22312

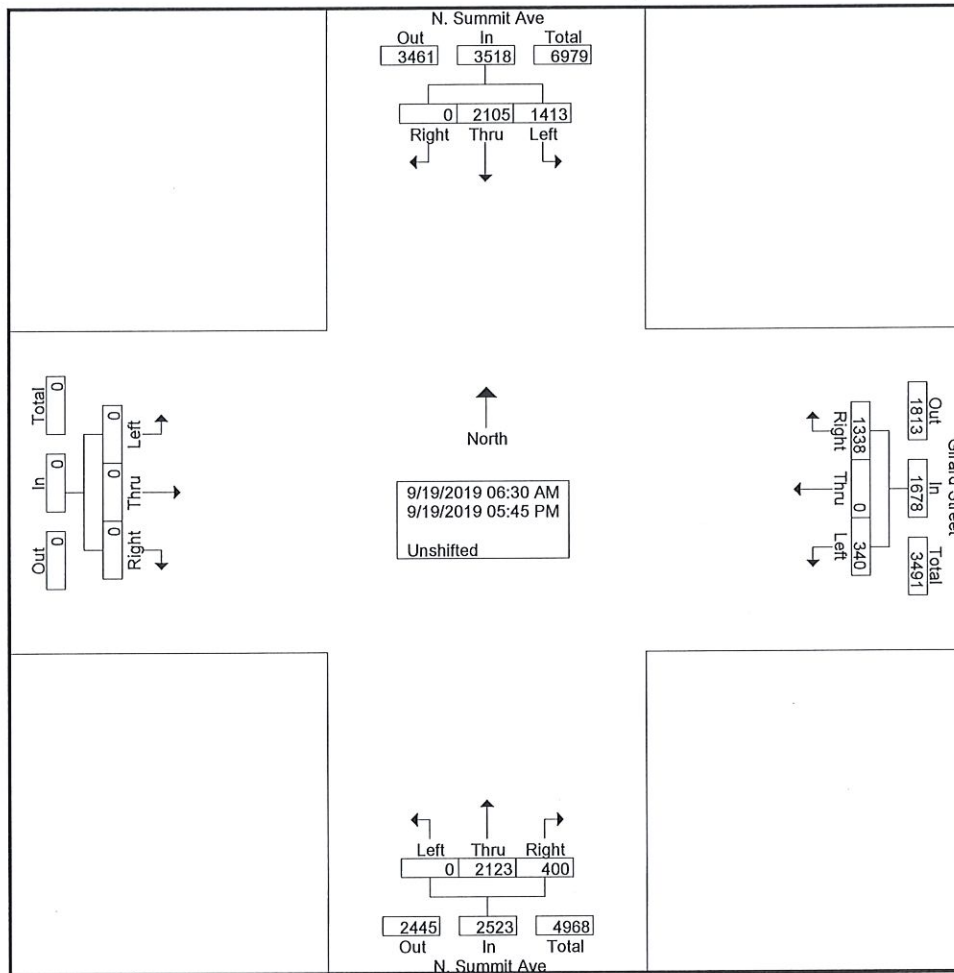
Phone: 703 914-4850

File Name : g. N Summit Ave @ Girard Street

Site Code : 958-g

Start Date : 9/19/2019

Page No : 2



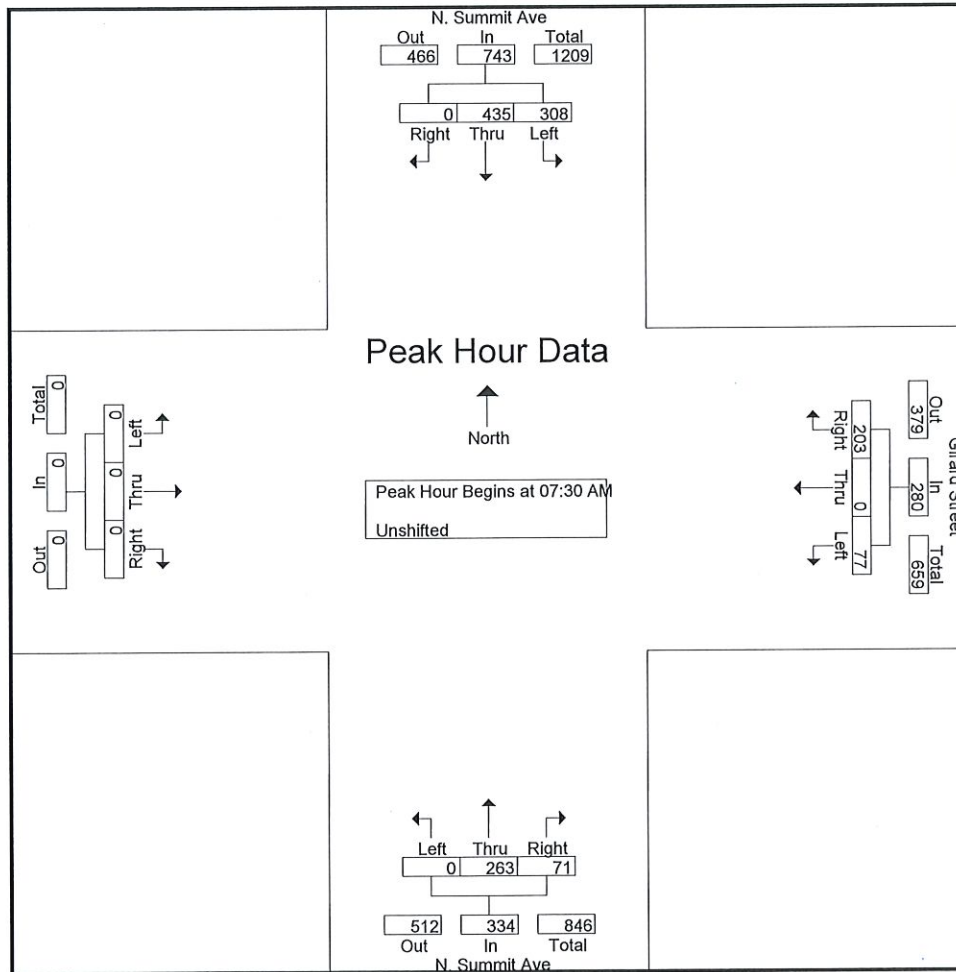
MCV Associates, Inc.

4605-C Pinecrest off Park Dr Alexandria, VA - 22312

Phone: 703 914-4850

File Name : g. N Summit Ave @ Girard Street
Site Code : 958-g
Start Date : 9/19/2019
Page No : 3

Start Time	N. Summit Ave From North				Girard Street From East				N. Summit Ave From South				From West				Int. Total
	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	
Peak Hour Analysis From 06:30 AM to 09:15 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:30 AM																	
07:30 AM	89	134	0	223	21	0	29	50	0	60	9	69	0	0	0	0	342
07:45 AM	86	122	0	208	11	0	77	88	0	86	30	116	0	0	0	0	412
08:00 AM	79	87	0	166	16	0	46	62	0	68	19	87	0	0	0	0	315
08:15 AM	54	92	0	146	29	0	51	80	0	49	13	62	0	0	0	0	288
Total Volume	308	435	0	743	77	0	203	280	0	263	71	334	0	0	0	0	1357
% App. Total	41.5	58.5	0		27.5	0	72.5		0	78.7	21.3		0	0	0		
PHF	.865	.812	.000	.833	.664	.000	.659	.795	.000	.765	.592	.720	.000	.000	.000	.000	.823



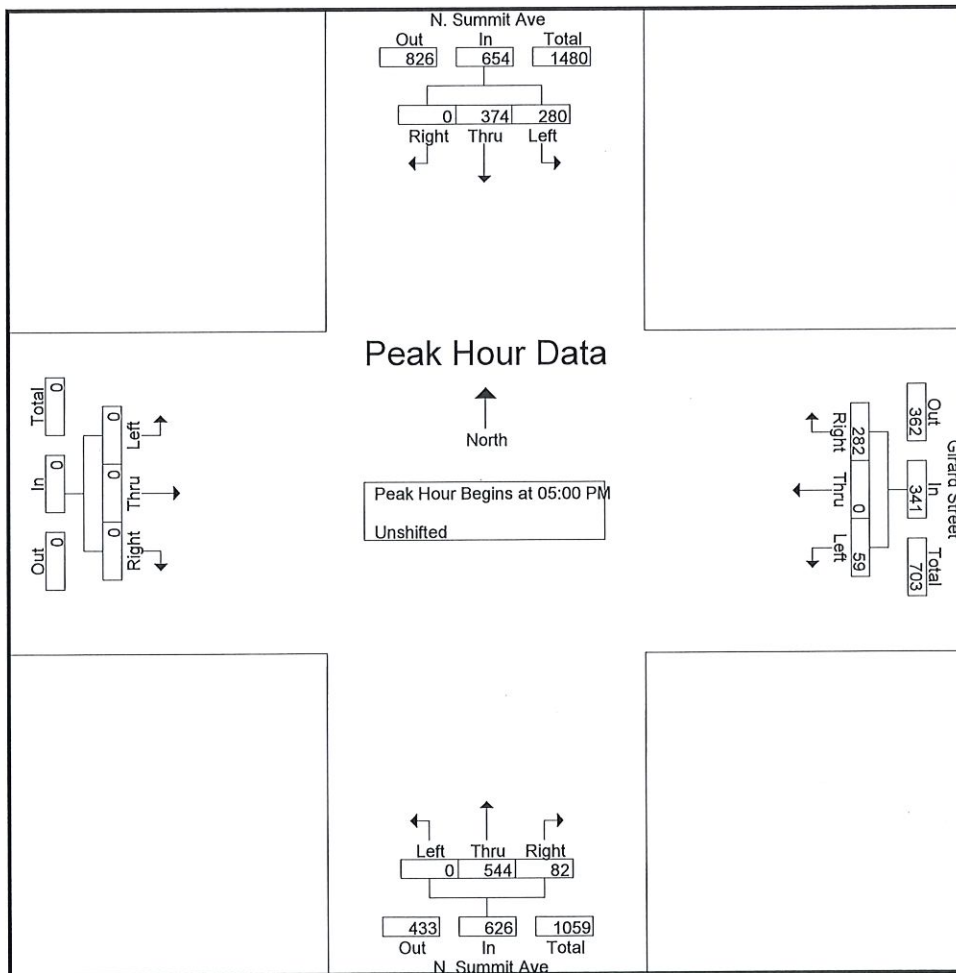
MCV Associates, Inc.

4605-C Pinecrest off Park Dr Alexandria, VA - 22312

Phone: 703 914-4850

File Name : g. N Summit Ave @ Girard Street
 Site Code : 958-g
 Start Date : 9/19/2019
 Page No : 4

Start Time	N. Summit Ave From North				Girard Street From East				N. Summit Ave From South				From West				Int. Total
	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	
Peak Hour Analysis From 03:00 PM to 05:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 05:00 PM																	
05:00 PM	66	93	0	159	12	0	83	95	0	130	19	149	0	0	0	0	403
05:15 PM	76	104	0	180	16	0	67	83	0	165	26	191	0	0	0	0	454
05:30 PM	80	95	0	175	17	0	67	84	0	121	11	132	0	0	0	0	391
05:45 PM	58	82	0	140	14	0	65	79	0	128	26	154	0	0	0	0	373
Total Volume	280	374	0	654	59	0	282	341	0	544	82	626	0	0	0	0	1621
% App. Total	42.8	57.2	0		17.3	0	82.7		0	86.9	13.1		0	0	0		
PHF	.875	.899	.000	.908	.868	.000	.849	.897	.000	.824	.788	.819	.000	.000	.000	.000	.893





WB Girard St approaching N Diamond Ave



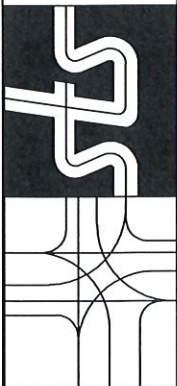
NB N Diamond Ave approaching Girard St



SB N Diamond Ave approaching Girard St

APPENDIX C

CAPACITY CALCULATIONS - EXISTING CONDITIONS



TURNING MOVEMENT SUMMARY
AND
LEVEL OF SERVICE

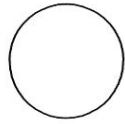
Count Date: Th 9/19/19
 Conditions/ Existing Traffic Volumes
 Design Year:
 Computed By: MN Date: _____

Location: Victory Farm Dr @ Belle Grove Rd

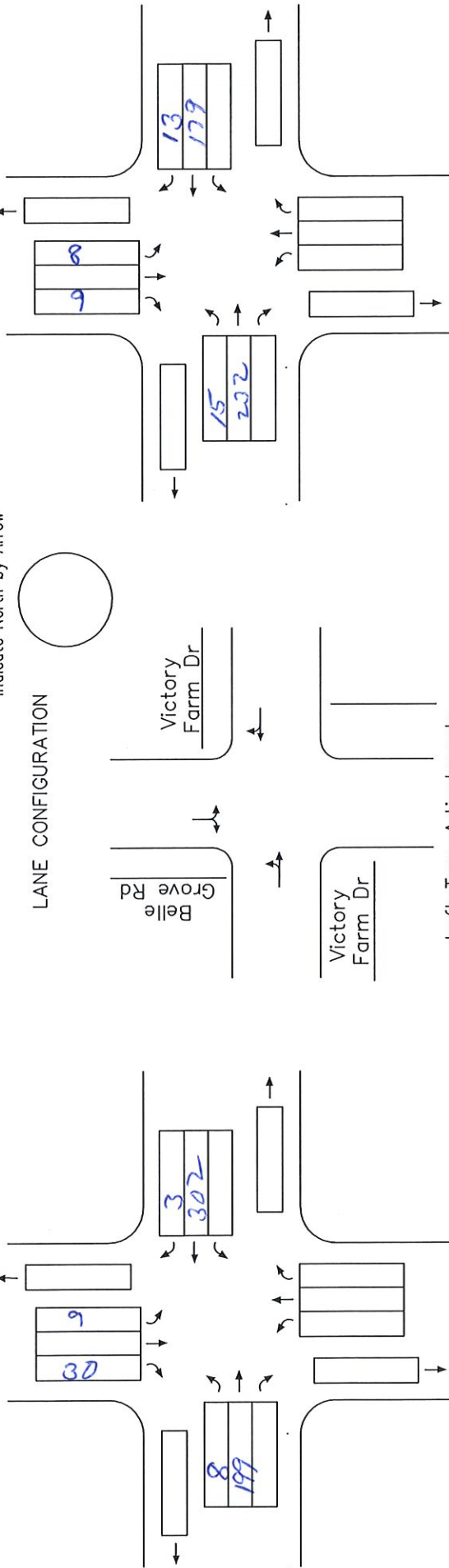
Morning Peak Hour 7:15/8:15 AM

Evening Peak Hour 5:00/6:00 PM

Indicate North by Arrow

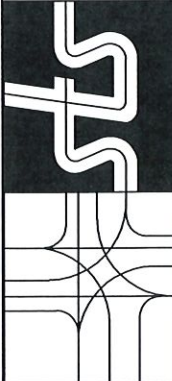


LANE CONFIGURATION



Left Turn Adjustments

Phasing	Movement	Volume(1)	Lane Use Factor(2)	Lane Volume (1)x(2)	Opposing Right-Turn Volume	Passenger Car Equivalent	Movement	Volume(1)	Lane Use Factor(2)	Lane Volume (1)x(2)	Opposing Lefts	Critical Lane Volume *	No. of Lanes	Lane Use Factor	Service Level	Critical Lane Vol. Tot.	Critical Lane Volume *	
																		Key
	SB	30+9	1.0	39		1.1	EB	9+8	1.0	17	-	17	1	1.00	A	17	✓	
	EB	16+199	1.0	215		2.0	EB	17+232	1.0	249	-	249	2	.53	B	249	✓	
	WB	302+3	1.0	305		3.0	WB	179+13	1.0	192	15	207	3	.37	C	207		
						4.0							4	.30	D			
						5.0							5	.25	E			
															F			
Remarks:													* critical volume		TOTAL		LEVEL OF SERVICE	
Remarks:													* critical volume		TOTAL		LEVEL OF SERVICE	
Remarks:													* critical volume		TOTAL		LEVEL OF SERVICE	



**TURNING MOVEMENT SUMMARY
AND
LEVEL OF SERVICE**

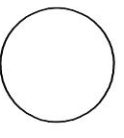
Count Date: Th 9/19/19
 Conditions/ Design Year: Existing Traffic Volumes
 Computed By: MN Date: _____

Location: Saybrooke Oaks Blvd @ Victory Farm Dr

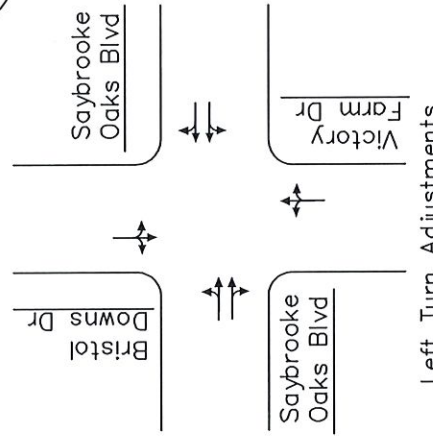
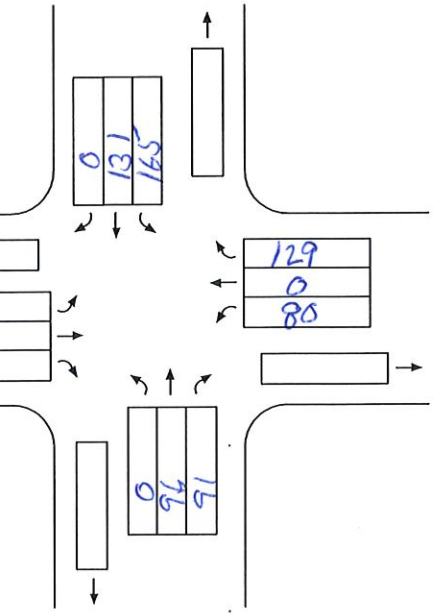
Morning Peak Hour 7:30/8:30 AM

Evening Peak Hour 3:00/4:00 PM

Indicate North by Arrow



LANE CONFIGURATION

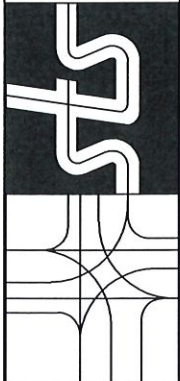


Left Turn Adjustments

Phasing	Opposing Through and Right-Turn Volume	Passenger Car Equivalent	No. of Lanes	Lane Use Factor	Service Level	Critical Lane Vol. Tot.
1	0 to 199	1.1	1	1.00	A	1000 or Less
2	200 to 599	2.0	2	.53	B	1000 to 1150
3	600 to 799	3.0	3	.37	C	1150 to 1300
4	800 to 999	4.0	4	.30	D	1300 to 1450
5	1000+	5.0	5	.25	E	1450 to 1600

Ø	Movement	Volume(1)	Factor(2)	Volume (1)x(2)	Ø	Movement	Passenger Car Equivalent	No. of Lanes	Lane Use Factor	Service Level	Critical Lane Vol. Tot.	Critical Lane Volume *
	NB	209	1.0	209		NB	1.1	1	1.00	A	1000 or Less	✓
	SB	14	1.0	14		SB	2.0	2	.53	B	1000 to 1150	
	EB	99	0.53	52.47		EB	3.0	3	.37	C	1150 to 1300	✓
	WB	157	0.53	83.21		WB	4.0	4	.30	D	1300 to 1450	
							5.0	5	.25	E	1450 to 1600	
										F	Greater than 1600	

Remarks:	* critical volume		TOTAL	V/C	Remarks:	* critical volume		TOTAL	V/C
	LEVEL OF SERVICE	LEVEL OF SERVICE				LEVEL OF SERVICE	LEVEL OF SERVICE		
			477					377	
			A					A	

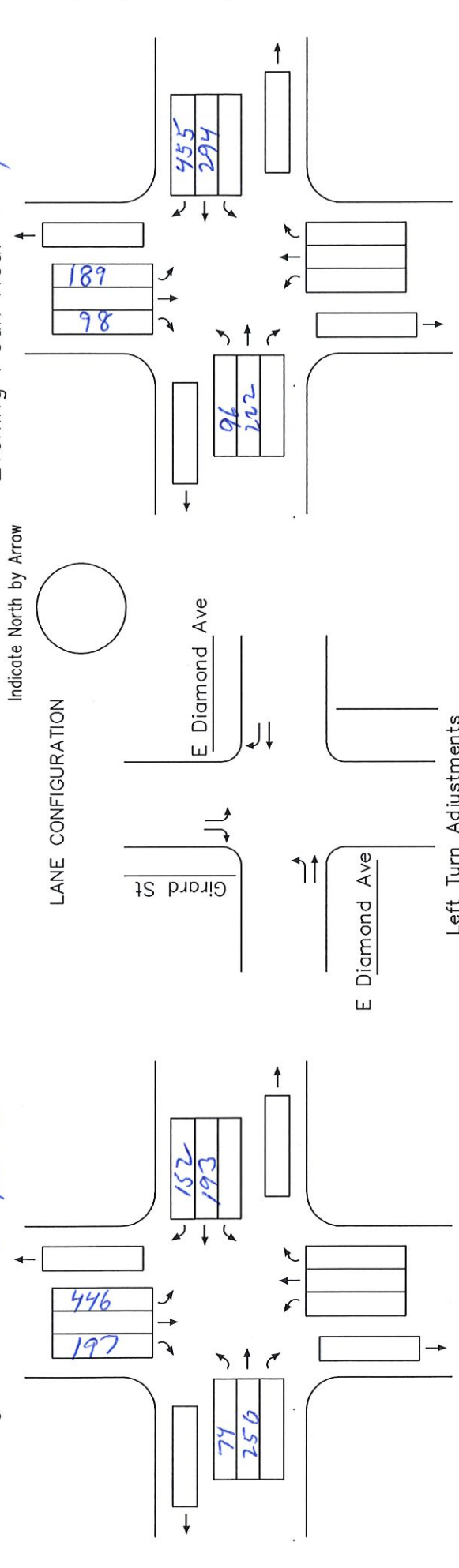


**TURNING MOVEMENT SUMMARY
AND
LEVEL OF SERVICE**

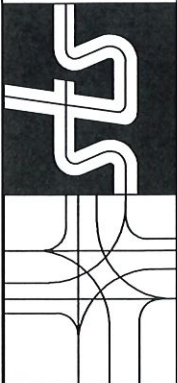
Count Date: 7/9/19 Location: E Diamond Ave @ Girard St
 Conditions/ Design Year: Existing Traffic Volumes
 Computed By: MN Date: _____

Morning Peak Hour 7:15 / 8:15 AM

Evening Peak Hour 4:45 / 5:45 PM



Phasing	Movement	Volume(1)	Lane Use Factor(2)	Lane Volume (1)x(2)	Opposing Right-Turn Volume	Passenger Car Equivalent	Ø	Movement	Volume(1)	Lane Use Factor(2)	Lane Volume (1)x(2)	Critical Lane Volume *	Opposing Lefts	Service Level	Critical Lane Vol. Tot.
	SB	446	1.0	446	-	1.1		SB	189	1.0	189	189	-	A	1000 or Less
	EB	250	1.0	250	-	2.0		EB	222	1.0	222	222	-	B	1000 to 1150
	WB	193	1.0	193	74	3.0		WB	294	1.0	294	294	96	C	1150 to 1300
						4.0								D	1300 to 1450
						5.0								E	1450 to 1600
														F	Greater than 1600
Remarks: * critical volume													TOTAL	579	V/C
Remarks: LEVEL OF SERVICE													TOTAL	A	V/C



TURNING MOVEMENT SUMMARY
AND
LEVEL OF SERVICE

Count Date: Th 9/19/19
Conditions/ Existing Traffic Volumes
Design Year:
Computed By: MN Date:

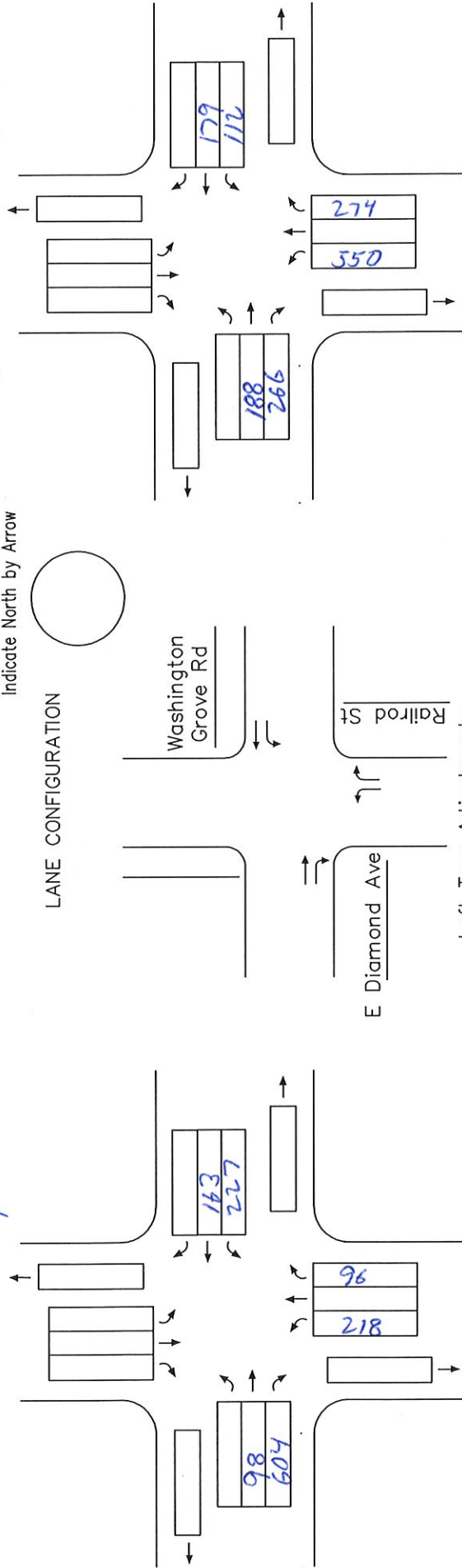
Location: E Diamond Ave @
Railroad St

Morning Peak Hour 7:15/8:15 AM

Evening Peak Hour 4:45/6:45 PM

Indicate North by Arrow

LANE CONFIGURATION



Left Turn Adjustments

Phasing	Movement	Volume(1)	Lane Use Factor(2)	Lane Volume (1)x(2)	Key	Opposing Through and Right-Turn Volume		Passenger Car Equivalent	Movement	Volume(1)	Lane Use Factor(2)	Lane Volume (1)x(2)	Opposing Lefts	Critical Lane Volume *	Service Level	Critical Lane Vol. Tot.			
						Opposing Lefts	Critical Lane Volume *												
	NB	218	1.0	218	1	0 to 199	218	1.1	NB	550	1.0	550	-	550	A	550			
	EB	98	1.0	98	2	200 to 599	227	2.0	EB	188	1.0	188	112	300	B	300			
	WB	163	1.0	163	3	600 to 799	-	3.0	WB	179	1.0	179	-	179	D	179			
					4	800 to 999		4.0							E				
					5	1000+		5.0							F				
Remarks:														* critical volume		TOTAL		LEVEL OF SERVICE	
Remarks:														* critical volume		TOTAL		LEVEL OF SERVICE	
														850		A		V/C	

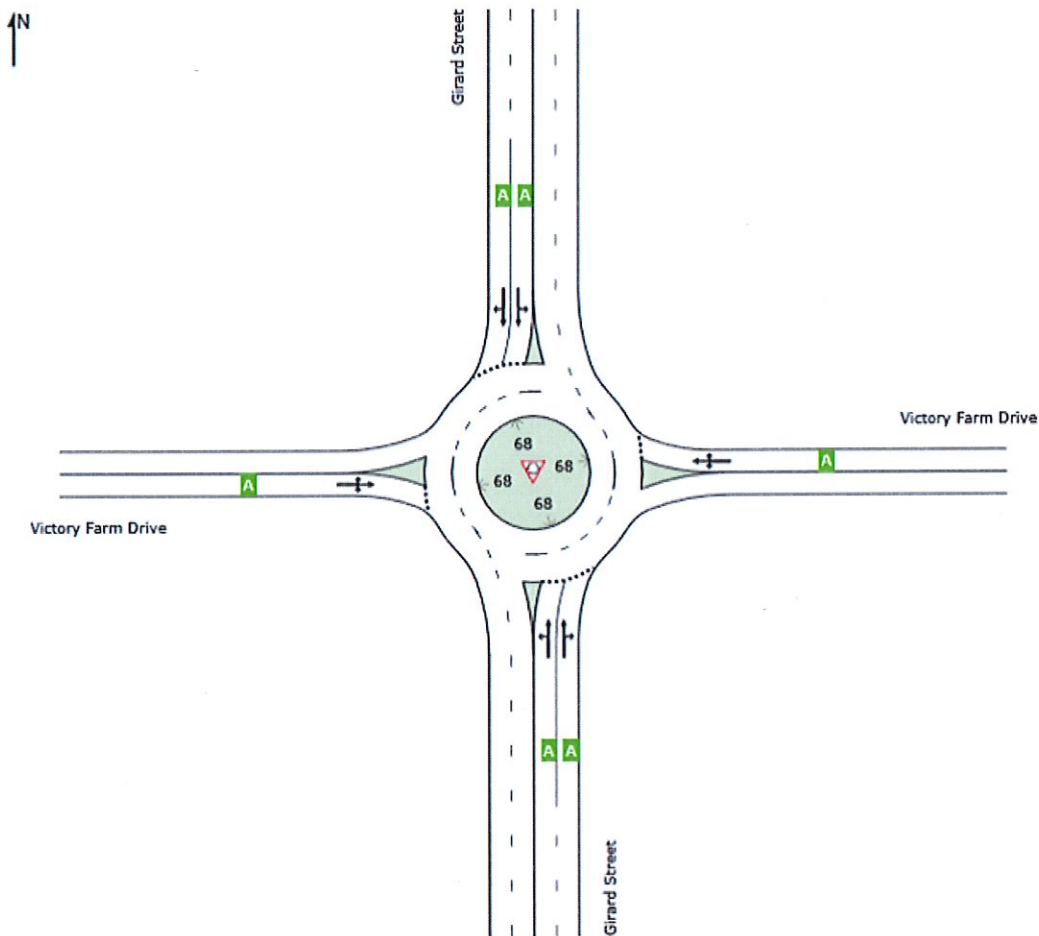
LANE LEVEL OF SERVICE

Lane Level of Service

 **Site: 101 [Existing Traffic Volumes AM Peak Hour]**

Kelly Park Elementary School
 Site Category: (None)
 Roundabout

	Approaches				Intersection
	South	East	North	West	
LOS	A	A	A	A	A



Site Level of Service (LOS) Method: Delay & v/c (HCM 6). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
 Roundabout LOS Method: Same as Sign Control.
 Lane LOS values are based on average delay and v/c ratio (degree of saturation) per lane.
 LOS F will result if v/c > 1 irrespective of lane delay value (does not apply for approaches and intersection).
 Intersection and Approach LOS values are based on average delay for all lanes (v/c not used as specified in HCM 6).
 HCM Delay Formula option is used. Control Delay does not include Geometric Delay since Exclude Geometric Delay option applies.

MOVEMENT SUMMARY

 Site: 101 [Existing Traffic Volumes AM Peak Hour]

Kelly Park Elementary School
 Site Category: (None)
 Roundabout

Movement Performance - Vehicles													
Mov ID	Turn	Demand Total	Flows HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back Vehicles	Queue Distance ft	Prop. Queued	Effective Stop Rate	Aver. No. Cycles	Average Speed mph	
South: Girard Street													
3	L2	4	3.0	0.096	3.9	LOS A	0.4	9.5	0.24	0.13	0.24	34.8	
8	T1	108	3.0	0.096	3.9	LOS A	0.4	9.5	0.24	0.13	0.24	34.9	
18	R2	133	3.0	0.107	3.8	LOS A	0.4	10.5	0.23	0.12	0.23	34.0	
Approach		245	3.0	0.107	3.8	LOS A	0.4	10.5	0.24	0.12	0.24	34.4	
East: Victory Farm Drive													
1	L2	275	3.0	0.297	5.7	LOS A	1.4	35.3	0.30	0.18	0.30	32.3	
6	T1	14	3.0	0.297	5.7	LOS A	1.4	35.3	0.30	0.18	0.30	32.4	
16	R2	74	3.0	0.297	5.7	LOS A	1.4	35.3	0.30	0.18	0.30	31.6	
Approach		363	3.0	0.297	5.7	LOS A	1.4	35.3	0.30	0.18	0.30	32.2	
North: Girard Street													
7	L2	82	3.0	0.270	6.3	LOS A	1.2	30.1	0.45	0.36	0.45	33.0	
4	T1	463	3.0	0.270	6.1	LOS A	1.2	30.1	0.44	0.34	0.44	33.5	
14	R2	11	3.0	0.270	6.0	LOS A	1.2	29.5	0.43	0.33	0.43	33.0	
Approach		555	3.0	0.270	6.1	LOS A	1.2	30.1	0.44	0.35	0.44	33.4	
West: Victory Farm Drive													
5	L2	25	3.0	0.107	6.5	LOS A	0.4	9.3	0.57	0.57	0.57	32.8	
2	T1	15	3.0	0.107	6.5	LOS A	0.4	9.3	0.57	0.57	0.57	32.9	
12	R2	32	3.0	0.107	6.5	LOS A	0.4	9.3	0.57	0.57	0.57	32.1	
Approach		72	3.0	0.107	6.5	LOS A	0.4	9.3	0.57	0.57	0.57	32.5	
All Vehicles		1235	3.0	0.297	5.6	LOS A	1.4	35.3	0.37	0.27	0.37	33.2	

Site Level of Service (LOS) Method: Delay & v/c (HCM 6). Site LOS Method is specified in the Parameter Settings dialog (Site tab).

Roundabout LOS Method: Same as Sign Control.

Vehicle movement LOS values are based on average delay and v/c ratio (degree of saturation) per movement.

LOS F will result if v/c > 1 irrespective of movement delay value (does not apply for approaches and intersection).

Intersection and Approach LOS values are based on average delay for all movements (v/c not used as specified in HCM 6).

Roundabout Capacity Model: US HCM 6.

HCM Delay Formula option is used. Control Delay does not include Geometric Delay since Exclude Geometric Delay option applies.

Gap-Acceptance Capacity: Traditional M1.

HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

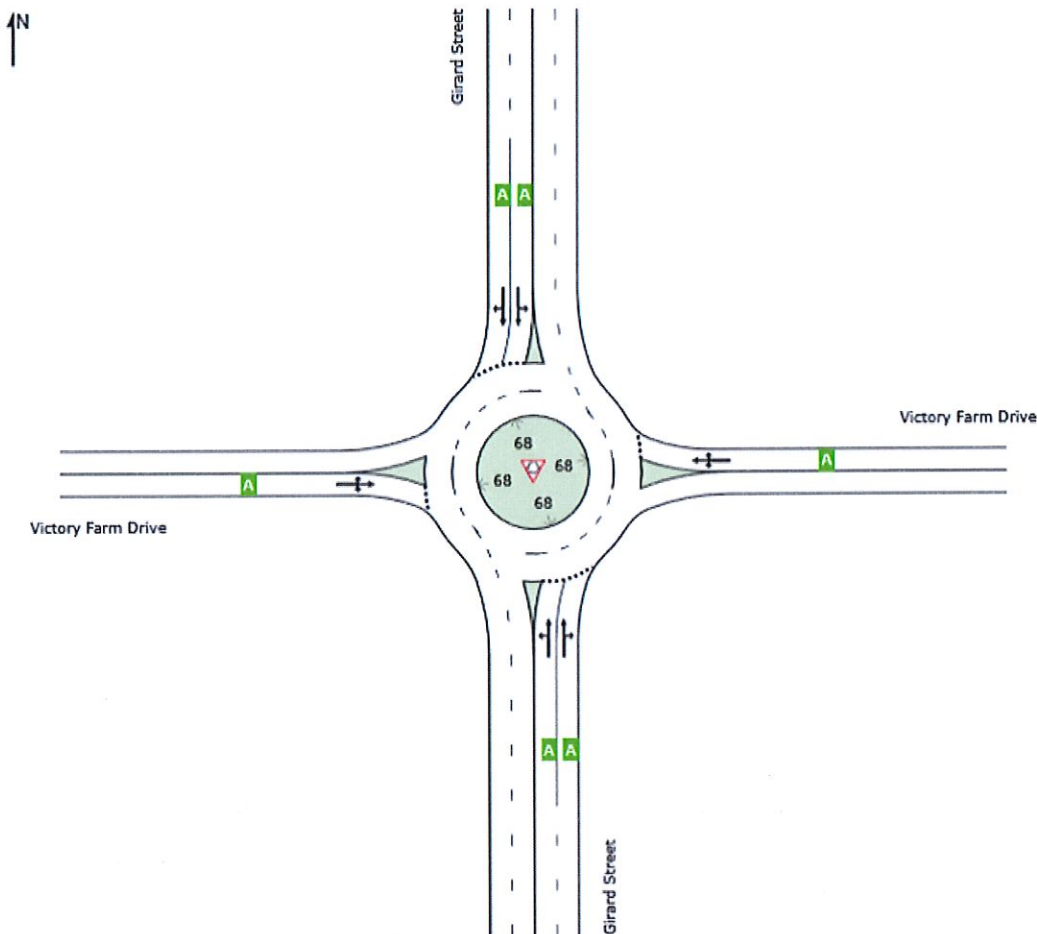
LANE LEVEL OF SERVICE

Lane Level of Service

 **Site: 101 [Existing Traffic Volumes PM Peak Hour]**

Kelly Park Elementary School
 Site Category: (None)
 Roundabout

	Approaches				Intersection
	South	East	North	West	
LOS	A	A	A	A	A



Site Level of Service (LOS) Method: Delay & v/c (HCM 6). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
 Roundabout LOS Method: Same as Sign Control.

Lane LOS values are based on average delay and v/c ratio (degree of saturation) per lane.

LOS F will result if v/c > 1 irrespective of lane delay value (does not apply for approaches and intersection).

Intersection and Approach LOS values are based on average delay for all lanes (v/c not used as specified in HCM 6).

HCM Delay Formula option is used. Control Delay does not include Geometric Delay since Exclude Geometric Delay option applies.

MOVEMENT SUMMARY

 Site: 101 [Existing Traffic Volumes PM Peak Hour]

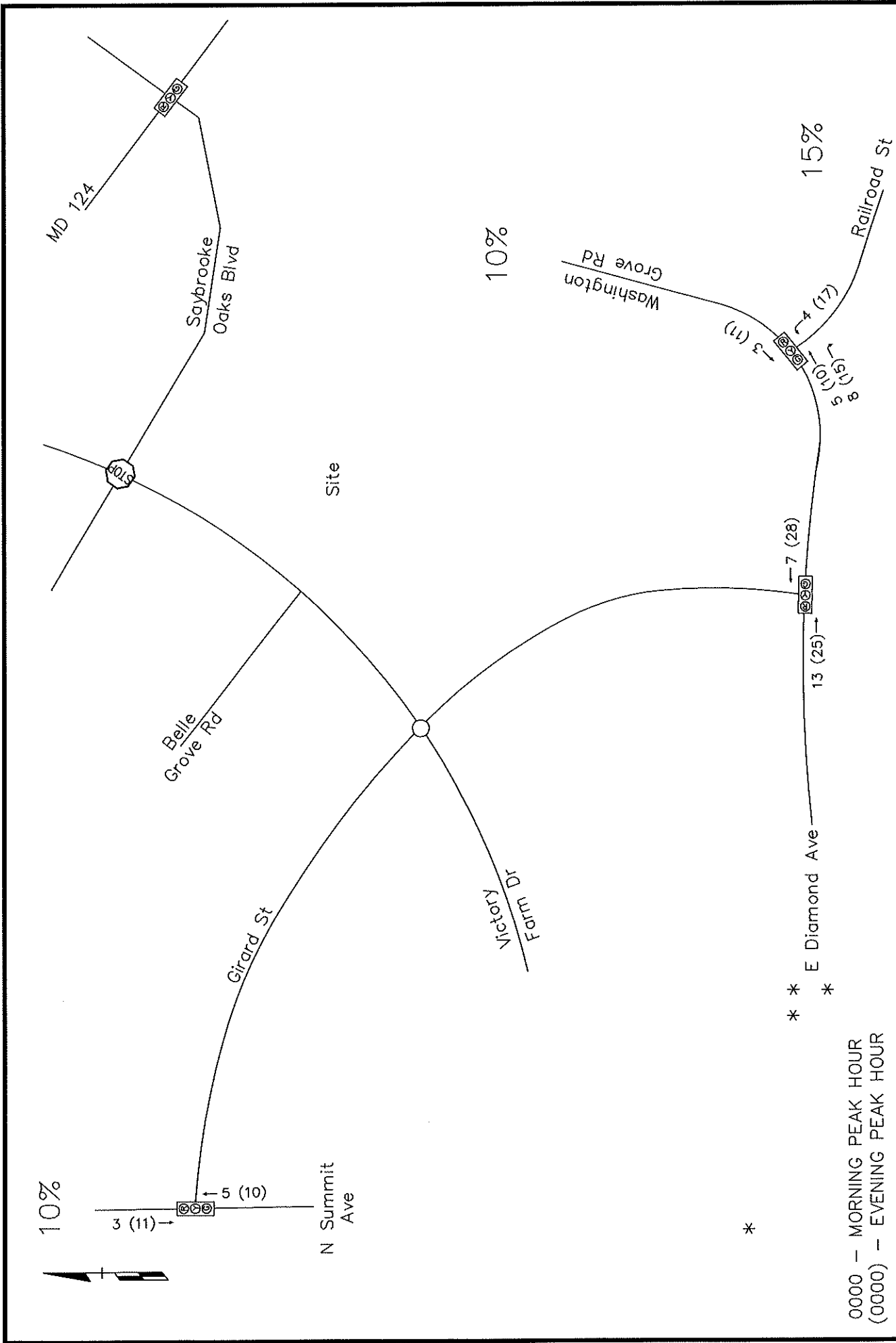
Kelly Park Elementary School
 Site Category: (None)
 Roundabout

Movement Performance - Vehicles												
Mov ID	Turn	Demand Total veh/h	Flows HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back Vehicles veh	Queue Distance ft	Prop. Queued	Effective Stop Rate	Aver. No. Cycles	Average Speed mph
South: Girard Street												
3	L2	21	3.0	0.222	5.1	LOS A	1.0	24.8	0.30	0.18	0.30	34.0
8	T1	338	3.0	0.222	5.1	LOS A	1.0	24.8	0.29	0.17	0.29	34.2
18	R2	166	3.0	0.222	4.9	LOS A	0.9	24.2	0.28	0.16	0.28	33.5
Approach		525	3.0	0.222	5.0	LOS A	1.0	24.8	0.29	0.17	0.29	34.0
East: Victory Farm Drive												
1	L2	117	3.0	0.216	5.7	LOS A	0.9	22.1	0.46	0.38	0.46	32.7
6	T1	22	3.0	0.216	5.7	LOS A	0.9	22.1	0.46	0.38	0.46	32.8
16	R2	75	3.0	0.216	5.7	LOS A	0.9	22.1	0.46	0.38	0.46	32.0
Approach		214	3.0	0.216	5.7	LOS A	0.9	22.1	0.46	0.38	0.46	32.5
North: Girard Street												
7	L2	105	3.0	0.137	4.4	LOS A	0.5	14.1	0.29	0.17	0.29	33.1
4	T1	180	3.0	0.137	4.2	LOS A	0.5	14.1	0.28	0.17	0.28	34.3
14	R2	34	3.0	0.137	4.2	LOS A	0.5	13.7	0.28	0.16	0.28	33.9
Approach		320	3.0	0.137	4.3	LOS A	0.5	14.1	0.29	0.17	0.29	33.9
West: Victory Farm Drive												
5	L2	20	3.0	0.054	4.2	LOS A	0.2	4.8	0.42	0.31	0.42	33.9
2	T1	15	3.0	0.054	4.2	LOS A	0.2	4.8	0.42	0.31	0.42	34.0
12	R2	17	3.0	0.054	4.2	LOS A	0.2	4.8	0.42	0.31	0.42	33.1
Approach		52	3.0	0.054	4.2	LOS A	0.2	4.8	0.42	0.31	0.42	33.6
All Vehicles		1111	3.0	0.222	4.9	LOS A	1.0	24.8	0.33	0.22	0.33	33.6

Site Level of Service (LOS) Method: Delay & v/c (HCM 6). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
 Roundabout LOS Method: Same as Sign Control.
 Vehicle movement LOS values are based on average delay and v/c ratio (degree of saturation) per movement.
 LOS F will result if v/c > 1 irrespective of movement delay value (does not apply for approaches and intersection).
 Intersection and Approach LOS values are based on average delay for all movements (v/c not used as specified in HCM 6).
 Roundabout Capacity Model: US HCM 6.
 HCM Delay Formula option is used. Control Delay does not include Geometric Delay since Exclude Geometric Delay option applies.
 Gap-Acceptance Capacity: Traditional M1.
 HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

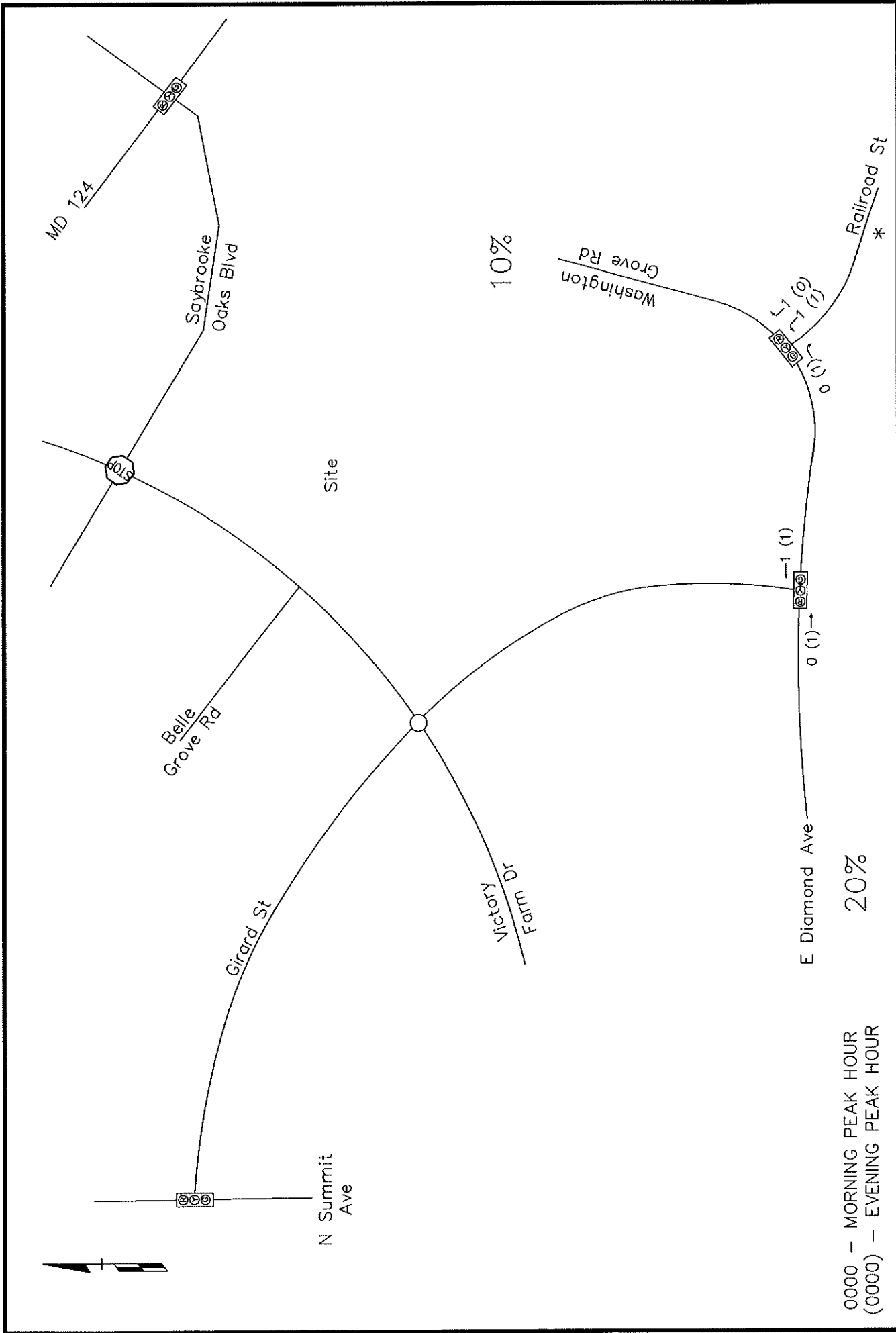
APPENDIX D

PLANNED DEVELOPMENT DATA



Trips Generated by Gaithersburg Station Apartments, 215 Brookes Ave, 315 E Diamond Ave and 414 E Diamond Ave developments

NO SCALE

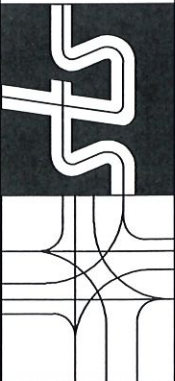


Trips Generated by Deer Park Dr and Central Ave units

NO SCALE

APPENDIX E

CAPACITY CALCULATIONS - BACKGROUND CONDITIONS

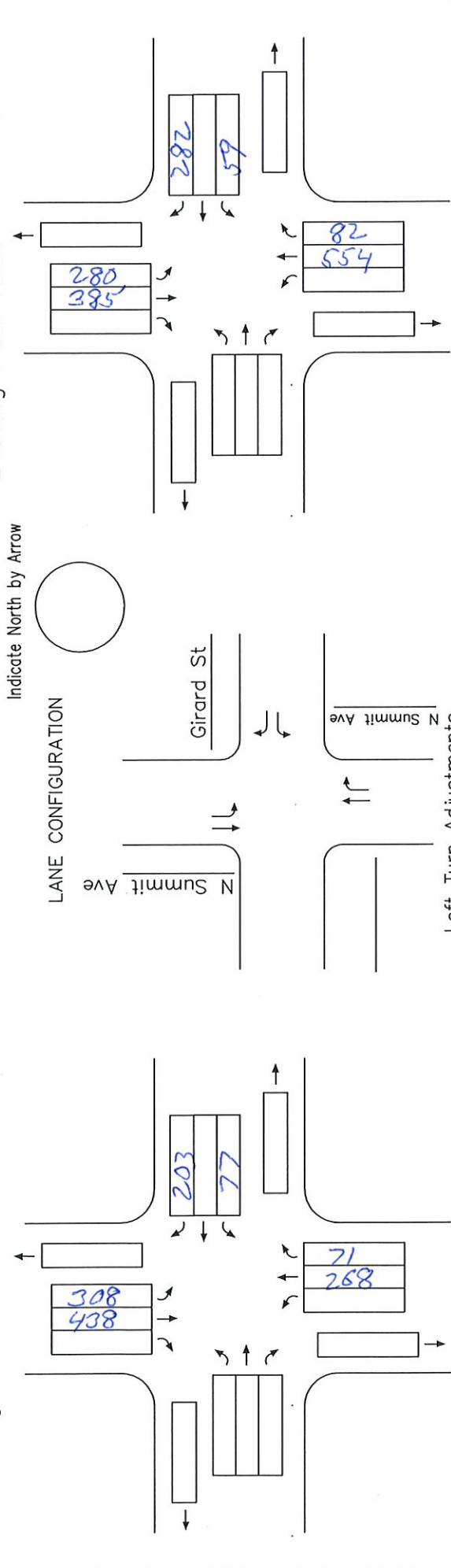


**TURNING MOVEMENT SUMMARY
AND
LEVEL OF SERVICE**

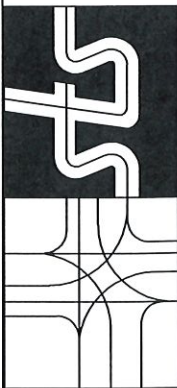
Count Date: NA Location: N Summit Ave @ Girard St
 Conditions/ Design Year: Background Traffic Volumes
 Computed By: MN Date: _____

Morning Peak Hour _____

Evening Peak Hour _____



Phasing <input checked="" type="checkbox"/>	Opposing Through and Right-Turn Volume		Passenger Car Equivalent	No. of Lanes	Lane Use Factor	Service Level	Critical Lane Vol. Tot.		
	0 to 199	200 to 599						1000 or Less	
	0 to 199	200 to 599	1.1	1 = 1.00	A = 1000 or Less				
	200 to 599	600 to 799	2.0	2 = .53	B = 1000 to 1150				
	600 to 799	800 to 999	3.0	3 = .37	C = 1150 to 1300				
	800 to 999	1000+	4.0	4 = .30	D = 1300 to 1450				
	1000+		5.0	5 = .25	E = 1450 to 1600				
					F = Greater than 1600				
Ø	Movement	Volume(1)	Lane Use Factor(2)	Volume(1)	Lane Use Factor(2)	Lane Volume (1)x(2)	Opposing Lefts	Critical Lane Volume *	
									Ø
	NB	268	1.0	268	1.0	268	308	576 ✓	
	SB	438	1.0	438	1.0	438	—	438	
	WB	77	1.0	77	1.0	77	—	77 ✓	
Remarks:									
* critical volume								TOTAL	653
LEVEL OF SERVICE								TOTAL	893
LEVEL OF SERVICE									A
LEVEL OF SERVICE									V/C



TURNING MOVEMENT SUMMARY AND LEVEL OF SERVICE

Count Date: NA Location: E Diamond Ave @ Girard St
 Conditions/ Design Year: Background Traffic Volumes
 Computed By: MIN Date: _____

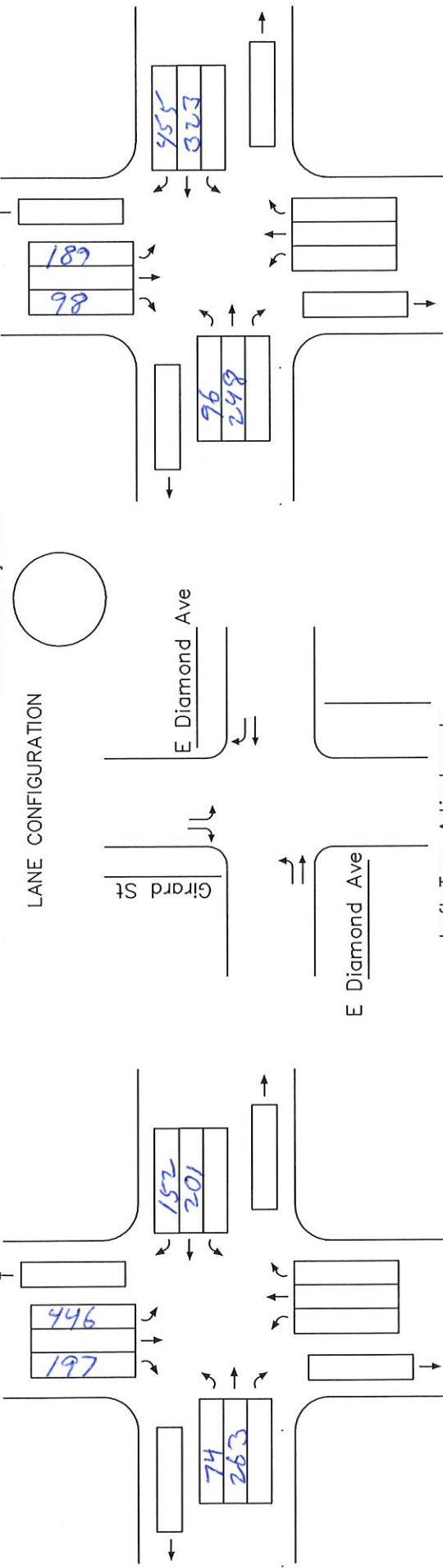
Count Date: NA Location: E Diamond Ave @ Girard St
 Conditions/ Design Year: Background Traffic Volumes
 Computed By: MIN Date: _____

Morning Peak Hour _____

Evening Peak Hour _____

Indicate North by Arrow

LANE CONFIGURATION



Phasing

Left Turn Adjustments

Key	Opposing Through and Right-Turn Volume	Passenger Car Equivalent
1	0 to 199	1.1
2	200 to 599	2.0
3	600 to 799	3.0
4	800 to 999	4.0
5	1000+	5.0

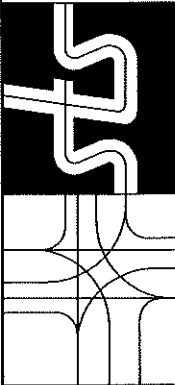
No. of Lanes	Lane Use Factor
1	= 1.00
2	= .53
3	= .37
4	= .30
5	= .25

Service Level	Critical Lane Vol. Tot.
A	= 1000 or Less
B	= 1000 to 1150
C	= 1150 to 1300
D	= 1300 to 1450
E	= 1450 to 1600
F	= Greater than 1600

Ø	Movement	Volume(1)	Lane Use Factor(2)	Lane Volume (1)x(2)	Ø	Movement	Volume(1)	Lane Use Factor(2)	Lane Volume (1)x(2)	Opposing Lefts	Critical Lane Volume *	Remarks:	LEVEL OF SERVICE	
													TOTAL	V/C
	SB	446	1.0	446		SB	189	1.0	189	-	189			
	EB	263	1.0	263		EB	248	1.0	248	-	248			
	WB	201	1.0	201		WB	323	1.0	323	96	419			
* critical volume TOTAL 721 V/C 721 * critical volume TOTAL 608 V/C 608												LEVEL OF SERVICE A		

APPENDIX F

CAPACITY CALCULATIONS - TOTAL CONDITIONS

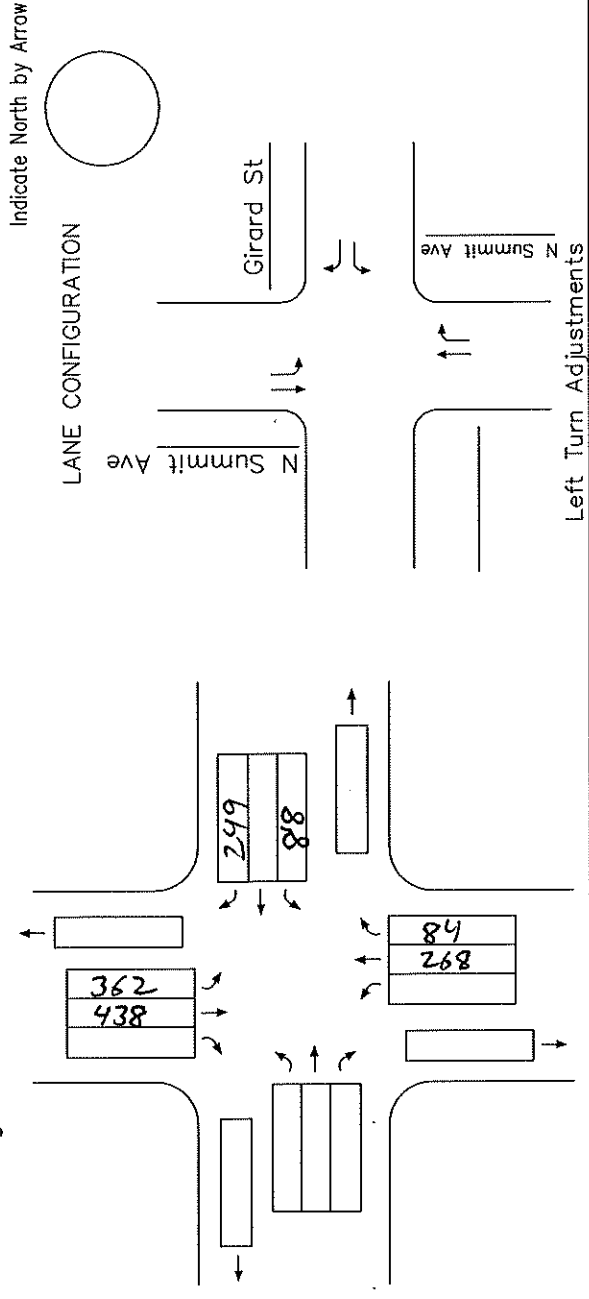


TURNING MOVEMENT SUMMARY AND LEVEL OF SERVICE

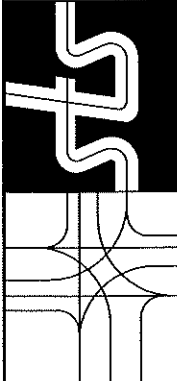
Count Date: NA Location: N Summit Ave @
 Conditions/ Design Year: Total Traffic Volumes Girard St
 Computed By: MN Date: _____

Morning Peak Hour _____

Evening Peak Hour _____



Phasing	Movement	Volume(1)	Lane Use Factor(2)	Lane Volume (1)x(2)	Opposing Right-Turn Volume	Ø	Movement	Passenger Car Equivalent	No. of Lanes	Lane Use Factor	Service Level	Critical Lane Vol. Tot.	Critical Lane Volume *	Remarks:		
														Opposing Lefts	TOTAL	V/C
	NB	268	1.0	268	362		NB	1.1	554	1.0	A	846	✓	* critical volume	TOTAL	
	SB	438	1.0	438	-		SB	2.0	385	1.0	B	385				
	WB	88	1.0	88	-		WB	3.0	62	1.0	C	62				
								4.0			D					
								5.0			E					
											F					
Key 1 = 0 to 199 2 = 200 to 599 3 = 600 to 799 4 = 800 to 999 5 = 1000+													* critical volume TOTAL 718		V/C	LEVEL OF SERVICE A
Remarks:													* critical volume TOTAL 908		V/C	LEVEL OF SERVICE A



TURNING MOVEMENT SUMMARY
AND
LEVEL OF SERVICE

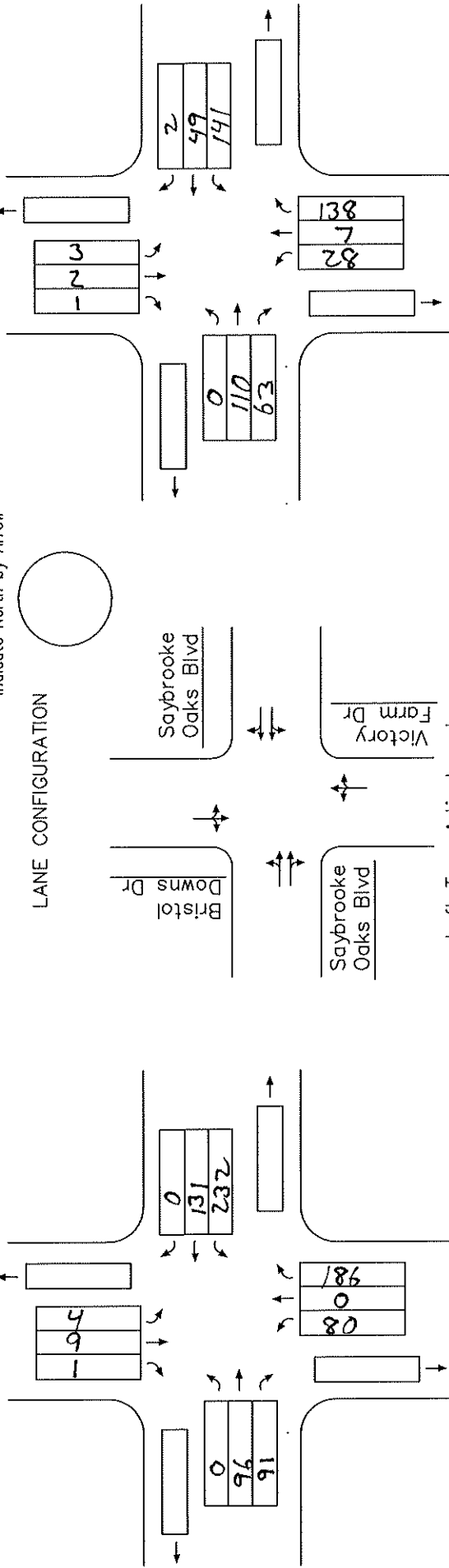
Count Date: NA Location: Saybrooke Oaks Blvd @
 Conditions/ Design Year: Total Traffic Volumes Victory Farm Dr
 Computed By: MN Date: _____

Morning Peak Hour _____

Evening Peak Hour _____

Indicate North by Arrow

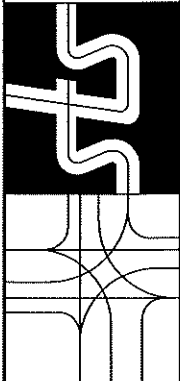
LANE CONFIGURATION



Left Turn Adjustments

Phasing

Ø	Movement	Volume(1)	Lane Use Factor(2)	Lane Volume (1)X(2)	Opposing Right-Turn Volume	Passenger Car Equivalent	Ø	Movement	Volume(1)	Lane Use Factor(2)	Lane Volume (1)X(2)	Opposing Lefts	Critical Lane Volume *	Service Level	Critical Lane Vol. Tot.	Opposing Lefts	Lane Volume (1)X(2)	Critical Lane Volume *
	NB	80+186	1.0	194	198	1.1		NB	28+7+138	1.0	173	3	176	A	1000 or Less	3	173	✓
	SB	4+9+1	1.0	14	94	2.0		SB	3+2+1	1.0	6	28	34	B	1000 to 1150	28	6	
	EB	96+91	0.53	99	331	3.0		EB	110+63	0.53	92	141	233	C	1150 to 1300	141	92	✓
	WB	232+131	0.53	192	192	4.0		WB	141+99+2	0.53	102	0	102	D	1300 to 1450	0	102	
						5.0								E	1450 to 1600			
						1000+								F	Greater than 1600			
Remarks:													* critical volume	TOTAL	409	V/C	V/C	
													* critical volume	LEVEL OF SERVICE	A	LEVEL OF SERVICE	V/C	



TURNING MOVEMENT SUMMARY AND LEVEL OF SERVICE

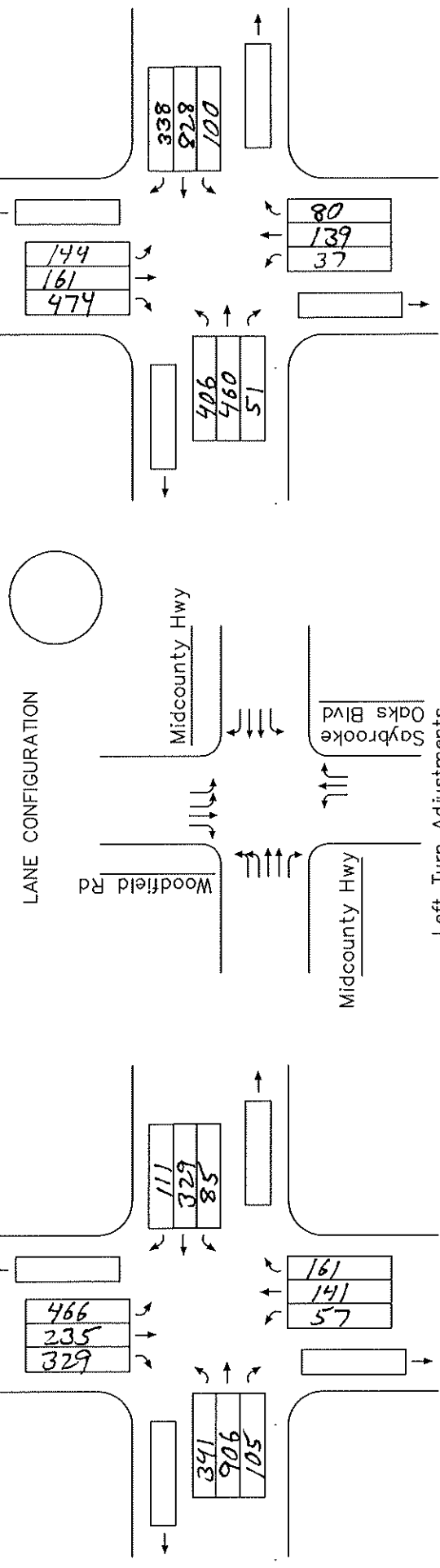
Count Date: NA Location: Midcounty Hwy @
 Conditions/Design Year: Total Traffic Volumes Saybrooke Oaks Blvd
 Computed By: MN Date: _____

Morning Peak Hour _____

Evening Peak Hour _____

Indicate North by Arrow

LANE CONFIGURATION

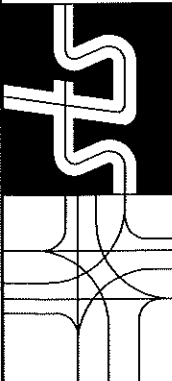


Left Turn Adjustments

Key	Opposing Through and Right-Turn Volume	Passenger Car Equivalent
1	0 to 199	1.1
2	200 to 599	2.0
3	600 to 799	3.0
4	800 to 999	4.0
5	1000+	5.0

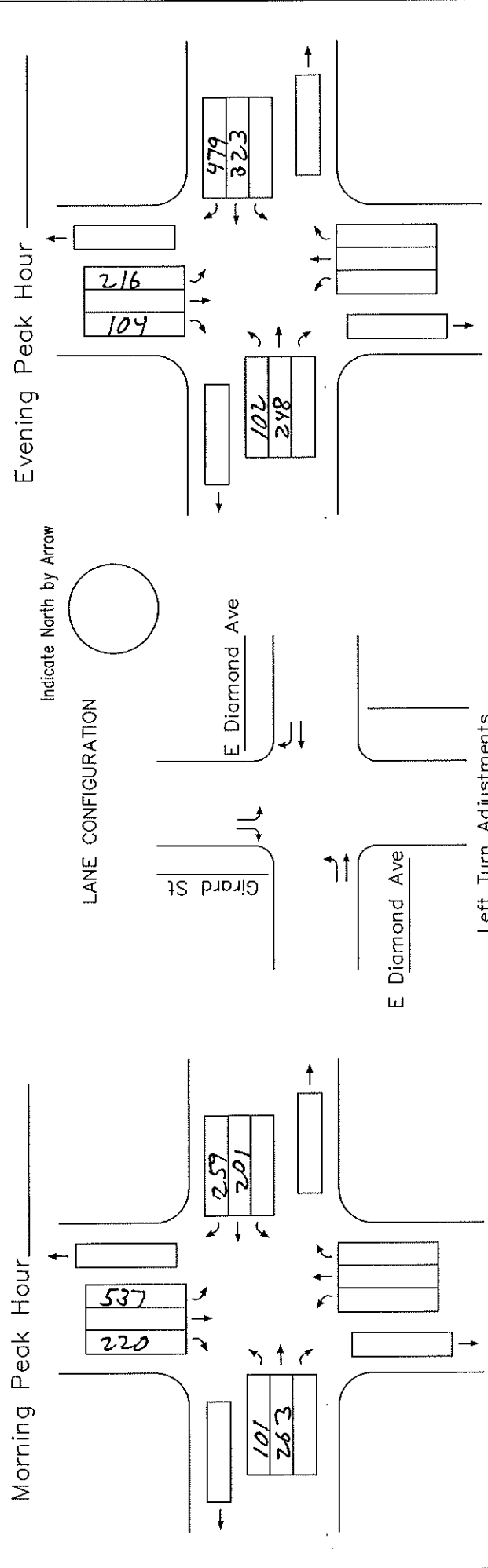
No. of Lanes	Lane Use Factor	Service Level	Critical Lane Vol. Tot.
1	1.00	A	1000 or Less
2	.53	B	1000 to 1150
3	.37	C	1150 to 1300
4	.30	D	1300 to 1450
5	.25	E	1450 to 1600
		F	Greater than 1600

Ø	Movement	Volume(1)	Lane Use Factor(2)	Lane Volume (1)x(2)	Critical Lane Volume *	Ø	Movement	Volume(1)	Lane Use Factor(2)	Lane Volume (1)x(2)	Opposing Lefts	Critical Lane Volume *	Remarks:	
													* critical volume	V/C
	NB	141	1.0	141	421		NB	139	1.0	139	154+6 86	225	✓	
	SB	235	1.0	235	292		SB	161	1.0	161	37	198		
	EB	906	0.53	480	565		EB	460	0.53	244	100	344		
	WB	329	0.53	174	379		WB	828	0.53	439	406+6 244	683	✓	
* critical volume TOTAL 986 V/C												TOTAL	908	
LEVEL OF SERVICE A												LEVEL OF SERVICE	A	

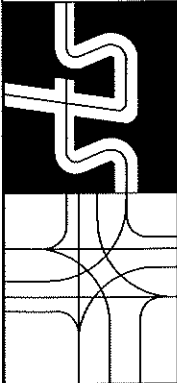


TURNING MOVEMENT SUMMARY AND LEVEL OF SERVICE

Count Date: NA Location: E Diamond Ave @ Girard St
 Conditions/Design Year: Total Traffic Volumes
 Computed By: MN Date: _____



Ø	Movement	Volume(1)	Lane Use Factor(2)	Lane Volume (1)X(2)	Opposing Right-Turn Volume	Ø	Movement	Passenger Car Equivalent	No. of Lanes	Lane Use Factor	Lane Volume (1)X(2)	Opposing Lefts	Critical Lane Volume *	Service Level	Critical Lane Vol. Tot.
	SB	537	1.0	537	0 to 199		SB	1.1	1	1.00	216	-	537	A	1000 or Less
	EB	263	1.0	263	200 to 599		EB	2.0	2	.53	248	-	263	B	1000 to 1150
	WB	201	1.0	201	600 to 799		WB	3.0	3	.37	323	101	302	C	1150 to 1300
					800 to 999			4.0	4	.30				D	1300 to 1450
					1000+			5.0	5	.25				E	1450 to 1600
														F	Greater than 1600
Remarks: * critical volume TOTAL 839 V/C													TOTAL 641 V/C		
Remarks: LEVEL OF SERVICE A													LEVEL OF SERVICE A		



**TURNING MOVEMENT SUMMARY
AND
LEVEL OF SERVICE**

Count Date: NA
 Conditions/Design Year: Total Traffic Volumes
 Computed By: MN Date: _____

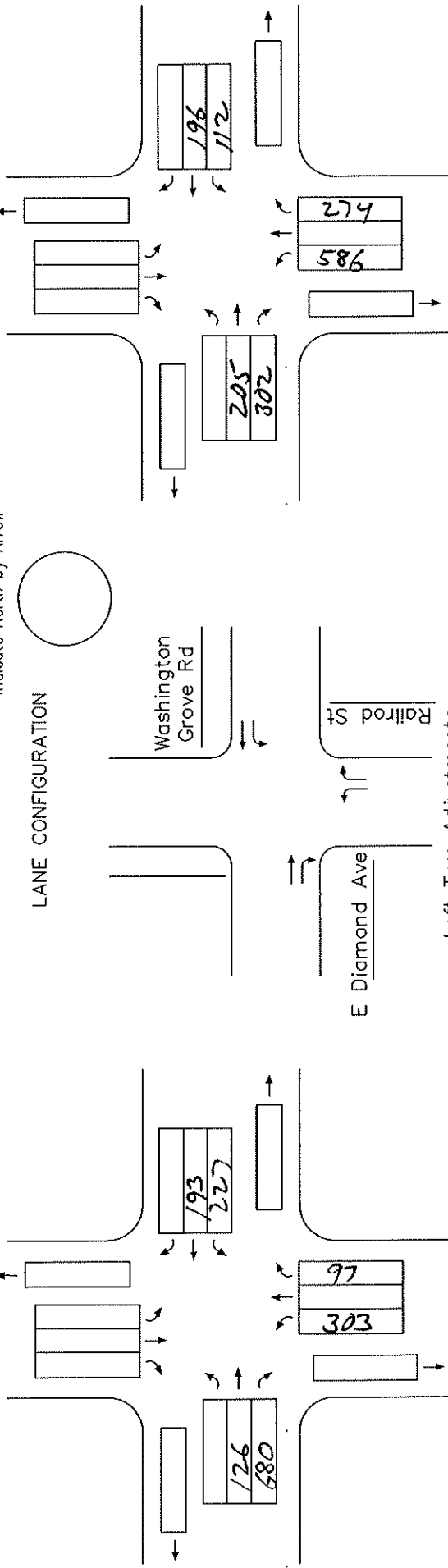
Location: E Diamond Ave @ Railroad St

Morning Peak Hour _____

Evening Peak Hour _____

Indicate North by Arrow

LANE CONFIGURATION



Left Turn Adjustments

Phasing	Movement	Volume(1)	Lane Use Factor(2)	Lane Volume (1)x(2)	Opposing Through and Right-Turn Volume		Passenger Car Equivalent	Movement	Volume(1)	Lane Use Factor(2)	Lane Volume (1)x(2)	Opposing Lefts	Critical Lane Volume *
					Opposing Lefts	Critical Lane Volume *							
	NB	303	1.0	303	-	303	1.1	NB	586	1.0	586	-	586
	EB	126	1.0	126	227	353	2.0	EB	205	1.0	205	112	317
	WB	193	1.0	193	-	193	3.0	WB	196	1.0	196	-	196

No. of Lanes	Lane Use Factor	Service Level	Critical Lane Vol. Tot.
1	1.00	A	= 1000 or Less
2	.53	B	= 1000 to 1150
3	.37	C	= 1150 to 1300
4	.30	D	= 1300 to 1450
5	.25	E	= 1450 to 1600
		F	= Greater than 1600

Remarks:	* critical volume		LEVEL OF SERVICE	TOTAL	LEVEL OF SERVICE	TOTAL	LEVEL OF SERVICE
	critical volume	V/C					
	656	1.0	A	903	A	903	V/C

Remarks: _____

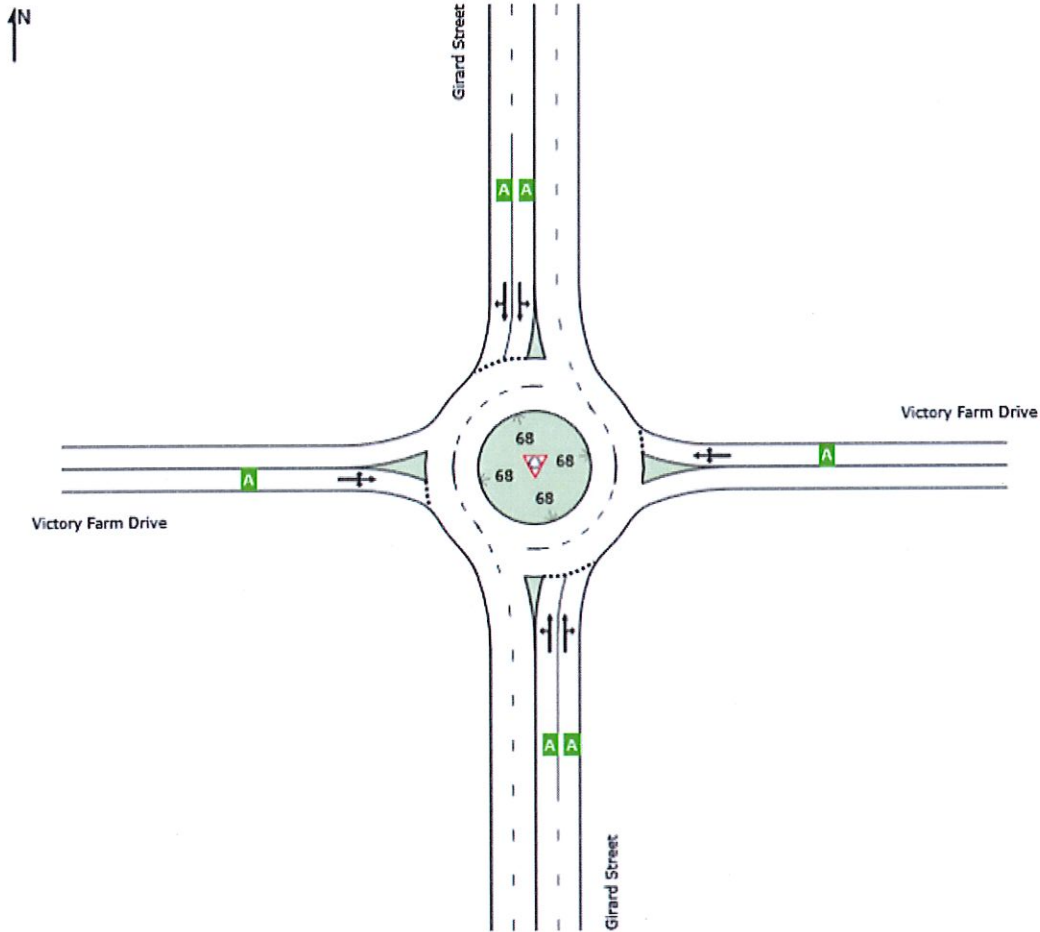
LANE LEVEL OF SERVICE

Lane Level of Service

 **Site: 101 [Total Traffic Volumes AM Peak Hour]**

Kelly Park Elementary School
 Site Category: (None)
 Roundabout

	Approaches				Intersection
	South	East	North	West	
LOS	A	A	A	A	A



Site Level of Service (LOS) Method: Delay & v/c (HCM 6). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
 Roundabout LOS Method: Same as Sign Control.

Lane LOS values are based on average delay and v/c ratio (degree of saturation) per lane.

LOS F will result if $v/c > 1$ irrespective of lane delay value (does not apply for approaches and intersection).

Intersection and Approach LOS values are based on average delay for all lanes (v/c not used as specified in HCM 6).

HCM Delay Formula option is used. Control Delay does not include Geometric Delay since Exclude Geometric Delay option applies.

MOVEMENT SUMMARY

 Site: 101 [Total Traffic Volumes AM Peak Hour]

Kelly Park Elementary School
 Site Category: (None)
 Roundabout

Movement Performance - Vehicles													
Mov ID	Turn	Demand Total veh/h	Flows HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Queue Distance ft	Prop. Queued	Effective Stop Rate	Aver. No. Cycles	Average Speed mph	
South: Girard Street													
3	L2	4	3.0	0.103	4.2	LOS A	0.4	10.1	0.32	0.20	0.32	34.6	
8	T1	108	3.0	0.103	4.2	LOS A	0.4	10.1	0.32	0.20	0.32	34.7	
18	R2	280	3.0	0.241	5.3	LOS A	1.0	26.5	0.34	0.23	0.34	33.2	
Approach		392	3.0	0.241	5.0	LOS A	1.0	26.5	0.33	0.22	0.33	33.7	
East: Victory Farm Drive													
1	L2	399	3.0	0.449	7.6	LOS A	2.5	64.8	0.37	0.23	0.37	31.5	
6	T1	14	3.0	0.449	7.6	LOS A	2.5	64.8	0.37	0.23	0.37	31.6	
16	R2	136	3.0	0.449	7.6	LOS A	2.5	64.8	0.37	0.23	0.37	30.9	
Approach		549	3.0	0.449	7.6	LOS A	2.5	64.8	0.37	0.23	0.37	31.4	
North: Girard Street													
7	L2	154	3.0	0.342	7.9	LOS A	1.5	38.8	0.55	0.51	0.55	31.8	
4	T1	463	3.0	0.342	7.6	LOS A	1.5	38.8	0.54	0.49	0.54	32.8	
14	R2	11	3.0	0.342	7.4	LOS A	1.5	38.3	0.53	0.48	0.53	32.3	
Approach		628	3.0	0.342	7.6	LOS A	1.5	38.8	0.54	0.49	0.54	32.5	
West: Victory Farm Drive													
5	L2	25	3.0	0.127	7.9	LOS A	0.4	10.8	0.62	0.62	0.62	32.1	
2	T1	15	3.0	0.127	7.9	LOS A	0.4	10.8	0.62	0.62	0.62	32.2	
12	R2	32	3.0	0.127	7.9	LOS A	0.4	10.8	0.62	0.62	0.62	31.5	
Approach		72	3.0	0.127	7.9	LOS A	0.4	10.8	0.62	0.62	0.62	31.9	
All Vehicles		1641	3.0	0.449	7.0	LOS A	2.5	64.8	0.44	0.34	0.44	32.3	

Site Level of Service (LOS) Method: Delay & v/c (HCM 6). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
 Roundabout LOS Method: Same as Sign Control.

Vehicle movement LOS values are based on average delay and v/c ratio (degree of saturation) per movement.

LOS F will result if v/c > 1 irrespective of movement delay value (does not apply for approaches and intersection).

Intersection and Approach LOS values are based on average delay for all movements (v/c not used as specified in HCM 6).

Roundabout Capacity Model: US HCM 6.

HCM Delay Formula option is used. Control Delay does not include Geometric Delay since Exclude Geometric Delay option applies.

Gap-Acceptance Capacity: Traditional M1.

HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

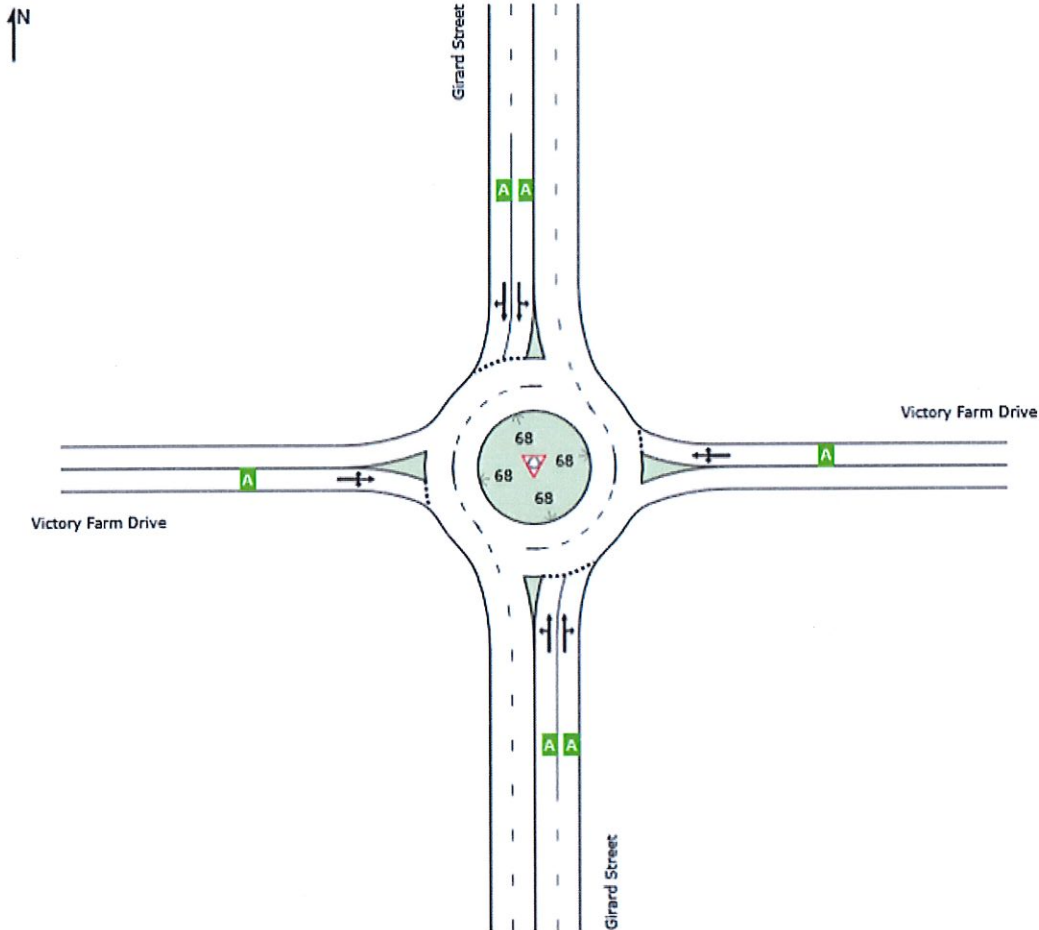
LANE LEVEL OF SERVICE

Lane Level of Service

 **Site: 101 [Total Traffic Volumes PM Peak Hour]**

Kelly Park Elementary School
 Site Category: (None)
 Roundabout

	Approaches				Intersection
	South	East	North	West	
LOS	A	A	A	A	A



Site Level of Service (LOS) Method: Delay & v/c (HCM 6). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
 Roundabout LOS Method: Same as Sign Control.

Lane LOS values are based on average delay and v/c ratio (degree of saturation) per lane.

LOS F will result if $v/c > 1$ irrespective of lane delay value (does not apply for approaches and intersection).

Intersection and Approach LOS values are based on average delay for all lanes (v/c not used as specified in HCM 6).

HCM Delay Formula option is used. Control Delay does not include Geometric Delay since Exclude Geometric Delay option applies.

MOVEMENT SUMMARY

 Site: 101 [Total Traffic Volumes PM Peak Hour]

Kelly Park Elementary School
 Site Category: (None)
 Roundabout

Movement Performance - Vehicles												
Mov ID	Turn	Demand Total veh/h	Flows HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance ft	Prop. Queued	Effective Stop Rate	Aver. No. Cycles	Average Speed mph
South: Girard Street												
3	L2	21	3.0	0.239	5.4	LOS A	1.1	27.1	0.32	0.20	0.32	33.9
8	T1	338	3.0	0.239	5.3	LOS A	1.1	27.1	0.32	0.20	0.32	34.1
18	R2	199	3.0	0.239	5.1	LOS A	1.0	26.5	0.31	0.19	0.31	33.3
Approach		558	3.0	0.239	5.3	LOS A	1.1	27.1	0.31	0.19	0.31	33.8
East: Victory Farm Drive												
1	L2	153	3.0	0.254	6.1	LOS A	1.0	26.7	0.47	0.40	0.47	32.4
6	T1	22	3.0	0.254	6.1	LOS A	1.0	26.7	0.47	0.40	0.47	32.5
16	R2	76	3.0	0.254	6.1	LOS A	1.0	26.7	0.47	0.40	0.47	31.7
Approach		251	3.0	0.254	6.1	LOS A	1.0	26.7	0.47	0.40	0.47	32.2
North: Girard Street												
7	L2	122	3.0	0.149	4.6	LOS A	0.6	15.3	0.33	0.21	0.33	32.8
4	T1	180	3.0	0.149	4.4	LOS A	0.6	15.3	0.32	0.20	0.32	34.3
14	R2	34	3.0	0.149	4.4	LOS A	0.6	15.0	0.31	0.20	0.31	33.7
Approach		336	3.0	0.149	4.5	LOS A	0.6	15.3	0.32	0.21	0.32	33.7
West: Victory Farm Drive												
5	L2	20	3.0	0.056	4.4	LOS A	0.2	5.0	0.44	0.34	0.44	33.7
2	T1	15	3.0	0.056	4.4	LOS A	0.2	5.0	0.44	0.34	0.44	33.8
12	R2	17	3.0	0.056	4.4	LOS A	0.2	5.0	0.44	0.34	0.44	33.0
Approach		52	3.0	0.056	4.4	LOS A	0.2	5.0	0.44	0.34	0.44	33.5
All Vehicles		1197	3.0	0.254	5.2	LOS A	1.1	27.1	0.35	0.25	0.35	33.4

Site Level of Service (LOS) Method: Delay & v/c (HCM 6). Site LOS Method is specified in the Parameter Settings dialog (Site tab).

Roundabout LOS Method: Same as Sign Control.

Vehicle movement LOS values are based on average delay and v/c ratio (degree of saturation) per movement.

LOS F will result if v/c > 1 irrespective of movement delay value (does not apply for approaches and intersection).

Intersection and Approach LOS values are based on average delay for all movements (v/c not used as specified in HCM 6).

Roundabout Capacity Model: US HCM 6.

HCM Delay Formula option is used. Control Delay does not include Geometric Delay since Exclude Geometric Delay option applies.

Gap-Acceptance Capacity: Traditional M1.

HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.