

# TRAFFIC IMPACT STUDY

*For*

**B9 Schoolhouse Owner, LLC  
Proposed Warehouse Development**

*Property Located at:*

**96-104 Schoolhouse Road  
Block 514 – Lots 1, 2, 3 and 60  
Township of Franklin, Somerset County, NJ**

Prepared by:



1904 Main Street | 245 Main Street, Suite #110  
Lake Como, NJ 07719 | Chester, NJ 07930  
(732) 681-0760

Corey M. Chase, PE  
NJ PE License #47470

  
Kevin M. Savage, PE, PTOE  
NJ PE License #55728

April 21, 2022

*Last Revised: February 24, 2023*

3566-99-005T

## INTRODUCTION

It is proposed to construct a warehouse development on a parcel of land currently occupied by two single family dwellings, located along the eastbound side of Schoolhouse Road in Franklin Township, Somerset County, New Jersey (see Figure 1 in Appendix A). The site is designated as Block 514 – Lots 1, 2, 3 and 60 on the Township of Franklin Tax Maps. It is proposed to construct two warehouse buildings for a total of 215,420 SF, with Building 1 consisting of 144,450 SF and Building 2 consisting of 70,970 SF (“The Project”). Access is currently provided via three driveways along Schoolhouse Road. It is proposed to close the existing access points and construct two new full movement driveways along Schoolhouse Road. The western driveway will be restricted to passenger vehicle access only and the eastern driveway will primarily serve truck traffic. Egressing left turning movements will be restricted for trucks at the eastern site driveway. The site is located within the B-I – Business and Industry Zoning District. Parking will be provided via a combined 105 on-site parking spaces between the two buildings. Additionally, 60 loading docks will be provided and each building will provide one drive-in ramp.

Dynamic Traffic LLC has been retained to prepare this study to assess the traffic impact associated with the construction of The Project on the adjacent roadway network. This study documents the methodology, analyses, findings and conclusions of our study and includes:

- A detailed field inspection was conducted to obtain an inventory of existing roadway geometry, traffic control, and location and geometry of existing driveways and intersections.
- Existing traffic data was collected via manual turning movement (MTM) counts during the weekday AM and weekday PM peak periods at the intersections of:
  - Schoolhouse Road and Mettlers Road
  - Schoolhouse Road and Dewitt Boulevard/Greg Smith Equipment Driveway
- Projections of traffic to be generated by the proposed development were prepared utilizing trip generation data as published by the Institute of Transportation Engineers. Site traffic was then assigned to the adjacent street system based upon the anticipated directional distribution.
- Capacity analyses were conducted for the Existing, No Build, and Build conditions for the study intersections.
- The proposed points of ingress and egress were inspected for adequacy of geometric design, spacing and/or alignment to streets and driveways on the opposite side of the street, relationship to other driveways adjacent to the development, and conformance with accepted design standards.
- The site plan as designed was reviewed for sufficiency in accommodating large wheel base vehicles such as delivery trucks, refuse trucks, and emergency vehicles.
- The parking layout and supply was assessed based on accepted design standards, local requirements, and demand experienced at similar developments.

## **EXISTING CONDITIONS**

A review of the existing roadway conditions near the proposed site was conducted to provide the basis for assessing the traffic impact of the development. This included field investigations of the surrounding roadways and intersections, collection of traffic volume data, and extensive analyses.

### **Existing Roadway Conditions**

The following are descriptions of the roadways in the study area:

Schoolhouse Road is an Urban Major Collector roadway under Franklin Township jurisdiction with a general east/west orientation. In the vicinity of the site the posted speed limit is 40 MPH and the roadway provides one travel lane in each direction. Curb is provided along both sides of the roadway while sidewalk is provided along the southerly side of the roadway west of Mettlers Road. Schoolhouse Road provides a straight horizontal alignment and a relatively flat vertical alignment. The land uses along Schoolhouse Road in the vicinity of The Project are mixed industrial and residential.

Mettlers Road is an Urban Major Collector roadway under Franklin Township jurisdiction with a general north/south orientation. In the vicinity of the site the posted speed limit is 35 MPH and the roadway provides one travel lane in each direction. Curb is provided along both sides of the roadway, while sidewalk is only provided along the southbound side of the roadway. Mettlers Road provides a curved horizontal alignment and a rolling vertical alignment. The land uses along Mettlers Road in the vicinity of The Project are primarily residential.

Dewitt Boulevard is a local roadway under private jurisdiction with a general north/south orientation. In the vicinity of the site the posted speed limit is 25 MPH and the roadway provides one travel lane in each direction. On-street parking is not permitted. Curb and sidewalk are provided along both sides of the roadway. Dewitt Boulevard provides a curved horizontal and a relatively flat vertical alignment. The land uses along Dewitt Boulevard are exclusively residential.

### **Existing Traffic Volumes**

Manual turning movement (MTM) counts were conducted on Thursday, January 27, 2022 from 7:00 to 9:00 AM and from 4:30 to 6:30 PM at the following intersections:

- Schoolhouse Road and Mettlers Road
- Schoolhouse Road and Dewitt Boulevard/Greg Smith Equipment Driveway

Review of the collected traffic data reveals that the weekday morning network peak street hour (PSH) occurs between 7:15-8:15 AM and the weekday evening network PSH occurs between 4:30-5:30 PM. Figure 2, located in Appendix A, shows the existing peak hour traffic volumes at the study intersections. All traffic counts are contained in Appendix B.

### Existing Capacity Analysis

The methodology utilized in the capacity analyses is described in the *Highway Capacity Manual*, published by the Transportation Research Board. In general, the term Level of Service (LOS) is used to provide a “qualitative” evaluation of capacity based upon certain “quantitative” calculations related to empirical values, such as traffic volume and intersection control.

An unsignalized (STOP sign controlled) driveway or side street along a through route is seldom critical from an overall capacity standpoint, however, it may be of great significance to the capacity of the minor cross-route, and it may influence the quality of traffic flow on both. When analyzing an unsignalized intersection, it is assumed that both the major street through and right turn movements are unimpeded and have the right-of-way over all side street traffic and left turns from the major street. All other turning movements in the intersection cross, merge with, or are otherwise impeded by major street movements. Traffic delays at unsignalized intersections are determined by sequentially processing these impeded movements. Table I describes the level of service ranges for unsignalized (stop controlled) intersections.

**Table I  
Level of Service Criteria  
for Unsignalized Intersections**

Level of Service	Average Control Delay (seconds per vehicle)
A	0.0 to 10.0
B	10.1 to 15.0
C	15.1 to 25.0
D	25.1 to 35.0
E	35.1 to 50.0
F	greater than 50.0

All capacity analyses were performed utilizing Synchro 11 software. Table II summarizes the existing levels of service (LOS) and delays. All capacity analysis calculation worksheets are contained in Appendix C.

**Table II  
Existing Levels of Service**

Intersection	Direction/ Movement		AM PSH	PM PSH
Schoolhouse Road & Mettlers Road	WB	L	A (8)	A (8)
	NB	LR	B (13)	B (13)
Schoolhouse Road & Dewitt Boulevard / Greg Smith Equipment Driveway	EB	L	A (8)	A (9)
	WB	L	A (8)	A (8)
	NB	LTR	B (14)	B (11)
	SB	LTR	C (17)	C (19)

A (#) - Unsignalized Intersection Level of Service (seconds of delay per vehicle)

The following are discussions pertaining to each of the existing intersections analyzed. The existing percentage of trucks and peak hour factors were used in the existing analysis.

### **Schoolhouse Road and Mettlers Road**

Mettlers Road intersects Schoolhouse Road to form an unsignalized T-intersection with the northbound approach of Mettlers Road operating under stop control. The eastbound approach of Schoolhouse Road provides a shared through/right turn lane, while the westbound approach provides a dedicated left turn lane and dedicated through lane. The northbound approach of Mettlers Road provides a shared left/right turn lane.

A review of the existing analysis reveals that all movements operate at levels of service “B” or better during the analyzed peak periods. See Table II for the individual movement levels of service and delays.

### **Schoolhouse Road and Dewitt Boulevard/Greg Smith Equipment Driveway**

Dewitt Boulevard and the Greg Smith Equipment driveway intersect Schoolhouse Road to form an unsignalized four-leg intersection with Dewitt Boulevard and the Greg Smith Equipment Driveway operating under stop control. The eastbound approach of Schoolhouse Road provides a dedicated left turn lane and a shared through/right turn lane, while the westbound approach provides a shared left turn/through/right turn lane. The northbound approach of the Greg Smith Equipment driveway and the southbound approach of Dewitt Boulevard each provide a shared left turn/through/right turn lane.

A review of the existing analysis reveals that all movements operate at levels of service “C” or better during the analyzed peak periods. See Table II for the individual movement levels of service and delays.

### FUTURE CONDITIONS

Traffic volumes and operational analyses were developed for both the No Build and Build conditions. The No Build conditions provide a baseline for assessing the impact of the site development traffic on the roadway system. The process of developing the No Build and Build traffic volumes and the subsequent analyses is outlined below.

Regardless of whether the subject site is developed or not, traffic volumes on the surrounding roadways are expected to increase as a result of developments throughout the region. A growth rate for roadways within the study area was obtained from the NJDOT Annual Background Growth Rate Table, which indicates a growth rate of 1.75% per year.

It should be noted that there is one (1) development in the vicinity of the site that has been submitted for approval that is identified as a potential significant traffic generator, shown below. The Adjacent Development Traffic Volumes passing the site are shown on Figure 3. It was assumed that the background growth rate was adequate to account for the traffic associated with all background growth in the study area.

- A development consisting of 90,000 SF of warehouse, located at the intersection of Schoolhouse Road and Heller Park Lane, is in the preliminary planning process. While the development has not yet been approved, it has been included to provide a conservative analysis. Projections of the associated traffic volumes were developed using data as published by the Institute of Transportation Engineers (ITE) publication *Trip Generation*, 11th Edition for Land Use Code (LUC) 150 - Warehousing.

Future No Build traffic volumes were developed by applying the background growth rate of 1.75% for two (2) years to the study area roadways existing traffic volumes and adding the adjacent development traffic volumes. Figure 4, in Appendix A, shows the No Build traffic volumes.

#### Traffic Generation

Trip generation projections for The Project were prepared utilizing trip generation research data as published under Land Use Code 150 – Warehousing in the Institute of Transportation Engineers’ (ITE) publication, *Trip Generation*, 11<sup>th</sup> Edition. This publication sets forth trip generation rates based on traffic counts conducted at research sites throughout the country. The heavy vehicle volumes were developed based on data published by ITE in the 10<sup>th</sup> Edition of *Trip Generation*.

**Table III  
Trip Generation**

Trip Type		AM PSH			PM PSH		
		In	Out	Total	In	Out	Total
215,420 SF Warehouse	Heavy Vehicles	5	1	6	2	6	8
	Automobiles	33	10	43	13	31	44
	<b>Total</b>	<b>38</b>	<b>11</b>	<b>49</b>	<b>15</b>	<b>37</b>	<b>52</b>

Once the magnitude of traffic to be generated by the site is known, it is necessary to assign that traffic to the adjacent street system. The distribution of new traffic to the surrounding roadways is based on the location of primary arterial roadways, major signalized intersections and existing traffic patterns. Located in Appendix A, Figures 5-9 illustrate the Car Traffic Trip Distribution, Car Site Generated Volumes, Truck Traffic Trip Distribution, Truck Site Generated Volumes, and the Total Site Generated Volumes, respectively. The Total Site Generated Volumes assigned to the study area network were added to the No Build traffic volumes to generate the Build traffic volumes, which are shown in Figure 10.

### Future Capacity Analysis

Operational conditions at the study intersections were analyzed under the No Build and Build conditions and are summarized in Table IV below.

**Table IV  
Future Levels of Service**

Intersection	Direction/ Movement		AM PSH		PM PSH	
			No Build	Build	No Build	Build
Schoolhouse Road & Mettlers Road	WB	L	A (9)	A (9)	A (8)	A (8)
	NB	LR	B (14)	B (14)	B (14)	B (14)
Schoolhouse Road & Dewitt Boulevard / Greg Smith Equipment Driveway	EB	L	A (8)	A (8)	A (9)	A (9)
	WB	L	A (8)	A (8)	A (8)	A (10)
	NB	LTR	B (14)	B (15)	B (11)	B (11)
	SB	LTR	C (18)	C (19)	C (20)	C (21)
Schoolhouse Road & Western Site Driveway	WB	L	-	A (8)	-	A (8)
	NB	LR	-	B (14)	-	B (14)
Schoolhouse Road & Eastern Site Driveway	WB	L	-	A (9)	-	A (9)
	NB	LR	-	B (14)	-	B (13)

A (#) - Unsignalized Intersection Level of Service (seconds of delay per vehicle)

#### Schoolhouse Road and Mettlers Road

With the addition of site generated traffic, each movement is anticipated to operate at No Build levels of service “B” or better during the analyzed peak hours. See Table IV for the individual movement levels of service and delays.

#### Schoolhouse Road and Dewitt Boulevard/Greg Smith Equipment Driveway

With the addition of site generated traffic, each movement is anticipated to operate at No Build levels of service “C” or better during the analyzed peak hours. See Table IV for the individual movement levels of service and delays.

### **Schoolhouse Road and Western Site Driveway**

The western site driveway is proposed to intersect Schoolhouse Road to form an unsignalized T-intersection with the northbound approach of the western site driveway operating under stop control. The eastbound approach of Schoolhouse Road provides a shared through/right turn lane, while the westbound approach provides a shared left turn/through lane. The northbound approach of the western site driveway provides a shared left turn/right turn lane.

As designed, the individual intersection movements are anticipated to operate at levels of service “B” or better during the studied peak hours. See Table IV for the individual movement levels of service and delays.

### **Schoolhouse Road and Eastern Site Driveway**

The eastern site driveway is proposed to intersect Schoolhouse Road to form an unsignalized T-intersection with the northbound approach of the eastern site driveway operating under stop control. The eastbound approach of Schoolhouse Road provides a shared through/right turn lane, while the westbound approach provides a shared left turn/through lane. The northbound approach of the eastern site driveway provides a shared left turn/right turn lane. As stated previously, no truck traffic will be permitted to make a left turn egress movement.

As designed, the individual intersection movements are anticipated to operate at levels of service “B” or better during the studied peak hours. See Table IV for the individual movement levels of service and delays.



## **SITE PLAN**

### **Site Access**

The site plan was reviewed with respect to the site access and on-site circulation design. As noted previously, access to The Project will be provided via two new full movement driveways along Schoolhouse Road. The western driveway will be restricted to passenger vehicle access only and the eastern driveway will primarily serve truck traffic with left turn egress restricted for truck traffic.

The newly constructed parking areas will be serviced by parking aisles with a minimum width of 26-feet for passenger car circulation and a minimum width of 88-feet for truck circulation which are both consistent with generally accepted engineering design standards. These aisles will allow for two-way circulation and 90-degree parking. Review of the site plan design indicates that the site can sufficiently accommodate, within paved areas, a large wheel base vehicle, such as tractor trailers along with the automobile traffic anticipated.

### **Parking**

The Franklin Township Ordinance sets forth a parking requirement of 1 parking space per each 1,000 SF for the first 5,000 SF, then 1 parking space for each 2,500 SF thereafter for warehouse uses. This equates to a parking requirement of 61 spaces for the proposed 144,450 SF Building 1 and 32 spaces for the 70,970 SF Building 2. This equates to a total parking requirement of 93 spaces for the 215,420 SF warehouse development. The site as proposed provides 105 parking spaces and as such the Ordinance requirement is satisfied.

It is proposed to provide parking stalls with dimensions of 9'x18', which satisfy the Ordinance minimum requirement of 9'x18'. Additionally, the site will provide trailer storage spaces which will have dimensions of 13.5'x60' which are consistent with accepted engineering design standards and will adequately accommodate the proposed design vehicle.

## **FINDINGS & CONCLUSIONS**

### **Findings**

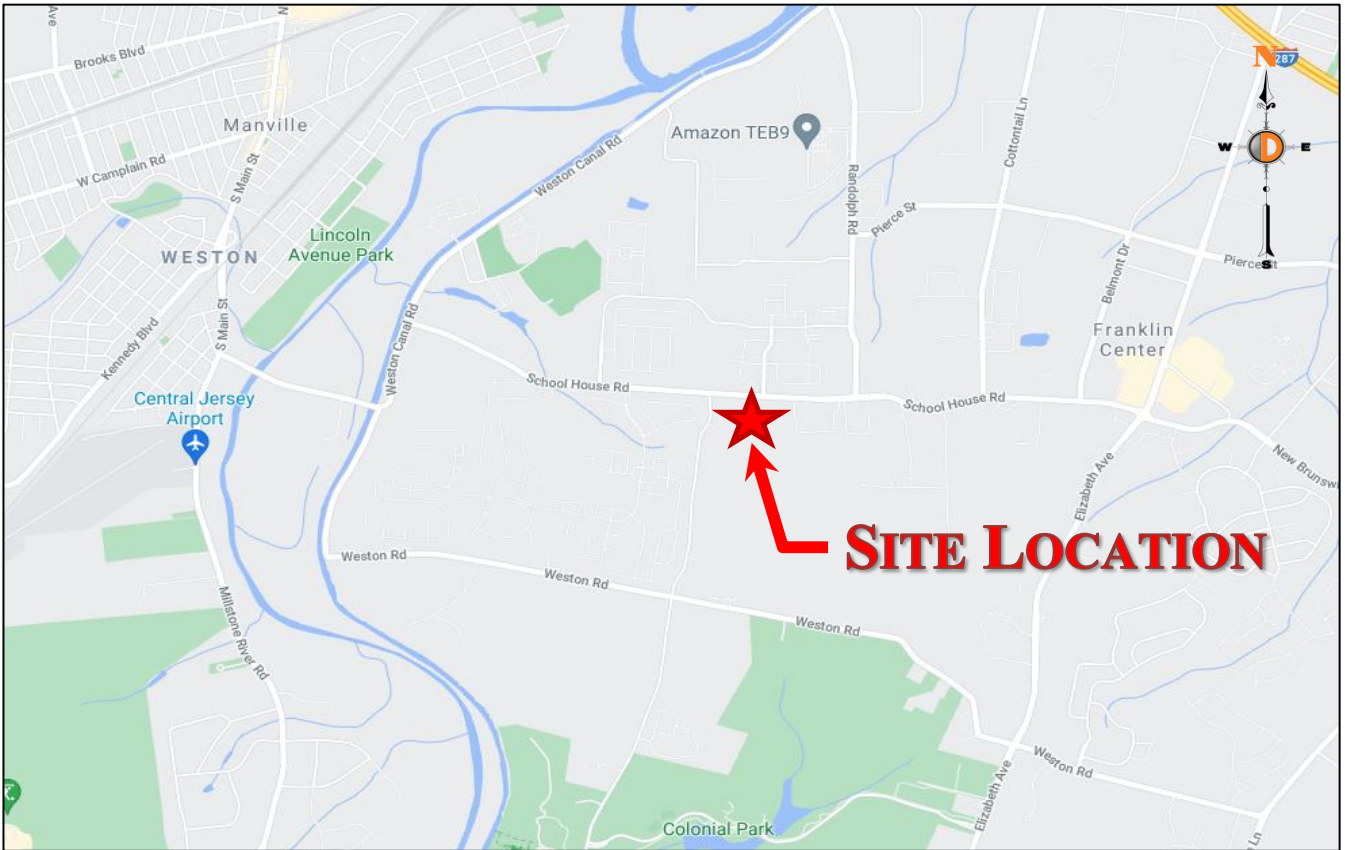
Based upon the detailed analyses as documented herein, the following findings are noted:

- The proposed 215,420 SF total warehouse development, is projected to generate 38 entering trips and 11 exiting trips during the weekday morning peak hour and 15 entering trips and 37 exiting trips during the evening peak hour that are “new” to the adjacent roadway network.
- Access to the site is proposed to be provided via construct two new full movement driveways along Schoolhouse Road. The western driveway will be restricted to passenger vehicle access only and the eastern driveway will primarily serve truck traffic. Left turn egress movements will be restricted for trucks utilizing the eastern site driveway.
- With the addition of site generated traffic, the intersection of Schoolhouse Road and Mettlers Road is anticipated to operate at No Build levels of service “B” or better during the peak hours studied.
- With the addition of site generated traffic, the intersection of Schoolhouse Road and Dewitt Boulevard/Greg Smith Equipment Driveway is anticipated to operate at No Build levels of service “C” or better during the peak hours studied.
- As designed, the intersection of Schoolhouse Road and the western site driveway is anticipated to operate at acceptable levels of service “B” or better during the peak hours studied.
- As designed, the intersection of Schoolhouse Road and the eastern site driveway is anticipated to operate at acceptable levels of service “B” or better during the peak hours studied.
- As proposed, The Project’s site driveways and internal circulation have been designed to provide for safe and efficient movement of automobiles and large wheel base vehicles.
- The proposed parking supply and design is sufficient to support the projected demand and satisfies the Ordinance requirements.

### **Conclusions**

Based upon our Traffic Impact Study as detailed in the body of this report, it is the professional opinion of Dynamic Traffic LLC that the adjacent street system of the Township of Franklin will not experience any significant degradation in operating conditions with the construction of The Project. The site driveways are located to provide safe and efficient access to the adjacent roadway system. The site plan as proposed provides for good circulation throughout the site and provides adequate parking to accommodate The Project’s needs.

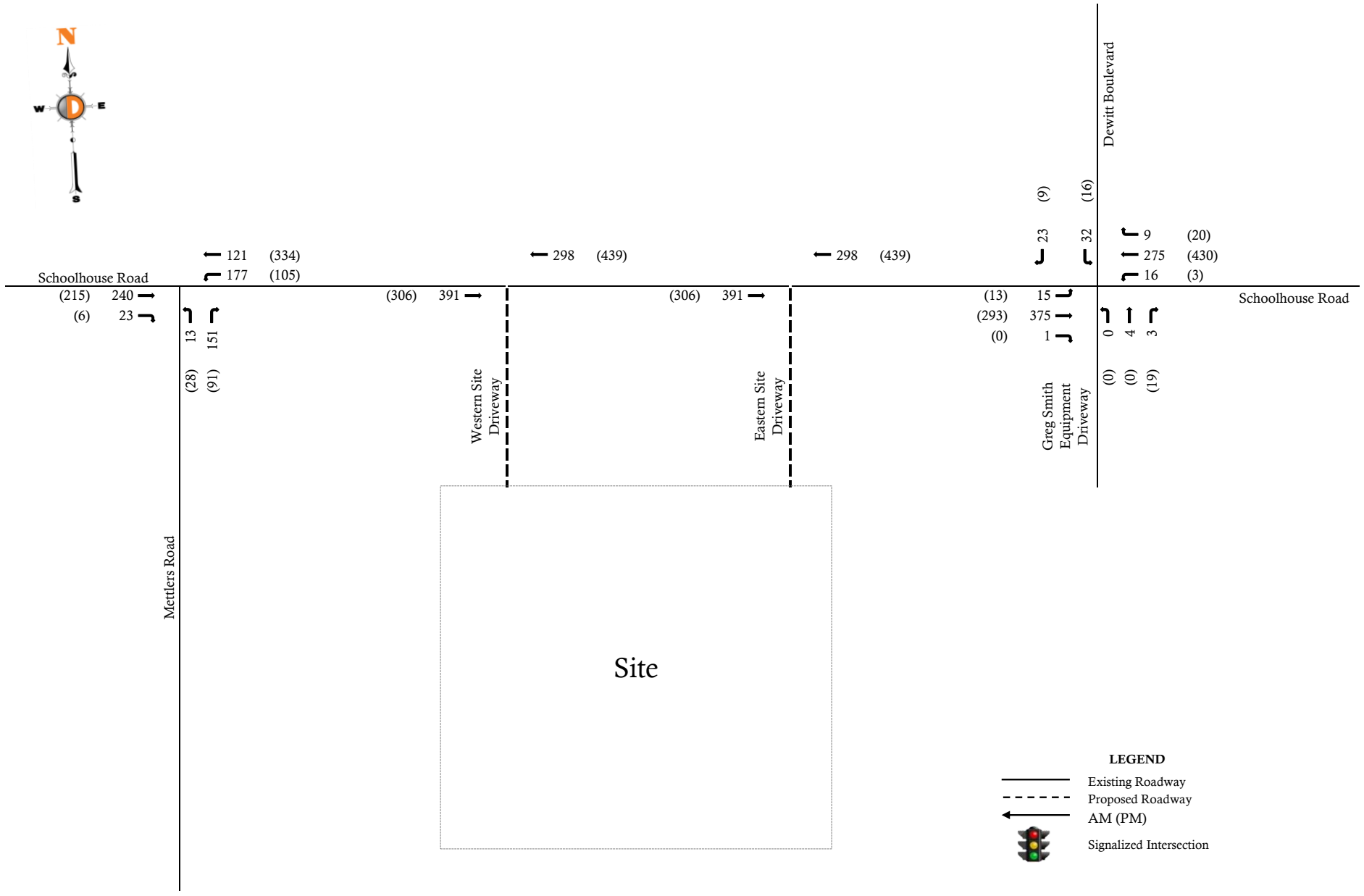
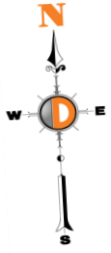
**Appendix A**  
**Traffic Volume Figures**



Proposed Warehouse Development  
 Traffic Impact Study  
 3566-99-005T

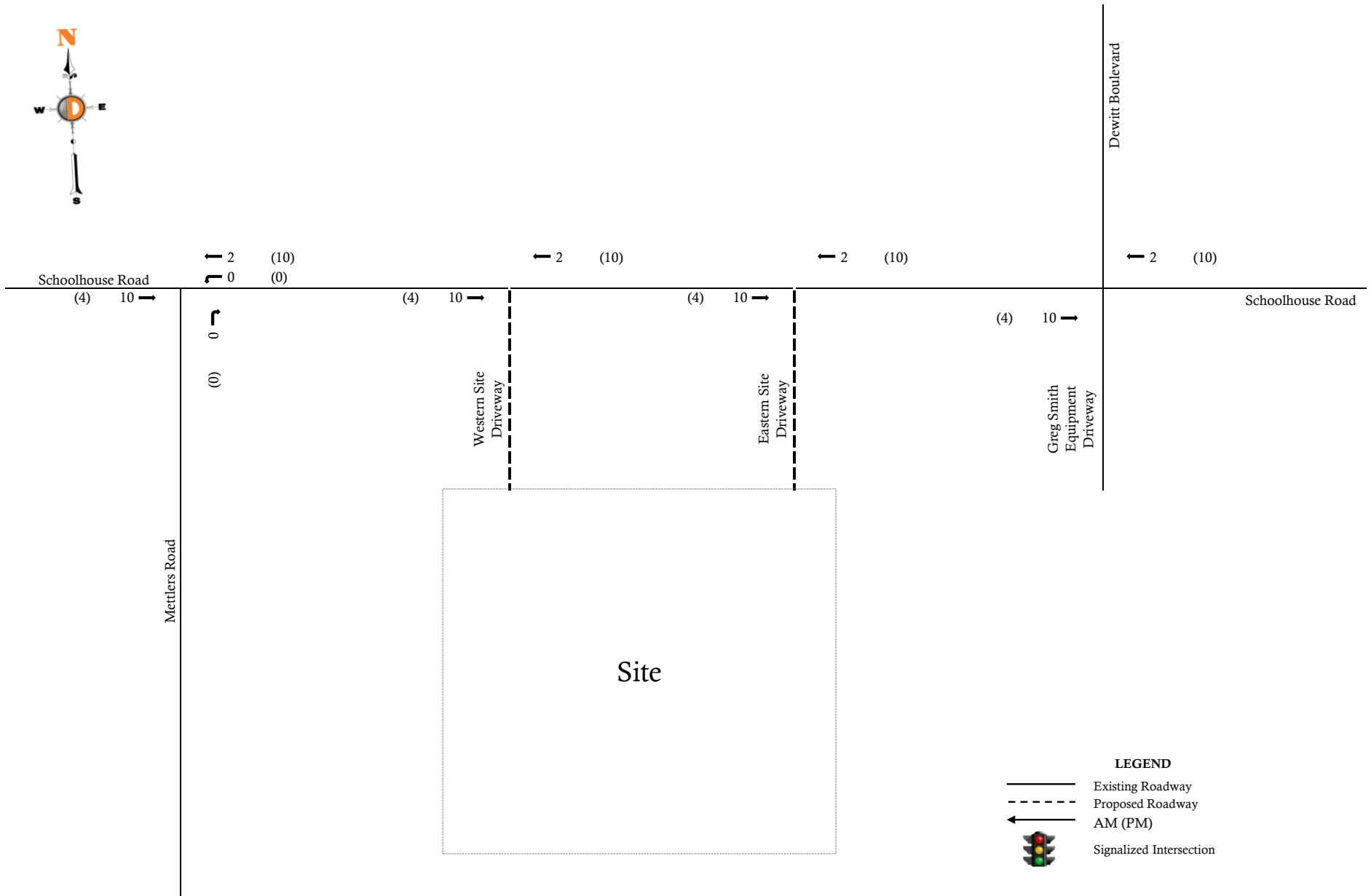
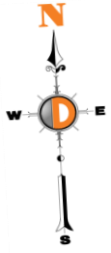
Figure 1

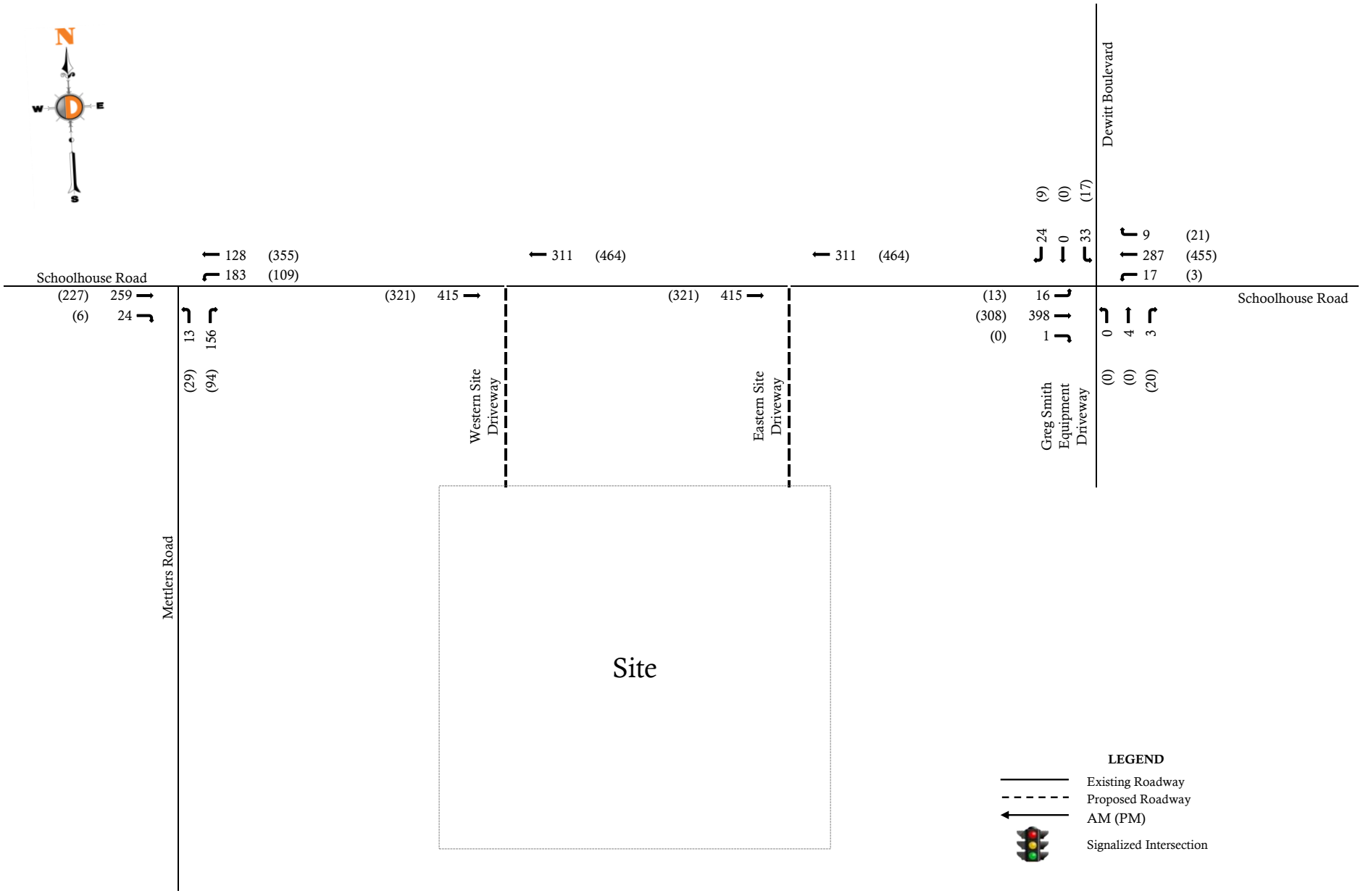
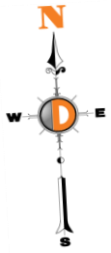
Site Location Map



**LEGEND**

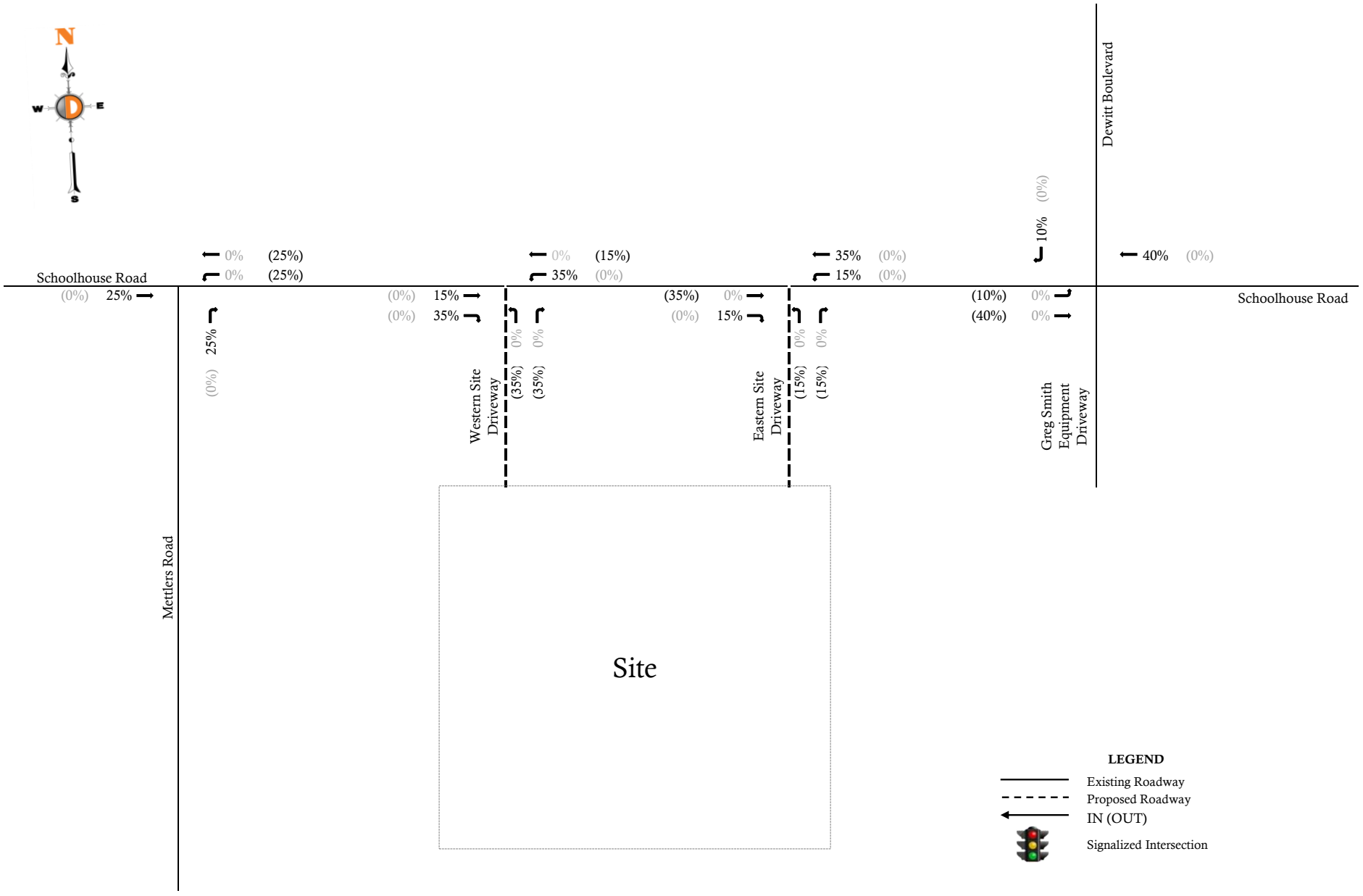
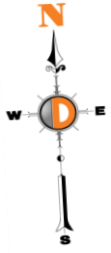
- Existing Roadway
- Proposed Roadway
- AM (PM)
- Signalized Intersection





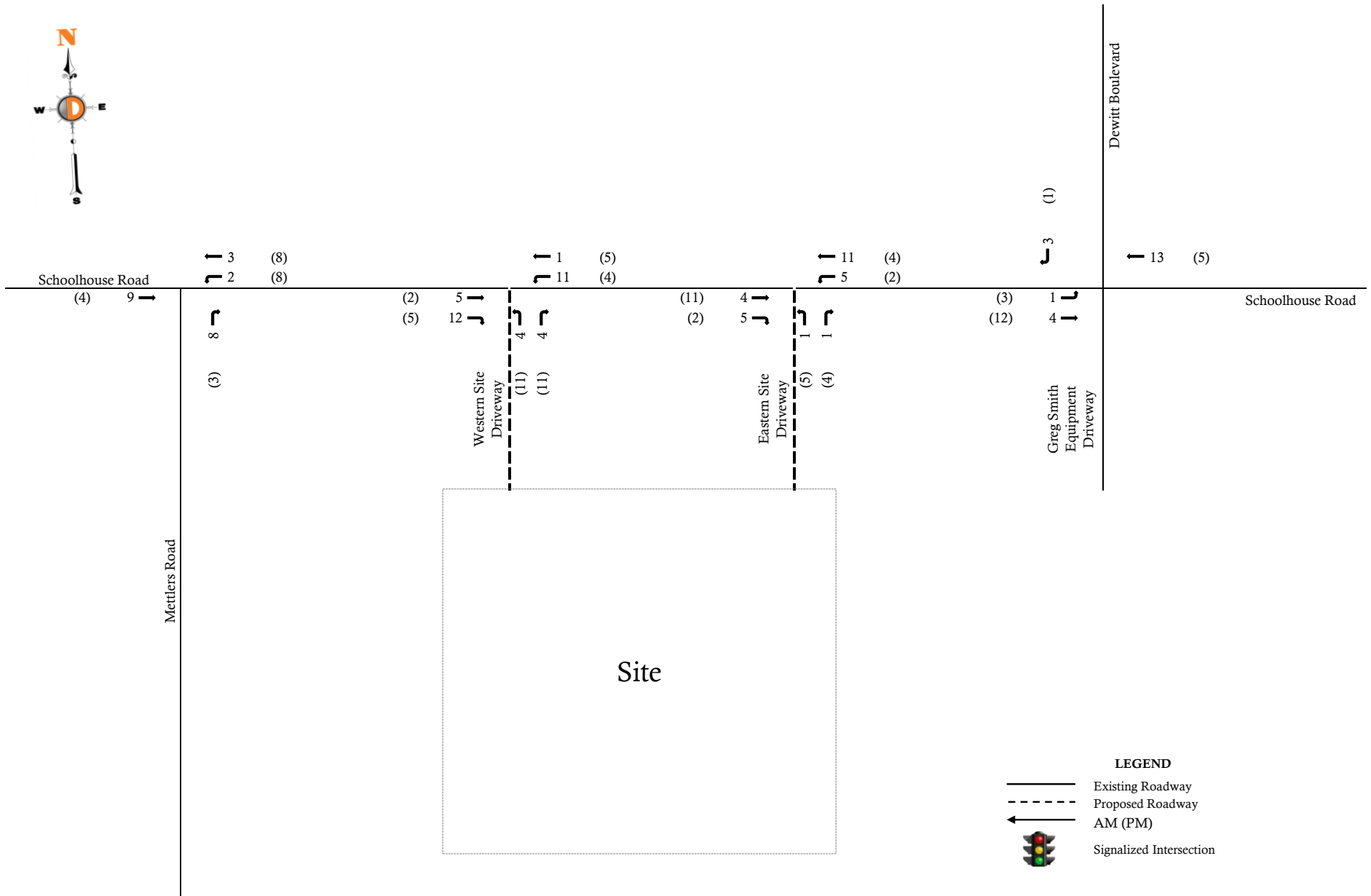
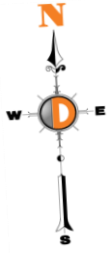
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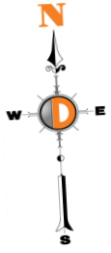
- Existing Roadway
- Proposed Roadway
- AM (PM)
- Signalized Intersection

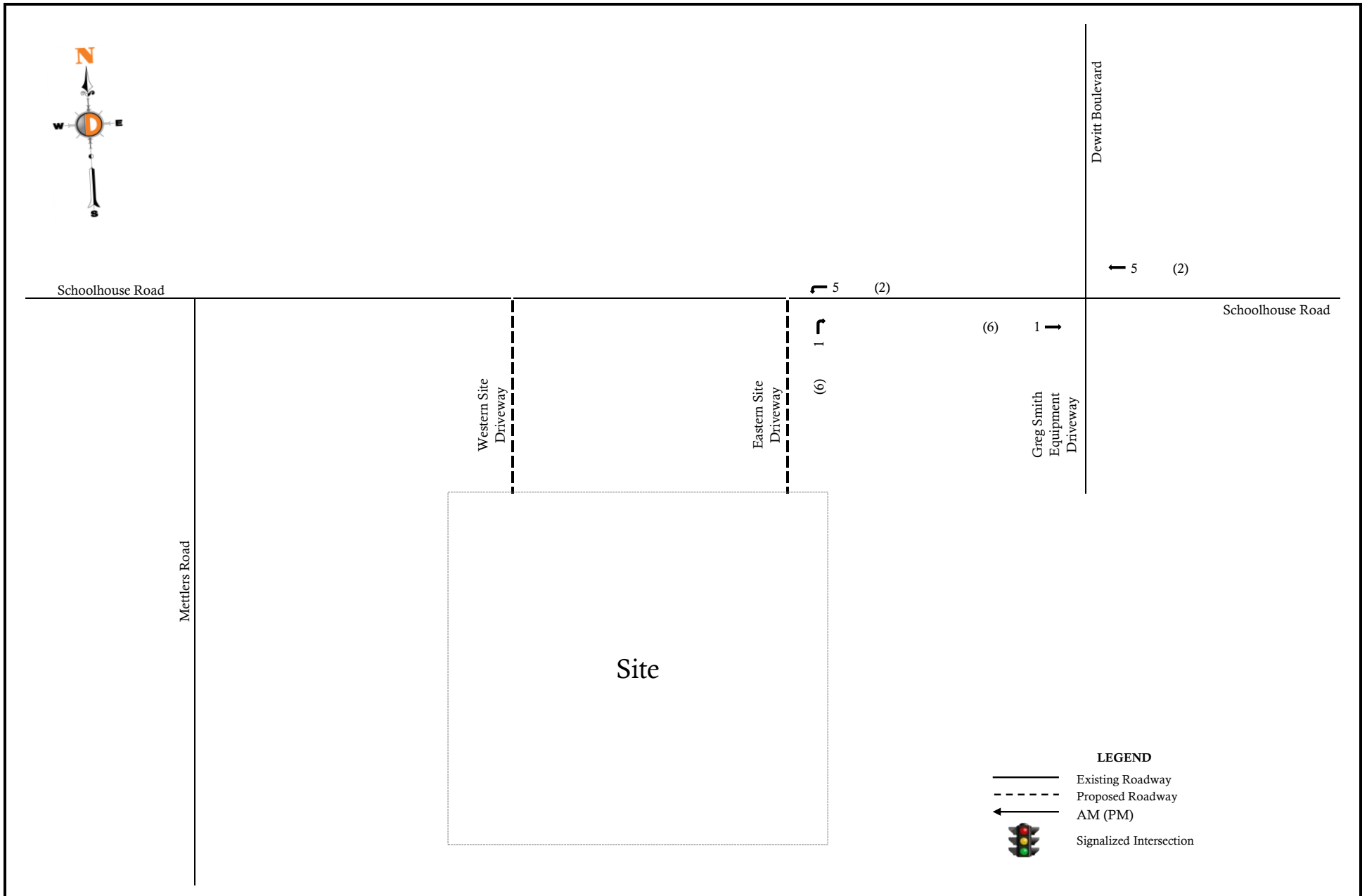
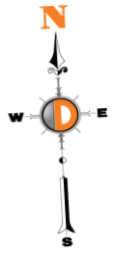


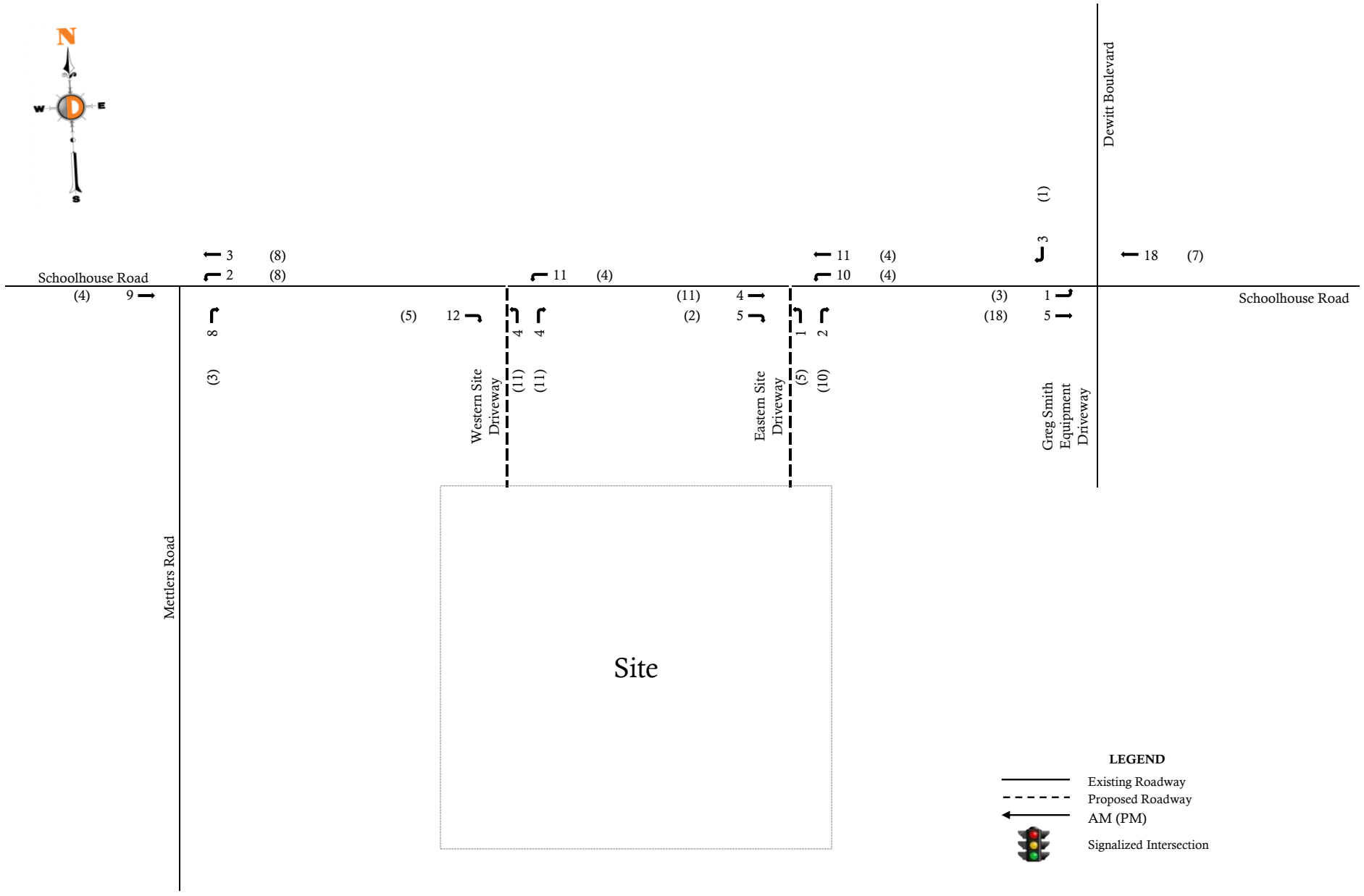
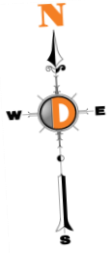
**Figure 5**  
**Percent Distribution**  
**(Car Trips)**





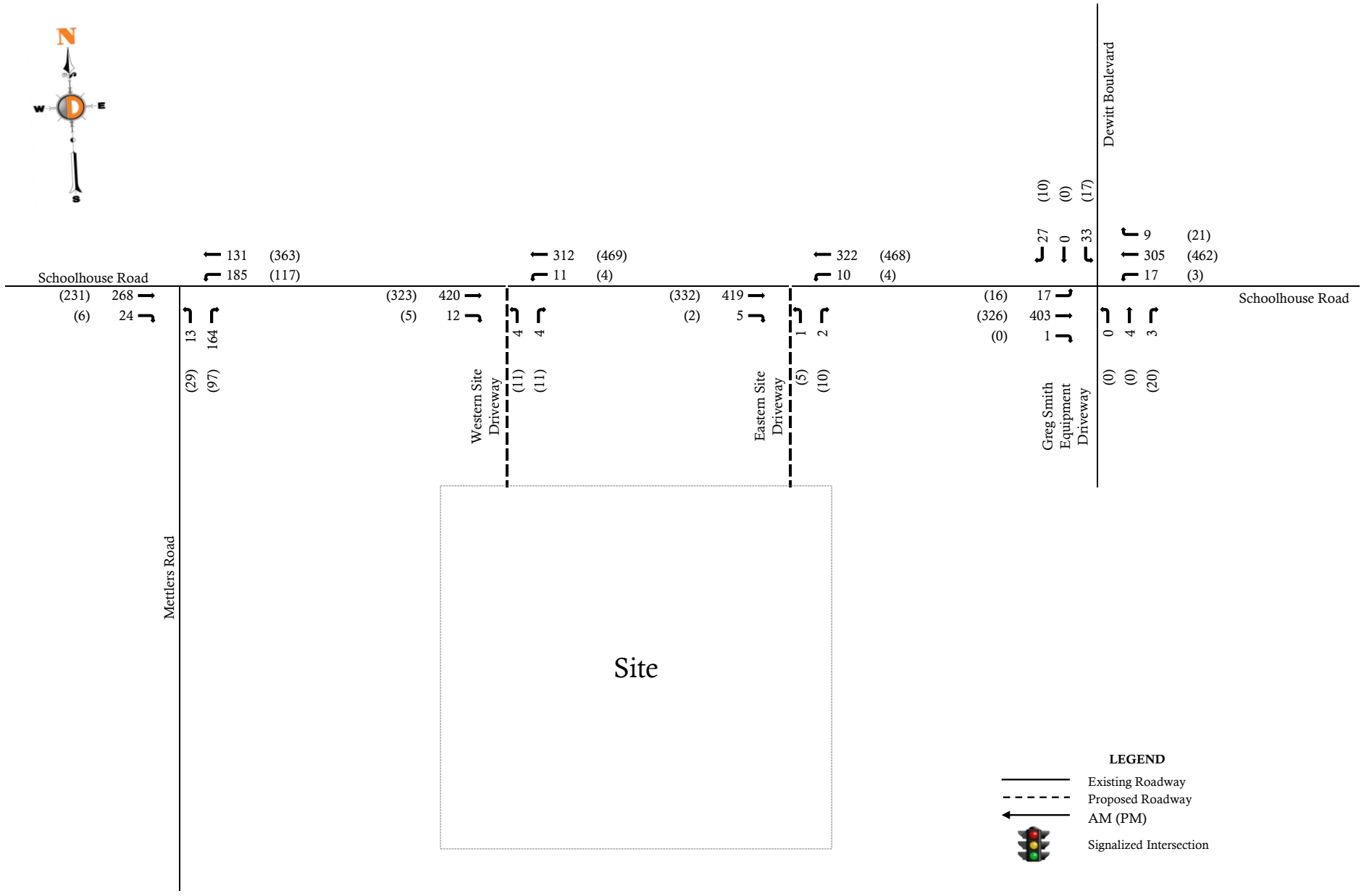
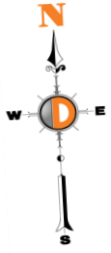






**LEGEND**

- Existing Roadway
- Proposed Roadway
- AM (PM)
- Signalized Intersection



**LEGEND**

- Existing Roadway
- Proposed Roadway
- AM (PM)
- Signalized Intersection



**Appendix B**  
**Traffic Counts**

# Dynamic Traffic, LLC

1904 Main Street, Lake Como, NJ 07719  
 245 Main Street - Suite 110, Chester, NJ 07930  
 732-681-0760

E/W: Schoolhouse Rd  
 N/S: Mettlers Rd  
 Town/County: Franklin/Somerset  
 Job #: 3566-99-006T

File Name : Schoolhouse Rd & Mettlers Rd - AMPM  
 Site Code : 00000000  
 Start Date : 1/27/2022  
 Page No : 1

## Groups Printed- Cars - Trucks (SU) - Trucks (TT)

Start Time	Schoolhouse Road Eastbound					Schoolhouse Road Westbound					Mettlers Road Northbound					Int. Total
	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	
07:00 AM	0	37	9	0	46	40	15	0	0	55	0	0	20	0	20	121
07:15 AM	0	48	14	0	62	107	19	0	0	126	3	0	16	0	19	207
07:30 AM	0	54	2	0	56	46	32	0	0	78	6	0	42	0	48	182
07:45 AM	0	68	2	0	70	14	40	0	0	54	3	0	71	0	74	198
Total	0	207	27	0	234	207	106	0	0	313	12	0	149	0	161	708
08:00 AM	0	57	5	0	62	10	30	0	0	40	1	0	22	0	23	125
08:15 AM	0	78	7	0	85	14	36	0	0	50	4	0	35	0	39	174
08:30 AM	0	61	6	0	67	13	40	0	0	53	5	0	19	0	24	144
08:45 AM	0	49	4	0	53	10	32	0	0	42	8	0	17	0	25	120
Total	0	245	22	0	267	47	138	0	0	185	18	0	93	0	111	563
*** BREAK ***																
04:30 PM	0	43	0	0	43	21	93	0	0	114	7	0	24	0	31	188
04:45 PM	0	53	3	0	56	16	67	0	0	83	7	0	22	0	29	168
Total	0	96	3	0	99	37	160	0	0	197	14	0	46	0	60	356
05:00 PM	0	50	2	0	52	39	77	0	0	116	9	0	23	0	32	200
05:15 PM	0	45	1	0	46	29	77	0	0	106	5	0	22	0	27	179
05:30 PM	0	44	3	0	47	21	50	0	0	71	5	0	17	0	22	140
05:45 PM	0	41	3	0	44	24	59	0	0	83	6	0	18	0	24	151
Total	0	180	9	0	189	113	263	0	0	376	25	0	80	0	105	670
06:00 PM	0	46	3	0	49	20	64	0	0	84	7	0	5	0	12	145
06:15 PM	0	30	2	0	32	9	52	0	0	61	6	0	9	0	15	108
Grand Total	0	804	66	0	870	433	783	0	0	1216	82	0	382	0	464	2550
Apprch %	0	92.4	7.6	0		35.6	64.4	0	0		17.7	0	82.3	0		
Total %	0	31.5	2.6	0	34.1	17	30.7	0	0	47.7	3.2	0	15	0	18.2	
Cars	0	798	64	0	862	426	772	0	0	1198	82	0	378	0	460	2520
% Cars	0	99.3	97	0	99.1	98.4	98.6	0	0	98.5	100	0	99	0	99.1	98.8
Trucks (SU)	0	4	2	0	6	6	8	0	0	14	0	0	4	0	4	24
% Trucks (SU)	0	0.5	3	0	0.7	1.4	1	0	0	1.2	0	0	1	0	0.9	0.9
Trucks (TT)	0	2	0	0	2	1	3	0	0	4	0	0	0	0	0	6
% Trucks (TT)	0	0.2	0	0	0.2	0.2	0.4	0	0	0.3	0	0	0	0	0.2	0.2

# Dynamic Traffic, LLC

1904 Main Street, Lake Como, NJ 07719  
 245 Main Street - Suite 110, Chester, NJ 07930  
 732-681-0760

E/W: Schoolhouse Rd  
 N/S: Dway/Dewitt Blvd  
 Town/County: Franklin/Somerset  
 Job #: 3566-99-006T

File Name : Schoolhouse Rd & Dewitt Blvd-Dway - AMPM  
 Site Code : 00000000  
 Start Date : 1/27/2022  
 Page No : 1

## Groups Printed- Cars - Trucks (SU) - Trucks (TT)

Start Time	Schoolhouse Road Eastbound					Schoolhouse Road Westbound					Warehouse Driveway Northbound					Dewitt Boulevard Southbound					Int. Total
	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	
07:00 AM	0	51	0	0	51	0	60	1	0	61	0	0	0	0	0	4	0	2	0	6	118
07:15 AM	2	66	0	0	68	0	110	0	0	110	0	0	0	0	0	6	0	13	0	19	197
07:30 AM	8	98	0	0	106	5	69	4	0	78	0	0	0	0	0	12	0	3	0	15	199
07:45 AM	3	132	1	0	136	10	48	4	0	62	0	0	3	0	3	3	0	3	0	6	207
<b>Total</b>	<b>13</b>	<b>347</b>	<b>1</b>	<b>0</b>	<b>361</b>	<b>15</b>	<b>287</b>	<b>9</b>	<b>0</b>	<b>311</b>	<b>0</b>	<b>0</b>	<b>3</b>	<b>0</b>	<b>3</b>	<b>25</b>	<b>0</b>	<b>21</b>	<b>0</b>	<b>46</b>	<b>721</b>
08:00 AM	2	79	0	0	81	1	39	1	0	41	0	4	0	0	4	11	0	4	0	15	141
08:15 AM	0	122	0	0	122	0	42	9	0	51	0	0	0	0	0	6	0	2	0	8	181
08:30 AM	2	72	1	0	75	1	51	5	0	57	0	0	1	0	1	3	0	1	0	4	137
08:45 AM	2	73	0	0	75	0	46	5	0	51	0	0	1	0	1	0	0	1	0	1	128
<b>Total</b>	<b>6</b>	<b>346</b>	<b>1</b>	<b>0</b>	<b>353</b>	<b>2</b>	<b>178</b>	<b>20</b>	<b>0</b>	<b>200</b>	<b>0</b>	<b>4</b>	<b>2</b>	<b>0</b>	<b>6</b>	<b>20</b>	<b>0</b>	<b>8</b>	<b>0</b>	<b>28</b>	<b>587</b>
*** BREAK ***																					
04:30 PM	6	75	0	0	81	1	124	9	0	134	0	0	12	0	12	1	0	1	0	2	229
04:45 PM	3	71	0	0	74	1	84	5	0	90	0	0	0	0	0	3	0	2	0	5	169
<b>Total</b>	<b>9</b>	<b>146</b>	<b>0</b>	<b>0</b>	<b>155</b>	<b>2</b>	<b>208</b>	<b>14</b>	<b>0</b>	<b>224</b>	<b>0</b>	<b>0</b>	<b>12</b>	<b>0</b>	<b>12</b>	<b>4</b>	<b>0</b>	<b>3</b>	<b>0</b>	<b>7</b>	<b>398</b>
05:00 PM	0	80	0	0	80	1	121	2	0	124	0	0	7	0	7	5	0	2	0	7	218
05:15 PM	4	67	0	0	71	0	101	4	0	105	0	0	0	0	0	7	0	4	0	11	187
05:30 PM	0	62	0	0	62	0	84	6	0	90	0	0	0	0	0	10	0	2	0	12	164
05:45 PM	1	61	0	0	62	0	77	6	0	83	0	0	0	0	0	2	0	3	0	5	150
<b>Total</b>	<b>5</b>	<b>270</b>	<b>0</b>	<b>0</b>	<b>275</b>	<b>1</b>	<b>383</b>	<b>18</b>	<b>0</b>	<b>402</b>	<b>0</b>	<b>0</b>	<b>7</b>	<b>0</b>	<b>7</b>	<b>24</b>	<b>0</b>	<b>11</b>	<b>0</b>	<b>35</b>	<b>719</b>
06:00 PM	3	47	0	0	50	0	82	3	0	85	0	0	0	0	0	3	0	1	0	4	139
06:15 PM	5	36	0	0	41	0	59	4	0	63	0	0	0	0	0	3	0	3	0	6	110
<b>Grand Total</b>	<b>41</b>	<b>1192</b>	<b>2</b>	<b>0</b>	<b>1235</b>	<b>20</b>	<b>1197</b>	<b>68</b>	<b>0</b>	<b>1285</b>	<b>0</b>	<b>4</b>	<b>24</b>	<b>0</b>	<b>28</b>	<b>79</b>	<b>0</b>	<b>47</b>	<b>0</b>	<b>126</b>	<b>2674</b>
<b>Apprch %</b>	<b>3.3</b>	<b>96.5</b>	<b>0.2</b>	<b>0</b>		<b>1.6</b>	<b>93.2</b>	<b>5.3</b>	<b>0</b>		<b>0</b>	<b>14.3</b>	<b>85.7</b>	<b>0</b>		<b>62.7</b>	<b>0</b>	<b>37.3</b>	<b>0</b>		
<b>Total %</b>	<b>1.5</b>	<b>44.6</b>	<b>0.1</b>	<b>0</b>	<b>46.2</b>	<b>0.7</b>	<b>44.8</b>	<b>2.5</b>	<b>0</b>	<b>48.1</b>	<b>0</b>	<b>0.1</b>	<b>0.9</b>	<b>0</b>	<b>1</b>	<b>3</b>	<b>0</b>	<b>1.8</b>	<b>0</b>	<b>4.7</b>	
<b>Cars</b>	<b>39</b>	<b>1184</b>	<b>2</b>	<b>0</b>	<b>1225</b>	<b>15</b>	<b>1178</b>	<b>65</b>	<b>0</b>	<b>1258</b>	<b>0</b>	<b>4</b>	<b>17</b>	<b>0</b>	<b>21</b>	<b>77</b>	<b>0</b>	<b>45</b>	<b>0</b>	<b>122</b>	<b>2626</b>
<b>% Cars</b>	<b>95.1</b>	<b>99.3</b>	<b>100</b>	<b>0</b>	<b>99.2</b>	<b>75</b>	<b>98.4</b>	<b>95.6</b>	<b>0</b>	<b>97.9</b>	<b>0</b>	<b>100</b>	<b>70.8</b>	<b>0</b>	<b>75</b>	<b>97.5</b>	<b>0</b>	<b>95.7</b>	<b>0</b>	<b>96.8</b>	<b>98.2</b>
<b>Trucks (SU)</b>	<b>2</b>	<b>5</b>	<b>0</b>	<b>0</b>	<b>7</b>	<b>3</b>	<b>16</b>	<b>3</b>	<b>0</b>	<b>22</b>	<b>0</b>	<b>0</b>	<b>3</b>	<b>0</b>	<b>3</b>	<b>2</b>	<b>0</b>	<b>2</b>	<b>0</b>	<b>4</b>	<b>36</b>
<b>% Trucks (SU)</b>	<b>4.9</b>	<b>0.4</b>	<b>0</b>	<b>0</b>	<b>0.6</b>	<b>15</b>	<b>1.3</b>	<b>4.4</b>	<b>0</b>	<b>1.7</b>	<b>0</b>	<b>0</b>	<b>12.5</b>	<b>0</b>	<b>10.7</b>	<b>2.5</b>	<b>0</b>	<b>4.3</b>	<b>0</b>	<b>3.2</b>	<b>1.3</b>
<b>Trucks (TT)</b>	<b>0</b>	<b>3</b>	<b>0</b>	<b>0</b>	<b>3</b>	<b>2</b>	<b>3</b>	<b>0</b>	<b>0</b>	<b>5</b>	<b>0</b>	<b>0</b>	<b>4</b>	<b>0</b>	<b>4</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>12</b>
<b>% Trucks (TT)</b>	<b>0</b>	<b>0.3</b>	<b>0</b>	<b>0</b>	<b>0.2</b>	<b>10</b>	<b>0.3</b>	<b>0</b>	<b>0</b>	<b>0.4</b>	<b>0</b>	<b>0</b>	<b>16.7</b>	<b>0</b>	<b>14.3</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0.4</b>



**Appendix C**  
**Capacity Analysis**

**Intersection**

Int Delay, s/veh 5

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	240	23	177	121	13	151
Future Vol, veh/h	240	23	177	121	13	151
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	80	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	2	-
Peak Hour Factor	86	86	86	86	86	86
Heavy Vehicles, %	1	0	2	3	0	3
Mvmt Flow	279	27	206	141	15	176

Major/Minor	Major1	Major2	Minor1		
Conflicting Flow All	0	0	306	0	846 293
Stage 1	-	-	-	-	293 -
Stage 2	-	-	-	-	553 -
Critical Hdwy	-	-	4.12	-	6.8 6.43
Critical Hdwy Stg 1	-	-	-	-	5.8 -
Critical Hdwy Stg 2	-	-	-	-	5.8 -
Follow-up Hdwy	-	-	2.218	-	3.5 3.327
Pot Cap-1 Maneuver	-	-	1255	-	305 732
Stage 1	-	-	-	-	737 -
Stage 2	-	-	-	-	546 -
Platoon blocked, %	-	-	-	-	-
Mov Cap-1 Maneuver	-	-	1255	-	255 732
Mov Cap-2 Maneuver	-	-	-	-	255 -
Stage 1	-	-	-	-	737 -
Stage 2	-	-	-	-	456 -

Approach	EB	WB	NB
HCM Control Delay, s	0	5	13
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	637	-	-	1255	-
HCM Lane V/C Ratio	0.299	-	-	0.164	-
HCM Control Delay (s)	13	-	-	8.4	-
HCM Lane LOS	B	-	-	A	-
HCM 95th %tile Q(veh)	1.3	-	-	0.6	-

Intersection						
Int Delay, s/veh	3.1					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	215	6	105	334	28	91
Future Vol, veh/h	215	6	105	334	28	91
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	80	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	2	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	0	0	1	0	0
Mvmt Flow	234	7	114	363	30	99
Major/Minor	Major1	Major2	Minor1			
Conflicting Flow All	0	0	241	0	829	238
Stage 1	-	-	-	-	238	-
Stage 2	-	-	-	-	591	-
Critical Hdwy	-	-	4.1	-	6.8	6.4
Critical Hdwy Stg 1	-	-	-	-	5.8	-
Critical Hdwy Stg 2	-	-	-	-	5.8	-
Follow-up Hdwy	-	-	2.2	-	3.5	3.3
Pot Cap-1 Maneuver	-	-	1337	-	313	795
Stage 1	-	-	-	-	785	-
Stage 2	-	-	-	-	522	-
Platoon blocked, %	-	-	-	-	-	-
Mov Cap-1 Maneuver	-	-	1337	-	286	795
Mov Cap-2 Maneuver	-	-	-	-	286	-
Stage 1	-	-	-	-	785	-
Stage 2	-	-	-	-	478	-
Approach	EB	WB	NB			
HCM Control Delay, s	0	1.9	13.3			
HCM LOS			B			
Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT	
Capacity (veh/h)	560	-	-	1337	-	
HCM Lane V/C Ratio	0.231	-	-	0.085	-	
HCM Control Delay (s)	13.3	-	-	7.9	-	
HCM Lane LOS	B	-	-	A	-	
HCM 95th %tile Q(veh)	0.9	-	-	0.3	-	

**Intersection**

Int Delay, s/veh 5.1

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	259	24	183	128	13	156
Future Vol, veh/h	259	24	183	128	13	156
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	80	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	2	-
Peak Hour Factor	86	86	86	86	86	86
Heavy Vehicles, %	1	0	2	3	0	3
Mvmt Flow	301	28	213	149	15	181

Major/Minor	Major1	Major2	Minor1	Minor2	Minor3
Conflicting Flow All	0	0	329	0	890
Stage 1	-	-	-	-	315
Stage 2	-	-	-	-	575
Critical Hdwy	-	-	4.12	-	6.8
Critical Hdwy Stg 1	-	-	-	-	5.8
Critical Hdwy Stg 2	-	-	-	-	5.8
Follow-up Hdwy	-	-	2.218	-	3.5
Pot Cap-1 Maneuver	-	-	1231	-	286
Stage 1	-	-	-	-	719
Stage 2	-	-	-	-	532
Platoon blocked, %	-	-	-	-	-
Mov Cap-1 Maneuver	-	-	1231	-	237
Mov Cap-2 Maneuver	-	-	-	-	237
Stage 1	-	-	-	-	719
Stage 2	-	-	-	-	440

Approach	EB	WB	NB
HCM Control Delay, s	0	5	13.6
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	616	-	-	1231	-
HCM Lane V/C Ratio	0.319	-	-	0.173	-
HCM Control Delay (s)	13.6	-	-	8.5	-
HCM Lane LOS	B	-	-	A	-
HCM 95th %tile Q(veh)	1.4	-	-	0.6	-

Intersection						
Int Delay, s/veh	3.2					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	227	6	109	355	29	94
Future Vol, veh/h	227	6	109	355	29	94
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	80	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	2	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	0	0	1	0	0
Mvmt Flow	247	7	118	386	32	102
Major/Minor	Major1	Major2	Minor1			
Conflicting Flow All	0	0	254	0	873	251
Stage 1	-	-	-	-	251	-
Stage 2	-	-	-	-	622	-
Critical Hdwy	-	-	4.1	-	6.8	6.4
Critical Hdwy Stg 1	-	-	-	-	5.8	-
Critical Hdwy Stg 2	-	-	-	-	5.8	-
Follow-up Hdwy	-	-	2.2	-	3.5	3.3
Pot Cap-1 Maneuver	-	-	1323	-	293	782
Stage 1	-	-	-	-	774	-
Stage 2	-	-	-	-	503	-
Platoon blocked, %	-	-	-	-	-	-
Mov Cap-1 Maneuver	-	-	1323	-	267	782
Mov Cap-2 Maneuver	-	-	-	-	267	-
Stage 1	-	-	-	-	774	-
Stage 2	-	-	-	-	458	-
Approach	EB	WB	NB			
HCM Control Delay, s	0	1.9	13.9			
HCM LOS			B			
Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT	
Capacity (veh/h)	538	-	-	1323	-	
HCM Lane V/C Ratio	0.249	-	-	0.09	-	
HCM Control Delay (s)	13.9	-	-	8	-	
HCM Lane LOS	B	-	-	A	-	
HCM 95th %tile Q(veh)	1	-	-	0.3	-	

Intersection						
Int Delay, s/veh	5.1					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	268	24	185	131	13	164
Future Vol, veh/h	268	24	185	131	13	164
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	80	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	2	-
Peak Hour Factor	86	86	86	86	86	86
Heavy Vehicles, %	0	0	2	3	0	2
Mvmt Flow	312	28	215	152	15	191

Major/Minor	Major1	Major2	Minor1		
Conflicting Flow All	0	0	340	0	908 326
Stage 1	-	-	-	-	326 -
Stage 2	-	-	-	-	582 -
Critical Hdwy	-	-	4.12	-	6.8 6.42
Critical Hdwy Stg 1	-	-	-	-	5.8 -
Critical Hdwy Stg 2	-	-	-	-	5.8 -
Follow-up Hdwy	-	-	2.218	-	3.5 3.318
Pot Cap-1 Maneuver	-	-	1219	-	279 702
Stage 1	-	-	-	-	710 -
Stage 2	-	-	-	-	527 -
Platoon blocked, %	-	-	-	-	-
Mov Cap-1 Maneuver	-	-	1219	-	230 702
Mov Cap-2 Maneuver	-	-	-	-	230 -
Stage 1	-	-	-	-	710 -
Stage 2	-	-	-	-	434 -

Approach	EB	WB	NB
HCM Control Delay, s	0	5	13.9
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	610	-	-	1219	-
HCM Lane V/C Ratio	0.337	-	-	0.176	-
HCM Control Delay (s)	13.9	-	-	8.6	-
HCM Lane LOS	B	-	-	A	-
HCM 95th %tile Q(veh)	1.5	-	-	0.6	-

Intersection						
Int Delay, s/veh	3.3					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	231	6	117	363	29	97
Future Vol, veh/h	231	6	117	363	29	97
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	80	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	2	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	1	0	0	1	0	0
Mvmt Flow	251	7	127	395	32	105
Major/Minor	Major1	Major2	Minor1			
Conflicting Flow All	0	0	258	0	904	255
Stage 1	-	-	-	-	255	-
Stage 2	-	-	-	-	649	-
Critical Hdwy	-	-	4.1	-	6.8	6.4
Critical Hdwy Stg 1	-	-	-	-	5.8	-
Critical Hdwy Stg 2	-	-	-	-	5.8	-
Follow-up Hdwy	-	-	2.2	-	3.5	3.3
Pot Cap-1 Maneuver	-	-	1318	-	280	777
Stage 1	-	-	-	-	770	-
Stage 2	-	-	-	-	487	-
Platoon blocked, %	-	-	-	-	-	-
Mov Cap-1 Maneuver	-	-	1318	-	253	777
Mov Cap-2 Maneuver	-	-	-	-	253	-
Stage 1	-	-	-	-	770	-
Stage 2	-	-	-	-	440	-
Approach	EB	WB	NB			
HCM Control Delay, s	0	2	14.2			
HCM LOS						B
Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT	
Capacity (veh/h)	526	-	-	1318	-	
HCM Lane V/C Ratio	0.26	-	-	0.096	-	
HCM Control Delay (s)	14.2	-	-	8	-	
HCM Lane LOS	B	-	-	A	-	
HCM 95th %tile Q(veh)	1	-	-	0.3	-	

Intersection												
Int Delay, s/veh	1.7											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	15	375	1	16	275	9	0	4	3	32	0	23
Future Vol, veh/h	15	375	1	16	275	9	0	4	3	32	0	23
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	80	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	-2	-	-	-2	-	-	2	-
Peak Hour Factor	90	90	90	90	90	90	90	90	90	90	90	90
Heavy Vehicles, %	7	1	0	6	3	11	0	0	33	3	0	4
Mvmt Flow	17	417	1	18	306	10	0	4	3	36	0	26
Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	316	0	0	418	0	0	812	804	418	802	799	311
Stage 1	-	-	-	-	-	-	452	452	-	347	347	-
Stage 2	-	-	-	-	-	-	360	352	-	455	452	-
Critical Hdwy	4.17	-	-	4.16	-	-	6.7	6.1	6.33	7.53	6.9	6.44
Critical Hdwy Stg 1	-	-	-	-	-	-	5.7	5.1	-	6.53	5.9	-
Critical Hdwy Stg 2	-	-	-	-	-	-	5.7	5.1	-	6.53	5.9	-
Follow-up Hdwy	2.263	-	-	2.254	-	-	3.5	4	3.597	3.527	4	3.336
Pot Cap-1 Maneuver	1216	-	-	1120	-	-	328	349	587	275	294	712
Stage 1	-	-	-	-	-	-	621	603	-	642	614	-
Stage 2	-	-	-	-	-	-	689	660	-	554	546	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	1216	-	-	1120	-	-	308	337	587	264	284	712
Mov Cap-2 Maneuver	-	-	-	-	-	-	308	337	-	264	284	-
Stage 1	-	-	-	-	-	-	612	595	-	633	602	-
Stage 2	-	-	-	-	-	-	651	647	-	539	538	-
Approach	EB			WB			NB			SB		
HCM Control Delay, s	0.3			0.4			13.9			17.1		
HCM LOS							B			C		
Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1				
Capacity (veh/h)	412	1216	-	-	1120	-	-	358				
HCM Lane V/C Ratio	0.019	0.014	-	-	0.016	-	-	0.171				
HCM Control Delay (s)	13.9	8	-	-	8.3	0	-	17.1				
HCM Lane LOS	B	A	-	-	A	A	-	C				
HCM 95th %tile Q(veh)	0.1	0	-	-	0	-	-	0.6				



Intersection												
Int Delay, s/veh	1											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	13	293	0	3	430	20	0	0	19	16	0	9
Future Vol, veh/h	13	293	0	3	430	20	0	0	19	16	0	9
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	80	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	-2	-	-	-2	-	-	2	-
Peak Hour Factor	88	88	88	88	88	88	88	88	88	88	88	88
Heavy Vehicles, %	8	1	0	0	1	5	0	0	26	6	0	11
Mvmt Flow	15	333	0	3	489	23	0	0	22	18	0	10

Major/Minor	Major1		Major2		Minor1		Minor2					
Conflicting Flow All	512	0	-	333	0	0	875	881	333	881	870	501
Stage 1	-	-	-	-	-	-	363	363	-	507	507	-
Stage 2	-	-	-	-	-	-	512	518	-	374	363	-
Critical Hdwy	4.18	-	-	4.1	-	-	6.7	6.1	6.26	7.56	6.9	6.51
Critical Hdwy Stg 1	-	-	-	-	-	-	5.7	5.1	-	6.56	5.9	-
Critical Hdwy Stg 2	-	-	-	-	-	-	5.7	5.1	-	6.56	5.9	-
Follow-up Hdwy	2.272	-	-	2.2	-	-	3.5	4	3.534	3.554	4	3.399
Pot Cap-1 Maneuver	1023	-	0	1238	-	-	300	317	669	238	265	537
Stage 1	-	-	0	-	-	-	687	654	-	511	513	-
Stage 2	-	-	0	-	-	-	580	568	-	613	603	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	1023	-	-	1238	-	-	290	311	669	227	260	537
Mov Cap-2 Maneuver	-	-	-	-	-	-	290	311	-	227	260	-
Stage 1	-	-	-	-	-	-	677	644	-	503	511	-
Stage 2	-	-	-	-	-	-	567	566	-	585	594	-

Approach	EB		WB		NB		SB	
HCM Control Delay, s	0.4		0.1		10.6		18.9	
HCM LOS					B		C	

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	669	1023	-	1238	-	-	287
HCM Lane V/C Ratio	0.032	0.014	-	0.003	-	-	0.099
HCM Control Delay (s)	10.6	8.6	-	7.9	0	-	18.9
HCM Lane LOS	B	A	-	A	A	-	C
HCM 95th %tile Q(veh)	0.1	0	-	0	-	-	0.3

Intersection												
Int Delay, s/veh	1.8											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↗			↕			↕			↕	
Traffic Vol, veh/h	16	398	1	17	287	9	0	4	3	33	0	24
Future Vol, veh/h	16	398	1	17	287	9	0	4	3	33	0	24
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	80	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	-2	-	-	-2	-	-	2	-
Peak Hour Factor	90	90	90	90	90	90	90	90	90	90	90	90
Heavy Vehicles, %	7	1	0	6	3	11	0	0	33	3	0	4
Mvmt Flow	18	442	1	19	319	10	0	4	3	37	0	27

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	329	0	0	443	0	0	855	846	443	844	841	324
Stage 1	-	-	-	-	-	-	479	479	-	362	362	-
Stage 2	-	-	-	-	-	-	376	367	-	482	479	-
Critical Hdwy	4.17	-	-	4.16	-	-	6.7	6.1	6.33	7.53	6.9	6.44
Critical Hdwy Stg 1	-	-	-	-	-	-	5.7	5.1	-	6.53	5.9	-
Critical Hdwy Stg 2	-	-	-	-	-	-	5.7	5.1	-	6.53	5.9	-
Follow-up Hdwy	2.263	-	-	2.254	-	-	3.5	4	3.597	3.527	4	3.336
Pot Cap-1 Maneuver	1203	-	-	1096	-	-	308	331	568	257	276	700
Stage 1	-	-	-	-	-	-	603	589	-	629	604	-
Stage 2	-	-	-	-	-	-	677	652	-	534	529	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	1203	-	-	1096	-	-	288	319	568	246	266	700
Mov Cap-2 Maneuver	-	-	-	-	-	-	288	319	-	246	266	-
Stage 1	-	-	-	-	-	-	594	580	-	620	591	-
Stage 2	-	-	-	-	-	-	638	638	-	519	521	-

Approach	EB			WB			NB			SB		
HCM Control Delay, s	0.3			0.5			14.3			18.1		
HCM LOS							B			C		

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	393	1203	-	-	1096	-	-	338
HCM Lane V/C Ratio	0.02	0.015	-	-	0.017	-	-	0.187
HCM Control Delay (s)	14.3	8	-	-	8.3	0	-	18.1
HCM Lane LOS	B	A	-	-	A	A	-	C
HCM 95th %tile Q(veh)	0.1	0	-	-	0.1	-	-	0.7

Intersection												
Int Delay, s/veh	1											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↑			↕			↕			↕	
Traffic Vol, veh/h	13	308	0	3	455	21	0	0	20	17	0	9
Future Vol, veh/h	13	308	0	3	455	21	0	0	20	17	0	9
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	80	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	-2	-	-	-2	-	-	2	-
Peak Hour Factor	88	88	88	88	88	88	88	88	88	88	88	88
Heavy Vehicles, %	8	1	0	0	1	5	0	0	26	6	0	11
Mvmt Flow	15	350	0	3	517	24	0	0	23	19	0	10

Major/Minor	Major1		Major2		Minor1		Minor2					
Conflicting Flow All	541	0	-	350	0	0	920	927	350	927	915	529
Stage 1	-	-	-	-	-	-	380	380	-	535	535	-
Stage 2	-	-	-	-	-	-	540	547	-	392	380	-
Critical Hdwy	4.18	-	-	4.1	-	-	6.7	6.1	6.26	7.56	6.9	6.51
Critical Hdwy Stg 1	-	-	-	-	-	-	5.7	5.1	-	6.56	5.9	-
Critical Hdwy Stg 2	-	-	-	-	-	-	5.7	5.1	-	6.56	5.9	-
Follow-up Hdwy	2.272	-	-	2.2	-	-	3.5	4	3.534	3.554	4	3.399
Pot Cap-1 Maneuver	998	-	0	1220	-	-	281	300	655	221	248	517
Stage 1	-	-	0	-	-	-	674	644	-	492	497	-
Stage 2	-	-	0	-	-	-	562	553	-	598	592	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	998	-	-	1220	-	-	271	294	655	210	243	517
Mov Cap-2 Maneuver	-	-	-	-	-	-	271	294	-	210	243	-
Stage 1	-	-	-	-	-	-	664	634	-	485	495	-
Stage 2	-	-	-	-	-	-	549	551	-	569	583	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.4	0	10.7	20.3
HCM LOS			B	C

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	655	998	-	1220	-	-	264
HCM Lane V/C Ratio	0.035	0.015	-	0.003	-	-	0.112
HCM Control Delay (s)	10.7	8.7	-	8	0	-	20.3
HCM Lane LOS	B	A	-	A	A	-	C
HCM 95th %tile Q(veh)	0.1	0	-	0	-	-	0.4

Intersection												
Int Delay, s/veh	1.8											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↗			↕			↕			↕	
Traffic Vol, veh/h	17	403	1	17	305	9	0	4	3	33	0	27
Future Vol, veh/h	17	403	1	17	305	9	0	4	3	33	0	27
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	80	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	-2	-	-	-2	-	-	2	-
Peak Hour Factor	90	90	90	90	90	90	90	90	90	90	90	90
Heavy Vehicles, %	6	1	0	6	6	11	0	0	33	3	0	4
Mvmt Flow	19	448	1	19	339	10	0	4	3	37	0	30

Major/Minor	Major1		Major2		Minor1		Minor2					
Conflicting Flow All	349	0	0	449	0	0	884	874	449	872	869	344
Stage 1	-	-	-	-	-	-	487	487	-	382	382	-
Stage 2	-	-	-	-	-	-	397	387	-	490	487	-
Critical Hdwy	4.16	-	-	4.16	-	-	6.7	6.1	6.33	7.53	6.9	6.44
Critical Hdwy Stg 1	-	-	-	-	-	-	5.7	5.1	-	6.53	5.9	-
Critical Hdwy Stg 2	-	-	-	-	-	-	5.7	5.1	-	6.53	5.9	-
Follow-up Hdwy	2.254	-	-	2.254	-	-	3.5	4	3.597	3.527	4	3.336
Pot Cap-1 Maneuver	1188	-	-	1091	-	-	296	320	564	245	265	681
Stage 1	-	-	-	-	-	-	597	585	-	612	591	-
Stage 2	-	-	-	-	-	-	661	640	-	528	525	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	1188	-	-	1091	-	-	275	308	564	234	255	681
Mov Cap-2 Maneuver	-	-	-	-	-	-	275	308	-	234	255	-
Stage 1	-	-	-	-	-	-	587	576	-	602	578	-
Stage 2	-	-	-	-	-	-	618	626	-	512	517	-

Approach	EB		WB		NB		SB	
HCM Control Delay, s	0.3		0.4		14.6		18.5	
HCM LOS					B		C	

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	382	1188	-	-	1091	-	-	332
HCM Lane V/C Ratio	0.02	0.016	-	-	0.017	-	-	0.201
HCM Control Delay (s)	14.6	8.1	-	-	8.4	0	-	18.5
HCM Lane LOS	B	A	-	-	A	A	-	C
HCM 95th %tile Q(veh)	0.1	0	-	-	0.1	-	-	0.7

Intersection												
Int Delay, s/veh	1.1											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↗			↕			↕			↕	
Traffic Vol, veh/h	16	326	0	3	462	21	0	0	20	17	0	10
Future Vol, veh/h	16	326	0	3	462	21	0	0	20	17	0	10
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	80	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	-2	-	-	-2	-	-	2	-
Peak Hour Factor	88	88	88	88	88	88	88	88	88	88	88	88
Heavy Vehicles, %	6	5	0	100	2	5	0	0	25	6	0	10
Mvmt Flow	18	370	0	3	525	24	0	0	23	19	0	11

Major/Minor	Major1		Major2		Minor1		Minor2					
Conflicting Flow All	549	0	-	370	0	0	955	961	370	961	949	537
Stage 1	-	-	-	-	-	-	406	406	-	543	543	-
Stage 2	-	-	-	-	-	-	549	555	-	418	406	-
Critical Hdwy	4.16	-	-	5.1	-	-	6.7	6.1	6.25	7.56	6.9	6.5
Critical Hdwy Stg 1	-	-	-	-	-	-	5.7	5.1	-	6.56	5.9	-
Critical Hdwy Stg 2	-	-	-	-	-	-	5.7	5.1	-	6.56	5.9	-
Follow-up Hdwy	2.254	-	-	3.1	-	-	3.5	4	3.525	3.554	4	3.39
Pot Cap-1 Maneuver	1001	-	0	803	-	-	267	287	640	208	236	513
Stage 1	-	-	0	-	-	-	655	629	-	486	492	-
Stage 2	-	-	0	-	-	-	557	549	-	577	575	-
Platoon blocked, %		-			-	-						
Mov Cap-1 Maneuver	1001	-	-	803	-	-	257	280	640	197	231	513
Mov Cap-2 Maneuver	-	-	-	-	-	-	257	280	-	197	231	-
Stage 1	-	-	-	-	-	-	643	618	-	477	490	-
Stage 2	-	-	-	-	-	-	542	546	-	547	565	-

Approach	EB		WB		NB		SB	
HCM Control Delay, s	0.4		0.1		10.8		21	
HCM LOS					B		C	

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	640	1001	-	803	-	-	255
HCM Lane V/C Ratio	0.036	0.018	-	0.004	-	-	0.12
HCM Control Delay (s)	10.8	8.7	-	9.5	0	-	21
HCM Lane LOS	B	A	-	A	A	-	C
HCM 95th %tile Q(veh)	0.1	0.1	-	0	-	-	0.4

Intersection						
Int Delay, s/veh	0.3					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	420	12	11	312	4	4
Future Vol, veh/h	420	12	11	312	4	4
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	89	89	89	89	89	89
Heavy Vehicles, %	1	0	0	3	0	0
Mvmt Flow	472	13	12	351	4	4
Major/Minor	Major1	Major2	Minor1			
Conflicting Flow All	0	0	485	0	854	479
Stage 1	-	-	-	-	479	-
Stage 2	-	-	-	-	375	-
Critical Hdwy	-	-	4.1	-	6.4	6.2
Critical Hdwy Stg 1	-	-	-	-	5.4	-
Critical Hdwy Stg 2	-	-	-	-	5.4	-
Follow-up Hdwy	-	-	2.2	-	3.5	3.3
Pot Cap-1 Maneuver	-	-	1088	-	332	591
Stage 1	-	-	-	-	627	-
Stage 2	-	-	-	-	699	-
Platoon blocked, %	-	-	-	-	-	-
Mov Cap-1 Maneuver	-	-	1088	-	327	591
Mov Cap-2 Maneuver	-	-	-	-	327	-
Stage 1	-	-	-	-	627	-
Stage 2	-	-	-	-	689	-
Approach	EB	WB	NB			
HCM Control Delay, s	0	0.3	13.7			
HCM LOS				B		
Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT	
Capacity (veh/h)	421	-	-	1088	-	
HCM Lane V/C Ratio	0.021	-	-	0.011	-	
HCM Control Delay (s)	13.7	-	-	8.3	0	
HCM Lane LOS	B	-	-	A	A	
HCM 95th %tile Q(veh)	0.1	-	-	0	-	

Intersection						
Int Delay, s/veh	0.4					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	323	5	5	469	11	11
Future Vol, veh/h	323	5	5	469	11	11
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	1	0	0	1	0	0
Mvmt Flow	351	5	5	510	12	12
Major/Minor	Major1	Major2	Minor1			
Conflicting Flow All	0	0	356	0	874	354
Stage 1	-	-	-	-	354	-
Stage 2	-	-	-	-	520	-
Critical Hdwy	-	-	4.1	-	6.4	6.2
Critical Hdwy Stg 1	-	-	-	-	5.4	-
Critical Hdwy Stg 2	-	-	-	-	5.4	-
Follow-up Hdwy	-	-	2.2	-	3.5	3.3
Pot Cap-1 Maneuver	-	-	1214	-	323	694
Stage 1	-	-	-	-	715	-
Stage 2	-	-	-	-	601	-
Platoon blocked, %	-	-	-	-	-	-
Mov Cap-1 Maneuver	-	-	1214	-	321	694
Mov Cap-2 Maneuver	-	-	-	-	321	-
Stage 1	-	-	-	-	715	-
Stage 2	-	-	-	-	597	-
Approach	EB	WB	NB			
HCM Control Delay, s	0	0.1	13.7			
HCM LOS						B
Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT	
Capacity (veh/h)	439	-	-	1214	-	
HCM Lane V/C Ratio	0.054	-	-	0.004	-	
HCM Control Delay (s)	13.7	-	-	8	0	
HCM Lane LOS	B	-	-	A	A	
HCM 95th %tile Q(veh)	0.2	-	-	0	-	

Intersection						
Int Delay, s/veh	0.2					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	419	5	10	322	1	2
Future Vol, veh/h	419	5	10	322	1	2
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	89	89	89	89	89	89
Heavy Vehicles, %	1	0	50	3	0	50
Mvmt Flow	471	6	11	362	1	2
Major/Minor	Major1	Major2	Minor1			
Conflicting Flow All	0	0	477	0	858	474
Stage 1	-	-	-	-	474	-
Stage 2	-	-	-	-	384	-
Critical Hdwy	-	-	4.6	-	6.4	6.7
Critical Hdwy Stg 1	-	-	-	-	5.4	-
Critical Hdwy Stg 2	-	-	-	-	5.4	-
Follow-up Hdwy	-	-	2.65	-	3.5	3.75
Pot Cap-1 Maneuver	-	-	876	-	330	503
Stage 1	-	-	-	-	630	-
Stage 2	-	-	-	-	693	-
Platoon blocked, %	-	-	-	-	-	-
Mov Cap-1 Maneuver	-	-	876	-	325	503
Mov Cap-2 Maneuver	-	-	-	-	325	-
Stage 1	-	-	-	-	630	-
Stage 2	-	-	-	-	682	-
Approach	EB	WB	NB			
HCM Control Delay, s	0	0.3	13.5			
HCM LOS			B			
Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT	
Capacity (veh/h)	425	-	-	876	-	
HCM Lane V/C Ratio	0.008	-	-	0.013	-	
HCM Control Delay (s)	13.5	-	-	9.2	0	
HCM Lane LOS	B	-	-	A	A	
HCM 95th %tile Q(veh)	0	-	-	0	-	



Intersection						
Int Delay, s/veh	0.3					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	332	2	4	468	5	10
Future Vol, veh/h	332	2	4	468	5	10
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	1	0	50	1	0	60
Mvmt Flow	361	2	4	509	5	11
Major/Minor	Major1	Major2	Minor1			
Conflicting Flow All	0	0	363	0	879	362
Stage 1	-	-	-	-	362	-
Stage 2	-	-	-	-	517	-
Critical Hdwy	-	-	4.6	-	6.4	6.8
Critical Hdwy Stg 1	-	-	-	-	5.4	-
Critical Hdwy Stg 2	-	-	-	-	5.4	-
Follow-up Hdwy	-	-	2.65	-	3.5	3.84
Pot Cap-1 Maneuver	-	-	974	-	321	570
Stage 1	-	-	-	-	709	-
Stage 2	-	-	-	-	603	-
Platoon blocked, %	-	-	-	-	-	-
Mov Cap-1 Maneuver	-	-	974	-	319	570
Mov Cap-2 Maneuver	-	-	-	-	319	-
Stage 1	-	-	-	-	709	-
Stage 2	-	-	-	-	599	-
Approach	EB	WB	NB			
HCM Control Delay, s	0	0.1	13.3			
HCM LOS			B			
Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT	
Capacity (veh/h)	452	-	-	974	-	
HCM Lane V/C Ratio	0.036	-	-	0.004	-	
HCM Control Delay (s)	13.3	-	-	8.7	0	
HCM Lane LOS	B	-	-	A	A	
HCM 95th %tile Q(veh)	0.1	-	-	0	-	