

# TRAFFIC IMPACT STUDY

*For*

## **Marlboro Community Commerce Park Proposed Self-Storage and Flex Warehouse Facilities**

*Property Located at:*

**142 Amboy Road  
Block 172 – Lot 33  
Township of Marlboro, Monmouth County, NJ**

Prepared by:



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Lake Como, NJ 07719 | Chester, NJ 07930  
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**April 30, 2021**

**3342-99-003T**

## INTRODUCTION

It is proposed to construct an industrial development on a parcel of land currently vacant, located in Marlboro Township, Monmouth County, New Jersey (see Figure 1 in Appendix A). The site is designated as Block 172 – Lot 33 on the Township of Marlboro Tax Maps. It is proposed to construct three (3) self-storage buildings totaling 143,520 SF, with Building 1 consisting of 129,720 SF, Building 1A consisting of 8,800 SF, and Building 1B consisting of 5,000 SF and three (3) flex warehouse buildings totaling 117,000 SF, with Buildings 2 and 3 each consisting of 35,100 SF and Building 4 consisting of 46,800 SF (“The Project”). The site is located within the LC – Land Conservation Zoning District. Access to the site is proposed to be provided via a full movement driveway along Mill Road. As a part of The Project, it is also proposed to formally construct Mill Road from Amboy Road to the site driveway.

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, weekday PM, and Saturday midday peak periods at the intersections of:
  - Amboy Road and Texas Road
  - Amboy Road and Tennent Road
- Automatic traffic recorder (ATR) counts were previously performed along Tennent Road just east of Amboy Road by NJDOT in June 2018. These counts were used to develop a COVID adjustment factor for the 2021 MTM counts.
- 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 point 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:

Texas Road is an Urban Minor Collector roadway under the jurisdiction of the Township of Marlboro. In the vicinity of the site the posted speed limit is 45 MPH. The roadway provides one travel lane in each direction. It should be noted that Texas Road is designated as a north/south roadway; however, it was assumed to have an east/west orientation for the purposes of this report. On-street parking is not permitted along either side of the roadway. Curb is intermittently provided along both sides of the roadway, while sidewalk is not provided along either side. Texas Road provides a straight horizontal alignment and a rolling vertical alignment. The land uses along Texas Road in the vicinity of The Project are a mix of residential and undeveloped land.

Amboy Road is a Local roadway under the jurisdiction of the Township of Marlboro. In the vicinity of the site the posted speed limit is 35 MPH. The roadway provides one travel lane in each direction and the roadway has a general north/south orientation. On-street parking is not permitted along either side of the roadway. Curb is intermittently provided along both sides of the roadway, while sidewalk is not provided along either side. Amboy Road provides a curved horizontal alignment and a rolling vertical alignment. The land uses along Amboy Road in the vicinity of The Project are a mix of commercial, residential, the cemetery and undeveloped land.

Tennent Road (CR 3) is an Urban Minor Arterial roadway under Monmouth County jurisdiction. In the vicinity of the site the posted speed limit is 40 MPH. The roadway provides two travel lanes in the northbound direction and one travel lane in the southbound direction. On-street parking is not permitted along either side of the roadway. Curb is provided along both sides of the roadway, while sidewalk is not. Tennent Road provides a straight horizontal alignment and a rolling vertical alignment. The land uses along Tennent Road in the vicinity of The Project are a mix of commercial, residential and undeveloped land.

### **Existing Traffic Volumes**

Manual turning movement (MTM) counts were conducted on Tuesday, April 20, 2021 from 7:00 to 9:00 AM and from 4:30 to 6:30 PM and on Saturday, April 24, 2021 from 11:00 AM to 2:00 PM at the following intersections:

- Amboy Road and Texas Road
- Amboy Road and Tennent Road

### COVID-19 Pandemic Traffic Count Normalization

It should be noted that traffic impacts associated with the COVID-19 pandemic were in effect as of the time of the traffic counts. As a result, current traffic volumes on the surrounding roadways are atypically low at this time and would not be representative of “existing” traffic conditions. Therefore, historical traffic volume data published by NJDOT has been reviewed and compared with current traffic conditions. NJDOT conducted 48-hour automatic traffic recorder (ATR) counts along Tennent Road just east of Amboy Road in June 2018. As such, in order to normalize the existing traffic volumes, the 2018 NJDOT traffic volumes were utilized for comparison purposes.

In order to perform an appropriate comparison, the 2018 NJDOT traffic volumes were increased to better represent existing 2021 traffic volumes by applying a growth rate of 1.0% per year obtained from the NJDOT Annual Background Growth Rate Table for a period of three (3) years. The adjusted 2018 traffic volumes were then compared to the existing 2021 traffic counts as summarized in the table below.

**Table I  
Traffic Count Comparison**

Location	Date	Peak Hour Traffic Volume				% Difference	
		As-Counted		With Background Growth <sup>[1]</sup>		AM	PM
		AM	PM	AM	PM		
Amboy Road & Tennent Road	June 2018	952	1,057	981	1,089	9%	-9%
	April 2021	897	1,196	897	1,196		

<sup>[1]</sup> June 2018 data increased by 1.00% per NJDOT Annual Background Growth Rate Table compounded annually for three years.

As seen above, the current traffic volumes were found to be lower than the historical volumes grown to the current year during the weekday morning peak hour. Therefore, an adjustment factor of 1.09 was applied to weekday morning peak hour traffic volumes utilized herein to provide a conservative analysis. The current traffic volumes were found to be higher than the historical volumes grown to the current year during the weekday evening peak hour and as such, no adjustment factor was applied. It should be noted that no weekend traffic volumes were provided by the NJDOT ATR. It was assumed that no adjustment factor was required for the Saturday peak hour, consistent with the weekday evening peak hour.

Review of the collected traffic data reveals that the weekday morning peak street hour (PSH) occurs between 8:00 - 9:00 AM, the weekday evening PSH occurs between 5:15 - 6:15 PM and the Saturday PSH occurs between 11:45 AM - 12:45 PM. Figures 2 and 3, located in Appendix A, show the existing and adjusted existing peak hour traffic volumes at the study intersections, respectively. 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 II describes the level of service ranges for unsignalized (stop controlled) intersections.

**Table II  
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 III summarizes the existing levels of service (LOS) and delays. All capacity analysis calculation worksheets are contained in Appendix C.

**Table III  
Existing Levels of Service**

Intersection	Direction/Movement		AM PSH	PM PSH	SAT PSH
	Amboy Road & Texas Road	WB	LT	a (8)	a (9)
NB		LR	c (15)	c (22)	c (18)
Amboy Road & Tennent Road	EB	LT	a (10)	a (9)	a (9)
	SB	LT	c (22)	d (30)	c (18)

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

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

**Amboy Road and Texas Road**

Amboy Road intersects Texas Road to form a three-leg intersection with the northbound approach of Amboy Road operating under stop control. The eastbound approach of Texas Road provides a shared through/right turn lane, while the westbound approach provides a shared left turn/through lane. The northbound approach of Amboy Road provides a shared left turn/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 III for the individual movement levels of service and delays.

### **Amboy Road and Tennent Road**

Amboy Road intersects Tennent Road to form a three-leg intersection with the southbound approach of Amboy Road operating under stop control. The eastbound approach of Tennent Road provides a shared left turn/through lane and a dedicated through lane, while the westbound approach provides a shared through/right turn lane. The southbound approach of Amboy Road provides a shared left turn/right turn lane.

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

## FUTURE CONDITIONS

Traffic volumes and operational analyses were developed for both the 2023 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 1.0% per year.

Through consultation with the Marlboro Township Planning Board staff, there are four developments in the vicinity of the site that are approved but not yet constructed/occupied that are identified as potential significant traffic generators, shown below. The Adjacent Development Traffic Volumes passing the site are shown on Figures 4 through 6. It was assumed that the background growth rate was adequate to account for the traffic associated with all developments not listed hereafter.

- A residential development known as Marlboro Estates, consisting of 16 single family homes and located just east of Wooleytown Road/Falson Lane, is currently under construction. Projections of the associated traffic volumes were developed using Institute of Transportation Engineers (ITE) publication *Trip Generation, 10<sup>th</sup> Edition* for Land Use Code (LUC) 210 – Single-Family Detached Housing. The Adjacent Development Traffic Volumes at the study intersection from this development are shown on Figure 4.
- A residential development known as Monarch Pointe, consisting of 18 single family homes and located along the north side of Texas Road just east of Mountain Laurel Road, is currently under construction. Projections of the associated traffic volumes were developed using LUC 210 – Single-Family Detached Housing. The Adjacent Development Traffic Volumes at the study intersection from this development are also shown on Figure 4.
- A residential development consisting of 387 dwelling units, located in the northwest corner of the intersection of Texas Road and Wooleytown Road/Falson Lane, was recently approved. Projections of the associated traffic volumes were developed using LUC 220 – Multifamily Housing (Low-Rise). The Adjacent Development Traffic Volumes at the study intersection from this development are shown on Figure 5.
- A residential development consisting of 120 dwelling units, located in the northwest corner of the intersection of Texas Road and Greenwood Road, was recently approved. Projections of the associated traffic volumes were developed using LUC 220 – Multifamily Housing (Low-Rise). The Adjacent Development Traffic Volumes at the study intersection from this development are shown on Figure 6.

Future 2023 No Build traffic volumes were developed by applying the background growth rate of 1.0% for two (2) years to the study area roadways existing traffic volumes and adding the adjacent development traffic volumes. Figure 7, in Appendix A, shows the 2023 No Build traffic volumes.



### Traffic Generation

Trip generation projections for The Project were prepared utilizing trip generation research data as published under LUC 151 – Mini-Warehouse and LUC 770 – Business Park in the ITE publication, *Trip Generation, 10<sup>th</sup> Edition*. This publication sets forth trip generation rates based on traffic counts conducted at research sites throughout the country. It should be noted that since no trip generation projections were provided for the Saturday midday peak hour for LUC 770, it was assumed that the midday peak hour would consist of 10% of the total Saturday volume. Table IV below details the trip generation for The Project.

**Table IV  
Trip Generation**

Land Use	AM PSH			PM PSH			SAT PSH		
	In	Out	Total	In	Out	Total	In	Out	Total
143,520 SF Self-Storage	8	6	14	11	13	24	26	18	44
117,000 SF Flex Warehouse	29	18	47	23	26	49	18	18	36
<b>Total</b>	<b>37</b>	<b>24</b>	<b>61</b>	<b>34</b>	<b>39</b>	<b>73</b>	<b>44</b>	<b>36</b>	<b>80</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 8 and 9 illustrate the Site Traffic Trip Distribution and Site Generated Volumes, respectively. The 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 V below.

**Table V  
Future Levels of Service**

Intersection	Direction/ Movement		AM PSH		PM PSH		SAT PSH	
			No Build	Build	No Build	Build	No Build	Build
Amboy Road & Texas Road	WB	LT	a (9)	a (9)	a (9)	a (9)	a (9)	a (9)
	NB	LR	c (18)	c (19)	d (32)	e (37)	d (29)	d (34)
Amboy Road & Tennent Road	EB	LT	a (10)	a (10)	a (10)	a (10)	a (9)	a (9)
	SB	LT	c (23)	d (25)	d (33)	e (42)	c (19)	c (21)
Amboy Road & Mill Road	WB	LR	-	b (11)	-	b (12)	-	b (11)
	SB	LT	-	a (8)	-	a (8)	-	a (8)

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



### **Amboy Road and Texas Road**

With the addition of site generated traffic, all movements are anticipated to operate at levels of service “E” or better during the analyzed peak hours. See Table V for the individual movement levels of service and delays.

### **Amboy Road and Tennent Road**

With the addition of site generated traffic, all movements are anticipated to operate at levels of service “E” or better during the analyzed peak hours. See Table V for the individual movement levels of service and delays.

### **Amboy Road and Mill Road**

Mill Road is proposed to intersect the northbound side of Amboy Road just south of the First Student Driveway to form a three-leg intersection with the westbound approach of Mill Road operating under stop control. The westbound approach of Mill Road is proposed to provide a shared left turn/right turn lane. The northbound approach of Amboy Road provides a shared through/right turn lane, while the southbound approach provides a shared left turn/through lane. The proposed full movement driveway will be located along Mill Road to provide access to the site.

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

## SITE PLAN

### **Site Access and Circulation**

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 a new full movement driveway along Mill Road.

The parking lot will be serviced by parking aisles with widths between 26' and 50', which meet the Ordinance's minimum requirement of 25'. 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 a single unit truck (SU), along with the automobile traffic anticipated.

### **Parking**

The Marlboro Township Ordinance sets forth a parking requirement of 1 parking space per 5,000 square feet for warehouse, storage, distribution, shipping and receiving uses. This equates to a parking requirement of 28.7 spaces for proposed 143,520 SF total self-storage buildings and 23.4 spaces for the proposed 117,000 SF total flex warehouse buildings, or a total of 53 (52.1) spaces. The site as proposed provides 154 parking spaces and the ordinance requirement is satisfied. It is proposed to provide parking stalls with dimensions of 10'x20', which satisfy the Ordinance minimum requirement of 10'x20'.

## FINDINGS & CONCLUSIONS

### Findings

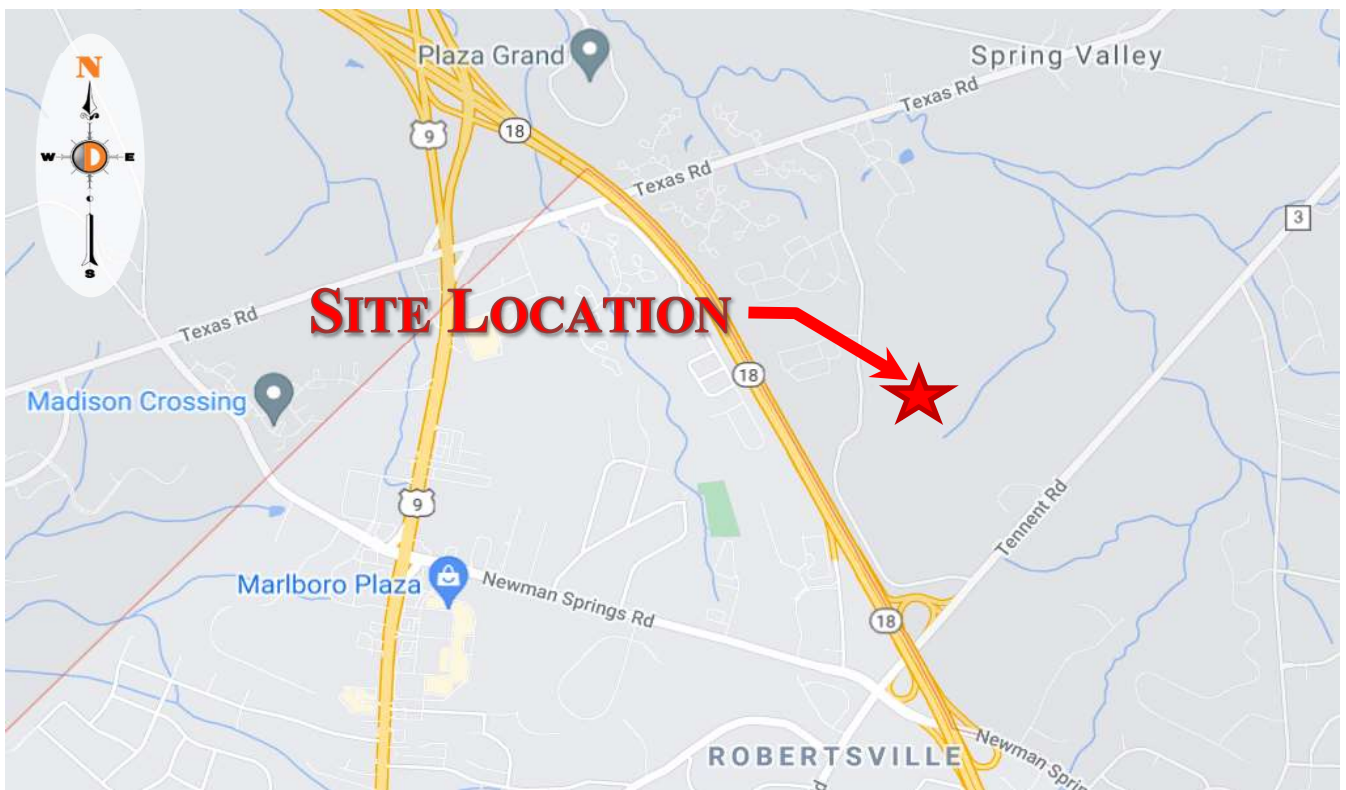
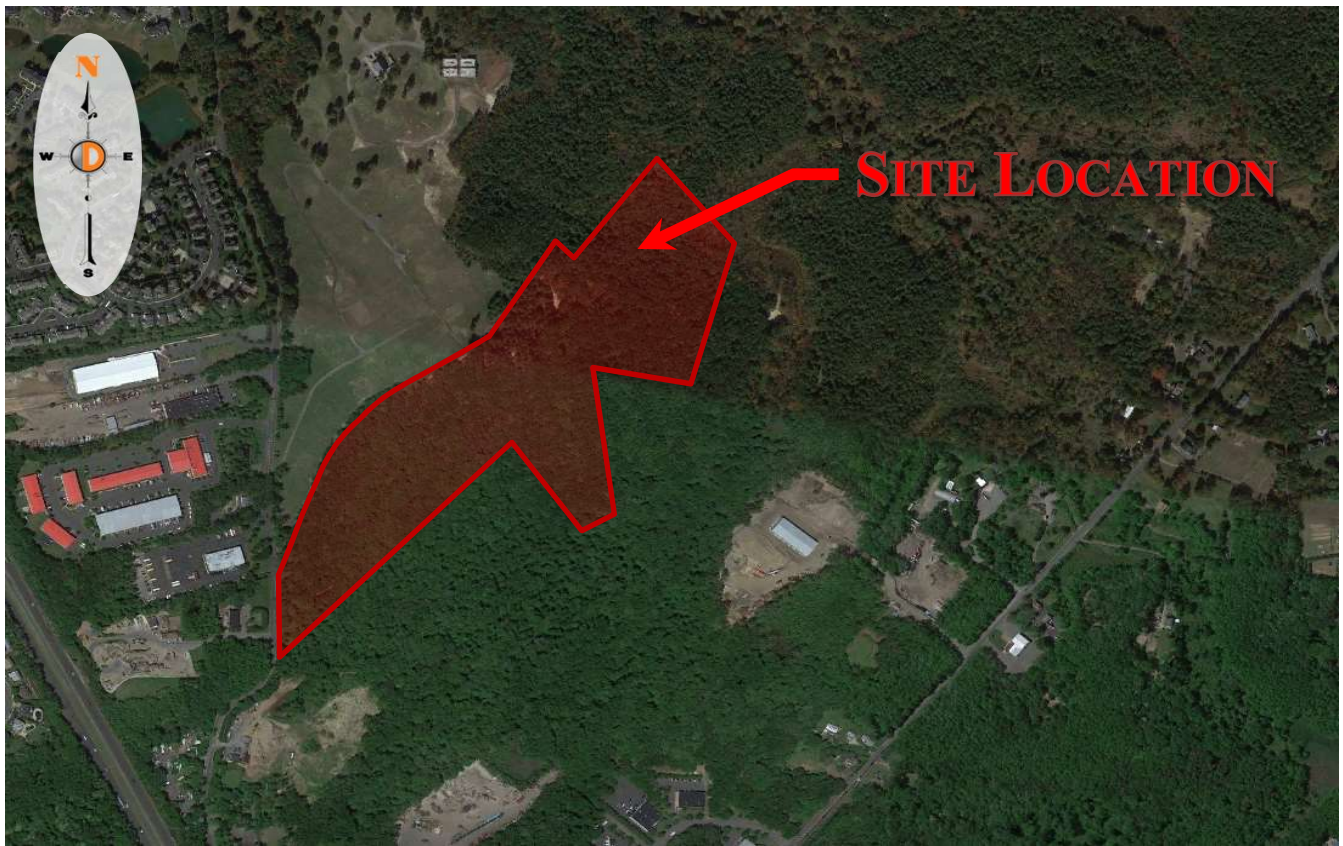
Based upon the detailed analyses as documented herein, the following findings are noted:

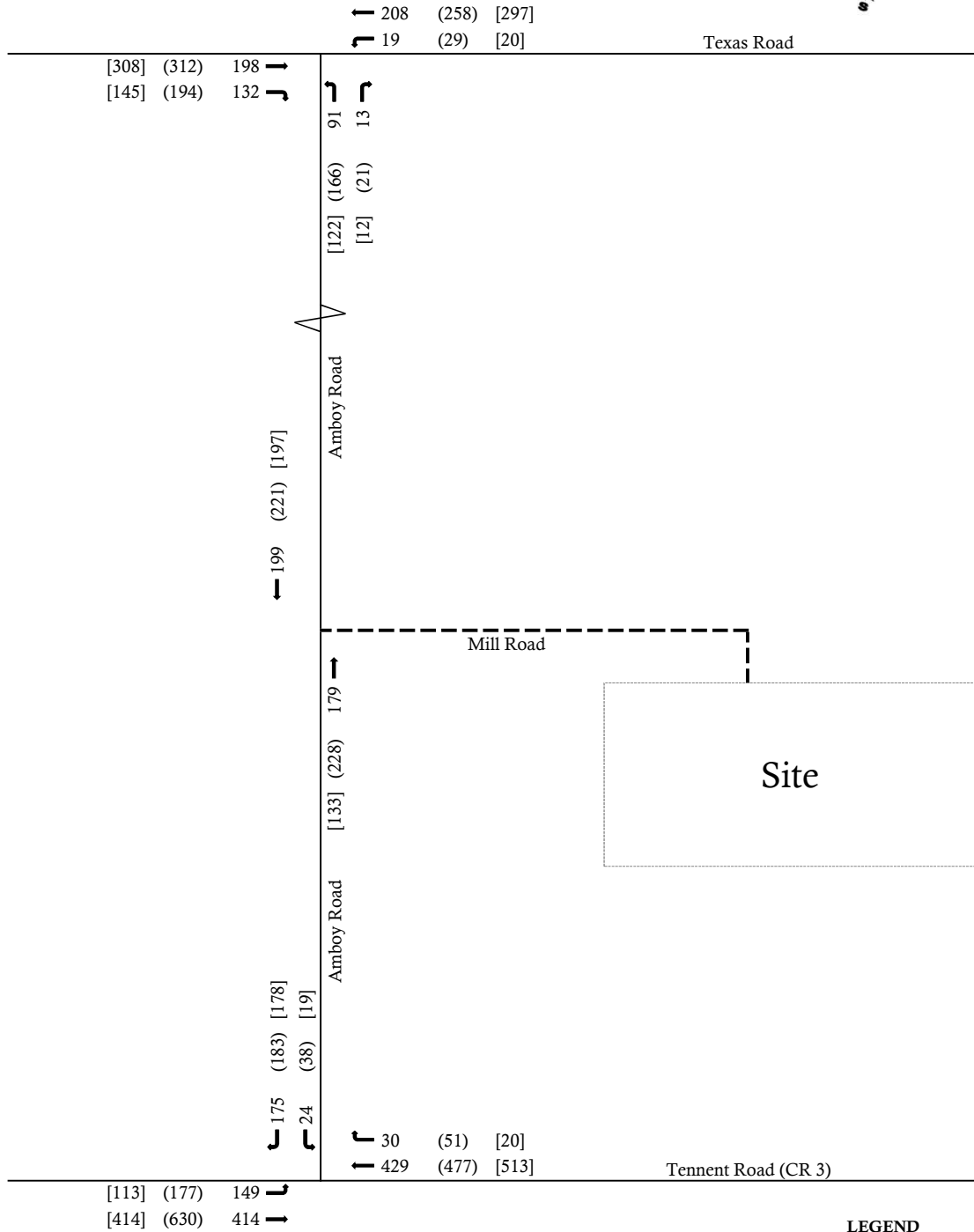
- The proposed 143,520 SF total self-storage and 117,000 SF total flex warehouse buildings, are projected to generate 37 entering trips and 24 exiting trips during the weekday morning peak hour, 34 entering trips and 39 exiting trips during the evening peak hour, and 44 entering trips and 36 exiting trips during the Saturday peak hour that are “new” to the adjacent roadway network.
- Access to the site is proposed to be provided via a new full movement driveway along Mill Road. As a part of The Project, it is also proposed to formally construct Mill Road from Amboy Road to the site driveway.
- With the addition of site generated traffic, the intersection of Amboy Road and Texas Road is anticipated to operate at acceptable levels of service “E” or better during the peak hours studied.
- With the addition of site generated traffic, the intersection of Amboy Road and Tennent Road is anticipated to operate at acceptable levels of service “E” or better during the peak hours studied.
- As designed, the intersection of Amboy Road and Mill Road 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 Marlboro and Monmouth County 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.

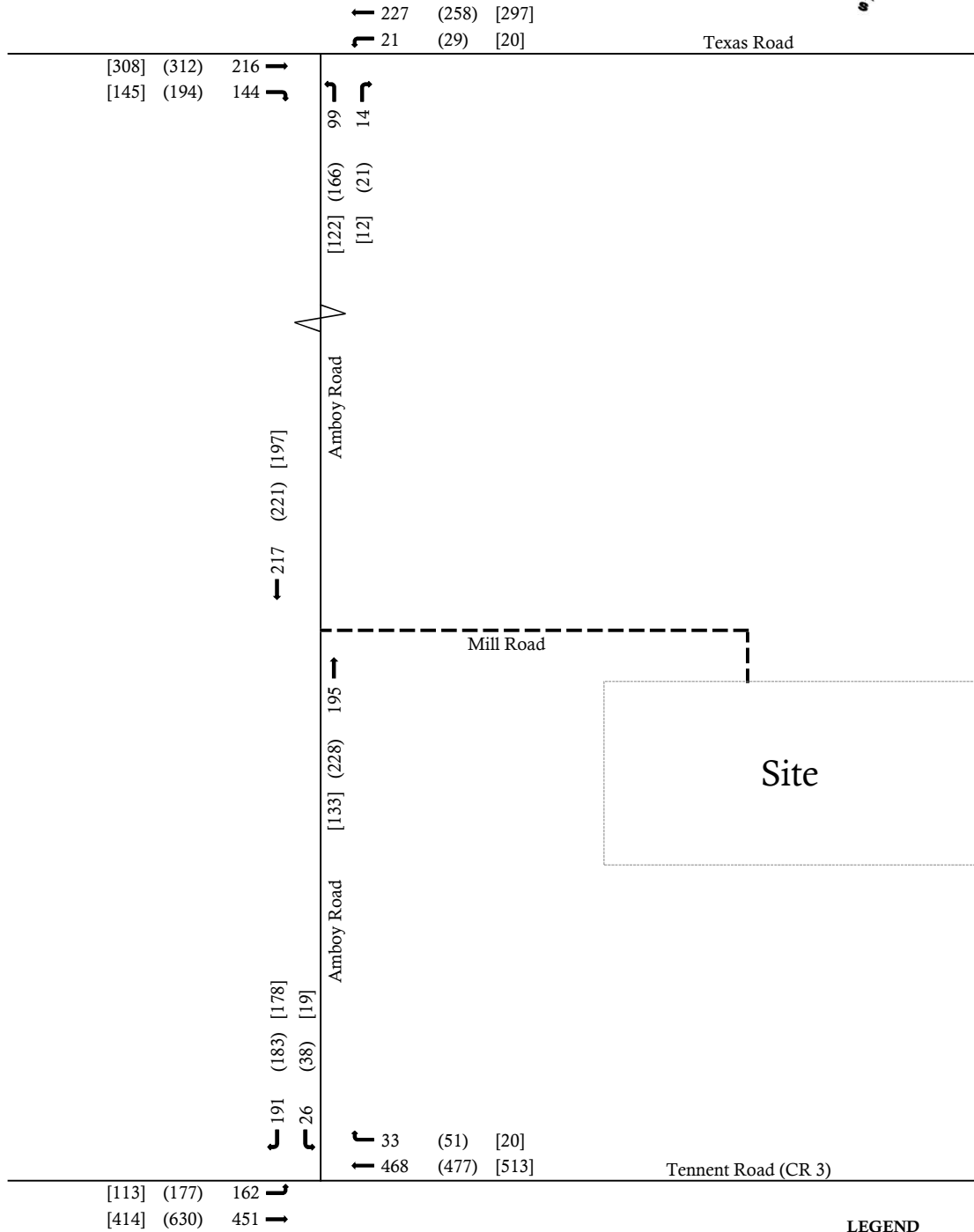
**Appendix A**  
**Traffic Volume Figures**





**LEGEND**  
 — Existing Roadway  
 - - - Proposed Roadway  
 ← AM (PM) [SAT]





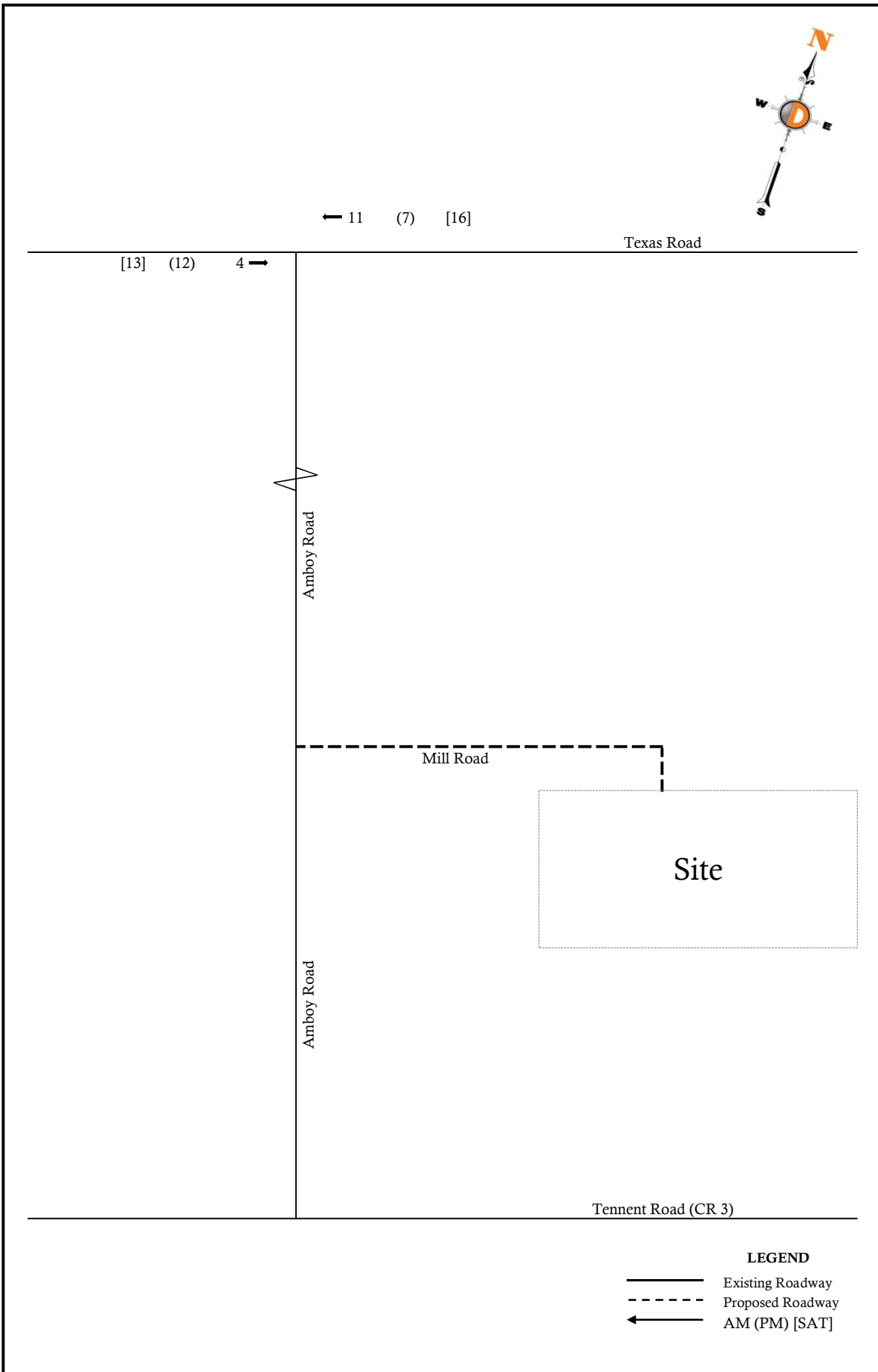
**LEGEND**  
 — Existing Roadway  
 - - - Proposed Roadway  
 ← AM (PM) [SAT]



**Figure 3**

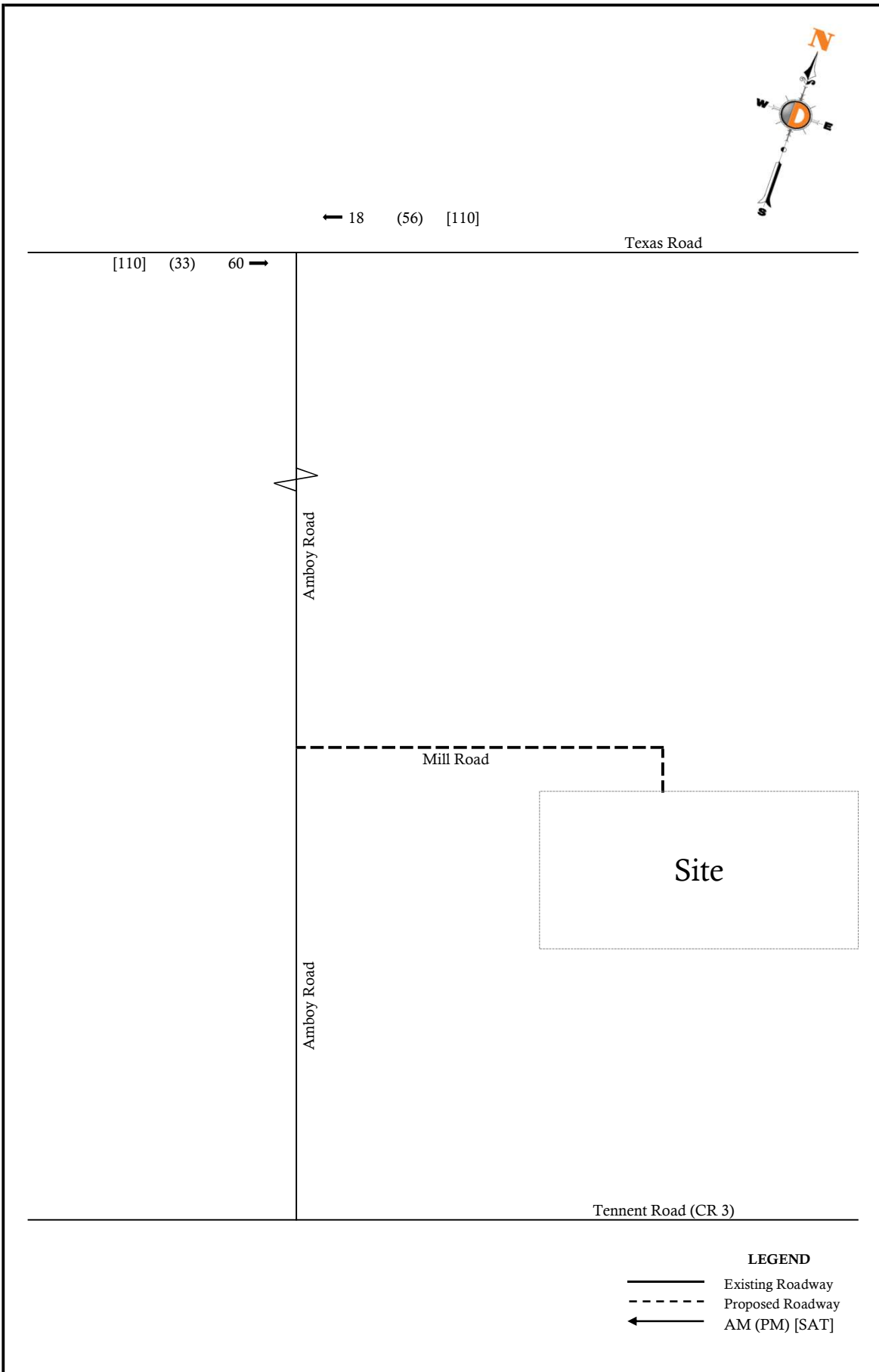
**Adjusted Existing Traffic Volumes**

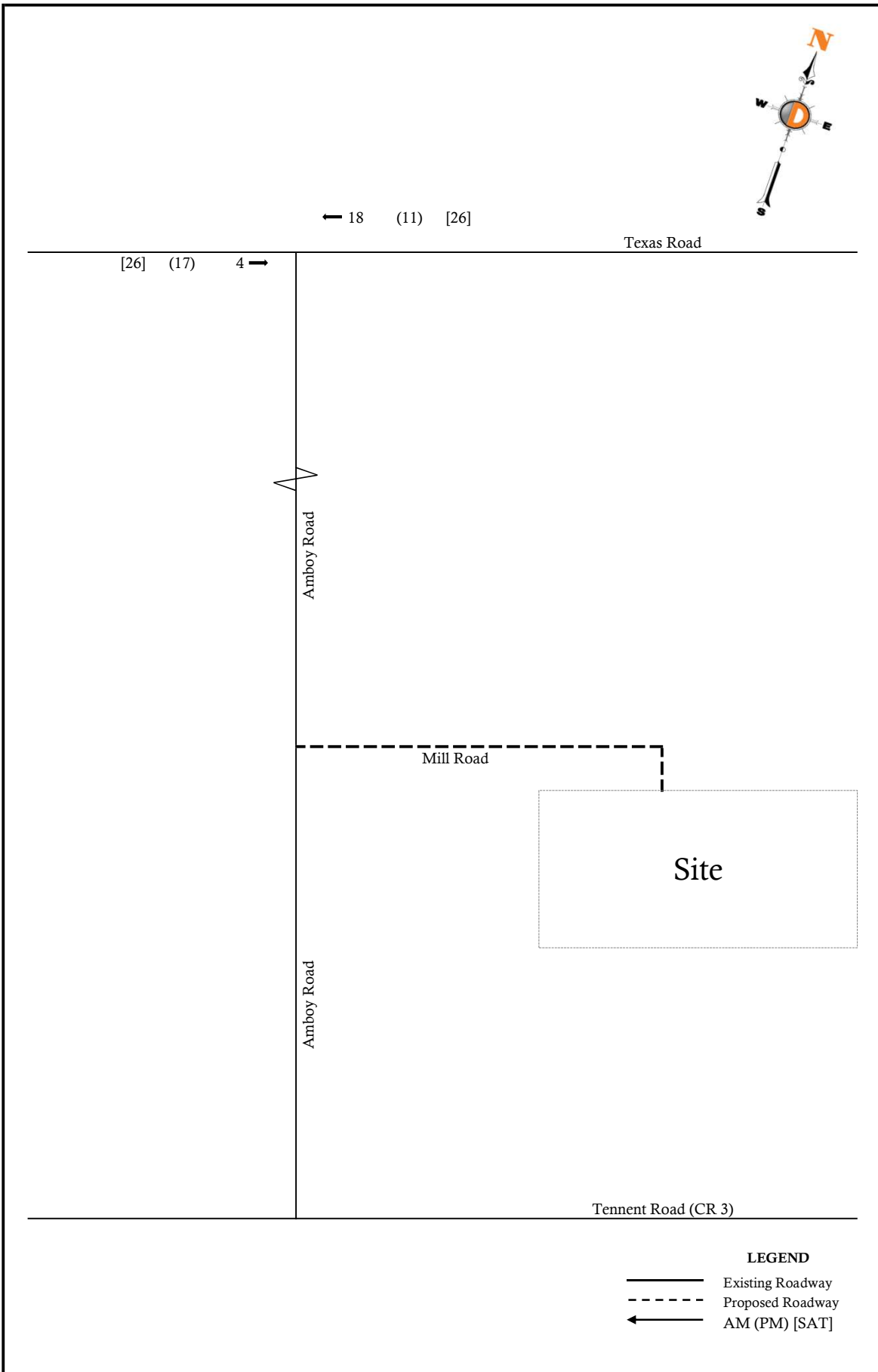


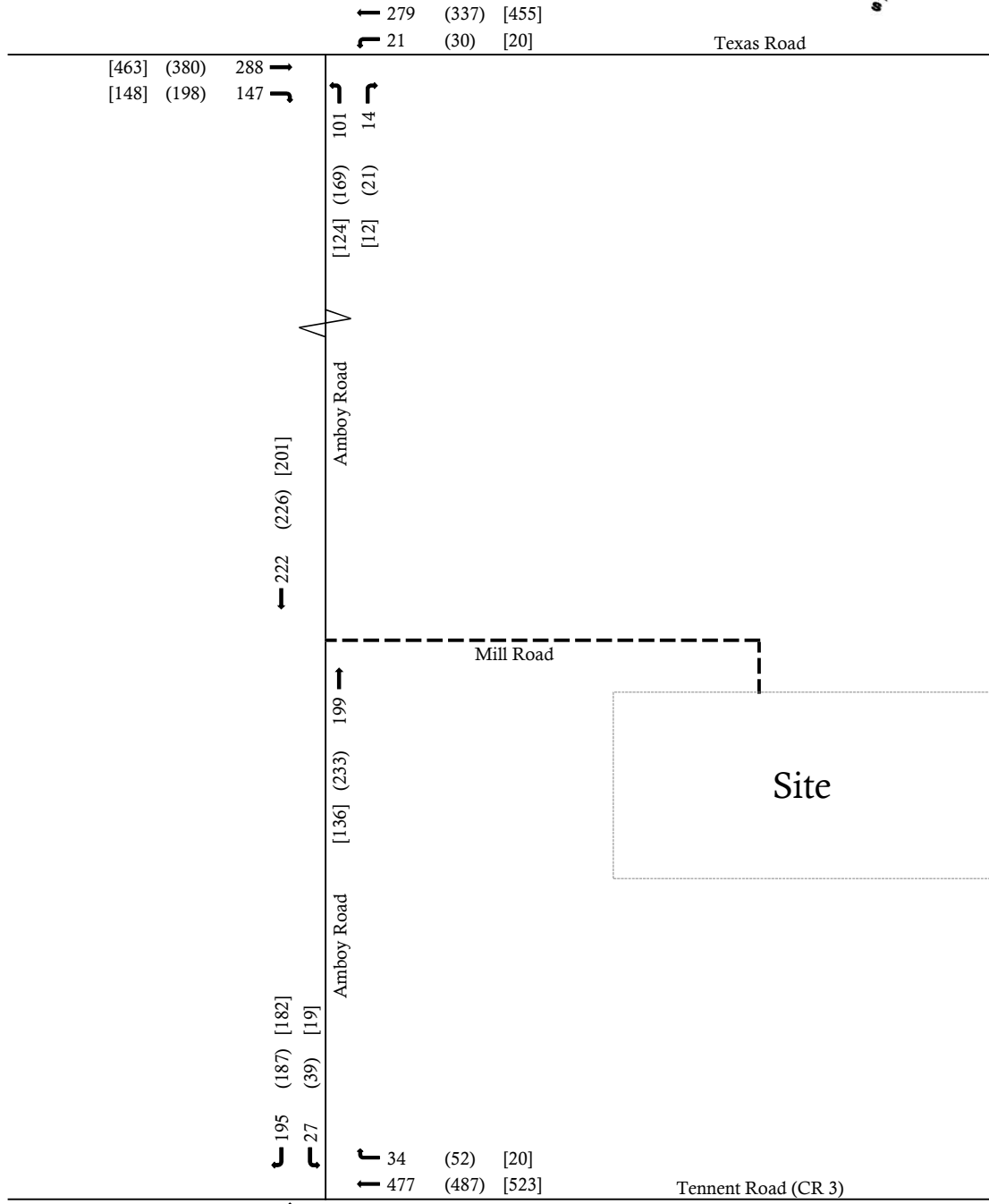


**Figure 4**

**Adjacent Development Traffic Volumes  
[Marlboro Estates & Monarch Pointe]**





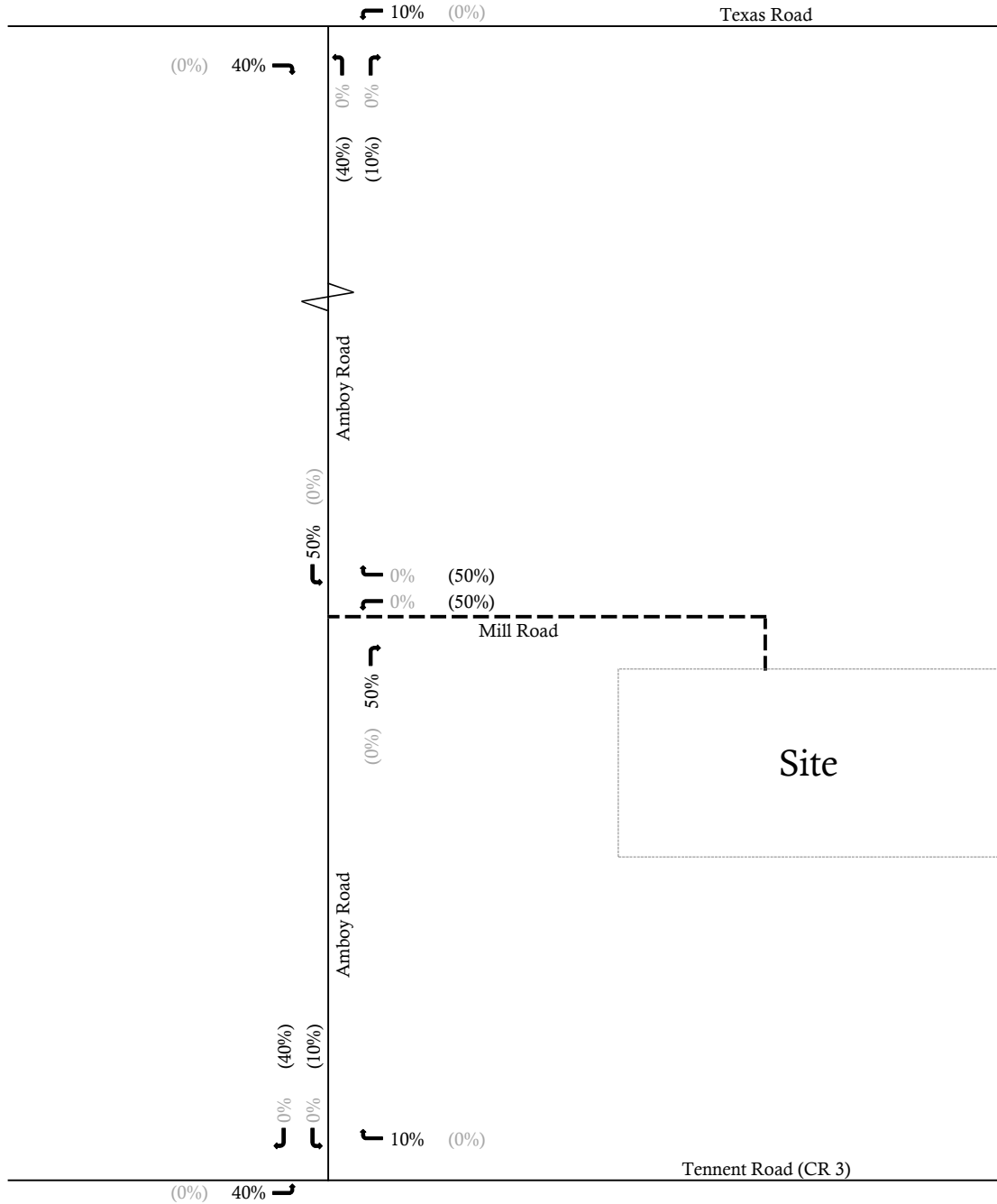


**LEGEND**  
 — Existing Roadway  
 - - - Proposed Roadway  
 ← AM (PM) [SAT]



**Figure 7**

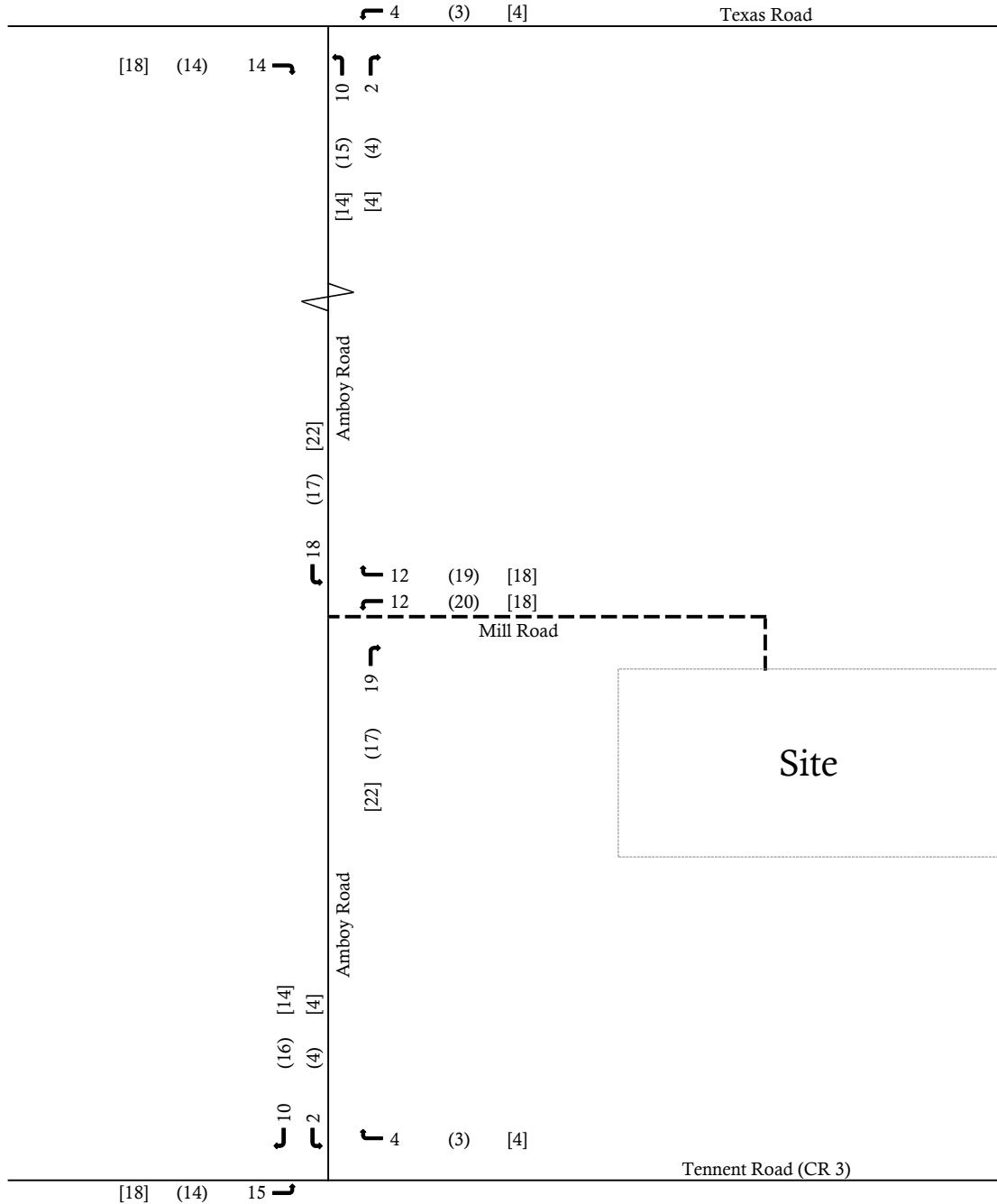
**No Build Traffic Volumes**



**LEGEND**  
 — Existing Roadway  
 - - - Proposed Roadway  
 ← IN (OUT)



**Figure 8**  
**Percent Distribution**  
**(Site Generated Trips)**



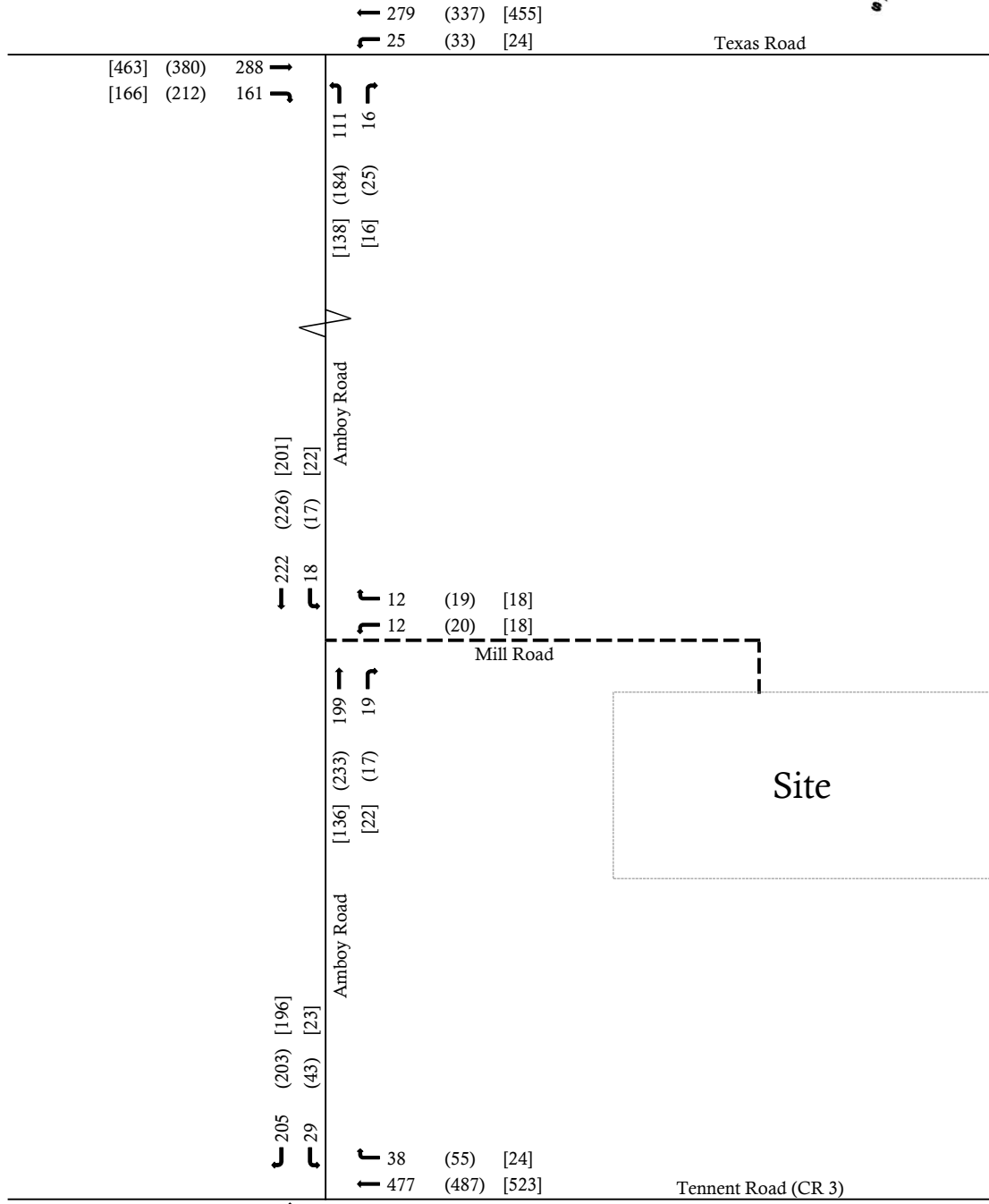
**LEGEND**

- Existing Roadway
- - - Proposed Roadway
- ← AM (PM) [SAT]



**Figure 9**

**Site Generated Trips**



**LEGEND**

— Existing Roadway  
 - - - Proposed Roadway  
 ← AM (PM) [SAT]





**Appendix B**  
**Project Information**

# Dynamic Traffic, LLC

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

E/W: Texas Rd  
 N/S: Amboy Rd  
 Town/County: Marlboro/Monmouth  
 Job #: 3342-99-003T

File Name : Texas Rd & Amboy Rd - AMPM  
 Site Code : 00000000  
 Start Date : 4/20/2021  
 Page No : 1

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

Start Time	Texas Road Eastbound					Texas Road Westbound					Amboy 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	34	9	0	43	0	53	0	0	53	7	0	1	0	8	104
07:15 AM	0	43	8	0	51	1	45	0	0	46	8	0	3	0	11	108
07:30 AM	0	44	15	0	59	2	52	0	0	54	17	0	2	1	20	133
07:45 AM	0	54	21	0	75	3	60	0	0	63	22	0	0	0	22	160
Total	0	175	53	0	228	6	210	0	0	216	54	0	6	1	61	505
08:00 AM	0	49	30	0	79	2	57	0	0	59	12	0	3	0	15	153
08:15 AM	0	50	38	0	88	5	44	0	0	49	17	0	2	0	19	156
08:30 AM	0	49	29	0	78	8	44	0	0	52	34	0	4	0	38	168
08:45 AM	0	50	35	0	85	4	63	0	0	67	28	0	4	0	32	184
Total	0	198	132	0	330	19	208	0	0	227	91	0	13	0	104	661
*** BREAK ***																
04:30 PM	0	49	28	0	77	5	40	0	0	45	19	0	3	0	22	144
04:45 PM	0	69	62	0	131	13	88	0	0	101	33	0	8	0	41	273
Total	0	118	90	0	208	18	128	0	0	146	52	0	11	0	63	417
05:00 PM	0	66	35	0	101	11	74	0	0	85	32	0	10	0	42	228
05:15 PM	0	72	49	0	121	8	63	0	0	71	31	0	5	0	36	228
05:30 PM	0	74	48	0	122	3	75	0	0	78	51	0	8	2	61	261
05:45 PM	0	85	46	0	131	10	65	0	0	75	41	0	3	0	44	250
Total	0	297	178	0	475	32	277	0	0	309	155	0	26	2	183	967
06:00 PM	0	81	51	0	132	8	55	0	0	63	43	0	5	0	48	243
06:15 PM	0	40	26	0	66	5	40	0	0	45	36	0	7	0	43	154
Grand Total	0	909	530	0	1439	88	918	0	0	1006	431	0	68	3	502	2947
Apprch %	0	63.2	36.8	0		8.7	91.3	0	0		85.9	0	13.5	0.6		
Total %	0	30.8	18	0	48.8	3	31.2	0	0	34.1	14.6	0	2.3	0.1	17	
Cars	0	875	506	0	1381	87	889	0	0	976	410	0	66	3	479	2836
% Cars	0	96.3	95.5	0	96	98.9	96.8	0	0	97	95.1	0	97.1	100	95.4	96.2
Trucks (SU)	0	33	24	0	57	1	29	0	0	30	20	0	2	0	22	109
% Trucks (SU)	0	3.6	4.5	0	4	1.1	3.2	0	0	3	4.6	0	2.9	0	4.4	3.7
Trucks (TT)	0	1	0	0	1	0	0	0	0	0	1	0	0	0	1	2
% Trucks (TT)	0	0.1	0	0	0.1	0	0	0	0	0	0.2	0	0	0	0.2	0.1

# Dynamic Traffic, LLC

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

E/W: Texas Rd  
 N/S: Amboy Rd  
 Town/County: Marlboro/Monmouth  
 Job #: 3342-99-003T

File Name : Texas Rd & Amboy Rd - AMPM  
 Site Code : 00000000  
 Start Date : 4/20/2021  
 Page No : 2

Start Time	Texas Road Eastbound					Texas Road Westbound					Amboy Road Northbound					Int. Total
	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	
Peak Hour Analysis From 07:00 AM to 11:45 AM - Peak 1 of 1																
Peak Hour for Entire Intersection Begins at 08:00 AM																
08:00 AM	0	49	30	0	79	2	57	0	0	59	12	0	3	0	15	153
08:15 AM	0	50	38	0	88	5	44	0	0	49	17	0	2	0	19	156
08:30 AM	0	49	29	0	78	8	44	0	0	52	34	0	4	0	38	168
08:45 AM	0	50	35	0	85	4	63	0	0	67	28	0	4	0	32	184
Total Volume	0	198	132	0	330	19	208	0	0	227	91	0	13	0	104	661
% App. Total	0	60	40	0		8.4	91.6	0	0		87.5	0	12.5	0		
PHF	.000	.990	.868	.000	.938	.594	.825	.000	.000	.847	.669	.000	.813	.000	.684	.898
Cars	0	183	119	0	302	18	197	0	0	215	82	0	12	0	94	611
% Cars	0	92.4	90.2	0	91.5	94.7	94.7	0	0	94.7	90.1	0	92.3	0	90.4	92.4
Trucks (SU)	0	15	13	0	28	1	11	0	0	12	9	0	1	0	10	50
% Trucks (SU)	0	7.6	9.8	0	8.5	5.3	5.3	0	0	5.3	9.9	0	7.7	0	9.6	7.6
Trucks (TT)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% Trucks (TT)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Peak Hour Analysis From 05:15 PM to 06:00 PM - Peak 1 of 1																
Peak Hour for Entire Intersection Begins at 05:15 PM																
05:15 PM	0	72	49	0	121	8	63	0	0	71	31	0	5	0	36	228
05:30 PM	0	74	48	0	122	3	75	0	0	78	51	0	8	2	61	261
05:45 PM	0	85	46	0	131	10	65	0	0	75	41	0	3	0	44	250
06:00 PM	0	81	51	0	132	8	55	0	0	63	43	0	5	0	48	243
Total Volume	0	312	194	0	506	29	258	0	0	287	166	0	21	2	189	982
% App. Total	0	61.7	38.3	0		10.1	89.9	0	0		87.8	0	11.1	1.1		
PHF	.000	.918	.951	.000	.958	.725	.860	.000	.000	.920	.814	.000	.656	.250	.775	.941
Cars	0	310	192	0	502	29	251	0	0	280	163	0	20	2	185	967
% Cars	0	99.4	99.0	0	99.2	100	97.3	0	0	97.6	98.2	0	95.2	100	97.9	98.5
Trucks (SU)	0	2	2	0	4	0	7	0	0	7	2	0	1	0	3	14
% Trucks (SU)	0	0.6	1.0	0	0.8	0	2.7	0	0	2.4	1.2	0	4.8	0	1.6	1.4
Trucks (TT)	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1	1
% Trucks (TT)	0	0	0	0	0	0	0	0	0	0	0.6	0	0	0	0.5	0.1



# Dynamic Traffic, LLC

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

E/W: Amboy Rd  
 N/S: Tennent Rd  
 Town/County: Marlboro/Monmouth  
 Job #: 3342-99-003T

File Name : Tennent Rd & Amboy Rd - AMPM  
 Site Code : 00000000  
 Start Date : 4/20/2021  
 Page No : 1

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

Start Time	Amboy Road Eastbound					Tennent Road Northbound					Tennent Road Southbound					Int. Total
	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	
07:00 AM	3	0	17	0	20	19	64	0	0	83	0	63	1	0	64	167
07:15 AM	4	0	15	1	20	24	89	0	0	113	0	87	3	0	90	223
07:30 AM	3	0	21	0	24	18	88	0	0	106	0	103	2	0	105	235
07:45 AM	2	0	21	0	23	25	76	0	0	101	0	109	4	0	113	237
Total	12	0	74	1	87	86	317	0	0	403	0	362	10	0	372	862
08:00 AM	6	0	39	0	45	24	94	0	0	118	0	101	6	0	107	270
08:15 AM	3	0	43	0	46	38	108	0	0	146	0	122	4	0	126	318
08:30 AM	6	0	42	0	48	53	111	0	0	164	0	95	6	0	101	313
08:45 AM	9	0	51	0	60	34	101	0	0	135	0	111	14	0	125	320
Total	24	0	175	0	199	149	414	0	0	563	0	429	30	0	459	1221
*** BREAK ***																
04:30 PM	10	0	33	0	43	31	119	0	0	150	0	118	4	0	122	315
04:45 PM	7	0	37	0	44	51	122	0	0	173	0	122	14	0	136	353
Total	17	0	70	0	87	82	241	0	0	323	0	240	18	0	258	668
05:00 PM	7	0	50	0	57	42	136	0	0	178	0	119	3	0	122	357
05:15 PM	11	0	47	0	58	49	168	0	0	217	0	126	12	0	138	413
05:30 PM	11	0	49	0	60	50	161	0	0	211	0	126	15	0	141	412
05:45 PM	13	0	32	0	45	45	157	0	0	202	0	91	16	0	107	354
Total	42	0	178	0	220	186	622	0	0	808	0	462	46	0	508	1536
06:00 PM	3	0	55	0	58	33	144	0	0	177	0	134	8	0	142	377
06:15 PM	3	0	54	0	57	18	75	0	0	93	0	104	6	0	110	260
Grand Total	101	0	606	1	708	554	1813	0	0	2367	0	1731	118	0	1849	4924
Apprch %	14.3	0	85.6	0.1		23.4	76.6	0	0		0	93.6	6.4	0		
Total %	2.1	0	12.3	0	14.4	11.3	36.8	0	0	48.1	0	35.2	2.4	0	37.6	
Cars	94	0	573	1	668	499	1759	0	0	2258	0	1674	112	0	1786	4712
% Cars	93.1	0	94.6	100	94.4	90.1	97	0	0	95.4	0	96.7	94.9	0	96.6	95.7
Trucks (SU)	7	0	32	0	39	52	48	0	0	100	0	54	6	0	60	199
% Trucks (SU)	6.9	0	5.3	0	5.5	9.4	2.6	0	0	4.2	0	3.1	5.1	0	3.2	4
Trucks (TT)	0	0	1	0	1	3	6	0	0	9	0	3	0	0	3	13
% Trucks (TT)	0	0	0.2	0	0.1	0.5	0.3	0	0	0.4	0	0.2	0	0	0.2	0.3

# Dynamic Traffic, LLC

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

E/W: Amboy Rd  
 N/S: Tennent Rd  
 Town/County: Marlboro/Monmouth  
 Job #: 3342-99-003T

File Name : Tennent Rd & Amboy Rd - AMPM  
 Site Code : 00000000  
 Start Date : 4/20/2021  
 Page No : 2

Start Time	Amboy Road Eastbound					Tennent Road Northbound					Tennent Road Southbound					Int. Total
	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	
Peak Hour Analysis From 07:00 AM to 11:45 AM - Peak 1 of 1																
Peak Hour for Entire Intersection Begins at 08:00 AM																
08:00 AM	6	0	39	0	45	24	94	0	0	118	0	101	6	0	107	270
08:15 AM	3	0	43	0	46	38	108	0	0	146	0	122	4	0	126	318
08:30 AM	6	0	42	0	48	53	111	0	0	164	0	95	6	0	101	313
08:45 AM	9	0	51	0	60	34	101	0	0	135	0	111	14	0	125	320
Total Volume	24	0	175	0	199	149	414	0	0	563	0	429	30	0	459	1221
% App. Total	12.1	0	87.9	0		26.5	73.5	0	0		0	93.5	6.5	0		
PHF	.667	.000	.858	.000	.829	.703	.932	.000	.000	.858	.000	.879	.536	.000	.911	.954
Cars	21	0	153	0	174	117	397	0	0	514	0	407	27	0	434	1122
% Cars	87.5	0	87.4	0	87.4	78.5	95.9	0	0	91.3	0	94.9	90.0	0	94.6	91.9
Trucks (SU)	3	0	21	0	24	32	17	0	0	49	0	22	3	0	25	98
% Trucks (SU)	12.5	0	12.0	0	12.1	21.5	4.1	0	0	8.7	0	5.1	10.0	0	5.4	8.0
Trucks (TT)	0	0	1	0	1	0	0	0	0	0	0	0	0	0	0	1
% Trucks (TT)	0	0	0.6	0	0.5	0	0	0	0	0	0	0	0	0	0	0.1
Peak Hour Analysis From 12:00 PM to 06:15 PM - Peak 1 of 1																
Peak Hour for Entire Intersection Begins at 05:15 PM																
05:15 PM	11	0	47	0	58	49	168	0	0	217	0	126	12	0	138	413
05:30 PM	11	0	49	0	60	50	161	0	0	211	0	126	15	0	141	412
05:45 PM	13	0	32	0	45	45	157	0	0	202	0	91	16	0	107	354
06:00 PM	3	0	55	0	58	33	144	0	0	177	0	134	8	0	142	377
Total Volume	38	0	183	0	221	177	630	0	0	807	0	477	51	0	528	1556
% App. Total	17.2	0	82.8	0		21.9	78.1	0	0		0	90.3	9.7	0		
PHF	.731	.000	.832	.000	.921	.885	.938	.000	.000	.930	.000	.890	.797	.000	.930	.942
Cars	37	0	182	0	219	174	626	0	0	800	0	474	49	0	523	1542
% Cars	97.4	0	99.5	0	99.1	98.3	99.4	0	0	99.1	0	99.4	96.1	0	99.1	99.1
Trucks (SU)	1	0	1	0	2	2	2	0	0	4	0	3	2	0	5	11
% Trucks (SU)	2.6	0	0.5	0	0.9	1.1	0.3	0	0	0.5	0	0.6	3.9	0	0.9	0.7
Trucks (TT)	0	0	0	0	0	1	2	0	0	3	0	0	0	0	0	3
% Trucks (TT)	0	0	0	0	0	0.6	0.3	0	0	0.4	0	0	0	0	0	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: Amboy Rd  
 N/S: Tennent Rd  
 Town/County: Marlboro/Monmouth  
 Job #: 3342-99-003T

File Name : Tennent Rd & Amboy Rd - SAT  
 Site Code : 00000000  
 Start Date : 4/24/2021  
 Page No : 1

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

Start Time	Amboy Road Eastbound					Tennent Road Northbound					Tennent Road Southbound					Int. Total
	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	
11:00 AM	2	0	35	1	38	25	103	0	0	128	0	105	6	0	111	277
11:15 AM	2	0	39	0	41	22	109	0	0	131	0	96	1	0	97	269
11:30 AM	3	0	39	0	42	25	108	0	0	133	0	109	5	0	114	289
11:45 AM	7	0	42	0	49	33	114	0	0	147	0	134	8	0	142	338
Total	14	0	155	1	170	105	434	0	0	539	0	444	20	0	464	1173
12:00 PM	4	0	53	0	57	26	100	0	0	126	0	140	6	0	146	329
12:15 PM	5	0	44	0	49	26	88	0	0	114	0	109	5	0	114	277
12:30 PM	3	0	39	0	42	28	112	0	0	140	0	130	1	0	131	313
12:45 PM	3	0	40	0	43	30	111	0	0	141	0	129	3	0	132	316
Total	15	0	176	0	191	110	411	0	0	521	0	508	15	0	523	1235
01:00 PM	6	0	45	0	51	27	106	0	0	133	0	111	2	0	113	297
01:15 PM	5	0	36	0	41	28	100	0	0	128	0	94	2	0	96	265
01:30 PM	4	0	43	0	47	26	121	0	0	147	0	102	3	0	105	299
01:45 PM	5	0	45	0	50	33	118	0	0	151	0	109	6	0	115	316
Total	20	0	169	0	189	114	445	0	0	559	0	416	13	0	429	1177
Grand Total	49	0	500	1	550	329	1290	0	0	1619	0	1368	48	0	1416	3585
Apprch %	8.9	0	90.9	0.2		20.3	79.7	0	0		0	96.6	3.4	0		
Total %	1.4	0	13.9	0	15.3	9.2	36	0	0	45.2	0	38.2	1.3	0	39.5	
Cars	47	0	497	1	545	325	1278	0	0	1603	0	1358	48	0	1406	3554
% Cars	95.9	0	99.4	100	99.1	98.8	99.1	0	0	99	0	99.3	100	0	99.3	99.1
Trucks (SU)	2	0	3	0	5	4	9	0	0	13	0	10	0	0	10	28
% Trucks (SU)	4.1	0	0.6	0	0.9	1.2	0.7	0	0	0.8	0	0.7	0	0	0.7	0.8
Trucks (TT)	0	0	0	0	0	0	3	0	0	3	0	0	0	0	0	3
% Trucks (TT)	0	0	0	0	0	0	0.2	0	0	0.2	0	0	0	0	0	0.1

Start Time	Amboy Road Eastbound					Tennent Road Northbound					Tennent Road Southbound					Int. Total
	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	
Peak Hour Analysis From 11:00 AM to 01:45 PM - Peak 1 of 1																
Peak Hour for Entire Intersection Begins at 11:45 AM																
11:45 AM	7	0	42	0	49	33	114	0	0	147	0	134	8	0	142	338
12:00 PM	4	0	53	0	57	26	100	0	0	126	0	140	6	0	146	329
12:15 PM	5	0	44	0	49	26	88	0	0	114	0	109	5	0	114	277
12:30 PM	3	0	39	0	42	28	112	0	0	140	0	130	1	0	131	313
Total Volume	19	0	178	0	197	113	414	0	0	527	0	513	20	0	533	1257
% App. Total	9.6	0	90.4	0		21.4	78.6	0	0		0	96.2	3.8	0		
PHF	.679	.000	.840	.000	.864	.856	.908	.000	.000	.896	.000	.916	.625	.000	.913	.930
Cars	19	0	176	0	195	111	411	0	0	522	0	508	20	0	528	1245
% Cars	100	0	98.9	0	99.0	98.2	99.3	0	0	99.1	0	99.0	100	0	99.1	99.0
Trucks (SU)	0	0	2	0	2	2	2	0	0	4	0	5	0	0	5	11
% Trucks (SU)	0	0	1.1	0	1.0	1.8	0.5	0	0	0.8	0	1.0	0	0	0.9	0.9
Trucks (TT)	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	1
% Trucks (TT)	0	0	0	0	0	0	0.2	0	0	0.2	0	0	0	0	0	0.1



# New Jersey Department of Transportation

Short-term Hourly Traffic Volume for 06/25/2018 to 06/28/2018

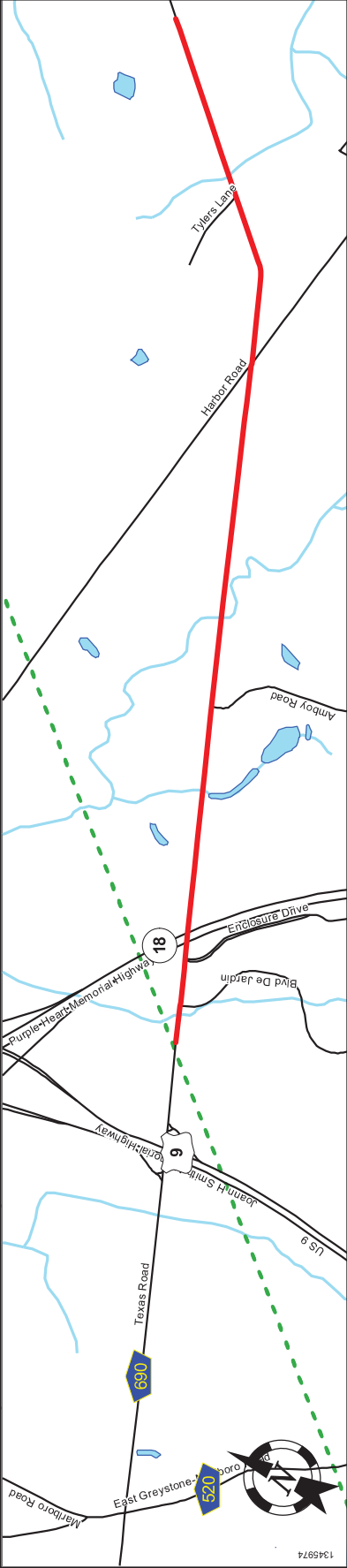
Site names: 121304,Tennent Road-6.79,13000003\_\_  
 County: MONMOUTH  
 Funct Class: Urban Minor Arterial  
 Location: BET AMBOY RD CRINER RD

Seasonal Factor Grp: rg3\_4U  
 Daily Factor Grp: rg3\_4U  
 Axle Factor Grp: rg3\_4U  
 Growth Factor Grp: rg3\_4U

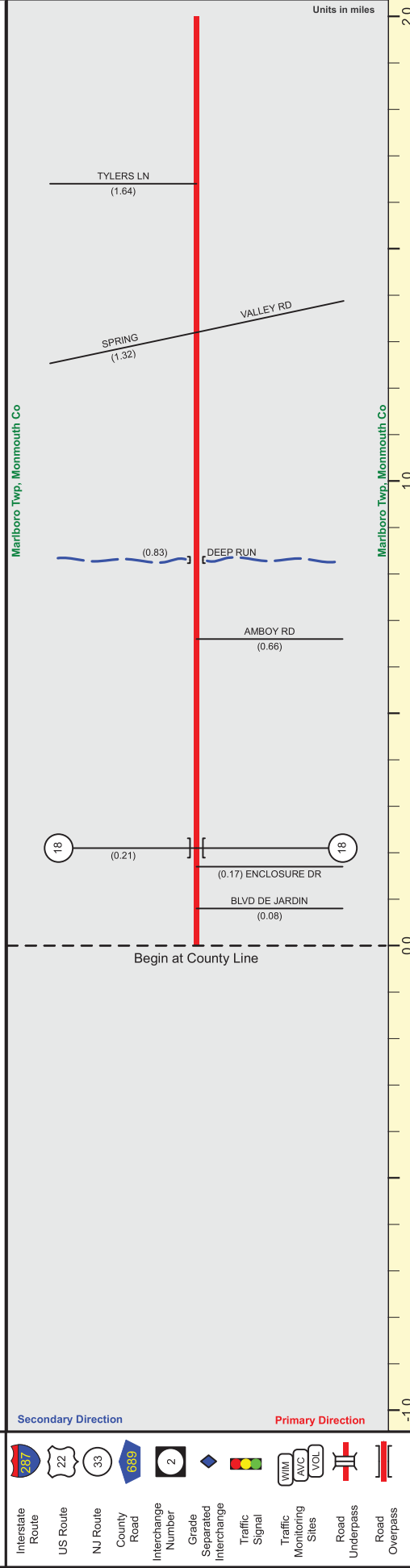
	Sun, Jun 24, 2018		Mon, Jun 25, 2018		Tue, Jun 26, 2018		Wed, Jun 27, 2018		Thu, Jun 28, 2018		Fri, Jun 29, 2018		Sat, Jun 30, 2018			
	Road	N	S	Road	N	S	Road	N	S	Road	N	S	Road	N	S	
00:00																
01:00					29	16	13	51	30	21	127	74	53			
02:00					35	19	16	85	39	46	40	21	19			
03:00					20	14	6	44	24	20	56	30	26			
04:00					20	10	10	21	11	10	24	15	9			
05:00					36	21	15	16	8	8	9	5	4			
06:00					87	35	52	59	32	27	34	16	18			
07:00					250	99	151	156	64	92	80	31	49			
08:00					632	273	359	438	174	264	230	95	135			
09:00					896	368	528	719	280	439	508	201	307			
10:00					892	387	505	952	401	551						
11:00					730	346	384	768	322	446						
12:00					736	353	383	677	309	368						
13:00					812	386	426	818	363	391						
14:00					808	391	417	827	411	416	773	385	388			
15:00					746	384	362	821	401	420	759	385	374			
16:00					802	399	403	817	415	402	840	414	426			
17:00					914	468	446	915	484	451	844	415	429			
18:00					1,031	518	513	1,001	541	460	961	483	478			
19:00					902	479	423	1,018	550	468	1,057	581	476			
20:00					774	425	349	876	429	447	861	464	397			
21:00					512	291	221	679	339	344	757	387	370			
22:00					455	249	206	507	284	223	587	307	280			
23:00					286	145	141	386	235	151	454	254	200			
Total					147	82	65	186	110	76	294	122	142			
AM Peak Vol					8,189	4,217	3,972	13,199	6,501	6,698	12,897	6,254	6,643	1,108	488	620
AM Peak Fct								971	398	573	952	401	551			
AM Peak Hr								.92	.905	.924	.937	.911	.912			
PM Peak Vol					1,031	532	513	1,036	550	504	1,073	581	505			
PM Peak Fct					.889	.887	.75	.949	.975	.962	.897	.88	.908			
PM Peak Hr					17:00	17:30	17:00	16:30	18:00	16:30	17:30	18:00	17:15			
Seasonal Fct					.941	.941	.941	.941	.941	.941	.941	.941	.941	.941	.941	.941
Daily Fct					1.004	1.004	1.004	.981	.981	.945	.945	.945	.945	.928	.928	.928
Axle Fct					.486	.486	.486	.486	.486	.486	.486	.486	.486	.486	.486	.486
Pulse Fct					2.000	2.000	2.000	2.000	2.000	2.000	2.000	2.000	2.000	2.000	2.000	2.000

Mile Posts: 0.000 - 2.000

TEXAS RD (South to North)



Pavement	Shoulder	Number of Lanes	Speed Limit	Street Name



Street Name	Jurisdiction	Functional Class	Federal Aid - NHS Sy	Control Section	Speed Limit	Number of Lanes	Med. Type	Med. Width	Pavement	Shoulder	Traffic Volume	Traffic Sta. ID	Structure No.	Enlarged Views
	Texas Road	Municipal	Urban Minor Collector	STP	45	2	None	0		0				
								40		32			1329155	130ML10



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

Intersection						
Int Delay, s/veh	2.6					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	216	144	21	227	99	14
Future Vol, veh/h	216	144	21	227	99	14
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	-	-	2	-2	-
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	8	10	5	5	10	8
Mvmt Flow	240	160	23	252	110	16

Major/Minor	Major1	Major2	Minor1		
Conflicting Flow All	0	0	400	0	618 320
Stage 1	-	-	-	-	320 -
Stage 2	-	-	-	-	298 -
Critical Hdwy	-	-	4.15	-	6.1 6.08
Critical Hdwy Stg 1	-	-	-	-	5.1 -
Critical Hdwy Stg 2	-	-	-	-	5.1 -
Follow-up Hdwy	-	-	2.245	-	3.59 3.372
Pot Cap-1 Maneuver	-	-	1143	-	471 720
Stage 1	-	-	-	-	744 -
Stage 2	-	-	-	-	760 -
Platoon blocked, %	-	-	-	-	-
Mov Cap-1 Maneuver	-	-	1143	-	460 720
Mov Cap-2 Maneuver	-	-	-	-	460 -
Stage 1	-	-	-	-	744 -
Stage 2	-	-	-	-	743 -

Approach	EB	WB	NB
HCM Control Delay, s	0	0.7	15.1
HCM LOS			C

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	482	-	-	1143	-
HCM Lane V/C Ratio	0.26	-	-	0.02	-
HCM Control Delay (s)	15.1	-	-	8.2	0
HCM Lane LOS	C	-	-	A	A
HCM 95th %tile Q(veh)	1	-	-	0.1	-

Intersection						
Int Delay, s/veh	4.5					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	312	194	29	258	166	21
Future Vol, veh/h	312	194	29	258	166	21
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	-	-	2	-2	-
Peak Hour Factor	94	94	94	94	94	94
Heavy Vehicles, %	1	1	0	3	2	5
Mvmt Flow	332	206	31	274	177	22
Major/Minor	Major1	Major2	Minor1			
Conflicting Flow All	0	0	538	0	771	435
Stage 1	-	-	-	-	435	-
Stage 2	-	-	-	-	336	-
Critical Hdwy	-	-	4.1	-	6.02	6.05
Critical Hdwy Stg 1	-	-	-	-	5.02	-
Critical Hdwy Stg 2	-	-	-	-	5.02	-
Follow-up Hdwy	-	-	2.2	-	3.518	3.345
Pot Cap-1 Maneuver	-	-	1040	-	401	630
Stage 1	-	-	-	-	685	-
Stage 2	-	-	-	-	751	-
Platoon blocked, %	-	-	-	-	-	-
Mov Cap-1 Maneuver	-	-	1040	-	387	630
Mov Cap-2 Maneuver	-	-	-	-	387	-
Stage 1	-	-	-	-	685	-
Stage 2	-	-	-	-	725	-
Approach	EB	WB	NB			
HCM Control Delay, s	0	0.9	22.2			
HCM LOS						C
Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT	
Capacity (veh/h)	405	-	-	1040	-	
HCM Lane V/C Ratio	0.491	-	-	0.03	-	
HCM Control Delay (s)	22.2	-	-	8.6	0	
HCM Lane LOS	C	-	-	A	A	
HCM 95th %tile Q(veh)	2.6	-	-	0.1	-	

Intersection						
Int Delay, s/veh	2.8					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	308	145	20	297	122	12
Future Vol, veh/h	308	145	20	297	122	12
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	-	-	2	-2	-
Peak Hour Factor	97	97	97	97	97	97
Heavy Vehicles, %	2	0	0	1	0	8
Mvmt Flow	318	149	21	306	126	12

Major/Minor	Major1	Major2	Minor1		
Conflicting Flow All	0	0	467	0	741 393
Stage 1	-	-	-	-	393 -
Stage 2	-	-	-	-	348 -
Critical Hdwy	-	-	4.1	-	6 6.08
Critical Hdwy Stg 1	-	-	-	-	5 -
Critical Hdwy Stg 2	-	-	-	-	5 -
Follow-up Hdwy	-	-	2.2	-	3.5 3.372
Pot Cap-1 Maneuver	-	-	1105	-	420 657
Stage 1	-	-	-	-	717 -
Stage 2	-	-	-	-	748 -
Platoon blocked, %	-	-	-	-	-
Mov Cap-1 Maneuver	-	-	1105	-	410 657
Mov Cap-2 Maneuver	-	-	-	-	410 -
Stage 1	-	-	-	-	717 -
Stage 2	-	-	-	-	731 -

Approach	EB	WB	NB
HCM Control Delay, s	0	0.5	17.5
HCM LOS			C

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	424	-	-	1105	-
HCM Lane V/C Ratio	0.326	-	-	0.019	-
HCM Control Delay (s)	17.5	-	-	8.3	0
HCM Lane LOS	C	-	-	A	A
HCM 95th %tile Q(veh)	1.4	-	-	0.1	-



Intersection						
Int Delay, s/veh	2.6					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	288	147	21	279	101	14
Future Vol, veh/h	288	147	21	279	101	14
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	-	-	2	-2	-
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	8	10	5	5	10	8
Mvmt Flow	320	163	23	310	112	16
Major/Minor	Major1	Major2	Minor1			
Conflicting Flow All	0	0	483	0	758	402
Stage 1	-	-	-	-	402	-
Stage 2	-	-	-	-	356	-
Critical Hdwy	-	-	4.15	-	6.1	6.08
Critical Hdwy Stg 1	-	-	-	-	5.1	-
Critical Hdwy Stg 2	-	-	-	-	5.1	-
Follow-up Hdwy	-	-	2.245	-	3.59	3.372
Pot Cap-1 Maneuver	-	-	1064	-	396	650
Stage 1	-	-	-	-	689	-
Stage 2	-	-	-	-	719	-
Platoon blocked, %	-	-	-	-	-	-
Mov Cap-1 Maneuver	-	-	1064	-	386	650
Mov Cap-2 Maneuver	-	-	-	-	386	-
Stage 1	-	-	-	-	689	-
Stage 2	-	-	-	-	700	-
Approach	EB	WB	NB			
HCM Control Delay, s	0	0.6	17.9			
HCM LOS						C
Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT	
Capacity (veh/h)	406	-	-	1064	-	
HCM Lane V/C Ratio	0.315	-	-	0.022	-	
HCM Control Delay (s)	17.9	-	-	8.5	0	
HCM Lane LOS	C	-	-	A	A	
HCM 95th %tile Q(veh)	1.3	-	-	0.1	-	

Intersection						
Int Delay, s/veh	5.5					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	380	198	30	337	169	21
Future Vol, veh/h	380	198	30	337	169	21
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	-	-	2	-2	-
Peak Hour Factor	94	94	94	94	94	94
Heavy Vehicles, %	1	1	0	3	2	5
Mvmt Flow	404	211	32	359	180	22
Major/Minor	Major1	Major2	Minor1			
Conflicting Flow All	0	0	615	0	933	510
Stage 1	-	-	-	-	510	-
Stage 2	-	-	-	-	423	-
Critical Hdwy	-	-	4.1	-	6.02	6.05
Critical Hdwy Stg 1	-	-	-	-	5.02	-
Critical Hdwy Stg 2	-	-	-	-	5.02	-
Follow-up Hdwy	-	-	2.2	-	3.518	3.345
Pot Cap-1 Maneuver	-	-	974	-	328	573
Stage 1	-	-	-	-	638	-
Stage 2	-	-	-	-	693	-
Platoon blocked, %	-	-	-	-	-	-
Mov Cap-1 Maneuver	-	-	974	-	315	573
Mov Cap-2 Maneuver	-	-	-	-	315	-
Stage 1	-	-	-	-	638	-
Stage 2	-	-	-	-	665	-
Approach	EB	WB	NB			
HCM Control Delay, s	0	0.7	31.5			
HCM LOS			D			
Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT	
Capacity (veh/h)	331	-	-	974	-	
HCM Lane V/C Ratio	0.611	-	-	0.033	-	
HCM Control Delay (s)	31.5	-	-	8.8	0	
HCM Lane LOS	D	-	-	A	A	
HCM 95th %tile Q(veh)	3.8	-	-	0.1	-	

Intersection						
Int Delay, s/veh	3.4					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	463	148	20	455	124	12
Future Vol, veh/h	463	148	20	455	124	12
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	-	-	2	-2	-
Peak Hour Factor	97	97	97	97	97	97
Heavy Vehicles, %	2	0	0	1	0	8
Mvmt Flow	477	153	21	469	128	12
Major/Minor	Major1	Major2	Minor1			
Conflicting Flow All	0	0	630	0	1065	554
Stage 1	-	-	-	-	554	-
Stage 2	-	-	-	-	511	-
Critical Hdwy	-	-	4.1	-	6	6.08
Critical Hdwy Stg 1	-	-	-	-	5	-
Critical Hdwy Stg 2	-	-	-	-	5	-
Follow-up Hdwy	-	-	2.2	-	3.5	3.372
Pot Cap-1 Maneuver	-	-	962	-	280	537
Stage 1	-	-	-	-	616	-
Stage 2	-	-	-	-	642	-
Platoon blocked, %	-	-	-	-	-	-
Mov Cap-1 Maneuver	-	-	962	-	272	537
Mov Cap-2 Maneuver	-	-	-	-	272	-
Stage 1	-	-	-	-	616	-
Stage 2	-	-	-	-	623	-
Approach	EB	WB	NB			
HCM Control Delay, s	0	0.4	29.4			
HCM LOS						D
Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT	
Capacity (veh/h)	284	-	-	962	-	
HCM Lane V/C Ratio	0.494	-	-	0.021	-	
HCM Control Delay (s)	29.4	-	-	8.8	0	
HCM Lane LOS	D	-	-	A	A	
HCM 95th %tile Q(veh)	2.6	-	-	0.1	-	

Intersection						
Int Delay, s/veh	3					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	288	161	25	279	111	16
Future Vol, veh/h	288	161	25	279	111	16
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	-	-	2	-2	-
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	8	10	5	5	10	8
Mvmt Flow	320	179	28	310	123	18
Major/Minor	Major1	Major2	Minor1			
Conflicting Flow All	0	0	499	0	776	410
Stage 1	-	-	-	-	410	-
Stage 2	-	-	-	-	366	-
Critical Hdwy	-	-	4.15	-	6.1	6.08
Critical Hdwy Stg 1	-	-	-	-	5.1	-
Critical Hdwy Stg 2	-	-	-	-	5.1	-
Follow-up Hdwy	-	-	2.245	-	3.59	3.372
Pot Cap-1 Maneuver	-	-	1050	-	387	643
Stage 1	-	-	-	-	683	-
Stage 2	-	-	-	-	713	-
Platoon blocked, %	-	-	-	-	-	-
Mov Cap-1 Maneuver	-	-	1050	-	375	643
Mov Cap-2 Maneuver	-	-	-	-	375	-
Stage 1	-	-	-	-	683	-
Stage 2	-	-	-	-	690	-
Approach	EB	WB	NB			
HCM Control Delay, s	0	0.7	19			
HCM LOS					C	
Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT	
Capacity (veh/h)	396	-	-	1050	-	
HCM Lane V/C Ratio	0.356	-	-	0.026	-	
HCM Control Delay (s)	19	-	-	8.5	0	
HCM Lane LOS	C	-	-	A	A	
HCM 95th %tile Q(veh)	1.6	-	-	0.1	-	

Intersection						
Int Delay, s/veh	6.8					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	380	212	33	337	184	25
Future Vol, veh/h	380	212	33	337	184	25
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	-	-	2	-2	-
Peak Hour Factor	94	94	94	94	94	94
Heavy Vehicles, %	1	1	0	3	2	5
Mvmt Flow	404	226	35	359	196	27
Major/Minor	Major1	Major2	Minor1			
Conflicting Flow All	0	0	630	0	946	517
Stage 1	-	-	-	-	517	-
Stage 2	-	-	-	-	429	-
Critical Hdwy	-	-	4.1	-	6.02	6.05
Critical Hdwy Stg 1	-	-	-	-	5.02	-
Critical Hdwy Stg 2	-	-	-	-	5.02	-
Follow-up Hdwy	-	-	2.2	-	3.518	3.345
Pot Cap-1 Maneuver	-	-	962	-	322	568
Stage 1	-	-	-	-	634	-
Stage 2	-	-	-	-	689	-
Platoon blocked, %	-	-	-	-	-	-
Mov Cap-1 Maneuver	-	-	962	-	308	568
Mov Cap-2 Maneuver	-	-	-	-	308	-
Stage 1	-	-	-	-	634	-
Stage 2	-	-	-	-	658	-
Approach	EB	WB	NB			
HCM Control Delay, s	0	0.8	36.7			
HCM LOS						E
Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT	
Capacity (veh/h)	326	-	-	962	-	
HCM Lane V/C Ratio	0.682	-	-	0.036	-	
HCM Control Delay (s)	36.7	-	-	8.9	0	
HCM Lane LOS	E	-	-	A	A	
HCM 95th %tile Q(veh)	4.7	-	-	0.1	-	

Intersection						
Int Delay, s/veh	4.3					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	463	166	24	455	138	16
Future Vol, veh/h	463	166	24	455	138	16
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	-	-	2	-2	-
Peak Hour Factor	97	97	97	97	97	97
Heavy Vehicles, %	2	0	0	1	0	8
Mvmt Flow	477	171	25	469	142	16
Major/Minor	Major1	Major2	Minor1			
Conflicting Flow All	0	0	648	0	1082	563
Stage 1	-	-	-	-	563	-
Stage 2	-	-	-	-	519	-
Critical Hdwy	-	-	4.1	-	6	6.08
Critical Hdwy Stg 1	-	-	-	-	5	-
Critical Hdwy Stg 2	-	-	-	-	5	-
Follow-up Hdwy	-	-	2.2	-	3.5	3.372
Pot Cap-1 Maneuver	-	-	947	-	274	531
Stage 1	-	-	-	-	611	-
Stage 2	-	-	-	-	637	-
Platoon blocked, %	-	-	-	-	-	-
Mov Cap-1 Maneuver	-	-	947	-	264	531
Mov Cap-2 Maneuver	-	-	-	-	264	-
Stage 1	-	-	-	-	611	-
Stage 2	-	-	-	-	614	-
Approach	EB	WB	NB			
HCM Control Delay, s	0	0.4	33.7			
HCM LOS						D
Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT	
Capacity (veh/h)	279	-	-	947	-	
HCM Lane V/C Ratio	0.569	-	-	0.026	-	
HCM Control Delay (s)	33.7	-	-	8.9	0	
HCM Lane LOS	D	-	-	A	A	
HCM 95th %tile Q(veh)	3.3	-	-	0.1	-	

Intersection						
Int Delay, s/veh	5					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↑↑	↑		↑	
Traffic Vol, veh/h	162	451	468	33	26	191
Future Vol, veh/h	162	451	468	33	26	191
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, %	-	-2	2	-	-2	-
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	22	4	5	10	13	13
Mvmt Flow	171	475	493	35	27	201

Major/Minor	Major1	Major2	Minor2		
Conflicting Flow All	528	0	-	0	1091 511
Stage 1	-	-	-	-	511 -
Stage 2	-	-	-	-	580 -
Critical Hdwy	4.43	-	-	-	6.395 6.195
Critical Hdwy Stg 1	-	-	-	-	5.195 -
Critical Hdwy Stg 2	-	-	-	-	5.595 -
Follow-up Hdwy	2.409	-	-	-3.6235	3.4235
Pot Cap-1 Maneuver	926	-	-	-	236 551
Stage 1	-	-	-	-	608 -
Stage 2	-	-	-	-	532 -
Platoon blocked, %		-	-	-	
Mov Cap-1 Maneuver	926	-	-	-	177 551
Mov Cap-2 Maneuver	-	-	-	-	177 -
Stage 1	-	-	-	-	455 -
Stage 2	-	-	-	-	532 -

Approach	EB	WB	SB
HCM Control Delay, s	3.1	0	21.7
HCM LOS			C

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	926	-	-	-	440
HCM Lane V/C Ratio	0.184	-	-	-	0.519
HCM Control Delay (s)	9.8	0.7	-	-	21.7
HCM Lane LOS	A	A	-	-	C
HCM 95th %tile Q(veh)	0.7	-	-	-	2.9

Intersection						
Int Delay, s/veh	5.7					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↑↑	↑		↑	
Traffic Vol, veh/h	177	630	477	51	38	183
Future Vol, veh/h	177	630	477	51	38	183
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, %	-	-2	2	-	-2	-
Peak Hour Factor	94	94	94	94	94	94
Heavy Vehicles, %	2	1	1	4	3	1
Mvmt Flow	188	670	507	54	40	195
Major/Minor	Major1	Major2	Minor2			
Conflicting Flow All	561	0	-	0	1245	534
Stage 1	-	-	-	-	534	-
Stage 2	-	-	-	-	711	-
Critical Hdwy	4.13	-	-	-	6.245	6.015
Critical Hdwy Stg 1	-	-	-	-	5.045	-
Critical Hdwy Stg 2	-	-	-	-	5.445	-
Follow-up Hdwy	2.219	-	-	-	3.5285	3.3095
Pot Cap-1 Maneuver	1008	-	-	-	204	564
Stage 1	-	-	-	-	620	-
Stage 2	-	-	-	-	483	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1008	-	-	-	143	564
Mov Cap-2 Maneuver	-	-	-	-	143	-
Stage 1	-	-	-	-	436	-
Stage 2	-	-	-	-	483	-
Approach	EB	WB	SB			
HCM Control Delay, s	2.8	0	29.6			
HCM LOS			D			
Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	
Capacity (veh/h)	1008	-	-	-	374	
HCM Lane V/C Ratio	0.187	-	-	-	0.629	
HCM Control Delay (s)	9.4	0.9	-	-	29.6	
HCM Lane LOS	A	A	-	-	D	
HCM 95th %tile Q(veh)	0.7	-	-	-	4.1	



Intersection						
Int Delay, s/veh	3.8					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↕↕	↔		↕	
Traffic Vol, veh/h	113	414	513	20	19	178
Future Vol, veh/h	113	414	513	20	19	178
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, %	-	-2	2	-	-2	-
Peak Hour Factor	93	93	93	93	93	93
Heavy Vehicles, %	2	1	1	0	0	1
Mvmt Flow	122	445	552	22	20	191

Major/Minor	Major1	Major2	Minor2		
Conflicting Flow All	574	0	-	0	1030 563
Stage 1	-	-	-	-	563 -
Stage 2	-	-	-	-	467 -
Critical Hdwy	4.13	-	-	-	6.2 6.015
Critical Hdwy Stg 1	-	-	-	-	5 -
Critical Hdwy Stg 2	-	-	-	-	5.4 -
Follow-up Hdwy	2.219	-	-	-	3.5 3.3095
Pot Cap-1 Maneuver	997	-	-	-	276 544
Stage 1	-	-	-	-	611 -
Stage 2	-	-	-	-	635 -
Platoon blocked, %		-	-	-	
Mov Cap-1 Maneuver	997	-	-	-	231 544
Mov Cap-2 Maneuver	-	-	-	-	231 -
Stage 1	-	-	-	-	511 -
Stage 2	-	-	-	-	635 -

Approach	EB	WB	SB
HCM Control Delay, s	2.3	0	18.2
HCM LOS			C

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	997	-	-	-	481
HCM Lane V/C Ratio	0.122	-	-	-	0.44
HCM Control Delay (s)	9.1	0.5	-	-	18.2
HCM Lane LOS	A	A	-	-	C
HCM 95th %tile Q(veh)	0.4	-	-	-	2.2

Intersection						
Int Delay, s/veh	5.2					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↑↑	↑		↑	
Traffic Vol, veh/h	165	460	477	34	27	195
Future Vol, veh/h	165	460	477	34	27	195
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, %	-	-2	2	-	-2	-
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	22	4	5	10	13	13
Mvmt Flow	174	484	502	36	28	205

Major/Minor	Major1	Major2	Minor2		
Conflicting Flow All	538	0	-	0	1110 520
Stage 1	-	-	-	-	520 -
Stage 2	-	-	-	-	590 -
Critical Hdwy	4.43	-	-	-	6.395 6.195
Critical Hdwy Stg 1	-	-	-	-	5.195 -
Critical Hdwy Stg 2	-	-	-	-	5.595 -
Follow-up Hdwy	2.409	-	-	-	3.6235 3.4235
Pot Cap-1 Maneuver	918	-	-	-	230 545
Stage 1	-	-	-	-	603 -
Stage 2	-	-	-	-	527 -
Platoon blocked, %		-	-	-	
Mov Cap-1 Maneuver	918	-	-	-	170 545
Mov Cap-2 Maneuver	-	-	-	-	170 -
Stage 1	-	-	-	-	447 -
Stage 2	-	-	-	-	527 -

Approach	EB	WB	SB
HCM Control Delay, s	3.1	0	22.9
HCM LOS			C

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	918	-	-	-	430
HCM Lane V/C Ratio	0.189	-	-	-	0.543
HCM Control Delay (s)	9.8	0.7	-	-	22.9
HCM Lane LOS	A	A	-	-	C
HCM 95th %tile Q(veh)	0.7	-	-	-	3.2

Intersection						
Int Delay, s/veh	6.1					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↑↑	↑		↑	
Traffic Vol, veh/h	181	643	487	52	39	187
Future Vol, veh/h	181	643	487	52	39	187
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, %	-	-2	2	-	-2	-
Peak Hour Factor	94	94	94	94	94	94
Heavy Vehicles, %	2	1	1	4	3	1
Mvmt Flow	193	684	518	55	41	199

Major/Minor	Major1	Major2	Minor2		
Conflicting Flow All	573	0	-	0	1274 546
Stage 1	-	-	-	-	546 -
Stage 2	-	-	-	-	728 -
Critical Hdwy	4.13	-	-	-	6.245 6.015
Critical Hdwy Stg 1	-	-	-	-	5.045 -
Critical Hdwy Stg 2	-	-	-	-	5.445 -
Follow-up Hdwy	2.219	-	-	-	3.5285 3.3095
Pot Cap-1 Maneuver	998	-	-	-	196 556
Stage 1	-	-	-	-	613 -
Stage 2	-	-	-	-	475 -
Platoon blocked, %		-	-	-	
Mov Cap-1 Maneuver	998	-	-	-	135 556
Mov Cap-2 Maneuver	-	-	-	-	135 -
Stage 1	-	-	-	-	422 -
Stage 2	-	-	-	-	475 -

Approach	EB	WB	SB
HCM Control Delay, s	2.8	0	32.8
HCM LOS			D

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	998	-	-	-	361
HCM Lane V/C Ratio	0.193	-	-	-	0.666
HCM Control Delay (s)	9.5	0.9	-	-	32.8
HCM Lane LOS	A	A	-	-	D
HCM 95th %tile Q(veh)	0.7	-	-	-	4.6

Intersection						
Int Delay, s/veh	4					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↑↑	↑		↑	
Traffic Vol, veh/h	116	422	523	20	19	182
Future Vol, veh/h	116	422	523	20	19	182
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, %	-	-2	2	-	-2	-
Peak Hour Factor	93	93	93	93	93	93
Heavy Vehicles, %	2	1	1	0	0	1
Mvmt Flow	125	454	562	22	20	196

Major/Minor	Major1	Major2	Minor2		
Conflicting Flow All	584	0	0	1050	573
Stage 1	-	-	-	573	-
Stage 2	-	-	-	477	-
Critical Hdwy	4.13	-	-	6.2	6.015
Critical Hdwy Stg 1	-	-	-	5	-
Critical Hdwy Stg 2	-	-	-	5.4	-
Follow-up Hdwy	2.219	-	-	3.5	3.3095
Pot Cap-1 Maneuver	989	-	-	269	537
Stage 1	-	-	-	605	-
Stage 2	-	-	-	629	-
Platoon blocked, %		-	-		
Mov Cap-1 Maneuver	989	-	-	224	537
Mov Cap-2 Maneuver	-	-	-	224	-
Stage 1	-	-	-	503	-
Stage 2	-	-	-	629	-

Approach	EB	WB	SB
HCM Control Delay, s	2.4	0	18.8
HCM LOS			C

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	989	-	-	-	474
HCM Lane V/C Ratio	0.126	-	-	-	0.456
HCM Control Delay (s)	9.2	0.5	-	-	18.8
HCM Lane LOS	A	A	-	-	C
HCM 95th %tile Q(veh)	0.4	-	-	-	2.3

**Intersection**

Int Delay, s/veh 5.8

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↑↑	↑		↑	
Traffic Vol, veh/h	180	460	477	38	29	205
Future Vol, veh/h	180	460	477	38	29	205
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, %	-	-2	2	-	-2	-
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	22	4	5	10	13	13
Mvmt Flow	189	484	502	40	31	216

Major/Minor	Major1	Major2	Minor2
Conflicting Flow All	542	0	0 1142 522
Stage 1	-	-	- 522 -
Stage 2	-	-	- 620 -
Critical Hdwy	4.43	-	- 6.395 6.195
Critical Hdwy Stg 1	-	-	- 5.195 -
Critical Hdwy Stg 2	-	-	- 5.595 -
Follow-up Hdwy	2.409	-	- 3.6235 3.4235
Pot Cap-1 Maneuver	915	-	- 220 543
Stage 1	-	-	- 601 -
Stage 2	-	-	- 510 -
Platoon blocked, %		-	-
Mov Cap-1 Maneuver	915	-	- 158 543
Mov Cap-2 Maneuver	-	-	- 158 -
Stage 1	-	-	- 431 -
Stage 2	-	-	- 510 -

Approach	EB	WB	SB
HCM Control Delay, s	3.4	0	25.3
HCM LOS			D

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	915	-	-	-	417
HCM Lane V/C Ratio	0.207	-	-	-	0.591
HCM Control Delay (s)	10	0.8	-	-	25.3
HCM Lane LOS	A	A	-	-	D
HCM 95th %tile Q(veh)	0.8	-	-	-	3.7

Intersection						
Int Delay, s/veh	7.8					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↑↑	↑		↑	
Traffic Vol, veh/h	195	643	487	55	43	203
Future Vol, veh/h	195	643	487	55	43	203
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, %	-	-2	2	-	-2	-
Peak Hour Factor	94	94	94	94	94	94
Heavy Vehicles, %	2	1	1	4	3	1
Mvmt Flow	207	684	518	59	46	216
Major/Minor	Major1	Major2	Minor2			
Conflicting Flow All	577	0	-	0	1304	548
Stage 1	-	-	-	-	548	-
Stage 2	-	-	-	-	756	-
Critical Hdwy	4.13	-	-	-	6.245	6.015
Critical Hdwy Stg 1	-	-	-	-	5.045	-
Critical Hdwy Stg 2	-	-	-	-	5.445	-
Follow-up Hdwy	2.219	-	-	-	3.5285	3.3095
Pot Cap-1 Maneuver	995	-	-	-	188	554
Stage 1	-	-	-	-	612	-
Stage 2	-	-	-	-	460	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	995	-	-	-	125	554
Mov Cap-2 Maneuver	-	-	-	-	125	-
Stage 1	-	-	-	-	406	-
Stage 2	-	-	-	-	460	-
Approach	EB	WB	SB			
HCM Control Delay, s	3	0	41.5			
HCM LOS	E					
Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	
Capacity (veh/h)	995	-	-	-	346	
HCM Lane V/C Ratio	0.208	-	-	-	0.756	
HCM Control Delay (s)	9.6	1	-	-	41.5	
HCM Lane LOS	A	A	-	-	E	
HCM 95th %tile Q(veh)	0.8	-	-	-	6	

Intersection						
Int Delay, s/veh	4.6					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↑↑	↑		↑	
Traffic Vol, veh/h	134	422	523	24	23	196
Future Vol, veh/h	134	422	523	24	23	196
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, %	-	-2	2	-	-2	-
Peak Hour Factor	93	93	93	93	93	93
Heavy Vehicles, %	2	1	1	0	0	1
Mvmt Flow	144	454	562	26	25	211

Major/Minor	Major1	Major2	Minor2		
Conflicting Flow All	588	0	-	0	1090 575
Stage 1	-	-	-	-	575 -
Stage 2	-	-	-	-	515 -
Critical Hdwy	4.13	-	-	-	6.2 6.015
Critical Hdwy Stg 1	-	-	-	-	5 -
Critical Hdwy Stg 2	-	-	-	-	5.4 -
Follow-up Hdwy	2.219	-	-	-	3.5 3.3095
Pot Cap-1 Maneuver	985	-	-	-	255 536
Stage 1	-	-	-	-	604 -
Stage 2	-	-	-	-	604 -
Platoon blocked, %		-	-	-	
Mov Cap-1 Maneuver	985	-	-	-	205 536
Mov Cap-2 Maneuver	-	-	-	-	205 -
Stage 1	-	-	-	-	486 -
Stage 2	-	-	-	-	604 -

Approach	EB	WB	SB
HCM Control Delay, s	2.7	0	20.9
HCM LOS			C

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	985	-	-	-	458
HCM Lane V/C Ratio	0.146	-	-	-	0.514
HCM Control Delay (s)	9.3	0.6	-	-	20.9
HCM Lane LOS	A	A	-	-	C
HCM 95th %tile Q(veh)	0.5	-	-	-	2.9

Intersection						
Int Delay, s/veh	0.9					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	W		T			T
Traffic Vol, veh/h	12	12	199	19	18	222
Future Vol, veh/h	12	12	199	19	18	222
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	2	-	-	-4
Peak Hour Factor	88	88	88	88	88	88
Heavy Vehicles, %	2	2	20	2	2	13
Mvmt Flow	14	14	226	22	20	252
Major/Minor	Minor1	Major1	Major2			
Conflicting Flow All	529	237	0	0	248	0
Stage 1	237	-	-	-	-	-
Stage 2	292	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.12	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.218	-
Pot Cap-1 Maneuver	510	802	-	-	1318	-
Stage 1	802	-	-	-	-	-
Stage 2	758	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	501	802	-	-	1318	-
Mov Cap-2 Maneuver	501	-	-	-	-	-
Stage 1	802	-	-	-	-	-
Stage 2	744	-	-	-	-	-
Approach	WB	NB	SB			
HCM Control Delay, s	11.1	0	0.6			
HCM LOS	B					
Minor Lane/Major Mvmt	NBT	NBRWBLn1	SBL	SBT		
Capacity (veh/h)	-	-	617	1318	-	
HCM Lane V/C Ratio	-	-	0.044	0.016	-	
HCM Control Delay (s)	-	-	11.1	7.8	0	
HCM Lane LOS	-	-	B	A	A	
HCM 95th %tile Q(veh)	-	-	0.1	0	-	



Intersection						
Int Delay, s/veh	1.1					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	20	19	233	17	17	226
Future Vol, veh/h	20	19	233	17	17	226
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	2	-	-	-4
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	2	2	2	2	2	1
Mvmt Flow	22	21	259	19	19	251

Major/Minor	Minor1	Major1	Major2		
Conflicting Flow All	558	269	0	0	278
Stage 1	269	-	-	-	-
Stage 2	289	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.12
Critical Hdwy Stg 1	5.42	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.218
Pot Cap-1 Maneuver	491	770	-	-	1285
Stage 1	776	-	-	-	-
Stage 2	760	-	-	-	-
Platoon blocked, %			-	-	-
Mov Cap-1 Maneuver	483	770	-	-	1285
Mov Cap-2 Maneuver	483	-	-	-	-
Stage 1	776	-	-	-	-
Stage 2	747	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	11.6	0	0.5
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBRWBLn1	SBL	SBT
Capacity (veh/h)	-	-	590	1285
HCM Lane V/C Ratio	-	-	0.073	0.015
HCM Control Delay (s)	-	-	11.6	7.8
HCM Lane LOS	-	-	B	A
HCM 95th %tile Q(veh)	-	-	0.2	0

Intersection						
Int Delay, s/veh	1.3					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	TT		TT			TT
Traffic Vol, veh/h	18	18	136	22	22	201
Future Vol, veh/h	18	18	136	22	22	201
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	2	-	-	-4
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	1
Mvmt Flow	20	20	148	24	24	218

Major/Minor	Minor1	Major1	Major2		
Conflicting Flow All	426	160	0	0	172
Stage 1	160	-	-	-	-
Stage 2	266	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.12
Critical Hdwy Stg 1	5.42	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.218
Pot Cap-1 Maneuver	585	885	-	-	1405
Stage 1	869	-	-	-	-
Stage 2	779	-	-	-	-
Platoon blocked, %			-	-	-
Mov Cap-1 Maneuver	574	885	-	-	1405
Mov Cap-2 Maneuver	574	-	-	-	-
Stage 1	869	-	-	-	-
Stage 2	764	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	10.5	0	0.8
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBRWBLn1	SBL	SBT
Capacity (veh/h)	-	-	696	1405
HCM Lane V/C Ratio	-	-	0.056	0.017
HCM Control Delay (s)	-	-	10.5	7.6
HCM Lane LOS	-	-	B	A
HCM 95th %tile Q(veh)	-	-	0.2	0.1