TRAFFIC IMPACT STUDY

For

Jernee Mill Industrial
Proposed Cold Storage Facility

Property Located at:

562 Jernee Mill Road (CR 675)
Block 58 – Lots 2.01 & 9
Borough of Sayreville, Middlesex County, NJ

Prepared by:

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Last Revised: June 28, 2024

3184 22-03157

INTRODUCTION

It is proposed to construct two cold storage facilities on a parcel of land that was previously developed with a solid waste disposal facility and is currently developed with a truck parking facility, located along the southbound side of Jernee Mill Road (CR 675) in Sayreville Borough, Middlesex County, New Jersey (see Figure 1 in Appendix A). The site is designated as Block 58 – Lots 2.01 & 9 on the Borough of Sayreville Tax Maps. It is proposed to construct two freezer space buildings totaling 357,378 SF, with one building containing 257,858 SF and one building containing 99,520 SF. ("The Project"). The site is located within the Eco-Industrial Redevelopment Area (RA-EI). Access to the site is currently provided via one full movement driveway along Jernee Mill Road (CR 675) south of Red Oak Lane. It is proposed to close the existing access point and provide access to the site via one ingress-only driveway along Jernee Mill Road (CR 675) along the northern portion of the site, one egress-only driveway along the southern portion of the site, and one full-movement driveway located directly opposite Red Oak Lane which will provide access for passenger vehicles only.

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 turning movement counts (TMC) during the weekday morning and afternoon peak periods at the intersections of Jernee Mill Road (CR 675) & Red Oak Lane.

- 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:

Jernee Mill Road (CR 675) is an Urban Major Collector roadway under County jurisdiction with a general north/south orientation. In the vicinity of the site the posted speed limit is 45 MPH and the roadway provides one travel lane in each direction. Curb and sidewalk are not provided along either side of the roadway. Jernee Mill Road (CR 675) provides a winding horizontal alignment along the site frontage and a slight downgrade from north to south. The land uses along Jernee Mill Road (CR 675) in the vicinity of The Project are primarily industrial.

Red Oak Lane is a private roadway with a general east/west orientation. In the vicinity of the site the speed limit is not posted (25 MPH assumed) and the roadway provides one travel lane in each direction. Curb is provided along both sides of the roadway, while sidewalk is not provided along either side of the roadway. Red Oak Lane provides a straight horizontal alignment in the vicinity of the intersection with Jernee Mill Road (CR 675) and a slight downgrade from east to west. Red Oak Lane provides access to the Red Oak Power Station.

Existing Traffic Volumes

Manual turning movement (MTM) counts were conducted by our office on Thursday, June 20, 2024 from 7:00 AM to 9:00 AM and from 4:30 PM to 6:30 PM at the intersection of Jernee Mill Road (CR 675) & Red Oak Lane.

Review of the collected traffic data reveals that the weekday morning peak street hour (PSH) occurs between 7:45 AM - 8:45 AM and the weekday evening PSH occurs between 5:00 PM - 6:00 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 1 describes the level of service ranges for unsignalized (stop controlled) intersections.

Table 1
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

It should be noted that the analyses within the *Highway Capacity Manual* assume a random arrival for all the movements, which may not be the case if an adjacent traffic signal is present that platoons vehicles.

All capacity analyses were performed utilizing Synchro 11 software. It should be noted that the existing percentage of trucks and peak hour factors were used in the existing analysis. Table 2 summarizes the existing levels of service (LOS) and delays. All capacity analysis calculation worksheets are contained in Appendix C.

Table 2
Existing Levels of Service

Intersection	Direction/ Movement		AM PSH	PM PSH
Jernee Mill Road (CR 675) & Red Oak Lane	WB	LR	b (12)	a (10)
	SB	L	a (8)	a (8)

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

The following are discussions pertaining to each of the existing intersections analyzed.

Jernee Mill Road (CR 675) & Red Oak Lane

Red Oak Lane intersects Jernee Mill Road (CR 675) to form a T-intersection with the westbound approach of Red Oak Lane operating under stop control. The northbound approach of Jernee Mill Road (CR 675) provides a shared through/right turn lane, while the southbound approach provides a shared left turn/through lane. The westbound approach of Red Oak Lane provides a shared left turn/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 2 for the individual movement levels of service and delays.

FUTURE CONDITIONS

Traffic volumes and operational analyses were developed for both the 2026 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 Sayreville Borough Planning Board staff, there are no other developments in the vicinity of the site that have been approved but not yet constructed that are identified as significant traffic generators. It was assumed that the background growth rate was adequate to account for the traffic associated with all developments not listed.

Future 2026 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. Figure 3, in Appendix A, shows the 2026 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 157 – High-Cube Cold Storage Warehouse in the Institute of Transportation Engineers' (ITE) publication, *Trip Generation, 11th Edition.* This publication sets forth trip generation rates based on empirical traffic count data conducted at numerous research sites. Truck trip generation projections were prepared utilizing the Truck Trip Generation Plots contained within *Trip Generation, 11th Edition*. The directional distribution of total trips was taken from the trip generation data published under LUC 154 – High-Cube Transload and Short-Term Storage Warehouse. Additionally, the directional distribution of truck trips during the weekday evening peak hour was assumed to be a 50% entering, 50% exiting distribution, consistent with the daily directional distribution for LUC 157. Table 3 below details the traffic volumes associated with the subject project.

Table 3
Trip Generation

Land Use	Trip Type	AM PSH			PM PSH		
		In	Out	Total	In	Out	Total
257,858 SF Cold Storage Warehouse	Total	21	7	28	8	23	31
	Trucks	3	5	8	4	4	8
	Cars	18	2	20	4	19	23
99,520 SF Cold Storage Warehouse	Total	8	3	11	3	9	12
	Trucks	1	2	3	2	1	3
	Cars	7	1	8	1	8	9
Total	**Total**	**29**	**10**	**39**	**11**	**32**	**43**
	Trucks	**4**	**7**	**11**	**6**	**5**	**11**
	Cars	**25**	**3**	**28**	**5**	**27**	**32**

As shown in Table 3, the proposed development is calculated to generate 39 trips during the weekday morning peak hour and 43 trips during the weekday evening peak hour. It is noted that the number of new trips falls below the industry accepted standard of a significant increase in traffic of 100 trips. Additionally, NJDOT has determined that the same 100 vehicle trip threshold is considered a "significant increase in traffic," hence, it is not anticipated that the proposed development will result in a significant degradation of operating conditions for the adjacent roadway network.

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. Figures 4-8, located in Appendix A, illustrate the Passenger Car Traffic Trip Distribution, Passenger 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 9.

Future Capacity Analysis

Operational conditions at the study intersections were analyzed under the No Build and Build conditions and are summarized in Table 4 below.

Table 4
Future Levels of Service

Intersection	Direction/ Movement		AM PSH		PM PSH	
			No Build	Build	No Build	Build
Jernee Mill Road (CR 675) & Red Oak Lane/Central Site Driveway	EB	LTR	-	b (11)	-	b (12)
	WB	LTR	b (12)	b (13)	a (10)	a (10)
	NB	L	-	a (8)	-	a (8)
	SB	L	a (8)	a (8)	a (8)	a (8)
Jernee Mill Road (CR 675) & Northern Site Driveway	NB	L	-	a (8)	-	a (8)
Jernee Mill Road (CR 675) & Southern Site Driveway	EB	LR	-	a (10)	-	b (11)

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

Jernee Mill Road (CR 675) & Red Oak Lane/Central Site Driveway

The central site driveway is proposed to intersect Jernee Mill Road (CR 675) opposite Red Oak Lane to form a four-leg unsignalized intersection with the eastbound approach of the Central Site Driveway and the westbound approach of Red Oak Lane operating under stop control. All approaches to the intersection are proposed to provide a shared left turn/through/right turn lane.

With the addition of the eastbound approach of the Central Driveway and with the addition of site generated traffic, each intersection movement is anticipated to continue to operate at levels of service "B" or better during the analyzed peak hours. See Table 4 for the individual movement levels of service and delays.

Jernee Mill Road (CR 675) & the Northern Site Driveway

The northern site driveway is proposed to intersect Jernee Mill Road (CR 675) north of its intersection with Red Oak Lane to form an unsignalized T-intersection with the site driveway providing one lane for travel away from the intersection. The northbound approach of Jernee Mill Road (CR 675) is proposed to provide a shared left turn/through lane, while the southbound approach is proposed to provide a shared through/right turn lane.

As designed, the driveway is anticipated to operate at level of service "A" during the studied peak hours. See Table 4 for the individual movement levels of service and delays.

Jernee Mill Road (CR 675) & the Southern Site Driveway

The southern driveway is proposed to intersect Jernee Mill Road (CR 675) south of its intersection with Red Oak Lane to form an unsignalized T-intersection with the eastbound approach of the site driveway operating under stop control. The northbound approach of Jernee Mill Road (CR 675) is proposed to provide a shared left turn/through lane, while the southbound approach is proposed to provide a shared through/right turn lane. The eastbound approach of the site driveway is proposed to provide a shared left turn/right turn lane.

As designed, the driveway is anticipated to operate at levels of service "B" or better during the studied peak hours. See Table 4 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 one ingress-only driveway along Jernee Mill Road (CR 675) along the northern portion of the site, one egress-only driveway along the southern portion of the site, and one full-movement driveway located directly opposite Red Oak Lane which will provide access for passenger vehicles only. Truck access will be restricted to the northern ingress-only driveway and the southern egress-only driveway. The central full-movement driveway will be limited to passenger vehicles only.

The parking lot will be serviced by parking aisles with widths of 24', which satisfy the Ordinance's minimum requirement of 24', respectively. 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 a large wheel base vehicle, such as a tractor with a 53' trailer, along with the automobile traffic anticipated.

Parking

The Sayreville Borough Ordinance sets forth a parking requirement of 1 parking space per 3,500 square feet for cold storage warehouses. This equates to a parking requirement of 102 spaces for the proposed 357,378 SF cold storage facility. The site as proposed provides 146 parking spaces, inclusive of 8 make-ready electric vehicle charging spaces and two handicap spaces, and 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'.

FINDINGS & CONCLUSIONS

Findings

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

- The proposed 357,378 SF cold storage facility is projected to generate 29 entering trips and 10 exiting trips during the weekday morning peak hour and 11 entering trips and 32 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 one ingress-only driveway along Jernee Mill Road (CR 675) along the northern portion of the site, one egress-only driveway along the southern portion of the site, and one full-movement driveway located directly opposite Red Oak Lane.

- With the addition of the eastbound approach of the Central Site Driveway and with the addition of site generated traffic, the intersection of Jernee Mill Road (CR 675) and Red Oak Lane/Central Site Driveway is anticipated to operate at levels of service "B" or better during the peak hours studied.

- As designed, the intersection of Jernee Mill Road (CR 675) and the Northern Site Driveway is anticipated to operate at level of service "A" during the peak hours studied.

- As designed, the intersection of Jernee Mill Road (CR 675) and the Southern Site Driveway is anticipated to operate at levels of service "B" or better during the peak hours studied.

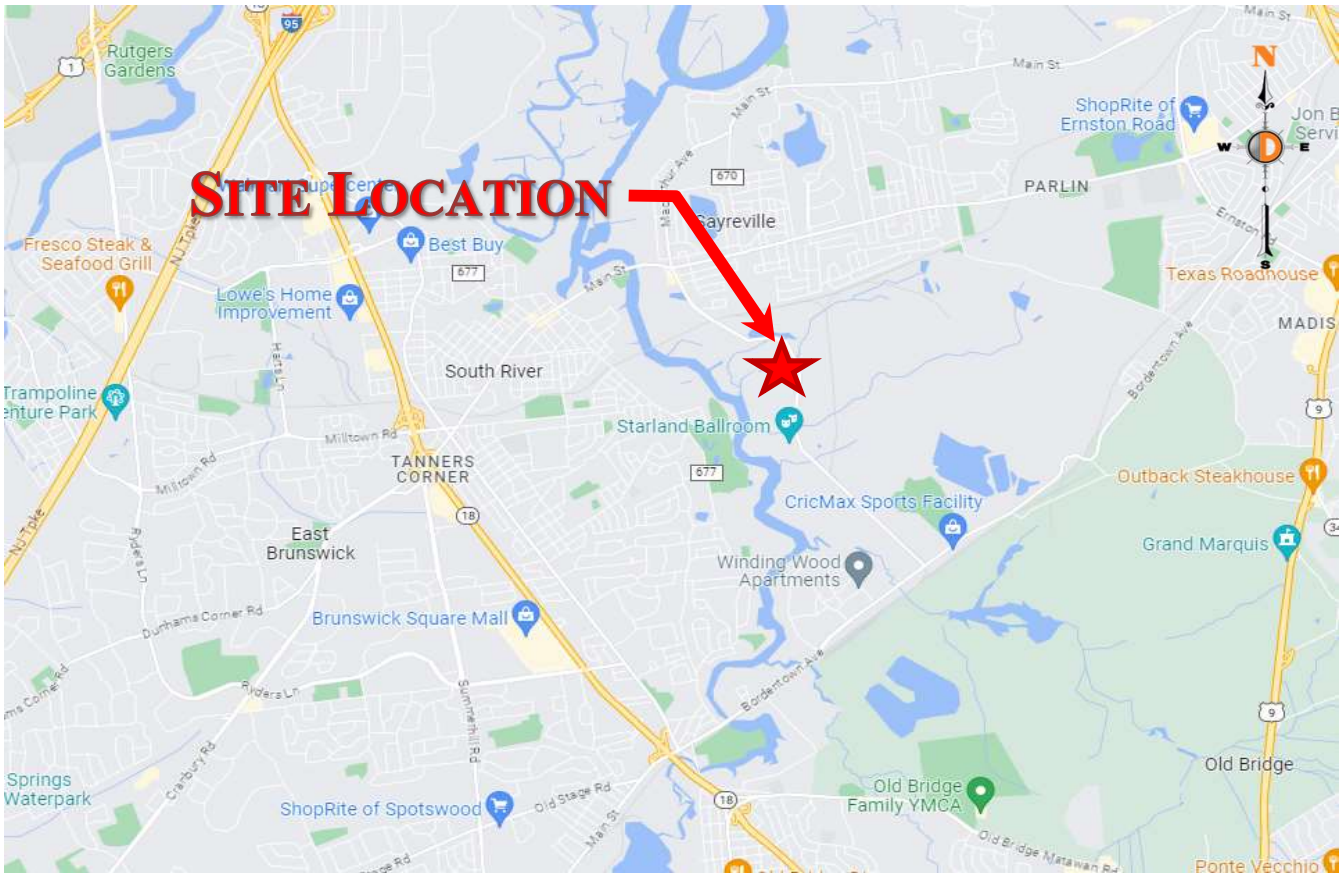
- As proposed, The Project's site driveways and internal circulation have been designed to provide for safe and efficient movement of automobiles and large wheel base vehicles.

- 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 Borough of Sayreville and Middlesex 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 effective circulation throughout the site and provides adequate parking to accommodate The Project's needs.

Appendix A
Traffic Volume Figures



Proposed Cold Storage Facility
Traffic Impact Study
3184 22-03157

Figure 1

Site Location Map

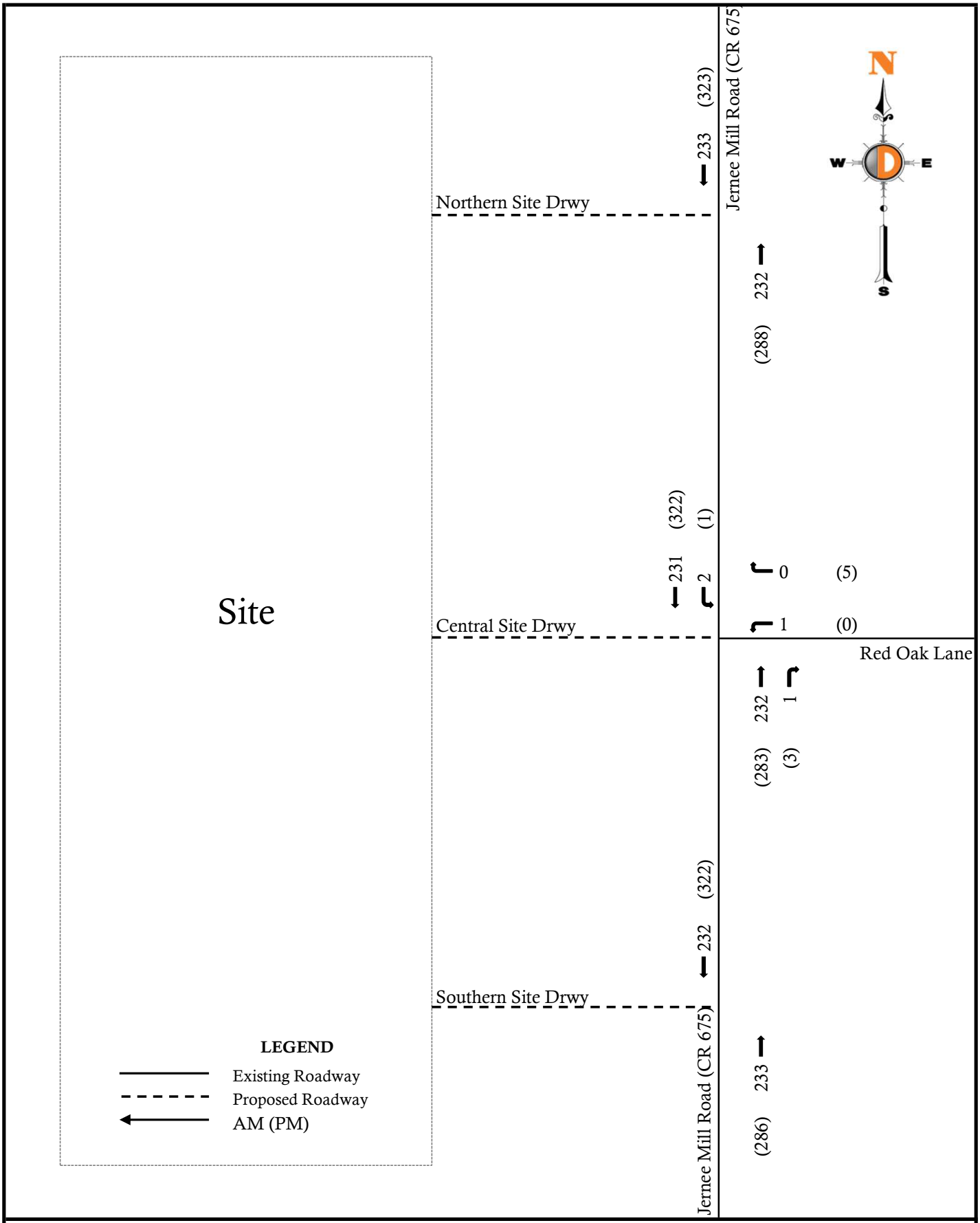


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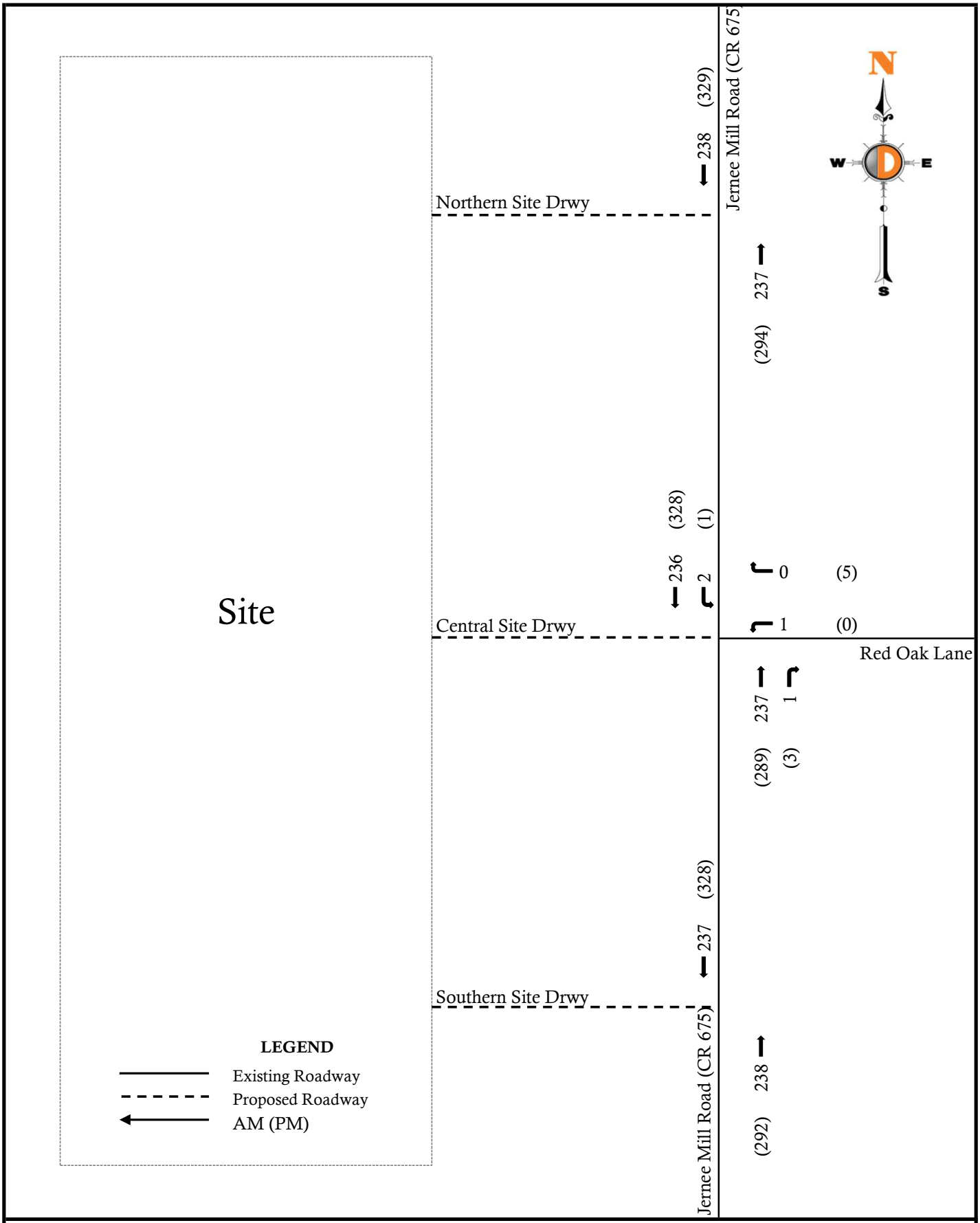
Figure 2

Existing Traffic Volumes



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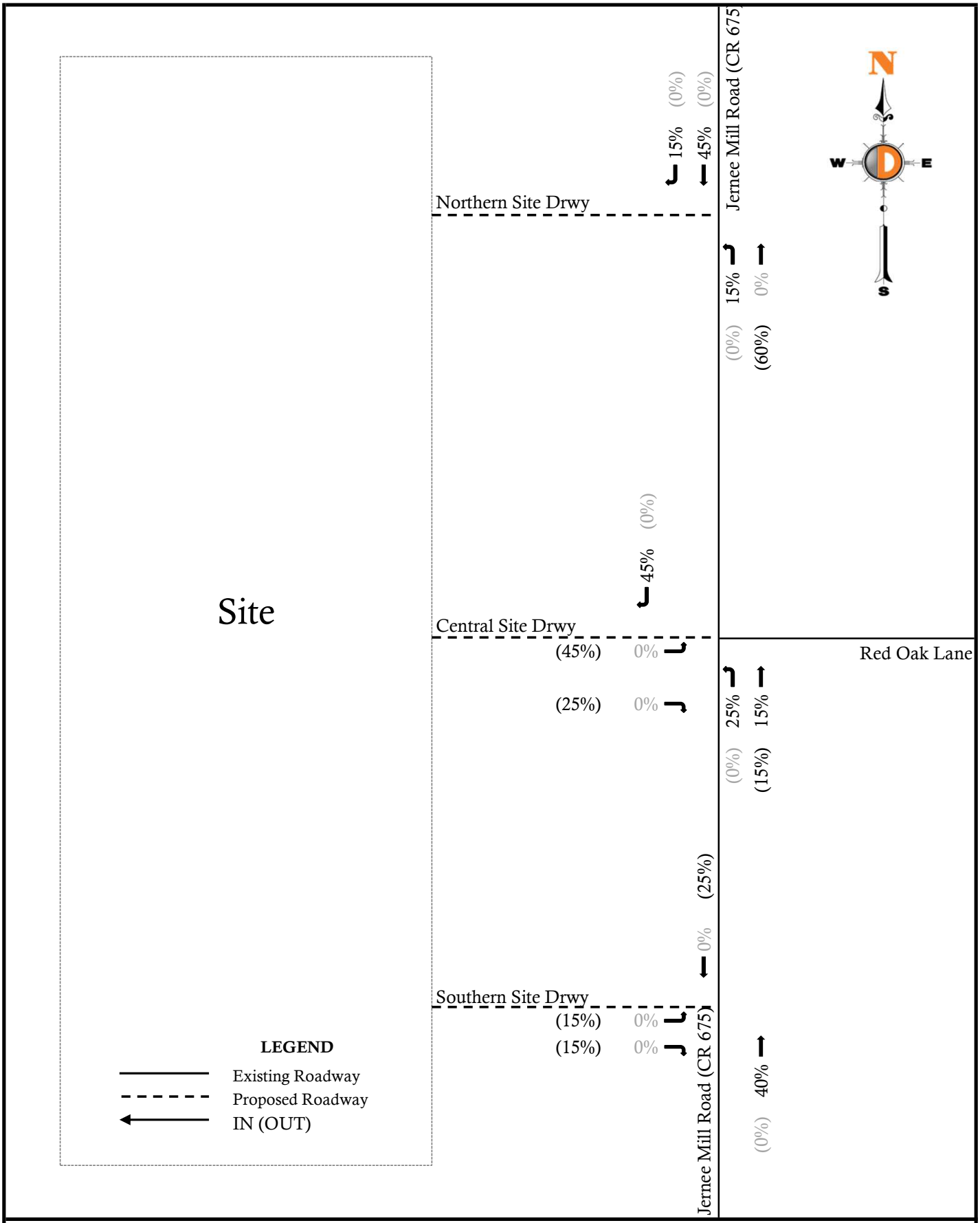
3184 22-03157

Figure 3

No Build Traffic Volumes



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3184 22-03157

Figure 4

Percent Distribution (Passenger Car Trips)

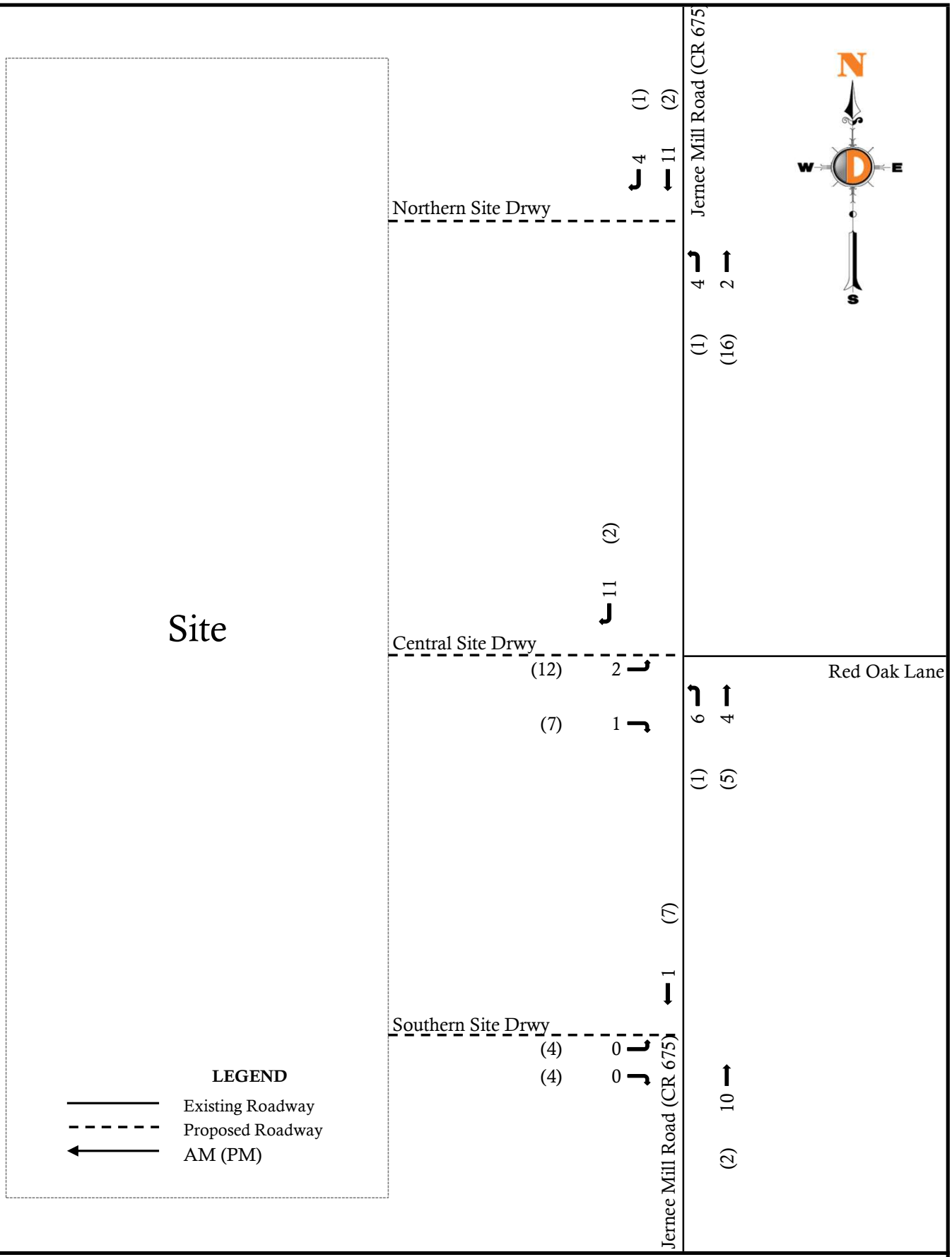

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Figure 5

Passenger Car Site Generated Trips

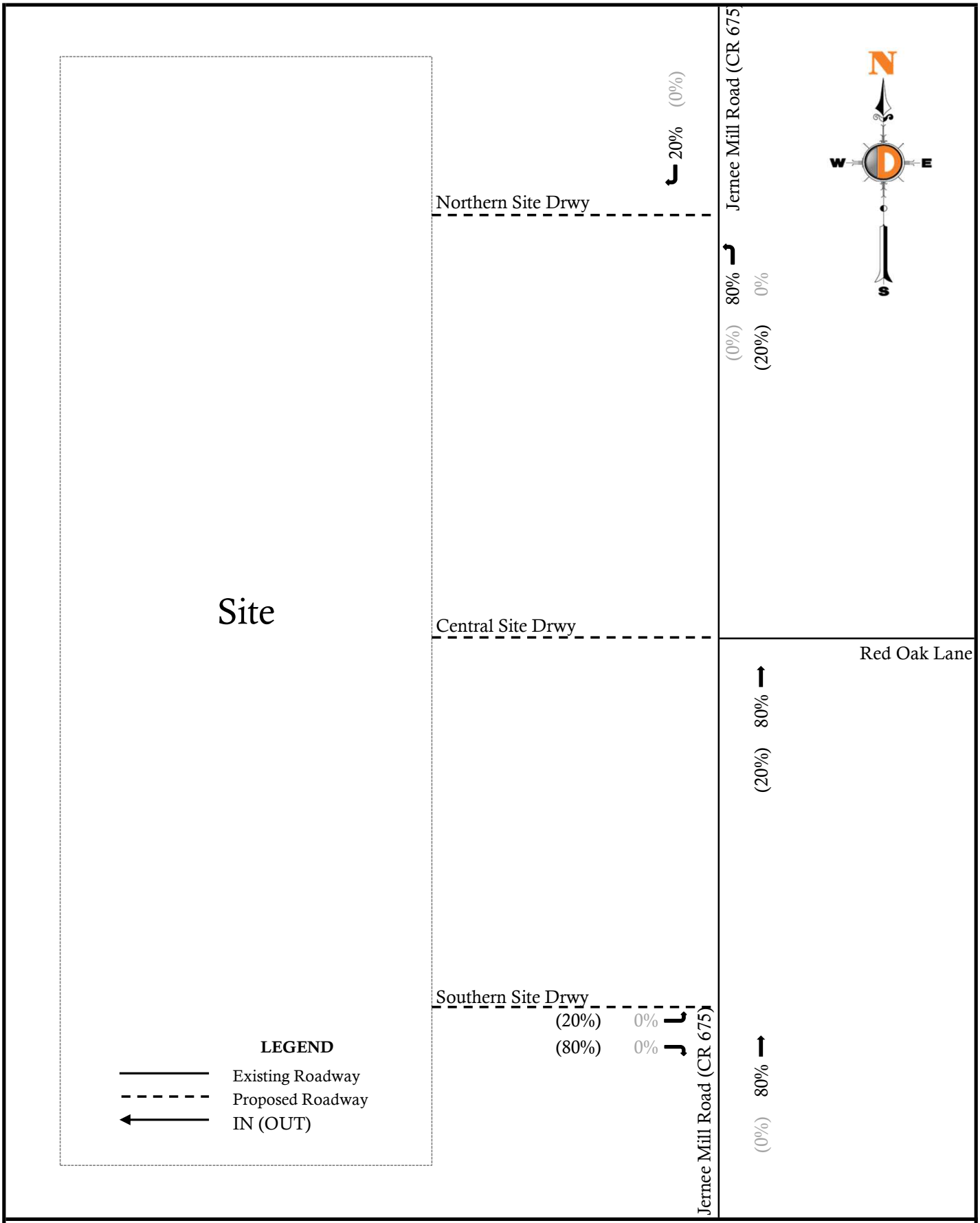

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Figure 6

Percent Distribution (Truck Trips)

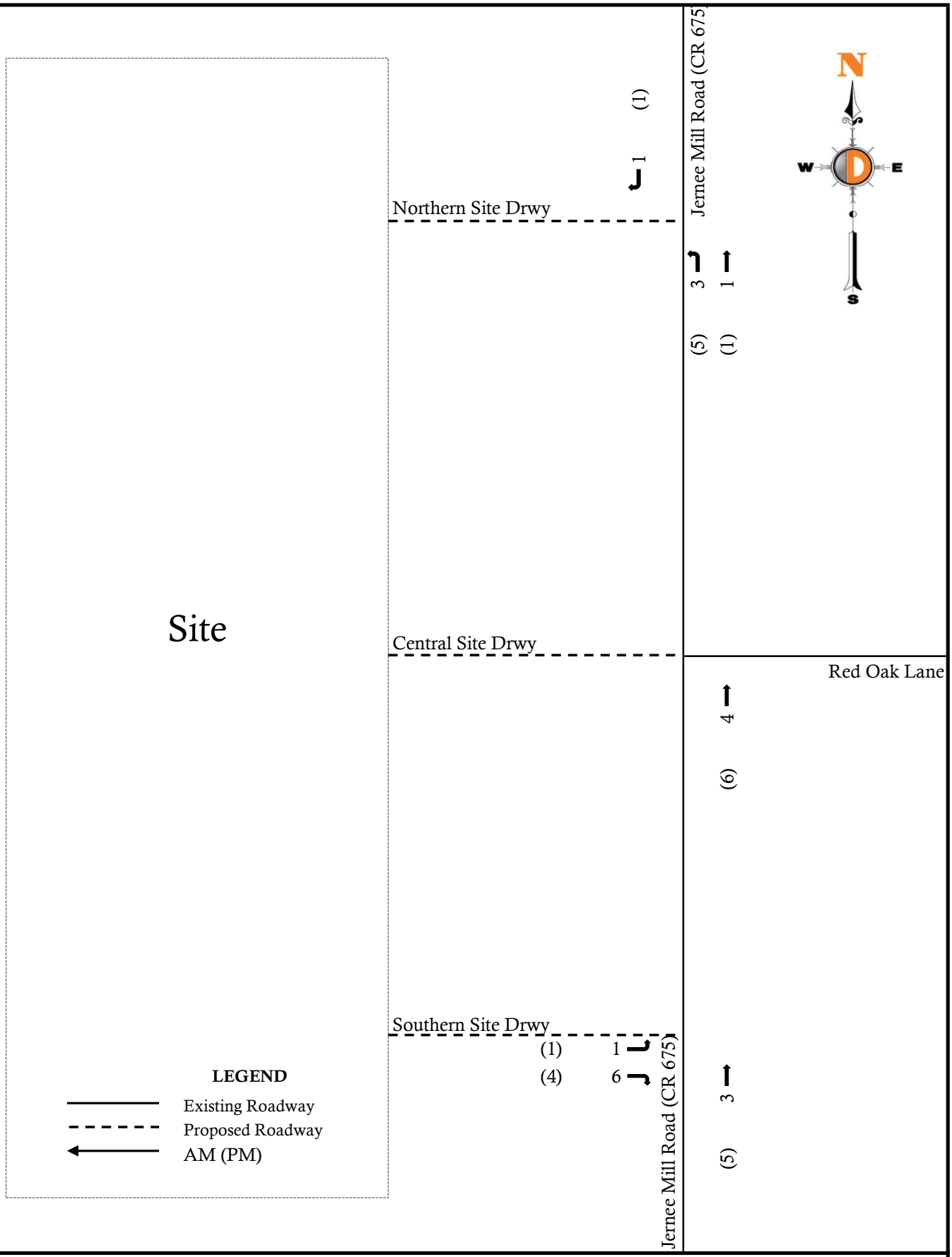

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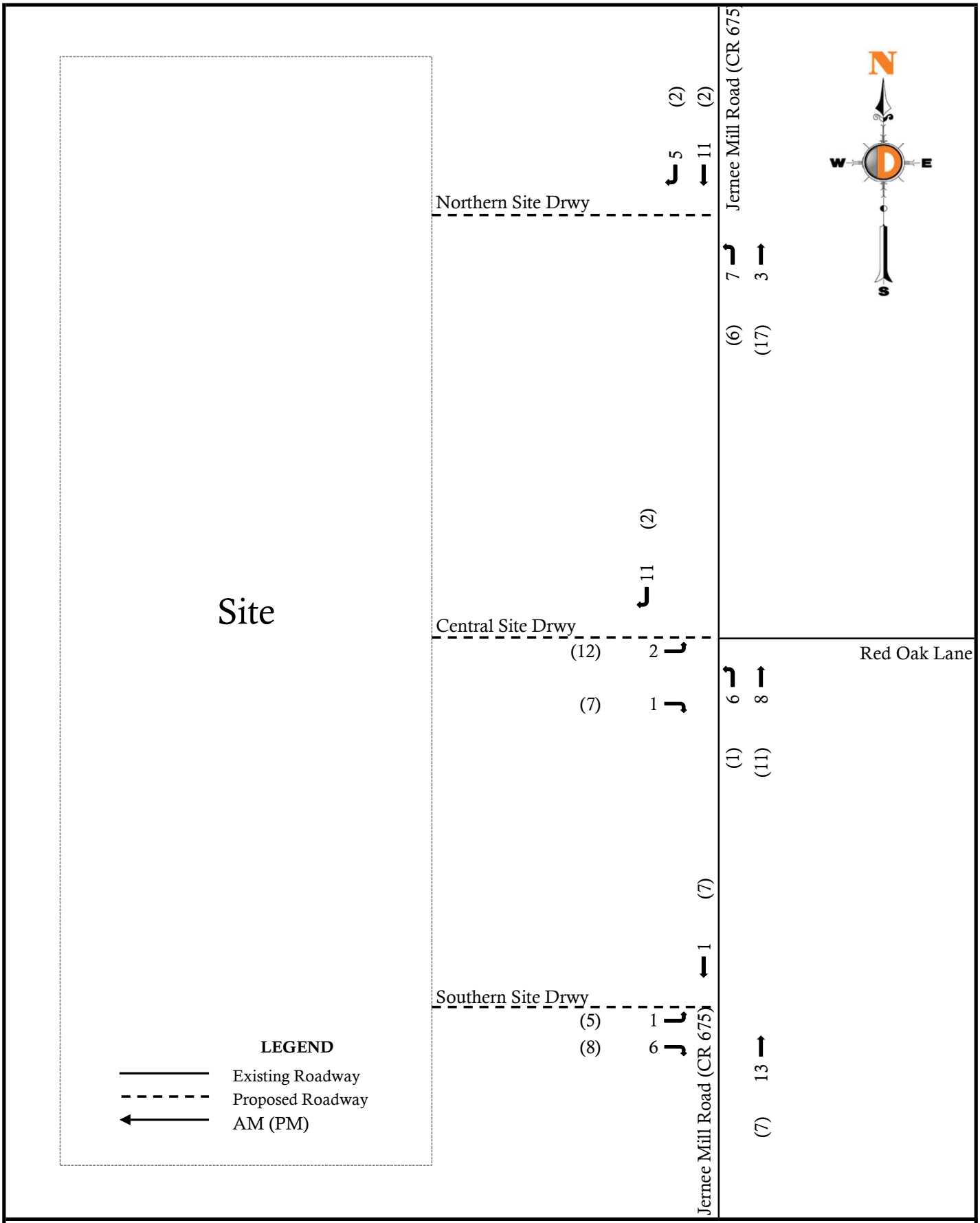
Figure 7

Truck Site Generated Trips



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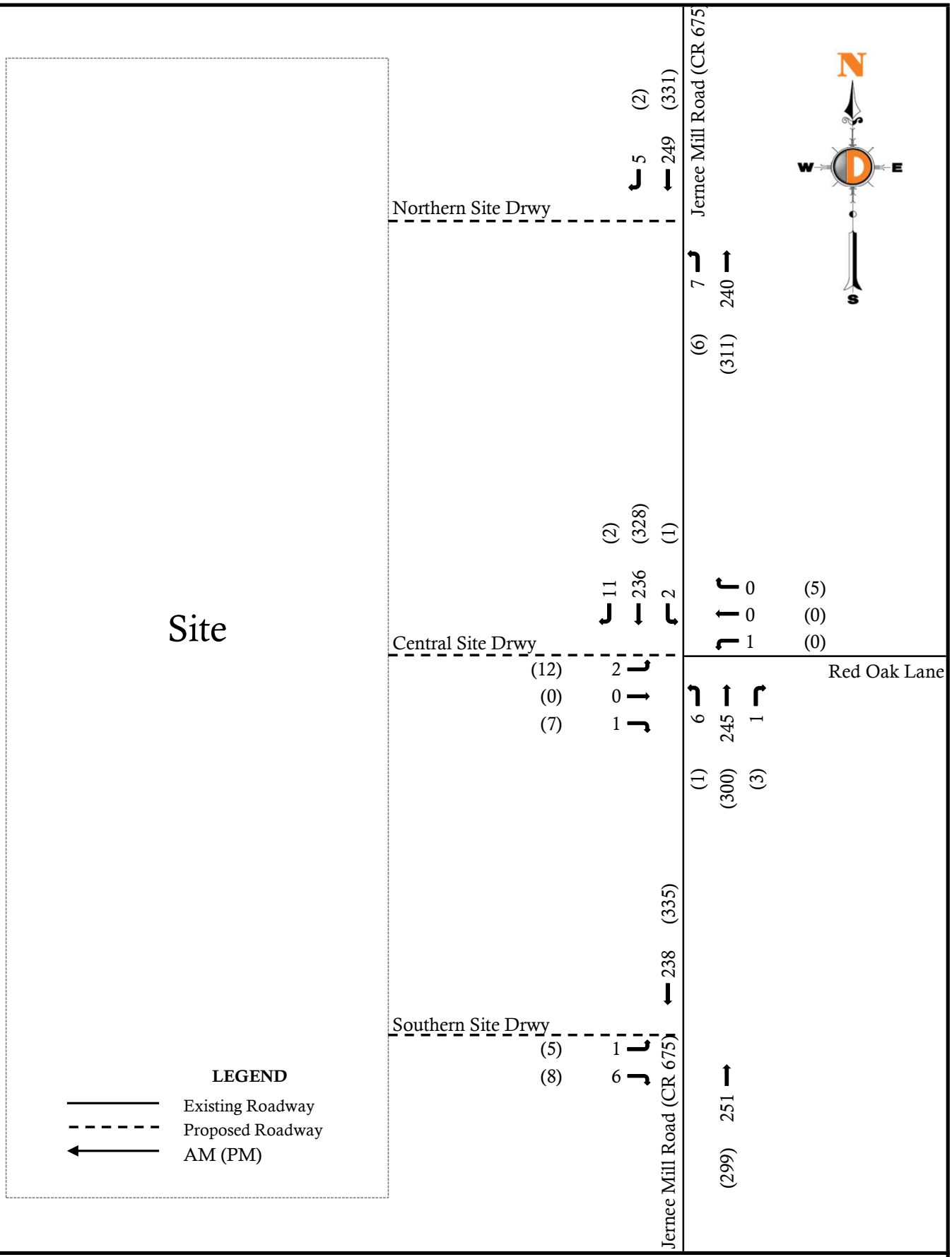
3184 22-03157

Figure 8

Total Site Generated Trips



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Traffic Impact Study
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Figure 9

Build Traffic Volumes

Appendix B
Project Information

Dynamic Traffic, LLC

www.dynamictraffic.com
732-681-0760

E/W: Red Oak Lane
N/S: Jernee Mill Road
Town/County: Sayreville/Middlesex
Job #: 3184 22-03157

File Name : Jernee Mill Rd & Red Oak Ln - AMPM
Site Code : 00000000
Start Date : 6/20/2024
Page No : 1

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

	Red Oak Lane Westbound				Jernee Mill Road Northbound				Jernee Mill Road Southbound				
Start Time	Left	Right	Peds	App. Total	Thru	Right	Peds	App. Total	Left	Thru	Peds	App. Total	Int. Total
07:00 AM	0	0	0	0	48	0	0	48	1	47	0	48	96
07:15 AM	0	0	0	0	36	0	0	36	0	43	0	43	79
07:30 AM	0	0	0	0	48	0	0	48	0	34	0	34	82
07:45 AM	0	0	0	0	64	0	0	64	0	55	0	55	119
Total	0	0	0	0	196	0	0	196	1	179	0	180	376
08:00 AM	1	0	0	1	67	0	0	67	0	55	0	55	123
08:15 AM	0	0	0	0	50	0	0	50	1	42	0	43	93
08:30 AM	0	0	0	0	51	1	0	52	1	79	0	80	132
08:45 AM	0	0	0	0	53	0	0	53	0	48	0	48	101
Total	1	0	0	1	221	1	0	222	2	224	0	226	449
*** BREAK ***													
04:30 PM	0	0	0	0	60	0	0	60	1	61	0	62	122
04:45 PM	1	0	0	1	58	0	0	58	0	79	0	79	138
Total	1	0	0	1	118	0	0	118	1	140	0	141	260
05:00 PM	0	1	0	1	78	3	0	81	0	80	0	80	162
05:15 PM	0	2	0	2	68	0	0	68	1	81	0	82	152
05:30 PM	0	1	0	1	58	0	0	58	0	78	0	78	137
05:45 PM	0	1	0	1	79	0	0	79	0	83	0	83	163
Total	0	5	0	5	283	3	0	286	1	322	0	323	614
06:00 PM	1	0	0	1	63	0	0	63	0	79	0	79	143
06:15 PM	0	0	0	0	58	0	0	58	0	88	0	88	146
Grand Total	3	5	0	8	939	4	0	943	5	1032	0	1037	1988
Apprch %	37.5	62.5	0		99.6	0.4	0		0.5	99.5	0		
Total %	0.2	0.3	0	0.4	47.2	0.2	0	47.4	0.3	51.9	0	52.2	
Cars	3	5	0	8	906	4	0	910	5	984	0	989	1907
% Cars	100	100	0	100	96.5	100	0	96.5	100	95.3	0	95.4	95.9
Trucks (SU)	0	0	0	0	21	0	0	21	0	34	0	34	55
% Trucks (SU)	0	0	0	0	2.2	0	0	2.2	0	3.3	0	3.3	2.8
Trucks (TT)	0	0	0	0	12	0	0	12	0	14	0	14	26
% Trucks (TT)	0	0	0	0	1.3	0	0	1.3	0	1.4	0	1.4	1.3

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732-681-0760

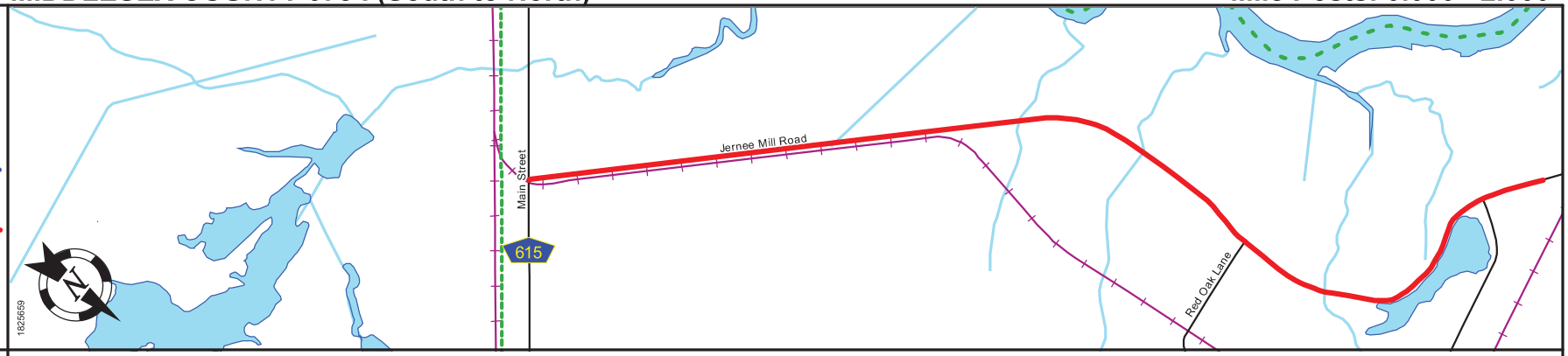
E/W: Red Oak Lane
N/S: Jernee Mill Road
Town/County: Sayreville/Middlesex
Job #: 3184 22-03157

File Name : Jernee Mill Rd & Red Oak Ln - AMPM
Site Code : 00000000
Start Date : 6/20/2024
Page No : 2

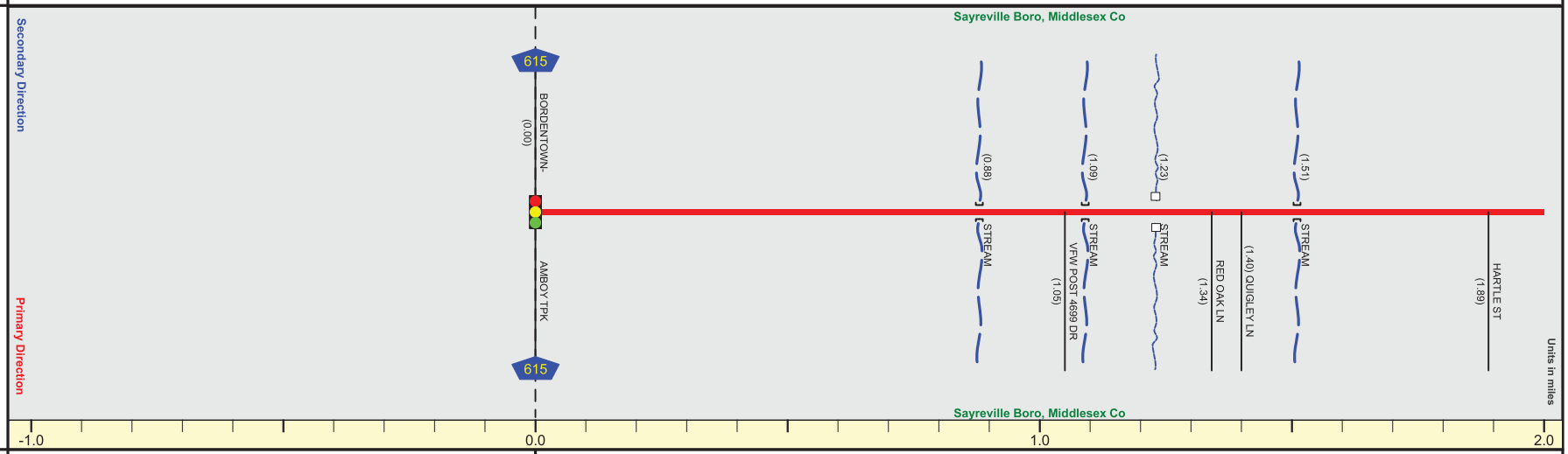
	Red Oak Lane Westbound				Jernee Mill Road Northbound				Jernee Mill Road Southbound				
Start Time	Left	Right	Peds	App. Total	Thru	Right	Peds	App. Total	Left	Thru	Peds	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 11:45 AM - Peak 1 of 1													
Peak Hour for Entire Intersection Begins at 07:45 AM													
07:45 AM	0	0	0	0	64	0	0	64	0	55	0	55	119
08:00 AM	1	0	0	1	67	0	0	67	0	55	0	55	123
08:15 AM	0	0	0	0	50	0	0	50	1	42	0	43	93
08:30 AM	0	0	0	0	51	1	0	52	1	79	0	80	132
Total Volume	1	0	0	1	232	1	0	233	2	231	0	233	467
% App. Total	100	0	0		99.6	0.4	0		0.9	99.1	0		
PHF	.250	.000	.000	.250	.866	.250	.000	.869	.500	.731	.000	.728	.884
Cars	1	0	0	1	218	1	0	219	2	212	0	214	434
% Cars	100	0	0	100	94.0	100	0	94.0	100	91.8	0	91.8	92.9
Trucks (SU)	0	0	0	0	9	0	0	9	0	12	0	12	21
% Trucks (SU)	0	0	0	0	3.9	0	0	3.9	0	5.2	0	5.2	4.5
Trucks (TT)	0	0	0	0	5	0	0	5	0	7	0	7	12
% Trucks (TT)	0	0	0	0	2.2	0	0	2.1	0	3.0	0	3.0	2.6
Peak Hour Analysis From 12:00 PM to 06:15 PM - Peak 1 of 1													
Peak Hour for Entire Intersection Begins at 05:00 PM													
05:00 PM	0	1	0	1	78	3	0	81	0	80	0	80	162
05:15 PM	0	2	0	2	68	0	0	68	1	81	0	82	152
05:30 PM	0	1	0	1	58	0	0	58	0	78	0	78	137
05:45 PM	0	1	0	1	79	0	0	79	0	83	0	83	163
Total Volume	0	5	0	5	283	3	0	286	1	322	0	323	614
% App. Total	0	100	0		99	1	0		0.3	99.7	0		
PHF	.000	.625	.000	.625	.896	.250	.000	.883	.250	.970	.000	.973	.942
Cars	0	5	0	5	281	3	0	284	1	314	0	315	604
% Cars	0	100	0	100	99.3	100	0	99.3	100	97.5	0	97.5	98.4
Trucks (SU)	0	0	0	0	0	0	0	0	0	8	0	8	8
% Trucks (SU)	0	0	0	0	0	0	0	0	0	2.5	0	2.5	1.3
Trucks (TT)	0	0	0	0	2	0	0	2	0	0	0	0	2
% Trucks (TT)	0	0	0	0	0.7	0	0	0.7	0	0	0	0	0.3

MIDDLESEX COUNTY 675 I (South to North)

Mile Posts: 0.000 - 2.000



Pavement	
Shoulder	
Number of Lanes	
Speed Limit	
Street Name	



Street Name	Jernee Mill Road
Jurisdiction	County
Functional Class	Urban Major Collector
Federal Aid - NHS Sy	STP
Control Section	
Speed Limit	45
Number of Lanes	2
Med. Type	None
Med. Width	0
Pavement	30 24
Shoulder	10 4 2 8 2 6
Traffic Volume	6,078 (2017)
Traffic Sta. ID	4-4-611
Structure No.	
Enlarged Views	

Begin Middlesex County 675 I MP=0

Page Created: March, 2019

SRI = 120006751_

Date last inventoried: June 2011

Appendix C
Capacity Analysis

Intersection	
Int Delay, s/veh	0.1

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	1	0	232	1	2	231
Future Vol, veh/h	1	0	232	1	2	231
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, %	-3	-	1	-	-	-1
Peak Hour Factor	88	88	88	88	88	88
Heavy Vehicles, %	0	0	6	0	0	8
Mvmt Flow	1	0	264	1	2	263

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	531	264	0	0	265	0
Stage 1	264	-	-	-	-	-
Stage 2	267	-	-	-	-	-
Critical Hdwy	5.8	5.9	-	-	4.1	-
Critical Hdwy Stg 1	4.8	-	-	-	-	-
Critical Hdwy Stg 2	4.8	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	-	-	2.2	-
Pot Cap-1 Maneuver	560	797	-	-	1311	-
Stage 1	820	-	-	-	-	-
Stage 2	818	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	558	797	-	-	1311	-
Mov Cap-2 Maneuver	558	-	-	-	-	-
Stage 1	820	-	-	-	-	-
Stage 2	816	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s/v	11.46	0	0.07
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	558	15	-
HCM Lane V/C Ratio	-	-	0.002	0.002	-
HCM Control Delay (s/veh)	-	-	11.5	7.8	0
HCM Lane LOS	-	-	B	A	A
HCM 95th %tile Q(veh)	-	-	0	0	-

Intersection	
Int Delay, s/veh	0.1

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	0	5	283	3	1	322
Future Vol, veh/h	0	5	283	3	1	322
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, %	-3	-	1	-	-	-1
Peak Hour Factor	94	94	94	94	94	94
Heavy Vehicles, %	0	0	1	0	0	3
Mvmt Flow	0	5	301	3	1	343

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	647	303	0	0	304	0
Stage 1	303	-	-	-	-	-
Stage 2	345	-	-	-	-	-
Critical Hdwy	5.8	5.9	-	-	4.1	-
Critical Hdwy Stg 1	4.8	-	-	-	-	-
Critical Hdwy Stg 2	4.8	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	-	-	2.2	-
Pot Cap-1 Maneuver	488	761	-	-	1268	-
Stage 1	793	-	-	-	-	-
Stage 2	765	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	488	761	-	-	1268	-
Mov Cap-2 Maneuver	488	-	-	-	-	-
Stage 1	793	-	-	-	-	-
Stage 2	764	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s/v	9.77	0	0.02
HCM LOS	A		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	761	6	-
HCM Lane V/C Ratio	-	-	0.007	0.001	-
HCM Control Delay (s/veh)	-	-	9.8	7.8	0
HCM Lane LOS	-	-	A	A	A
HCM 95th %tile Q(veh)	-	-	0	0	-

Intersection	
Int Delay, s/veh	0.1

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	1	0	237	1	2	236
Future Vol, veh/h	1	0	237	1	2	236
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, %	-3	-	1	-	-	-1
Peak Hour Factor	88	88	88	88	88	88
Heavy Vehicles, %	0	0	6	0	0	8
Mvmt Flow	1	0	269	1	2	268

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	543	270	0	0	270	0
Stage 1	270	-	-	-	-	-
Stage 2	273	-	-	-	-	-
Critical Hdwy	5.8	5.9	-	-	4.1	-
Critical Hdwy Stg 1	4.8	-	-	-	-	-
Critical Hdwy Stg 2	4.8	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	-	-	2.2	-
Pot Cap-1 Maneuver	552	791	-	-	1305	-
Stage 1	816	-	-	-	-	-
Stage 2	814	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	551	791	-	-	1305	-
Mov Cap-2 Maneuver	551	-	-	-	-	-
Stage 1	816	-	-	-	-	-
Stage 2	812	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s/v	11.55	0	0.07
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	551	15	-
HCM Lane V/C Ratio	-	-	0.002	0.002	-
HCM Control Delay (s/veh)	-	-	11.5	7.8	0
HCM Lane LOS	-	-	B	A	A
HCM 95th %tile Q(veh)	-	-	0	0	-

Intersection	
Int Delay, s/veh	0.1

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	0	5	289	3	1	328
Future Vol, veh/h	0	5	289	3	1	328
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, %	-3	-	1	-	-	-1
Peak Hour Factor	94	94	94	94	94	94
Heavy Vehicles, %	0	0	1	0	0	3
Mvmt Flow	0	5	307	3	1	349

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	660	309	0	0	311	0
Stage 1	309	-	-	-	-	-
Stage 2	351	-	-	-	-	-
Critical Hdwy	5.8	5.9	-	-	4.1	-
Critical Hdwy Stg 1	4.8	-	-	-	-	-
Critical Hdwy Stg 2	4.8	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	-	-	2.2	-
Pot Cap-1 Maneuver	481	755	-	-	1261	-
Stage 1	789	-	-	-	-	-
Stage 2	760	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	481	755	-	-	1261	-
Mov Cap-2 Maneuver	481	-	-	-	-	-
Stage 1	789	-	-	-	-	-
Stage 2	759	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s/v	9.8	0	0.02
HCM LOS	A		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	755	5	-
HCM Lane V/C Ratio	-	-	0.007	0.001	-
HCM Control Delay (s/veh)	-	-	9.8	7.9	0
HCM Lane LOS	-	-	A	A	A
HCM 95th %tile Q(veh)	-	-	0	0	-

Intersection	
Int Delay, s/veh	0.2

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	2	0	1	1	0	0	6	245	1	2	236	11
Future Vol, veh/h	2	0	1	1	0	0	6	245	1	2	236	11
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	-5	-	-	-3	-	-	1	-	-	-1	-
Peak Hour Factor	88	88	88	88	88	88	88	88	88	88	88	88
Heavy Vehicles, %	0	0	0	0	0	0	0	6	0	0	8	0
Mvmt Flow	2	0	1	1	0	0	7	278	1	2	268	13

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	571	572	274	565	578	279	281	0	0	280	0	0
Stage 1	279	279	-	293	293	-	-	-	-	-	-	-
Stage 2	292	293	-	273	285	-	-	-	-	-	-	-
Critical Hdwy	6.1	5.5	5.7	6.5	5.9	5.9	4.1	-	-	4.1	-	-
Critical Hdwy Stg 1	5.1	4.5	-	5.5	4.9	-	-	-	-	-	-	-
Critical Hdwy Stg 2	5.1	4.5	-	5.5	4.9	-	-	-	-	-	-	-
Follow-up Hdwy	3.5	4	3.3	3.5	4	3.3	2.2	-	-	2.2	-	-
Pot Cap-1 Maneuver	509	507	799	482	473	783	1293	-	-	1295	-	-
Stage 1	791	739	-	756	708	-	-	-	-	-	-	-
Stage 2	781	731	-	772	712	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	505	503	799	477	469	783	1293	-	-	1295	-	-
Mov Cap-2 Maneuver	505	503	-	477	469	-	-	-	-	-	-	-
Stage 1	789	737	-	751	703	-	-	-	-	-	-	-
Stage 2	776	726	-	769	711	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s/v	11.29	12.56	0.19	0.06
HCM LOS	B	B		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	43	-	-	576	477	14	-	-
HCM Lane V/C Ratio	0.005	-	-	0.006	0.002	0.002	-	-
HCM Control Delay (s/veh)	7.8	0	-	11.3	12.6	7.8	0	-
HCM Lane LOS	A	A	-	B	B	A	A	-
HCM 95th %tile Q(veh)	0	-	-	0	0	0	-	-

Intersection	
Int Delay, s/veh	0.5

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	12	0	7	0	0	5	1	300	3	1	328	2
Future Vol, veh/h	12	0	7	0	0	5	1	300	3	1	328	2
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	-5	-	-	-3	-	-	1	-	-	-1	-
Peak Hour Factor	94	94	94	94	94	94	94	94	94	94	94	94
Heavy Vehicles, %	0	0	0	0	0	0	0	1	0	0	3	0
Mvmt Flow	13	0	7	0	0	5	1	319	3	1	349	2

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	673	677	350	674	676	321	351	0	0	322	0	0
Stage 1	352	352	-	323	323	-	-	-	-	-	-	-
Stage 2	321	324	-	351	353	-	-	-	-	-	-	-
Critical Hdwy	6.1	5.5	5.7	6.5	5.9	5.9	4.1	-	-	4.1	-	-
Critical Hdwy Stg 1	5.1	4.5	-	5.5	4.9	-	-	-	-	-	-	-
Critical Hdwy Stg 2	5.1	4.5	-	5.5	4.9	-	-	-	-	-	-	-
Follow-up Hdwy	3.5	4	3.3	3.5	4	3.3	2.2	-	-	2.2	-	-
Pot Cap-1 Maneuver	448	455	733	415	423	744	1219	-	-	1249	-	-
Stage 1	738	700	-	732	690	-	-	-	-	-	-	-
Stage 2	760	715	-	710	673	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	444	454	733	410	422	744	1219	-	-	1249	-	-
Mov Cap-2 Maneuver	444	454	-	410	422	-	-	-	-	-	-	-
Stage 1	737	700	-	731	689	-	-	-	-	-	-	-
Stage 2	753	714	-	702	672	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s/v	12.22	9.87	0.03	0.02
HCM LOS	B	A		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	6	-	-	519	744	5	-	-
HCM Lane V/C Ratio	0.001	-	-	0.039	0.007	0.001	-	-
HCM Control Delay (s/veh)	8	0	-	12.2	9.9	7.9	0	-
HCM Lane LOS	A	A	-	B	A	A	A	-
HCM 95th %tile Q(veh)	0	-	-	0.1	0	0	-	-

Intersection	
Int Delay, s/veh	0.1

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	0	0	7	240	249	5
Future Vol, veh/h	0	0	7	240	249	5
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	-	-	0	-1	-
Peak Hour Factor	88	88	88	88	88	88
Heavy Vehicles, %	0	0	0	6	8	0
Mvmt Flow	0	0	8	273	283	6

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	574	286	289	0	-	0
Stage 1	286	-	-	-	-	-
Stage 2	289	-	-	-	-	-
Critical Hdwy	6.4	6.2	4.1	-	-	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	2.2	-	-	-
Pot Cap-1 Maneuver	483	758	1285	-	-	-
Stage 1	767	-	-	-	-	-
Stage 2	765	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	480	758	1285	-	-	-
Mov Cap-2 Maneuver	480	-	-	-	-	-
Stage 1	762	-	-	-	-	-
Stage 2	765	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s/v	0	0.22	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	51	-	-	-	-
HCM Lane V/C Ratio	0.006	-	-	-	-
HCM Control Delay (s/veh)	7.8	0	0	-	-
HCM Lane LOS	A	A	A	-	-
HCM 95th %tile Q(veh)	0	-	-	-	-

Intersection	
Int Delay, s/veh	0.1

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	0	0	6	311	331	2
Future Vol, veh/h	0	0	6	311	331	2
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	-	-	0	-1	-
Peak Hour Factor	94	94	94	94	94	94
Heavy Vehicles, %	0	0	0	1	3	0
Mvmt Flow	0	0	6	331	352	2

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	697	353	354	0	-	0
Stage 1	353	-	-	-	-	-
Stage 2	344	-	-	-	-	-
Critical Hdwy	6.4	6.2	4.1	-	-	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	2.2	-	-	-
Pot Cap-1 Maneuver	410	695	1216	-	-	-
Stage 1	715	-	-	-	-	-
Stage 2	723	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	408	695	1216	-	-	-
Mov Cap-2 Maneuver	408	-	-	-	-	-
Stage 1	711	-	-	-	-	-
Stage 2	723	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s/v	0	0.15	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	34	-	-	-	-
HCM Lane V/C Ratio	0.005	-	-	-	-
HCM Control Delay (s/veh)	8	0	0	-	-
HCM Lane LOS	A	A	A	-	-
HCM 95th %tile Q(veh)	0	-	-	-	-

Intersection	
Int Delay, s/veh	0.1

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	1	6	0	251	238	0
Future Vol, veh/h	1	6	0	251	238	0
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, %	-3	-	-	1	-1	-
Peak Hour Factor	88	88	88	88	88	88
Heavy Vehicles, %	0	0	0	6	8	0
Mvmt Flow	1	7	0	285	270	0

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	556	270	-	0	-	0
Stage 1	270	-	-	-	-	-
Stage 2	285	-	-	-	-	-
Critical Hdwy	5.8	5.9	-	-	-	-
Critical Hdwy Stg 1	4.8	-	-	-	-	-
Critical Hdwy Stg 2	4.8	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	-	-	-	-
Pot Cap-1 Maneuver	544	791	0	-	-	0
Stage 1	816	-	0	-	-	0
Stage 2	805	-	0	-	-	0
Platoon blocked, %				-	-	
Mov Cap-1 Maneuver	544	791	-	-	-	-
Mov Cap-2 Maneuver	544	-	-	-	-	-
Stage 1	816	-	-	-	-	-
Stage 2	805	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s/v	9.9	0	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBT	EBLn1	SBT
Capacity (veh/h)	-	743	-
HCM Lane V/C Ratio	-	0.011	-
HCM Control Delay (s/veh)	-	9.9	-
HCM Lane LOS	-	A	-
HCM 95th %tile Q(veh)	-	0	-

Intersection	
Int Delay, s/veh	0.2

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	5	8	0	299	335	0
Future Vol, veh/h	5	8	0	299	335	0
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, %	-3	-	-	1	-1	-
Peak Hour Factor	94	94	94	94	94	94
Heavy Vehicles, %	0	0	0	1	3	0
Mvmt Flow	5	9	0	318	356	0

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	674	356	-	0	-	0
Stage 1	356	-	-	-	-	-
Stage 2	318	-	-	-	-	-
Critical Hdwy	5.8	5.9	-	-	-	-
Critical Hdwy Stg 1	4.8	-	-	-	-	-
Critical Hdwy Stg 2	4.8	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	-	-	-	-
Pot Cap-1 Maneuver	473	713	0	-	-	0
Stage 1	757	-	0	-	-	0
Stage 2	782	-	0	-	-	0
Platoon blocked, %				-	-	
Mov Cap-1 Maneuver	473	713	-	-	-	-
Mov Cap-2 Maneuver	473	-	-	-	-	-
Stage 1	757	-	-	-	-	-
Stage 2	782	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s/v	11.18	0	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	EBLn1	SBT
Capacity (veh/h)	-	597	-
HCM Lane V/C Ratio	-	0.023	-
HCM Control Delay (s/veh)	-	11.2	-
HCM Lane LOS	-	B	-
HCM 95th %tile Q(veh)	-	0.1	-