

TRAFFIC IMPACT STUDY

For

MPB Realty, LLC



Proposed Popeye's & IHOP Restaurants

Property Located at:

470 Eagle Rock Avenue (CR 611)
Block 153 – Lot 38
Township of West Orange, Essex County, NJ

Prepared by:



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Last Revised: June 4, 2024

1021-99-025T

INTRODUCTION

It is proposed to reoccupy a vacated restaurant known as “China Gourmet” with a 2,391 SF Popeye’s fast food restaurant with drive-thru and a 3,797 SF IHOP high-turnover sit-down restaurant on a parcel of land located along the south side of Eagle Rock Avenue just east of Rosney Terrace in the Township of West Orange, Essex County, New Jersey, see Figure 1, in Appendix A. The site is designated as Block 153 – Lot 38 on the Township Tax Maps. Access to the site is currently provided via two (2) full movement driveways along Eagle Rock Avenue. It is proposed to re-construct the existing driveways to provide one (1) full movement driveway and one (1) full movement ingress/right turn egress driveway along Eagle Rock Avenue. Parking will be provided via fifty (50) on-site parking spaces.

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 intersection of Eagle Rock Avenue with Rosney Terrace/the Mayfair Farms Driveway.
- Projections of traffic to be generated by the proposed development were prepared utilizing trip generation data as published by the Institute of Transportation Engineers. Site traffic was then assigned to the adjacent street system based upon the anticipated directional distribution.
- Capacity analyses were conducted for the Existing, No Build, and Build conditions for the study intersections.
- The proposed points of ingress and egress were inspected for adequacy of geometric design, spacing and/or alignment to streets and driveways on the opposite side of the street, relationship to other driveways adjacent to the development, and conformance with accepted design standards.
- The site plan as designed was reviewed for sufficiency in accommodating large wheel base vehicles such as delivery trucks, refuse trucks, and emergency vehicles.
- The parking layout and supply was assessed based on accepted design standards 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:

Eagle Rock Avenue (CR 611) is an Urban Minor Arterial roadway under the jurisdiction of Essex County. In the vicinity of the site the posted speed limit is 35 MPH and the roadway provides two travel lanes in each direction with a general east/west orientation. Curb is provided along both sides of the roadway and sidewalk is provided along the south side of the roadway. Eagle Rock Avenue provides a curved horizontal alignment and a rolling vertical alignment. The land uses along Eagle Rock Avenue in the vicinity of The Project are primarily commercial to the east and primarily residential to the west.

Rosney Terrace is a local roadway under the jurisdiction of the Township of West Orange. In the vicinity of the site the posted speed limit is 25 MPH and the roadway provides one travel lane in each direction with a general north/south orientation. Curb is provided along both sides of the roadway while sidewalk is not provided along either side of the roadway. Rosney Terrace provides a straight horizontal alignment and an uphill vertical alignment from south to north. The land uses along Rosney Terrace in the vicinity of The Project are primarily residential.

Existing Traffic Volumes

Manual turning movement (MTM) counts were originally conducted on Saturday, May 22, 2021 between 11:00 AM – 2:00 PM and on Wednesday, May 26, 2021 between 4:30 – 6:30 PM at the intersection of Eagle Rock Avenue and Rosney Terrace/the Mayfair Farms Driveway.

It should be noted that traffic impacts associated with the COVID-19 pandemic may have still been in effect as of the time of the traffic counts. As a result, the collected traffic volumes on the surrounding roadways may not be representative of “existing” traffic conditions. Therefore, historical traffic volume data has been reviewed and compared with current traffic conditions.

Additional MTM counts were conducted on Tuesday, June 13, 2023 between 7:00 – 9:00 AM and between 4:30 – 6:30 PM, on Saturday, June 17, 2023 between 11:00 AM – 2:00 PM, on Tuesday, April 16, 2024 between 4:30 – 6:30 PM and on Saturday, April 20, 2024 between 11:00 AM – 2:00 PM at the intersection of Eagle Rock Avenue and Rosney Terrace/the Mayfair Farms Driveway.

The 2021 and 2023 counts were increased to better represent existing 2024 traffic volumes by applying a growth rate of 2% per year obtained from the NJDOT Annual Background Growth Rate Table for April 2019 – April 2021, which remained in effect until November 2023, for a period of three (3) years and one (1) year, respectively. It should be noted that the current NJDOT Annual Background Growth Rate Table utilizes a growth rate of 1.75% for the study roadways; however, in an effort to remain conservative, the previous growth rate of 2% was utilized. The grown 2021 and 2023 traffic volumes were then compared to the current 2024 traffic counts as summarized in Table 1 below.

**Table 1
Traffic Count Comparison**

Location	Date	Eagle Rock Ave Peak Hour Traffic Volume					
		As-Counted			With Background Growth		
		AM	PM	SAT	AM	PM	SAT
Eagle Rock Avenue and Rosney Terrace/Mayfair Farms Driveway	May 2021	N/A	948	914	N/A	1,006	970
	June 2023	875	984	967	893	1,004	986
	April 2024	999	1,072	891	999	1,072	891

As seen above, the current (April 2024) traffic volumes were found to be higher than the historical volumes (May 2021 and June 2023 counts) grown to the current year during the weekday morning and weekday evening peak hour. However, the historical June 2023 counts grown to the current year were found to be higher than the current traffic volumes during the Saturday midday peak hour. Therefore, the April 2024 traffic volumes were utilized in the weekday morning and weekday evening peak hour analyses, while the June 2023 traffic volumes grown to the current year were utilized in the Saturday midday peak hour analysis.

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 12:30 – 1:30 PM. Figure 2, located in Appendix A, shows the adjusted existing peak hour traffic volumes at the study intersections. All MTM counts are contained in Appendix B.

Existing Capacity Analysis

The methodology utilized in the capacity analyses is based on the *Highway Capacity Manual 2010*, 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.

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 2 describes the Level of Service ranges for unsignalized (stop controlled) intersections.

**Table 2
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 2010 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 the Highway Capacity Software (HCS 7). Table 3 summarizes the existing Levels of Service (LOS) and delays. All capacity analysis calculation worksheets are contained in Appendix C.

**Table 3
Existing Levels of Service**

Intersection	Direction/ Movement		AM PSH	PM PSH	SAT PSH
Eagle Rock Avenue and Rosney Terrace/Mayfair Farms Driveway	EB	LT	A (8)	A (8)	A (8)
	WB	LT	A (9)	A (9)	A (9)
	NB	LTR	B (14)	C (18)	B (11)
	SB	LTR	C (19)	C (20)	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.

Eagle Rock Avenue and Rosney Terrace/Mayfair Farms Driveway

Rosney Terrace/the Mayfair Farms Driveway intersect Eagle Rock Avenue to form a an unsignalized four-leg intersection with Rosney Terrace and the Mayfair Farms Driveway under stop control. The eastbound and westbound approaches of Eagle Rock Avenue each provide a shared left turn/through lane and a shared through/right turn lane. The northbound approach of Rosney Terrace provides a shared left turn/through/right turn lane. The southbound approach of the Mayfair Farms Driveway provides a shared left turn/through/right turn lane.

A review of the existing analysis reveals that the individual intersection movements operate at Levels of Service “C” or better during the analyzed peak periods. See Table 3 for the individual movement Levels of Service and delays.

FUTURE CONDITIONS

Traffic volumes and operational analyses were developed for both the No Build and Build conditions. The No Build conditions provide a baseline for assessing the impact of 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. As noted previously, a growth rate for roadways within the study area was obtained from the April 2019 – April 2021 NJDOT Annual Background Growth Rate Table, which indicates a growth rate of 2.00% per year.

It should also be noted that there is one (1) development in the vicinity of the site that had been approved but not yet constructed at the time of the counts that is identified as potential significant traffic generator, described below. The Adjacent Development Traffic Volumes passing the site are shown on Figure 3.

- A proposed gas station with ten (10) fueling positions and a 4,034 SF convenience store, located in the southeast quadrant of the intersection of Eagle Rock Avenue and Prospect Avenue. Projections of the associated traffic volumes were gathered from the *Traffic Impact Study*, last revised February 27, 2019 prepared by this firm.

Future No Build traffic volumes were developed by applying the background growth rate of 2.00% for two (2) years to the study area roadways existing traffic volumes and adding the adjacent development traffic volumes. Figure 4, in Appendix A, shows the No Build traffic volumes.

Traffic Generation

Projections of future traffic volumes were developed utilizing data as published in the Institute of Transportation Engineers (ITE) publication *Trip Generation, 11th Edition* for Land Use Code (LUC) 932 – High-Turnover Sit-Down Restaurant for the proposed IHOP restaurant and LUC 934 – Fast-Food Restaurant with Drive-Through Window for the proposed Popeye's. This publication sets forth trip generation rates based on empirical traffic count data conducted at numerous research sites.

According to studies conducted by ITE, traffic associated with LUCs 932 and 934 is not 100% newly generated. Rather, a portion of the traffic is diverted from the existing traffic stream on the adjacent roadway network. This is because the Popeye's and IHOP restaurants are not destination land uses, instead patrons stop on their way to/from other locations such as home or work. For LUC 932, ITE identifies a 43% passby traffic percentage during the PM peak hours, which is also accepted by NJDOT. It should be noted that a portion of traffic during the AM and Saturday midday peak hours is also anticipated to be passby traffic; however, this effect has not been accounted for to remain conservative. For LUC 934, ITE identifies 50%, 55% and 37% passby traffic percentages during the respective AM, PM and Saturday peak hours, which are also accepted by NJDOT. Table 4 below details the traffic volumes associated with the subject project taking into account the passby credits.

Table 4
Trip Generation Considering Passby Traffic

Land Use	Trip Type	AM PSH			PM PSH			SAT PSH		
		In	Out	Total	In	Out	Total	In	Out	Total
2,391 SF Popeye's Fast Food Restaurant with Drive-Thru	Total	55	52	107	41	38	79	67	65	132
	Passby	28	26	54	23	20	43	25	24	49
	New (Primary)	27	26	53	18	18	36	42	41	83
3,797 SF IHOP High-Turnover Sit Down Restaurant	Total	20	16	36	21	13	34	21	21	42
	Passby	-	-	-	9	6	15	-	-	-
	New (Primary)	20	16	36	12	7	19	21	21	42
Total	Total	75	68	143	62	51	113	88	86	174
	Passby	28	26	54	32	26	58	25	24	49
	New (Primary)	47	42	89	30	25	55	63	62	125

As mentioned previously, the site is currently developed with a vacated restaurant which has trip generation potential if re-occupied. Therefore, ITE data for LUC 932 was utilized to project the trip generation associated with the potential re-occupation of the existing use. The following Table 5 compares the trips associated with the proposed use to the trip generation potential of the site.

Table 5
Trip Generation Comparison

Land Use	Trip Type	AM PSH			PM PSH			SAT PSH		
		In	Out	Total	In	Out	Total	In	Out	Total
Existing 6,190 SF Restaurant	Total	32	27	59	34	22	56	35	34	69
	Passby	-	-	-	15	9	24	-	-	-
	New (Primary)	32	27	59	19	13	32	35	34	69
Proposed Popeye's and IHOP Restaurants	Total	75	68	143	62	51	113	88	86	174
	Passby	28	26	54	32	26	58	25	24	49
	New (Primary)	47	42	89	30	25	55	63	62	125
Difference	Total	+43	+41	+84	+28	+29	+57	+53	+52	+105
	Passby	+28	+26	+54	+17	+17	+34	+25	+24	+49
	New (Primary)	+15	+15	+30	+11	+12	+23	+28	+28	+56

As shown in Table 4 above, it is anticipated that 30 additional trips during the weekday morning peak hour, 23 additional trips during the weekday evening peak hour and 56 additional trips during the Saturday midday peak hour are anticipated to access the site that are considered "new" to the adjacent roadway network with the proposed redevelopment compared to the potential reoccupation of the site. However, no credit was taken for the potential use of the site and all trip generation was considered an increase over vacant land. This accounts for a "worst case scenario" from a traffic impact perspective.

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, Figure 5 illustrates the percent distribution of primary site generated trips, Figure 6 illustrates the primary site generate volumes, Figure 7 illustrates the distribution of passby site generated trips, Figure 8 illustrates the passby site generated volumes, and Figure 9 illustrates the total site generated volumes assigned to the study area network. The site generated volumes were added to the No Build traffic volumes to generate the Build traffic volumes, 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 6 below.

Table 6
Future Levels of Service

Intersection	Direction/ Movement		AM PSH		PM PSH		SAT PSH	
			No Build	Build	No Build	Build	No Build	Build
Eagle Rock Avenue and Rosney Terrace/Mayfair Farms Driveway	EB	LT	A (8)	A (8)	A (8)	A (8)	A (8)	A (8)
	WB	LT	A (9)	A (9)	A (9)	A (9)	A (9)	A (9)
	NB	LTR	B (14)	B (13)	C (19)	C (17)	B (14)	B (11)
	SB	LTR	C (20)	C (21)	C (21)	C (22)	C (19)	C (21)
Eagle Rock Avenue and East Site Driveway	WB	LT	-	A (9)	-	A (9)	-	A (9)
	NB	LR	-	C (17)	-	C (18)	-	C (17)
Eagle Rock Avenue and West Site Driveway	WB	LT	-	A (9)	-	A (9)	-	A (9)
	NB	R	-	B (10)	-	B (11)	-	B (10)

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

Eagle Rock Avenue and Rosney Terrace/Mayfair Farms Driveway

With the addition of the site traffic, the individual intersection movements are anticipated to operate at No Build Levels of Service “C” or better during the analyzed peak periods. See Table 6 for the individual movement Levels of Service and delays.

Eagle Rock Avenue and the East Site Driveway

The east site driveway is proposed to intersect Eagle Rock Avenue to form an unsignalized T-intersection with the site driveway under stop control. The eastbound approach of Eagle Rock Avenue is proposed to provide a dedicated through lane and a shared through/right turn lane. The westbound approach of Eagle Rock Avenue is proposed to provide a shared left turn/through lane and a dedicated through lane. The northbound approach of the site driveway is proposed to provide a single lane for left and right turn movements.

As designed, the individual intersection movements are anticipated to operate at Levels of Service “C” or better during the analyzed peak periods. See Table 6 for the individual movement Levels of Service and delays.

Eagle Rock Avenue and the West Site Driveway

The west site driveway is proposed to intersect Eagle Rock Avenue to form an unsignalized T-intersection with the site driveway under stop control. The eastbound approach of Eagle Rock Avenue is proposed to provide a dedicated through lane and a shared through/right turn lane. The westbound approach of Eagle Rock Avenue is proposed to provide a shared left turn/through lane and a dedicated through lane. The northbound approach of the site driveway is proposed to provide a single lane for right turn movements only.

As designed, the individual intersection movements are anticipated to operate at Levels of Service “B” or better during the analyzed peak periods. See Table 6 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 (1) full movement driveway and one (1) full movement ingress/right turn egress driveway along Eagle Rock Avenue.

The parking lot will be serviced by parking aisles with a minimum width of 24 feet for two-way circulation with 90-degree parking, which meets the Ordinance requirements. These dimensions are also consistent with accepted engineering design standards and as such will adequately accommodate the anticipated site traffic.

The drive-thru lanes will operate in a counter clockwise direction with the ability to stack eight (8) cars in the drive-thru lane for the proposed Popeye's restaurant, which exceeds the Ordinance requirement of six (6) total vehicles for fast food restaurant uses. The drive-thru lane is proposed to be 10 feet wide at the order point and 12 feet wide at the pickup window, which exceeds the Ordinance requirement of 9 feet. Therefore, the proposed drive-thru design will provide more than enough stacking for the maximum anticipated demand and will adequately accommodate the anticipated site traffic. A 12-foot-wide bypass lane will also be provided to ensure adequate and efficient circulation and to ensure that drive-thru queues do not impact on site circulation for patrons who park and walk in to the restaurant.

Parking

The Township of West Orange Ordinance sets forth a parking requirement of 1 space per 3 seats or 1 space per 45 SF of floor area available to patrons, whichever is greater. Based on square footage, this equates to a parking requirement of 49 spaces for the proposed 2,170 SF of total restaurant area available to patrons. Based on number of seats, this equates to a parking requirement of 36 spaces for the proposed 106 total seats. As such, the requirement of 49 spaces based on square footage was utilized. The site as proposed provides 50 parking spaces, which exceeds the Ordinance minimum requirements.

It is proposed to provide parking stalls with dimensions of 9'x18' for 90-degree parking which meets the minimum Ordinance requirements. It should also be noted that industry standards recommend stall widths of between 8'9" and 9' and a length of 18' for high-turnover land uses such as The Project, which is met as designed.

FINDINGS & CONCLUSIONS

Findings

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

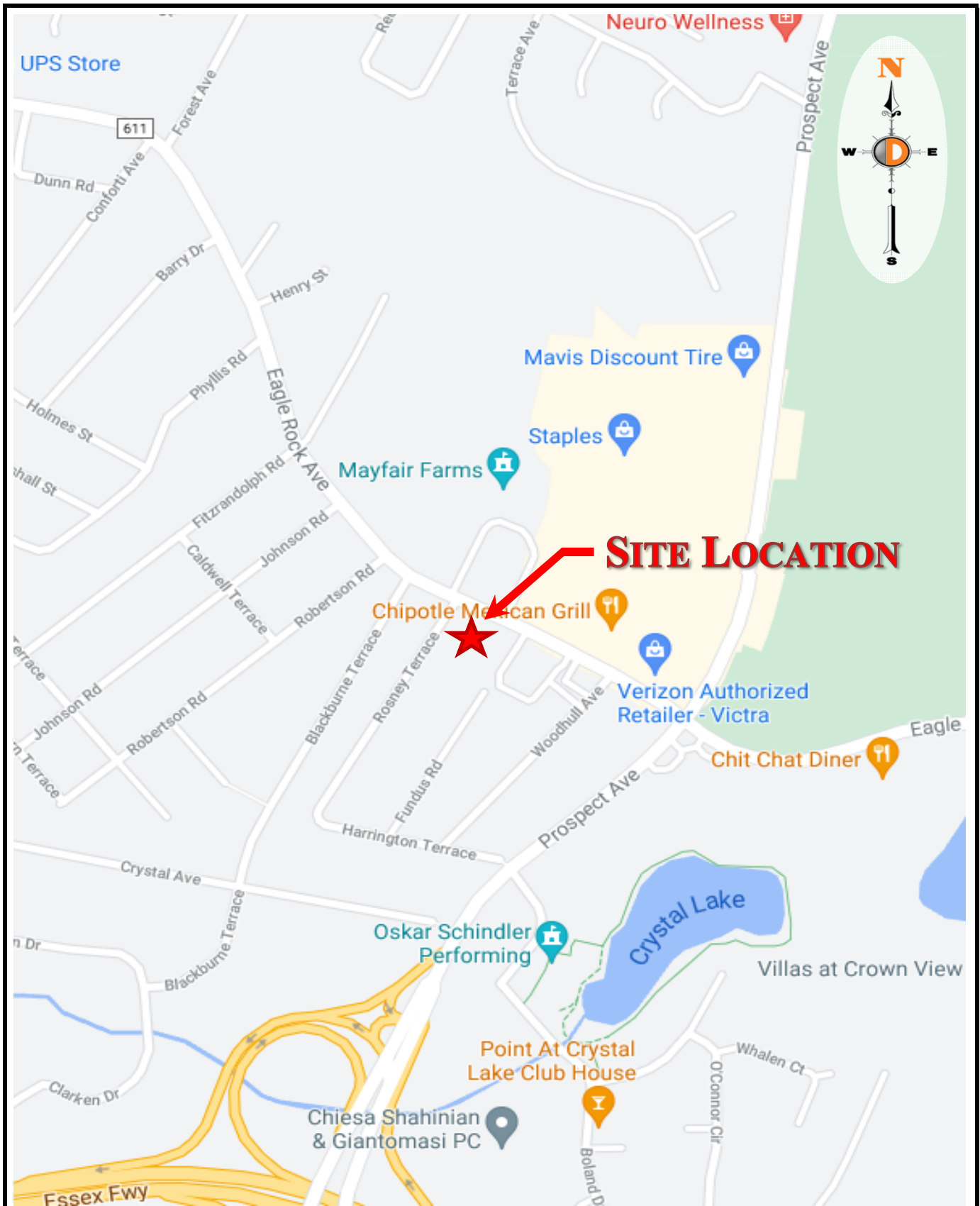
- The proposed 2,391 SF Popeye's and 3,797 SF IHOP restaurants are projected to generate 47 entering trips and 42 exiting trips during the weekday evening peak hour, 30 entering trips and 25 exiting trips during the weekday evening peak hour and 63 entering trips and 62 exiting trips during the Saturday midday peak hour that are "new" to the adjacent roadway network.
- Access to the site will be provided via one (1) full movement driveway and one (1) full movement ingress/right turn egress driveway along Eagle Rock Avenue.
- With the addition of the site generated traffic, the individual intersection movements of Eagle Rock Avenue and Rosney Terrace/the Mayfair Farms Driveway are anticipated to operate at No Build Levels of Service "C" or better during the studied peak hours.
- As designed, the individual intersection movements of Eagle Rock Avenue and the east site driveway are anticipated to operate at Levels of Service "C" or better during the studied peak hours.
- As designed, the individual intersection movements of Eagle Rock Avenue and the west site driveway are anticipated to operate at Levels of Service "B" or better during the studied peak hours.
- As proposed, The Project's site driveways and internal circulation have been designed to provide for safe and efficient movement of automobiles.
- The proposed parking supply and design is sufficient to support the projected demand and satisfies the Ordinance requirement.

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 West Orange and Essex 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



Proposed Popeye's & IHOP Restaurants
 Traffic Impact Study
 1021-99-025T

Figure 1

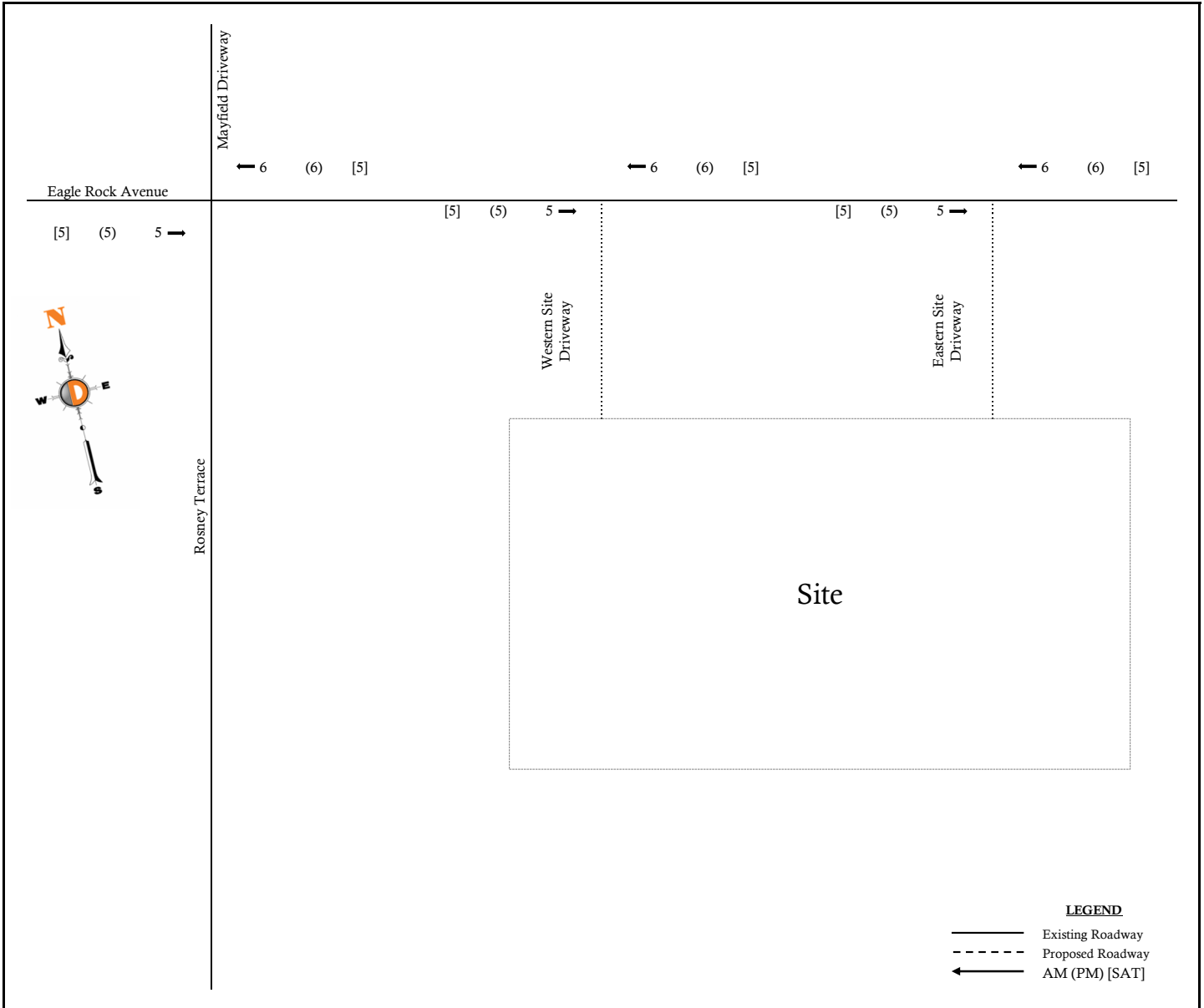
Site Location Map



Proposed Popeye's & IHOP Restaurants
Traffic Impact Study
1021-99-025T

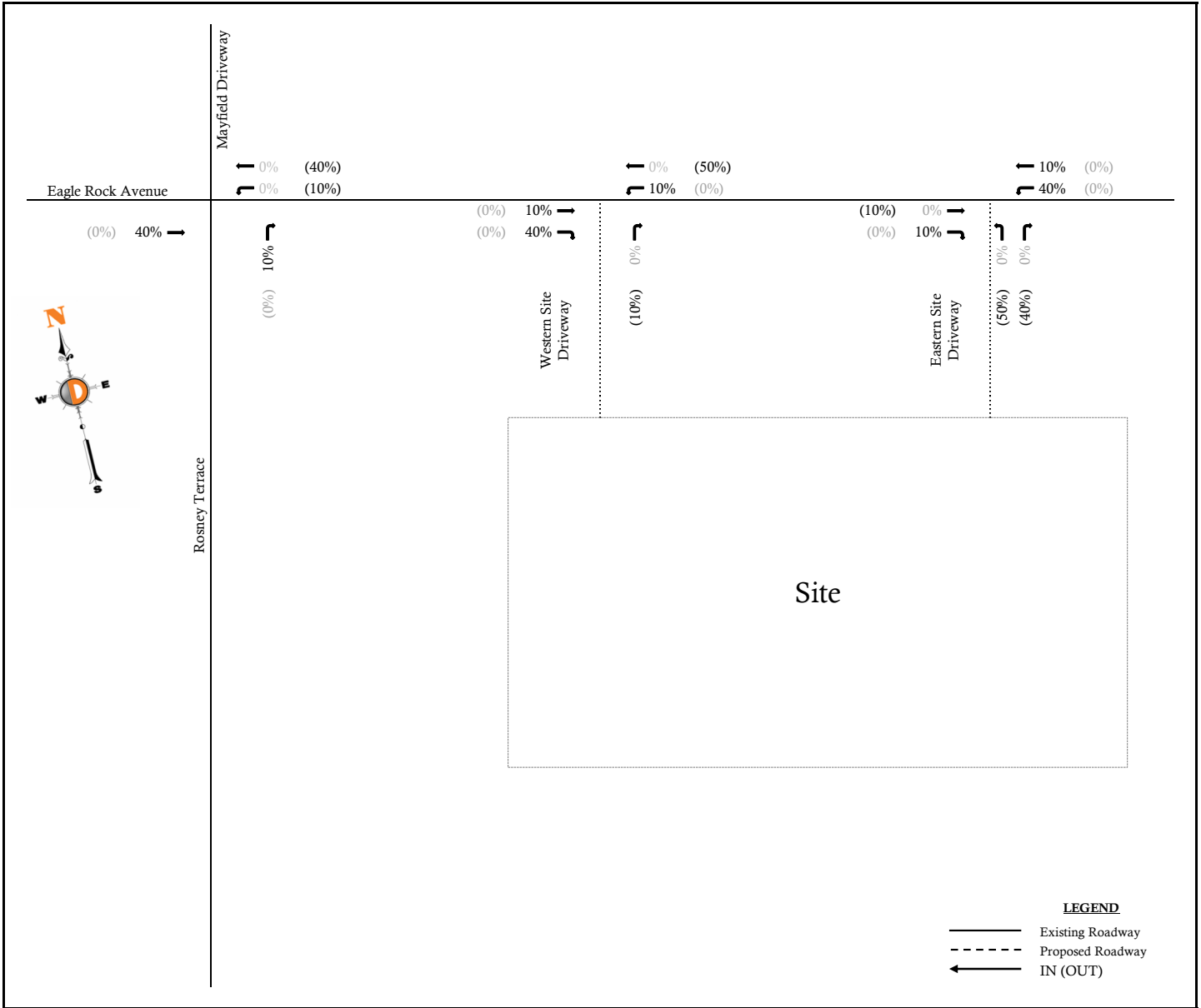
Figure 2

Existing Traffic Volumes



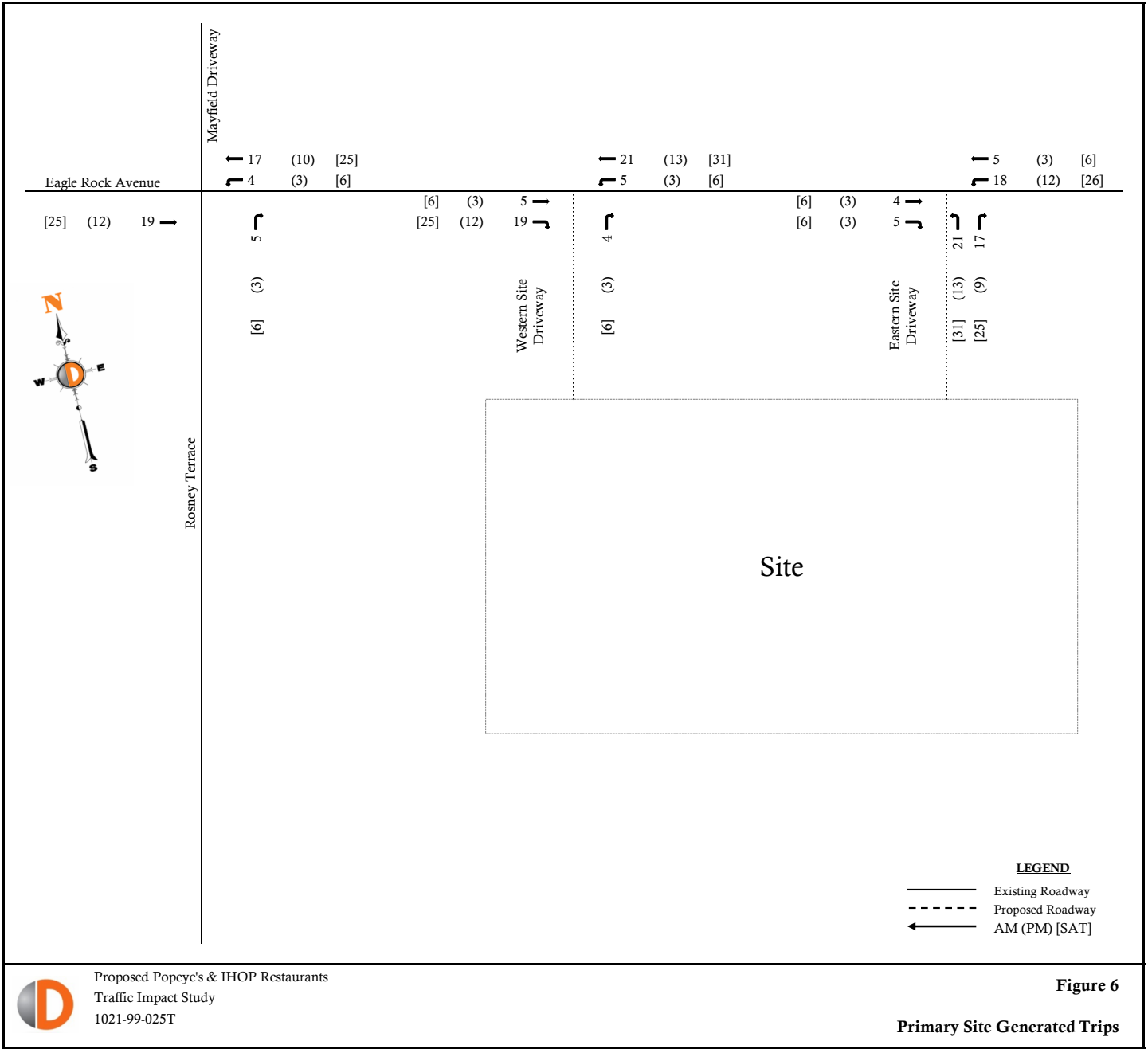
Proposed Popeye's & IHOP Restaurants
Traffic Impact Study
1021-99-025T

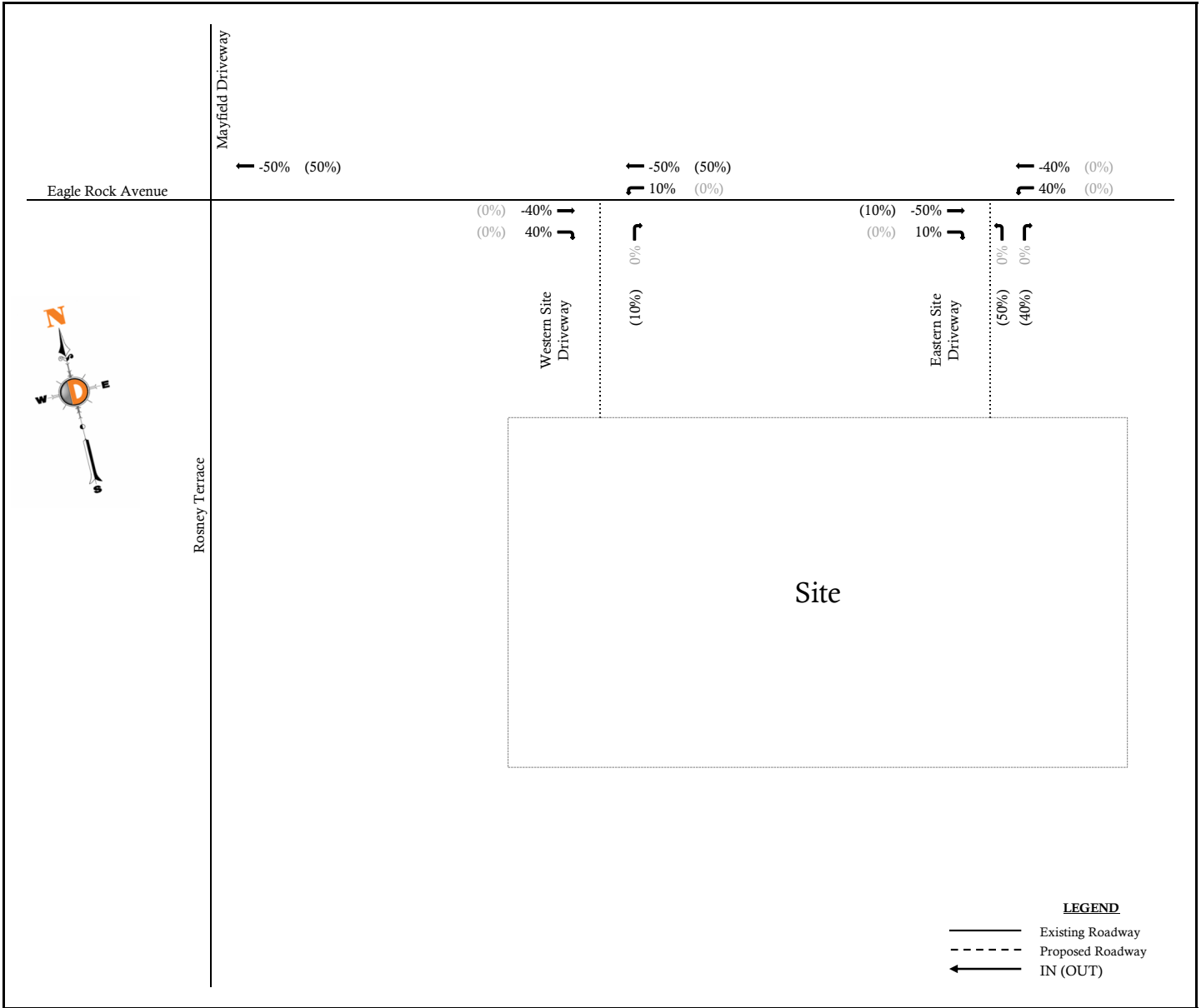
Figure 3
Adjacent Development Traffic Volumes
[Exxon Gas Station]



Proposed Poppye's & IHOP Restaurants
Traffic Impact Study
1021-99-025T

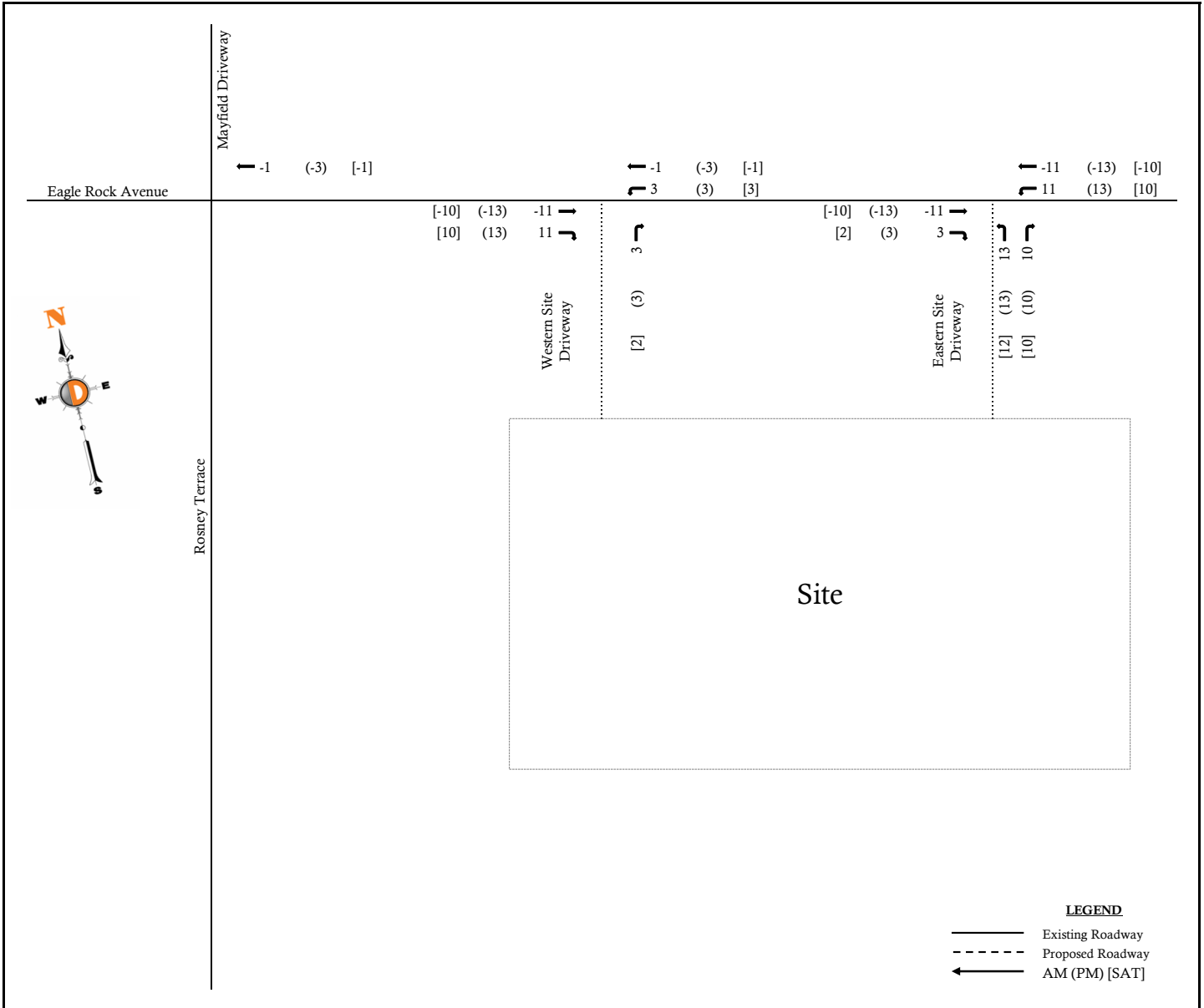
Figure 5
Percent Distribution
(Primary Trips)





Proposed Poppye's & IHOP Restaurants
Traffic Impact Study
1021-99-025T

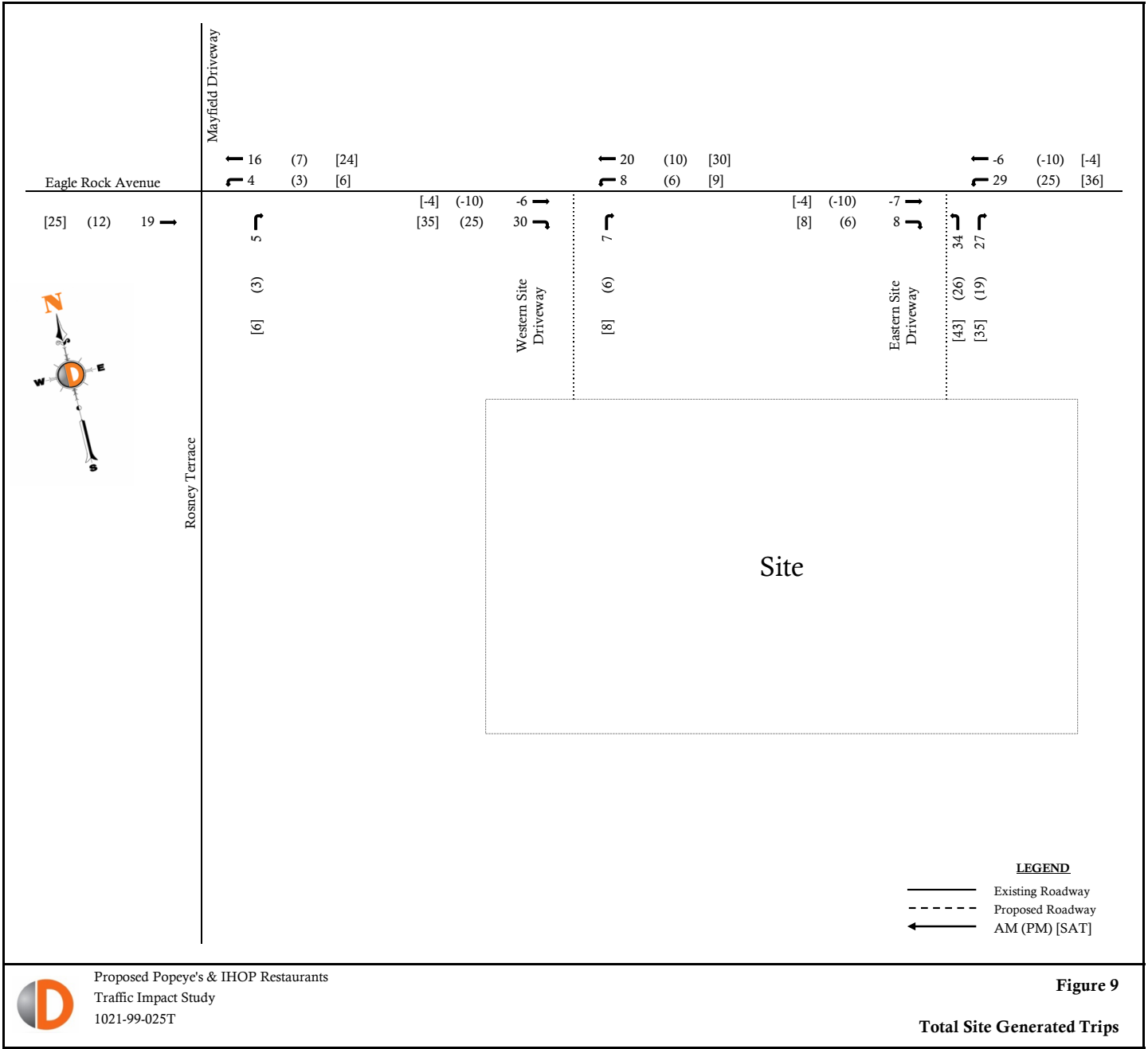
Figure 7
Percent Distribution
(Passby Trips)

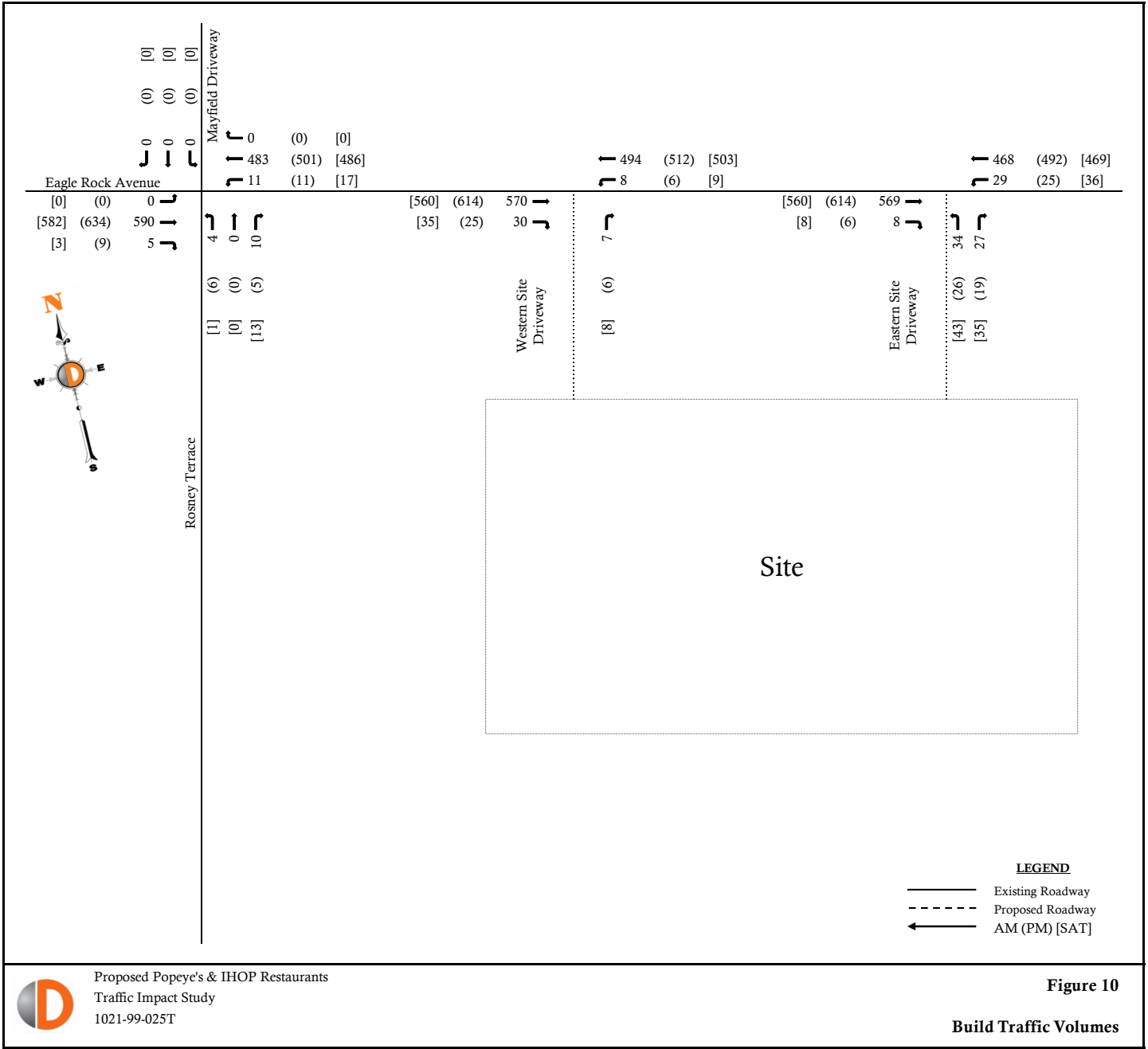


Proposed Popeye's & IHOP Restaurants
Traffic Impact Study
1021-99-025T

Figure 8

Passby Site Generated Trips





Appendix B

Traffic Counts

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

E/W: Eagle Rock Ave
N/S: Rosney Terrace/Dway
Town/County: West Orange/Essex
Job #: 1021-99-025T

File Name : Eagle Rock Ave & Rosney Terrace-Dway - PM
Site Code : 00000000
Start Date : 5/26/2021
Page No : 1

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

[illegible][illegible]

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

E/W: Eagle Rock Ave
N/S: Rosney Terrace/Dway
Town/County: West Orange/Essex
Job #: 1021-99-025T

File Name : Eagle Rock Ave & Rosney Terrace-Dway - SAT
Site Code : 00000000
Start Date : 5/22/2021
Page No : 1

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

[illegible][illegible]

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

732-681-0760

File Name : Eagle Rock Ave & Rosney Terrace-Dway - PM
Site Code : 00000000
Start Date : 6/13/2023
Page No : 2

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732-681-0760

Page No : 1

[illegible]

www.dynamictraffic.com
732-681-0760

File Name : Eagle Rock Ave & Rooney Terr-Dway - AMPM

Site Code : 00000000

Start Date : 4/16/2024

Page No : 2

Peak Hour Analysis From 12:00 PM to 06:15 PM - Peak 1 of 1[illegible]

www.dynamictraffic.com
732-681-0760

File Name : Eagle Rock Ave & Rooney Terr-Dway - SAT
Site Code : 00000000
Start Date : 4/20/2024
Page No : 1

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www.dynamictraffic.com
732-681-0760

File Name : Eagle Rock Ave & Rooney Terr-Dway - SAT
Site Code : 00000000
Start Date : 4/20/2024
Page No : 2

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Appendix C

Capacity Analysis

HCS Two-Way Stop-Control Report

General Information

Analyst

JTT

Agency/Co.

Dynamic Traffic

Date Performed

04/24/24

Analysis Year

EX

Time Analyzed

AM PSH

Intersection Orientation

East-West

Project Description

1021-99-025T

Site Information

Intersection

Eagle Rock & Rosney/Dway

Jurisdiction

Essex County

East/West Street

Eagle Rock Avenue

North/South Street

Rosney Terrace/Driveway

Peak Hour Factor

0.93

Analysis Time Period (hrs)

0.25

Lanes

Major Street: East-West

Vehicle Volumes and Adjustments																
Approach	Eastbound				Westbound				Northbound				Southbound			
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Priority	1U	1	2	3	4U	4	5	6		7	8	9		10	11	12
Number of Lanes	0	0	2	0	0	0	2	0		0	1	0		0	1	0
Configuration		LT		TR		LT		TR			LTR				LTR	
Volume (veh/h)		1	544	5		7	443	0		4	0	5		1	0	0
Percent Heavy Vehicles (%)		0				0				0	0	0		0	0	0
Proportion Time Blocked																
Percent Grade (%)									-2				2			
Right Turn Channelized																
Median Type Storage	Undivided															

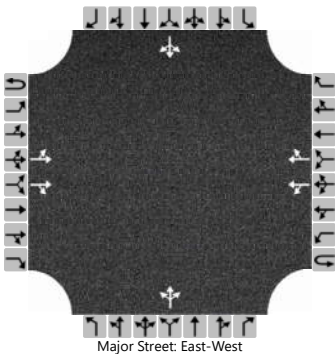
Critical and Follow-up Headways																
Base Critical Headway (sec)		4.1				4.1				7.5	6.5	6.9		7.5	6.5	6.9
Critical Headway (sec)		4.10				4.10				7.10	6.10	6.70		7.90	6.90	7.10
Base Follow-Up Headway (sec)		2.2				2.2				3.5	4.0	3.3		3.5	4.0	3.3
Follow-Up Headway (sec)		2.20				2.20				3.50	4.00	3.30		3.50	4.00	3.30

Delay, Queue Length, and Level of Service																
Flow Rate, v (veh/h)		1				8					10				1	
Capacity, c (veh/h)		1096				995					427				258	
v/c Ratio		0.00				0.01					0.02				0.00	
95% Queue Length, Q ₉₅ (veh)		0.0				0.0					0.1				0.0	
Control Delay (s/veh)		8.3	0.0			8.6	0.1				13.6				19.0	
Level of Service (LOS)		A	A			A	A				B				C	
Approach Delay (s/veh)	0.0				0.2				13.6				19.0			
Approach LOS	A				A				B				C			

HCS Two-Way Stop-Control Report

General Information		Site Information	
Analyst	JTT	Intersection	Eagle Rock & Rosney/Dway
Agency/Co.	Dynamic Traffic	Jurisdiction	Essex County
Date Performed	04/24/2024	East/West Street	Eagle Rock Avenue
Analysis Year	EX	North/South Street	Rosney Terrace/Driveway
Time Analyzed	PM PSH	Peak Hour Factor	0.95
Intersection Orientation	East-West	Analysis Time Period (hrs)	0.25
Project Description	1021-99-025T		

Lanes



Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Priority	1U	1	2	3	4U	4	5	6		7	8	9		10	11	12
Number of Lanes	0	0	2	0	0	0	2	0		0	1	0		0	1	0
Configuration		LT		TR		LT		TR			LTR				LTR	
Volume (veh/h)		1	593	9		8	469	0		6	0	2		1	0	0
Percent Heavy Vehicles (%)		0				0				17	0	0		0	0	0
Proportion Time Blocked																
Percent Grade (%)									-2				2			
Right Turn Channelized																
Median Type Storage	Undivided															

Critical and Follow-up Headways

Base Critical Headway (sec)		4.1				4.1				7.5	6.5	6.9		7.5	6.5	6.9
Critical Headway (sec)		4.10				4.10				7.44	6.10	6.70		7.90	6.90	7.10
Base Follow-Up Headway (sec)		2.2				2.2				3.5	4.0	3.3		3.5	4.0	3.3
Follow-Up Headway (sec)		2.20				2.20				3.67	4.00	3.30		3.50	4.00	3.30

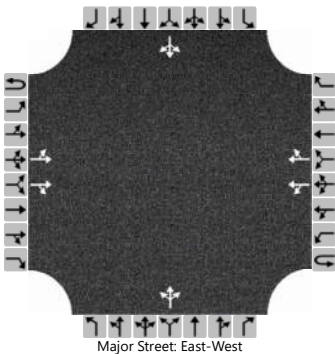
Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)		1				8					8				1	
Capacity, c (veh/h)		1080				959					279				241	
v/c Ratio		0.00				0.01					0.03				0.00	
95% Queue Length, Q ₉₅ (veh)		0.0				0.0					0.1				0.0	
Control Delay (s/veh)		8.3	0.0			8.8	0.1				18.3				20.0	
Level of Service (LOS)		A	A			A	A				C				C	
Approach Delay (s/veh)	0.0				0.2				18.3				20.0			
Approach LOS	A				A				C				C			

HCS Two-Way Stop-Control Report

General Information		Site Information	
Analyst	JTT	Intersection	Eagle Rock & Rosney/Dway
Agency/Co.	Dynamic Traffic	Jurisdiction	Essex County
Date Performed	04/24/2024	East/West Street	Eagle Rock Avenue
Analysis Year	EX	North/South Street	Rosney Terrace/Driveway
Time Analyzed	SAT PSH	Peak Hour Factor	0.97
Intersection Orientation	East-West	Analysis Time Period (hrs)	0.25
Project Description	1021-99-025T		

Lanes



Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Priority	1U	1	2	3	4U	4	5	6		7	8	9		10	11	12
Number of Lanes	0	0	2	0	0	0	2	0		0	1	0		0	1	0
Configuration		LT		TR		LT		TR			LTR				LTR	
Volume (veh/h)		1	530	3		11	439	0		1	0	7		1	0	0
Percent Heavy Vehicles (%)		0				0				0	0	0		0	0	0
Proportion Time Blocked																
Percent Grade (%)									-2				2			
Right Turn Channelized																
Median Type Storage	Undivided															

Critical and Follow-up Headways

Base Critical Headway (sec)		4.1				4.1				7.5	6.5	6.9		7.5	6.5	6.9
Critical Headway (sec)		4.10				4.10				7.10	6.10	6.70		7.90	6.90	7.10
Base Follow-Up Headway (sec)		2.2				2.2				3.5	4.0	3.3		3.5	4.0	3.3
Follow-Up Headway (sec)		2.20				2.20				3.50	4.00	3.30		3.50	4.00	3.30

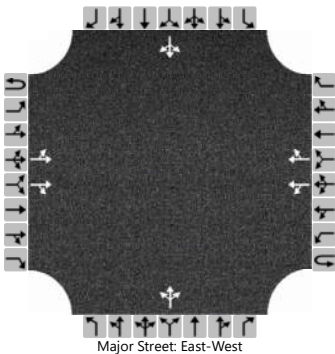
Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)		1				11					8				1	
Capacity, c (veh/h)		1119				1030					626				273	
v/c Ratio		0.00				0.01					0.01				0.00	
95% Queue Length, Q ₉₅ (veh)		0.0				0.0					0.0				0.0	
Control Delay (s/veh)		8.2	0.0			8.5	0.1				10.8				18.3	
Level of Service (LOS)		A	A			A	A				B				C	
Approach Delay (s/veh)	0.0				0.3				10.8				18.3			
Approach LOS	A				A				B				C			

HCS Two-Way Stop-Control Report

General Information		Site Information	
Analyst	JTT	Intersection	Eagle Rock & Rosney/Dway
Agency/Co.	Dynamic Traffic	Jurisdiction	Essex County
Date Performed	04/24/2024	East/West Street	Eagle Rock Avenue
Analysis Year	NB	North/South Street	Rosney Terrace/Driveway
Time Analyzed	AM PSH	Peak Hour Factor	0.93
Intersection Orientation	East-West	Analysis Time Period (hrs)	0.25
Project Description	1021-99-025T		

Lanes



Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Priority	1U	1	2	3	4U	4	5	6		7	8	9		10	11	12
Number of Lanes	0	0	2	0	0	0	2	0		0	1	0		0	1	0
Configuration		LT		TR		LT		TR			LTR				LTR	
Volume (veh/h)		1	571	5		7	467	0		4	0	5		1	0	0
Percent Heavy Vehicles (%)		0				0				0	0	0		0	0	0
Proportion Time Blocked																
Percent Grade (%)									-2				2			
Right Turn Channelized																
Median Type Storage	Undivided															

Critical and Follow-up Headways

Base Critical Headway (sec)		4.1				4.1				7.5	6.5	6.9		7.5	6.5	6.9
Critical Headway (sec)		4.10				4.10				7.10	6.10	6.70		7.90	6.90	7.10
Base Follow-Up Headway (sec)		2.2				2.2				3.5	4.0	3.3		3.5	4.0	3.3
Follow-Up Headway (sec)		2.20				2.20				3.50	4.00	3.30		3.50	4.00	3.30

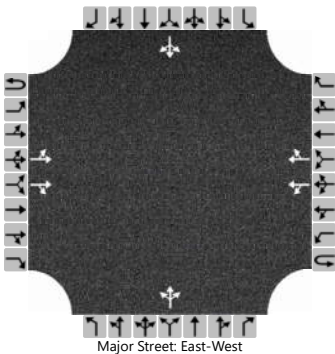
Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)		1				8					10				1	
Capacity, c (veh/h)		1073				971					406				240	
v/c Ratio		0.00				0.01					0.02				0.00	
95% Queue Length, Q ₉₅ (veh)		0.0				0.0					0.1				0.0	
Control Delay (s/veh)		8.4	0.0			8.7	0.1				14.1				20.1	
Level of Service (LOS)		A	A			A	A				B				C	
Approach Delay (s/veh)	0.0				0.2				14.1				20.1			
Approach LOS	A				A				B				C			

HCS Two-Way Stop-Control Report

General Information		Site Information	
Analyst	JTT	Intersection	Eagle Rock & Rosney/Dway
Agency/Co.	Dynamic Traffic	Jurisdiction	Essex County
Date Performed	04/24/2024	East/West Street	Eagle Rock Avenue
Analysis Year	NB	North/South Street	Rosney Terrace/Driveway
Time Analyzed	PM PSH	Peak Hour Factor	0.95
Intersection Orientation	East-West	Analysis Time Period (hrs)	0.25
Project Description	1021-99-025T		

Lanes



Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Priority	1U	1	2	3	4U	4	5	6		7	8	9		10	11	12
Number of Lanes	0	0	2	0	0	0	2	0		0	1	0		0	1	0
Configuration		LT		TR		LT		TR			LTR				LTR	
Volume (veh/h)		1	622	9		8	494	0		6	0	2		1	0	0
Percent Heavy Vehicles (%)		0				0				17	0	0		0	0	0
Proportion Time Blocked																
Percent Grade (%)									-2				2			
Right Turn Channelized																
Median Type Storage	Undivided															

Critical and Follow-up Headways

Base Critical Headway (sec)		4.1				4.1				7.5	6.5	6.9		7.5	6.5	6.9
Critical Headway (sec)		4.10				4.10				7.44	6.10	6.70		7.90	6.90	7.10
Base Follow-Up Headway (sec)		2.2				2.2				3.5	4.0	3.3		3.5	4.0	3.3
Follow-Up Headway (sec)		2.20				2.20				3.67	4.00	3.30		3.50	4.00	3.30

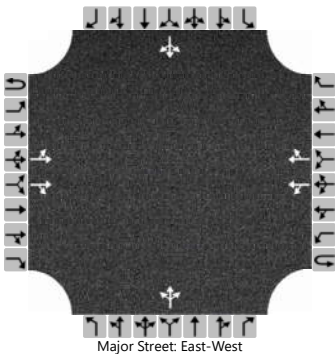
Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)		1				8					8				1	
Capacity, c (veh/h)		1056				934					261				224	
v/c Ratio		0.00				0.01					0.03				0.00	
95% Queue Length, Q ₉₅ (veh)		0.0				0.0					0.1				0.0	
Control Delay (s/veh)		8.4	0.0			8.9	0.1				19.2				21.1	
Level of Service (LOS)		A	A			A	A				C				C	
Approach Delay (s/veh)	0.0				0.2				19.2				21.1			
Approach LOS	A				A				C				C			

HCS Two-Way Stop-Control Report

General Information		Site Information	
Analyst	JTT	Intersection	Eagle Rock & Rosney/Dway
Agency/Co.	Dynamic Traffic	Jurisdiction	Essex County
Date Performed	04/24/2024	East/West Street	Eagle Rock Avenue
Analysis Year	NB	North/South Street	Rosney Terrace/Driveway
Time Analyzed	SAT PSH	Peak Hour Factor	0.97
Intersection Orientation	East-West	Analysis Time Period (hrs)	0.25
Project Description	1021-99-025T		

Lanes



Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Priority	1U	1	2	3	4U	4	5	6		7	8	9		10	11	12
Number of Lanes	0	0	2	0	0	0	2	0		0	1	0		0	1	0
Configuration		LT		TR		LT		TR			LTR				LTR	
Volume (veh/h)		1	557	3		11	462	0		1	0	7		1	0	0
Percent Heavy Vehicles (%)		0				0				0	0	0		0	0	0
Proportion Time Blocked																
Percent Grade (%)									-2				2			
Right Turn Channelized																
Median Type Storage	Undivided															

Critical and Follow-up Headways

Base Critical Headway (sec)		4.1				4.1				7.5	6.5	6.9		7.5	6.5	6.9
Critical Headway (sec)		4.10				4.10				7.10	6.10	6.70		7.90	6.90	7.10
Base Follow-Up Headway (sec)		2.2				2.2				3.5	4.0	3.3		3.5	4.0	3.3
Follow-Up Headway (sec)		2.20				2.20				3.50	4.00	3.30		3.50	4.00	3.30

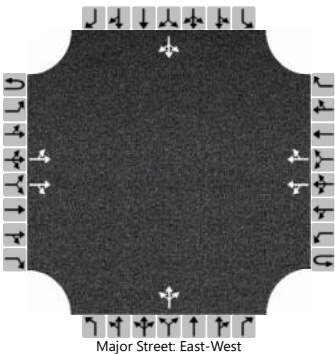
Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)		1				11					8				1	
Capacity, c (veh/h)		1096				1006					607				255	
v/c Ratio		0.00				0.01					0.01				0.00	
95% Queue Length, Q ₉₅ (veh)		0.0				0.0					0.0				0.0	
Control Delay (s/veh)		8.3	0.0			8.6	0.1				11.0				19.2	
Level of Service (LOS)		A	A			A	A				B				C	
Approach Delay (s/veh)	0.0				0.3				11.0				19.2			
Approach LOS	A				A				B				C			

HCS Two-Way Stop-Control Report

General Information		Site Information	
Analyst	JTT	Intersection	Eagle Rock & Rosney/Dway
Agency/Co.	Dynamic Traffic	Jurisdiction	Essex County
Date Performed	04/24/2024	East/West Street	Eagle Rock Avenue
Analysis Year	FB	North/South Street	Rosney Terrace/Driveway
Time Analyzed	AM PSH	Peak Hour Factor	0.93
Intersection Orientation	East-West	Analysis Time Period (hrs)	0.25
Project Description	1021-99-025T		

Lanes



Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Priority	1U	1	2	3	4U	4	5	6		7	8	9		10	11	12
Number of Lanes	0	0	2	0	0	0	2	0		0	1	0		0	1	0
Configuration		LT		TR		LT		TR			LTR				LTR	
Volume (veh/h)		1	590	5		11	483	0		4	0	10		1	0	0
Percent Heavy Vehicles (%)		0				0				0	0	0		0	0	0
Proportion Time Blocked																
Percent Grade (%)									-2				2			
Right Turn Channelized																
Median Type Storage	Undivided															

Critical and Follow-up Headways

Base Critical Headway (sec)		4.1				4.1				7.5	6.5	6.9		7.5	6.5	6.9
Critical Headway (sec)		4.10				4.10				7.10	6.10	6.70		7.90	6.90	7.10
Base Follow-Up Headway (sec)		2.2				2.2				3.5	4.0	3.3		3.5	4.0	3.3
Follow-Up Headway (sec)		2.20				2.20				3.50	4.00	3.30		3.50	4.00	3.30

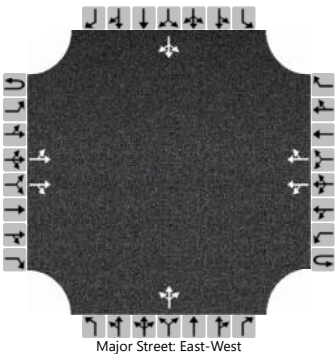
Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)		1				12					15				1	
Capacity, c (veh/h)		1057				954					459				222	
v/c Ratio		0.00				0.01					0.03				0.00	
95% Queue Length, Q ₉₅ (veh)		0.0				0.0					0.1				0.0	
Control Delay (s/veh)		8.4	0.0			8.8	0.1				13.1				21.3	
Level of Service (LOS)		A	A			A	A				B				C	
Approach Delay (s/veh)	0.0				0.3				13.1				21.3			
Approach LOS	A				A				B				C			

HCS Two-Way Stop-Control Report

General Information		Site Information	
Analyst	JTT	Intersection	Eagle Rock & Rosney/Dway
Agency/Co.	Dynamic Traffic	Jurisdiction	Essex County
Date Performed	04/24/2024	East/West Street	Eagle Rock Avenue
Analysis Year	FB	North/South Street	Rosney Terrace/Driveway
Time Analyzed	PM PSH	Peak Hour Factor	0.95
Intersection Orientation	East-West	Analysis Time Period (hrs)	0.25
Project Description	1021-99-025T		

Lanes



Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Priority	1U	1	2	3	4U	4	5	6		7	8	9		10	11	12
Number of Lanes	0	0	2	0	0	0	2	0		0	1	0		0	1	0
Configuration		LT		TR		LT		TR			LTR				LTR	
Volume (veh/h)		1	634	9		11	501	0		6	0	5		1	0	0
Percent Heavy Vehicles (%)		0				0				17	0	0		0	0	0
Proportion Time Blocked																
Percent Grade (%)									-2				2			
Right Turn Channelized																
Median Type Storage	Undivided															

Critical and Follow-up Headways

Base Critical Headway (sec)		4.1				4.1				7.5	6.5	6.9		7.5	6.5	6.9
Critical Headway (sec)		4.10				4.10				7.44	6.10	6.70		7.90	6.90	7.10
Base Follow-Up Headway (sec)		2.2				2.2				3.5	4.0	3.3		3.5	4.0	3.3
Follow-Up Headway (sec)		2.20				2.20				3.67	4.00	3.30		3.50	4.00	3.30

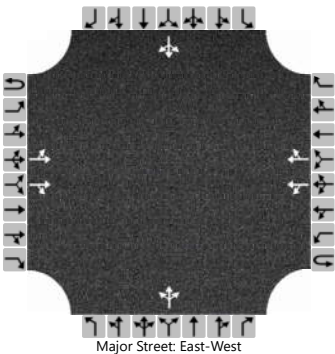
Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)		1				12					12				1	
Capacity, c (veh/h)		1050				924					303				214	
v/c Ratio		0.00				0.01					0.04				0.00	
95% Queue Length, Q ₉₅ (veh)		0.0				0.0					0.1				0.0	
Control Delay (s/veh)		8.4	0.0			8.9	0.1				17.3				21.9	
Level of Service (LOS)		A	A			A	A				C				C	
Approach Delay (s/veh)	0.0				0.3				17.3				21.9			
Approach LOS	A				A				C				C			

HCS Two-Way Stop-Control Report

General Information		Site Information	
Analyst	JTT	Intersection	Eagle Rock & Rosney/Dway
Agency/Co.	Dynamic Traffic	Jurisdiction	Essex County
Date Performed	04/24/2024	East/West Street	Eagle Rock Avenue
Analysis Year	FB	North/South Street	Rosney Terrace/Driveway
Time Analyzed	SAT PSH	Peak Hour Factor	0.97
Intersection Orientation	East-West	Analysis Time Period (hrs)	0.25
Project Description	1021-99-025T		

Lanes



Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Priority	1U	1	2	3	4U	4	5	6		7	8	9		10	11	12
Number of Lanes	0	0	2	0	0	0	2	0		0	1	0		0	1	0
Configuration		LT		TR		LT		TR			LTR				LTR	
Volume (veh/h)		1	582	3		17	486	0		1	0	13		1	0	0
Percent Heavy Vehicles (%)		0				0				0	0	0		0	0	0
Proportion Time Blocked																
Percent Grade (%)									-2				2			
Right Turn Channelized																
Median Type Storage	Undivided															

Critical and Follow-up Headways

Base Critical Headway (sec)		4.1				4.1				7.5	6.5	6.9		7.5	6.5	6.9
Critical Headway (sec)		4.10				4.10				7.10	6.10	6.70		7.90	6.90	7.10
Base Follow-Up Headway (sec)		2.2				2.2				3.5	4.0	3.3		3.5	4.0	3.3
Follow-Up Headway (sec)		2.20				2.20				3.50	4.00	3.30		3.50	4.00	3.30

Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)		1				18					14				1	
Capacity, c (veh/h)		1074				984					634				229	
v/c Ratio		0.00				0.02					0.02				0.00	
95% Queue Length, Q ₉₅ (veh)		0.0				0.1					0.1				0.0	
Control Delay (s/veh)		8.4	0.0			8.7	0.2				10.8				20.8	
Level of Service (LOS)		A	A			A	A				B				C	
Approach Delay (s/veh)	0.0				0.5				10.8				20.8			
Approach LOS	A				A				B				C			

HCS Two-Way Stop-Control Report

General Information

Analyst

JTT

Agency/Co.

Dynamic Traffic

Date Performed

04/24/2024

Analysis Year

FB

Time Analyzed

AM PSH

Intersection Orientation

East-West

Project Description

1021-99-025T

Site Information

Intersection

Eagle Rock & E. Site Dway

Jurisdiction

Essex County

East/West Street

Eagle Rock Avenue

North/South Street

East Site Driveway

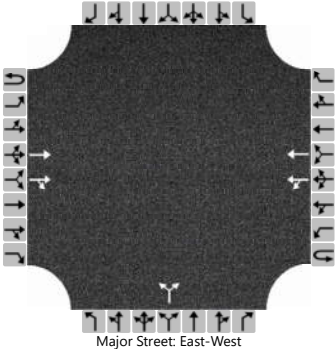
Peak Hour Factor

0.93

Analysis Time Period (hrs)

0.25

Lanes



Major Street: East-West

Vehicle Volumes and Adjustments																								
Approach	Eastbound				Westbound				Northbound				Southbound											
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R								
Priority	1U	1	2	3	4U	4	5	6		7	8	9		10	11	12								
Number of Lanes	0	0	2	0	0	0	2	0		0	1	0		0	0	0								
Configuration			T	TR		LT	T				LR													
Volume (veh/h)			560	8		29	468			34		27												
Percent Heavy Vehicles (%)						2				2		2												
Proportion Time Blocked																								
Percent Grade (%)									0															
Right Turn Channelized																								
Median Type Storage	Undivided																							
Critical and Follow-up Headways																								
Base Critical Headway (sec)						4.1				7.5		6.9												
Critical Headway (sec)						4.14				6.84		6.94												
Base Follow-Up Headway (sec)						2.2				3.5		3.3												
Follow-Up Headway (sec)						2.22				3.52		3.32												
Delay, Queue Length, and Level of Service																								
Flow Rate, v (veh/h)						31					66													
Capacity, c (veh/h)						964					359													
v/c Ratio						0.03					0.18													
95% Queue Length, Q ₉₅ (veh)						0.1					0.7													
Control Delay (s/veh)						8.9	0.3				17.3													
Level of Service (LOS)						A	A				C													
Approach Delay (s/veh)					0.8				17.3															
Approach LOS					A				C															

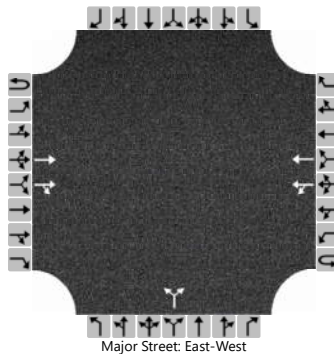
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HCS™ TWSC Version 2022
FB AM - Eagle Rock Ave & East Site Driveway.xtw

Generated: 4/25/2024 3:04:56 PM

General Information		Site Information	
Analyst	JTT	Intersection	Eagle Rock & E. Site Dway
Agency/Co.	Dynamic Traffic	Jurisdiction	Essex County
Date Performed	04/24/2024	East/West Street	Eagle Rock Avenue
Analysis Year	FB	North/South Street	East Site Driveway
Time Analyzed	PM PSH	Peak Hour Factor	0.95
Intersection Orientation	East-West	Analysis Time Period (hrs)	0.25
Project Description	1021-99-025T		

Lanes



Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Priority	1U	1	2	3	4U	4	5	6		7	8	9		10	11	12
Number of Lanes	0	0	2	0	0	0	2	0		0	1	0		0	0	0
Configuration			T	TR		LT	T				LR					
Volume (veh/h)			614	6		25	492			26		19				
Percent Heavy Vehicles (%)						2				2		2				
Proportion Time Blocked																
Percent Grade (%)									0							
Right Turn Channelized																
Median Type Storage	Undivided															

Critical and Follow-up Headways

Base Critical Headway (sec)						4.1				7.5		6.9				
Critical Headway (sec)						4.14				6.84		6.94				
Base Follow-Up Headway (sec)						2.2				3.5		3.3				
Follow-Up Headway (sec)						2.22				3.52		3.32				

Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)					26				47						
Capacity, c (veh/h)					930				335						
v/c Ratio					0.03				0.14						
95% Queue Length, Q_{95} (veh)					0.1				0.5						
Control Delay (s/veh)					9.0	0.3			17.5						
Level of Service (LOS)					A	A			C						
Approach Delay (s/veh)					0.7			17.5							
Approach LOS					A			C							

HCS Two-Way Stop-Control Report

General Information

Analyst

JTT

Agency/Co.

Dynamic Traffic

Date Performed

04/24/2024

Analysis Year

FB

Time Analyzed

SAT PSH

Intersection Orientation

East-West

Project Description

1021-99-025T

Site Information

Intersection

Eagle Rock & E. Site Dway

Jurisdiction

Essex County

East/West Street

Eagle Rock Avenue

North/South Street

East Site Driveway

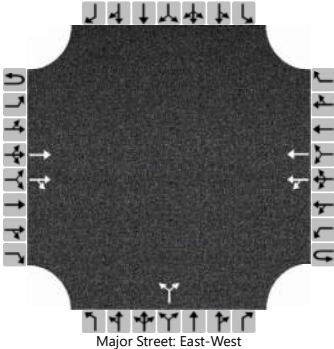
Peak Hour Factor

0.97

Analysis Time Period (hrs)

0.25

Lanes



Major Street: East-West

Vehicle Volumes and Adjustments																
Approach	Eastbound				Westbound				Northbound				Southbound			
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Priority	1U	1	2	3	4U	4	5	6		7	8	9		10	11	12
Number of Lanes	0	0	2	0	0	0	2	0		0	1	0		0	0	0
Configuration			T	TR		LT	T				LR					
Volume (veh/h)			560	8		36	469			43		35				
Percent Heavy Vehicles (%)						2				2		2				
Proportion Time Blocked																
Percent Grade (%)									0							
Right Turn Channelized																
Median Type Storage	Undivided															

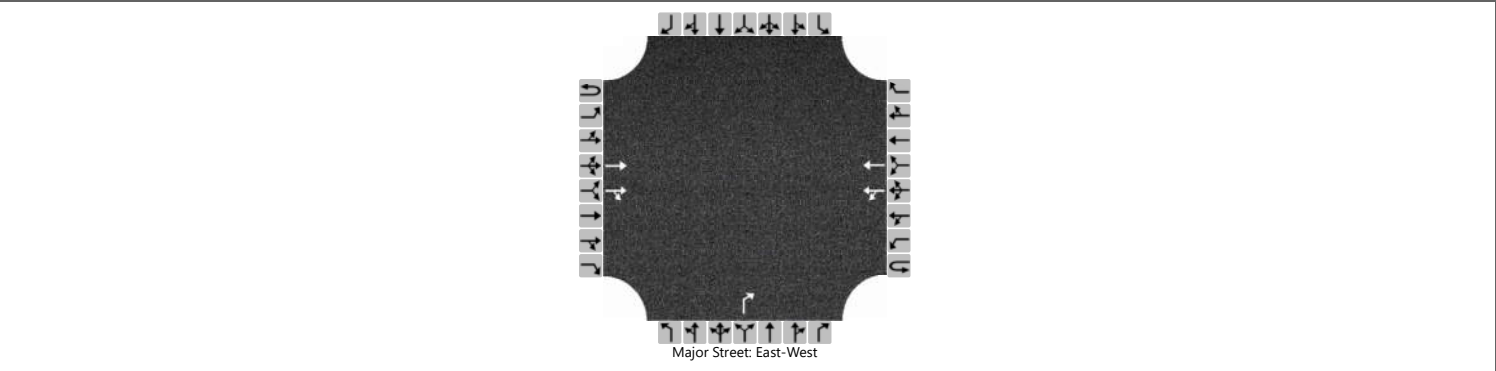
Critical and Follow-up Headways																
Base Critical Headway (sec)						4.1				7.5		6.9				
Critical Headway (sec)						4.14				6.84		6.94				
Base Follow-Up Headway (sec)						2.2				3.5		3.3				
Follow-Up Headway (sec)						2.22				3.52		3.32				

Delay, Queue Length, and Level of Service																
Flow Rate, v (veh/h)						37					80					
Capacity, c (veh/h)						985					370					
v/c Ratio						0.04					0.22					
95% Queue Length, Q ₉₅ (veh)						0.1					0.8					
Control Delay (s/veh)						8.8	0.3				17.4					
Level of Service (LOS)						A	A				C					
Approach Delay (s/veh)					0.9				17.4							
Approach LOS					A				C							

HCS Two-Way Stop-Control Report

General Information		Site Information	
Analyst	JTT	Intersection	Eagle Rock & W. Site Dway
Agency/Co.	Dynamic Traffic	Jurisdiction	Essex County
Date Performed	04/24/2024	East/West Street	Eagle Rock Avenue
Analysis Year	FB	North/South Street	West Site Driveway
Time Analyzed	AM PSH	Peak Hour Factor	0.93
Intersection Orientation	East-West	Analysis Time Period (hrs)	0.25
Project Description	1021-99-025T		

Lanes



Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Priority	1U	1	2	3	4U	4	5	6		7	8	9		10	11	12
Number of Lanes	0	0	2	0	0	0	2	0		0	0	1		0	0	0
Configuration			T	TR		LT	T					R				
Volume (veh/h)			570	30		8	494					7				
Percent Heavy Vehicles (%)						2						2				
Proportion Time Blocked																
Percent Grade (%)									0							
Right Turn Channelized									No							
Median Type Storage	Undivided															

Critical and Follow-up Headways

Base Critical Headway (sec)						4.1						6.9				
Critical Headway (sec)						4.14						6.94				
Base Follow-Up Headway (sec)						2.2						3.3				
Follow-Up Headway (sec)						2.22						3.32				

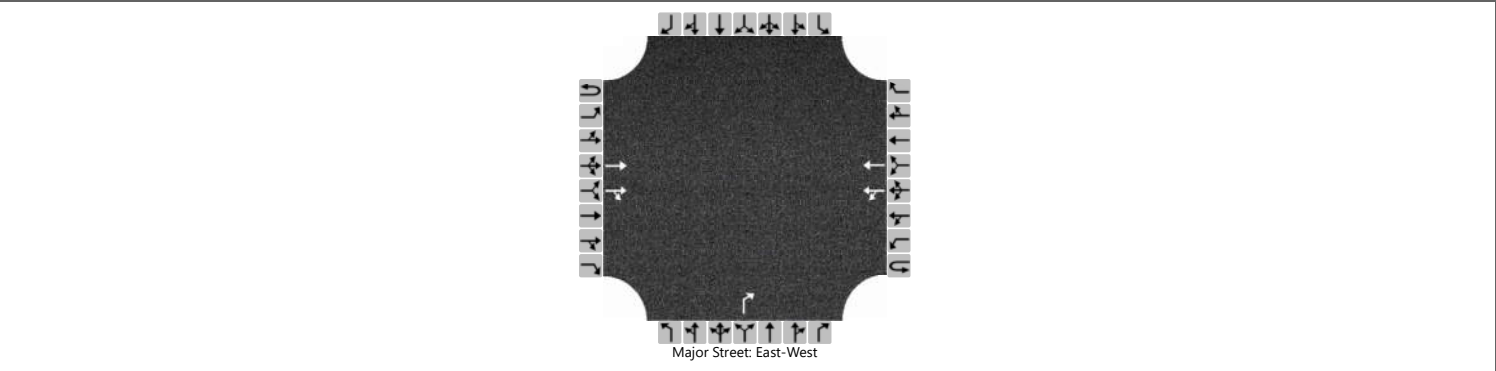
Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)						9						8				
Capacity, c (veh/h)						936						673				
v/c Ratio						0.01						0.01				
95% Queue Length, Q ₉₅ (veh)						0.0						0.0				
Control Delay (s/veh)						8.9	0.1					10.4				
Level of Service (LOS)						A	A					B				
Approach Delay (s/veh)					0.2				10.4							
Approach LOS					A				B							

HCS Two-Way Stop-Control Report

General Information		Site Information	
Analyst	JTT	Intersection	Eagle Rock & W. Site Dway
Agency/Co.	Dynamic Traffic	Jurisdiction	Essex County
Date Performed	04/24/2024	East/West Street	Eagle Rock Avenue
Analysis Year	FB	North/South Street	West Site Driveway
Time Analyzed	PM PSH	Peak Hour Factor	0.95
Intersection Orientation	East-West	Analysis Time Period (hrs)	0.25
Project Description	1021-99-025T		

Lanes



Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Priority	1U	1	2	3	4U	4	5	6		7	8	9		10	11	12
Number of Lanes	0	0	2	0	0	0	2	0		0	0	1		0	0	0
Configuration			T	TR		LT	T					R				
Volume (veh/h)			614	25		6	512					6				
Percent Heavy Vehicles (%)						2						2				
Proportion Time Blocked																
Percent Grade (%)									0							
Right Turn Channelized									No							
Median Type Storage	Undivided															

Critical and Follow-up Headways

Base Critical Headway (sec)						4.1						6.9				
Critical Headway (sec)						4.14						6.94				
Base Follow-Up Headway (sec)						2.2						3.3				
Follow-Up Headway (sec)						2.22						3.32				

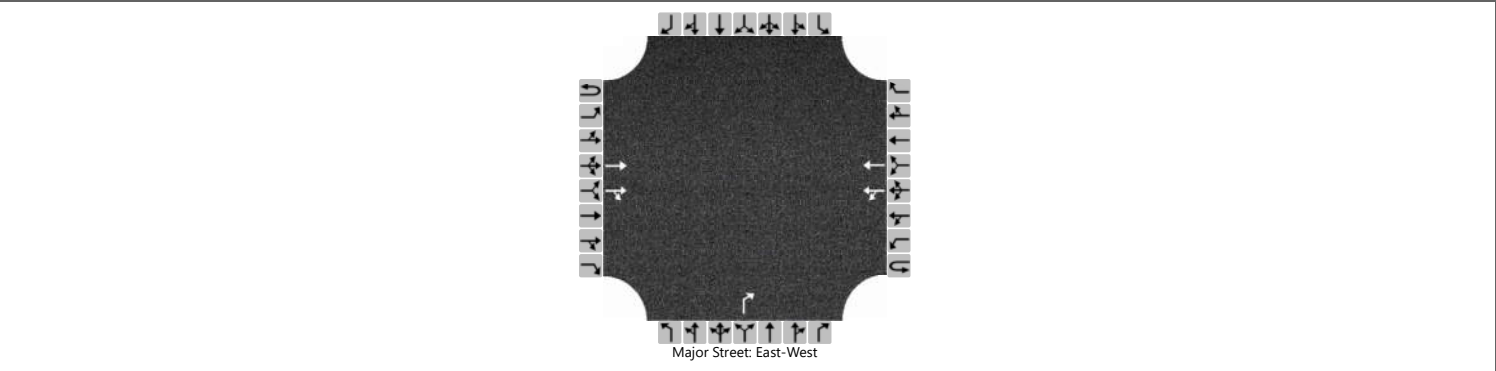
Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)						6						6				
Capacity, c (veh/h)						914						659				
v/c Ratio						0.01						0.01				
95% Queue Length, Q ₉₅ (veh)						0.0						0.0				
Control Delay (s/veh)						9.0	0.1					10.5				
Level of Service (LOS)						A	A					B				
Approach Delay (s/veh)					0.2				10.5							
Approach LOS					A				B							

HCS Two-Way Stop-Control Report

General Information		Site Information	
Analyst	JTT	Intersection	Eagle Rock & W. Site Dway
Agency/Co.	Dynamic Traffic	Jurisdiction	Essex County
Date Performed	04/03/2024	East/West Street	Eagle Rock Avenue
Analysis Year	FB	North/South Street	West Site Driveway
Time Analyzed	SAT PSH	Peak Hour Factor	0.97
Intersection Orientation	East-West	Analysis Time Period (hrs)	0.25
Project Description	1021-99-025T		

Lanes



Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Priority	1U	1	2	3	4U	4	5	6		7	8	9		10	11	12
Number of Lanes	0	0	2	0	0	0	2	0		0	0	1		0	0	0
Configuration			T	TR		LT	T					R				
Volume (veh/h)			560	35		9	503					8				
Percent Heavy Vehicles (%)						2						2				
Proportion Time Blocked																
Percent Grade (%)									0							
Right Turn Channelized									No							
Median Type Storage	Undivided															

Critical and Follow-up Headways

Base Critical Headway (sec)						4.1						6.9				
Critical Headway (sec)						4.14						6.94				
Base Follow-Up Headway (sec)						2.2						3.3				
Follow-Up Headway (sec)						2.22						3.32				

Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)						9						8				
Capacity, c (veh/h)						962						689				
v/c Ratio						0.01						0.01				
95% Queue Length, Q ₉₅ (veh)						0.0						0.0				
Control Delay (s/veh)						8.8	0.1					10.3				
Level of Service (LOS)						A	A					B				
Approach Delay (s/veh)					0.2				10.3							
Approach LOS					A				B							