

October 16, 2025  
Updated February 25, 2026

Michael Fiacco  
Jared George  
33-37 Warehouse Row  
Albany, New York 12205

RE: Updated Traffic Impact Evaluation for Proposed Dutch Mill Acres, 3633 Carman Road  
Town of Guilderland, New York

Dear Mr. Fiacco and Mr. George:

Lansing Engineering (LE) has prepared this updated traffic impact evaluation to assess the potential traffic impacts for the proposed mixed-use residential development located in the Town of Guilderland, New York based on updates to the site plan and to address requests made by the Town for additional scope of work. The current Schematic Plan dated July 9, 2025, prepared by Hershberg & Hershberg is included as Attachment A and includes 107 multifamily residential units and an increase in the commercial space from 6,000 square feet (sf) to 12,000 sf. Traffic evaluations dated November 9, 2020, and March 3, 2021 were completed by VHB for a prior application at the site for a similar mixed-use development plan. The prior studies did not identify any off-site traffic mitigation. This traffic impact evaluation serves as an update to the October 16, 2025 evaluation for the current application and older studies for a prior application to confirm that no off-site mitigation is needed.

## Site Location and Proposed Development

The project site, located at 3633 Carman Road (NY Route 146) in the Town of Guilderland, New York, is currently developed with one residence. The proposed project includes construction of 107 multifamily residential units in 10 buildings and a commercial two-story building fronting Carman Road to include 12,000 square foot (sf) of commercial space. The development includes 6,000 sf of amenity space in the multifamily building fronting Carman Road and other shared outdoor recreational space, such as a playground, community garden, and dog park. Access to the site is proposed via two full access driveways on Carman Road. The prior application initially included one full access driveway on Carman Road and one full access on Lone Pine Road; however, during the review process and coordination with the Town of Guilderland and the New York State Department of Transportation (NYSDOT), the driveway on Lone Pine Road was removed and a second full access was added to Carman Road as requested by NYSDOT. A January 27, 2026 correspondence from NYSDOT confirmed their conceptual approval of the two full access driveways on Carman Road. The site is expected to be fully built and occupied by 2027. The project location and study area are shown on Figure 1.

## Existing Conditions

At the request of the Town, the study area, which initially focused on an evaluation of the proposed site access intersections with Carman Road, was expanded to include the following intersections:

- Carman Road/Lone Pine Road
- Carman Road/Spawn Road

Below is a description of the study area roadway and intersections:

**Carman Road** is classified as a principal arterial and generally provides north-south travel through the Town of Guilderland beginning at its intersection with Western Avenue (US Route 20) and ending at the Carman Road/Curry Road/Hamburg Street roundabout in the Town of Rotterdam. Near the project site, Carman Road is a two-lane roadway with one 11-foot wide travel lane in each direction, 3.5 to 5.5-foot wide paved shoulders, and a posted speed limit of 40-mph. There are no dedicated pedestrian or bicycle facilities on Carman Road at the project site; however, sidewalks are provided along the frontages of the two adjacent parcels and at various segments through the corridor.

The **Carman Road/Lone Pine Road** intersection is a three-leg intersection operating under stop control on the westbound Lone Pine Road approach. All intersection approaches provide a single lane for shared travel movements. There is a sidewalk along the east side of Carman Road and a striped crosswalk along the westbound approach of Lone Pine Road. Lone Pine Road is posted with a four ton weight limit, except for local deliveries.

The **Carman Road/Spawn Road** intersection is a three-leg intersection operating under stop sign control on the westbound Spawn Road approach. All intersection approaches provide a single lane for shared travel movements. There is a sidewalk along the east side of Carman Road on the north side of the intersection.

### Multi Modal Access

Public transportation is provided in the Town of Guilderland by the Capital District Transportation Authority (CDTA). Route 763 – Schenectady/Guilderland via Route 20, providing access between Schenectady and Guilderland, is the closest route servicing the site. Bus stops are located at the Carman Road/Lone Pine Road intersection immediately north of the site. Route 763 provides service Monday through Friday from approximately 6:00 a.m. through 7:30 p.m. Route 763 provides access to downtown Schenectady and Crossgates Mall where many other regional bus routes can be accessed.

Sidewalks are provided on the east side of Carman Road on the adjacent parcel to the north continuing north to Ronald Place with marked crosswalks across Lone Pine Road, Coons Road, and Jessamine Lane. At Ronald Place, a marked crosswalk is provided across Carman Road connecting pedestrians to sidewalks on the west side of Carman Road that continue north to the East/West Lydius Street roundabout. At the south end of the site, sidewalks are provided on the east side of Carman Road on the adjacent parcel extending south to Spawn Road. Sidewalks are proposed along the project frontage that will connect the two existing sidewalk networks resulting in a sidewalk network extending between Spawn Road and East/West Lydius Street. To further enhance pedestrian access, a sidewalk is proposed on Lone Pine Road connecting between Carman Road and Dibella Drive.

Carman Road is signed with “BICYCLE” warning signs with “SHARE THE ROAD”, “SHARED ROADWAY”, or “IN LANE” supplemental plaques warning drivers of the potential for bicyclists traveling on Carman Road and sharing the road with motor vehicles.

### Traffic Volumes

Intersection turning movement counts (TMCs) were conducted at the two study intersections from 7:00 to 9:00 a.m. and 4:00 to 6:00 p.m. on February 5, 2026. Based on a review of the traffic volumes in the study area, the weekday AM peak hour occurs from 7:30 to 8:30 a.m. and the weekday PM peak hour

occurs from 4:15 to 5:15 p.m. The TMC data is included in Attachment B. The existing traffic volumes are shown on Figure 2.

Traffic volume data collected on Carman Road from Monday September 22, 2025 through Friday September 26, 2025 via automatic traffic recorder (ATR), shows that near the project site, Carman Road serves approximately 795 to 854 vehicles per hour (vph) between 7:00 and 9:00 a.m. and approximately 1,054 to 1,088 vph between 4:00 and 6:00 p.m. with average daily traffic (ADT) volumes of approximately 12,050 vehicles per day (vpd). The ATR data is included in Attachment B.

### Sight Distance

A sight distance analysis was performed at the two proposed site driveways consistent with guidelines published by the American Association of State Highway and Transportation Officials (AASHTO) in *A Policy on Geometric Design of Highways and Streets, 7<sup>th</sup> Edition*<sup>1</sup>. Stopping and intersection sight distances were measured at the two proposed site driveways for passenger vehicles.

Stopping sight distance (SSD) is the distance along the roadway for a vehicle approaching an intersection from either direction to perceive, react, and come to a complete stop before colliding with an object in the road. Intersection sight distance (ISD) is based on the time required for perception, reaction, and completion of the desired turning maneuver into or out of the site driveway without causing approaching vehicles on the main road to unduly reduce their speed.

The posted speed on Carman Road is 40-mph. Travel speed data collected on Carman Road shows that the 85<sup>th</sup> percentile operating speed is 44-mph in the northbound direction and 43-mph in the southbound direction along the project frontage. The 85<sup>th</sup> percentile speeds were rounded to the nearest 5-mph and the sight distances measured in the field were compared to the AASHTO guidelines for a 45-mph operating speed as shown in Tables 1 and 2.

<b>Location</b>	<b>Travel Direction</b>	<b>85<sup>th</sup> Percentile Speed (mph)</b>	<b>Guideline</b>	<b>Measurement</b>
Carman Rd/South Site Dwy	NB	45	360	750+
	SB	45	360	750+
Carman Rd/North Site Dwy	NB	45	360	750+
	SB	45	360	750+

Table 1 shows that the available stopping sight distances both northbound and southbound on Carman Road meet the AASHTO guidelines at the proposed site driveways for the measured operating speed.

<sup>1</sup> A Policy on Geometric Design of Highways and Streets, 7<sup>th</sup> Edition, AASHTO 2018

<b>Location</b>	<b>Travel Movement</b>	<b>Guideline</b>		<b>Measurement</b>	
Carman Rd/South Site Dwy	Left-turn Out	D <sub>L</sub> = 500	D <sub>R</sub> = 500	D <sub>L</sub> = 750+	D <sub>R</sub> = 750+
	Right-turn Out	D <sub>L</sub> = 430		D <sub>L</sub> = 750+	
	Left-turn In	D <sub>S</sub> = 365		D <sub>S</sub> = 750+	
Carman Rd/North Site Dwy	Left-turn Out	D <sub>L</sub> = 500	D <sub>R</sub> = 500	D <sub>L</sub> = 750+	D <sub>R</sub> = 750+
	Right-turn Out	D <sub>L</sub> = 430		D <sub>L</sub> = 750+	
	Left-turn In	D <sub>S</sub> = 365		D <sub>S</sub> = 750+	

Table 2 shows that the available intersection sight distances meet AASHTO guidelines at the proposed site driveways for the measured operating speed.

Site signage and landscaping should be placed a minimum of 14.5 feet back from the roadway to maintain good sight lines.

**Crash History**

Crash data was obtained from NYSDOT for the latest three-year period from January 1, 2023, to December 31, 2025, at the study intersections, and along the segment of Carman Road between the two study intersections, to identify crash patterns near the project site.

The data shows that during the three-year period, a total of seven crashes occurred at the Carman Road/Lone Pine Road intersection, no crashes occurred at the Carman Road/Spawn Road intersection, and nine crashes occurred on the roadway segment. Table 3 summarizes the intersection and segment crashes. Detailed crash data can be found in Attachment C.

<b>Location</b>	<b>Total Crashes</b>	<b>Severity</b>			
		<b>Fatal</b>	<b>INJ<sup>a</sup></b>	<b>PDO<sup>b</sup></b>	<b>NR<sup>c</sup></b>
Carman Rd/Lone Pine Rd	7	0	0	4	3
Carman Rd/Spawn Rd	0	0	0	0	0
Carman Rd from Lone Pine Rd to Spawn Rd	9	0	2	7	0

Source: NYSDOT crash data dated January 1, 2023, through December 31, 2025

a Personal Injury  
b Property Damage Only  
c Non-Reportable (< \$1,000 in property damage and no injuries)

Table 3 shows that of the seven total intersection crashes, there were four property damage only crashes and three non-reportable crashes (<\$1,000 in property damage and no injuries). Of the nine segment crashes between the study intersections, there were two injury crashes and seven property damage only crashes. There were no fatalities and no pedestrian or bicycle crashes in the three-year study period at the study intersections or on the roadway segment. The following is noted regarding the crashes:

**Carman Road/Lone Pine Road**

Of the seven crashes that occurred at this intersection during the study period, there were three “other” collisions including a crash with a utility pole with no documented contributing factors, a crash with a sign post attributed to steering failure, and a crash with another motor vehicle attributed to driver

inattention. There were three rear-end crashes attributed to unsafe speed and following too closely and a right-angle crash attributed to improper turning.

### **Carman Road/Spawn Road**

There were no crashes reported at this intersection during the three-year study period.

### **Carman Road**

Of the nine crashes that occurred on this roadway segment during the study period, there were three “other” collisions including two crashes with utility poles attributed to reacting to another vehicle, alcohol involvement, and backing unsafely and a crash with a sign post attributed to reacting to another vehicle and slippery pavement. There were five rear-end crashes (two of which resulted in injury) attributed to slippery pavement, reacting to another vehicle, following too closely, and unsafe speed. There was one sideswipe collision attributed to failure to keep right.

Only one of the segment crashes occurred along the project frontage, which was a rear-end crash attributed to following too closely. The crash occurred approximately 35 feet north of the southern parcel boundary, resulted in property damage only, and involved two southbound vehicles.

A review of the crash history in the study area indicated crashes were primarily due to poor weather conditions or driver actions, such as speeding and inattention. There were no prevalent crash types identified that would be fixable with engineering measures.

## **Future Traffic Volumes**

To determine the impacts of the site-generated traffic volumes at the study intersections, future traffic volumes were estimated with and without construction of the proposed project for the 2027 design year when the site is expected to be constructed and fully occupied.

### **No-Build Traffic Volumes**

Traffic growth is a function of expected site-specific land development and changes to general background demographics resulting in increases or decreases to roadway traffic volumes.

Based on information provided by the Town of Guilderland, the following other planned developments (OPDs) were identified:

- 58 lot subdivision on Fuller Station Road (west of the site)
- 14 lot subdivision on Fuller Station Road (west of the site)
- 12-unit Senior Community on Carman Road (north of the site)

A regression analysis of traffic volumes on Carman Road indicates that traffic volumes have fluctuated over time with periods of both volume growth and decline, with the last ten years averaging a decrease in daily volumes of approximately 1.42% per year. To account for the fluctuation seen in the traffic volume data, a growth rate of 0.5% per year was applied to the 2025 Existing traffic volumes for two years to estimate the general background growth. The 2027 No-Build traffic volumes which include peak hour traffic volumes from the identified OPDs at the study area intersections are shown on Figure 2.

## Site Generated Traffic Volumes

Site generated trips for the weekday morning and afternoon peak hours for the proposed mixed-use development were based on the Institute of Transportation Engineers (ITE) publication *Trip Generation Manual, 12<sup>th</sup> Edition*<sup>2</sup>, which is the industry standard for estimating trips for different land uses. There are currently no tenants identified for the commercial space; therefore, a mix of general office space and retail space was assumed and is a fair representation of the potential occupancy of the two-story commercial building. The trips for the proposed site were estimated using the following land use codes (LUC) and development sizes:

- (LUC) 220- Multifamily Housing (Low-Rise) = 107 units
- LUC 822- Strip Retail Plaza (<40k) = 6,000 sf
- LUC 712- Small Office Building = 6,000 sf

It can be expected that some of the trips to the retail land use will originate from traffic already on the adjacent roadway network. These pass-by trips contribute to the site driveway volumes, but do not add traffic volumes on the adjacent roadway network. The pass-by trip percentages applied to the retail land use are based on data published by ITE. ITE does not have published data for LUC 822; therefore, pass-by trip rates for LUC 821- Shopping Plaza were used as this land use would operate with similar characteristics. Based on ITE, a pass-by rate of 40% was utilized for the PM peak hour. ITE data is not provided for the AM peak hour; therefore, the pass-by rate for LUC 821 consistent with the Saturday peak hour of 30% was used for the AM peak hour.

Due to the mixed-use nature of the proposed project, it is expected that some vehicle trips at the site will be multi-use or “internal” meaning that trips to more than one land use on the site are generated internally and do not add additional trips to the adjacent roadway network. For example, a resident may stop at a retail tenant on their commute home from work resulting in a single trip entering the site and no trips exiting the site. The internal trip credit was estimated using the procedures outlined in the ITE publication, *Trip Generation Handbook, 3<sup>rd</sup> Edition*<sup>3</sup> and was applied to the residential and commercial land uses.

The resulting trip generation for the AM and PM peak hours is summarized in Table 4.

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<sup>2</sup> Trip Generation Manual, 12<sup>th</sup> Edition, Institute of Transportation Engineers, Washington D.C., September 2025

<sup>3</sup> Trip Generations Handbook, 3<sup>rd</sup> Edition, Institute of Transportation Engineers, Washington D.C., September 2017



Land Use	AM Peak Hour			PM Peak Hour		
	Enter	Exit	Total	Enter	Exit	Total
Multifamily Housing (Low-Rise)	12	38	50	36	23	59
Internal Trips	0	0	0	-5	-3	-8
Primary (New) Trips	12	38	50	31	20	51
Strip Retail Plaza (<40k)	13	11	24	19	19	38
Internal Trips	-1	0	-1	-4	-5	-9
Pass-By Trips	-4	-4	-8	-6	-6	-12
Primary (New) Trips	8	7	15	9	8	17
Small Office Building	8	2	10	4	9	13
Internal Trips	0	-1	-1	-1	-2	-3
Primary (New) Trips	8	1	9	3	7	10
<b>Total New Trips</b>	<b>28</b>	<b>46</b>	<b>74</b>	<b>43</b>	<b>35</b>	<b>78</b>

The table shows that the proposed project is expected to generate 74 new vehicle trips during the weekday AM peak hour (28 entering and 46 exiting) and 78 new vehicle trips during the weekday PM peak hour (43 entering and 35 exiting). The magnitude of site generated trips results in less than the NYSDOT and ITE trip thresholds of the generation of 100 vehicle trips on a single intersection approach for determining the need for detailed off-site intersection analysis. These agency thresholds were developed as a tool to identify locations where the magnitude of site-generated traffic has the potential to impact operations at off-site intersections and screen out locations that do not meet the threshold and are therefore unlikely to require mitigation. However, as requested by the Town, in addition to evaluating the two site access intersections, the scope of work has been increased to include an evaluation of the Carman Road intersections with Lone Pine Road and Spawn Road.

### Build Traffic Volumes

The directional distribution of traffic entering and exiting the site is based on population density, existing and anticipated future travel patterns, efficiency of the existing roadway network, locations of similar land uses, etc. It is expected that 45% of the new site generated traffic will travel to and from the north on Carman Road and 55% will travel to and from the south. Five percent of the northbound traffic will travel to and from Lone Pine Road. Based on the site layout, it is expected that the residential and commercial traffic will have different driveway distribution patterns. The primary trip distribution patterns for the residential and commercial land use are shown on Figures 3 and 4 respectively, and the pass-by distribution patterns for the retail land use is shown on Figure 5.

The vehicles assigned to the study area network as shown on Figures 3, 4, and 5 were added to the 2027 No-Build traffic volumes to develop the 2027 Build traffic volumes shown on Figure 6.

## Traffic Operations

### Intersection Capacity Analysis

Capacity analysis provides an indication of how well an intersection accommodates the traffic demand in terms of level of service (LOS), which is based on a measure of the average vehicle delay. The analysis uses procedures set forth in the *Highway Capacity Manual 7<sup>th</sup> Edition: A Guide for Multimodal Mobility*

*Analysis*<sup>4</sup>. Levels of service range from A to F, with LOS A representing short vehicle delays and LOS F representing longer vehicle delays. Level of service designations are different depending on intersection control and are summarized in Attachment D.

Analysis was conducted for the 2027 Build condition at the two site driveway intersections. Table 5 summarizes the capacity analysis results for the weekday AM and PM peak hours. The capacity analysis worksheets are included in Attachment E.

<b>Table 5 Level of Service Summary</b>												
Intersection	AM Peak Hour (7:30-8:30)						PM Peak Hour (4:15-5:15)					
	2026 Existing		2028 No-Build		2028 Build		2026 Existing		2028 No-Build		2028 Build	
	LOS	Delay	LOS	Delay	LOS	Delay	LOS	Delay	LOS	Delay	LOS	Delay
Carman Rd/Lone Pine Rd												
Lone Pine Rd WB LR	C	18.7	C	18.8	C	19.8	D	26.9	D	27.3	D	29.7
Carman Rd SB L	A	8.3	A	8.3	A	8.3	A	9.0	A	9.0	A	9.1
Carman Rd/Spawn Rd												
Spawn Rd WB L	C	16.7	C	16.8	C	17.6	C	22.8	C	23.0	C	24.3
Carman Rd SB L	A	8.2	A	8.2	A	8.2	A	9.1	A	9.1	A	9.2
Carman Rd/N Site Dwy												
N Site Dwy WB LR	--	--	--	--	C	15.2	--	--	--	--	C	18.0
Carman Rd SB L	--	--	--	--	A	8.3	--	--	--	--	A	9.0
Carman Rd/S Dwy												
S Site Dwy WB LR	--	--	--	--	C	17.5	--	--	--	--	C	24.3
S Site Dwy SB L	--	--	--	--	A	8.3	--	--	--	--	A	9.0
LOS = Level of Service Delay = Average delay per vehicle in seconds NB, SB, EB, WB = Northbound, Southbound, Eastbound, Westbound intersection approaches LTR = Left-turn, Through, or Right-turn movement -- = Not applicable												

The analysis shows that the Carman Road/Lone Pine Road intersection will operate with LOS C or better conditions during the AM peak hour and LOS D or better conditions during the PM peak hour with increases in the average vehicle delays of approximately 1.0 second or less during the AM peak hour and 2.4 seconds or less during the PM peak hour when compared to the No-Build conditions. The Carman Road/Spawn Road intersection will operate with LOS C or better conditions during both the AM and PM peak hours with average vehicle delays of 17.6 seconds or less during the AM peak hour and 24.3 seconds or less during the PM peak hour with increases in the average vehicle delays of less than one second during the AM peak hour and 1.3 seconds or less during the PM peak hour when compared to the No-Build condition. The analysis illustrates that the additional traffic generated by the site will have a minor impact on the operation of the two adjacent unsignalized intersections and confirms the ITE and NYS DOT guidance indicating that the site volumes do not trigger the need for off-site mitigation.

The two site driveways will operate with adequate levels of service as unsignalized driveways with single lanes entering and exiting. The average peak hour vehicle delay for vehicles exiting the site will be 17.5 seconds or less during the AM peak hour and 24.3 seconds or less during the PM peak hour.

<sup>4</sup> Highway Capacity Manual 7<sup>th</sup> Edition: A Guide for Multimodal Mobility Analysis, National Academies Press 2022

## Conclusions and Recommendations

Lansing Engineering has conducted a traffic impact evaluation to assess the potential traffic impacts associated with construction of a mixed-use development with 107 multifamily units and 12,000 sf of commercial space. Access to the site is proposed via two full access driveways on Carman Road. The project is expected to be constructed and fully occupied by 2027. Based on the evaluation, the following conclusions are noted:

- The sight distances measured in the field at the two proposed site access driveways meet the AASHTO guidelines for the measured operating speed. Site signage and landscaping should be placed a minimum of 14.5 feet back from the roadway to maintain good sight lines.
- A review of three years of crash data provided by NYSDOT illustrated a total of seven intersection and nine segment crashes with two resulting in injury and the remaining 14 non-reportable or property damage only crashes. Most of the crashes were due to poor weather conditions or driver actions, such as speeding and inattention. There were no prevalent crash types identified that would be fixable with engineering measures.
- The proposed project is expected to generate 74 new vehicle trips during the weekday AM peak hour (28 entering and 46 exiting) and 78 new vehicle trips during the weekday PM peak hour (43 entering and 35 exiting).
- An analysis of the adjacent unsignalized intersections of Carman Road with Lone Pine Road and Spawn Road illustrates that the increase in traffic associated with the site will have a minor impact on the AM and PM peak hour operations with increases in the average vehicle delay of one second or less during the AM peak hour and 2.4 seconds or less during the PM peak hour. No off-site mitigation is needed.
- The level of service analysis indicates that the two site access driveway intersections will operate adequately as unsignalized intersections with single lane approaches.
- The project will enhance pedestrian travel by providing sidewalks along the project frontage resulting in a sidewalk network connecting between Spawn Road and the East/West Lydius Street roundabout and by providing sidewalks along Lone Pine Road connecting between Carman Road and Dibella Drive.

Please call with questions regarding the above evaluation.

Sincerely,

**LANSING** ENGINEERING, PC



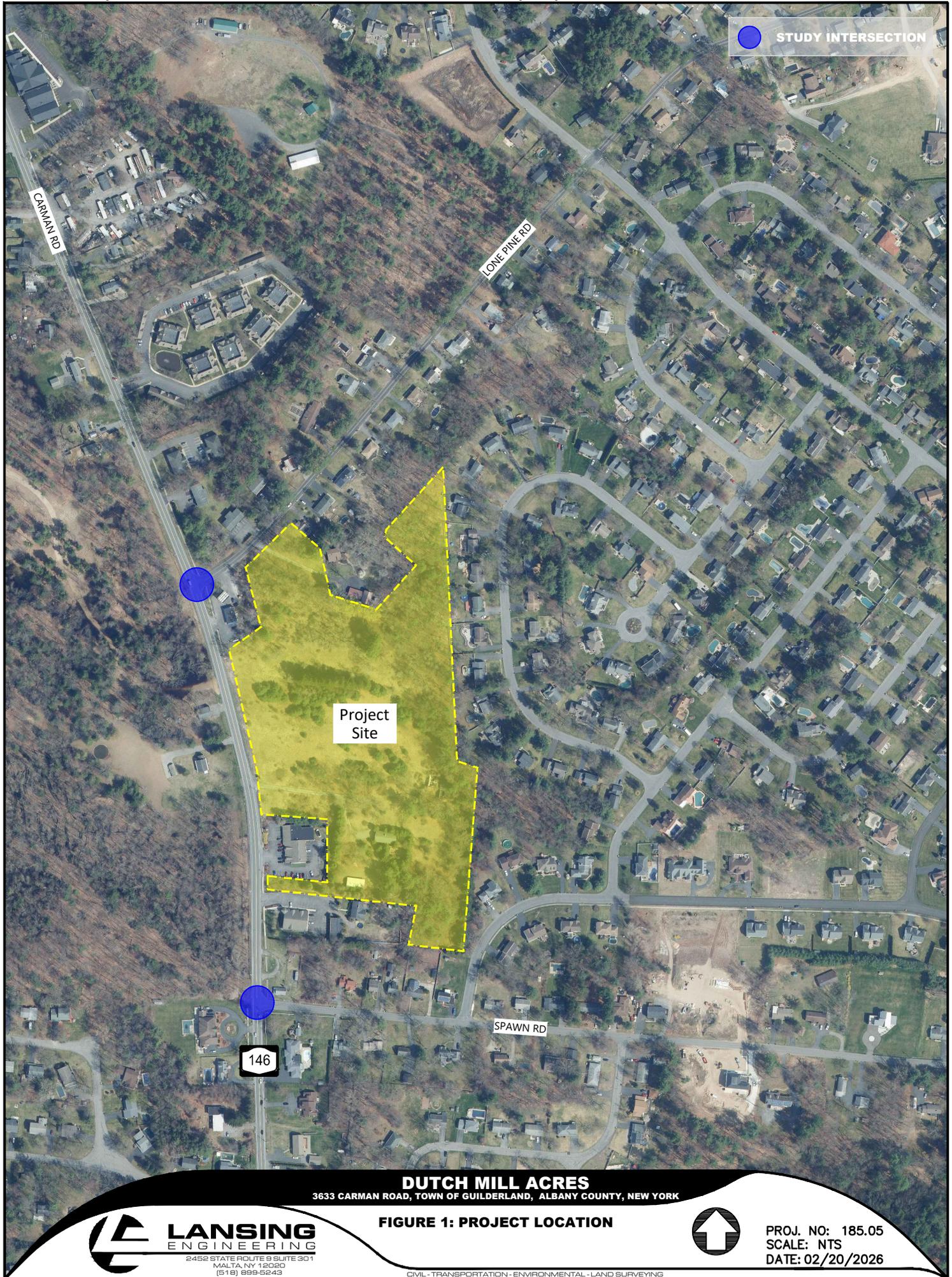
Wendy C. Holsberger, PE, PTOE, RSP1  
Principal Engineer



Alanna M. Moran, PE, PTOE  
Principal Engineer

Attachments





**DUTCH MILL ACRES**

3633 CARMAN ROAD, TOWN OF GUILDERLAND, ALBANY COUNTY, NEW YORK

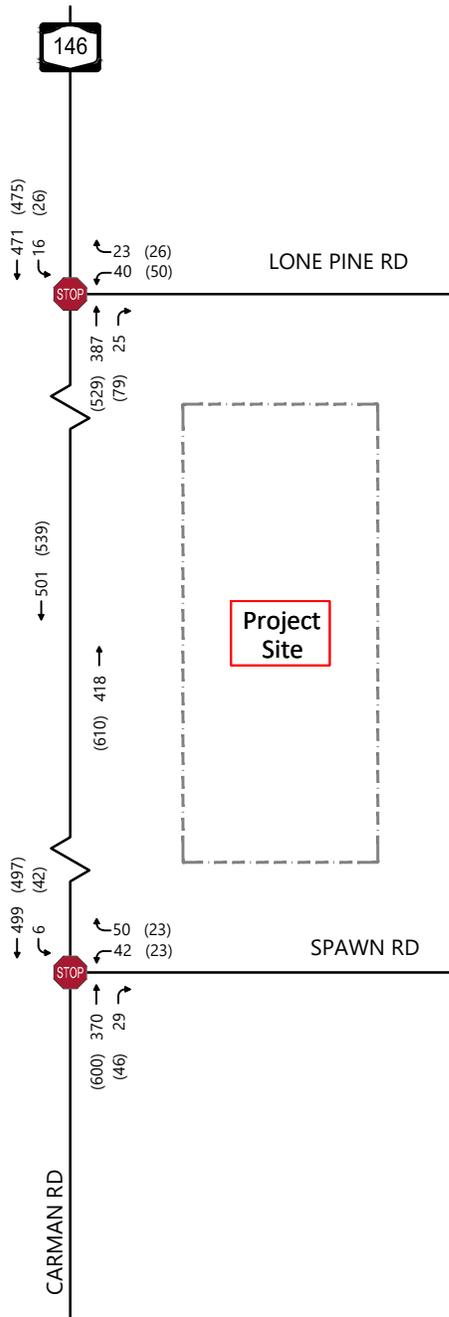


**FIGURE 1: PROJECT LOCATION**



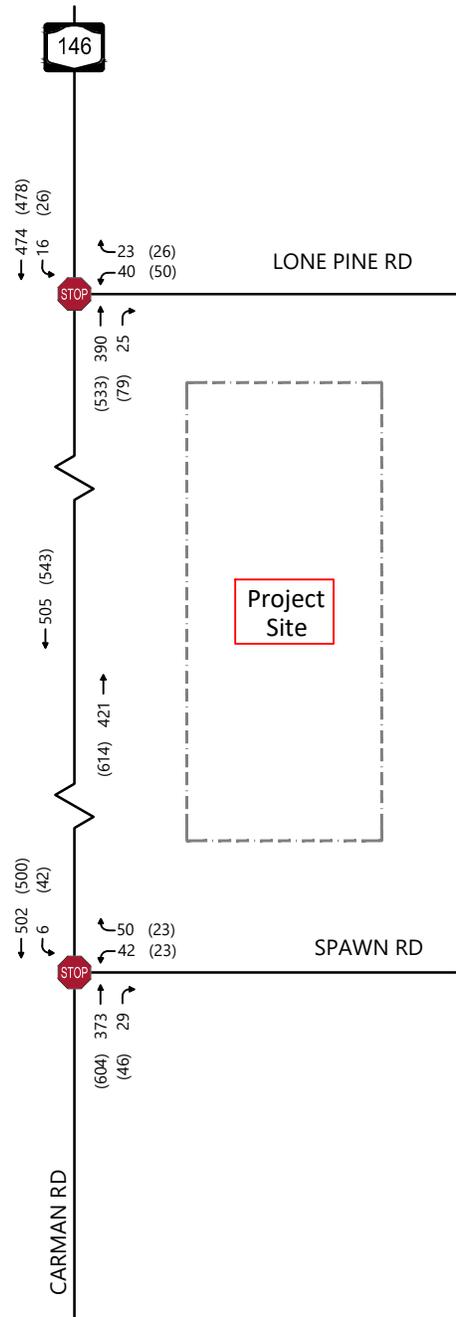
PROJ. NO: 185.05  
SCALE: NTS  
DATE: 02/20/2026

2025 EXISTING



KEY: AM PEAK (PM PEAK)

2027 NO-BUILD



KEY: AM PEAK (PM PEAK)

**DUTCH MILL ACRES**

3633 CARMAN ROAD, TOWN OF GUILDERLAND, ALBANY COUNTY, NEW YORK

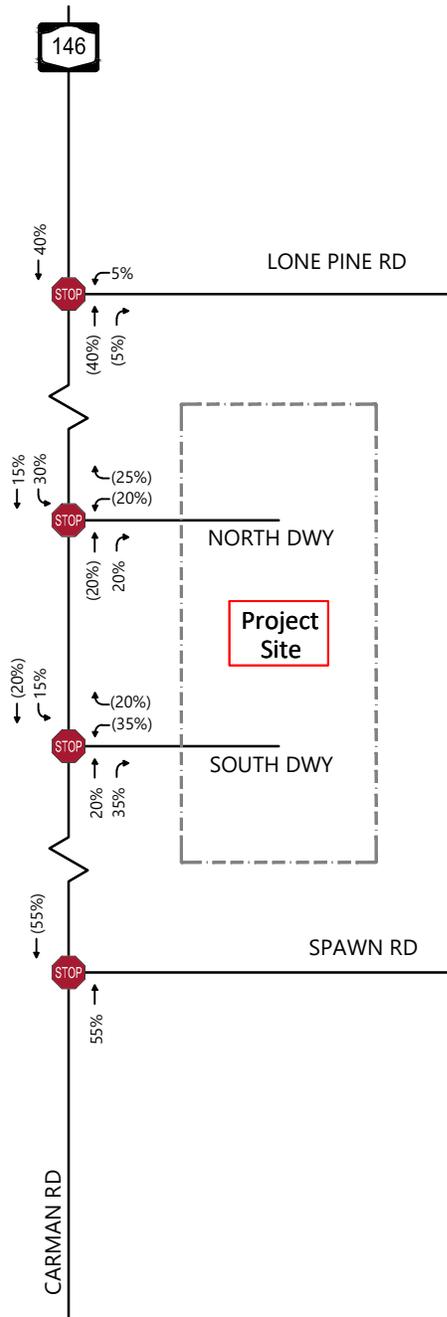


**FIGURE 2: 2026 EXISTING AND 2027 NO-BUILD TRAFFIC VOLUMES**



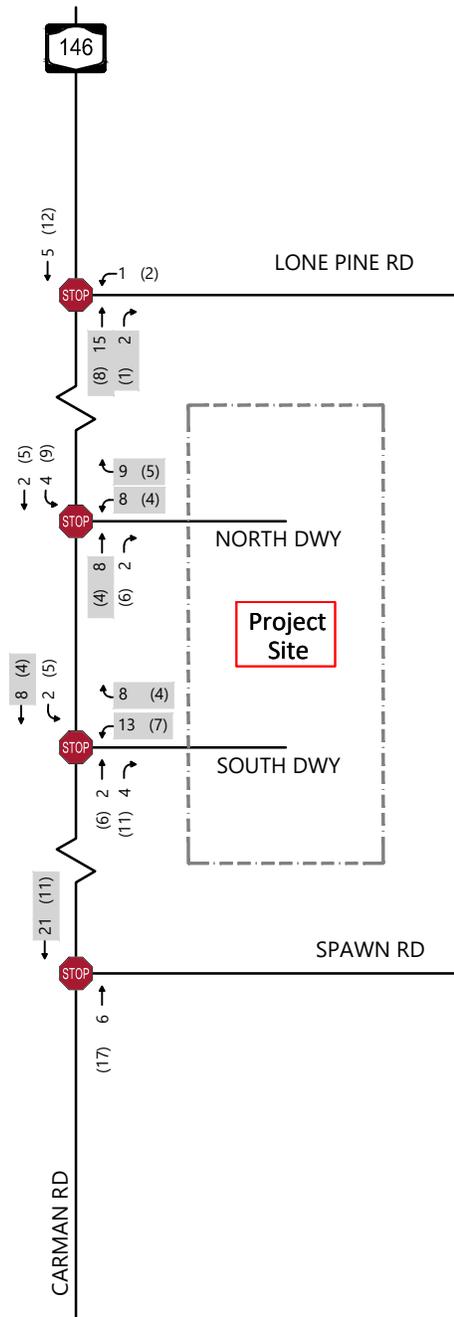
PROJ. NO: 185.05  
SCALE: NTS  
DATE: 02/20/2026

RESIDENTIAL TRIP DISTRIBUTION



KEY: ENTERING % (EXITING %)

RESIDENTIAL TRIP ASSIGNMENT



KEY:  
 ENTERING VOLUMES: AM PEAK (PM PEAK)  
 EXITING VOLUMES: AM PEAK (PM PEAK)

DUTCH MILL ACRES

3633 CARMAN ROAD, TOWN OF GUILDERLAND, ALBANY COUNTY, NEW YORK

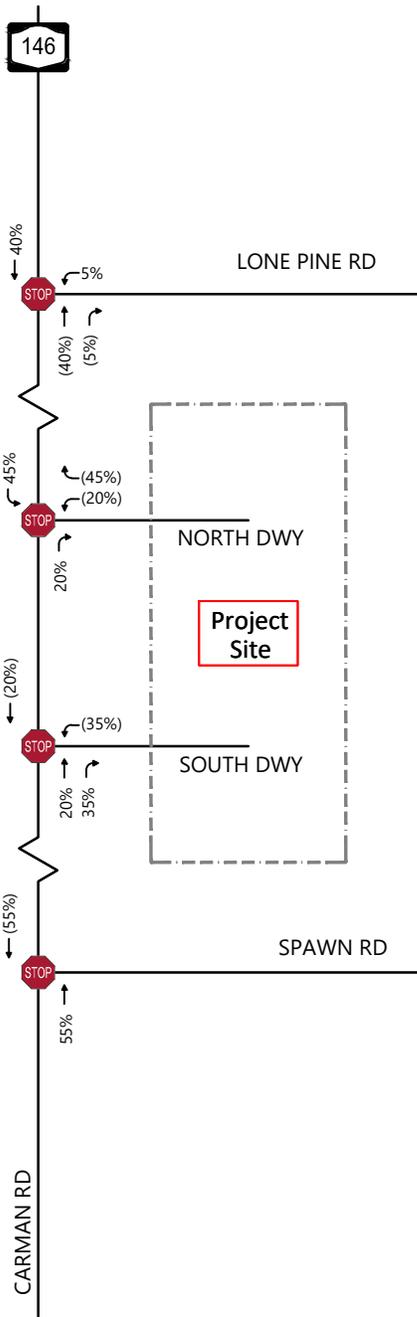


FIGURE 3: RESIDENTIAL TRIP DISTRIBUTION AND TRIP ASSIGNMENT



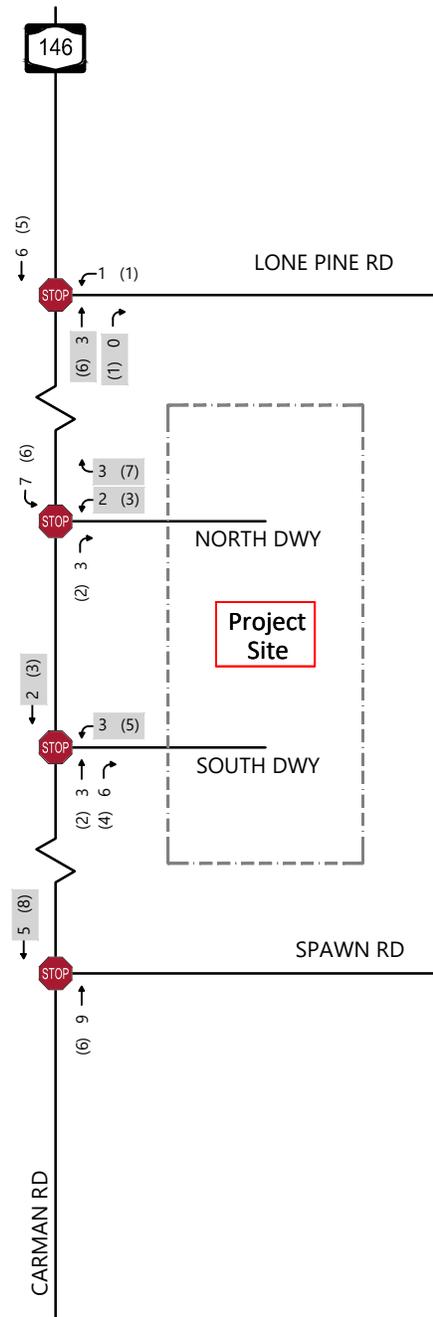
PROJ. NO: 185.05  
 SCALE: NTS  
 DATE: 02/20/2026

COMMERCIAL TRIP DISTRIBUTION



KEY: ENTERING % (EXITING %)

COMMERCIAL TRIP ASSIGNMENT



KEY:  
 ENTERING VOLUMES: AM PEAK (PM PEAK)  
 EXITING VOLUMES: AM PEAK (PM PEAK)

**DUTCH MILL ACRES**

3633 CARMAN ROAD, TOWN OF GUILDERLAND, ALBANY COUNTY, NEW YORK

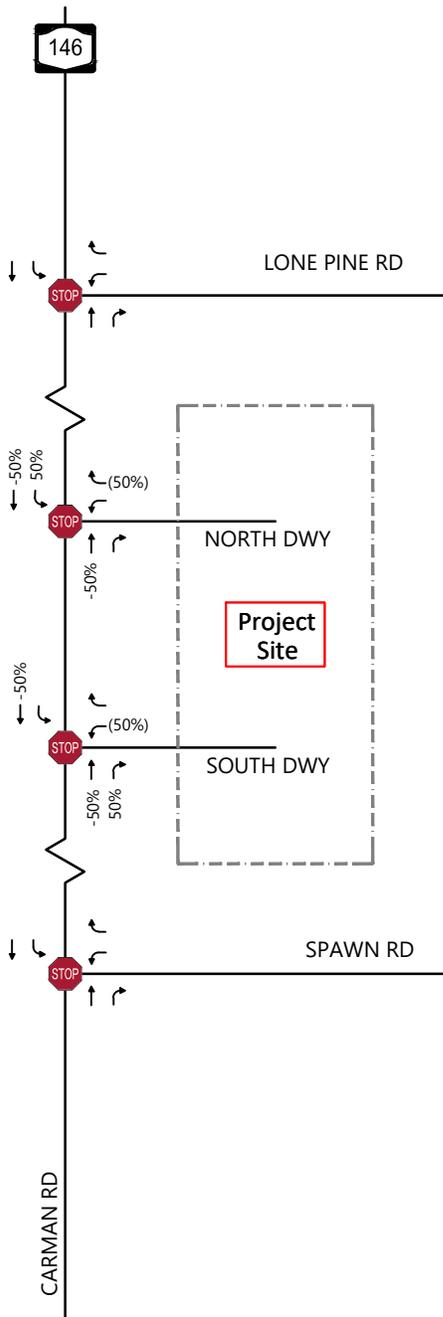


**FIGURE 4: COMMERCIAL TRIP DISTRIBUTION AND TRIP ASSIGNMENT**



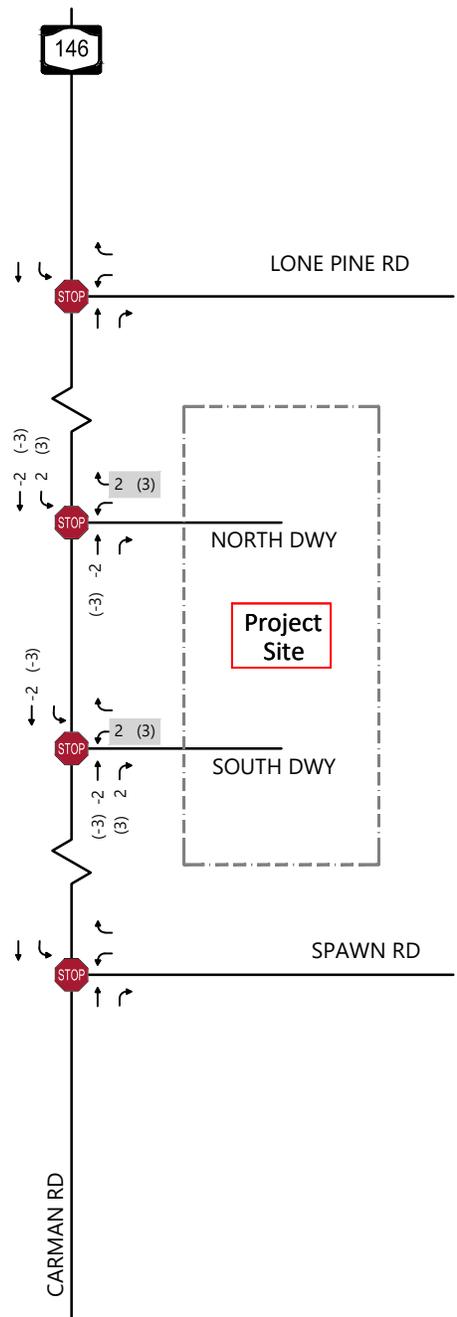
PROJ. NO: 185.05  
 SCALE: NTS  
 DATE: 02/20/2026

PASS-BY RETAIL TRIP DISTRIBUTION



KEY: ENTERING % (EXITING %)

PASS-BY RETAIL TRIP ASSIGNMENT



KEY:  
 ENTERING VOLUMES: AM PEAK (PM PEAK)  
 EXITING VOLUMES: AM PEAK (PM PEAK)

DUTCH MILL ACRES

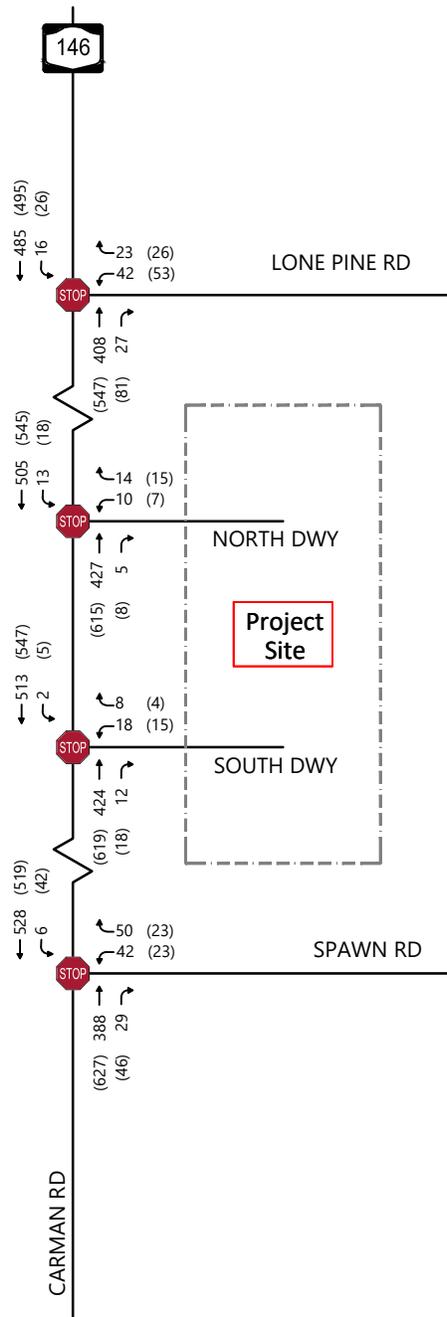
3633 CARMAN ROAD, TOWN OF GUILDERLAND, ALBANY COUNTY, NEW YORK



FIGURE 5: PASS-BY RETAIL TRIP DISTRIBUTION AND TRIP ASSIGNMENT



PROJ. NO: 185.05  
 SCALE: NTS  
 DATE: 02/20/2026



KEY: AM PEAK (PM PEAK)

DUTCH MILL ACRES  
3633 CARMAN ROAD, TOWN OF GUILDERLAND, ALBANY COUNTY, NEW YORK



FIGURE 6: 2027 BUILD TRAFFIC VOLUMES



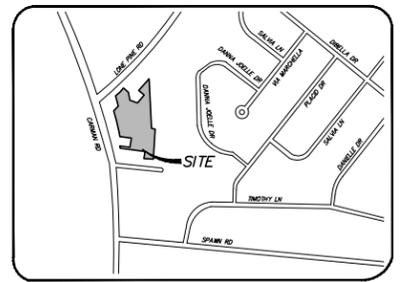
PROJ. NO: 185.05  
SCALE: NTS  
DATE: 02/20/2026

## Attachments

- A. Schematic Plan
- B. Traffic Volume Data
- C. Crash Data
- D. Level of Service Definitions
- E. Level of Service Reports

Attachment A: Schematic Plan





**HERSHBERG & HERSHBERG**  
 Consulting Engineers and Land Surveyors  
 18 Locust Street  
 Albany, New York 12203

ALTERATION OF THIS DOCUMENT EXCEPT BY A LICENSED PROFESSIONAL ENGINEER OR LAND SURVEYOR, IS ILLEGAL.



DATE	REMARKS

REVISIONS

**SCHEMATIC PLAN FOR DUTCH MILL ACRES**  
**No. 3633 CARMAN ROAD**  
**TOWN OF GUILDERLAND STATE OF NEW YORK**

DATE: 7-9-2025  
 CHK: DRH  
 BY: SAC  
 SCALE: 1"=50'  
 FILE: 2025-0190

**GENERAL NOTE**

TEST PITS WERE CONDUCTED ON DECEMBER 18 AND 19, 2025. TEST PITS WERE COMPLETED TO HELP PRODUCE GROUNDWATER ELEVATIONS AND INFILTRATION CAPACITIES ON THE SITE. GROUNDWATER ELEVATIONS WERE SHOWN TO BE AROUND 7 TO 8 FEET BELOW EXISTING GRADE. INFILTRATION CAPACITIES WERE SHOWN IN CERTAIN LOCATIONS AROUND THE SITE. SWPPP AREAS WERE PLACED IN THESE LOCATIONS.

**PROPOSED SITE COVERAGE STATISTICS**

DESCRIPTION	S.F.	ACRES	%
GROSS SITE AREA	706,896	16.23	100.00%
IMPERVIOUS AREA	233,026	5.35	33.0
BUILDING COVERAGE	110,737	2.54	15.7
PAVEMENT/SIDEWALK COVERAGE	122,289	2.81	17.3
PERVIOUS AREA	473,870	10.9	67.0

**PROPOSED DENSITY AND PARKING TABLE**

DESCRIPTION	QUANTITY	REQUIRED
UNITS (1.5 SP./DWELLING UNIT)	107 UNITS	161
COMMERCIAL SPACE (RETAIL 4 SP./1000 GSF)	12,000 SF	48
MIXED-USE, LOCAL/NEIGHBORHOOD (3 SP./1,000 GSF FOR NONRES. USE AND 1.5/UNIT)	13 UNITS**	20
PARKING SPACES REQUIRED	229 SPACES	
PARKING SPACES PROVIDED	290 SPACES INCL. 3 H.C. (ALL UNITS TO BE ADA ACCESSIBLE. ADDITIONAL 12 BANKED PARKING SPACES. 2 SPACES PER TOWNHOUSE-STYLE UNIT)	

\*\*UNITS WITHOUT PROPOSED PARKING SPACES DEDICATED TO THEIR UNIT USED FOR PARKING CALCULATIONS

FOR MUNICIPAL APPROVAL ONLY-NOT INTENDED FOR CONSTRUCTION

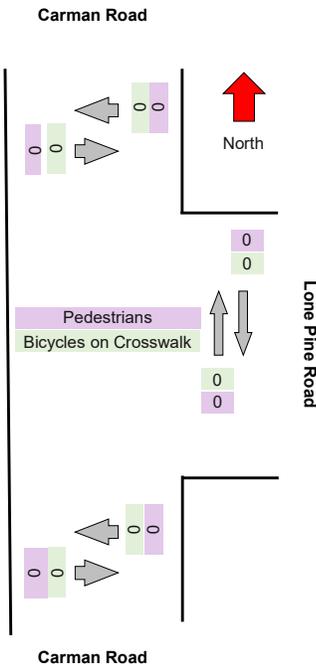
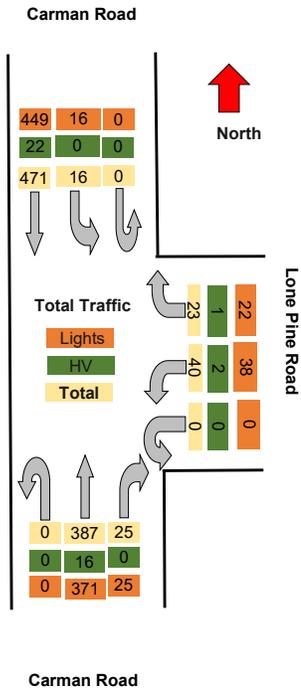


## Attachment B: Traffic Volume Data



## Turning Movement Peak Hour Data (AM) 7:30:00 AM

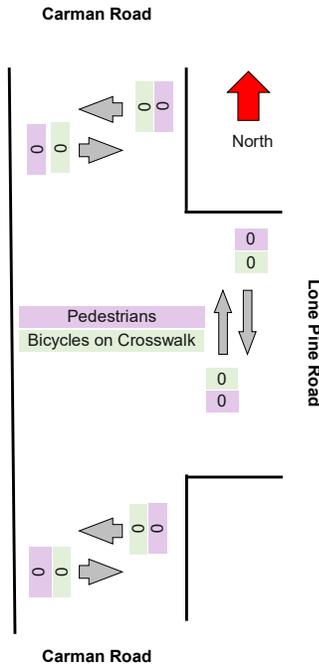
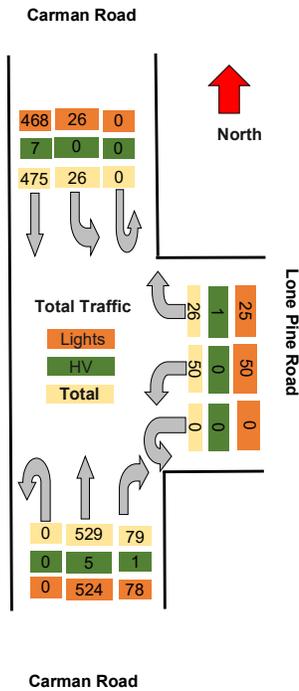
Leg Direction	Lone Pine Road Westbound						Carman Road Northbound						Carman Road Southbound						Total
	Left	Right	U-Turn	App Total	Peds CV	Peds CCV	Thru	Right	U-Turn	App Total	Peds CV	Peds CCV	Left	Thru	U-Turn	App Total	Peds CV	Peds CCV	
7:30:00 AM	10	5	0	15	0	0	100	11	0	111	0	0	2	111	0	113	0	0	239
7:45:00 AM	6	8	0	14	0	0	105	4	0	109	0	0	3	138	0	141	0	0	264
8:00:00 AM	13	5	0	18	0	0	101	4	0	105	0	0	8	128	0	136	0	0	259
8:15:00 AM	11	5	0	16	0	0	81	6	0	87	0	0	3	94	0	97	0	0	200
<b>Grand Total</b>	40	23	0	63	0	0	387	25	0	412	0	0	16	471	0	487	0	0	962
<b>% Approach</b>	63.5%	36.5%	0.0%	0.0%	0.0%	0.0%	93.9%	6.1%	0.0%	0.0%	0.0%	0.0%	3.3%	96.7%	0.0%	0.0%	0.0%	0.0%	
<b>% Total</b>	4.2%	2.4%	0.0%	6.5%	0.0%	0.0%	40.2%	2.6%	0.0%	42.8%	0.0%	0.0%	1.7%	49.0%	0.0%	50.6%	0.0%	0.0%	
<b>PHF</b>	0.769	0.719	0.000	0.875	0.000	0.000	0.921	0.568	0.000	0.928	0.000	0.000	0.500	0.853	0.000	0.863	0.000	0.000	0.911
<b>Lights</b>	38	22	0	60	0	0	371	25	0	396	0	0	16	449	0	465	0	0	921
<b>% Lights</b>	95.0%	95.7%	0.0%	95.2%	0.0%	0.0%	95.9%	100.0%	0.0%	96.1%	0.0%	0.0%	100.0%	95.3%	0.0%	95.5%	0.0%	0.0%	95.7%
<b>HV</b>	2	1	0	3	0	0	16	0	0	16	0	0	0	22	0	22	0	0	41
<b>% HV</b>	5.0%	4.3%	0.0%	4.8%	0.0%	0.0%	4.1%	0.0%	0.0%	3.9%	0.0%	0.0%	0.0%	4.7%	0.0%	4.5%	0.0%	0.0%	4.3%
<b>Pedestrians</b>	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
<b>% Pedestrians</b>	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
<b>Bicycles on Crosswalk</b>	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
<b>% Bicycles on Crosswalk</b>	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%



### Turning Movement Peak Hour Data (PM)

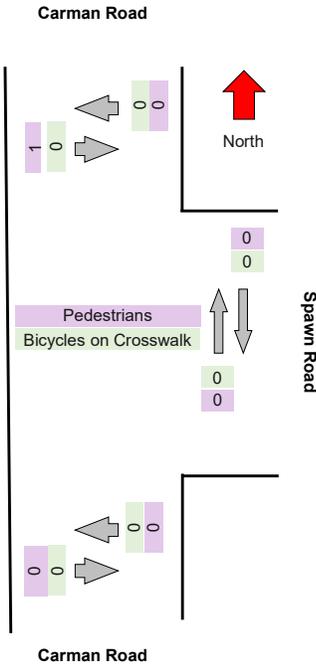
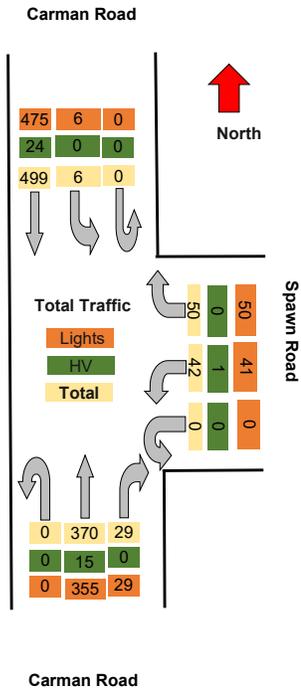
4:15:00 PM

Leg Direction	Lone Pine Road Westbound						Carman Road Northbound						Carman Road Southbound						Total
	Left	Right	U-Turn	App Total	Peds CV	Peds CCV	Thru	Right	U-Turn	App Total	Peds CV	Peds CCV	Left	Thru	U-Turn	App Total	Peds CV	Peds CCV	
4:15:00 PM	11	3	0	14	0	0	114	23	0	137	0	0	3	117	0	120	0	0	271
4:30:00 PM	14	7	0	21	0	0	128	15	0	143	0	0	10	110	0	120	0	0	284
4:45:00 PM	13	12	0	25	0	0	142	21	0	163	0	0	2	113	0	115	0	0	303
5:00:00 PM	12	4	0	16	0	0	145	20	0	165	0	0	11	135	0	146	0	0	327
<b>Grand Total</b>	50	26	0	76	0	0	529	79	0	608	0	0	26	475	0	501	0	0	1185
<b>% Approach</b>	65.8%	34.2%	0.0%	0.0%	0.0%	0.0%	87.0%	13.0%	0.0%	0.0%	0.0%	0.0%	5.2%	94.8%	0.0%	0.0%	0.0%	0.0%	
<b>% Total</b>	4.2%	2.2%	0.0%	6.4%	0.0%	0.0%	44.6%	6.7%	0.0%	51.3%	0.0%	0.0%	2.2%	40.1%	0.0%	42.3%	0.0%	0.0%	
<b>PHF</b>	0.893	0.542	0.000	0.760	0.000	0.000	0.912	0.859	0.000	0.921	0.000	0.000	0.591	0.880	0.000	0.858	0.000	0.000	0.906
<b>Lights</b>	50	25	0	75	0	0	524	78	0	602	0	0	26	468	0	494	0	0	1171
<b>% Lights</b>	100.0%	96.2%	0.0%	98.7%	0.0%	0.0%	99.1%	98.7%	0.0%	99.0%	0.0%	0.0%	100.0%	98.5%	0.0%	98.6%	0.0%	0.0%	98.8%
<b>HV</b>	0	1	0	1	0	0	5	1	0	6	0	0	0	7	0	7	0	0	14
<b>% HV</b>	0.0%	3.8%	0.0%	1.3%	0.0%	0.0%	0.9%	1.3%	0.0%	1.0%	0.0%	0.0%	0.0%	1.5%	0.0%	1.4%	0.0%	0.0%	1.2%
<b>Pedestrians</b>	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
<b>% Pedestrians</b>	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
<b>Bicycles on Crosswalk</b>	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
<b>% Bicycles on Crosswalk</b>	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%



## Turning Movement Peak Hour Data (AM) 7:30:00 AM

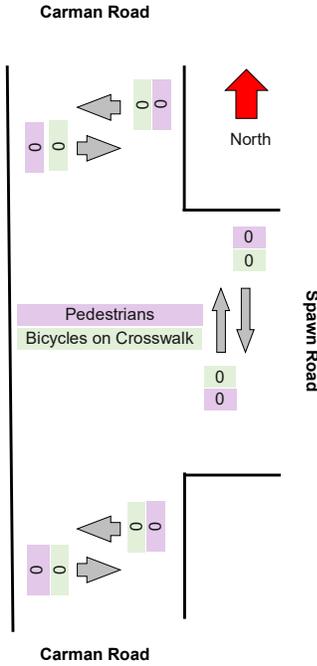
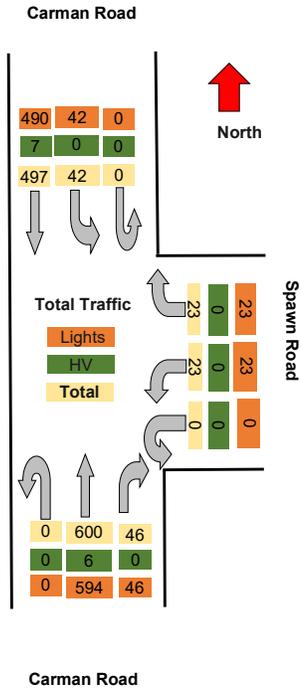
Leg Direction	Spawn Road Westbound						Carman Road Northbound						Carman Road Southbound						Total
	Left	Right	U-Turn	App Total	Peds CV	Peds CCV	Thru	Right	U-Turn	App Total	Peds CV	Peds CCV	Left	Thru	U-Turn	App Total	Peds CV	Peds CCV	
7:30:00 AM	11	13	0	24	0	0	101	7	0	108	0	0	1	115	0	116	1	0	248
7:45:00 AM	8	15	0	23	0	0	98	6	0	104	0	0	3	131	0	134	0	0	261
8:00:00 AM	10	13	0	23	0	0	93	8	0	101	0	0	1	144	0	145	0	0	269
8:15:00 AM	13	9	0	22	0	0	78	8	0	86	0	0	1	109	0	110	0	0	218
<b>Grand Total</b>	42	50	0	92	0	0	370	29	0	399	0	0	6	499	0	505	1	0	996
<b>% Approach</b>	45.7%	54.3%	0.0%	0.0%	0.0%	0.0%	92.7%	7.3%	0.0%	0.0%	0.0%	0.0%	1.2%	98.8%	0.0%	0.0%	0.0%	0.0%	
<b>% Total</b>	4.2%	5.0%	0.0%	9.2%	0.0%	0.0%	37.1%	2.9%	0.0%	40.1%	0.0%	0.0%	0.6%	50.1%	0.0%	50.7%	0.0%	0.0%	
<b>PHF</b>	0.808	0.833	0.000	0.958	0.000	0.000	0.916	0.906	0.000	0.924	0.000	0.000	0.500	0.866	0.000	0.871	0.000	0.000	0.926
<b>Lights</b>	41	50	0	91	0	0	355	29	0	384	0	0	6	475	0	481	0	0	956
<b>% Lights</b>	97.6%	100.0%	0.0%	98.9%	0.0%	0.0%	95.9%	100.0%	0.0%	96.2%	0.0%	0.0%	100.0%	95.2%	0.0%	95.2%	0.0%	0.0%	96.0%
<b>HV</b>	1	0	0	1	0	0	15	0	0	15	0	0	0	24	0	24	0	0	40
<b>% HV</b>	2.4%	0.0%	0.0%	1.1%	0.0%	0.0%	4.1%	0.0%	0.0%	3.8%	0.0%	0.0%	0.0%	4.8%	0.0%	4.8%	0.0%	0.0%	4.0%
<b>Pedestrians</b>	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1
<b>% Pedestrians</b>	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	100.0%	0.0%	100.0%
<b>Bicycles on Crosswalk</b>	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
<b>% Bicycles on Crosswalk</b>	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%



### Turning Movement Peak Hour Data (PM)

4:15:00 PM

Leg Direction	Spawn Road Westbound						Carman Road Northbound						Carman Road Southbound						Total
	Left	Right	U-Turn	App Total	Peds CV	Peds CCV	Thru	Right	U-Turn	App Total	Peds CV	Peds CCV	Left	Thru	U-Turn	App Total	Peds CV	Peds CCV	
4:15:00 PM	7	2	0	9	0	0	136	10	0	146	0	0	10	120	0	130	0	0	285
4:30:00 PM	5	4	0	9	0	0	148	13	0	161	0	0	7	120	0	127	0	0	297
4:45:00 PM	7	6	0	13	0	0	161	14	0	175	0	0	9	123	0	132	0	0	320
5:00:00 PM	4	11	0	15	0	0	155	9	0	164	0	0	16	134	0	150	0	0	329
<b>Grand Total</b>	<b>23</b>	<b>23</b>	<b>0</b>	<b>46</b>	<b>0</b>	<b>0</b>	<b>600</b>	<b>46</b>	<b>0</b>	<b>646</b>	<b>0</b>	<b>0</b>	<b>42</b>	<b>497</b>	<b>0</b>	<b>539</b>	<b>0</b>	<b>0</b>	<b>1231</b>
% Approach	50.0%	50.0%	0.0%	0.0%	0.0%	0.0%	92.9%	7.1%	0.0%	0.0%	0.0%	0.0%	7.8%	92.2%	0.0%	0.0%	0.0%	0.0%	
% Total	1.9%	1.9%	0.0%	3.7%	0.0%	0.0%	48.7%	3.7%	0.0%	52.5%	0.0%	0.0%	3.4%	40.4%	0.0%	43.8%	0.0%	0.0%	
PHF	0.821	0.523	0.000	0.767	0.000	0.000	0.932	0.821	0.000	0.923	0.000	0.000	0.656	0.927	0.000	0.898	0.000	0.000	0.935
Lights	23	23	0	46	0	0	594	46	0	640	0	0	42	490	0	532	0	0	1218
% Lights	100.0%	100.0%	0.0%	100.0%	0.0%	0.0%	99.0%	100.0%	0.0%	99.1%	0.0%	0.0%	100.0%	98.6%	0.0%	98.7%	0.0%	0.0%	98.9%
HV	0	0	0	0	0	0	6	0	0	6	0	0	0	7	0	7	0	0	13
% HV	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	1.0%	0.0%	0.0%	0.9%	0.0%	0.0%	0.0%	1.4%	0.0%	1.3%	0.0%	0.0%	1.1%
Pedestrians	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% Pedestrians	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Bicycles on Crosswalk	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% Bicycles on Crosswalk	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%



Tri-State Traffic Data, Inc.

610-466-1469

TSTData.com

Location: Guilderland, New York  
 Road Name: Carman Rd  
 Segment: 338' S/O Lone Pine Rd  
 Date: 09/22/2025

GPS: 42.734843, -73.939481

Start Time	Monday, September 22, 2025		Tuesday, September 23, 2025		Wednesday, September 24, 2025		Thursday, September 25, 2025		Friday, September 26, 2025		Saturday, September 27, 2025		Sunday, September 28, 2025		Week Average	
	NB	SB	NB	SB	NB	SB	NB	SB	NB	SB	NB	SB	NB	SB	NB	SB
12:00 AM	*	*	24	12	19	18	24	17	20	15	*	*	*	*	22	16
01:00	*	*	8	13	10	9	12	10	10	15	*	*	*	*	10	12
02:00	*	*	5	3	7	7	5	5	5	9	*	*	*	*	6	6
03:00	*	*	15	8	10	11	13	13	8	11	*	*	*	*	12	11
04:00	*	*	17	33	25	34	28	26	22	34	*	*	*	*	23	32
05:00	*	*	62	102	59	101	55	98	51	106	*	*	*	*	57	102
06:00	169	267	150	239	157	312	171	285	158	282	*	*	*	*	161	277
07:00	402	451	346	381	479	482	412	439	451	425	*	*	*	*	418	436
08:00	361	436	356	429	346	489	360	459	357	382	*	*	*	*	356	439
09:00	313	326	324	398	316	352	312	352	292	352	*	*	*	*	311	358
10:00	321	336	360	296	358	334	344	308	352	359	*	*	*	*	347	327
11:00	358	300	389	349	366	349	374	328	395	366	*	*	*	*	376	338
12:00 PM	355	356	426	372	402	371	382	371	*	*	*	*	*	*	391	368
01:00	402	380	373	352	361	352	367	321	*	*	*	*	*	*	376	351
02:00	428	421	470	387	425	423	407	356	*	*	*	*	*	*	432	397
03:00	550	445	494	434	520	456	497	442	*	*	*	*	*	*	515	444
04:00	610	433	591	521	611	484	629	474	*	*	*	*	*	*	610	478
05:00	569	486	568	444	632	477	574	464	*	*	*	*	*	*	586	468
06:00	430	370	408	361	454	356	408	330	*	*	*	*	*	*	425	354
07:00	337	262	260	223	294	257	297	228	*	*	*	*	*	*	297	242
08:00	201	197	199	168	235	172	233	208	*	*	*	*	*	*	217	186
09:00	114	97	132	105	151	88	165	116	*	*	*	*	*	*	140	102
10:00	60	57	58	75	52	93	67	100	*	*	*	*	*	*	59	81
11:00	49	30	36	33	45	42	46	44	*	*	*	*	*	*	44	37
Total Day	6029	5650	6071	5738	6334	6069	6182	5803	2121	2356	0	0	0	0	6191	5862
AM Peak	07:00	07:00	11:00	08:00	07:00	08:00	07:00	08:00	07:00	07:00	-	-	-	-	07:00	08:00
Vol.	402	451	389	429	479	489	412	459	451	425	-	-	-	-	418	439
PM Peak	16:00	17:00	16:00	16:00	17:00	16:00	16:00	16:00	-	-	-	-	-	-	16:00	16:00
Vol.	610	486	591	521	632	484	629	474	-	-	-	-	-	-	610	478

Comb. Total	11679	11809	12403	11985	4477	0	0	12053
ADT	ADT 12,057	AADT 12,057						

## Attachment C: Crash Data



## Crash Level Details

Case Number	Max Injury in Crash	Crash Severity	Reported Access Control	Case Year	Collision Type
39704647	U - UNKNOWN	PROPERTY DAMAGE	Not Entered	2023	REAR END
39722107	U - UNKNOWN	PROPERTY DAMAGE	Unknown	2023	REAR END
39755354	U - UNKNOWN	PROPERTY DAMAGE	Unknown	2023	OTHER
40132129	U - UNKNOWN	PROPERTY DAMAGE	Unknown	2023	OTHER
40150781	U - UNKNOWN	PROPERTY DAMAGE	Unknown	2024	OTHER
40175936	U - UNKNOWN	PROPERTY DAMAGE	Not Entered	2024	OTHER
40187538	U - UNKNOWN	PROPERTY DAMAGE	Unknown	2024	OTHER
40200246	U - UNKNOWN	PROPERTY DAMAGE	Unknown	2024	SIDESWIPE
40256742	U - UNKNOWN	PROPERTY DAMAGE	Unknown	2024	REAR END
40381741	B - INJURY	INJURY	Not Entered	2024	REAR END
40411957	U - UNKNOWN	PROPERTY DAMAGE	Unknown	2024	RIGHT ANGLE
40446659	U - UNKNOWN	PROPERTY DAMAGE	Unknown	2024	REAR END
40611255	U - UNKNOWN	PROPERTY DAMAGE	Unknown	2024	REAR END
40803217	U - UNKNOWN	PROPERTY DAMAGE	Unknown	2025	REAR END
40916206	U - UNKNOWN	PROPERTY DAMAGE	Unknown	2025	OTHER
40916230	B - INJURY	INJURY	Unknown	2025	REAR END

Case Number	Crash Date	Crash Time	Crash Type	Light Conditions
39704647	2023-01-23T00:00:00	9:05 AM	COLLISION WITH MOTOR VEHICLE	DAYLIGHT
39722107	2023-02-16T00:00:00	8:09 AM	COLLISION WITH MOTOR VEHICLE	DAYLIGHT
39755354	2023-03-14T00:00:00	7:49 AM	COLLISION WITH SIGN POST	DAYLIGHT
40132129	2023-12-23T00:00:00	6:00 PM	COLL. W/LIGHT SUPPORT/UTILITY POLE	DARK-ROAD LIGHTED
40150781	2024-01-07T00:00:00	6:57 PM	COLL. W/LIGHT SUPPORT/UTILITY POLE	DARK-ROAD LIGHTED
40175936	2024-01-01T00:00:00	12:00 PM	COLL. W/LIGHT SUPPORT/UTILITY POLE	DAYLIGHT
40187538	2024-01-29T00:00:00	4:46 PM	COLLISION WITH MOTOR VEHICLE	DUSK
40200246	2024-02-07T00:00:00	3:54 PM	COLLISION WITH MOTOR VEHICLE	DAYLIGHT
40256742	2024-03-26T00:00:00	8:11 AM	COLLISION WITH MOTOR VEHICLE	DAYLIGHT
40381741	2024-07-02T00:00:00	8:21 AM	COLLISION WITH MOTOR VEHICLE	DAYLIGHT
40411957	2024-07-01T00:00:00	12:58 PM	COLLISION WITH MOTOR VEHICLE	DAYLIGHT
40446659	2024-08-21T00:00:00	3:42 PM	COLLISION WITH MOTOR VEHICLE	DAYLIGHT
40611255	2024-12-20T00:00:00	3:58 PM	COLLISION WITH MOTOR VEHICLE	DAYLIGHT
40803217	2025-05-16T00:00:00	3:39 PM	COLLISION WITH MOTOR VEHICLE	DAYLIGHT
40916206	2025-08-12T00:00:00	11:32 AM	COLLISION WITH SIGN POST	DAYLIGHT
40916230	2025-08-11T00:00:00	10:08 AM	COLLISION WITH MOTOR VEHICLE	DAYLIGHT

Case Number	Road Characteristics	Road Surface Condition: Traffic Control		Traffic Way	Weather Conditions
39704647	STRAIGHT AND LEVEL	SNOW/ICE	NONE	NOT ENTERED	SNOW
39722107	CURVE AND LEVEL	DRY	NONE	TWO-WAY,NOT I	CLOUDY
39755354	STRAIGHT AND LEVEL	SNOW/ICE	NONE	NOT ENTERED	SNOW
40132129	STRAIGHT AND LEVEL	DRY	NONE	NOT ENTERED	CLEAR
40150781	STRAIGHT AND LEVEL	SNOW/ICE	NONE	NOT ENTERED	SNOW
40175936	STRAIGHT AND LEVEL	SNOW/ICE	NONE	NOT ENTERED	CLOUDY
40187538	STRAIGHT AND LEVEL	WET	NONE	NOT ENTERED	CLOUDY
40200246	STRAIGHT AND LEVEL	DRY	NONE	TWO-WAY,NOT I	CLEAR
40256742	STRAIGHT AND LEVEL	DRY	NONE	NOT ENTERED	CLOUDY
40381741	STRAIGHT AND LEVEL	DRY	NONE	NOT ENTERED	CLEAR
40411957	STRAIGHT AND LEVEL	DRY	NONE	NOT ENTERED	CLEAR
40446659	STRAIGHT AND LEVEL	DRY	STOP SIGN	NOT ENTERED	CLEAR
40611255	STRAIGHT AND LEVEL	SNOW/ICE	NONE	NOT ENTERED	SNOW
40803217	STRAIGHT AND LEVEL	DRY	NONE	NOT ENTERED	CLEAR
40916206	STRAIGHT AND LEVEL	DRY	STOP SIGN	NOT ENTERED	CLEAR
40916230	STRAIGHT AND LEVEL	DRY	NONE	NOT ENTERED	CLEAR

Case Number	Commercial Vehicle Crash Indicator	DMV Insert Date	# of Fatalities	# of Injuries	# of Other Injuries
39704647	0	2024-03-05T19:00:59	0	0	0
39722107	0	2023-02-19T19:06:41	0	0	0
39755354	0	2023-05-22T19:04:25	0	0	0
40132129	0	2023-12-27T19:09:43	0	0	0
40150781	0	2024-01-14T19:02:45	0	0	0
40175936	0	2024-05-30T19:05:32	0	0	0
40187538	0	2024-02-07T19:10:58	0	0	0
40200246	0	2024-07-03T19:02:27	0	0	0
40256742	0	2024-03-31T19:04:20	0	0	0
40381741	0	2025-01-21T19:01:15	0	1	1
40411957	0	2024-12-16T19:08:10	0	0	0
40446659	0	2024-08-29T19:06:45	0	0	0
40611255	0	2024-12-31T19:10:01	0	0	0
40803217	0	2025-05-24T19:01:32	0	0	0
40916206	0	2025-08-17T19:05:23	0	0	0
40916230	0	2025-08-17T19:05:25	0	1	1

Case Number	# of Serious Injuries	# of Vehicles	Police Department	Non Reportable	Reporting Agency	Non-Public Way
39704647	0	2		0	GUILDERLAND TOWN PD	No
39722107	0	2	152	0	GUILDERLAND TOWN PD	No
39755354	0	1	152	0	GUILDERLAND TOWN PD	No
40132129	0	1	152	0	GUILDERLAND TOWN PD	No
40150781	0	1	152	0	GUILDERLAND TOWN PD	No
40175936	0	1		0		No
40187538	0	4	152	1	GUILDERLAND TOWN PD	No
40200246	0	2	152	0	GUILDERLAND TOWN PD	No
40256742	0	2	152	0	GUILDERLAND TOWN PD	No
40381741	0	2	152	0	GUILDERLAND TOWN PD	No
40411957	0	2	152	0	GUILDERLAND TOWN PD	No
40446659	0	2	152	0	GUILDERLAND TOWN PD	No
40611255	0	2	152	1	GUILDERLAND TOWN PD	No
40803217	0	2	152	0	GUILDERLAND TOWN PD	No
40916206	0	1	152	1	GUILDERLAND TOWN PD	No
40916230	0	2	152	0	GUILDERLAND TOWN PD	No

Case Number	X Coordinate	Y Coordinate	Intersection Indicator	Closest Cross Street	County	Direction From
39704647	586796.9799	4731990.38	Not an intersection crash	LONE PINE ROAD	Albany	SOUTH
39722107	586842.4267	4731811.075	Not an intersection crash	UNNAMED STREET	Albany	SOUTH
39755354	586804.1932	4731964.747	Not an intersection crash	LONE PINE ROAD	Albany	SOUTH
40132129	586796.9799	4731990.38	Not an intersection crash	LONE PINE ROAD	Albany	SOUTH
40150781	586796.9799	4731990.38	Not an intersection crash	LONE PINE ROAD	Albany	SOUTH
40175936	586790.6517	4732008.392	INTERSECTION-RELATED	LONE PINE ROAD	Albany	SOUTH
40187538	586784.2338	4732026.096	AT-INTERSECTION	LONE PINE ROAD	Albany	NORTH
40200246	586846.2742	4731750.005	Not an intersection crash	UNNAMED STREET	Albany	SOUTH
40256742	586785.6	4732022.77	AT-INTERSECTION	LONE PINE ROAD	Albany	EAST
40381741	586846.8803	4731719.382	Not an intersection crash	SPAWN ROAD	Albany	NORTH
40411957	586795.3175	4731995.112	INTERSECTION-RELATED	LONE PINE ROAD	Albany	SOUTH
40446659	586787.8496	4732024.231	AT-INTERSECTION	CARMAN ROAD	Albany	EAST
40611255	586783.3866	4732028.159	AT-INTERSECTION	LONE PINE ROAD	Albany	NORTH
40803217	586847.1847	4731704.004	Not an intersection crash	SPAWN ROAD	Albany	NORTH
40916206	586787.2456	4732018.086	AT-INTERSECTION	LONE PINE ROAD	Albany	SOUTH
40916230	586847.4222	4731692.008	Not an intersection crash	SPAWN ROAD	Albany	NORTH

Case Number	Distance From (Meters)	Intersection ID	Municipality	On Street	Reference Marker	Access Control	Divided
39704647	112.634355		Guilderland	CARMAN ROAD	146 11021157	Free Access	F
39722107	89.1693333		Guilderland	CARMAN ROAD	146 11021156	Free Access	F
39755354	200		Guilderland	CARMAN ROAD	146 11021157	Free Access	F
40132129	112.634355		Guilderland	CARMAN ROAD	146 11021157	Free Access	F
40150781	112.634355		Guilderland	CARMAN ROAD	146 11021157	Free Access	F
40175936	50	2010396	Guilderland	CARMAN ROAD	146 11021157	Free Access	F
40187538	11.79688489	2010396	Guilderland	CARMAN ROAD	146 11021157	Free Access	F
40200246	290.1937771		Guilderland	CARMAN ROAD	146 11021156	Free Access	F
40256742	0	2010396	Guilderland	CARMAN ROAD	146 11021157	Free Access	F
40381741	300		Guilderland	CARMAN ROAD	146 11021155	Free Access	F
40411957	96.18064259	2010396	Guilderland	CARMAN ROAD	146 11021157	Free Access	F
40446659	8.80141661	2010396	Guilderland	LONE PINE ROAD		Free Access	F
40611255	19.11303526	2010396	Guilderland	CARMAN ROAD	146 11021157	Free Access	F
40803217	249.5356086		Guilderland	CARMAN ROAD	146 11021155	Free Access	F
40916206	16.2873619	2010396	Guilderland	CARMAN ROAD	146 11021157	Free Access	F
40916230	210.1732406		Guilderland	CARMAN ROAD	146 11021155	Free Access	F

Case Number	Functional Class	Maint. Jur.	Owning Jur.	Road Name	Posted Speed
39704647	14-Urban Principal Arterial Other	NYS DOT	NYS DOT	CARMEN ROAD	40
39722107	14-Urban Principal Arterial Other	NYS DOT	NYS DOT	CARMEN ROAD	40
39755354	14-Urban Principal Arterial Other	NYS DOT	NYS DOT	CARMEN ROAD	40
40132129	14-Urban Principal Arterial Other	NYS DOT	NYS DOT	CARMEN ROAD	40
40150781	14-Urban Principal Arterial Other	NYS DOT	NYS DOT	CARMEN ROAD	40
40175936	14-Urban Principal Arterial Other	NYS DOT	NYS DOT	CARMEN ROAD	40
40187538	14-Urban Principal Arterial Other	NYS DOT	NYS DOT	CARMEN ROAD	40
40200246	14-Urban Principal Arterial Other	NYS DOT	NYS DOT	CARMEN ROAD	40
40256742	14-Urban Principal Arterial Other	NYS DOT	NYS DOT	CARMEN ROAD	40
40381741	14-Urban Principal Arterial Other	NYS DOT	NYS DOT	CARMEN ROAD	40
40411957	14-Urban Principal Arterial Other	NYS DOT	NYS DOT	CARMEN ROAD	40
40446659	19-Urban Local	Town	Town	LONE PINE RD	
40611255	14-Urban Principal Arterial Other	NYS DOT	NYS DOT	CARMEN ROAD	40
40803217	14-Urban Principal Arterial Other	NYS DOT	NYS DOT	CARMEN ROAD	40
40916206	14-Urban Principal Arterial Other	NYS DOT	NYS DOT	CARMEN ROAD	40
40916230	14-Urban Principal Arterial Other	NYS DOT	NYS DOT	CARMEN ROAD	40

Case Number	V1 Apparent Contributing Factor	V2 Apparent Contributing Factor
39704647	PAVEMENT SLIPPERY,REACTION TO OTHER UNINVOLVED VEHICL	NOT ENTERED,NOT ENTERED
39722107	FOLLOWING TOO CLOSELY,NOT APPLICABLE	NOT APPLICABLE,NOT APPLICABLE
39755354	REACTION TO OTHER UNINVOLVED VEHICL,NOT APPLICABLE	
40132129	ALCOHOL INVOLVEMENT,BACKING UNSAFELY	
40150781	REACTION TO OTHER UNINVOLVED VEHICL,PAVEMENT SLIPPERY	
40175936	NOT ENTERED,NOT ENTERED	
40187538	DRIVER INATTENTION,NOT APPLICABLE	NOT APPLICABLE,UNKNOWN
40200246	FAILURE TO KEEP RIGHT,UNKNOWN	NOT APPLICABLE,NOT APPLICABLE
40256742	UNSAFE SPEED,NOT APPLICABLE	NOT APPLICABLE,NOT APPLICABLE
40381741	FOLLOWING TOO CLOSELY,UNSAFE SPEED	NOT ENTERED,NOT ENTERED
40411957	TURNING IMPROPER,NOT APPLICABLE	NOT APPLICABLE,NOT APPLICABLE
40446659	FOLLOWING TOO CLOSELY,NOT APPLICABLE	NOT APPLICABLE,NOT APPLICABLE
40611255	FOLLOWING TOO CLOSELY,NOT APPLICABLE	NOT APPLICABLE,NOT APPLICABLE
40803217	FOLLOWING TOO CLOSELY,NOT APPLICABLE	NOT APPLICABLE,NOT APPLICABLE
40916206	STEERING FAILURE,NOT APPLICABLE	
40916230	REACTION TO OTHER UNINVOLVED VEHICL,NOT APPLICABLE	REACTION TO OTHER UNINVOLVED VEHICL,NOT APPLICABLE

Case Number	V3 Apparent Contributing Factor	V4 Apparent Contributing Factor
39704647		
39722107		
39755354		
40132129		
40150781		
40175936		
40187538	NOT APPLICABLE,UNKNOWN	NOT APPLICABLE,UNKNOWN
40200246		
40256742		
40381741		
40411957		
40446659		
40611255		
40803217		
40916206		
40916230		

Case Number	Int 1	Int 2	Seg A	Assignment	V1 Direction	V2 Direction	V3 Direction	V4 Direction
39704647			A	A	EAST	EAST		
39722107			A	A	SOUTH	SOUTH		
39755354			A	A	NORTH			
40132129			A	A	WEST			
40150781			A	A	EAST			
40175936	1			1	SOUTH			
40187538	1			1	SOUTH	SOUTH	SOUTH	NORTH
40200246			A	A	SOUTH	NORTH		
40256742	1			1	NORTH	NORTH		
40381741			A	A	SOUTH	SOUTH		
40411957	1			1	NORTH	WEST		
40446659	1			1	SOUTH-WEST	SOUTH-WEST		
40611255	1			1	EAST	EAST		
40803217			A	A	SOUTH	SOUTH		
40916206	1			1	NORTH-EAST			
40916230			A	A	SOUTH	SOUTH		

Attachment D: Level of Service Definitions



## Level of Service Definitions

The evaluation criteria used to analyze signalized intersections is based on the procedures set forth in the latest version of the *Highway Capacity Manual* (HCM)<sup>1</sup>.

### Two Way Stop Controlled Intersections

Level of service (LOS) for a TWSC intersection is determined by the computed or measured control delay. For motor vehicles, LOS is determined for each minor street movement (or shared movement), as well as the major-street left turns, by using the criteria given in the table below. LOS is not defined for the intersection as a whole or for major-street approaches for three primary reasons: (a) major-street through vehicles are assumed to experience zero delay; (b) the disproportionate number of major-street through vehicles at a typical TWSC intersection skews the weighted average of all movements, resulting in a very low overall average delay for all vehicles; and (c) the resulting low delay can mask LOS deficiencies for minor movements. LOS F is assigned to a movement if its volume-to-capacity (v/c) ratio exceeds 1.0, regardless of the control delay.

The LOS criteria for TWSC intersections differ somewhat from the criteria used for signalized intersections, primarily because user perceptions differ among transportation facility types. The expectation is that a signalized intersection is designed to carry higher traffic volumes and will present greater delay than an unsignalized intersection. Unsignalized intersections are also associated with more uncertainty for users, as delays are less predictable than they are at signals.

The following thresholds are used to determine TWSC levels of service:

Control Delay (s/veh)	LOS by Volume-to-Capacity Ratio <sup>a</sup>	
	≤ 1.0	≥ 1.0
≤10	A	F
>10-15	B	F
>15-25	C	F
>25-35	D	F
>35-50	E	F
>50	F	F

<sup>a</sup> The LOS criteria apply to each lane on a given approach and to each approach on the minor street. LOS is not calculated for major-street approaches or for the intersection as a whole.

<sup>1</sup> Highway Capacity Manual, 7<sup>th</sup> Edition: A Guide for Multimodal Mobility Analysis, National Academies Press, 2022.

Attachment E: Level of Service Reports



Intersection						
Int Delay, s/veh	1.4					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	TT		TT			TT
Traffic Vol, veh/h	40	23	387	25	16	471
Future Vol, veh/h	40	23	387	25	16	471
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	-	-	0
Peak Hour Factor	91	91	91	91	91	91
Heavy Vehicles, %	5	4	4	0	0	5
Mvmt Flow	44	25	425	27	18	518

Major/Minor	Minor1	Major1	Major2		
Conflicting Flow All	992	439	0	0	453
Stage 1	439	-	-	-	-
Stage 2	553	-	-	-	-
Critical Hdwy	6.45	6.24	-	-	4.1
Critical Hdwy Stg 1	5.45	-	-	-	-
Critical Hdwy Stg 2	5.45	-	-	-	-
Follow-up Hdwy	3.545	3.336	-	-	2.2
Pot Cap-1 Maneuver	269	614	-	-	1119
Stage 1	643	-	-	-	-
Stage 2	570	-	-	-	-
Platoon blocked, %			-	-	-
Mov Cap-1 Maneuver	263	614	-	-	1119
Mov Cap-2 Maneuver	263	-	-	-	-
Stage 1	643	-	-	-	-
Stage 2	558	-	-	-	-

Approach	WB	NB	SB
HCM Ctrl Dly, s/v	18.65	0	0.27
HCM LOS	C		

Minor Lane/Major Mvmt	NBT	NBRWBLn1	SBL	SBT
Capacity (veh/h)	-	-	333	59
HCM Lane V/C Ratio	-	-	0.208	0.016
HCM Ctrl Dly (s/v)	-	-	18.7	8.3
HCM Lane LOS	-	-	C	A
HCM 95th %tile Q(veh)	-	-	0.8	0

Intersection						
Int Delay, s/veh	1.6					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	TT		TT			TT
Traffic Vol, veh/h	42	50	370	29	6	499
Future Vol, veh/h	42	50	370	29	6	499
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	-	-	0
Peak Hour Factor	93	93	93	93	93	93
Heavy Vehicles, %	2	0	4	0	0	5
Mvmt Flow	45	54	398	31	6	537

Major/Minor	Minor1	Major1	Major2		
Conflicting Flow All	963	413	0	0	429
Stage 1	413	-	-	-	-
Stage 2	549	-	-	-	-
Critical Hdwy	6.42	6.2	-	-	4.1
Critical Hdwy Stg 1	5.42	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-
Follow-up Hdwy	3.518	3.3	-	-	2.2
Pot Cap-1 Maneuver	284	643	-	-	1141
Stage 1	668	-	-	-	-
Stage 2	578	-	-	-	-
Platoon blocked, %			-	-	-
Mov Cap-1 Maneuver	281	643	-	-	1141
Mov Cap-2 Maneuver	281	-	-	-	-
Stage 1	668	-	-	-	-
Stage 2	574	-	-	-	-

Approach	WB	NB	SB
HCM Ctrl Dly, s/v	16.73	0	0.1
HCM LOS	C		

Minor Lane/Major Mvmt	NBT	NBRWBLn1	SBL	SBT
Capacity (veh/h)	-	-	405	21
HCM Lane V/C Ratio	-	-	0.244	0.006
HCM Ctrl Dly (s/v)	-	-	16.7	8.2
HCM Lane LOS	-	-	C	A
HCM 95th %tile Q(veh)	-	-	0.9	0

Intersection

Int Delay, s/veh	1.9					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	50	26	529	79	26	475
Future Vol, veh/h	50	26	529	79	26	475
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	-	-	0
Peak Hour Factor	91	91	91	91	91	91
Heavy Vehicles, %	0	4	1	1	0	1
Mvmt Flow	55	29	581	87	29	522

Major/Minor	Minor1	Major1	Major2		
Conflicting Flow All	1204	625	0	0	668
Stage 1	625	-	-	-	-
Stage 2	579	-	-	-	-
Critical Hdwy	6.4	6.24	-	-	4.1
Critical Hdwy Stg 1	5.4	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-
Follow-up Hdwy	3.5	3.336	-	-	2.2
Pot Cap-1 Maneuver	205	481	-	-	931
Stage 1	538	-	-	-	-
Stage 2	564	-	-	-	-
Platoon blocked, %			-	-	-
Mov Cap-1 Maneuver	196	481	-	-	931
Mov Cap-2 Maneuver	196	-	-	-	-
Stage 1	538	-	-	-	-
Stage 2	540	-	-	-	-

Approach	WB	NB	SB
HCM Ctrl Dly, s/v	26.93	0	0.47
HCM LOS	D		

Minor Lane/Major Mvmt	NBT	NBRWBLn1	SBL	SBT
Capacity (veh/h)	-	-	246	93
HCM Lane V/C Ratio	-	-	0.339	0.031
HCM Ctrl Dly (s/v)	-	-	26.9	9
HCM Lane LOS	-	-	D	A
HCM 95th %tile Q(veh)	-	-	1.4	0.1

Intersection						
Int Delay, s/veh	1.2					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	TT		TT			TT
Traffic Vol, veh/h	23	23	600	46	42	497
Future Vol, veh/h	23	23	600	46	42	497
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	-	-	0
Peak Hour Factor	94	94	94	94	94	94
Heavy Vehicles, %	0	0	1	0	0	1
Mvmt Flow	24	24	638	49	45	529

Major/Minor	Minor1	Major1	Major2		
Conflicting Flow All	1281	663	0	0	687
Stage 1	663	-	-	-	-
Stage 2	618	-	-	-	-
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	185	465	-	-	916
Stage 1	516	-	-	-	-
Stage 2	541	-	-	-	-
Platoon blocked, %			-	-	-
Mov Cap-1 Maneuver	172	465	-	-	916
Mov Cap-2 Maneuver	172	-	-	-	-
Stage 1	516	-	-	-	-
Stage 2	504	-	-	-	-

Approach	WB	NB	SB
HCM Ctrl Dly, s/v	22.8	0	0.71
HCM LOS	C		

Minor Lane/Major Mvmt	NBT	NBRWBLn1	SBL	SBT
Capacity (veh/h)	-	-	251	140
HCM Lane V/C Ratio	-	-	0.195	0.049
HCM Ctrl Dly (s/v)	-	-	22.8	9.1
HCM Lane LOS	-	-	C	A
HCM 95th %tile Q(veh)	-	-	0.7	0.2

Intersection						
Int Delay, s/veh	1.4					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	TT		TT			TT
Traffic Vol, veh/h	40	23	390	25	16	474
Future Vol, veh/h	40	23	390	25	16	474
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	-	-	0
Peak Hour Factor	91	91	91	91	91	91
Heavy Vehicles, %	5	4	4	0	0	5
Mvmt Flow	44	25	429	27	18	521

Major/Minor	Minor1	Major1	Major2		
Conflicting Flow All	998	442	0	0	456
Stage 1	442	-	-	-	-
Stage 2	556	-	-	-	-
Critical Hdwy	6.45	6.24	-	-	4.1
Critical Hdwy Stg 1	5.45	-	-	-	-
Critical Hdwy Stg 2	5.45	-	-	-	-
Follow-up Hdwy	3.545	3.336	-	-	2.2
Pot Cap-1 Maneuver	267	611	-	-	1115
Stage 1	641	-	-	-	-
Stage 2	568	-	-	-	-
Platoon blocked, %			-	-	-
Mov Cap-1 Maneuver	261	611	-	-	1115
Mov Cap-2 Maneuver	261	-	-	-	-
Stage 1	641	-	-	-	-
Stage 2	556	-	-	-	-

Approach	WB	NB	SB
HCM Ctrl Dly, s/v	18.79	0	0.27
HCM LOS	C		

Minor Lane/Major Mvmt	NBT	NBRWBLn1	SBL	SBT
Capacity (veh/h)	-	-	330	59
HCM Lane V/C Ratio	-	-	0.21	0.016
HCM Ctrl Dly (s/v)	-	-	18.8	8.3
HCM Lane LOS	-	-	C	A
HCM 95th %tile Q(veh)	-	-	0.8	0

Intersection

Int Delay, s/veh	1.6					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	TT		TT			TT
Traffic Vol, veh/h	42	50	373	29	6	502
Future Vol, veh/h	42	50	373	29	6	502
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	-	-	0
Peak Hour Factor	93	93	93	93	93	93
Heavy Vehicles, %	2	0	4	0	0	5
Mvmt Flow	45	54	401	31	6	540

Major/Minor	Minor1	Major1	Major2		
Conflicting Flow All	969	417	0	0	432
Stage 1	417	-	-	-	-
Stage 2	553	-	-	-	-
Critical Hdwy	6.42	6.2	-	-	4.1
Critical Hdwy Stg 1	5.42	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-
Follow-up Hdwy	3.518	3.3	-	-	2.2
Pot Cap-1 Maneuver	281	640	-	-	1138
Stage 1	665	-	-	-	-
Stage 2	576	-	-	-	-
Platoon blocked, %			-	-	-
Mov Cap-1 Maneuver	279	640	-	-	1138
Mov Cap-2 Maneuver	279	-	-	-	-
Stage 1	665	-	-	-	-
Stage 2	572	-	-	-	-

Approach	WB	NB	SB
HCM Ctrl Dly, s/v	16.84	0	0.1
HCM LOS	C		

Minor Lane/Major Mvmt	NBT	NBRWBLn1	SBL	SBT
Capacity (veh/h)	-	-	402	21
HCM Lane V/C Ratio	-	-	0.246	0.006
HCM Ctrl Dly (s/v)	-	-	16.8	8.2
HCM Lane LOS	-	-	C	A
HCM 95th %tile Q(veh)	-	-	1	0

Intersection						
Int Delay, s/veh	1.9					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	TT		TT			TT
Traffic Vol, veh/h	50	26	533	79	26	478
Future Vol, veh/h	50	26	533	79	26	478
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	-	-	0
Peak Hour Factor	91	91	91	91	91	91
Heavy Vehicles, %	0	4	1	1	0	1
Mvmt Flow	55	29	586	87	29	525

Major/Minor	Minor1	Major1	Major2		
Conflicting Flow All	1212	629	0	0	673
Stage 1	629	-	-	-	-
Stage 2	582	-	-	-	-
Critical Hdwy	6.4	6.24	-	-	4.1
Critical Hdwy Stg 1	5.4	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-
Follow-up Hdwy	3.5	3.336	-	-	2.2
Pot Cap-1 Maneuver	203	479	-	-	928
Stage 1	535	-	-	-	-
Stage 2	562	-	-	-	-
Platoon blocked, %			-	-	-
Mov Cap-1 Maneuver	194	479	-	-	928
Mov Cap-2 Maneuver	194	-	-	-	-
Stage 1	535	-	-	-	-
Stage 2	538	-	-	-	-

Approach	WB	NB	SB
HCM Ctrl Dly, s/v	27.26	0	0.46
HCM LOS	D		

Minor Lane/Major Mvmt	NBT	NBRWBLn1	SBL	SBT
Capacity (veh/h)	-	-	244	93
HCM Lane V/C Ratio	-	-	0.342	0.031
HCM Ctrl Dly (s/v)	-	-	27.3	9
HCM Lane LOS	-	-	D	A
HCM 95th %tile Q(veh)	-	-	1.5	0.1

Intersection

Int Delay, s/veh	1.2					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	Y		T			T
Traffic Vol, veh/h	23	23	604	46	42	500
Future Vol, veh/h	23	23	604	46	42	500
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	-	-	0
Peak Hour Factor	94	94	94	94	94	94
Heavy Vehicles, %	0	0	1	0	0	1
Mvmt Flow	24	24	643	49	45	532

Major/Minor	Minor1	Major1	Major2		
Conflicting Flow All	1288	667	0	0	691
Stage 1	667	-	-	-	-
Stage 2	621	-	-	-	-
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	183	462	-	-	913
Stage 1	514	-	-	-	-
Stage 2	540	-	-	-	-
Platoon blocked, %			-	-	-
Mov Cap-1 Maneuver	170	462	-	-	913
Mov Cap-2 Maneuver	170	-	-	-	-
Stage 1	514	-	-	-	-
Stage 2	502	-	-	-	-

Approach	WB	NB	SB
HCM Ctrl Dly, s/v	23	0	0.71
HCM LOS	C		

Minor Lane/Major Mvmt	NBT	NBRWBLn1	SBL	SBT
Capacity (veh/h)	-	-	249	139
HCM Lane V/C Ratio	-	-	0.197	0.049
HCM Ctrl Dly (s/v)	-	-	23	9.1
HCM Lane LOS	-	-	C	A
HCM 95th %tile Q(veh)	-	-	0.7	0.2

Intersection						
Int Delay, s/veh	1.4					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	TT		TT			TT
Traffic Vol, veh/h	42	23	408	27	16	485
Future Vol, veh/h	42	23	408	27	16	485
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	-	-	0
Peak Hour Factor	91	91	91	91	91	91
Heavy Vehicles, %	5	4	4	0	0	5
Mvmt Flow	46	25	448	30	18	533

Major/Minor	Minor1	Major1	Major2		
Conflicting Flow All	1031	463	0	0	478
Stage 1	463	-	-	-	-
Stage 2	568	-	-	-	-
Critical Hdwy	6.45	6.24	-	-	4.1
Critical Hdwy Stg 1	5.45	-	-	-	-
Critical Hdwy Stg 2	5.45	-	-	-	-
Follow-up Hdwy	3.545	3.336	-	-	2.2
Pot Cap-1 Maneuver	255	595	-	-	1095
Stage 1	627	-	-	-	-
Stage 2	561	-	-	-	-
Platoon blocked, %			-	-	-
Mov Cap-1 Maneuver	249	595	-	-	1095
Mov Cap-2 Maneuver	249	-	-	-	-
Stage 1	627	-	-	-	-
Stage 2	548	-	-	-	-

Approach	WB	NB	SB
HCM Ctrl Dly, s/v	19.84	0	0.27
HCM LOS	C		

Minor Lane/Major Mvmt	NBT	NBRWBLn1	SBL	SBT
Capacity (veh/h)	-	-	313	57
HCM Lane V/C Ratio	-	-	0.228	0.016
HCM Ctrl Dly (s/v)	-	-	19.8	8.3
HCM Lane LOS	-	-	C	A
HCM 95th %tile Q(veh)	-	-	0.9	0

Intersection

Int Delay, s/veh	1.6					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	TT		TT			TT
Traffic Vol, veh/h	42	50	388	29	6	528
Future Vol, veh/h	42	50	388	29	6	528
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	-	-	0
Peak Hour Factor	93	93	93	93	93	93
Heavy Vehicles, %	2	0	4	0	0	5
Mvmt Flow	45	54	417	31	6	568

Major/Minor	Minor1	Major1	Major2		
Conflicting Flow All	1013	433	0	0	448
Stage 1	433	-	-	-	-
Stage 2	581	-	-	-	-
Critical Hdwy	6.42	6.2	-	-	4.1
Critical Hdwy Stg 1	5.42	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-
Follow-up Hdwy	3.518	3.3	-	-	2.2
Pot Cap-1 Maneuver	265	627	-	-	1123
Stage 1	654	-	-	-	-
Stage 2	559	-	-	-	-
Platoon blocked, %			-	-	-
Mov Cap-1 Maneuver	262	627	-	-	1123
Mov Cap-2 Maneuver	262	-	-	-	-
Stage 1	654	-	-	-	-
Stage 2	555	-	-	-	-

Approach	WB	NB	SB
HCM Ctrl Dly, s/v	17.61	0	0.09
HCM LOS	C		

Minor Lane/Major Mvmt	NBT	NBRWBLn1	SBL	SBT
Capacity (veh/h)	-	-	384	20
HCM Lane V/C Ratio	-	-	0.258	0.006
HCM Ctrl Dly (s/v)	-	-	17.6	8.2
HCM Lane LOS	-	-	C	A
HCM 95th %tile Q(veh)	-	-	1	0

Intersection

Int Delay, s/veh	0.5					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	Y		T			T
Traffic Vol, veh/h	10	14	427	5	13	505
Future Vol, veh/h	10	14	427	5	13	505
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	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	0	0	6	0	0	4
Mvmt Flow	11	15	464	5	14	549

Major/Minor	Minor1	Major1	Major2		
Conflicting Flow All	1044	467	0	0	470
Stage 1	467	-	-	-	-
Stage 2	577	-	-	-	-
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	256	600	-	-	1103
Stage 1	635	-	-	-	-
Stage 2	565	-	-	-	-
Platoon blocked, %			-	-	-
Mov Cap-1 Maneuver	251	600	-	-	1103
Mov Cap-2 Maneuver	251	-	-	-	-
Stage 1	635	-	-	-	-
Stage 2	555	-	-	-	-

Approach	WB	NB	SB
HCM Ctrl Dly, s/v	15.17	0	0.21
HCM LOS	C		

Minor Lane/Major Mvmt	NBT	NBRWBLn1	SBL	SBT
Capacity (veh/h)	-	-	380	45
HCM Lane V/C Ratio	-	-	0.069	0.013
HCM Ctrl Dly (s/v)	-	-	15.2	8.3
HCM Lane LOS	-	-	C	A
HCM 95th %tile Q(veh)	-	-	0.2	0

Intersection

Int Delay, s/veh	0.5					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	TT		TT			TT
Traffic Vol, veh/h	18	8	424	12	2	513
Future Vol, veh/h	18	8	424	12	2	513
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	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	0	0	6	0	0	4
Mvmt Flow	20	9	461	13	2	558

Major/Minor	Minor1	Major1	Major2		
Conflicting Flow All	1029	467	0	0	474
Stage 1	467	-	-	-	-
Stage 2	562	-	-	-	-
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	261	600	-	-	1099
Stage 1	635	-	-	-	-
Stage 2	575	-	-	-	-
Platoon blocked, %			-	-	-
Mov Cap-1 Maneuver	260	600	-	-	1099
Mov Cap-2 Maneuver	260	-	-	-	-
Stage 1	635	-	-	-	-
Stage 2	573	-	-	-	-

Approach	WB	NB	SB
HCM Ctrl Dly, s/v	17.54	0	0.03
HCM LOS	C		

Minor Lane/Major Mvmt	NBT	NBRWBLn1	SBL	SBT
Capacity (veh/h)	-	-	315	7
HCM Lane V/C Ratio	-	-	0.09	0.002
HCM Ctrl Dly (s/v)	-	-	17.5	8.3
HCM Lane LOS	-	-	C	A
HCM 95th %tile Q(veh)	-	-	0.3	0

Intersection

Int Delay, s/veh	2.1					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	TT		TT			TT
Traffic Vol, veh/h	53	26	547	81	26	495
Future Vol, veh/h	53	26	547	81	26	495
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	-	-	0
Peak Hour Factor	91	91	91	91	91	91
Heavy Vehicles, %	0	4	1	1	0	1
Mvmt Flow	58	29	601	89	29	544

Major/Minor	Minor1	Major1	Major2		
Conflicting Flow All	1247	646	0	0	690
Stage 1	646	-	-	-	-
Stage 2	601	-	-	-	-
Critical Hdwy	6.4	6.24	-	-	4.1
Critical Hdwy Stg 1	5.4	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-
Follow-up Hdwy	3.5	3.336	-	-	2.2
Pot Cap-1 Maneuver	193	468	-	-	914
Stage 1	526	-	-	-	-
Stage 2	551	-	-	-	-
Platoon blocked, %			-	-	-
Mov Cap-1 Maneuver	185	468	-	-	914
Mov Cap-2 Maneuver	185	-	-	-	-
Stage 1	526	-	-	-	-
Stage 2	527	-	-	-	-

Approach	WB	NB	SB
HCM Ctrl Dly, s/v	29.71	0	0.45
HCM LOS	D		

Minor Lane/Major Mvmt	NBT	NBRWBLn1	SBL	SBT
Capacity (veh/h)	-	-	231	90
HCM Lane V/C Ratio	-	-	0.376	0.031
HCM Ctrl Dly (s/v)	-	-	29.7	9.1
HCM Lane LOS	-	-	D	A
HCM 95th %tile Q(veh)	-	-	1.7	0.1

Intersection						
Int Delay, s/veh	1.2					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	Y		T			T
Traffic Vol, veh/h	23	23	627	46	42	519
Future Vol, veh/h	23	23	627	46	42	519
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	-	-	0
Peak Hour Factor	94	94	94	94	94	94
Heavy Vehicles, %	0	0	1	0	0	1
Mvmt Flow	24	24	667	49	45	552

Major/Minor	Minor1	Major1	Major2		
Conflicting Flow All	1333	691	0	0	716
Stage 1	691	-	-	-	-
Stage 2	641	-	-	-	-
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	172	448	-	-	894
Stage 1	501	-	-	-	-
Stage 2	528	-	-	-	-
Platoon blocked, %			-	-	-
Mov Cap-1 Maneuver	159	448	-	-	894
Mov Cap-2 Maneuver	159	-	-	-	-
Stage 1	501	-	-	-	-
Stage 2	490	-	-	-	-

Approach	WB	NB	SB
HCM Ctrl Dly, s/v	24.31	0	0.69
HCM LOS	C		

Minor Lane/Major Mvmt	NBT	NBRWBLn1	SBL	SBT
Capacity (veh/h)	-	-	235	135
HCM Lane V/C Ratio	-	-	0.208	0.05
HCM Ctrl Dly (s/v)	-	-	24.3	9.2
HCM Lane LOS	-	-	C	A
HCM 95th %tile Q(veh)	-	-	0.8	0.2

Intersection

Int Delay, s/veh	0.5					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	Y		T			T
Traffic Vol, veh/h	7	15	615	8	18	545
Future Vol, veh/h	7	15	615	8	18	545
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	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	0	0	3	0	0	4
Mvmt Flow	8	16	668	9	20	592

Major/Minor	Minor1	Major1	Major2		
Conflicting Flow All	1304	673	0	0	677
Stage 1	673	-	-	-	-
Stage 2	632	-	-	-	-
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	179	459	-	-	924
Stage 1	511	-	-	-	-
Stage 2	534	-	-	-	-
Platoon blocked, %			-	-	-
Mov Cap-1 Maneuver	173	459	-	-	924
Mov Cap-2 Maneuver	173	-	-	-	-
Stage 1	511	-	-	-	-
Stage 2	517	-	-	-	-

Approach	WB	NB	SB
HCM Ctrl Dly, s/v	18.01	0	0.29
HCM LOS	C		

Minor Lane/Major Mvmt	NBT	NBRWBLn1	SBL	SBT
Capacity (veh/h)	-	-	301	58
HCM Lane V/C Ratio	-	-	0.08	0.021
HCM Ctrl Dly (s/v)	-	-	18	9
HCM Lane LOS	-	-	C	A
HCM 95th %tile Q(veh)	-	-	0.3	0.1

Intersection						
Int Delay, s/veh	0.4					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	TT		TT			TT
Traffic Vol, veh/h	15	4	619	18	5	547
Future Vol, veh/h	15	4	619	18	5	547
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	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	0	0	3	0	0	4
Mvmt Flow	16	4	673	20	5	595

Major/Minor	Minor1	Major1	Major2		
Conflicting Flow All	1288	683	0	0	692
Stage 1	683	-	-	-	-
Stage 2	605	-	-	-	-
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	183	453	-	-	912
Stage 1	506	-	-	-	-
Stage 2	549	-	-	-	-
Platoon blocked, %			-	-	-
Mov Cap-1 Maneuver	181	453	-	-	912
Mov Cap-2 Maneuver	181	-	-	-	-
Stage 1	506	-	-	-	-
Stage 2	544	-	-	-	-

Approach	WB	NB	SB
HCM Ctrl Dly, s/v	24.29	0	0.08
HCM LOS	C		

Minor Lane/Major Mvmt	NBT	NBRWBLn1	SBL	SBT
Capacity (veh/h)	-	-	207	16
HCM Lane V/C Ratio	-	-	0.1	0.006
HCM Ctrl Dly (s/v)	-	-	24.3	9
HCM Lane LOS	-	-	C	A
HCM 95th %tile Q(veh)	-	-	0.3	0