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Traffic Impact Study

Blue Rill Senior Housing Development, 444 Saddle River Road Village of Airmont, Rockland County

TRAFFIC IMPACT STUDY

**October 28, 2024
Revised: January 9, 2025
MJ Project #1587.01**

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1.0 INTRODUCTION

M.J. Engineering, Architecture, Landscape Architecture, and Land Surveying, P.C. (MJ) was contracted by Blue Rill Estates LLC to conduct a Traffic Impact Study (TIS) for the proposed Blue Rill Estates at 444 Saddle River Road. Included in this TIS are the intersections of Saddle River Road / Old Nyack Turnpike, Saddle River Road / Margetts Road, Saddle River Road / South Monsey Road and Saddle River Road / Pinebrook Road in the Town of Ramapo and Village of Airmont, NY.

In August 2024, the Village of Airmont Planning Board requested the intersection of Saddle River Road and Regina Drive be added to the TIS, and this intersection was incorporated into the study.

The purpose of this study is to determine if improvements resulting from the additional traffic generated by the proposed development are required at these five (5) intersections to maintain acceptable levels of operation, as well as to evaluate the operation of the intersections of the proposed site driveways with Saddle River Road.

Blue Rill Estates is a proposed senior housing development that will consist of 105 semi-attached two-story homes along with two community centers and a passive recreation area for residents. The study aims to assess the impact of the additional traffic generated by the Blue Rill Senior Estates on the surrounding roadway network and intersections listed above, ensuring that traffic flow remains within acceptable levels as defined by the *Highway Capacity Manual*.

Additionally, the study incorporates findings from three (3) previously completed traffic impact studies conducted for synagogues in the Village of Airmont, specifically located at 39 Besen Parkway, 2 Hillside Avenue and 454 Saddle River Road. These prior studies have been integrated into this study to account for future traffic not included in the existing traffic volumes. These studies can be found in **Appendix E**.

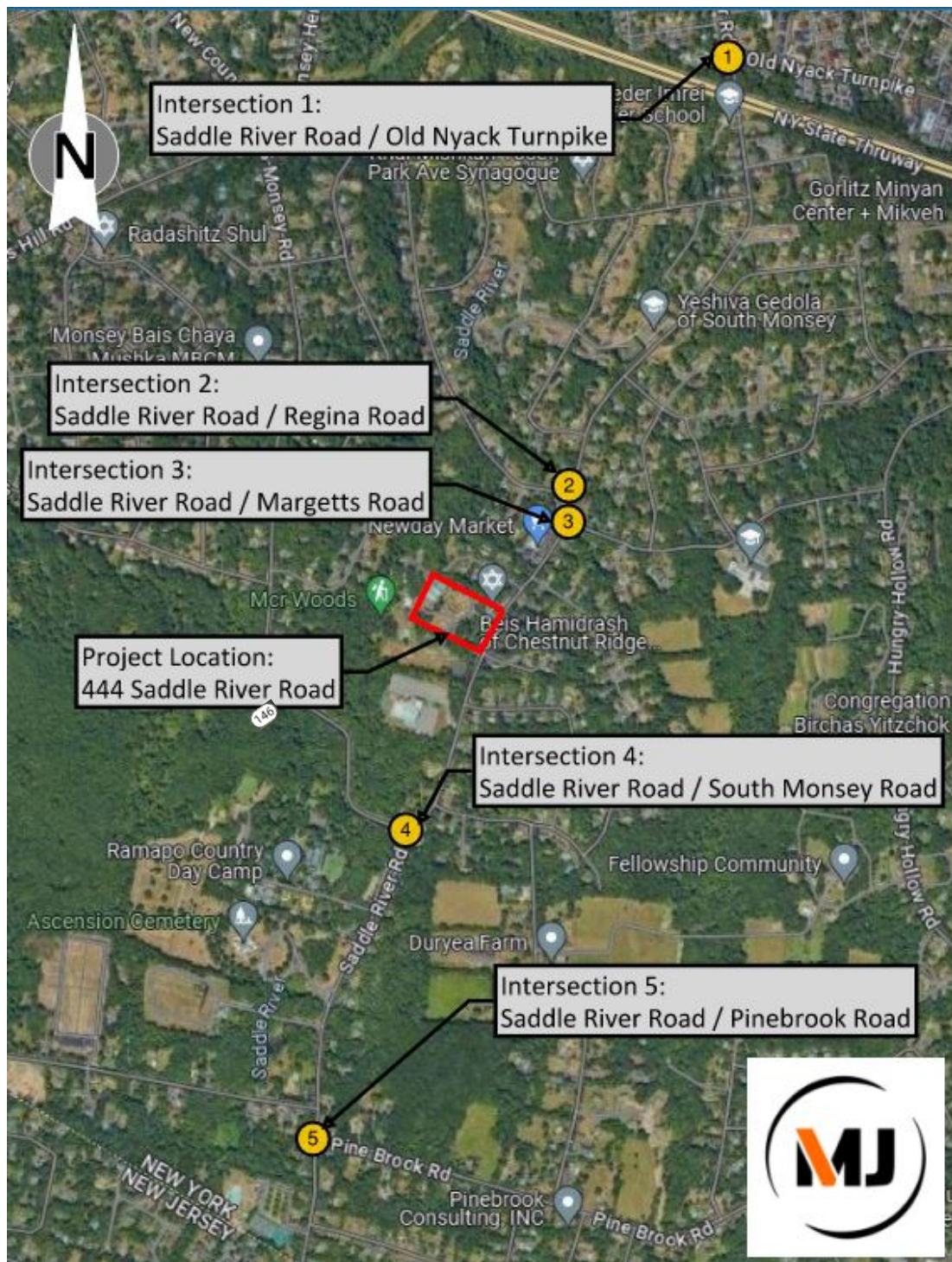


Figure 1 – Overall Project Location Map

2.0 STUDY METHODOLOGY

The purpose of this study is to:

1. Analyze the existing traffic conditions.
2. Provide a baseline traffic condition assessment for the study area intersections.
3. Analyze future No-Build and Build conditions.
4. Determine improvements required to mitigate impacts associated with the future Build conditions.

Traffic models were developed utilizing the traffic analysis software Synchro 11© which is an industry standard traffic analysis package. The software analyzes traffic conditions at intersections to provide a measure of effectiveness in terms of Level of Service (LOS). Procedures for the analysis are in conformance with the most-recent version of the Transportation Research Board of the National Academies Highway Capacity Manual.

Intersection LOS is defined in terms of delay per vehicle. The New York State Department of Transportation (NYSDOT) Highway Design Manual (HDM), Section 5.2.2.1, describes LOS as "a qualitative measure describing operational conditions within a traffic stream, based on service measures such as speed and travel time, freedom to maneuver, traffic interruptions, comfort, and convenience. Levels of service are given letter designations, from A to F, with LOS A representing the best operating condition and LOS F the worst."

Intersection design practice, as determined by the NYSDOT, strives to provide a minimum LOS D or better for each lane group in urban areas and a minimum LOS C in rural areas. Although LOS D is acceptable in urban environments, LOS C is the preferred minimum for overall approach LOS. LOS D is acceptable for specific low volume movements or approaches within an intersection.

Table 1 below provides the ranges of LOS for both signalized and unsignalized intersections. Unsignalized intersections are often referred to as either two-way stop control or all-way stop control intersections. Two-way stop control refers to three or four-way intersections where the minor approach(es) are controlled by a stop sign and the major approaches are free flow.

Table 1			
INTERSECTION LEVEL OF SERVICE RANGES			
Level of Service	Unsignalized Intersection Delay (sec/veh)	Signalized Intersection Delay (sec/veh)	Description
A	≤ 10	≤ 10	Excellent
B	> 10 & ≤ 15	> 10 & ≤ 20	Very Good
C	> 15 & ≤ 25	> 20 & ≤ 35	Good
D	> 25 & ≤ 35	> 35 & ≤ 55	Acceptable
E	> 35 & ≤ 50	> 55 & ≤ 80	Poor
F	> 50	> 80	Failing

3.0 EXISTING CONDITIONS

Evaluation of the transportation impacts associated with potential development areas as identified in the study area requires a thorough understanding of the existing transportation conditions in the study area including roadway geometry, traffic control, daily and peak hour traffic flow, existing land uses, and multimodal accommodations. Each of these elements are described in detail below.

The transportation network within the study area is comprised of six main corridors, Saddle River Road, Old Nyack Turnpike, Regina Road, Margetts Road, South Monsey Road, and Pinebrook Road. These roadways provide direct access to residential and commercial land uses and serve as travel corridors for commuters and local through traffic.

3.1 ROADWAY GEOMETRY

Descriptions of the study area roadways and intersections are included below. **Table 2** summarizes the functional classification, roadway cross-section, posted speed limit, and average annual daily traffic (AADT) volume for the study area roadways. The AADT data included in **Table 2** is based on data obtained from the NYSDOT Traffic Data Viewer.

Table 2				
ROADWAY CLASSIFICATION CHARACTERISTICS				
Location	Urban Functional Class	Cross-section	Posted Speed	AADT¹
Saddle River Road	Minor Arterial	2, 11-12 ft lanes	30 mph	5,885 (2023)
Old Nyack Turnpike	Minor Arterial	2, 10-11 ft lanes	30 mph	9,650 (2023)
Regina Road	Urban Local	2, 11-12 ft lanes	30 mph	Not Available*
Margetts Road	Major Collector	2, 11-12 ft lanes	30 mph	2,568 (2023)
South Monsey Road	Major Collector	2, 10-11 ft lanes	30 mph	6,112 (2023)
Pinebrook Road	Minor Arterial	2, 10-11 ft lanes	30 mph	3,401 (2023)

Notes:

1. The Average Annual Daily Traffic (AADT) volumes were obtained from the NYSDOT Traffic Data Viewer.
2. * Regina Road did not have AADT data available on the traffic data viewer

Saddle River Road - (Rockland County Road 73)

Saddle River Road is classified as an urban minor arterial providing north-south travel through the Town of Ramapo and Village of Airmont. In the study area, Saddle River Road is a two-lane roadway with one 11-foot to 12-foot-wide travel lane in each direction and paved shoulders ranging from 1-foot to 2-foot-wide. The posted speed limit on Saddle River Road in the study area is 30 mph. There are limited existing pedestrian specific facilities along Saddle River Road within the study area, consisting of piecemeal sidewalks along brief portions of the highway with no logical origination/termination points. There are sidewalks, a crosswalk, and curb ramps located in the northeast quadrant of the signalized intersection of Saddle River Road with Old Nyack Turnpike, although no pedestrian signal equipment is present.

Old Nyack Turnpike - (Rockland County Road 52)

Old Nyack Turnpike is classified as an urban minor arterial providing east-west travel through the Town of Ramapo. In the study area, Old Nyack Turnpike is a two-lane roadway with one 10-foot to 11-foot-wide travel lane in each direction and paved shoulders ranging from 0-foot to 2-foot-wide. The posted speed limit on Old Nyack Turnpike in the study area is 30 mph. There are existing pedestrian facilities along the north side of Old Nyack Turnpike within the study area, including sidewalks and one marked crosswalk along the Old Nyack Turnpike westbound approach, located at the signalized intersection of Saddle River Road / Old Nyack Turnpike.

Regina Road

Regina Road is classified as an urban local road providing east-west travel between Saddle River Road and South Monsey Road. Regina Road is a two-lane roadway with one 11-foot to 12-foot-wide travel lane in each direction and paved shoulders varying from 2-foot to 4-foot-wide. The speed limit on Regina Road in the study area is 30 mph. There are no existing pedestrian facilities along Regina Road within the study area, including sidewalks, marked crosswalks or pedestrian signal equipment. Currently, pedestrians are accommodated in the shoulders.

Margetts Road

Margetts Road is classified as an urban major collector providing east-west travel between Saddle River Road and Hungry Hollow Road. Margetts Road is a two-lane roadway with one 11-foot to 12-foot-wide travel lane in each direction and paved shoulders varying from 0-foot to 2-foot-wide. The speed limit on Margetts Road in the study area is 30 mph. There is an asphalt sidewalk along the north side of Margetts Road on the approach to Saddle River Road, although there are no crosswalks or other pedestrian accommodations at the intersection.

South Monsey Road - (Rockland County Road 81)

South Monsey Road is classified as an urban major collector providing east-west travel between Saddle River Road and Christmas Hill Road. South Monsey Road is a two-lane roadway with one 10-foot to 11-foot-wide travel lane in each direction and paved shoulders varying from 0-foot to 2-foot-wide. The speed limit on South Monsey Road in the study area is 30 mph. There are no existing pedestrian facilities along Margetts Road within the study area. Currently, pedestrians are accommodated in the shoulders.

Pinebrook Road

Pinebrook Road is classified as an urban minor arterial providing east-west travel between Saddle River Road and NY Route 45. Pinebrook Road is a two-lane roadway with one 10-foot to 11-foot-wide travel lane in each direction and paved shoulders varying from 0-foot to 4-foot-wide. The speed limit on Pinebrook Road in the study area is 30 mph. There are no existing pedestrian facilities along Pinebrook Road within the study area. Currently, pedestrians are accommodated in the shoulders.

Study Area Intersections

Intersection 1 – Saddle River Road / Old Nyack Turnpike

The Saddle River Road / Old Nyack Turnpike intersection is a three-leg intersection operating under traffic signal control. The westbound Old Nyack Turnpike approach provides a single lane for left and right-turning movements. The northbound Saddle River Road approach consists of a single lane for through and right-turning movements. The Saddle River Road southbound approach consists of a single lane for through and left-turning movements, with a leading protected/permitted left turn phase. There

are existing pedestrian facilities along the north side of Old Nyack Turnpike within the study area, including sidewalks and one marked crosswalk along the Old Nyack Turnpike westbound approach without pedestrian signal accommodations.

Intersection 2 – Saddle River Road / Regina Road

The Saddle River Road / Regina Road intersection is a three-leg unsignalized intersection controlled by a stop sign along the eastbound Regina Road approach. The northbound Saddle River Road approach consists of a single lane for through and left-turning movements. The southbound Saddle River Road approach consists of a single lane for through and right-turning movements. The eastbound Regina Road approach consists of a single lane for left and right-turning movements. There are no pedestrian accommodations at the intersection including sidewalks, marked crosswalks or pedestrian signal equipment. Currently, pedestrians are accommodated by the shoulders.

Intersection 3 – Saddle River Road / Margetts Road

The Saddle River Road / Margetts Road intersection is a three-leg unsignalized intersection controlled by a stop sign along the westbound Margetts Road approach. The northbound Saddle River Road approach consists of a single lane for through and right-turning movements. The southbound Saddle River Road approach consists of a single lane for through and left-turning movements. The westbound Margetts Road approach consists of a single lane for left and right-turning movements and an asphalt sidewalk along the northern side. Besides this sidewalk on Margetts Road, there are no pedestrian accommodations at the intersection including marked crosswalks or pedestrian signal equipment. Currently, pedestrians on Saddle River Road are accommodated by the shoulders.

Intersection 4 – Saddle River Road / South Monsey Road

The Saddle River Road / South Monsey Road intersection is a three-leg unsignalized intersection controlled by a stop sign along the eastbound South Monsey Road approach. The northbound Saddle River Road approach consists of a single lane for through and left-turning movements. The southbound Saddle River Road approach consists of a single lane for through and right-turning movements. The eastbound South Monsey Road approach consists of a single lane for left and right-turning movements. There are no pedestrian accommodations at the intersection including sidewalks, marked crosswalks or pedestrian signal equipment. Currently, pedestrians are accommodated by the shoulders.

Intersection 5 – Saddle River Road / Pinebrook Road

The Saddle River Road / Pinebrook Road intersection is a three-leg unsignalized intersection controlled by a stop sign along the westbound Pinebrook Road approach. The northbound Saddle River Road approach consists of a single lane for through and right-turning movements. The southbound Saddle River Road approach consists of a single lane for through and left-turning movements. The westbound Pinebrook Road approach consists of a single lane for left and right-turning movements. There are no pedestrian accommodations at the intersection including sidewalks, marked crosswalks or pedestrian signal equipment. Currently, pedestrians are accommodated by the shoulders.

3.2 EXISTING TRAFFIC VOLUMES

Turning movement counts (TMC) were conducted at the five (5) study area intersections. The counts were taken for a Thursday AM and PM peak hour, a Friday midday peak hour and a Saturday midday peak hour. The AM peak hour was counted on June 13th, 2024, from 7:00 AM to 9:00 AM and the PM peak hour was counted on June 13th, 2024, from 4:00 PM to 6:00 PM. The Friday midday peak hour was counted on June 14th, 2024, from 11:00 AM to 2:00 PM and the Saturday midday peak hour was counted on June 15th, 2024, from 11:00 AM to 2:00 PM. The Saddle River Road / Regina Road intersection was added to the study in August 2024, and these turning movement counts were conducted on September

12, 2024, for the AM and PM peak hours, September 13th, 2024, for the Friday midday peak hour, and September 14th, 2024, for Saturday midday peak hour.

It is noted that the existing traffic counts taken on Thursday June 13th, 2024, for the AM and PM peak hours were considerably lower than anticipated. After some research and discussions with the applicant, it was determined that Thursday, June 13th was a Jewish holiday. Due to low volume counts obtained that day, the AM and PM peak hours were rejected, and instead, obtained by manually counting the AM & PM peak hour video recorded from Friday June 14, 2024, as part of this study analysis. See **Appendix A** for existing traffic data.

3.3 VEHICULAR CRASH HISTORY

Crash data for the study area was obtained via NYSDOT CLEAR Crash Data Viewer from January 1, 2021, through December 31, 2023. Review of the data shows that during the three-year period, a total of 55 crashes occurred at the five (5) study area intersections. Crash data was also investigated along Saddle River Road from Long Meadow Drive to Lancaster Lane in front of the proposed senior housing development. There were no crashes recorded along this roadway segment. Below is the list of intersections that were investigated as part of the crash analysis:

- | | | |
|----|--|-----------------|
| 1. | Saddle River Road / Old Nyack Turnpike | Signalized |
| 2. | Saddle River Road / Regina Road | Stop-Controlled |
| 3. | Saddle River Road / Margetts Road | Stop-Controlled |
| 4. | Saddle River Road / South Monsey Road | Stop-Controlled |
| 5. | Saddle River Road / Pine Brook Road | Stop-Controlled |

Crash Types

There were some clusters of crashes throughout the study area consisting of fixed-object, rear-end, and right-angle crash types. It is important to determine whether any crash type is overrepresented or occurring at a higher rate than the comparable statewide rate for similar facilities. Based on the methodology used in NYSDOT CLEAR SAFETY software, the threshold is 5% to determine whether a crash type is overrepresented. For any crash type, if the chance of observing percentage is below 5%, that crash type is overrepresented, meaning the proportion is higher than the comparable statewide proportion for similar facilities and crash type.

Table 4 Information included below was obtained from the NYSDOT CLEAR SAFETY module. This data shows the proportions for each location and whether the crash types were overrepresented.

Table 4 CRASH HISTORY SUMMARY - OBSERVED CRASH PROPORTIONS						
Intersection	Crash Type	Observed Target Crashes	Observed Proportion (%)	Statewide Proportion (%)	Chance of Observing (%)	Overrepresented (Y/N)
1	Fixed Object	3	13.04	10.38	80.68	N
	Rear End	12	52.17	64.64	100.00	N
	Right Angle	3	13.04	24.99	69.05	N
2	Fixed Object	0	0.00	21.31	N/A	N
	Rear End	0	0.00	51.75	N/A	N
	Right Angle	2	50.00	26.94	90.55	N

Table 4 CRASH HISTORY SUMMARY - OBSERVED CRASH PROPORTIONS						
Intersection	Crash Type	Observed Target Crashes	Observed Proportion (%)	Statewide Proportion (%)	Chance of Observing (%)	Overrepresented (Y/N)
3	Fixed Object	0	0.00	22.53	N/A	N
	Rear End	0	0.00	46.51	N/A	N
	Right Angle	1	50.00	30.96	55.25	N
4	Fixed Object	2	16.67	22.53	12.27	N
	Rear End	2	16.67	46.51	99.64	N
	Right Angle	5	41.67	30.96	82.05	N
5	Fixed Object	8	57.14	21.31	0.57	Y
	Rear End	2	14.29	51.75	99.98	N
	Right Angle	3	21.43	26.94	87.45	N

Shown in the crash history summary above, the number of fixed object crashes that occurred at the Saddle River Road / Pine Brook Road intersection were overrepresented. Eight (8) out of the total 14 crashes that occurred at this intersection were fixed object crashes that occurred with either a tree or a stone wall due to vehicles traveling westbound down the hill on Pine Brook Road trying to make a stop during slippery roadway conditions. An existing W7-1 Hill warning sign is posted for motorists travelling westbound on Pine Brook Road in advance of the downgrade.

The overrepresented Pine Brook Road fixed object crash pattern is existing and not related to the Blue Rill Senior Housing development. Although Pine Brook Road is within the Village of Chestnut Ridge, the Town of Ramapo maintains the road. We will notify the Town of Ramapo of our recommendation to install two advanced warning signs on Pine Brook Road:

1. 30"x30" W3-1 Stop Ahead sign, 200 feet east of the stop bar on Pine Brook Road
2. 30"x30" W8-5 slippery when wet sign 400 feet east of the stop bar on Pine Brook Road

These signs will provide vehicles traveling westbound down the hill on Pine Brook Road with advance warning of both the stop condition and the potential for their vehicles to slip while attempting to stop.



Table 5 summarizes the intersection crashes and shows that of the 55 crashes, there were no fatal crashes, 13 injury crashes, 42 property damage collisions, and zero (0) non-reportable incidents. The crash data included below were developed from the collision diagrams and detailed crash summaries that are provided in **Appendix C**.

Table 5 CRASH HISTORY SUMMARY – INTERSECTION					
Intersection	Total Crashes	Severity			
		Fatal	INJ	PDO	NR
1. Saddle River Road / Old Nyack Turnpike	23	0	3	20	0
2. Saddle River Road / Regina Road	4	0	1	3	0
3. Saddle River Road / Margetts Road	2	0	6	2	0
4. Saddle River Road / South Monsey Road	12	0	2	10	0
5. Saddle River Road / Pinebrook Road	14	0	1	13	0
Total	55	0	13	42	0

Source: NYSDOT crash data dated January 1, 2021, through December 31, 2023

INJ = Injury

PDO = Property Damage Only

NR = Non-Reportable, no injury and less than \$1,000 in property damage

As shown in **Table 5**, of the 55 total crashes on the evaluated intersections, 16 (29%) were rear-end crashes, 13 (24%) were fixed object crashes, 14 (25%) were right-angle crashes with the remaining 12 crashes being a mix of head-on, overtaking, left-turn, sideswipe and animal crashes. The primary contributing factors for the intersection crashes were attributed to driver error, following too closely, failure to yield right of way, and slippery pavement.

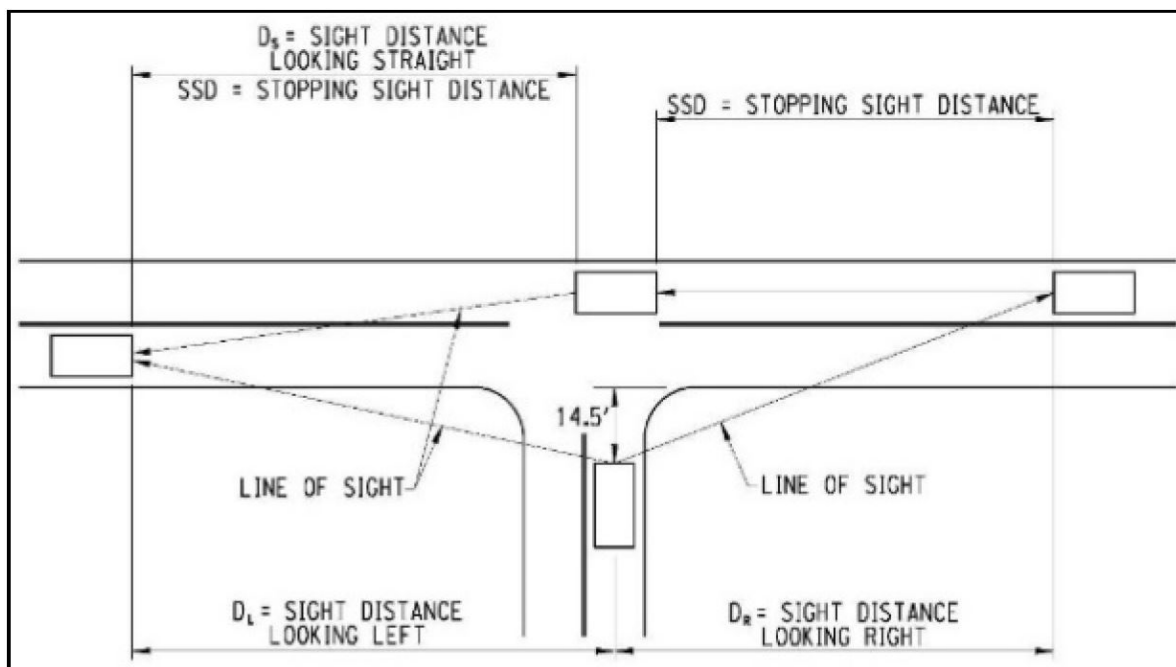
The following is noted regarding the intersection crashes:

1. **Saddle River Road / Old Nyack Turnpike** – The 23 crashes at the intersection included 12 rear-end crashes, as well as a mix of right-angle, fixed object, and sideswipe crashes. The crashes were primarily caused by driver inattention and following too closely. Rear-end crashes are expected at signalized intersections, as vehicles slow to stop at a red signal.
2. **Saddle River Road / Regina Road** – The four (4) crashes at this intersection included two (2) right-angle crashes and two (2) head-on crashes. The crashes were primarily caused by failure to yield the right-of-way and slippery pavement.
3. **Saddle River Road / Margetts Road** – The two (2) crashes at the intersection included one right-angle crash and one (1) parked vehicle crash. The crashes were primarily caused by backing unsafely, driver inattention and failure to yield the right-of-way.
4. **Saddle River Road / South Monsey Road** – The 12 crashes at the intersection include five (5) right-angle crashes, two (2) rear-end crashes, as well as a mix of left-turn, fixed object and animal crashes. The crashes were primarily caused by driver inattention, failure to yield the right-of-way and turning improperly.
5. **Saddle River Road / Pine Brook Road** – The 14 crashes at the intersection include eight (8) fixed object crashes, three (3) right-angle crashes as well as two (2) rear-ends and a head on crash. The crashes were primarily caused by slippery pavement due to snow or ice and vehicles not being able to stop traveling down Pine Brook Road. We

believe the fixed object crashes can be mitigated via the installation of additional warning signs described above.

3.4 SIGHT DISTANCE

A sight distance evaluation was completed at the Saddle River Road / Site Driveway intersections. Available intersection sight distance was measured from the perspective of a vehicle exiting the site driveway. It was also measured for a vehicle traveling northbound along Saddle River looking straight ahead to turn left into the site driveway. The available intersection sight distance should provide drivers a sufficient view of the intersecting roadway to allow passenger cars to enter or exit the intersection without causing excessively slowing vehicles traveling at or near the operating speed on the intersection mainline. Stopping sight distance was also measured on Saddle River Road at both Saddle River Road / Site Driveway intersections, which is the length of the roadway ahead that is visible to the driver. The available stopping sight distance on a roadway should be of sufficient length to enable a vehicle traveling at or near the operating speed to stop before reaching a stationary object in its path. The diagram below



illustrates these sight distance measurements.

The sight distances measured in the field were compared to the guidelines presented in *A Policy on Geometric Design of Highways and Streets, 2018* published by the American Association of State Highway Transportation Officials (AASHTO) and the current NYSDOT design guidance presented in the *Highway Design Manual Chapter 5* (Appendix 5B) for a 30-mph design travel in the northbound and southbound directions on Saddle River Road. The results of the sight distance analysis are summarized in **Tables 6A and 6B**.

- D_L = Sight distance looking left
- D_R = Sight distance looking right
- D_s = Sight distance looking straight

Intersection sight distance is measured at 14.5 feet back from the travel way at an object height of 3.5 feet and an eye height of 3.5 feet for a vehicle. Stopping sight distance (SSD) measured for a 2-foot

object located in the path of northbound/southbound vehicles on Saddle River Road at an eye height of 3.5 feet.

Table 6A				
SIGHT DISTANCE SUMMARY (feet)				
Location	View	Measured	AASHTO Guideline Distance	
			Left Turn	Right Turn
Site Driveway (North)	Looking Left	390	335	290
	Looking Right	370	335	N/A
Site Driveway (South)	Looking Left	300	335	290
	Looking Right	850	335	N/A

Table 6B			
SIGHT DISTANCE SUMMARY (feet)			
Location	View	Measured	AASHTO Guideline Distance
Site Driveway (North)	Left Turn from Saddle River Road	470	245
	SSD _{SB}	450	200
Site Driveway (South)	Left Turn from Saddle River Road	300	245
	SSD _{SB}	420	200

The sight distance evaluation conducted at the proposed site driveways indicates that the available intersection sight distance for left and right-turning vehicles is sufficient for the north site driveway, however the available sight distance looking left for left turning vehicles out of the south site driveway is not sufficient due to the existing vertical curve on Saddle River Road obstructing available sight distance. The sight distance available for left turns off Saddle River Road into the site driveways is sufficient for both site driveways.

At the proposed south site driveway, the available sight distance looking left (north) along Saddle River Road is 300 feet, which is greater than the AASHTO recommended stopping sight distance (SSD) of 200 feet. A vehicle travelling southbound on Saddle River Road that encounters a vehicle pulling out of the proposed site driveway will have sufficient distance to react and stop before creating a collision. To alert motorists of this condition, it is recommended to install a driveway warning sign on southbound Saddle River Road, 200 feet in advance of the proposed southern site driveway.



4.0 FUTURE CONDITIONS

The future conditions are based on a two-year build-out plan; therefore, the traffic analysis evaluates the conditions in the study area for the year 2026 to reflect the future conditions.

4.1 NO-BUILD CONDITIONS

Traffic growth on roadways is a function of the anticipated land development, environmental activity, and changes in demographics. To estimate the future traffic volumes for the study area intersections, regression analyses were completed using traffic volume data published by the NYSDOT.

Evaluation of the historical traffic volume data available through the NYSDOT showed that traffic volumes in the study area are increasing. In consideration of the available NYSDOT data, a growth rate of 1.0% per year was applied to the 2024 Existing traffic volumes for two (2) years to represent background growth up to the future 2026 evaluation year.

The use of a 1.0% per year annual growth rate accommodates other volume growth that may be associated with other development potential in the town and in the adjacent communities.

The 2026 No-Build peak hour traffic volumes, which include a general background growth rate, is provided in **Appendix B** in **Figures 3 and 4**, representing future traffic volumes in the study area without development.

4.2 BUILD CONDITIONS

Build traffic volumes for the study area were determined by adding the No Build volumes, the trip data from the three proposed synagogues located at 39 Besen Parkway, 2 Hillside Avenue and 454 Saddle River Road, and the trips generated by the Blue Rill Senior Housing Development. Site-generated traffic volumes associated with the build conditions were distributed over the study area roadways based on existing traffic patterns.

Growth Scenario Traffic Volumes

To estimate the number of trips associated with the Blue Rill residential development, the Institute of Transportation Engineers' (ITE) Trip Generation Manual, 11th Edition was utilized. The number of vehicle trips generated was based on the following ITE Land Use Codes (LUC):

- LUC 251 – Senior Adult Housing – Single Family

To be conservative in the analysis, the LUC 251 Senior Adult Housing single family was used instead of LUC 252 Senior Adult Housing multi-family, as the single-family LUC generates higher traffic volumes than the multi-family LUC.

Table 7 summarizes the overall trip generation estimate for the full buildout.

Table 7
FULL BUILDOUT OVERALL TRIP GENERATION

Land Use / Credit	Units	AM Peak Hour			PM Peak Hour			Saturday Peak Hour		
		Enter	Exit	Total	Enter	Exit	Total	Enter	Exit	Total
251 – Senior Adult Housing – Single Family	105	13	27	40	28	18	46	16	16	32
Total New Trips		13	27	40	28	18	46	16	16	32

Note: Size of the Land Use / Credit is number of dwelling units for land use code 251. Land Use Code As shown in **Table 7** the full buildout is expected to generate 40 new vehicle trips during the AM peak hour (13 entering and 27 exiting), 46 new vehicle trips during the PM peak hour (28 entering and 18 exiting) and 32 new vehicle trips during the Saturday peak hour (16 entering and 16 exiting). It is noted that the Friday midday peak hour was analyzed as part of this study. The ITE Trip Generation Manual does not account for Friday peak hours, therefore, to be conservative the higher of the AM and PM peak hours was used for the Friday peak. The Friday peak hour is expected to generate 46 new vehicle trips (28 entering and 18 exiting).

Trip Distribution, Assignment, and Build Traffic Volumes

The new trips generated by the proposed development areas will travel to and from other areas within the Village of Airmont and regional destinations.

New vehicle trips were distributed through the adjacent roadway network based on existing local and regional travel patterns. The Trip Assignment volumes were added to the 2026 No-Build traffic growth volumes to develop the 2026 Build traffic volumes. **Figure 7 and 8** in **Appendix B** illustrate the future Build traffic volumes for the weekday AM, PM, Friday Midday and Saturday peak hours.

4.3 PARKING

Section 210-56 of the Village of Airmont Code (Off-street parking requirements) states: *Senior citizen housing. At least one parking spaces per bedroom plus 0.5 spaces per dwelling unit for visitor/guest parking.* Proposed are 105 two-bedroom units, and the required 210 off-street parking spaces will be provided via driveways. The 0.5 spaces per dwelling unit required for visitor/guest parking will be accommodated via 53 additional off-street parking spaces.

The site plan has been updated to include reference to the parking information included above.

5.0 CAPACITY ANALYSIS

To assess the quality of traffic operations, intersection capacity analyses were conducted with respect to 2024 Existing, 2026 No-Build, and 2026 Build traffic volume conditions. Capacity analyses provide an indication of how well the roadway facilities serve the traffic demands placed upon them. Roadway operating conditions are classified by calculated Level of Service (LOS). This chapter addresses intersection operations at the five (5) study area intersection locations.

LOS for an intersection is defined in terms of delay per vehicle and described as “a qualitative measure describing operational conditions within a traffic stream, based on service measures such as speed and travel time, freedom to maneuver, traffic interruptions, comfort, and convenience. Levels of service are given letter designations, from A to F, with LOS A representing the best operating condition and LOS F the worst.” by NYSDOT. Refer to Section 2 of this report for intersection Level of Service Range information.

Generally, overall, LOS D or better conditions are representative of desirable operations. However, these operational conditions are not always attainable due to physical constraints limiting the potential to add capacity at an intersection through a roadway network. Governing agencies may also choose to accept a reduced LOS and increased vehicle delays during peak periods to minimize environmental impacts associated with larger intersections. Larger intersections (intersections with more approach lanes) also take longer for pedestrians to navigate, thereby increasing pedestrian exposure time to vehicle conflict and reducing safety.

5.1 2024 EXISTING CONDITIONS

As shown in **Table 8**, the existing study intersections generally operate at LOS C or better. LOS conditions with below standard LOS E or F are highlighted in **red** (there are none).

Table 8				
OVERALL INTERSECTION LOS TABLE – 2024 EXISTING CONDITIONS				
Intersection / Movement	AM Peak Hour	PM Peak Hour	Friday Peak Hour	Saturday Peak Hour
1 Saddle River Road / Old Nyack Turnpike (Signal)				
WB LT/RT	B (15.3)	B (18.0)	C (30.3)	B (16.0)
NB TH/RT	A (9.7)	A (9.3)	A (8.0)	A (6.7)
SB LT/TH	B (14.4)	B (16.0)	C (20.9)	A (7.0)
Overall Intersection	B (13.6)	B (15.0)	C (21.1)	B (10.4)
2 Saddle River Road / Regina Road (Two-Way Stop-Controlled)				
EB LT/RT	B (12.3)	B (12.7)	B (14.0)	A (9.3)
NB LT	A (8.1)	A (8.0)	A (8.1)	A (7.6)
3 Saddle River Road / Margetts Road (Two-Way Stop-Controlled)				
WB LT/RT	B (14.0)	B (13.4)	C (22.0)	A (9.2)
SB LT	A (7.9)	A (8.0)	A (8.3)	A (7.3)
4 Saddle River Road / South Monsey Road (Two-Way Stop-Controlled)				
EB LT/RT	B (11.9)	B (13.9)	B (13.9)	A (9.1)
NB LT	A (7.9)	A (7.9)	A (8.0)	A (7.4)
5 Saddle River Road / Pine Brook Road (Two-Way Stop-Controlled)				
WB LT/RT	A (9.7)	B (11.3)	B (10.7)	A (9.3)
SB LT	A (7.6)	A (8.0)	A (7.8)	A (7.5)

Note: Peak Hour values: LOS (Delay in seconds)

5.2 2026 NO-BUILD CONDITIONS

As noted previously, the future 2026 No-Build traffic volumes represent a 1.0% per year background growth rate. As shown in **Table 9**, the intersections noted above will operate with generally good levels of service under the No-Build conditions. LOS conditions with below standard LOS E or F are highlighted in **red** (there are none).

Table 9				
OVERALL INTERSECTION LOS TABLE – 2026 NO-BUILD CONDITIONS				
Intersection / Movement	AM Peak Hour	PM Peak Hour	Friday Peak Hour	Saturday Peak Hour
1 Saddle River Road / Old Nyack Turnpike (Signal)				
WB LT/RT	B (15.8)	B (18.5)	C (33.3)	B (15.8)
NB TH/RT	A (9.6)	A (9.3)	A (7.8)	A (6.7)
SB LT/TH	B (14.5)	B (16.3)	C (22.7)	A (7.1)
Overall Intersection	B (13.8)	B (15.3)	C (22.9)	B (10.3)
2 Saddle River Road / Regina Road (Two-Way Stop-Controlled)				
WB LT/RT	B (12.8)	B (13.1)	B (14.6)	A (9.5)
SB LT	A (8.1)	A (8.0)	A (8.2)	A (7.6)
3 Saddle River Road / Margetts Road (Two-Way Stop-Controlled)				
WB LT/RT	B (14.3)	B (13.7)	C (23.4)	A (9.2)
SB LT	A (7.9)	A (8.0)	A (8.3)	A (7.3)
4 Saddle River Road / South Monsey Road (Two-Way Stop-Controlled)				
EB LT/RT	B (12.2)	B (14.2)	B (14.3)	A (9.2)
NB LT	A (7.9)	A (7.9)	A (8.1)	A (7.4)
5 Saddle River Road / Pine Brook Road (Two-Way Stop-Controlled)				
WB LT/RT	A (9.8)	B (11.7)	B (10.8)	A (9.3)
SB LT	A (7.6)	A (8.1)	A (7.9)	A (7.5)

Note: Peak Hour values: LOS (Delay in seconds)

5.3 2026 BUILD CONDITIONS

The existing volumes were grown to the year 2026 with additional traffic for other projects around the study area included to determine the 2026 No-Build volumes. The anticipated trips for the development areas were calculated and presented in **Chapter 4**.

The 2026 Build volumes were derived from distributing the anticipated trips through the study area intersections and adding those volumes to the 2026 No-Build volumes for the study. The background growth rate used to project the volumes was 1.0%.

Table 10 summarizes the results of the analysis of the 2026 Build and Build with improvement conditions. The Build with Improvements model includes the additional mitigation required to improve operations and maintain LOS D for the overall intersection or for intersection approaches controlled by a stop sign. LOS conditions with below standard LOS E or F are highlighted in **red** (there are none).

Table 10 OVERALL INTERSECTION LOS TABLE – 2026 BUILD CONDITIONS				
Intersection / Movement	AM Peak Hour	PM Peak Hour	Friday Peak Hour	Saturday Peak Hour
1 Saddle River Road / Old Nyack Turnpike (Signal)				
WB LT/RT	B (16.0)	B (18.7)	C (34.1)	B (15.8)
NB TH/RT	A (9.7)	A (9.3)	A (7.8)	A (6.7)
SB LT/TH	B (14.6)	B (16.4)	C (23.7)	A (7.1)
Overall Intersection	B (13.9)	B (15.4)	C (23.5)	B (10.3)
2 Saddle River Road / Regina Road (Two-Way Stop-Controlled)				
WB LT/RT	B (12.9)	B (13.2)	B (14.8)	A (9.5)
SB LT	A (8.1)	A (8.1)	A (8.2)	A (7.6)
3 Saddle River Road / Margetts Road (Two-Way Stop-Controlled)				
WB LT/RT	B (14.6)	B (14.1)	D (25.2)	A (9.3)
SB LT	A (7.9)	A (8.1)	A (8.3)	A (7.4)
4 Saddle River Road / South Monsey Road (Two-Way Stop-Controlled)				
EB LT/RT	B (12.6)	C (15.0)	C (15.2)	B (10.2)
NB LT	A (7.9)	A (8.0)	A (8.1)	A (7.7)
5 Saddle River Road / Pine Brook Road (Two-Way Stop-Controlled)				
WB LT/RT	A (9.9)	B (11.9)	B (10.9)	A (9.2)
SB LT	A (7.6)	A (8.1)	A (7.9)	A (7.4)
6 Saddle River Road / Site Driveway (North) (Two-Way Stop-Controlled)				
EB LT/RT	B (10.5)	B (11.3)	B (11.6)	A (9.1)
NB LT	A (7.8)	A (7.8)	A (8.0)	A (7.4)
7 Saddle River Road / Site Driveway (South) (Two-Way Stop-Controlled)				
EB LT/RT	B (10.5)	B (11.3)	B (11.6)	A (9.1)
NB LT	A (7.8)	A (7.8)	A (8.0)	A (7.4)

Note: Peak Hour values: LOS (Delay in seconds)

As shown in **Table 10**, the level of service for all intersections for all four peak hours show acceptable operating conditions for the 2026 Build conditions and therefore do not require any mitigation improvements.

6.0 CONCLUSIONS / RECOMMENDATIONS

M.J. Engineering and Land Surveying, P.C. (MJ) was contracted by Blue Rill Estates LLC, to conduct a traffic impact study (TIS) for the intersections of Saddle River Road / Old Nyack Turnpike, Saddle River Road / Regina Road, Saddle River Road / Margetts Road, Saddle River Road and South Monsey Road and Saddle River Road / Pinebrook Road in the Town of Ramapo and Village of Airmont, NY. The primary objective of this study was to evaluate the potential traffic impacts of the proposed senior housing development at 444 Saddle River Road and to ensure that these impacts do not adversely affect the operational efficiency of the intersections.

The analysis of the current traffic conditions, combined with the projected volumes for the year 2026 under the Future Build scenario, indicate that all five study intersections will continue to operate at acceptable levels of service during peak hours. Specifically, the projected traffic volumes will not cause any significant deterioration in intersection performance or exceed the capacity thresholds at these locations.

At the request of the Rockland County DPW, vehicle trips generated by the Blue Rill Estates development were distributed to the intersection of South Monsey Road with New Country Road and Christmas Hill Road. The intersection is 1.5 miles away from the proposed Blue Rill Development and an extremely small amount of traffic will pass through the intersection, as shown in the table below:

SOUTH MONSEY ROAD INTERSECTION WITH NEW COUNTRY AND CHRISTMAS HILL ROADS			
Time Period	Blue Rill Trips Generated	Total Intersection Volume	Percentage of Intersection Volume
Weekday AM	9	763	1.2%
Weekday PM	11	746	1.5%

The trips generated by the Blue Rill senior housing development passing through the intersection of South Monsey Road with New Country Road and Christmas Hill Road are so small they will have negligible effect on the intersection. No mitigation is necessary.

Considering these findings, we conclude that the proposed senior housing development will not necessitate any additional capacity-related mitigation measures at the study area intersections. The existing infrastructure is adequate to accommodate the anticipated traffic generated by the development, ensuring that operational conditions remain within acceptable parameters.

Recommendations:

- No Capacity Related Mitigation Required:** Based on the study results, no further improvements are required at the Saddle River Road / Old Nyack Turnpike, Saddle River Road / Regina Road, Saddle River Road / Margetts Road, Saddle River Road / South Monsey Road, Saddle River Road / Pinebrook Road and South Monsey Road / New Country Road / Christmas Hill Road intersections.
- Sight distance mitigation:** Due to the sight distance while looking left from the proposed southern site driveway falling slightly below the AASHTO recommended distance, it is recommended to install a W2-2 intersection warning sign and supplemental panel "DRIVEWAY" on southbound Saddle River Road, 200 feet in advance of the proposed southern site driveway. Also, it is recommended that any site signing associated with the proposed development be placed a minimum of fifteen feet back from the travel way and that the landscaping plan consider sight lines in order to maintain visibility at the proposed driveways.

3. **Pine Brook Road:** An existing westbound fixed object crash pattern exists, not related to the proposed Blue Rill Senior Housing development. Although Pine Brook Road is within the Village of Chestnut Ridge, the Town of Ramapo maintains the road. A letter will be sent to the Town of Ramapo, notifying them of our recommendation to install two advanced warning signs on Pine Brook Road:
 - a. 30"x30" W3-1 Stop Ahead sign, 200 feet east of the stop bar on Pine Brook Road
 - b. 30"x30" W8-5 slippery when wet sign 400 feet east of the stop bar on Pine Brook Road

By adhering to these recommendations, the Village of Airmont can ensure that the traffic impact of the proposed senior housing development remains manageable and does not adversely affect the efficiency of the local transportation network.

**Appendix A **

Existing Traffic Data

MJ Engineering and Land Surveying, PC

21 Corporate Drive
Clifton Park, NY 12065

File Name : MJ1587_AM_Int 1

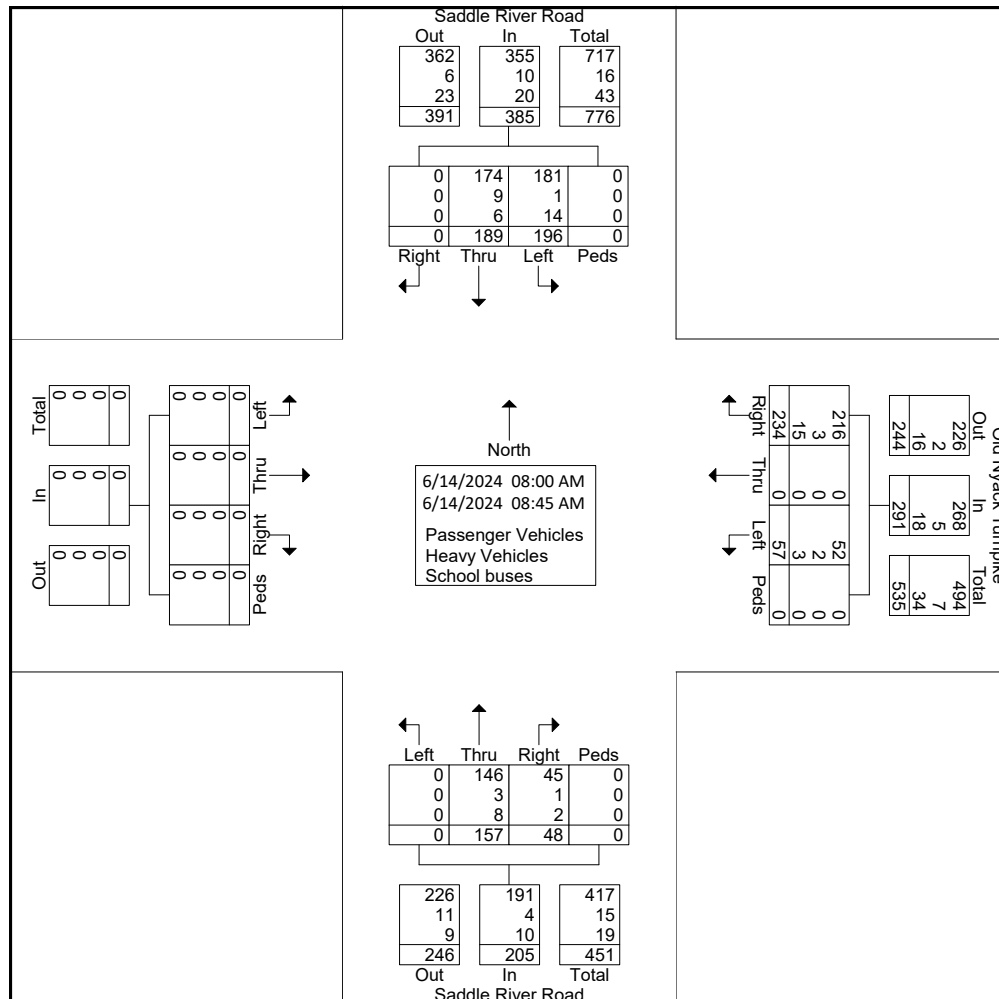
Site Code : 15870101

Start Date : 6/14/2024

Page No : 1

Groups Printed- Passenger Vehicles - Heavy Vehicles - School buses

	Saddle River Road Southbound					Old Nyack Turnpike Westbound					Saddle River Road Northbound					Eastbound					
Start Time	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
08:00 AM	37	41	0	0	78	12	0	37	0	49	0	40	4	0	44	0	0	0	0	0	171
08:15 AM	48	50	0	0	98	18	0	71	0	89	0	36	14	0	50	0	0	0	0	0	237
08:30 AM	51	46	0	0	97	10	0	62	0	72	0	41	14	0	55	0	0	0	0	0	224
08:45 AM	60	52	0	0	112	17	0	64	0	81	0	40	16	0	56	0	0	0	0	0	249
Total	196	189	0	0	385	57	0	234	0	291	0	157	48	0	205	0	0	0	0	0	881
Grand Total	196	189	0	0	385	57	0	234	0	291	0	157	48	0	205	0	0	0	0	0	881
Apprch %	50.9	49.1	0	0		19.6	0	80.4	0		0	76.6	23.4	0		0	0	0	0		
Total %	22.2	21.5	0	0	43.7	6.5	0	26.6	0	33	0	17.8	5.4	0	23.3	0	0	0	0	0	
Passenger Vehicles	181	174	0	0	355	52	0	216	0	268	0	146	45	0	191	0	0	0	0	0	814
% Passenger Vehicles	92.3	92.1	0	0	92.2	91.2	0	92.3	0	92.1	0	93	93.8	0	93.2	0	0	0	0	0	92.4
Heavy Vehicles	1	9	0	0	10	2	0	3	0	5	0	3	1	0	4	0	0	0	0	0	19
% Heavy Vehicles	0.5	4.8	0	0	2.6	3.5	0	1.3	0	1.7	0	1.9	2.1	0	2	0	0	0	0	0	2.2
School buses	14	6	0	0	20	3	0	15	0	18	0	8	2	0	10	0	0	0	0	0	48
% School buses	7.1	3.2	0	0	5.2	5.3	0	6.4	0	6.2	0	5.1	4.2	0	4.9	0	0	0	0	0	5.4



MJ Engineering and Land Surveying, PC

21 Corporate Drive
Clifton Park, NY 12065

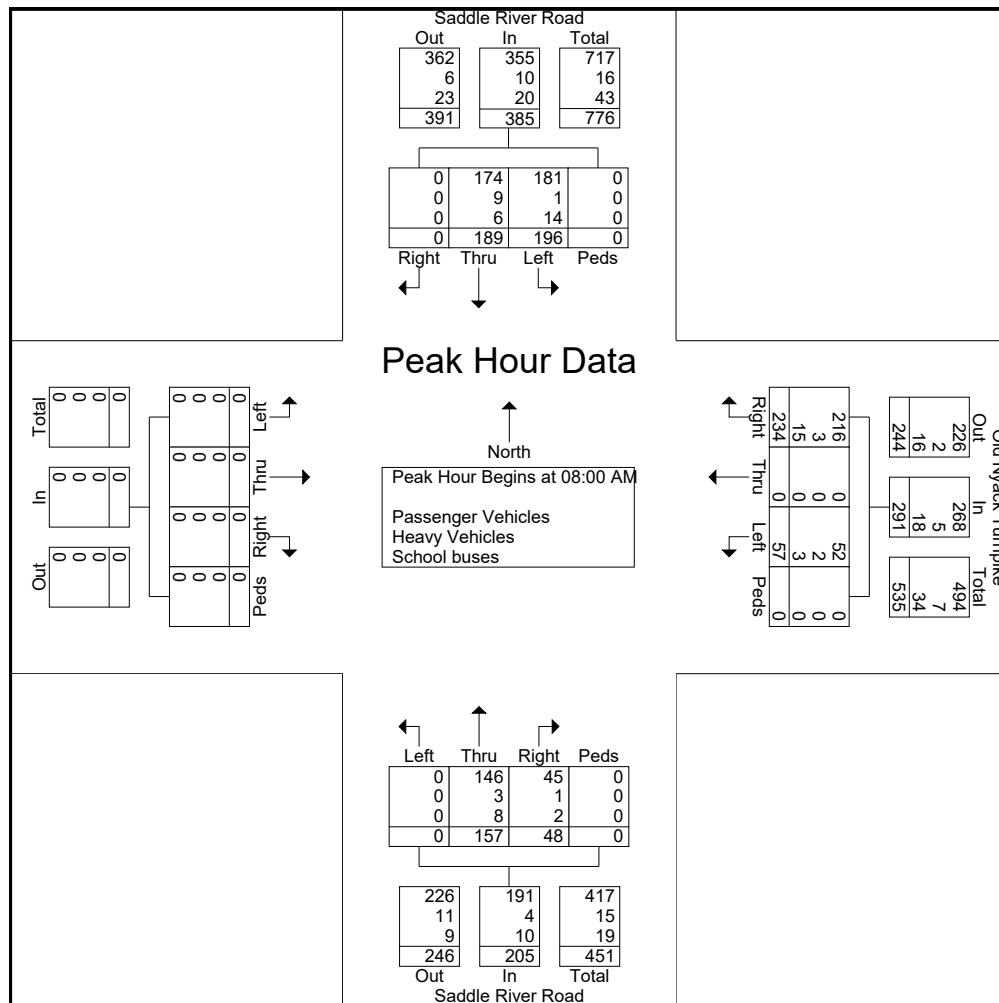
File Name : MJ1587_AM_Int 1

Site Code : 15870101

Start Date : 6/14/2024

Page No : 2

	Saddle River Road Southbound					Old Nyack Turnpike Westbound					Saddle River Road Northbound					Eastbound					
Start Time	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
Peak Hour Analysis From 8:00:00 AM to 8:45:00 AM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 8:00:00 AM																					
8:00:00 AM	37	41	0	0	78	12	0	37	0	49	0	40	4	0	44	0	0	0	0	0	171
8:15:00 AM	48	50	0	0	98	18	0	71	0	89	0	36	14	0	50	0	0	0	0	0	237
8:30:00 AM	51	46	0	0	97	10	0	62	0	72	0	41	14	0	55	0	0	0	0	0	224
8:45:00 AM	60	52	0	0	112	17	0	64	0	81	0	40	16	0	56	0	0	0	0	0	249
Total Volume	196	189	0	0	385	57	0	234	0	291	0	157	48	0	205	0	0	0	0	0	881
% App. Total	50.9	49.1	0	0		19.6	0	80.4	0		0	76.6	23.4	0		0	0	0	0	0	
PHF	.817	.909	.000	.000	.859	.792	.000	.824	.000	.817	.000	.957	.750	.000	.915	.000	.000	.000	.000	.000	.885
Passenger Vehicles	181	174	0	0	355	52	0	216	0	268	0	146	45	0	191	0	0	0	0	0	814
% Passenger Vehicles	92.3	92.1	0	0	92.2	91.2	0	92.3	0	92.1	0	93.0	93.8	0	93.2	0	0	0	0	0	92.4
Heavy Vehicles	1	9	0	0	10	2	0	3	0	5	0	3	1	0	4	0	0	0	0	0	19
% Heavy Vehicles	0.5	4.8	0	0	2.6	3.5	0	1.3	0	1.7	0	1.9	2.1	0	2.0	0	0	0	0	0	2.2
School buses	14	6	0	0	20	3	0	15	0	18	0	8	2	0	10	0	0	0	0	0	48
% School buses	7.1	3.2	0	0	5.2	5.3	0	6.4	0	6.2	0	5.1	4.2	0	4.9	0	0	0	0	0	5.4



MJ Engineering and Land Surveying, PC

21 Corporate Drive
Clifton Park, NY 12065

File Name : MJ1587_AM_Int 2

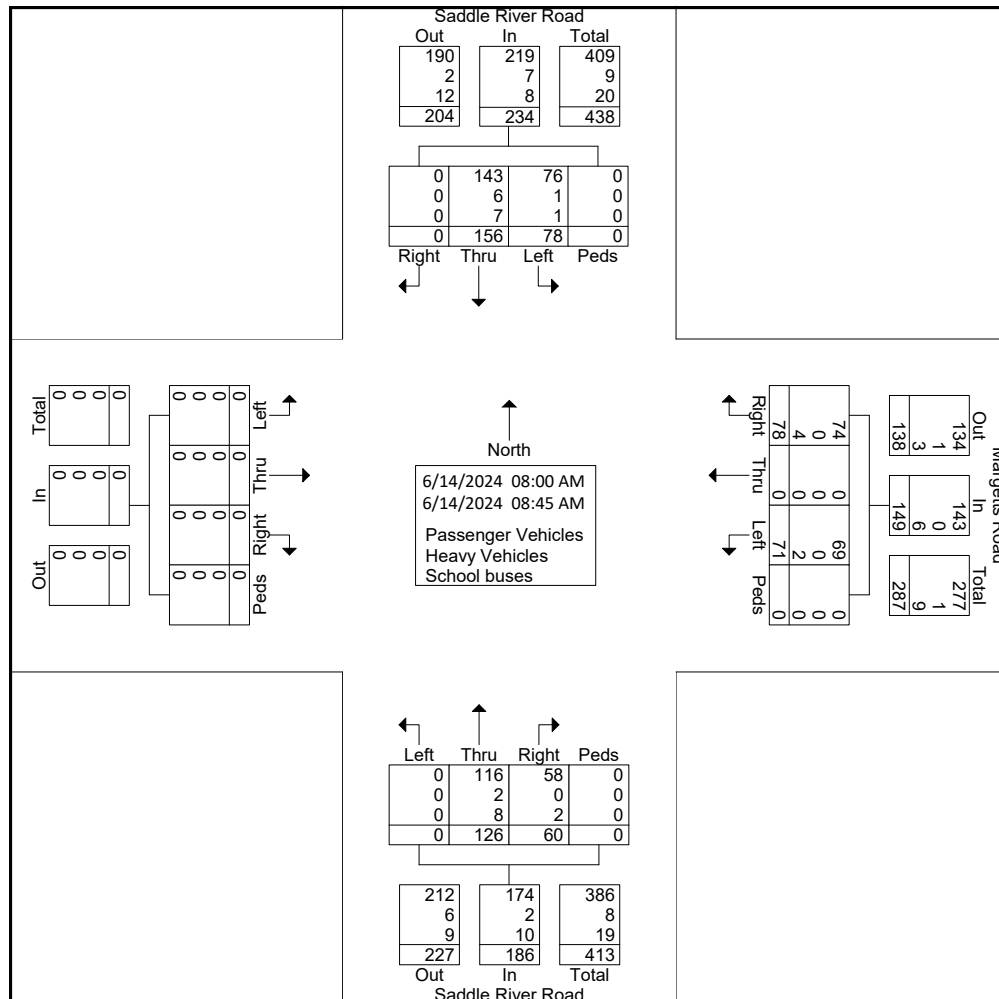
Site Code : 15870201

Start Date : 6/14/2024

Page No : 1

Groups Printed- Passenger Vehicles - Heavy Vehicles - School buses

	Saddle River Road Southbound					Margetts Road Westbound					Saddle River Road Northbound					Eastbound					
Start Time	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
08:00 AM	24	39	0	0	63	14	0	16	0	30	0	31	9	0	40	0	0	0	0	0	133
08:15 AM	15	39	0	0	54	25	0	19	0	44	0	30	12	0	42	0	0	0	0	0	140
08:30 AM	18	29	0	0	47	15	0	25	0	40	0	29	22	0	51	0	0	0	0	0	138
08:45 AM	21	49	0	0	70	17	0	18	0	35	0	36	17	0	53	0	0	0	0	0	158
Total	78	156	0	0	234	71	0	78	0	149	0	126	60	0	186	0	0	0	0	0	569
Grand Total	78	156	0	0	234	71	0	78	0	149	0	126	60	0	186	0	0	0	0	0	569
Apprch %	33.3	66.7	0	0		47.7	0	52.3	0		0	67.7	32.3	0		0	0	0	0		
Total %	13.7	27.4	0	0	41.1	12.5	0	13.7	0	26.2	0	22.1	10.5	0	32.7	0	0	0	0	0	
Passenger Vehicles	76	143	0	0	219	69	0	74	0	143	0	116	58	0	174	0	0	0	0	0	536
% Passenger Vehicles	97.4	91.7	0	0	93.6	97.2	0	94.9	0	96	0	92.1	96.7	0	93.5	0	0	0	0	0	94.2
Heavy Vehicles	1	6	0	0	7	0	0	0	0	0	0	2	0	0	2	0	0	0	0	0	9
% Heavy Vehicles	1.3	3.8	0	0	3	0	0	0	0	0	0	1.6	0	0	1.1	0	0	0	0	0	1.6
School buses	1	7	0	0	8	2	0	4	0	6	0	8	2	0	10	0	0	0	0	0	24
% School buses	1.3	4.5	0	0	3.4	2.8	0	5.1	0	4	0	6.3	3.3	0	5.4	0	0	0	0	0	4.2



MJ Engineering and Land Surveying, PC

21 Corporate Drive
Clifton Park, NY 12065

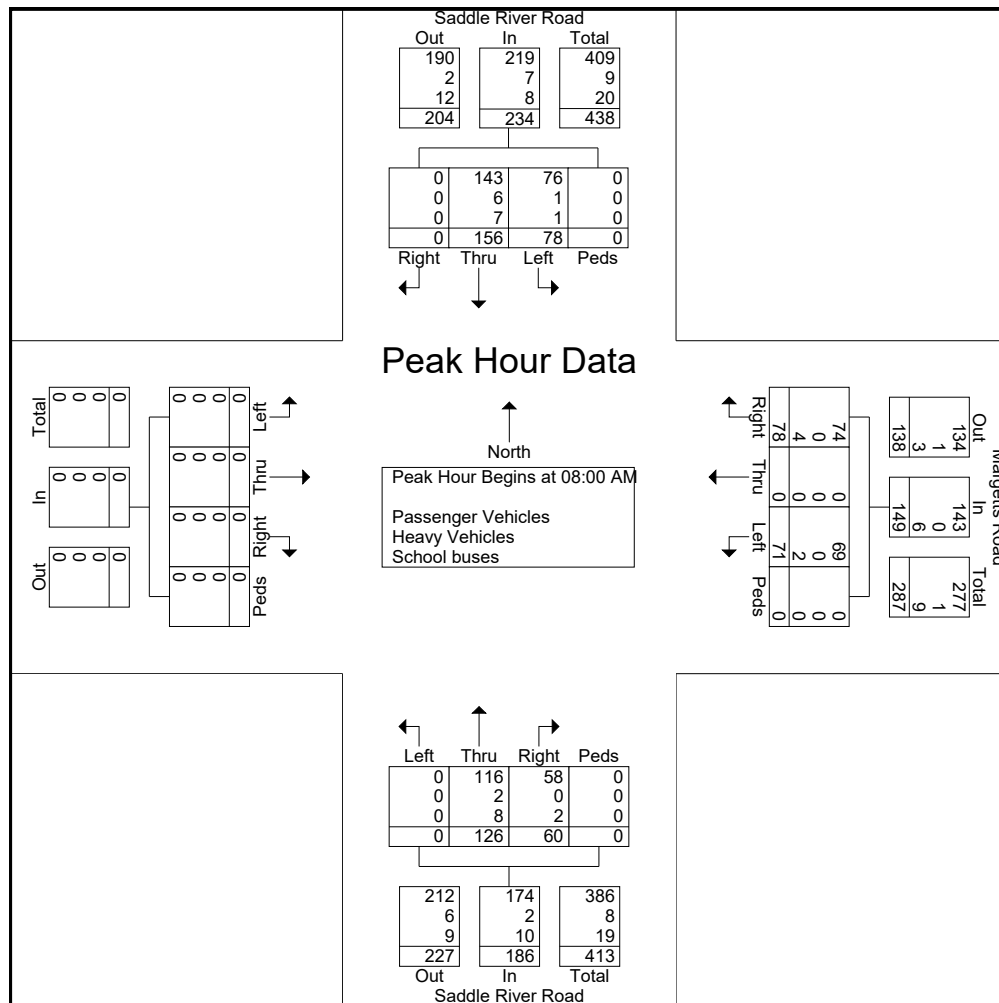
File Name : MJ1587_AM_Int 2

Site Code : 15870201

Start Date : 6/14/2024

Page No : 2

	Saddle River Road Southbound					Margetts Road Westbound					Saddle River Road Northbound					Eastbound					
Start Time	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
Peak Hour Analysis From 8:00:00 AM to 8:45:00 AM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 8:00:00 AM																					
8:00:00 AM	24	39	0	0	63	14	0	16	0	30	0	31	9	0	40	0	0	0	0	0	133
8:15:00 AM	15	39	0	0	54	25	0	19	0	44	0	30	12	0	42	0	0	0	0	0	140
8:30:00 AM	18	29	0	0	47	15	0	25	0	40	0	29	22	0	51	0	0	0	0	0	138
8:45:00 AM	21	49	0	0	70	17	0	18	0	35	0	36	17	0	53	0	0	0	0	0	158
Total Volume	78	156	0	0	234	71	0	78	0	149	0	126	60	0	186	0	0	0	0	0	569
% App. Total	33.3	66.7	0	0		47.7	0	52.3	0		0	67.7	32.3	0		0	0	0	0	0	
PHF	.813	.796	.000	.000	.836	.710	.000	.780	.000	.847	.000	.875	.682	.000	.877	.000	.000	.000	.000	.000	.900
Passenger Vehicles	76	143	0	0	219	69	0	74	0	143	0	116	58	0	174	0	0	0	0	0	536
% Passenger Vehicles	97.4	91.7	0	0	93.6	97.2	0	94.9	0	96.0	0	92.1	96.7	0	93.5	0	0	0	0	0	94.2
Heavy Vehicles	1	6	0	0	7	0	0	0	0	0	0	2	0	0	2	0	0	0	0	0	9
% Heavy Vehicles	1.3	3.8	0	0	3.0	0	0	0	0	0	0	1.6	0	0	1.1	0	0	0	0	0	1.6
School buses	1	7	0	0	8	2	0	4	0	6	0	8	2	0	10	0	0	0	0	0	24
% School buses	1.3	4.5	0	0	3.4	2.8	0	5.1	0	4.0	0	6.3	3.3	0	5.4	0	0	0	0	0	4.2



MJ Engineering and Land Surveying, PC

21 Corporate Drive
Clifton Park, NY 12065

File Name : MJ1587_AM_Int 3

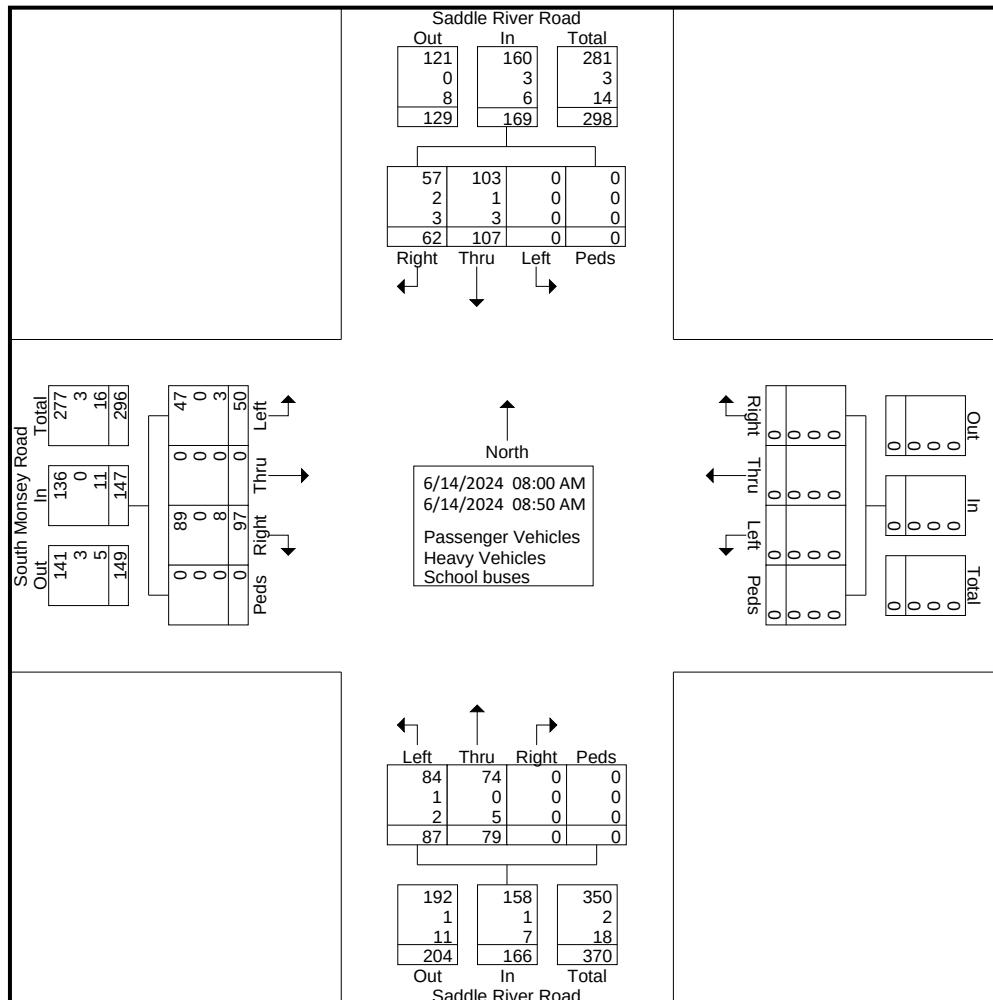
Site Code : 15870301

Start Date : 6/14/2024

Page No : 1

Groups Printed- Passenger Vehicles - Heavy Vehicles - School buses

	Saddle River Road Southbound					Westbound					Saddle River Road Northbound					South Monsey Road Eastbound					
Start Time	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
08:00 AM	0	12	15	0	27	0	0	0	0	0	8	10	0	0	18	3	0	8	0	11	56
08:10 AM	0	23	8	0	31	0	0	0	0	0	14	5	0	0	19	12	0	15	0	27	77
08:20 AM	0	18	16	0	34	0	0	0	0	0	17	11	0	0	28	6	0	20	0	26	88
08:30 AM	0	13	4	0	17	0	0	0	0	0	16	18	0	0	34	11	0	16	0	27	78
08:40 AM	0	15	8	0	23	0	0	0	0	0	19	16	0	0	35	7	0	17	0	24	82
08:50 AM	0	26	11	0	37	0	0	0	0	0	13	19	0	0	32	11	0	21	0	32	101
Grand Total	0	107	62	0	169	0	0	0	0	0	87	79	0	0	166	50	0	97	0	147	482
Apprch %	0	63.3	36.7	0		0	0	0	0		52.4	47.6	0	0		34	0	66	0		
Total %	0	22.2	12.9	0	35.1	0	0	0	0	0	18	16.4	0	0	34.4	10.4	0	20.1	0	30.5	
Passenger Vehicles	0	103	57	0	160	0	0	0	0	0	84	74	0	0	158	47	0	89	0	136	454
% Passenger Vehicles	0	96.3	91.9	0	94.7	0	0	0	0	0	96.6	93.7	0	0	95.2	94	0	91.8	0	92.5	94.2
Heavy Vehicles	0	1	2	0	3	0	0	0	0	0	1	0	0	0	1	0	0	0	0	0	4
% Heavy Vehicles	0	0.9	3.2	0	1.8	0	0	0	0	0	1.1	0	0	0	0.6	0	0	0	0	0	0.8
School buses	0	3	3	0	6	0	0	0	0	0	2	5	0	0	7	3	0	8	0	11	24
% School buses	0	2.8	4.8	0	3.6	0	0	0	0	0	2.3	6.3	0	0	4.2	6	0	8.2	0	7.5	5



MJ Engineering and Land Surveying, PC

21 Corporate Drive
Clifton Park, NY 12065

File Name : MJ1587_AM_Int 4

Site Code : 15870401

Start Date : 6/14/2024

Page No : 1

Groups Printed- Passenger Vehicles - Heavy Vehicles - School buses

	Saddle River Road Southbound					Pine Brook Road Westbound					Saddle River Road Northbound					Eastbound					
Start Time	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
08:00 AM	17	22	0	0	39	4	0	14	0	18	0	12	6	0	18	0	0	0	0	0	75
08:15 AM	16	40	0	0	56	4	0	27	0	31	0	13	4	0	17	0	0	0	0	0	104
08:30 AM	20	26	0	0	46	1	0	18	0	19	0	25	2	0	27	0	0	0	0	0	92
08:45 AM	29	41	0	0	70	1	0	31	0	32	0	26	2	0	28	0	0	0	0	0	130
Total	82	129	0	0	211	10	0	90	0	100	0	76	14	0	90	0	0	0	0	0	401
Grand Total	82	129	0	0	211	10	0	90	0	100	0	76	14	0	90	0	0	0	0	0	401
Apprch %	38.9	61.1	0	0		10	0	90	0		0	84.4	15.6	0		0	0	0	0		
Total %	20.4	32.2	0	0	52.6	2.5	0	22.4	0	24.9	0	19	3.5	0	22.4	0	0	0	0	0	
Passenger Vehicles	72	120	0	0	192	10	0	80	0	90	0	71	13	0	84	0	0	0	0	0	366
% Passenger Vehicles	87.8	93	0	0	91	100	0	88.9	0	90	0	93.4	92.9	0	93.3	0	0	0	0	0	91.3
Heavy Vehicles	1	6	0	0	7	0	0	4	0	4	0	4	0	0	4	0	0	0	0	0	15
% Heavy Vehicles	1.2	4.7	0	0	3.3	0	0	4.4	0	4	0	5.3	0	0	4.4	0	0	0	0	0	3.7
School buses	9	3	0	0	12	0	0	6	0	6	0	1	1	0	2	0	0	0	0	0	20
% School buses	11	2.3	0	0	5.7	0	0	6.7	0	6	0	1.3	7.1	0	2.2	0	0	0	0	0	5

MJ Engineering and Land Surveying, PC

21 Corporate Drive
Clifton Park, NY 12065

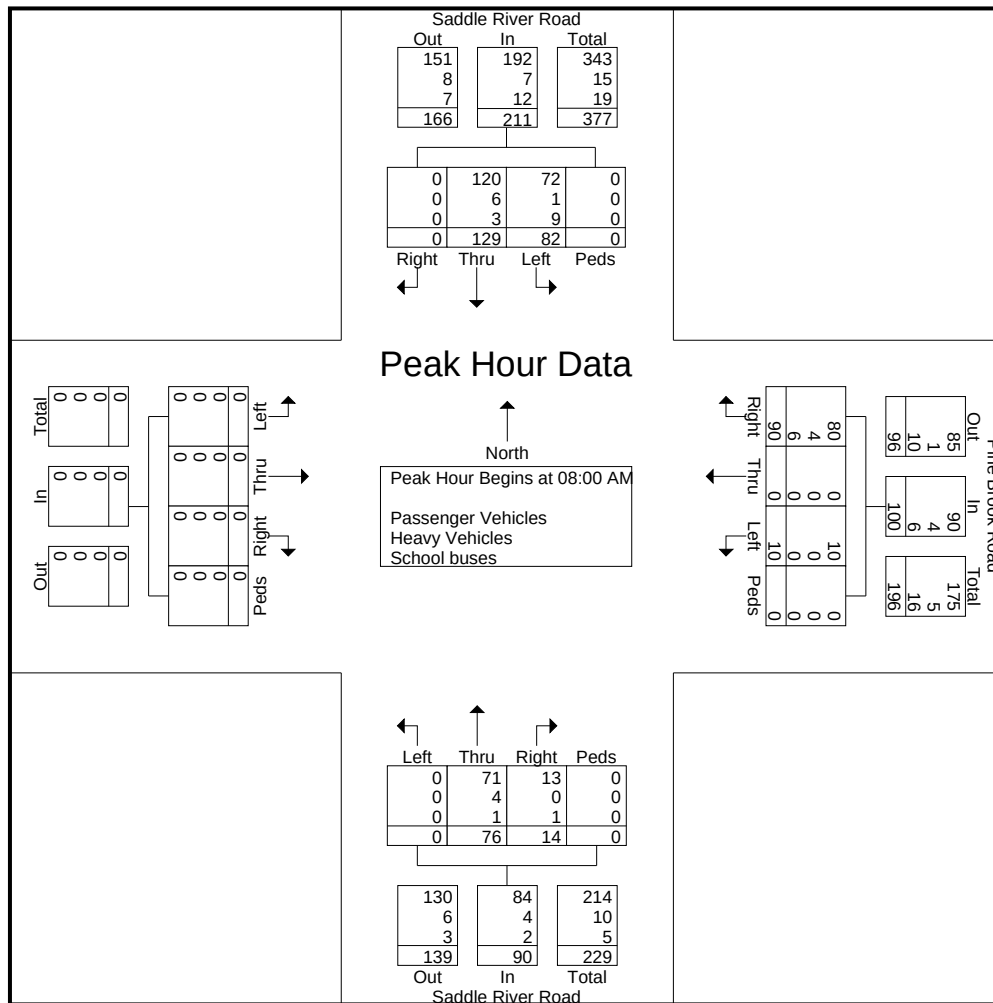
File Name : MJ1587_AM_Int 4

Site Code : 15870401

Start Date : 6/14/2024

Page No : 2

	Saddle River Road Southbound					Pine Brook Road Westbound					Saddle River Road Northbound					Eastbound					
Start Time	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
Peak Hour Analysis From 08:00 AM to 08:45 AM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 08:00 AM																					
08:00 AM	17	22	0	0	39	4	0	14	0	18	0	12	6	0	18	0	0	0	0	0	75
08:15 AM	16	40	0	0	56	4	0	27	0	31	0	13	4	0	17	0	0	0	0	0	104
08:30 AM	20	26	0	0	46	1	0	18	0	19	0	25	2	0	27	0	0	0	0	0	92
08:45 AM	29	41	0	0	70	1	0	31	0	32	0	26	2	0	28	0	0	0	0	0	130
Total Volume	82	129	0	0	211	10	0	90	0	100	0	76	14	0	90	0	0	0	0	0	401
% App. Total	38.9	61.1	0	0		10	0	90	0		0	84.4	15.6	0		0	0	0	0	0	
PHF	.707	.787	.000	.000	.754	.625	.000	.726	.000	.781	.000	.731	.583	.000	.804	.000	.000	.000	.000	.000	.771
Passenger Vehicles	72	120	0	0	192	10	0	80	0	90	0	71	13	0	84	0	0	0	0	0	366
% Passenger Vehicles	87.8	93.0	0	0	91.0	100	0	88.9	0	90.0	0	93.4	92.9	0	93.3	0	0	0	0	0	91.3
Heavy Vehicles	1	6	0	0	7	0	0	4	0	4	0	4	0	0	4	0	0	0	0	0	15
% Heavy Vehicles	1.2	4.7	0	0	3.3	0	0	4.4	0	4.0	0	5.3	0	0	4.4	0	0	0	0	0	3.7
School buses	9	3	0	0	12	0	0	6	0	6	0	1	1	0	2	0	0	0	0	0	20
% School buses	11.0	2.3	0	0	5.7	0	0	6.7	0	6.0	0	1.3	7.1	0	2.2	0	0	0	0	0	5.0



MJ Engineering and Land Surveying, PC

21 Corporate Drive
Clifton Park, NY 12065

File Name : MJ1587_PM_Int 1

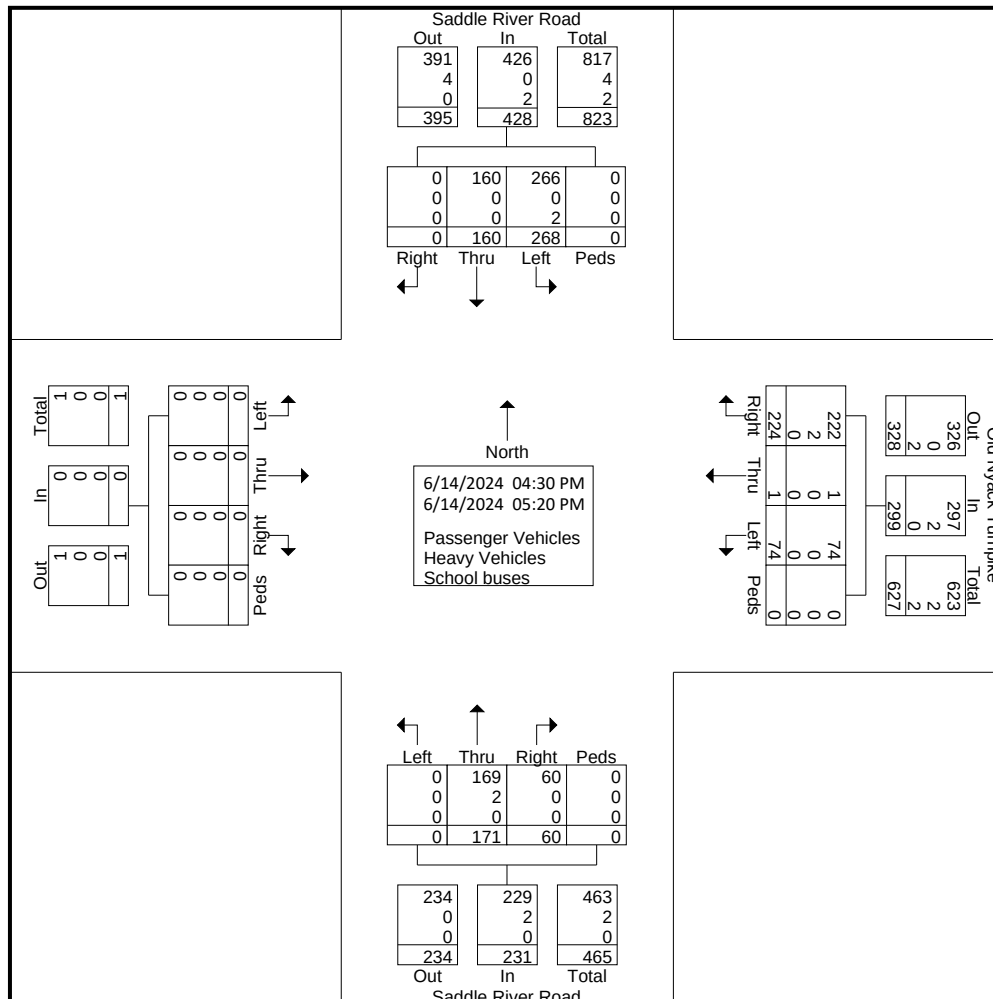
Site Code : 00158722

Start Date : 6/14/2024

Page No : 1

Groups Printed- Passenger Vehicles - Heavy Vehicles - School buses

	Saddle River Road Southbound					Old Nyack Turnpike Westbound					Saddle River Road Northbound					Eastbound					
Start Time	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
04:30 PM	36	33	0	0	69	14	0	37	0	51	0	27	9	0	36	0	0	0	0	0	156
04:40 PM	33	25	0	0	58	11	0	38	0	49	0	21	8	0	29	0	0	0	0	0	136
04:50 PM	32	20	0	0	52	12	0	35	0	47	0	26	9	0	35	0	0	0	0	0	134
05:00 PM	46	26	0	0	72	11	0	33	0	44	0	34	10	0	44	0	0	0	0	0	160
05:10 PM	61	24	0	0	85	15	1	32	0	48	0	28	7	0	35	0	0	0	0	0	168
05:20 PM	60	32	0	0	92	11	0	49	0	60	0	35	17	0	52	0	0	0	0	0	204
Total	268	160	0	0	428	74	1	224	0	299	0	171	60	0	231	0	0	0	0	0	958
Grand Total	268	160	0	0	428	74	1	224	0	299	0	171	60	0	231	0	0	0	0	0	958
Apprch %	62.6	37.4	0	0		24.7	0.3	74.9	0		0	74	26	0		0	0	0	0		
Total %	28	16.7	0	0	44.7	7.7	0.1	23.4	0	31.2	0	17.8	6.3	0	24.1	0	0	0	0	0	
Passenger Vehicles	266	160	0	0	426	74	1	222	0	297	0	169	60	0	229	0	0	0	0	0	952
% Passenger Vehicles	99.3	100	0	0	99.5	100	100	99.1	0	99.3	0	98.8	100	0	99.1	0	0	0	0	0	99.4
Heavy Vehicles	0	0	0	0	0	0	0	2	0	2	0	2	0	0	2	0	0	0	0	0	4
% Heavy Vehicles	0	0	0	0	0	0	0	0.9	0	0.7	0	1.2	0	0	0.9	0	0	0	0	0	0.4
School buses	2	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2
% School buses	0.7	0	0	0	0.5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.2



MJ Engineering and Land Surveying, PC

21 Corporate Drive
Clifton Park, NY 12065

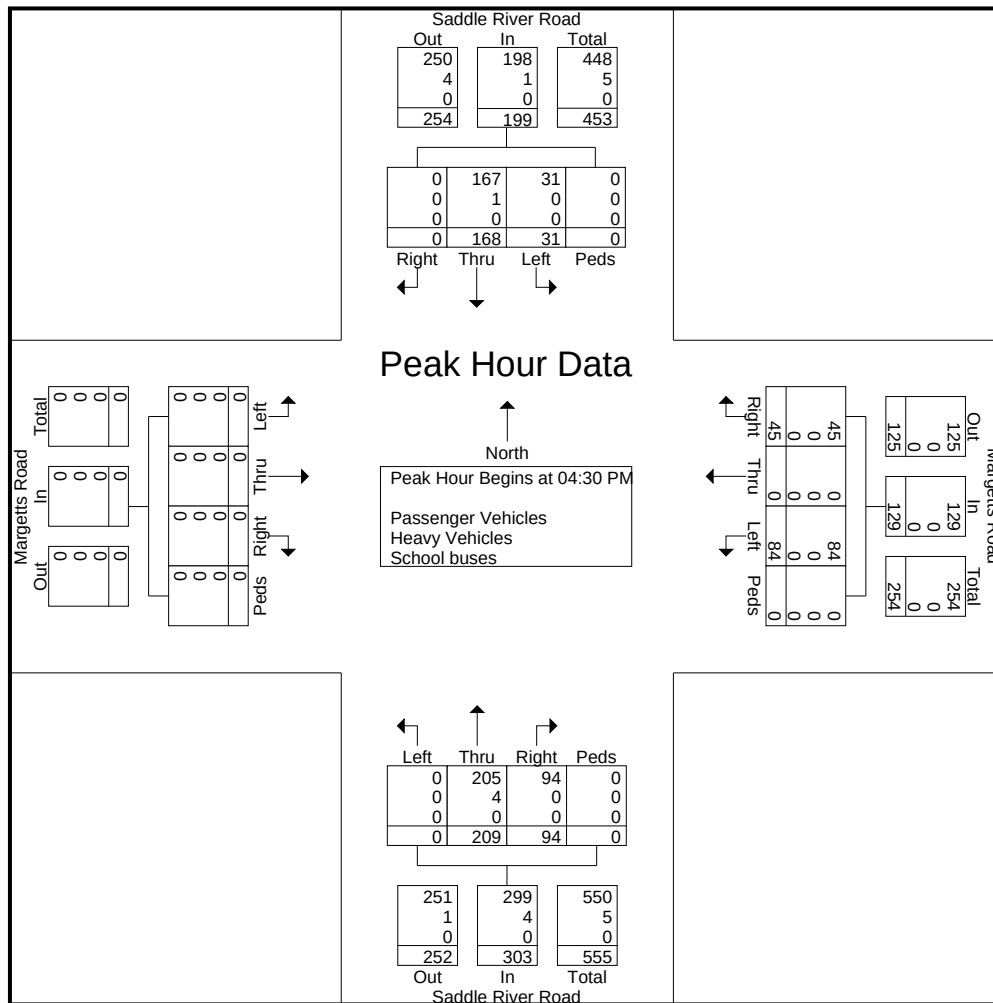
File Name : MJ1587_PM_Int 2

Site Code : 00158722

Start Date : 6/14/2024

Page No : 2

	Saddle River Road Southbound					Margetts Road Westbound					Saddle River Road Northbound					Margetts Road Eastbound					
Start Time	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
Peak Hour Analysis From 04:30 PM to 05:15 PM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 04:30 PM																					
04:30 PM	11	44	0	0	55	17	0	18	0	35	0	40	24	0	64	0	0	0	0	0	154
04:45 PM	8	42	0	0	50	21	0	5	0	26	0	58	10	0	68	0	0	0	0	0	144
05:00 PM	7	49	0	0	56	26	0	11	0	37	0	49	30	0	79	0	0	0	0	0	172
05:15 PM	5	33	0	0	38	20	0	11	0	31	0	62	30	0	92	0	0	0	0	0	161
Total Volume	31	168	0	0	199	84	0	45	0	129	0	209	94	0	303	0	0	0	0	0	631
% App. Total	15.6	84.4	0	0		65.1	0	34.9	0		0	69	31	0		0	0	0	0	0	
PHF	.705	.857	.000	.000	.888	.808	.000	.625	.000	.872	.000	.843	.783	.000	.823	.000	.000	.000	.000	.000	.917
Passenger Vehicles	31	167	0	0	198	84	0	45	0	129	0	205	94	0	299	0	0	0	0	0	626
% Passenger Vehicles	100	99.4	0	0	99.5	100	0	100	0	100	0	98.1	100	0	98.7	0	0	0	0	0	99.2
Heavy Vehicles	0	1	0	0	1	0	0	0	0	0	0	4	0	0	4	0	0	0	0	0	5
% Heavy Vehicles	0	0.6	0	0	0.5	0	0	0	0	0	0	1.9	0	0	1.3	0	0	0	0	0	0.8
School buses	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% School buses	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0



MJ Engineering and Land Surveying, PC

21 Corporate Drive
Clifton Park, NY 12065

File Name : MJ1587_PM_Int 3

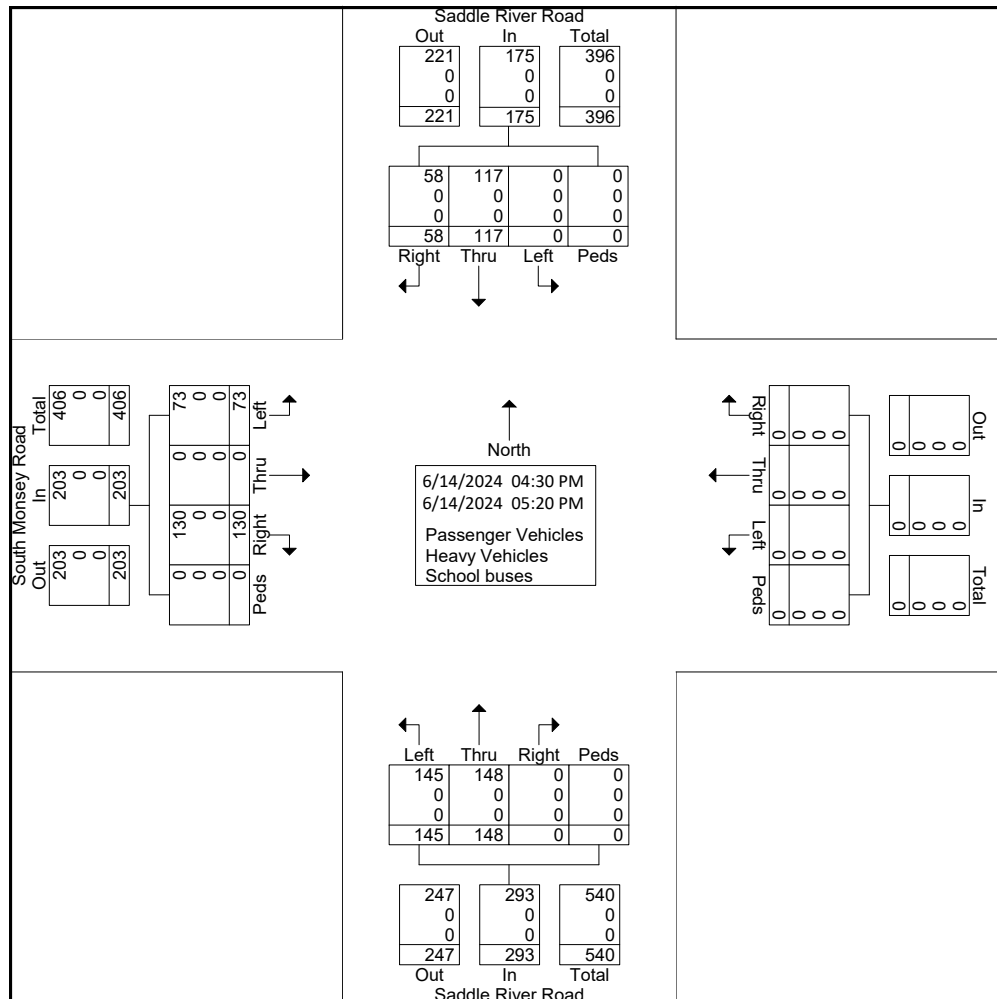
Site Code : 15870302

Start Date : 6/14/2024

Page No : 1

Groups Printed- Passenger Vehicles - Heavy Vehicles - School buses

	Saddle River Road Southbound					Westbound					Saddle River Road Northbound					South Monsey Road Eastbound					
Start Time	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
04:30 PM	0	20	11	0	31	0	0	0	0	0	30	22	0	0	52	12	0	23	0	35	118
04:40 PM	0	18	12	0	30	0	0	0	0	0	31	30	0	0	61	7	0	24	0	31	122
04:50 PM	0	24	4	0	28	0	0	0	0	0	21	24	0	0	45	10	0	13	0	23	96
05:00 PM	0	22	13	0	35	0	0	0	0	0	22	17	0	0	39	7	0	25	0	32	106
05:10 PM	0	18	6	0	24	0	0	0	0	0	20	25	0	0	45	20	0	23	0	43	112
05:20 PM	0	15	12	0	27	0	0	0	0	0	21	30	0	0	51	17	0	22	0	39	117
Grand Total	0	117	58	0	175	0	0	0	0	0	145	148	0	0	293	73	0	130	0	203	671
Apprch %	0	66.9	33.1	0		0	0	0	0		49.5	50.5	0	0		36	0	64	0		
Total %	0	17.4	8.6	0	26.1	0	0	0	0	0	21.6	22.1	0	0	43.7	10.9	0	19.4	0	30.3	
Passenger Vehicles	0	117	58	0	175	0	0	0	0	0	145	148	0	0	293	73	0	130	0	203	671
% Passenger Vehicles	0	100	100	0	100	0	0	0	0	0	100	100	0	0	100	100	0	100	0	100	100
Heavy Vehicles	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% Heavy Vehicles	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
School buses	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% School buses	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0



[illegible]

MJ Engineering and Land Surveying, PC

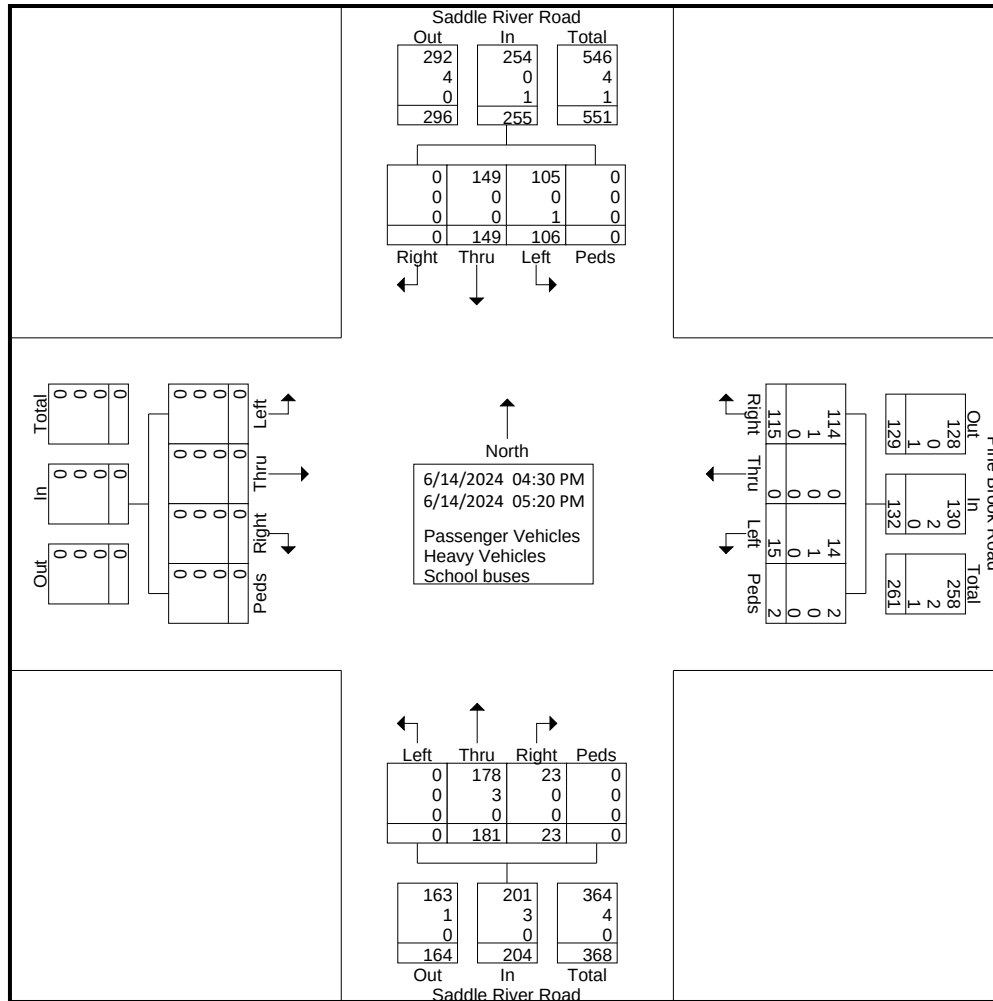
21 Corporate Drive
Clifton Park, NY 12065

File Name : MJ1587_PM_Int 4

Site Code : 15870402

Start Date : 6/14/2024

Page No : 2



TOTALS TURNING MOVEMENT COUNT - SUMMARY

Intersection of: CR73 Saddle River Road
and: Old Nyack Turnpike
Location: Airmont, New York

Counted by: VCU
Date: June 14, 2024
Weather: Hot/Cloudy
Entered by: JLH

Friday



Star Rating: 5

TIME	TRAFFIC FROM NORTH on: CR73 Saddle River Road					TRAFFIC FROM SOUTH on: CR73 Saddle River Road					TRAFFIC FROM EAST on: Old Nyack Turnpike					TRAFFIC FROM WEST on: Driveway					TOTAL N + S + E + W
	LEFT	THRU	RIGHT	UTURN	TOTAL	LEFT	THRU	RIGHT	UTURN	TOTAL	LEFT	THRU	RIGHT	UTURN	TOTAL	LEFT	THRU	RIGHT	UTURN	TOTAL	
AM																					
11:00 - 11:15	50	61	2	0	113	0	44	15	0	59	17	1	50	0	68	0	1	0	0	1	241
11:15 - 11:30	52	45	0	0	97	0	50	11	0	61	12	0	58	0	70	0	0	0	0	0	228
11:30 - 11:45	56	58	0	0	114	0	51	12	0	63	19	0	62	0	81	0	0	0	0	0	258
11:45 - 12:00	52	34	0	0	86	0	51	15	0	66	18	0	62	0	80	0	1	0	0	1	233
12:00 - 12:15	68	49	1	0	118	0	49	16	0	65	27	1	72	0	100	0	1	0	0	1	284
12:15 - 12:30	68	51	0	0	119	0	56	18	0	74	19	0	76	0	95	0	0	0	0	0	288
12:30 - 12:45	87	54	2	0	143	0	55	21	0	76	22	0	98	0	120	0	1	0	0	1	340
12:45 - 1:00	84	57	1	0	142	0	54	20	0	74	29	0	78	0	107	5	0	0	0	5	328
1:00 - 1:15	85	53	0	0	138	0	53	22	0	75	17	0	81	0	98	0	0	0	0	0	311
1:15 - 1:30	80	52	1	0	133	0	45	17	0	62	21	1	79	0	101	1	0	0	0	1	297
1:30 - 1:45	87	54	0	0	141	0	44	21	0	65	22	0	71	0	93	1	1	1	0	3	302
1:45 - 2:00	90	64	0	0	154	0	62	25	0	87	22	0	79	0	101	0	0	0	0	0	342
3 Hr Totals	859	632	7	0	1498	0	614	213	0	827	245	3	866	0	1114	7	5	1	0	13	3452
1 Hr Totals																					
11:00 - 12:00	210	198	2	0	410	0	196	53	0	249	66	1	232	0	299	0	2	0	0	2	960
11:15 - 12:15	228	186	1	0	415	0	201	54	0	255	76	1	254	0	331	0	2	0	0	2	1003
11:30 - 12:30	244	192	1	0	437	0	207	61	0	268	83	1	272	0	356	0	2	0	0	2	1063
11:45 - 12:45	275	188	3	0	466	0	211	70	0	281	86	1	308	0	395	0	3	0	0	3	1145
12:00 - 1:00	307	211	4	0	522	0	214	75	0	289	97	1	324	0	422	5	2	0	0	7	1240
12:15 - 1:15	324	215	3	0	542	0	218	81	0	299	87	0	333	0	420	5	1	0	0	6	1267
12:30 - 1:30	336	216	4	0	556	0	207	80	0	287	89	1	336	0	426	6	1	0	0	7	1276
12:45 - 1:45	336	216	2	0	554	0	196	80	0	276	89	1	309	0	399	7	1	1	0	9	1238
1:00 - 2:00	342	223	1	0	566	0	204	85	0	289	82	1	310	0	393	2	1	1	0	4	1252
PEAK HOUR																					
12:30 - 1:30	336	216	4	0	556	0	207	80	0	287	89	1	336	0	426	6	1	0	0	7	1276

TOTALS TURNING MOVEMENT COUNT - SUMMARY

Intersection of: CR73 Saddle River Road
and: Margetts Road
Location: Airmont, New York

Counted by: VCU
Date: June 14, 2024
Weather: Hot/Cloudy
Entered by: JLH

Friday



Star Rating: 3

TIME	TRAFFIC FROM NORTH on: CR73 Saddle River Road					TRAFFIC FROM SOUTH on: CR73 Saddle River Road					TRAFFIC FROM EAST on: Margetts Road					TRAFFIC FROM WEST on: N/A					TOTAL N + S + E + W
	LEFT	THRU	RIGHT	UTURN	TOTAL	LEFT	THRU	RIGHT	UTURN	TOTAL	LEFT	THRU	RIGHT	UTURN	TOTAL	LEFT	THRU	RIGHT	UTURN	TOTAL	
AM																					
11:00 - 11:15	19	48	0	0	67	0	28	16	0	44	15	0	11	0	26	0	0	0	0	0	137
11:15 - 11:30	15	39	0	0	54	0	26	13	0	39	19	0	16	0	35	0	0	0	0	0	128
11:30 - 11:45	15	56	0	0	71	0	40	16	0	56	12	0	19	0	31	0	0	0	0	0	158
11:45 - 12:00	9	28	0	0	37	0	42	12	0	54	23	0	13	0	36	0	0	0	0	0	127
12:00 - 12:15	11	55	0	0	66	0	38	16	0	54	19	0	19	0	38	0	0	0	0	0	158
12:15 - 12:30	16	41	0	0	57	0	50	12	0	62	19	0	14	0	33	0	0	0	0	0	152
12:30 - 12:45	15	50	0	0	65	0	43	21	0	64	18	0	20	0	38	0	0	0	0	0	167
12:45 - 1:00	19	46	0	0	65	0	40	30	0	70	20	0	21	0	41	0	0	0	0	0	176
1:00 - 1:15	24	50	0	0	74	0	52	15	0	67	22	0	27	0	49	0	0	0	0	0	190
1:15 - 1:30	12	43	0	0	55	0	38	16	0	54	25	0	18	1	43	0	0	0	0	0	152
1:30 - 1:45	19	60	0	0	79	0	41	14	0	55	23	0	17	0	40	0	0	0	0	0	174
1:45 - 2:00	23	53	0	0	76	0	46	25	0	71	17	0	20	0	37	0	0	0	0	0	184
3 Hr Totals	197	569	0	0	766	0	484	206	0	690	232	0	215	1	447	0	0	0	0	0	1903
1 Hr Totals																					
11:00 - 12:00	58	171	0	0	229	0	136	57	0	193	69	0	59	0	128	0	0	0	0	0	550
11:15 - 12:15	50	178	0	0	228	0	146	57	0	203	73	0	67	0	140	0	0	0	0	0	571
11:30 - 12:30	51	180	0	0	231	0	170	56	0	226	73	0	65	0	138	0	0	0	0	0	595
11:45 - 12:45	51	174	0	0	225	0	173	61	0	234	79	0	66	0	145	0	0	0	0	0	604
12:00 - 1:00	61	192	0	0	253	0	171	79	0	250	76	0	74	0	150	0	0	0	0	0	653
12:15 - 1:15	74	187	0	0	261	0	185	78	0	263	79	0	82	0	161	0	0	0	0	0	685
12:30 - 1:30	70	189	0	0	259	0	173	82	0	255	85	0	86	1	171	0	0	0	0	0	685
12:45 - 1:45	74	199	0	0	273	0	171	75	0	246	90	0	83	1	173	0	0	0	0	0	692
1:00 - 2:00	78	206	0	0	284	0	177	70	0	247	87	0	82	1	169	0	0	0	0	0	700
PEAK HOUR																					
1:00 - 2:00	78	206	0	0	284	0	177	70	0	247	87	0	82	1	169	0	0	0	0	0	700

TOTALS TURNING MOVEMENT COUNT - SUMMARY

Intersection of: CR73 Saddle River Road
and: South Monsey Road
Location: Airmont, New York

Counted by: VCU
Date: June 14, 2024
Weather: Hot/Cloudy
Entered by: JLH

Friday



Star Rating: 5

TIME	TRAFFIC FROM NORTH on: CR73 Saddle River Road					TRAFFIC FROM SOUTH on: CR73 Saddle River Road					TRAFFIC FROM EAST on: N/A					TRAFFIC FROM WEST on: South Monsey Road					TOTAL N + S + E + W
	LEFT	THRU	RIGHT	UTURN	TOTAL	LEFT	THRU	RIGHT	UTURN	TOTAL	LEFT	THRU	RIGHT	UTURN	TOTAL	LEFT	THRU	RIGHT	UTURN	TOTAL	
AM																					
11:00 - 11:15	0	35	18	0	53	28	22	0	0	50	0	0	0	0	0	5	0	27	0	32	135
11:15 - 11:30	0	21	15	0	36	28	18	0	0	46	0	0	0	0	0	12	0	20	0	32	114
11:30 - 11:45	0	31	17	0	48	25	30	0	0	55	0	0	0	0	0	12	0	22	0	34	137
11:45 - 12:00	0	20	16	0	36	24	17	0	0	41	0	0	0	0	0	20	0	30	0	50	127
12:00 - 12:15	0	31	21	0	52	28	22	0	0	50	0	0	0	0	0	12	0	27	0	39	141
12:15 - 12:30	0	37	14	0	51	30	27	0	0	57	0	0	0	0	0	17	0	31	0	48	156
12:30 - 12:45	0	21	21	0	42	35	30	0	0	65	0	0	0	0	0	16	0	39	0	55	162
12:45 - 1:00	0	26	21	0	47	35	25	0	0	60	0	0	0	0	0	20	0	35	0	55	162
1:00 - 1:15	0	23	17	0	40	46	35	0	0	81	0	0	0	0	0	16	0	34	0	50	171
1:15 - 1:30	0	28	26	0	54	44	32	0	0	76	0	0	0	0	0	13	0	40	0	53	183
1:30 - 1:45	0	30	26	0	56	38	33	0	0	71	0	0	0	0	0	14	0	27	0	41	168
1:45 - 2:00	0	23	16	0	39	34	33	0	0	67	0	0	0	0	0	16	0	25	0	41	147
3 Hr Totals	0	326	228	0	554	395	324	0	0	719	0	0	0	0	0	173	0	357	0	530	1803
1 Hr Totals																					
11:00 - 12:00	0	107	66	0	173	105	87	0	0	192	0	0	0	0	0	49	0	99	0	148	513
11:15 - 12:15	0	103	69	0	172	105	87	0	0	192	0	0	0	0	0	56	0	99	0	155	519
11:30 - 12:30	0	119	68	0	187	107	96	0	0	203	0	0	0	0	0	61	0	110	0	171	561
11:45 - 12:45	0	109	72	0	181	117	96	0	0	213	0	0	0	0	0	65	0	127	0	192	586
12:00 - 1:00	0	115	77	0	192	128	104	0	0	232	0	0	0	0	0	65	0	132	0	197	621
12:15 - 1:15	0	107	73	0	180	146	117	0	0	263	0	0	0	0	0	69	0	139	0	208	651
12:30 - 1:30	0	98	85	0	183	160	122	0	0	282	0	0	0	0	0	65	0	148	0	213	678
12:45 - 1:45	0	107	90	0	197	163	125	0	0	288	0	0	0	0	0	63	0	136	0	199	684
1:00 - 2:00	0	104	85	0	189	162	133	0	0	295	0	0	0	0	0	59	0	126	0	185	669
PEAK HOUR																					
12:45 - 1:45	0	107	90	0	197	163	125	0	0	288	0	0	0	0	0	63	0	136	0	199	684

TOTALS TURNING MOVEMENT COUNT - SUMMARY

Intersection of: CR73 Saddle River Road
and: Pine Brook Road
Location: Airmont, New York

Counted by: VCU
Date: June 14, 2024
Weather: Hot/Cloudy
Entered by: JLH

Friday



Star Rating: 5

TIME	TRAFFIC FROM NORTH on: CR73 Saddle River Road					TRAFFIC FROM SOUTH on: CR73 Saddle River Road					TRAFFIC FROM EAST on: Pine Brook Road					TRAFFIC FROM WEST on: N/A					TOTAL N + S + E + W
	LEFT	THRU	RIGHT	UTURN	TOTAL	LEFT	THRU	RIGHT	UTURN	TOTAL	LEFT	THRU	RIGHT	UTURN	TOTAL	LEFT	THRU	RIGHT	UTURN	TOTAL	
AM																					
11:00 - 11:15	23	35	0	0	58	0	17	1	0	18	2	0	25	0	27	0	0	0	0	0	103
11:15 - 11:30	14	25	0	0	39	0	20	5	0	25	4	0	23	0	27	0	0	0	0	0	91
11:30 - 11:45	16	37	0	0	53	0	26	6	0	32	2	0	28	0	30	0	0	0	0	0	115
11:45 - 12:00	23	33	0	0	56	0	25	5	0	30	4	0	16	0	20	0	0	0	0	0	106
12:00 - 12:15	20	31	0	0	51	0	31	2	0	33	4	0	25	0	29	0	0	0	0	0	113
12:15 - 12:30	32	33	0	0	65	0	33	3	0	36	1	0	23	0	24	0	0	0	0	0	125
12:30 - 12:45	34	28	0	0	62	0	32	3	0	35	3	0	25	0	28	0	0	0	0	0	125
12:45 - 1:00	28	36	0	0	64	0	35	3	0	38	3	0	30	0	33	0	0	0	0	0	135
1:00 - 1:15	26	33	0	0	59	0	36	7	0	43	6	0	32	0	38	0	0	0	0	0	140
1:15 - 1:30	33	32	0	0	65	0	47	2	0	49	3	0	35	0	38	0	0	0	0	0	152
1:30 - 1:45	32	25	0	0	57	0	37	4	0	41	2	0	36	0	38	0	0	0	0	0	136
1:45 - 2:00	20	30	0	0	50	0	47	1	0	48	2	0	14	0	16	0	0	0	0	0	114
3 Hr Totals	301	378	0	0	679	0	386	42	0	428	36	0	312	0	348	0	0	0	0	0	1455
1 Hr Totals																					
11:00 - 12:00	76	130	0	0	206	0	88	17	0	105	12	0	92	0	104	0	0	0	0	0	415
11:15 - 12:15	73	126	0	0	199	0	102	18	0	120	14	0	92	0	106	0	0	0	0	0	425
11:30 - 12:30	91	134	0	0	225	0	115	16	0	131	11	0	92	0	103	0	0	0	0	0	459
11:45 - 12:45	109	125	0	0	234	0	121	13	0	134	12	0	89	0	101	0	0	0	0	0	469
12:00 - 1:00	114	128	0	0	242	0	131	11	0	142	11	0	103	0	114	0	0	0	0	0	498
12:15 - 1:15	120	130	0	0	250	0	136	16	0	152	13	0	110	0	123	0	0	0	0	0	525
12:30 - 1:30	121	129	0	0	250	0	150	15	0	165	15	0	122	0	137	0	0	0	0	0	552
12:45 - 1:45	119	126	0	0	245	0	155	16	0	171	14	0	133	0	147	0	0	0	0	0	563
1:00 - 2:00	111	120	0	0	231	0	167	14	0	181	13	0	117	0	130	0	0	0	0	0	542
PEAK HOUR																					
12:45 - 1:45	119	126	0	0	245	0	155	16	0	171	14	0	133	0	147	0	0	0	0	0	563

TOTALS TURNING MOVEMENT COUNT - SUMMARY

Intersection of: CR73 Saddle River Road
and: Old Nyack Turnpike
Location: Airmont, New York

Counted by: VCU
Date: June 15, 2024
Weather: Hot/Cloudy
Entered by: JLH

Saturday



Star Rating: 5

TIME	TRAFFIC FROM NORTH on: CR73 Saddle River Road					TRAFFIC FROM SOUTH on: CR73 Saddle River Road					TRAFFIC FROM EAST on: Old Nyack Turnpike					TRAFFIC FROM WEST on: Driveway					TOTAL N + S + E + W
	LEFT	THRU	RIGHT	UTURN	TOTAL	LEFT	THRU	RIGHT	UTURN	TOTAL	LEFT	THRU	RIGHT	UTURN	TOTAL	LEFT	THRU	RIGHT	UTURN	TOTAL	
AM																					
11:00 - 11:15	10	5	0	0	15	1	5	1	0	7	3	0	16	0	19	0	0	0	0	0	41
11:15 - 11:30	7	17	0	0	24	0	7	2	0	9	4	0	12	0	16	0	2	0	0	2	51
11:30 - 11:45	12	11	0	0	23	0	7	7	0	14	4	0	19	0	23	0	0	0	0	0	60
11:45 - 12:00	9	11	0	0	20	0	8	7	0	15	4	0	11	0	15	0	3	0	0	3	53
12:00 - 12:15	16	9	0	0	25	0	5	9	0	14	6	0	17	0	23	0	0	0	0	0	62
12:15 - 12:30	15	9	0	0	24	0	5	6	0	11	2	0	11	0	13	0	0	0	0	0	48
12:30 - 12:45	13	11	1	0	25	0	7	4	0	11	5	0	22	0	27	0	0	0	0	0	63
12:45 - 1:00	13	10	0	0	23	0	8	6	0	14	5	0	22	0	27	1	0	0	0	1	65
1:00 - 1:15	10	7	1	0	18	0	5	9	0	14	3	0	13	0	16	0	0	0	0	0	48
1:15 - 1:30	14	4	0	0	18	0	8	6	0	14	5	0	16	0	21	0	0	0	0	0	53
1:30 - 1:45	16	6	0	0	22	0	4	8	0	12	4	0	16	0	20	0	0	0	0	0	54
1:45 - 2:00	7	17	0	0	24	0	7	7	0	14	11	1	14	0	26	1	0	0	0	1	65
3 Hr Totals	142	117	2	0	261	1	76	72	0	149	56	1	189	0	246	2	5	0	0	7	663
1 Hr Totals																					
11:00 - 12:00	38	44	0	0	82	1	27	17	0	45	15	0	58	0	73	0	5	0	0	5	205
11:15 - 12:15	44	48	0	0	92	0	27	25	0	52	18	0	59	0	77	0	5	0	0	5	226
11:30 - 12:30	52	40	0	0	92	0	25	29	0	54	16	0	58	0	74	0	3	0	0	3	223
11:45 - 12:45	53	40	1	0	94	0	25	26	0	51	17	0	61	0	78	0	3	0	0	3	226
12:00 - 1:00	57	39	1	0	97	0	25	25	0	50	18	0	72	0	90	1	0	0	0	1	238
12:15 - 1:15	51	37	2	0	90	0	25	25	0	50	15	0	68	0	83	1	0	0	0	1	224
12:30 - 1:30	50	32	2	0	84	0	28	25	0	53	18	0	73	0	91	1	0	0	0	1	229
12:45 - 1:45	53	27	1	0	81	0	25	29	0	54	17	0	67	0	84	1	0	0	0	1	220
1:00 - 2:00	47	34	1	0	82	0	24	30	0	54	23	1	59	0	83	1	0	0	0	1	220
PEAK HOUR																					
12:00 - 1:00	57	39	1	0	97	0	25	25	0	50	18	0	72	0	90	1	0	0	0	1	238

TOTALS TURNING MOVEMENT COUNT - SUMMARY

Intersection of: CR73 Saddle River Road
and: Margetts Road
Location: Airmont, New York

Counted by: VCU
Date: June 15, 2024
Weather: Hot/Cloudy
Entered by: JLH

Saturday



Star Rating: 5

TIME	TRAFFIC FROM NORTH on: CR73 Saddle River Road					TRAFFIC FROM SOUTH on: CR73 Saddle River Road					TRAFFIC FROM EAST on: Margetts Road					TRAFFIC FROM WEST on: N/A					TOTAL N + S + E + W
	LEFT	THRU	RIGHT	UTURN	TOTAL	LEFT	THRU	RIGHT	UTURN	TOTAL	LEFT	THRU	RIGHT	UTURN	TOTAL	LEFT	THRU	RIGHT	UTURN	TOTAL	
AM																					
11:00 - 11:15	1	6	0	0	7	0	4	2	0	6	5	0	0	0	5	0	0	0	0	0	18
11:15 - 11:30	1	19	0	0	20	0	6	4	0	10	4	0	3	0	7	0	0	0	0	0	37
11:30 - 11:45	2	10	0	0	12	0	11	2	0	13	6	0	0	0	6	0	0	0	0	0	31
11:45 - 12:00	1	13	0	0	14	0	11	3	0	14	1	0	1	0	2	0	0	0	0	0	30
12:00 - 12:15	1	11	0	0	12	0	9	6	0	15	4	0	0	0	4	0	0	0	0	0	31
12:15 - 12:30	4	8	0	0	12	0	12	2	0	14	7	0	2	0	9	0	0	0	0	0	35
12:30 - 12:45	1	15	0	0	16	0	14	2	0	16	4	0	1	0	5	0	0	0	0	0	37
12:45 - 1:00	0	17	0	0	17	0	14	6	0	20	5	0	1	0	6	0	0	0	0	0	43
1:00 - 1:15	2	6	0	0	8	0	6	5	0	11	5	0	1	0	6	0	0	0	0	0	25
1:15 - 1:30	2	7	0	0	9	0	13	6	0	19	4	0	0	0	4	0	0	0	0	0	32
1:30 - 1:45	1	9	0	0	10	0	9	4	0	13	2	0	3	0	5	0	0	0	0	0	28
1:45 - 2:00	1	20	0	0	21	0	12	5	0	17	5	0	3	1	8	0	0	0	0	0	46
3 Hr Totals	17	141	0	0	158	0	121	47	0	168	52	0	15	1	67	0	0	0	0	0	393
1 Hr Totals																					
11:00 - 12:00	5	48	0	0	53	0	32	11	0	43	16	0	4	0	20	0	0	0	0	0	116
11:15 - 12:15	5	53	0	0	58	0	37	15	0	52	15	0	4	0	19	0	0	0	0	0	129
11:30 - 12:30	8	42	0	0	50	0	43	13	0	56	18	0	3	0	21	0	0	0	0	0	127
11:45 - 12:45	7	47	0	0	54	0	46	13	0	59	16	0	4	0	20	0	0	0	0	0	133
12:00 - 1:00	6	51	0	0	57	0	49	16	0	65	20	0	4	0	24	0	0	0	0	0	146
12:15 - 1:15	7	46	0	0	53	0	46	15	0	61	21	0	5	0	26	0	0	0	0	0	140
12:30 - 1:30	5	45	0	0	50	0	47	19	0	66	18	0	3	0	21	0	0	0	0	0	137
12:45 - 1:45	5	39	0	0	44	0	42	21	0	63	16	0	5	0	21	0	0	0	0	0	128
1:00 - 2:00	6	42	0	0	48	0	40	20	0	60	16	0	7	1	23	0	0	0	0	0	131
PEAK HOUR																					
12:00 - 1:00	6	51	0	0	57	0	49	16	0	65	20	0	4	0	24	0	0	0	0	0	146

TOTALS TURNING MOVEMENT COUNT - SUMMARY

Intersection of: CR73 Saddle River Road
and: South Monsey Road
Location: Airmont, New York

Counted by: VCU
Date: June 15, 2024
Weather: Hot/Cloudy
Entered by: JLH

Saturday



Star Rating: 5

TIME	TRAFFIC FROM NORTH on: CR73 Saddle River Road					TRAFFIC FROM SOUTH on: CR73 Saddle River Road					TRAFFIC FROM EAST on: N/A					TRAFFIC FROM WEST on: South Monsey Road					TOTAL N + S + E + W
	LEFT	THRU	RIGHT	UTURN	TOTAL	LEFT	THRU	RIGHT	UTURN	TOTAL	LEFT	THRU	RIGHT	UTURN	TOTAL	LEFT	THRU	RIGHT	UTURN	TOTAL	
AM																					
11:00 - 11:15	0	8	3	0	11	8	6	0	0	14	0	0	0	0	0	2	0	16	0	18	43
11:15 - 11:30	0	18	3	0	21	11	6	0	0	17	0	0	0	0	0	1	0	8	0	9	47
11:30 - 11:45	0	16	1	0	17	9	13	0	0	22	0	0	0	0	0	3	0	8	0	11	50
11:45 - 12:00	0	14	1	0	15	14	11	0	0	25	0	0	0	0	0	4	0	10	0	14	54
12:00 - 12:15	0	12	3	0	15	18	13	0	0	31	0	0	0	0	0	1	0	9	0	10	56
12:15 - 12:30	0	11	1	0	12	4	15	0	0	19	0	0	0	0	0	4	0	16	0	20	51
12:30 - 12:45	0	15	1	0	16	6	14	0	0	20	0	0	0	0	0	3	0	8	0	11	47
12:45 - 1:00	0	14	5	0	19	9	14	0	0	23	0	0	0	0	0	1	0	10	0	11	53
1:00 - 1:15	0	5	6	0	11	9	6	0	0	15	0	0	0	0	0	5	0	13	0	18	44
1:15 - 1:30	0	7	1	0	8	8	12	0	0	20	0	0	0	0	0	3	0	9	0	12	40
1:30 - 1:45	0	7	1	0	8	16	9	0	0	25	0	0	0	0	0	0	0	11	0	11	44
1:45 - 2:00	0	17	6	0	23	11	13	0	0	24	0	0	0	0	0	2	0	14	0	16	63
3 Hr Totals	0	144	32	0	176	123	132	0	0	255	0	0	0	0	0	29	0	132	0	161	592
1 Hr Totals																					
11:00 - 12:00	0	56	8	0	64	42	36	0	0	78	0	0	0	0	0	10	0	42	0	52	194
11:15 - 12:15	0	60	8	0	68	52	43	0	0	95	0	0	0	0	0	9	0	35	0	44	207
11:30 - 12:30	0	53	6	0	59	45	52	0	0	97	0	0	0	0	0	12	0	43	0	55	211
11:45 - 12:45	0	52	6	0	58	42	53	0	0	95	0	0	0	0	0	12	0	43	0	55	208
12:00 - 1:00	0	52	10	0	62	37	56	0	0	93	0	0	0	0	0	9	0	43	0	52	207
12:15 - 1:15	0	45	13	0	58	28	49	0	0	77	0	0	0	0	0	13	0	47	0	60	195
12:30 - 1:30	0	41	13	0	54	32	46	0	0	78	0	0	0	0	0	12	0	40	0	52	184
12:45 - 1:45	0	33	13	0	46	42	41	0	0	83	0	0	0	0	0	9	0	43	0	52	181
1:00 - 2:00	0	36	14	0	50	44	40	0	0	84	0	0	0	0	0	10	0	47	0	57	191
PEAK HOUR																					
11:30 - 12:30	0	53	6	0	59	45	52	0	0	97	0	0	0	0	0	12	0	43	0	55	211

TOTALS TURNING MOVEMENT COUNT - SUMMARY

Intersection of: CR73 Saddle River Road
and: Pine Brook Road
Location: Airmont, New York

Counted by: VCU
Date: June 15, 2024
Weather: Hot/Cloudy
Entered by: JLH

Saturday



Star Rating: 5

TIME	TRAFFIC FROM NORTH on: CR73 Saddle River Road					TRAFFIC FROM SOUTH on: CR73 Saddle River Road					TRAFFIC FROM EAST on: Pine Brook Road					TRAFFIC FROM WEST on: N/A					TOTAL N + S + E + W
	LEFT	THRU	RIGHT	UTURN	TOTAL	LEFT	THRU	RIGHT	UTURN	TOTAL	LEFT	THRU	RIGHT	UTURN	TOTAL	LEFT	THRU	RIGHT	UTURN	TOTAL	
AM																					
11:00 - 11:15	11	16	0	0	27	0	15	3	0	18	0	0	3	0	3	0	0	0	0	0	48
11:15 - 11:30	6	18	0	0	24	0	26	7	0	33	2	0	7	0	9	0	0	0	0	0	66
11:30 - 11:45	8	25	0	0	33	0	18	1	0	19	1	0	8	0	9	0	0	0	0	0	61
11:45 - 12:00	5	26	0	0	31	0	12	3	0	15	2	0	10	0	12	0	0	0	0	0	58
12:00 - 12:15	7	28	0	0	35	0	24	4	0	28	4	0	5	0	9	0	0	0	0	0	72
12:15 - 12:30	10	31	0	0	41	0	16	3	0	19	1	0	4	0	5	0	0	0	0	0	65
12:30 - 12:45	12	21	0	0	33	0	15	2	0	17	8	0	3	0	11	0	0	0	0	0	61
12:45 - 1:00	4	21	0	0	25	0	16	4	0	20	3	0	9	0	12	0	0	0	0	0	57
1:00 - 1:15	4	21	0	0	25	0	13	1	0	14	3	0	12	0	15	0	0	0	0	0	54
1:15 - 1:30	8	14	0	0	22	0	21	0	0	21	5	0	4	0	9	0	0	0	0	0	52
1:30 - 1:45	10	18	0	0	28	0	25	2	0	27	3	0	10	0	13	0	0	0	0	0	68
1:45 - 2:00	11	20	0	0	31	0	13	3	0	16	1	0	8	0	9	0	0	0	0	0	56
3 Hr Totals	96	259	0	0	355	0	214	33	0	247	33	0	83	0	116	0	0	0	0	0	718
1 Hr Totals																					
11:00 - 12:00	30	85	0	0	115	0	71	14	0	85	5	0	28	0	33	0	0	0	0	0	233
11:15 - 12:15	26	97	0	0	123	0	80	15	0	95	9	0	30	0	39	0	0	0	0	0	257
11:30 - 12:30	30	110	0	0	140	0	70	11	0	81	8	0	27	0	35	0	0	0	0	0	256
11:45 - 12:45	34	106	0	0	140	0	67	12	0	79	15	0	22	0	37	0	0	0	0	0	256
12:00 - 1:00	33	101	0	0	134	0	71	13	0	84	16	0	21	0	37	0	0	0	0	0	255
12:15 - 1:15	30	94	0	0	124	0	60	10	0	70	15	0	28	0	43	0	0	0	0	0	237
12:30 - 1:30	28	77	0	0	105	0	65	7	0	72	19	0	28	0	47	0	0	0	0	0	224
12:45 - 1:45	26	74	0	0	100	0	75	7	0	82	14	0	35	0	49	0	0	0	0	0	231
1:00 - 2:00	33	73	0	0	106	0	72	6	0	78	12	0	34	0	46	0	0	0	0	0	230
PEAK HOUR																					
11:15 - 12:15	26	97	0	0	123	0	80	15	0	95	9	0	30	0	39	0	0	0	0	0	257

TOTALS TURNING MOVEMENT COUNT - SUMMARY

Intersection of: CR73 Saddle River Road
and: Regina Road
Location: Airmont, New York

Counted by: VCU
Date: 9/12/24
Weather: Haze/Fair
Entered by: JDB



TIME	TRAFFIC FROM NORTH on: CR73 Saddle River Road					TRAFFIC FROM SOUTH on: CR73 Saddle River Road					TRAFFIC FROM EAST on: N/A					TRAFFIC FROM WEST on: Regina Road					TOTAL N + S + E + W
	LEFT	THRU	RIGHT	UTURN	TOTAL	LEFT	THRU	RIGHT	UTURN	TOTAL	LEFT	THRU	RIGHT	UTURN	TOTAL	LEFT	THRU	RIGHT	UTURN	TOTAL	
AM																					
7:00 - 7:15	0	26	4	0	30	4	23	0	0	27	0	0	0	0	0	3	0	10	0	13	70
7:15 - 7:30	0	31	10	0	41	12	24	0	0	36	0	0	0	0	0	10	0	12	0	22	99
7:30 - 7:45	0	35	6	0	41	10	43	0	0	53	0	0	0	0	0	0	0	15	0	15	109
7:45 - 8:00	0	49	4	0	53	19	41	0	0	60	0	0	0	0	0	2	0	5	0	7	120
8:00 - 8:15	0	49	8	0	57	19	43	0	0	62	0	0	0	0	0	8	0	13	0	21	140
8:15 - 8:30	0	61	11	0	72	19	37	0	0	56	0	0	0	0	0	5	0	17	0	22	150
8:30 - 8:45	0	41	14	0	55	32	39	0	0	71	0	0	0	0	0	8	0	11	0	19	145
8:45 - 9:00	0	54	16	0	70	29	46	0	1	75	0	0	0	0	0	11	0	27	0	38	183
2 Hr Totals	0	346	73	0	419	144	296	0	1	440	0	0	0	0	0	47	0	110	0	157	1016
1 Hr Totals																					
7:00 - 8:00	0	141	24	0	165	45	131	0	0	176	0	0	0	0	0	15	0	42	0	57	398
7:15 - 8:15	0	164	28	0	192	60	151	0	0	211	0	0	0	0	0	20	0	45	0	65	468
7:30 - 8:30	0	194	29	0	223	67	164	0	0	231	0	0	0	0	0	15	0	50	0	65	519
7:45 - 8:45	0	200	37	0	237	89	160	0	0	249	0	0	0	0	0	23	0	46	0	69	555
8:00 - 9:00	0	205	49	0	254	99	165	0	1	264	0	0	0	0	0	32	0	68	0	100	618
PEAK HOUR																					
8:00 - 9:00	0	205	49	0	254	99	165	0	1	264	0	0	0	0	0	32	0	68	0	100	618
PM																					
4:00 - 4:15	0	42	7	0	49	24	42	0	0	66	0	0	0	0	0	8	0	20	0	28	143
4:15 - 4:30	0	36	11	0	47	14	44	0	0	58	0	0	0	0	0	4	0	14	0	18	123
4:30 - 4:45	0	40	11	0	51	22	40	0	0	62	0	0	0	0	0	10	0	23	0	33	146
4:45 - 5:00	0	39	16	0	55	15	48	0	0	63	0	0	0	0	0	9	0	10	0	19	137
5:00 - 5:15	0	50	12	0	62	22	56	0	0	78	0	0	0	0	0	9	0	19	0	28	168
5:15 - 5:30	0	67	8	0	75	26	48	0	0	74	0	0	0	0	0	9	0	21	0	30	179
5:30 - 5:45	0	45	4	0	49	16	50	0	0	66	0	0	0	0	0	10	0	20	0	30	145
5:45 - 6:00	0	50	9	0	59	20	47	0	0	67	0	0	0	0	0	11	0	16	0	27	153
2 Hr Totals	0	369	78	0	447	159	375	0	0	534	0	0	0	0	0	70	0	143	0	213	1194
1 Hr Totals																					
4:00 - 5:00	0	157	45	0	202	75	174	0	0	249	0	0	0	0	0	31	0	67	0	98	549
4:15 - 5:15	0	165	50	0	215	73	188	0	0	261	0	0	0	0	0	32	0	66	0	98	574
4:30 - 5:30	0	196	47	0	243	85	192	0	0	277	0	0	0	0	0	37	0	73	0	110	630
4:45 - 5:45	0	201	40	0	241	79	202	0	0	281	0	0	0	0	0	37	0	70	0	107	629
5:00 - 6:00	0	212	33	0	245	84	201	0	0	285	0	0	0	0	0	39	0	76	0	115	645
PEAK HOUR																					
5:00 - 6:00	0	212	33	0	245	84	201	0	0	285	0	0	0	0	0	39	0	76	0	115	645

TOTALS TURNING MOVEMENT COUNT - SUMMARY

Intersection of: CR73 Saddle River Road
and: Regina Road
Location: Airmont, New York

Counted by: VCU
Date: 9/13/24
Weather: Fair
Entered by: JDB

Friday



Star Rating: 3

TIME	TRAFFIC FROM NORTH on: CR73 Saddle River Road					TRAFFIC FROM SOUTH on: CR73 Saddle River Road					TRAFFIC FROM EAST on: N/A					TRAFFIC FROM WEST on: Regina Road					TOTAL N + S + E + W
	LEFT	THRU	RIGHT	UTURN	TOTAL	LEFT	THRU	RIGHT	UTURN	TOTAL	LEFT	THRU	RIGHT	UTURN	TOTAL	LEFT	THRU	RIGHT	UTURN	TOTAL	
MID																					
11:00 - 11:15	0	54	8	0	62	6	38	0	0	44	0	0	0	0	0	8	0	9	0	17	123
11:15 - 11:30	0	41	14	0	55	12	43	0	0	55	0	0	0	0	0	6	0	9	0	15	125
11:30 - 11:45	0	44	9	0	53	13	42	0	0	55	0	0	0	0	0	11	0	21	0	32	140
11:45 - 12:00	0	71	6	0	77	30	52	0	0	82	0	0	0	0	0	5	0	16	0	21	180
12:00 - 12:15	0	59	14	0	73	30	52	0	0	82	0	0	0	0	0	9	0	27	0	36	191
12:15 - 12:30	0	55	11	0	66	22	57	0	0	79	0	0	0	0	0	18	0	28	0	46	191
12:30 - 12:45	0	34	14	0	48	24	52	0	0	76	0	0	0	0	0	15	0	13	0	28	152
12:45 - 1:00	0	58	16	0	74	28	40	0	0	68	0	0	0	0	0	11	0	23	0	34	176
1:00 - 1:15	0	61	15	0	76	16	40	0	0	56	0	0	0	0	0	15	0	27	0	42	174
1:15 - 1:30	0	42	14	0	56	31	44	0	0	75	0	0	0	0	0	13	0	20	0	33	164
1:30 - 1:45	0	51	10	0	61	30	60	0	0	90	0	0	0	0	0	16	0	22	0	38	189
1:45 - 2:00	0	49	10	0	59	24	61	0	1	85	0	0	0	0	0	12	0	22	0	34	178
3 Hr Totals	0	619	141	0	760	266	581	0	1	847	0	0	0	0	0	139	0	237	0	376	1983
1 Hr Totals																					
11:00 - 12:00	0	210	37	0	247	61	175	0	0	236	0	0	0	0	0	30	0	55	0	85	568
11:15 - 12:15	0	215	43	0	258	85	189	0	0	274	0	0	0	0	0	31	0	73	0	104	636
11:30 - 12:30	0	229	40	0	269	95	203	0	0	298	0	0	0	0	0	43	0	92	0	135	702
11:45 - 12:45	0	219	45	0	264	106	213	0	0	319	0	0	0	0	0	47	0	84	0	131	714
12:00 - 1:00	0	206	55	0	261	104	201	0	0	305	0	0	0	0	0	53	0	91	0	144	710
12:15 - 1:15	0	208	56	0	264	90	189	0	0	279	0	0	0	0	0	59	0	91	0	150	693
12:30 - 1:30	0	195	59	0	254	99	176	0	0	275	0	0	0	0	0	54	0	83	0	137	666
12:45 - 1:45	0	212	55	0	267	105	184	0	0	289	0	0	0	0	0	55	0	92	0	147	703
1:00 - 2:00	0	203	49	0	252	101	205	0	1	306	0	0	0	0	0	56	0	91	0	147	705
PEAK HOUR																					
11:45 - 12:45	0	219	45	0	264	106	213	0	0	319	0	0	0	0	0	47	0	84	0	131	714

TOTALS TURNING MOVEMENT COUNT - SUMMARY

Intersection of: CR73 Saddle River Road
and: Regina Road
Location: Airmont, New York

Counted by: VCU
Date: 9/14/24
Weather: Fair
Entered by: JDB

Saturday



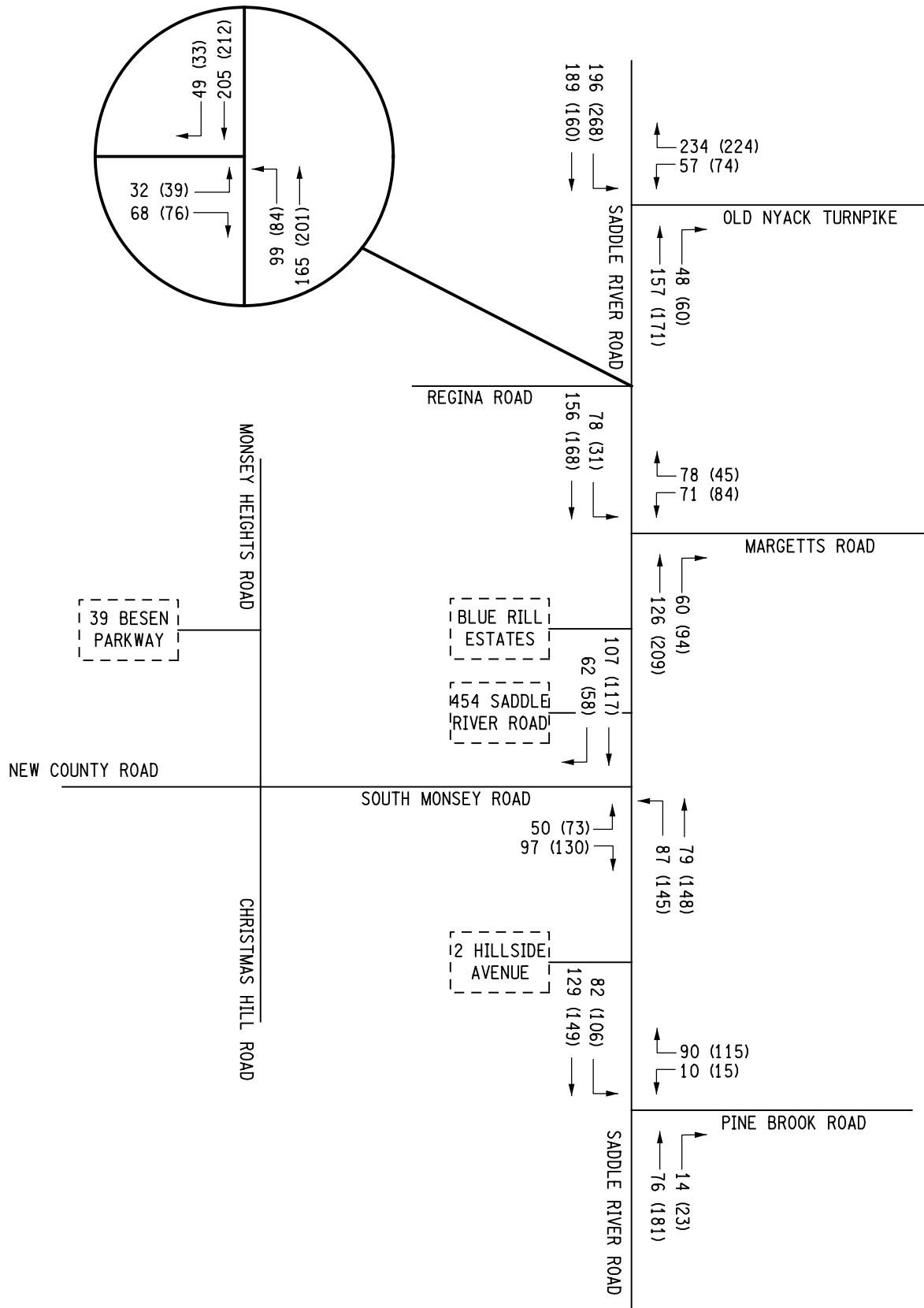
Star Rating: 3

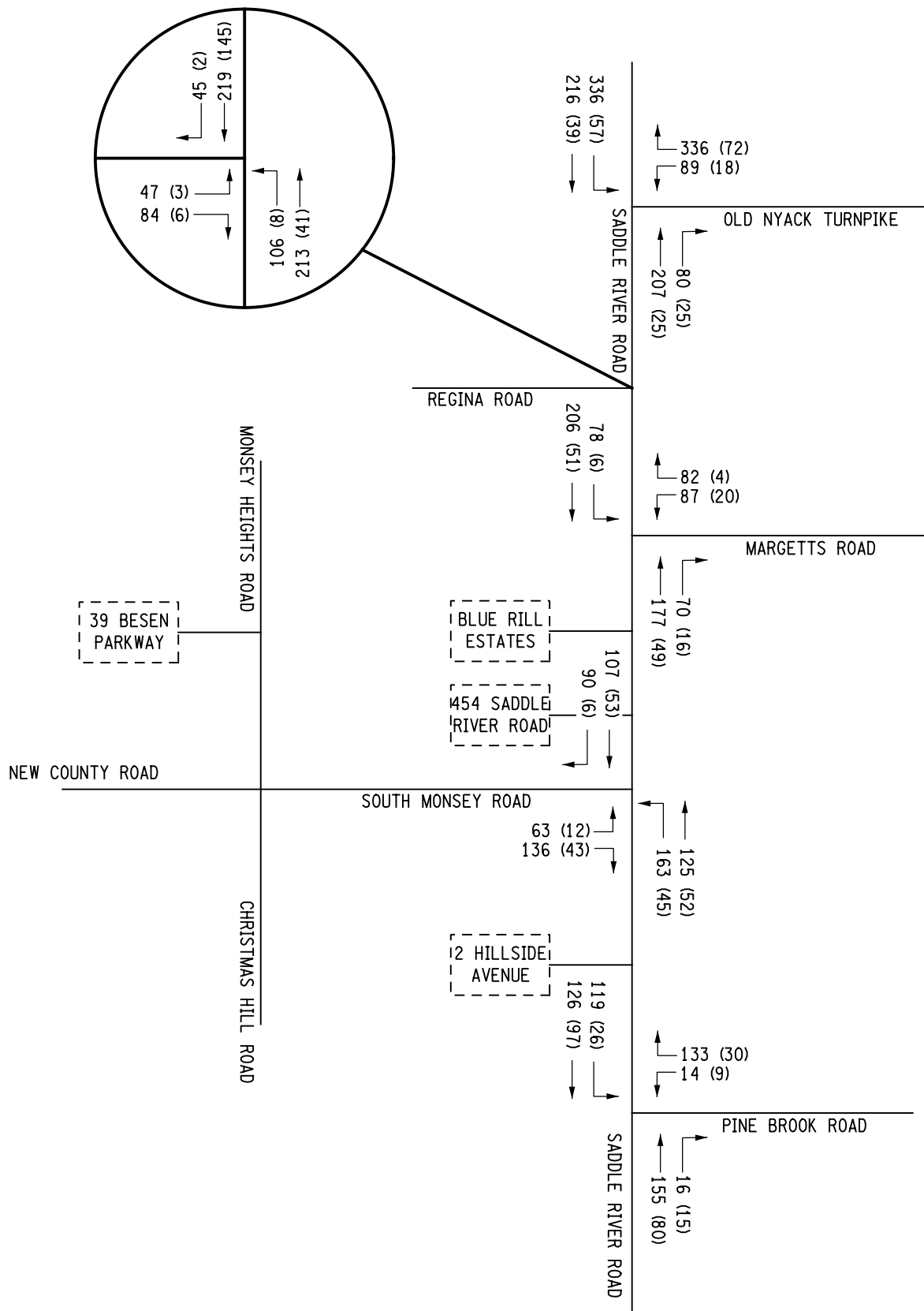
TIME	TRAFFIC FROM NORTH on: CR73 Saddle River Road					TRAFFIC FROM SOUTH on: CR73 Saddle River Road					TRAFFIC FROM EAST on: N/A					TRAFFIC FROM WEST on: Regina Road					TOTAL N + S + E + W
	LEFT	THRU	RIGHT	UTURN	TOTAL	LEFT	THRU	RIGHT	UTURN	TOTAL	LEFT	THRU	RIGHT	UTURN	TOTAL	LEFT	THRU	RIGHT	UTURN	TOTAL	
MID																					
11:00 - 11:15	0	5	0	0	5	2	10	0	0	12	0	0	0	0	0	3	0	2	0	5	22
11:15 - 11:30	0	9	1	0	10	2	13	0	0	15	0	0	0	0	0	0	0	2	0	2	27
11:30 - 11:45	0	53	0	0	53	2	8	0	0	10	0	0	0	0	0	0	0	2	0	2	65
11:45 - 12:00	0	61	1	0	62	1	11	0	0	12	0	0	0	0	0	1	0	0	0	1	75
12:00 - 12:15	0	17	0	0	17	2	8	0	0	10	0	0	0	0	0	0	0	1	0	1	28
12:15 - 12:30	0	14	1	0	15	3	14	0	0	17	0	0	0	0	0	2	0	3	0	5	37
12:30 - 12:45	0	15	1	0	16	2	10	0	0	12	0	0	0	0	0	0	0	1	0	1	29
12:45 - 1:00	0	14	1	0	15	2	12	0	0	14	0	0	0	0	0	1	0	1	0	2	31
1:00 - 1:15	0	9	0	0	9	0	13	0	0	13	0	0	0	0	0	3	0	2	0	5	27
1:15 - 1:30	0	9	2	0	11	1	15	0	0	16	0	0	0	0	0	1	0	1	0	2	29
1:30 - 1:45	0	10	3	0	13	3	10	0	0	13	0	0	0	0	0	2	0	0	0	2	28
1:45 - 2:00	0	14	0	0	14	2	11	0	0	13	0	0	0	0	0	1	0	1	0	2	29
3 Hr Totals	0	230	10	0	240	22	135	0	0	157	0	0	0	0	0	14	0	16	0	30	427
1 Hr Totals																					
11:00 - 12:00	0	128	2	0	130	7	42	0	0	49	0	0	0	0	0	4	0	6	0	10	189
11:15 - 12:15	0	140	2	0	142	7	40	0	0	47	0	0	0	0	0	1	0	5	0	6	195
11:30 - 12:30	0	145	2	0	147	8	41	0	0	49	0	0	0	0	0	3	0	6	0	9	205
11:45 - 12:45	0	107	3	0	110	8	43	0	0	51	0	0	0	0	0	3	0	5	0	8	169
12:00 - 1:00	0	60	3	0	63	9	44	0	0	53	0	0	0	0	0	3	0	6	0	9	125
12:15 - 1:15	0	52	3	0	55	7	49	0	0	56	0	0	0	0	0	6	0	7	0	13	124
12:30 - 1:30	0	47	4	0	51	5	50	0	0	55	0	0	0	0	0	5	0	5	0	10	116
12:45 - 1:45	0	42	6	0	48	6	50	0	0	56	0	0	0	0	0	7	0	4	0	11	115
1:00 - 2:00	0	42	5	0	47	6	49	0	0	55	0	0	0	0	0	7	0	4	0	11	113
PEAK HOUR																					
11:30 - 12:30	0	145	2	0	147	8	41	0	0	49	0	0	0	0	0	3	0	6	0	9	205

**Appendix B **

Traffic Volume Figures

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USER = cde@rick





EXISTING VOLUMES (2024) - FRIDAY (SATURDAY) PEAK

MJ1587.01 - BLUE RILL ESTATES SENIOR
HOUSING DEVELOPMENT TRAFFIC IMPACT STUDY

FIGURE NO.

2

SCALE

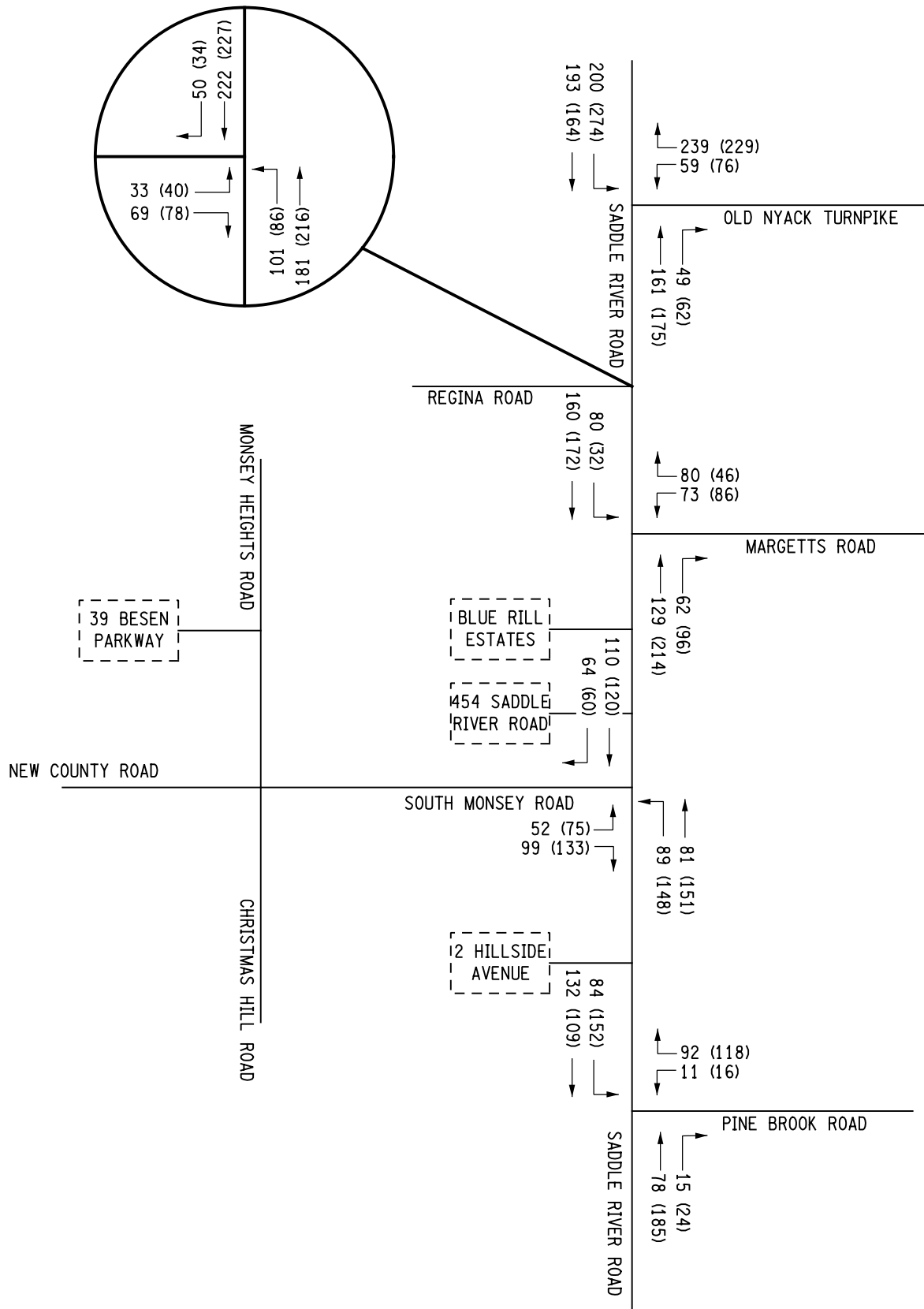
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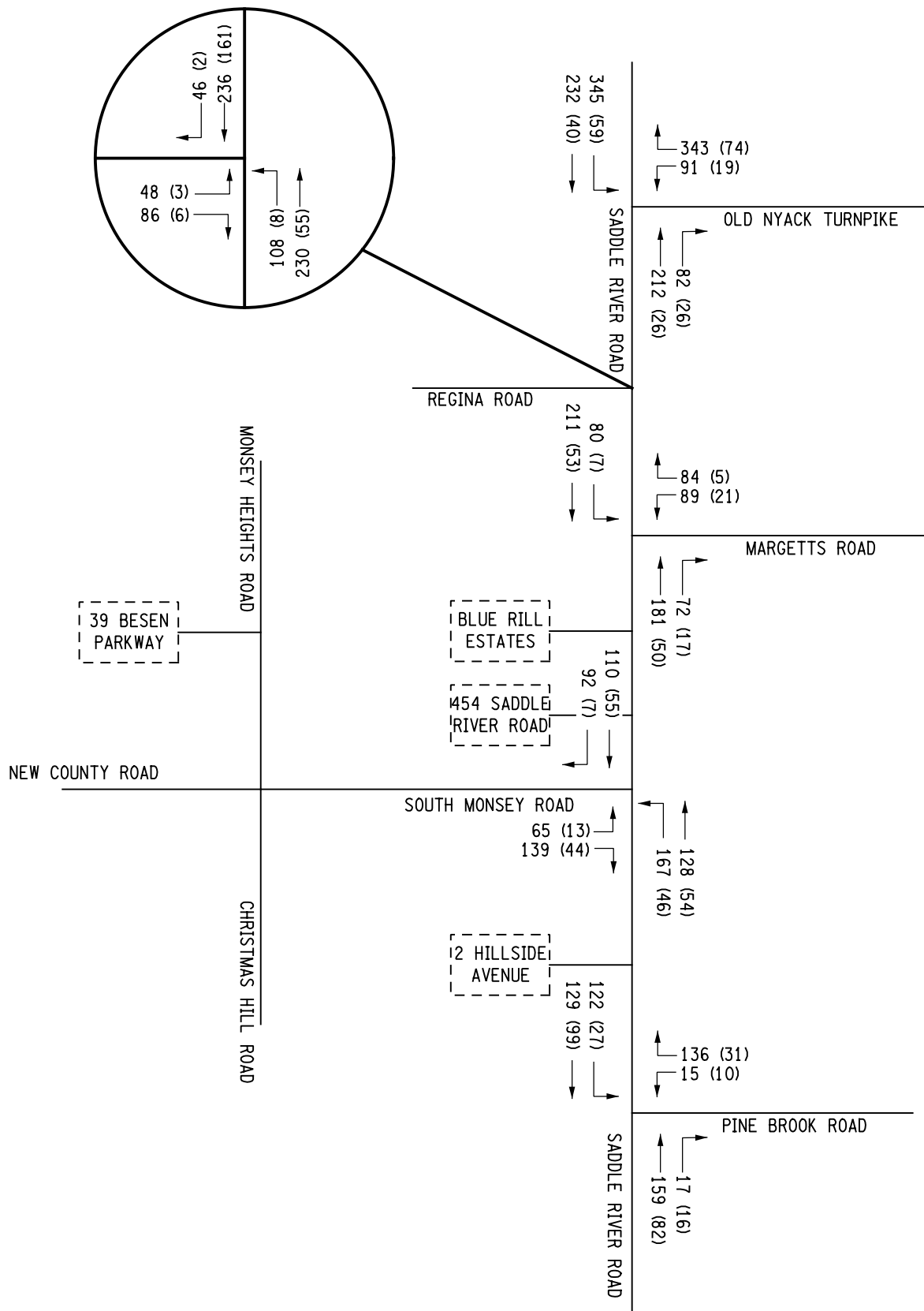
SEP. 2024

MJ Engineering
Architecture
Land Landscape Architecture
and Land Surveying, P.C.

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NO-BUILD VOLUMES (2026) - AM (PM) PEAK



NO-BUILD VOLUMES (2026) - FRIDAY (SATURDAY) PEAK

MJ1587.01 - BLUE RILL ESTATES SENIOR
HOUSING DEVELOPMENT TRAFFIC IMPACT STUDY

FIGURE NO.

4

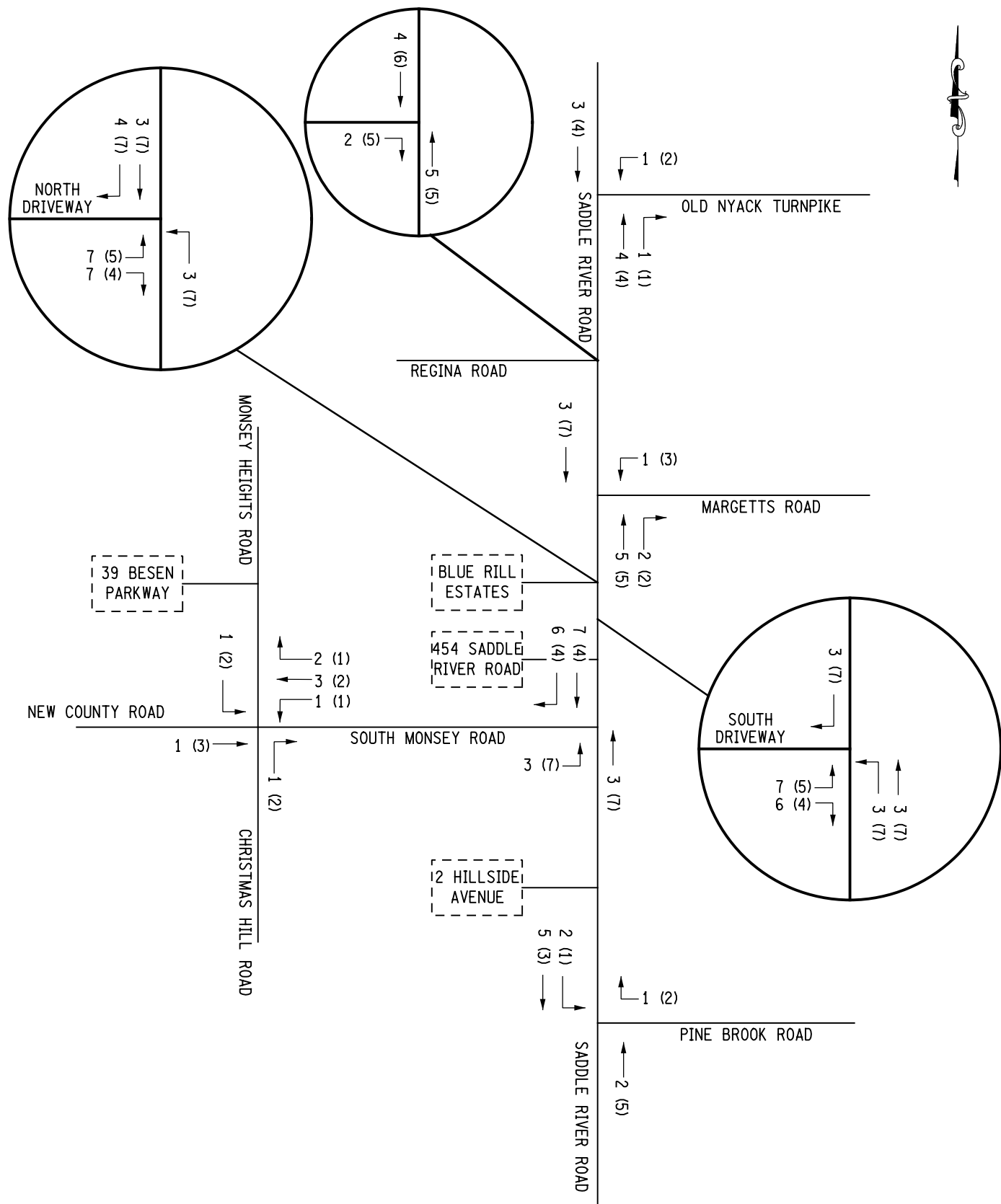
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DATE

SEP. 2024

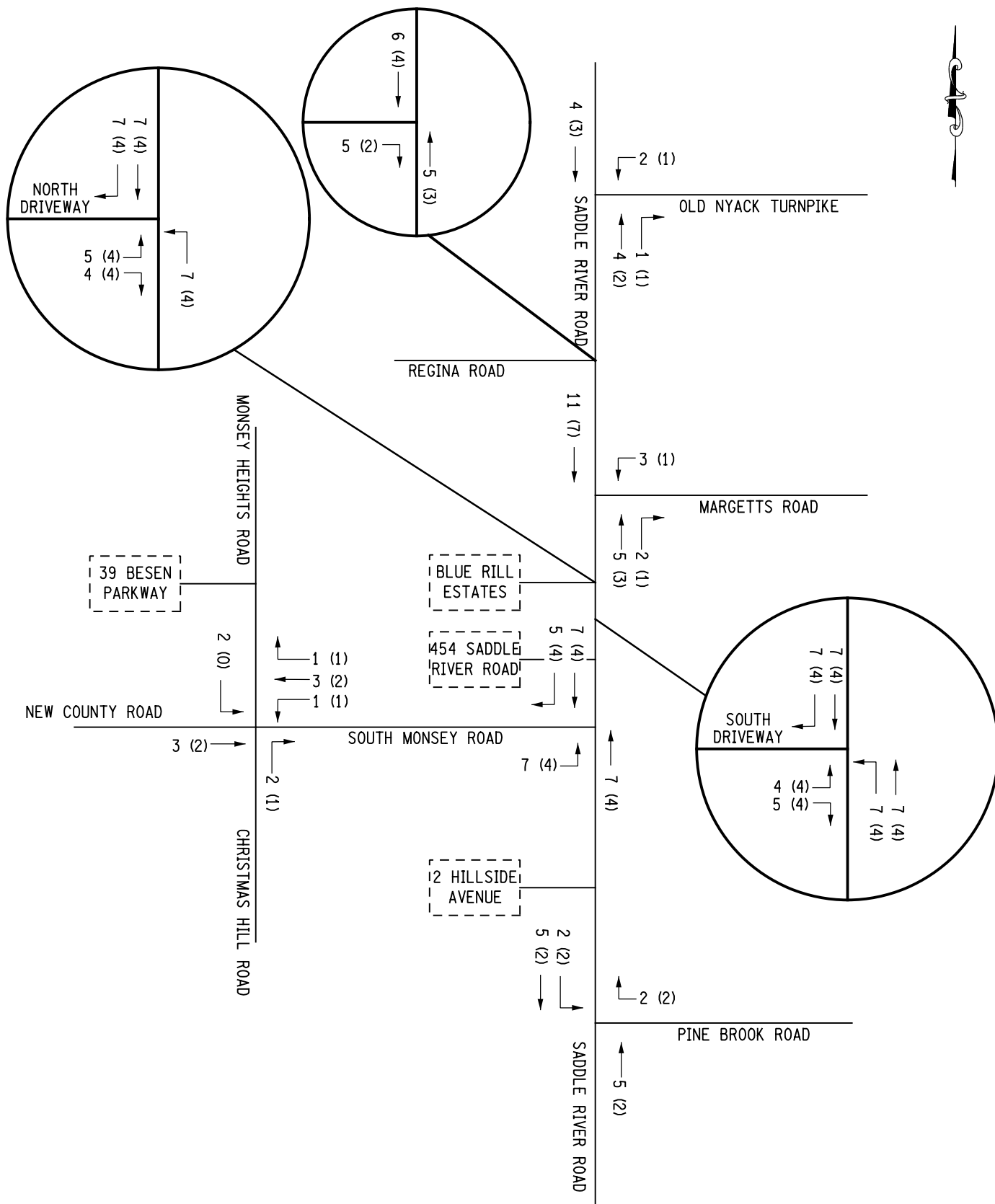
MJ Engineering
Architecture
Land Landscape Architecture
and Land Surveying, P.C.



FILE NAME = L:\Projects\MJ1587 - Blue Rill Estates\1587.01 Blue Rill Estates\02 Design\07 Reports\02-Traffic\Traffic Figures\05.1587-Traffic Figures_Trip Gen.dgn
DATE/TIME = 12/3/2024 4:34:07 PM
USER = cde@rick

FIGURE NO.	SCALE	DATE
5	NONE	SEP. 2024

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 DATE/TIME = 12/3/2024 4:34:07 PM
 USER = cde@rick



TRIP GENERATION - FRIDAY (SATURDAY) PEAK

MJ1587.01 - BLUE RILL ESTATES SENIOR
HOUSING DEVELOPMENT TRAFFIC IMPACT STUDY

FIGURE NO.

6

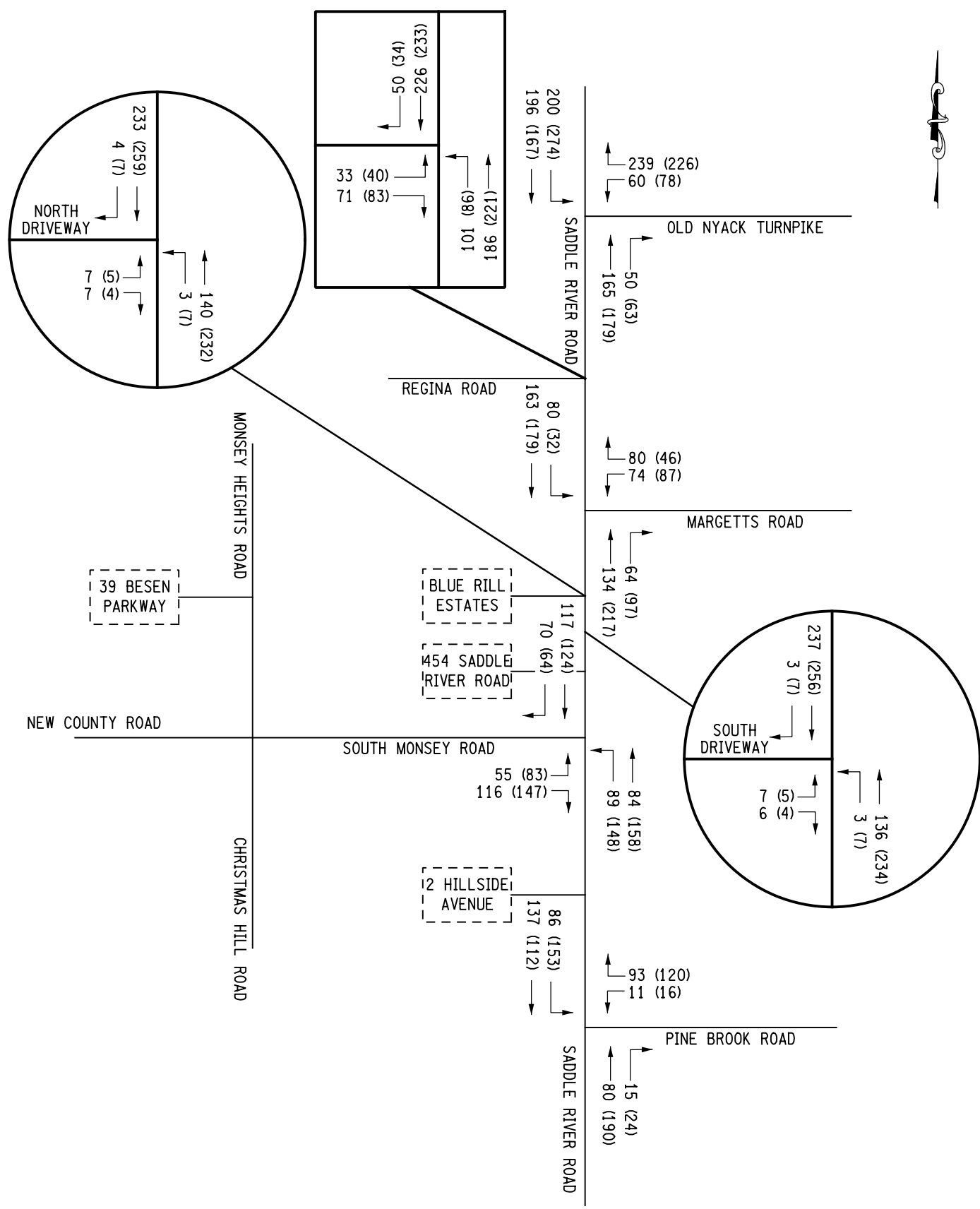
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DATE

SEP. 2024

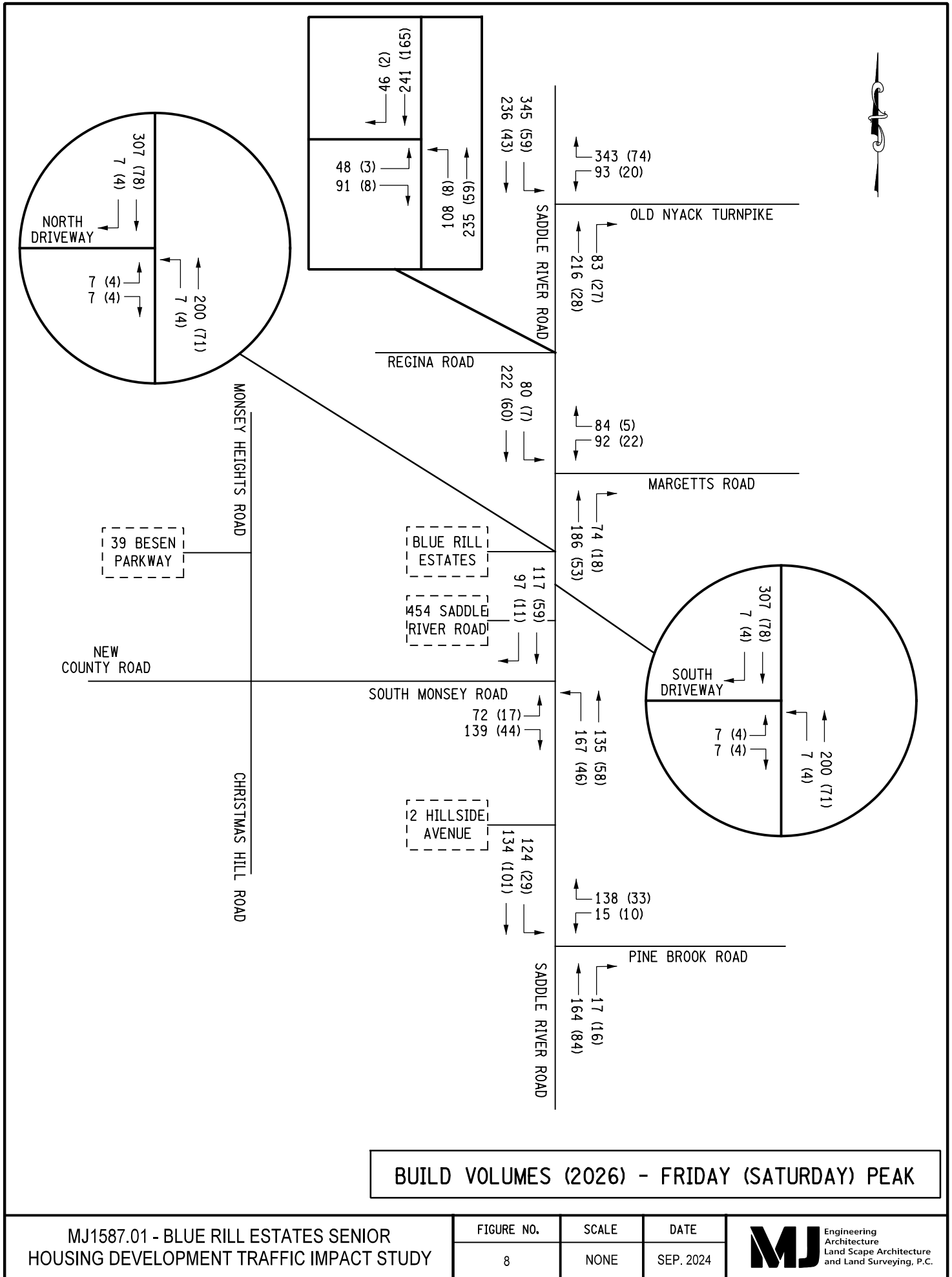
MJ Engineering
Architecture
Land Landscape Architecture
and Land Surveying, P.C.



BUILD VOLUMES (2026) - AM (PM) PEAK

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MJ1587.01 - BLUE RILL ESTATES SENIOR
 HOUSING DEVELOPMENT TRAFFIC IMPACT STUDY

FIGURE NO.

8

SCALE

NONE

DATE

SEP. 2024

MJ Engineering
 Architecture
 Land Landscape Architecture
 and Land Surveying, P.C.

**Appendix C **

Synchro Results

HCM Signalized Intersection Capacity Analysis

1: Saddle River Road & Old Nyack Turnpike

2024 Existing AM
12/03/2024

						
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	57	234	157	48	196	189
Future Volume (vph)	57	234	157	48	196	189
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.0		6.0			6.0
Lane Util. Factor	1.00		1.00			1.00
Frt	0.89		0.97			1.00
Flt Protected	0.99		1.00			0.98
Satd. Flow (prot)	1651		1840			1826
Flt Permitted	0.99		1.00			0.73
Satd. Flow (perm)	1651		1840			1362
Peak-hour factor, PHF	0.93	0.93	0.93	0.93	0.93	0.93
Adj. Flow (vph)	61	252	169	52	211	203
RTOR Reduction (vph)	166	0	14	0	0	0
Lane Group Flow (vph)	147	0	207	0	0	414
Heavy Vehicles (%)	0%	2%	0%	0%	1%	2%
Parking (#/hr)				0		
Turn Type	Prot		NA		pm+pt	NA
Protected Phases	8		6		5	2
Permitted Phases					2	
Actuated Green, G (s)	20.2		29.0			29.0
Effective Green, g (s)	20.2		29.0			29.0
Actuated g/C Ratio	0.33		0.47			0.47
Clearance Time (s)	6.0		6.0			6.0
Vehicle Extension (s)	3.0		3.0			3.0
Lane Grp Cap (vph)	544		871			645
v/s Ratio Prot	c0.09		0.11			
v/s Ratio Perm						c0.30
v/c Ratio	0.27		0.24			0.64
Uniform Delay, d1	15.1		9.5			12.2
Progression Factor	1.00		1.00			1.00
Incremental Delay, d2	0.3		0.1			2.2
Delay (s)	15.3		9.7			14.4
Level of Service	B		A			B
Approach Delay (s)	15.3		9.7			14.4
Approach LOS	B		A			B
Intersection Summary						
HCM 2000 Control Delay			13.6		HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio			0.56			
Actuated Cycle Length (s)			61.2		Sum of lost time (s)	18.0
Intersection Capacity Utilization			74.3%		ICU Level of Service	D
Analysis Period (min)			15			
c Critical Lane Group						

Intersection						
Int Delay, s/veh	3.3					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	32	68	99	165	205	49
Future Vol, veh/h	32	68	99	165	205	49
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, %	2	2	2	2	2	2
Mvmt Flow	35	74	108	179	223	53

Major/Minor	Minor2	Major1		Major2		
Conflicting Flow All	645	250	276	0	-	0
Stage 1	250	-	-	-	-	-
Stage 2	395	-	-	-	-	-
Critical Hdwy	6.42	6.22	4.12	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.218	-	-	-
Pot Cap-1 Maneuver	437	789	1287	-	-	-
Stage 1	792	-	-	-	-	-
Stage 2	681	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	396	789	1287	-	-	-
Mov Cap-2 Maneuver	396	-	-	-	-	-
Stage 1	718	-	-	-	-	-
Stage 2	681	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	12.3	3	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1287	-	599	-	-
HCM Lane V/C Ratio	0.084	-	0.181	-	-
HCM Control Delay (s)	8.1	0	12.3	-	-
HCM Lane LOS	A	A	B	-	-
HCM 95th %tile Q(veh)	0.3	-	0.7	-	-

Intersection						
Int Delay, s/veh	4.7					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	71	78	126	60	78	156
Future Vol, veh/h	71	78	126	60	78	156
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	80	80	80	80	80	80
Heavy Vehicles, %	0	1	1	0	0	2
Mvmt Flow	89	98	158	75	98	195
Major/Minor	Minor1	Major1	Major2			
Conflicting Flow All	587	196	0	0	233	0
Stage 1	196	-	-	-	-	-
Stage 2	391	-	-	-	-	-
Critical Hdwy	6.4	6.21	-	-	4.1	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	3.309	-	-	2.2	-
Pot Cap-1 Maneuver	475	848	-	-	1346	-
Stage 1	842	-	-	-	-	-
Stage 2	688	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	436	848	-	-	1346	-
Mov Cap-2 Maneuver	436	-	-	-	-	-
Stage 1	842	-	-	-	-	-
Stage 2	632	-	-	-	-	-
Approach	WB	NB		SB		
HCM Control Delay, s	14	0		2.6		
HCM LOS	B					
Minor Lane/Major Mvmt	NBT	NBRWBLn1	SBL	SBT		
Capacity (veh/h)	-	-	585	1346	-	
HCM Lane V/C Ratio	-	-	0.318	0.072	-	
HCM Control Delay (s)	-	-	14	7.9	0	
HCM Lane LOS	-	-	B	A	A	
HCM 95th %tile Q(veh)	-	-	1.4	0.2	-	

Intersection						
Int Delay, s/veh	5					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	50	97	87	79	107	62
Future Vol, veh/h	50	97	87	79	107	62
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	81	81	81	81	81	81
Heavy Vehicles, %	0	0	1	0	1	1
Mvmt Flow	62	120	107	98	132	77
Major/Minor	Minor2	Major1		Major2		
Conflicting Flow All	483	171	209	0	-	0
Stage 1	171	-	-	-	-	-
Stage 2	312	-	-	-	-	-
Critical Hdwy	6.4	6.2	4.11	-	-	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	2.209	-	-	-
Pot Cap-1 Maneuver	546	878	1368	-	-	-
Stage 1	864	-	-	-	-	-
Stage 2	747	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	501	878	1368	-	-	-
Mov Cap-2 Maneuver	501	-	-	-	-	-
Stage 1	792	-	-	-	-	-
Stage 2	747	-	-	-	-	-
Approach	EB	NB		SB		
HCM Control Delay, s	11.9	4.1		0		
HCM LOS	B					
Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR	
Capacity (veh/h)	1368	-	699	-	-	
HCM Lane V/C Ratio	0.079	-	0.26	-	-	
HCM Control Delay (s)	7.9	0	11.9	-	-	
HCM Lane LOS	A	A	B	-	-	
HCM 95th %tile Q(veh)	0.3	-	1	-	-	

Intersection						
Int Delay, s/veh	3.9					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	10	90	76	14	82	129
Future Vol, veh/h	10	90	76	14	82	129
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	82	82	82	82	82	82
Heavy Vehicles, %	0	2	2	0	0	2
Mvmt Flow	12	110	93	17	100	157
Major/Minor	Minor1	Major1		Major2		
Conflicting Flow All	459	102	0	0	110	0
Stage 1	102	-	-	-	-	-
Stage 2	357	-	-	-	-	-
Critical Hdwy	6.4	6.22	-	-	4.1	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	3.318	-	-	2.2	-
Pot Cap-1 Maneuver	564	953	-	-	1493	-
Stage 1	927	-	-	-	-	-
Stage 2	713	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	523	953	-	-	1493	-
Mov Cap-2 Maneuver	523	-	-	-	-	-
Stage 1	927	-	-	-	-	-
Stage 2	661	-	-	-	-	-
Approach	WB	NB		SB		
HCM Control Delay, s	9.7	0		2.9		
HCM LOS	A					
Minor Lane/Major Mvmt	NBT	NBRWBLn1		SBL	SBT	
Capacity (veh/h)	-	-		881	1493	
HCM Lane V/C Ratio	-	-		0.138	0.067	
HCM Control Delay (s)	-	-		9.7	7.6	
HCM Lane LOS	-	-		A	A	
HCM 95th %tile Q(veh)	-	-		0.5	0.2	

HCM Signalized Intersection Capacity Analysis

1: Saddle River Road & Old Nyack Turnpike

Existing 2024 PM
01/09/2025

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	W	W	T	R	L	R
Traffic Volume (vph)	74	224	171	60	268	160
Future Volume (vph)	74	224	171	60	268	160
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.0		6.0			6.0
Lane Util. Factor	1.00		1.00			1.00
Frt	0.90		0.96			1.00
Flt Protected	0.99		1.00			0.97
Satd. Flow (prot)	1674		1807			1842
Flt Permitted	0.99		1.00			0.67
Satd. Flow (perm)	1674		1807			1276
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	79	238	182	64	285	170
RTOR Reduction (vph)	125	0	14	0	0	0
Lane Group Flow (vph)	192	0	232	0	0	455
Heavy Vehicles (%)	0%	1%	2%	0%	0%	0%
Turn Type	Prot		NA		pm+pt	NA
Protected Phases	8		6		5	2
Permitted Phases					2	
Actuated Green, G (s)	20.4		33.1			33.1
Effective Green, g (s)	20.4		33.1			33.1
Actuated g/C Ratio	0.31		0.51			0.51
Clearance Time (s)	6.0		6.0			6.0
Vehicle Extension (s)	3.0		3.0			3.0
Lane Grp Cap (vph)	521		913			644
v/s Ratio Prot	c0.11		0.13			
v/s Ratio Perm						c0.36
v/c Ratio	0.37		0.25			0.71
Uniform Delay, d1	17.5		9.2			12.5
Progression Factor	1.00		1.00			1.00
Incremental Delay, d2	0.4		0.1			3.5
Delay (s)	18.0		9.3			16.0
Level of Service	B		A			B
Approach Delay (s)	18.0		9.3			16.0
Approach LOS	B		A			B
Intersection Summary						
HCM 2000 Control Delay			15.0		HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio			0.65			
Actuated Cycle Length (s)			65.5		Sum of lost time (s)	18.0
Intersection Capacity Utilization			77.0%		ICU Level of Service	D
Analysis Period (min)			15			
c Critical Lane Group						

Intersection						
Int Delay, s/veh	3.3					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	39	76	84	201	212	33
Future Vol, veh/h	39	76	84	201	212	33
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, %	2	2	2	2	2	2
Mvmt Flow	42	83	91	218	230	36
Major/Minor	Minor2	Major1		Major2		
Conflicting Flow All	648	248	266	0	-	0
Stage 1	248	-	-	-	-	-
Stage 2	400	-	-	-	-	-
Critical Hdwy	6.42	6.22	4.12	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.218	-	-	-
Pot Cap-1 Maneuver	435	791	1298	-	-	-
Stage 1	793	-	-	-	-	-
Stage 2	677	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	400	791	1298	-	-	-
Mov Cap-2 Maneuver	400	-	-	-	-	-
Stage 1	730	-	-	-	-	-
Stage 2	677	-	-	-	-	-
Approach	EB	NB		SB		
HCM Control Delay, s	12.7	2.4		0		
HCM LOS	B					
Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR	
Capacity (veh/h)	1298	-	594	-	-	
HCM Lane V/C Ratio	0.07	-	0.21	-	-	
HCM Control Delay (s)	8	0	12.7	-	-	
HCM Lane LOS	A	A	B	-	-	
HCM 95th %tile Q(veh)	0.2	-	0.8	-	-	

HCM 6th TWSC
3: Margetts Road & Saddle River Road

Existing 2024 PM
01/09/2025

Intersection						
Int Delay, s/veh	3.1					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	84	45	209	94	31	168
Future Vol, veh/h	84	45	209	94	31	168
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	2	0	0	1
Mvmt Flow	91	49	227	102	34	183
Major/Minor	Minor1	Major1		Major2		
Conflicting Flow All	529	278	0	0	329	0
Stage 1	278	-	-	-	-	-
Stage 2	251	-	-	-	-	-
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	514	766	-	-	1242	-
Stage 1	774	-	-	-	-	-
Stage 2	795	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	499	766	-	-	1242	-
Mov Cap-2 Maneuver	499	-	-	-	-	-
Stage 1	774	-	-	-	-	-
Stage 2	771	-	-	-	-	-
Approach	WB	NB		SB		
HCM Control Delay, s	13.4	0		1.2		
HCM LOS	B					
Minor Lane/Major Mvmt	NBT	NBRWBLn1		SBL	SBT	
Capacity (veh/h)	-	-		568	1242	
HCM Lane V/C Ratio	-	-		0.247	0.027	
HCM Control Delay (s)	-	-		13.4	8	
HCM Lane LOS	-	-		B	A	
HCM 95th %tile Q(veh)	-	-		1	0.1	

Intersection						
Int Delay, s/veh	5.9					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	73	130	145	148	117	58
Future Vol, veh/h	73	130	145	148	117	58
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	2	2	2	0
Mvmt Flow	78	138	154	157	124	62
Major/Minor	Minor2	Major1		Major2		
Conflicting Flow All	620	155	186	0	-	0
Stage 1	155	-	-	-	-	-
Stage 2	465	-	-	-	-	-
Critical Hdwy	6.4	6.2	4.12	-	-	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	2.218	-	-	-
Pot Cap-1 Maneuver	455	896	1388	-	-	-
Stage 1	878	-	-	-	-	-
Stage 2	636	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	399	896	1388	-	-	-
Mov Cap-2 Maneuver	399	-	-	-	-	-
Stage 1	771	-	-	-	-	-
Stage 2	636	-	-	-	-	-
Approach	EB	NB		SB		
HCM Control Delay, s	13.9	3.9		0		
HCM LOS	B					
Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR	
Capacity (veh/h)	1388	-	619	-	-	
HCM Lane V/C Ratio	0.111	-	0.349	-	-	
HCM Control Delay (s)	7.9	0	13.9	-	-	
HCM Lane LOS	A	A	B	-	-	
HCM 95th %tile Q(veh)	0.4	-	1.6	-	-	

Intersection						
Int Delay, s/veh	3.9					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	15	115	181	23	106	149
Future Vol, veh/h	15	115	181	23	106	149
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	85	85	85	85	85	85
Heavy Vehicles, %	7	1	2	0	0	0
Mvmt Flow	18	135	213	27	125	175
Major/Minor	Minor1	Major1		Major2		
Conflicting Flow All	652	227	0	0	240	0
Stage 1	227	-	-	-	-	-
Stage 2	425	-	-	-	-	-
Critical Hdwy	6.47	6.21	-	-	4.1	-
Critical Hdwy Stg 1	5.47	-	-	-	-	-
Critical Hdwy Stg 2	5.47	-	-	-	-	-
Follow-up Hdwy	3.563	3.309	-	-	2.2	-
Pot Cap-1 Maneuver	425	815	-	-	1339	-
Stage 1	799	-	-	-	-	-
Stage 2	649	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	381	815	-	-	1339	-
Mov Cap-2 Maneuver	381	-	-	-	-	-
Stage 1	799	-	-	-	-	-
Stage 2	582	-	-	-	-	-
Approach	WB	NB		SB		
HCM Control Delay, s	11.3	0		3.3		
HCM LOS	B					
Minor Lane/Major Mvmt	NBT	NBRWBLn1	SBL	SBT		
Capacity (veh/h)	-	-	720	1339	-	
HCM Lane V/C Ratio	-	-	0.212	0.093	-	
HCM Control Delay (s)	-	-	11.3	8	0	
HCM Lane LOS	-	-	B	A	A	
HCM 95th %tile Q(veh)	-	-	0.8	0.3	-	

HCM Signalized Intersection Capacity Analysis

1: Saddle River Road & Old Nyack Turnpike

Existing 2024 Midday
12/03/2024

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	89	336	207	80	336	216
Future Volume (vph)	89	336	207	80	336	216
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.0		6.0			6.0
Lane Util. Factor	1.00		1.00			1.00
Frt	0.89		0.96			1.00
Flt Protected	0.99		1.00			0.97
Satd. Flow (prot)	1634		1803			1826
Flt Permitted	0.99		1.00			0.64
Satd. Flow (perm)	1634		1803			1205
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	95	357	220	85	357	230
RTOR Reduction (vph)	167	0	13	0	0	0
Lane Group Flow (vph)	285	0	292	0	0	587
Heavy Vehicles (%)	2%	3%	0%	5%	1%	1%
Turn Type	Prot		NA		pm+pt	NA
Protected Phases	8		6		5	2
Permitted Phases					2	
Actuated Green, G (s)	20.1		45.8			45.8
Effective Green, g (s)	20.1		45.8			45.8
Actuated g/C Ratio	0.26		0.59			0.59
Clearance Time (s)	6.0		6.0			6.0
Vehicle Extension (s)	3.0		3.0			3.0
Lane Grp Cap (vph)	421		1060			708
v/s Ratio Prot	c0.17		0.16			
v/s Ratio Perm						c0.49
v/c Ratio	0.68		0.28			0.83
Uniform Delay, d1	26.0		7.9			12.9
Progression Factor	1.00		1.00			1.00
Incremental Delay, d2	4.3		0.1			8.0
Delay (s)	30.3		8.0			20.9
Level of Service	C		A			C
Approach Delay (s)	30.3		8.0			20.9
Approach LOS	C		A			C
Intersection Summary						
HCM 2000 Control Delay			21.1		HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio			0.86			
Actuated Cycle Length (s)			77.9		Sum of lost time (s)	18.0
Intersection Capacity Utilization			91.4%		ICU Level of Service	F
Analysis Period (min)			15			
c Critical Lane Group						

Intersection						
Int Delay, s/veh	3.8					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	47	84	106	213	219	45
Future Vol, veh/h	47	84	106	213	219	45
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, %	2	2	2	2	2	2
Mvmt Flow	51	91	115	232	238	49

Major/Minor	Minor2	Major1		Major2		
Conflicting Flow All	725	263	287	0	-	0
Stage 1	263	-	-	-	-	-
Stage 2	462	-	-	-	-	-
Critical Hdwy	6.42	6.22	4.12	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.218	-	-	-
Pot Cap-1 Maneuver	392	776	1275	-	-	-
Stage 1	781	-	-	-	-	-
Stage 2	634	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	351	776	1275	-	-	-
Mov Cap-2 Maneuver	351	-	-	-	-	-
Stage 1	700	-	-	-	-	-
Stage 2	634	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	14	2.7	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1275	-	541	-	-
HCM Lane V/C Ratio	0.09	-	0.263	-	-
HCM Control Delay (s)	8.1	0	14	-	-
HCM Lane LOS	A	A	B	-	-
HCM 95th %tile Q(veh)	0.3	-	1.1	-	-

Intersection						
Int Delay, s/veh	6.2					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	87	82	177	70	78	206
Future Vol, veh/h	87	82	177	70	78	206
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	72	72	72	72	72	72
Heavy Vehicles, %	1	1	7	0	4	5
Mvmt Flow	121	114	246	97	108	286
Major/Minor	Minor1	Major1		Major2		
Conflicting Flow All	797	295	0	0	343	0
Stage 1	295	-	-	-	-	-
Stage 2	502	-	-	-	-	-
Critical Hdwy	6.41	6.21	-	-	4.14	-
Critical Hdwy Stg 1	5.41	-	-	-	-	-
Critical Hdwy Stg 2	5.41	-	-	-	-	-
Follow-up Hdwy	3.509	3.309	-	-	2.236	-
Pot Cap-1 Maneuver	357	747	-	-	1205	-
Stage 1	758	-	-	-	-	-
Stage 2	610	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	319	747	-	-	1205	-
Mov Cap-2 Maneuver	319	-	-	-	-	-
Stage 1	758	-	-	-	-	-
Stage 2	545	-	-	-	-	-
Approach	WB	NB		SB		
HCM Control Delay, s	22	0		2.3		
HCM LOS	C					
Minor Lane/Major Mvmt	NBT	NBRWBLn1	SBL	SBT		
Capacity (veh/h)	-	-	442	1205	-	
HCM Lane V/C Ratio	-	-	0.531	0.09	-	
HCM Control Delay (s)	-	-	22	8.3	0	
HCM Lane LOS	-	-	C	A	A	
HCM 95th %tile Q(veh)	-	-	3	0.3	-	

Intersection						
Int Delay, s/veh	5.9					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	63	136	163	125	107	90
Future Vol, veh/h	63	136	163	125	107	90
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, %	3	2	1	3	4	3
Mvmt Flow	68	146	175	134	115	97
Major/Minor	Minor2	Major1		Major2		
Conflicting Flow All	648	164	212	0	-	0
Stage 1	164	-	-	-	-	-
Stage 2	484	-	-	-	-	-
Critical Hdwy	6.43	6.22	4.11	-	-	-
Critical Hdwy Stg 1	5.43	-	-	-	-	-
Critical Hdwy Stg 2	5.43	-	-	-	-	-
Follow-up Hdwy	3.527	3.318	2.209	-	-	-
Pot Cap-1 Maneuver	433	881	1364	-	-	-
Stage 1	863	-	-	-	-	-
Stage 2	618	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	373	881	1364	-	-	-
Mov Cap-2 Maneuver	373	-	-	-	-	-
Stage 1	743	-	-	-	-	-
Stage 2	618	-	-	-	-	-
Approach	EB	NB		SB		
HCM Control Delay, s	13.9	4.5		0		
HCM LOS	B					
Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR	
Capacity (veh/h)	1364	-	616	-	-	
HCM Lane V/C Ratio	0.128	-	0.347	-	-	
HCM Control Delay (s)	8	0	13.9	-	-	
HCM Lane LOS	A	A	B	-	-	
HCM 95th %tile Q(veh)	0.4	-	1.5	-	-	

Intersection						
Int Delay, s/veh	4.4					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	14	133	155	16	119	126
Future Vol, veh/h	14	133	155	16	119	126
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, %	0	2	3	0	2	5
Mvmt Flow	15	143	167	17	128	135
Major/Minor	Minor1	Major1		Major2		
Conflicting Flow All	567	176	0	0	184	0
Stage 1	176	-	-	-	-	-
Stage 2	391	-	-	-	-	-
Critical Hdwy	6.4	6.22	-	-	4.12	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	3.318	-	-	2.218	-
Pot Cap-1 Maneuver	488	867	-	-	1391	-
Stage 1	859	-	-	-	-	-
Stage 2	688	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	439	867	-	-	1391	-
Mov Cap-2 Maneuver	439	-	-	-	-	-
Stage 1	859	-	-	-	-	-
Stage 2	619	-	-	-	-	-
Approach	WB	NB		SB		
HCM Control Delay, s	10.7	0		3.8		
HCM LOS	B					
Minor Lane/Major Mvmt	NBT	NBRWBLn1	SBL	SBT		
Capacity (veh/h)	-	-	793	1391	-	
HCM Lane V/C Ratio	-	-	0.199	0.092	-	
HCM Control Delay (s)	-	-	10.7	7.8	0	
HCM Lane LOS	-	-	B	A	A	
HCM 95th %tile Q(veh)	-	-	0.7	0.3	-	

HCM Signalized Intersection Capacity Analysis

1: Saddle River Road & Old Nyack Turnpike

Existing 2024 Saturday
12/03/2024

						
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	18	72	25	25	57	39
Future Volume (vph)	18	72	25	25	57	39
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.0		6.0			6.0
Lane Util. Factor	1.00		1.00			1.00
Frt	0.89		0.93			1.00
Flt Protected	0.99		1.00			0.97
Satd. Flow (prot)	1665		1737			1802
Flt Permitted	0.99		1.00			0.83
Satd. Flow (perm)	1665		1737			1548
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	20	78	27	27	62	42
RTOR Reduction (vph)	57	0	13	0	0	0
Lane Group Flow (vph)	41	0	41	0	0	104
Heavy Vehicles (%)	0%	1%	4%	0%	2%	3%
Turn Type	Prot		NA		pm+pt	NA
Protected Phases	8		6		5	2
Permitted Phases					2	
Actuated Green, G (s)	15.3		30.2			30.2
Effective Green, g (s)	15.3		30.2			30.2
Actuated g/C Ratio	0.27		0.53			0.53
Clearance Time (s)	6.0		6.0			6.0
Vehicle Extension (s)	3.0		3.0			3.0
Lane Grp Cap (vph)	443		912			813
v/s Ratio Prot	c0.02		0.02			
v/s Ratio Perm						c0.07
v/c Ratio	0.09		0.05			0.13
Uniform Delay, d1	15.9		6.6			6.9
Progression Factor	1.00		1.00			1.00
Incremental Delay, d2	0.1		0.0			0.1
Delay (s)	16.0		6.7			7.0
Level of Service	B		A			A
Approach Delay (s)	16.0		6.7			7.0
Approach LOS	B		A			A
Intersection Summary						
HCM 2000 Control Delay			10.4		HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio			0.13			
Actuated Cycle Length (s)			57.5		Sum of lost time (s)	18.0
Intersection Capacity Utilization			47.5%		ICU Level of Service	A
Analysis Period (min)			15			
c Critical Lane Group						

Intersection						
Int Delay, s/veh	0.7					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	3	6	8	41	145	2
Future Vol, veh/h	3	6	8	41	145	2
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	3	7	9	45	158	2

Major/Minor	Minor2	Major1	Major2			
Conflicting Flow All	222	159	160	0	-	0
Stage 1	159	-	-	-	-	-
Stage 2	63	-	-	-	-	-
Critical Hdwy	6.42	6.22	4.12	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.218	-	-	-
Pot Cap-1 Maneuver	766	886	1419	-	-	-
Stage 1	870	-	-	-	-	-
Stage 2	960	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	761	886	1419	-	-	-
Mov Cap-2 Maneuver	761	-	-	-	-	-
Stage 1	864	-	-	-	-	-
Stage 2	960	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	9.3	1.2	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1419	-	840	-	-
HCM Lane V/C Ratio	0.006	-	0.012	-	-
HCM Control Delay (s)	7.6	0	9.3	-	-
HCM Lane LOS	A	A	A	-	-
HCM 95th %tile Q(veh)	0	-	0	-	-

Intersection						
Int Delay, s/veh	1.8					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	20	4	49	16	6	51
Future Vol, veh/h	20	4	49	16	6	51
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	4	0	0	0
Mvmt Flow	21	4	52	17	6	54
Major/Minor	Minor1	Major1		Major2		
Conflicting Flow All	127	61	0	0	69	0
Stage 1	61	-	-	-	-	-
Stage 2	66	-	-	-	-	-
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	872	1010	-	-	1545	-
Stage 1	967	-	-	-	-	-
Stage 2	962	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	869	1010	-	-	1545	-
Mov Cap-2 Maneuver	869	-	-	-	-	-
Stage 1	967	-	-	-	-	-
Stage 2	958	-	-	-	-	-
Approach	WB	NB		SB		
HCM Control Delay, s	9.2	0		0.8		
HCM LOS	A					
Minor Lane/Major Mvmt	NBT	NBRWBLn1		SBL	SBT	
Capacity (veh/h)	-	-		890	1545	-
HCM Lane V/C Ratio	-	-		0.029	0.004	-
HCM Control Delay (s)	-	-		9.2	7.3	0
HCM Lane LOS	-	-		A	A	A
HCM 95th %tile Q(veh)	-	-		0.1	0	-

Intersection						
Int Delay, s/veh	3.9					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	12	43	45	52	53	6
Future Vol, veh/h	12	43	45	52	53	6
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, %	2	2	0	2	6	0
Mvmt Flow	13	46	48	55	56	6
Major/Minor	Minor2	Major1		Major2		
Conflicting Flow All	210	59	62	0	-	0
Stage 1	59	-	-	-	-	-
Stage 2	151	-	-	-	-	-
Critical Hdwy	6.42	6.22	4.1	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.2	-	-	-
Pot Cap-1 Maneuver	778	1007	1554	-	-	-
Stage 1	964	-	-	-	-	-
Stage 2	877	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	753	1007	1554	-	-	-
Mov Cap-2 Maneuver	753	-	-	-	-	-
Stage 1	933	-	-	-	-	-
Stage 2	877	-	-	-	-	-
Approach	EB	NB		SB		
HCM Control Delay, s	9.1	3.4		0		
HCM LOS	A					
Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR	
Capacity (veh/h)	1554	-	938	-	-	
HCM Lane V/C Ratio	0.031	-	0.062	-	-	
HCM Control Delay (s)	7.4	0	9.1	-	-	
HCM Lane LOS	A	A	A	-	-	
HCM 95th %tile Q(veh)	0.1	-	0.2	-	-	

Intersection						
Int Delay, s/veh	2.2					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	9	30	80	15	26	97
Future Vol, veh/h	9	30	80	15	26	97
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	89	89	89	89	89	89
Heavy Vehicles, %	0	0	8	0	0	3
Mvmt Flow	10	34	90	17	29	109

Major/Minor	Minor1	Major1	Major2		
Conflicting Flow All	266	99	0	0	107
Stage 1	99	-	-	-	-
Stage 2	167	-	-	-	-
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	727	962	-	-	1497
Stage 1	930	-	-	-	-
Stage 2	867	-	-	-	-
Platoon blocked, %			-	-	-
Mov Cap-1 Maneuver	712	962	-	-	1497
Mov Cap-2 Maneuver	712	-	-	-	-
Stage 1	930	-	-	-	-
Stage 2	849	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	9.3	0	1.6
HCM LOS	A		

Minor Lane/Major Mvmt	NBT	NBRWBLn1	SBL	SBT
Capacity (veh/h)	-	-	890	1497
HCM Lane V/C Ratio	-	-	0.049	0.02
HCM Control Delay (s)	-	-	9.3	7.5
HCM Lane LOS	-	-	A	A
HCM 95th %tile Q(veh)	-	-	0.2	0.1

HCM Signalized Intersection Capacity Analysis

1: Saddle River Road & Old Nyack Turnpike

2026 No-Build AM
12/03/2024



Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	WT		RT			RT
Traffic Volume (vph)	59	239	161	49	200	193
Future Volume (vph)	59	239	161	49	200	193
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.0		6.0			6.0
Lane Util. Factor	1.00		1.00			1.00
Frt	0.89		0.97			1.00
Flt Protected	0.99		1.00			0.98
Satd. Flow (prot)	1651		1840			1826
Flt Permitted	0.99		1.00			0.73
Satd. Flow (perm)	1651		1840			1358
Peak-hour factor, PHF	0.93	0.93	0.93	0.93	0.93	0.93
Adj. Flow (vph)	63	257	173	53	215	208
RTOR Reduction (vph)	165	0	14	0	0	0
Lane Group Flow (vph)	155	0	212	0	0	423
Heavy Vehicles (%)	0%	2%	0%	0%	1%	2%
Parking (#/hr)				0		
Turn Type	Prot		NA		pm+pt	NA
Protected Phases	8		6		5	2
Permitted Phases					2	
Actuated Green, G (s)	20.2		29.6			29.6
Effective Green, g (s)	20.2		29.6			29.6
Actuated g/C Ratio	0.33		0.48			0.48
Clearance Time (s)	6.0		6.0			6.0
Vehicle Extension (s)	3.0		3.0			3.0
Lane Grp Cap (vph)	539		881			650
v/s Ratio Prot	c0.09		0.12			
v/s Ratio Perm						c0.31
v/c Ratio	0.29		0.24			0.65
Uniform Delay, d1	15.5		9.5			12.2
Progression Factor	1.00		1.00			1.00
Incremental Delay, d2	0.3		0.1			2.3
Delay (s)	15.8		9.6			14.5
Level of Service	B		A			B
Approach Delay (s)	15.8		9.6			14.5
Approach LOS	B		A			B
Intersection Summary						
HCM 2000 Control Delay			13.8		HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio			0.57			
Actuated Cycle Length (s)			61.8		Sum of lost time (s)	18.0
Intersection Capacity Utilization			75.1%		ICU Level of Service	D
Analysis Period (min)			15			

c Critical Lane Group

Intersection						
Int Delay, s/veh	3.2					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	33	69	101	181	222	50
Future Vol, veh/h	33	69	101	181	222	50
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, %	2	2	2	2	2	2
Mvmt Flow	36	75	110	197	241	54

Major/Minor	Minor2	Major1		Major2		
Conflicting Flow All	685	268	295	0	-	0
Stage 1	268	-	-	-	-	-
Stage 2	417	-	-	-	-	-
Critical Hdwy	6.42	6.22	4.12	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.218	-	-	-
Pot Cap-1 Maneuver	414	771	1266	-	-	-
Stage 1	777	-	-	-	-	-
Stage 2	665	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	373	771	1266	-	-	-
Mov Cap-2 Maneuver	373	-	-	-	-	-
Stage 1	701	-	-	-	-	-
Stage 2	665	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	12.8	2.9	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1266	-	573	-	-
HCM Lane V/C Ratio	0.087	-	0.193	-	-
HCM Control Delay (s)	8.1	0	12.8	-	-
HCM Lane LOS	A	A	B	-	-
HCM 95th %tile Q(veh)	0.3	-	0.7	-	-

Intersection						
Int Delay, s/veh	4.8					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	73	80	129	62	80	160
Future Vol, veh/h	73	80	129	62	80	160
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	80	80	80	80	80	80
Heavy Vehicles, %	0	1	1	0	0	2
Mvmt Flow	91	100	161	78	100	200
Major/Minor	Minor1	Major1		Major2		
Conflicting Flow All	600	200	0	0	239	0
Stage 1	200	-	-	-	-	-
Stage 2	400	-	-	-	-	-
Critical Hdwy	6.4	6.21	-	-	4.1	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	3.309	-	-	2.2	-
Pot Cap-1 Maneuver	467	843	-	-	1340	-
Stage 1	838	-	-	-	-	-
Stage 2	681	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	428	843	-	-	1340	-
Mov Cap-2 Maneuver	428	-	-	-	-	-
Stage 1	838	-	-	-	-	-
Stage 2	624	-	-	-	-	-
Approach	WB	NB		SB		
HCM Control Delay, s	14.3	0		2.6		
HCM LOS	B					
Minor Lane/Major Mvmt	NBT	NBRWBLn1		SBL	SBT	
Capacity (veh/h)	-	-		576	1340	
HCM Lane V/C Ratio	-	-		0.332	0.075	
HCM Control Delay (s)	-	-		14.3	7.9	
HCM Lane LOS	-	-		B	A	
HCM 95th %tile Q(veh)	-	-		1.4	0.2	

Intersection						
Int Delay, s/veh	5.1					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	52	99	89	81	110	64
Future Vol, veh/h	52	99	89	81	110	64
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	81	81	81	81	81	81
Heavy Vehicles, %	0	0	1	0	1	1
Mvmt Flow	64	122	110	100	136	79

Major/Minor	Minor2	Major1		Major2		
Conflicting Flow All	496	176	215	0	-	0
Stage 1	176	-	-	-	-	-
Stage 2	320	-	-	-	-	-
Critical Hdwy	6.4	6.2	4.11	-	-	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	2.209	-	-	-
Pot Cap-1 Maneuver	537	872	1361	-	-	-
Stage 1	859	-	-	-	-	-
Stage 2	741	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	491	872	1361	-	-	-
Mov Cap-2 Maneuver	491	-	-	-	-	-
Stage 1	785	-	-	-	-	-
Stage 2	741	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	12.2	4.1	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1361	-	688	-	-
HCM Lane V/C Ratio	0.081	-	0.271	-	-
HCM Control Delay (s)	7.9	0	12.2	-	-
HCM Lane LOS	A	A	B	-	-
HCM 95th %tile Q(veh)	0.3	-	1.1	-	-

Intersection						
Int Delay, s/veh	4					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	11	92	78	15	84	132
Future Vol, veh/h	11	92	78	15	84	132
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	82	82	82	82	82	82
Heavy Vehicles, %	0	2	2	0	0	2
Mvmt Flow	13	112	95	18	102	161
Major/Minor	Minor1	Major1	Major2			
Conflicting Flow All	469	104	0	0	113	0
Stage 1	104	-	-	-	-	-
Stage 2	365	-	-	-	-	-
Critical Hdwy	6.4	6.22	-	-	4.1	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	3.318	-	-	2.2	-
Pot Cap-1 Maneuver	556	951	-	-	1489	-
Stage 1	925	-	-	-	-	-
Stage 2	707	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	514	951	-	-	1489	-
Mov Cap-2 Maneuver	514	-	-	-	-	-
Stage 1	925	-	-	-	-	-
Stage 2	654	-	-	-	-	-
Approach	WB	NB	SB			
HCM Control Delay, s	9.8	0	3			
HCM LOS	A					
Minor Lane/Major Mvmt	NBT	NBRWBLn1	SBL	SBT		
Capacity (veh/h)	-	-	872	1489	-	
HCM Lane V/C Ratio	-	-	0.144	0.069	-	
HCM Control Delay (s)	-	-	9.8	7.6	0	
HCM Lane LOS	-	-	A	A	A	
HCM 95th %tile Q(veh)	-	-	0.5	0.2	-	

HCM Signalized Intersection Capacity Analysis

1: Saddle River Road & Old Nyack Turnpike

No-Build 2026 PM
12/03/2024

						
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	76	229	175	62	274	164
Future Volume (vph)	76	229	175	62	274	164
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.0		6.0			6.0
Lane Util. Factor	1.00		1.00			1.00
Frt	0.90		0.96			1.00
Flt Protected	0.99		1.00			0.97
Satd. Flow (prot)	1674		1806			1842
Flt Permitted	0.99		1.00			0.67
Satd. Flow (perm)	1674		1806			1271
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	81	244	186	66	291	174
RTOR Reduction (vph)	125	0	15	0	0	0
Lane Group Flow (vph)	200	0	237	0	0	465
Heavy Vehicles (%)	0%	1%	2%	0%	0%	0%
Turn Type	Prot		NA		pm+pt	NA
Protected Phases	8		6		5	2
Permitted Phases					2	
Actuated Green, G (s)	20.4		33.8			33.8
Effective Green, g (s)	20.4		33.8			33.8
Actuated g/C Ratio	0.31		0.51			0.51
Clearance Time (s)	6.0		6.0			6.0
Vehicle Extension (s)	3.0		3.0			3.0
Lane Grp Cap (vph)	515		922			648
v/s Ratio Prot	c0.12		0.13			
v/s Ratio Perm						c0.37
v/c Ratio	0.39		0.26			0.72
Uniform Delay, d1	18.0		9.1			12.5
Progression Factor	1.00		1.00			1.00
Incremental Delay, d2	0.5		0.1			3.8
Delay (s)	18.5		9.3			16.3
Level of Service	B		A			B
Approach Delay (s)	18.5		9.3			16.3
Approach LOS	B		A			B
Intersection Summary						
HCM 2000 Control Delay			15.3		HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio			0.67			
Actuated Cycle Length (s)			66.2		Sum of lost time (s)	18.0
Intersection Capacity Utilization			77.9%		ICU Level of Service	D
Analysis Period (min)			15			
c Critical Lane Group						

Intersection						
Int Delay, s/veh	3.3					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	40	78	86	216	227	34
Future Vol, veh/h	40	78	86	216	227	34
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, %	2	2	2	2	2	2
Mvmt Flow	43	85	93	235	247	37

Major/Minor	Minor2	Major1		Major2		
Conflicting Flow All	687	266	284	0	-	0
Stage 1	266	-	-	-	-	-
Stage 2	421	-	-	-	-	-
Critical Hdwy	6.42	6.22	4.12	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.218	-	-	-
Pot Cap-1 Maneuver	413	773	1278	-	-	-
Stage 1	779	-	-	-	-	-
Stage 2	662	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	378	773	1278	-	-	-
Mov Cap-2 Maneuver	378	-	-	-	-	-
Stage 1	714	-	-	-	-	-
Stage 2	662	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	13.1	2.3	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1278	-	571	-	-
HCM Lane V/C Ratio	0.073	-	0.225	-	-
HCM Control Delay (s)	8	0	13.1	-	-
HCM Lane LOS	A	A	B	-	-
HCM 95th %tile Q(veh)	0.2	-	0.9	-	-

Intersection						
Int Delay, s/veh	3.2					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	86	46	214	96	32	172
Future Vol, veh/h	86	46	214	96	32	172
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	2	0	0	1
Mvmt Flow	93	50	233	104	35	187
Major/Minor	Minor1	Major1		Major2		
Conflicting Flow All	542	285	0	0	337	0
Stage 1	285	-	-	-	-	-
Stage 2	257	-	-	-	-	-
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	505	759	-	-	1234	-
Stage 1	768	-	-	-	-	-
Stage 2	791	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	489	759	-	-	1234	-
Mov Cap-2 Maneuver	489	-	-	-	-	-
Stage 1	768	-	-	-	-	-
Stage 2	766	-	-	-	-	-
Approach	WB	NB		SB		
HCM Control Delay, s	13.7	0		1.3		
HCM LOS	B					
Minor Lane/Major Mvmt		NBT	NBRWBLn1	SBL	SBT	
Capacity (veh/h)		-	-	558	1234	-
HCM Lane V/C Ratio		-	-	0.257	0.028	-
HCM Control Delay (s)		-	-	13.7	8	0
HCM Lane LOS		-	-	B	A	A
HCM 95th %tile Q(veh)		-	-	1	0.1	-

Intersection						
Int Delay, s/veh	6					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	75	133	148	151	120	60
Future Vol, veh/h	75	133	148	151	120	60
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	2	2	2	0
Mvmt Flow	80	141	157	161	128	64
Major/Minor	Minor2	Major1		Major2		
Conflicting Flow All	635	160	192	0	-	0
Stage 1	160	-	-	-	-	-
Stage 2	475	-	-	-	-	-
Critical Hdwy	6.4	6.2	4.12	-	-	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	2.218	-	-	-
Pot Cap-1 Maneuver	446	890	1381	-	-	-
Stage 1	874	-	-	-	-	-
Stage 2	630	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	390	890	1381	-	-	-
Mov Cap-2 Maneuver	390	-	-	-	-	-
Stage 1	765	-	-	-	-	-
Stage 2	630	-	-	-	-	-
Approach	EB	NB		SB		
HCM Control Delay, s	14.2	3.9		0		
HCM LOS	B					
Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR	
Capacity (veh/h)	1381	-	609	-	-	
HCM Lane V/C Ratio	0.114	-	0.363	-	-	
HCM Control Delay (s)	7.9	0	14.2	-	-	
HCM Lane LOS	A	A	B	-	-	
HCM 95th %tile Q(veh)	0.4	-	1.7	-	-	

Intersection						
Int Delay, s/veh	4.6					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	16	118	185	24	152	109
Future Vol, veh/h	16	118	185	24	152	109
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	85	85	85	85	85	85
Heavy Vehicles, %	7	1	2	0	0	0
Mvmt Flow	19	139	218	28	179	128
Major/Minor	Minor1	Major1		Major2		
Conflicting Flow All	718	232	0	0	246	0
Stage 1	232	-	-	-	-	-
Stage 2	486	-	-	-	-	-
Critical Hdwy	6.47	6.21	-	-	4.1	-
Critical Hdwy Stg 1	5.47	-	-	-	-	-
Critical Hdwy Stg 2	5.47	-	-	-	-	-
Follow-up Hdwy	3.563	3.309	-	-	2.2	-
Pot Cap-1 Maneuver	388	810	-	-	1332	-
Stage 1	795	-	-	-	-	-
Stage 2	608	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	332	810	-	-	1332	-
Mov Cap-2 Maneuver	332	-	-	-	-	-
Stage 1	795	-	-	-	-	-
Stage 2	520	-	-	-	-	-
Approach	WB	NB		SB		
HCM Control Delay, s	11.7	0		4.7		
HCM LOS	B					
Minor Lane/Major Mvmt	NBT	NBRWBLn1	SBL	SBT		
Capacity (veh/h)	-	-	691	1332	-	
HCM Lane V/C Ratio	-	-	0.228	0.134	-	
HCM Control Delay (s)	-	-	11.7	8.1	0	
HCM Lane LOS	-	-	B	A	A	
HCM 95th %tile Q(veh)	-	-	0.9	0.5	-	

HCM Signalized Intersection Capacity Analysis

1: Saddle River Road & Old Nyack Turnpike

No-Build 2026 MIDDAY
12/03/2024

						
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	91	343	212	82	345	232
Future Volume (vph)	91	343	212	82	345	232
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.0		6.0			6.0
Lane Util. Factor	1.00		1.00			1.00
Frt	0.89		0.96			1.00
Flt Protected	0.99		1.00			0.97
Satd. Flow (prot)	1634		1804			1827
Flt Permitted	0.99		1.00			0.64
Satd. Flow (perm)	1634		1804			1201
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	97	365	226	87	367	247
RTOR Reduction (vph)	170	0	13	0	0	0
Lane Group Flow (vph)	293	0	300	0	0	614
Heavy Vehicles (%)	2%	3%	0%	5%	1%	1%
Turn Type	Prot		NA		pm+pt	NA
Protected Phases	8		6		5	2
Permitted Phases					2	
Actuated Green, G (s)	20.0		48.0			48.0
Effective Green, g (s)	20.0		48.0			48.0
Actuated g/C Ratio	0.25		0.60			0.60
Clearance Time (s)	6.0		6.0			6.0
Vehicle Extension (s)	3.0		3.0			3.0
Lane Grp Cap (vph)	408		1082			720
v/s Ratio Prot	c0.18		0.17			
v/s Ratio Perm						c0.51
v/c Ratio	0.72		0.28			0.85
Uniform Delay, d1	27.4		7.7			13.1
Progression Factor	1.00		1.00			1.00
Incremental Delay, d2	5.9		0.1			9.6
Delay (s)	33.3		7.8			22.7
Level of Service	C		A			C
Approach Delay (s)	33.3		7.8			22.7
Approach LOS	C		A			C
Intersection Summary						
HCM 2000 Control Delay			22.9		HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio			0.89			
Actuated Cycle Length (s)			80.0		Sum of lost time (s)	18.0
Intersection Capacity Utilization			93.3%		ICU Level of Service	F
Analysis Period (min)			15			
c Critical Lane Group						

Intersection						
Int Delay, s/veh	3.8					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	48	86	108	230	236	46
Future Vol, veh/h	48	86	108	230	236	46
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, %	2	2	2	2	2	2
Mvmt Flow	52	93	117	250	257	50

Major/Minor	Minor2	Major1		Major2		
Conflicting Flow All	766	282	307	0	-	0
Stage 1	282	-	-	-	-	-
Stage 2	484	-	-	-	-	-
Critical Hdwy	6.42	6.22	4.12	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.218	-	-	-
Pot Cap-1 Maneuver	371	757	1254	-	-	-
Stage 1	766	-	-	-	-	-
Stage 2	620	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	331	757	1254	-	-	-
Mov Cap-2 Maneuver	331	-	-	-	-	-
Stage 1	683	-	-	-	-	-
Stage 2	620	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	14.6	2.6	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1254	-	518	-	-
HCM Lane V/C Ratio	0.094	-	0.281	-	-
HCM Control Delay (s)	8.2	0	14.6	-	-
HCM Lane LOS	A	A	B	-	-
HCM 95th %tile Q(veh)	0.3	-	1.1	-	-

Intersection						
Int Delay, s/veh	6.6					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	89	84	181	72	80	211
Future Vol, veh/h	89	84	181	72	80	211
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	72	72	72	72	72	72
Heavy Vehicles, %	1	1	7	0	4	5
Mvmt Flow	124	117	251	100	111	293
Major/Minor	Minor1	Major1		Major2		
Conflicting Flow All	816	301	0	0	351	0
Stage 1	301	-	-	-	-	-
Stage 2	515	-	-	-	-	-
Critical Hdwy	6.41	6.21	-	-	4.14	-
Critical Hdwy Stg 1	5.41	-	-	-	-	-
Critical Hdwy Stg 2	5.41	-	-	-	-	-
Follow-up Hdwy	3.509	3.309	-	-	2.236	-
Pot Cap-1 Maneuver	348	741	-	-	1197	-
Stage 1	753	-	-	-	-	-
Stage 2	602	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	309	741	-	-	1197	-
Mov Cap-2 Maneuver	309	-	-	-	-	-
Stage 1	753	-	-	-	-	-
Stage 2	535	-	-	-	-	-
Approach	WB	NB		SB		
HCM Control Delay, s	23.4	0		2.3		
HCM LOS	C					
Minor Lane/Major Mvmt	NBT	NBRWBLn1		SBL	SBT	
Capacity (veh/h)	-	-	431	1197	-	
HCM Lane V/C Ratio	-	-	0.557	0.093	-	
HCM Control Delay (s)	-	-	23.4	8.3	0	
HCM Lane LOS	-	-	C	A	A	
HCM 95th %tile Q(veh)	-	-	3.3	0.3	-	

Intersection						
Int Delay, s/veh	6.1					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	65	139	167	128	110	92
Future Vol, veh/h	65	139	167	128	110	92
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, %	3	2	1	3	4	3
Mvmt Flow	70	149	180	138	118	99
Major/Minor	Minor2	Major1		Major2		
Conflicting Flow All	666	168	217	0	-	0
Stage 1	168	-	-	-	-	-
Stage 2	498	-	-	-	-	-
Critical Hdwy	6.43	6.22	4.11	-	-	-
Critical Hdwy Stg 1	5.43	-	-	-	-	-
Critical Hdwy Stg 2	5.43	-	-	-	-	-
Follow-up Hdwy	3.527	3.318	2.209	-	-	-
Pot Cap-1 Maneuver	423	876	1359	-	-	-
Stage 1	859	-	-	-	-	-
Stage 2	609	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	363	876	1359	-	-	-
Mov Cap-2 Maneuver	363	-	-	-	-	-
Stage 1	736	-	-	-	-	-
Stage 2	609	-	-	-	-	-
Approach	EB	NB		SB		
HCM Control Delay, s	14.3	4.6		0		
HCM LOS	B					
Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR	
Capacity (veh/h)	1359	-	604	-	-	
HCM Lane V/C Ratio	0.132	-	0.363	-	-	
HCM Control Delay (s)	8.1	0	14.3	-	-	
HCM Lane LOS	A	A	B	-	-	
HCM 95th %tile Q(veh)	0.5	-	1.7	-	-	

Intersection						
Int Delay, s/veh	4.5					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	15	136	159	17	122	129
Future Vol, veh/h	15	136	159	17	122	129
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, %	0	2	3	0	2	5
Mvmt Flow	16	146	171	18	131	139
Major/Minor	Minor1	Major1		Major2		
Conflicting Flow All	581	180	0	0	189	0
Stage 1	180	-	-	-	-	-
Stage 2	401	-	-	-	-	-
Critical Hdwy	6.4	6.22	-	-	4.12	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	3.318	-	-	2.218	-
Pot Cap-1 Maneuver	479	863	-	-	1385	-
Stage 1	856	-	-	-	-	-
Stage 2	681	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	430	863	-	-	1385	-
Mov Cap-2 Maneuver	430	-	-	-	-	-
Stage 1	856	-	-	-	-	-
Stage 2	612	-	-	-	-	-
Approach	WB	NB		SB		
HCM Control Delay, s	10.8	0		3.8		
HCM LOS	B					
Minor Lane/Major Mvmt	NBT	NBRWBLn1		SBL	SBT	
Capacity (veh/h)	-	-		785	1385	
HCM Lane V/C Ratio	-	-		0.207	0.095	
HCM Control Delay (s)	-	-		10.8	7.9	
HCM Lane LOS	-	-		B	A	
HCM 95th %tile Q(veh)	-	-		0.8	0.3	

HCM Signalized Intersection Capacity Analysis

1: Saddle River Road & Old Nyack Turnpike

No-Build 2026 Saturday
12/03/2024

						
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	19	74	26	26	59	40
Future Volume (vph)	19	74	26	26	59	40
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.0		6.0			6.0
Lane Util. Factor	1.00		1.00			1.00
Frt	0.89		0.93			1.00
Flt Protected	0.99		1.00			0.97
Satd. Flow (prot)	1666		1737			1802
Flt Permitted	0.99		1.00			0.83
Satd. Flow (perm)	1666		1737			1542
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	21	80	28	28	64	43
RTOR Reduction (vph)	59	0	13	0	0	0
Lane Group Flow (vph)	42	0	43	0	0	107
Heavy Vehicles (%)	0%	1%	4%	0%	2%	3%
Turn Type	Prot		NA		pm+pt	NA
Protected Phases	8		6		5	2
Permitted Phases					2	
Actuated Green, G (s)	15.3		29.8			29.8
Effective Green, g (s)	15.3		29.8			29.8
Actuated g/C Ratio	0.27		0.52			0.52
Clearance Time (s)	6.0		6.0			6.0
Vehicle Extension (s)	3.0		3.0			3.0
Lane Grp Cap (vph)	446		906			804
v/s Ratio Prot	c0.03		0.02			
v/s Ratio Perm						c0.07
v/c Ratio	0.10		0.05			0.13
Uniform Delay, d1	15.7		6.7			7.0
Progression Factor	1.00		1.00			1.00
Incremental Delay, d2	0.1		0.0			0.1
Delay (s)	15.8		6.7			7.1
Level of Service	B		A			A
Approach Delay (s)	15.8		6.7			7.1
Approach LOS	B		A			A
Intersection Summary						
HCM 2000 Control Delay			10.3		HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio			0.14			
Actuated Cycle Length (s)			57.1		Sum of lost time (s)	18.0
Intersection Capacity Utilization			47.5%		ICU Level of Service	A
Analysis Period (min)			15			
c Critical Lane Group						

Intersection						
Int Delay, s/veh	0.6					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	3	6	8	55	161	2
Future Vol, veh/h	3	6	8	55	161	2
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	3	7	9	60	175	2

Major/Minor	Minor2	Major1	Major2			
Conflicting Flow All	254	176	177	0	-	0
Stage 1	176	-	-	-	-	-
Stage 2	78	-	-	-	-	-
Critical Hdwy	6.42	6.22	4.12	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.218	-	-	-
Pot Cap-1 Maneuver	735	867	1399	-	-	-
Stage 1	855	-	-	-	-	-
Stage 2	945	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	730	867	1399	-	-	-
Mov Cap-2 Maneuver	730	-	-	-	-	-
Stage 1	849	-	-	-	-	-
Stage 2	945	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	9.5	1	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1399	-	816	-	-
HCM Lane V/C Ratio	0.006	-	0.012	-	-
HCM Control Delay (s)	7.6	0	9.5	-	-
HCM Lane LOS	A	A	A	-	-
HCM 95th %tile Q(veh)	0	-	0	-	-

Intersection						
Int Delay, s/veh	1.9					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	21	5	50	17	7	53
Future Vol, veh/h	21	5	50	17	7	53
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	4	0	0	0
Mvmt Flow	22	5	53	18	7	56
Major/Minor	Minor1	Major1		Major2		
Conflicting Flow All	132	62	0	0	71	0
Stage 1	62	-	-	-	-	-
Stage 2	70	-	-	-	-	-
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	867	1009	-	-	1542	-
Stage 1	966	-	-	-	-	-
Stage 2	958	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	863	1009	-	-	1542	-
Mov Cap-2 Maneuver	863	-	-	-	-	-
Stage 1	966	-	-	-	-	-
Stage 2	953	-	-	-	-	-
Approach	WB	NB		SB		
HCM Control Delay, s	9.2	0		0.9		
HCM LOS	A					
Minor Lane/Major Mvmt	NBT	NBRWBLn1		SBL	SBT	
Capacity (veh/h)	-	-		888	1542	-
HCM Lane V/C Ratio	-	-		0.031	0.005	-
HCM Control Delay (s)	-	-		9.2	7.3	0
HCM Lane LOS	-	-		A	A	A
HCM 95th %tile Q(veh)	-	-		0.1	0	-

Intersection						
Int Delay, s/veh	3.9					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	13	44	46	54	55	9
Future Vol, veh/h	13	44	46	54	55	9
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, %	2	2	0	2	6	0
Mvmt Flow	14	47	49	57	59	10
Major/Minor	Minor2	Major1		Major2		
Conflicting Flow All	219	64	69	0	-	0
Stage 1	64	-	-	-	-	-
Stage 2	155	-	-	-	-	-
Critical Hdwy	6.42	6.22	4.1	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.2	-	-	-
Pot Cap-1 Maneuver	769	1000	1545	-	-	-
Stage 1	959	-	-	-	-	-
Stage 2	873	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	744	1000	1545	-	-	-
Mov Cap-2 Maneuver	744	-	-	-	-	-
Stage 1	927	-	-	-	-	-
Stage 2	873	-	-	-	-	-
Approach	EB	NB		SB		
HCM Control Delay, s	9.2	3.4		0		
HCM LOS	A					
Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR	
Capacity (veh/h)	1545	-	927	-	-	
HCM Lane V/C Ratio	0.032	-	0.065	-	-	
HCM Control Delay (s)	7.4	0	9.2	-	-	
HCM Lane LOS	A	A	A	-	-	
HCM 95th %tile Q(veh)	0.1	-	0.2	-	-	

Intersection						
Int Delay, s/veh	2.2					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	10	31	82	16	27	99
Future Vol, veh/h	10	31	82	16	27	99
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	89	89	89	89	89	89
Heavy Vehicles, %	0	0	8	0	0	3
Mvmt Flow	11	35	92	18	30	111

Major/Minor	Minor1	Major1	Major2		
Conflicting Flow All	272	101	0	0	110
Stage 1	101	-	-	-	-
Stage 2	171	-	-	-	-
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	722	960	-	-	1493
Stage 1	928	-	-	-	-
Stage 2	864	-	-	-	-
Platoon blocked, %			-	-	-
Mov Cap-1 Maneuver	707	960	-	-	1493
Mov Cap-2 Maneuver	707	-	-	-	-
Stage 1	928	-	-	-	-
Stage 2	846	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	9.3	0	1.6
HCM LOS	A		

Minor Lane/Major Mvmt	NBT	NBRWBLn1	SBL	SBT
Capacity (veh/h)	-	-	883	1493
HCM Lane V/C Ratio	-	-	0.052	0.02
HCM Control Delay (s)	-	-	9.3	7.5
HCM Lane LOS	-	-	A	A
HCM 95th %tile Q(veh)	-	-	0.2	0.1

HCM Signalized Intersection Capacity Analysis

1: Saddle River Road & Old Nyack Turnpike

2026 Build AM
12/03/2024



Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	60	239	165	50	200	196
Future Volume (vph)	60	239	165	50	200	196
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.0		6.0			6.0
Lane Util. Factor	1.00		1.00			1.00
Frt	0.89		0.97			1.00
Flt Protected	0.99		1.00			0.98
Satd. Flow (prot)	1652		1840			1826
Flt Permitted	0.99		1.00			0.72
Satd. Flow (perm)	1652		1840			1356
Peak-hour factor, PHF	0.93	0.93	0.93	0.93	0.93	0.93
Adj. Flow (vph)	65	257	177	54	215	211
RTOR Reduction (vph)	160	0	14	0	0	0
Lane Group Flow (vph)	162	0	217	0	0	426
Heavy Vehicles (%)	0%	2%	0%	0%	1%	2%
Parking (#/hr)				0		
Turn Type	Prot		NA		pm+pt	NA
Protected Phases	8		6		5	2
Permitted Phases					2	
Actuated Green, G (s)	20.3		29.9			29.9
Effective Green, g (s)	20.3		29.9			29.9
Actuated g/C Ratio	0.33		0.48			0.48
Clearance Time (s)	6.0		6.0			6.0
Vehicle Extension (s)	3.0		3.0			3.0
Lane Grp Cap (vph)	539		884			651
v/s Ratio Prot	c0.10		0.12			
v/s Ratio Perm						c0.31
v/c Ratio	0.30		0.25			0.65
Uniform Delay, d1	15.7		9.5			12.2
Progression Factor	1.00		1.00			1.00
Incremental Delay, d2	0.3		0.1			2.4
Delay (s)	16.0		9.7			14.6
Level of Service	B		A			B
Approach Delay (s)	16.0		9.7			14.6
Approach LOS	B		A			B

Intersection Summary

HCM 2000 Control Delay	13.9	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.58		
Actuated Cycle Length (s)	62.2	Sum of lost time (s)	18.0
Intersection Capacity Utilization	75.3%	ICU Level of Service	D
Analysis Period (min)	15		

c Critical Lane Group

Intersection						
Int Delay, s/veh	3.3					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	33	71	101	186	226	50
Future Vol, veh/h	33	71	101	186	226	50
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, %	2	2	2	2	2	2
Mvmt Flow	36	77	110	202	246	54

Major/Minor	Minor2	Major1		Major2		
Conflicting Flow All	695	273	300	0	-	0
Stage 1	273	-	-	-	-	-
Stage 2	422	-	-	-	-	-
Critical Hdwy	6.42	6.22	4.12	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.218	-	-	-
Pot Cap-1 Maneuver	408	766	1261	-	-	-
Stage 1	773	-	-	-	-	-
Stage 2	662	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	368	766	1261	-	-	-
Mov Cap-2 Maneuver	368	-	-	-	-	-
Stage 1	697	-	-	-	-	-
Stage 2	662	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	12.9	2.9	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1261	-	570	-	-
HCM Lane V/C Ratio	0.087	-	0.198	-	-
HCM Control Delay (s)	8.1	0	12.9	-	-
HCM Lane LOS	A	A	B	-	-
HCM 95th %tile Q(veh)	0.3	-	0.7	-	-

Intersection						
Int Delay, s/veh	4.8					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	74	80	134	64	80	163
Future Vol, veh/h	74	80	134	64	80	163
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	80	80	80	80	80	80
Heavy Vehicles, %	0	1	1	0	0	2
Mvmt Flow	93	100	168	80	100	204
Major/Minor	Minor1	Major1		Major2		
Conflicting Flow All	612	208	0	0	248	0
Stage 1	208	-	-	-	-	-
Stage 2	404	-	-	-	-	-
Critical Hdwy	6.4	6.21	-	-	4.1	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	3.309	-	-	2.2	-
Pot Cap-1 Maneuver	460	835	-	-	1330	-
Stage 1	832	-	-	-	-	-
Stage 2	679	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	421	835	-	-	1330	-
Mov Cap-2 Maneuver	421	-	-	-	-	-
Stage 1	832	-	-	-	-	-
Stage 2	621	-	-	-	-	-
Approach	WB	NB		SB		
HCM Control Delay, s	14.6	0		2.6		
HCM LOS	B					
Minor Lane/Major Mvmt	NBT	NBRWBLn1		SBL	SBT	
Capacity (veh/h)	-	-		567	1330	
HCM Lane V/C Ratio	-	-		0.34	0.075	
HCM Control Delay (s)	-	-		14.6	7.9	
HCM Lane LOS	-	-		B	A	
HCM 95th %tile Q(veh)	-	-		1.5	0.2	

Intersection						
Int Delay, s/veh	5.4					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	55	116	89	84	117	70
Future Vol, veh/h	55	116	89	84	117	70
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	81	81	81	81	81	81
Heavy Vehicles, %	0	0	1	0	1	1
Mvmt Flow	68	143	110	104	144	86
Major/Minor	Minor2	Major1		Major2		
Conflicting Flow All	511	187	230	0	-	0
Stage 1	187	-	-	-	-	-
Stage 2	324	-	-	-	-	-
Critical Hdwy	6.4	6.2	4.11	-	-	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	2.209	-	-	-
Pot Cap-1 Maneuver	526	860	1344	-	-	-
Stage 1	850	-	-	-	-	-
Stage 2	738	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	480	860	1344	-	-	-
Mov Cap-2 Maneuver	480	-	-	-	-	-
Stage 1	776	-	-	-	-	-
Stage 2	738	-	-	-	-	-
Approach	EB	NB		SB		
HCM Control Delay, s	12.6	4.1		0		
HCM LOS	B					
Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR	
Capacity (veh/h)	1344	-	685	-	-	
HCM Lane V/C Ratio	0.082	-	0.308	-	-	
HCM Control Delay (s)	7.9	0	12.6	-	-	
HCM Lane LOS	A	A	B	-	-	
HCM 95th %tile Q(veh)	0.3	-	1.3	-	-	

Intersection						
Int Delay, s/veh	4					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	11	93	80	15	86	137
Future Vol, veh/h	11	93	80	15	86	137
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	82	82	82	82	82	82
Heavy Vehicles, %	0	2	2	0	0	2
Mvmt Flow	13	113	98	18	105	167
Major/Minor	Minor1	Major1	Major2			
Conflicting Flow All	484	107	0	0	116	0
Stage 1	107	-	-	-	-	-
Stage 2	377	-	-	-	-	-
Critical Hdwy	6.4	6.22	-	-	4.1	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	3.318	-	-	2.2	-
Pot Cap-1 Maneuver	545	947	-	-	1485	-
Stage 1	922	-	-	-	-	-
Stage 2	698	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	502	947	-	-	1485	-
Mov Cap-2 Maneuver	502	-	-	-	-	-
Stage 1	922	-	-	-	-	-
Stage 2	644	-	-	-	-	-
Approach	WB	NB		SB		
HCM Control Delay, s	9.9	0		2.9		
HCM LOS	A					
Minor Lane/Major Mvmt	NBT	NBRWBLn1	SBL	SBT		
Capacity (veh/h)	-	-	866	1485	-	
HCM Lane V/C Ratio	-	-	0.146	0.071	-	
HCM Control Delay (s)	-	-	9.9	7.6	0	
HCM Lane LOS	-	-	A	A	A	
HCM 95th %tile Q(veh)	-	-	0.5	0.2	-	

Intersection						
Int Delay, s/veh	0.4					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	7	7	3	140	233	4
Future Vol, veh/h	7	7	3	140	233	4
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, %	2	2	2	2	2	2
Mvmt Flow	8	8	3	152	253	4
Major/Minor	Minor2	Major1		Major2		
Conflicting Flow All	413	255	257	0	-	0
Stage 1	255	-	-	-	-	-
Stage 2	158	-	-	-	-	-
Critical Hdwy	6.42	6.22	4.12	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.218	-	-	-
Pot Cap-1 Maneuver	595	784	1308	-	-	-
Stage 1	788	-	-	-	-	-
Stage 2	871	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	593	784	1308	-	-	-
Mov Cap-2 Maneuver	593	-	-	-	-	-
Stage 1	786	-	-	-	-	-
Stage 2	871	-	-	-	-	-
Approach	EB	NB		SB		
HCM Control Delay, s	10.5	0.2		0		
HCM LOS	B					
Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR	
Capacity (veh/h)	1308	-	675	-	-	
HCM Lane V/C Ratio	0.002	-	0.023	-	-	
HCM Control Delay (s)	7.8	0	10.5	-	-	
HCM Lane LOS	A	A	B	-	-	
HCM 95th %tile Q(veh)	0	-	0.1	-	-	

Intersection						
Int Delay, s/veh	0.4					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	7	6	3	136	237	3
Future Vol, veh/h	7	6	3	136	237	3
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, %	2	2	2	2	2	2
Mvmt Flow	8	7	3	148	258	3
Major/Minor	Minor2	Major1		Major2		
Conflicting Flow All	414	260	261	0	-	0
Stage 1	260	-	-	-	-	-
Stage 2	154	-	-	-	-	-
Critical Hdwy	6.42	6.22	4.12	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.218	-	-	-
Pot Cap-1 Maneuver	595	779	1303	-	-	-
Stage 1	783	-	-	-	-	-
Stage 2	874	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	593	779	1303	-	-	-
Mov Cap-2 Maneuver	593	-	-	-	-	-
Stage 1	781	-	-	-	-	-
Stage 2	874	-	-	-	-	-
Approach	EB	NB		SB		
HCM Control Delay, s	10.5	0.2		0		
HCM LOS	B					
Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR	
Capacity (veh/h)	1303	-	666	-	-	
HCM Lane V/C Ratio	0.003	-	0.021	-	-	
HCM Control Delay (s)	7.8	0	10.5	-	-	
HCM Lane LOS	A	A	B	-	-	
HCM 95th %tile Q(veh)	0	-	0.1	-	-	

HCM Signalized Intersection Capacity Analysis

1: Saddle River Road & Old Nyack Turnpike

Build 2026 PM
12/03/2024

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	78	226	179	63	274	167
Future Volume (vph)	78	226	179	63	274	167
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.0		6.0			6.0
Lane Util. Factor	1.00		1.00			1.00
Frt	0.90		0.96			1.00
Flt Protected	0.99		1.00			0.97
Satd. Flow (prot)	1675		1806			1843
Flt Permitted	0.99		1.00			0.67
Satd. Flow (perm)	1675		1806			1269
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	83	240	190	67	291	178
RTOR Reduction (vph)	120	0	15	0	0	0
Lane Group Flow (vph)	203	0	242	0	0	469
Heavy Vehicles (%)	0%	1%	2%	0%	0%	0%
Turn Type	Prot		NA		pm+pt	NA
Protected Phases	8		6		5	2
Permitted Phases					2	
Actuated Green, G (s)	20.4		34.2			34.2
Effective Green, g (s)	20.4		34.2			34.2
Actuated g/C Ratio	0.31		0.51			0.51
Clearance Time (s)	6.0		6.0			6.0
Vehicle Extension (s)	3.0		3.0			3.0
Lane Grp Cap (vph)	513		927			651
v/s Ratio Prot	c0.12		0.13			
v/s Ratio Perm						c0.37
v/c Ratio	0.40		0.26			0.72
Uniform Delay, d1	18.2		9.1			12.5
Progression Factor	1.00		1.00			1.00
Incremental Delay, d2	0.5		0.2			3.9
Delay (s)	18.7		9.3			16.4
Level of Service	B		A			B
Approach Delay (s)	18.7		9.3			16.4
Approach LOS	B		A			B
Intersection Summary						
HCM 2000 Control Delay			15.4		HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio			0.67			
Actuated Cycle Length (s)			66.6		Sum of lost time (s)	18.0
Intersection Capacity Utilization			78.0%		ICU Level of Service	D
Analysis Period (min)			15			
c Critical Lane Group						

Intersection						
Int Delay, s/veh	3.3					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	40	83	86	221	233	34
Future Vol, veh/h	40	83	86	221	233	34
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, %	2	2	2	2	2	2
Mvmt Flow	43	90	93	240	253	37
Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	698	272	290	0	-	0
Stage 1	272	-	-	-	-	-
Stage 2	426	-	-	-	-	-
Critical Hdwy	6.42	6.22	4.12	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.218	-	-	-
Pot Cap-1 Maneuver	407	767	1272	-	-	-
Stage 1	774	-	-	-	-	-
Stage 2	659	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	373	767	1272	-	-	-
Mov Cap-2 Maneuver	373	-	-	-	-	-
Stage 1	709	-	-	-	-	-
Stage 2	659	-	-	-	-	-
Approach	EB		NB		SB	
HCM Control Delay, s	13.2		2.3		0	
HCM LOS	B					
Minor Lane/Major Mvmt	NBL		NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1272		-	571	-	-
HCM Lane V/C Ratio	0.073		-	0.234	-	-
HCM Control Delay (s)	8.1		0	13.2	-	-
HCM Lane LOS	A		A	B	-	-
HCM 95th %tile Q(veh)	0.2		-	0.9	-	-

Intersection						
Int Delay, s/veh	3.2					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	87	46	217	97	32	179
Future Vol, veh/h	87	46	217	97	32	179
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	90	90	90	90	90	90
Heavy Vehicles, %	0	0	1	0	1	0
Mvmt Flow	97	51	241	108	36	199
Major/Minor	Minor1	Major1		Major2		
Conflicting Flow All	566	295	0	0	349	0
Stage 1	295	-	-	-	-	-
Stage 2	271	-	-	-	-	-
Critical Hdwy	6.4	6.2	-	-	4.11	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	-	-	2.209	-
Pot Cap-1 Maneuver	489	749	-	-	1215	-
Stage 1	760	-	-	-	-	-
Stage 2	779	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	473	749	-	-	1215	-
Mov Cap-2 Maneuver	473	-	-	-	-	-
Stage 1	760	-	-	-	-	-
Stage 2	753	-	-	-	-	-
Approach	WB	NB		SB		
HCM Control Delay, s	14.1	0		1.2		
HCM LOS	B					
Minor Lane/Major Mvmt	NBT	NBRWBLn1	SBL	SBT		
Capacity (veh/h)	-	-	542	1215	-	
HCM Lane V/C Ratio	-	-	0.273	0.029	-	
HCM Control Delay (s)	-	-	14.1	8.1	0	
HCM Lane LOS	-	-	B	A	A	
HCM 95th %tile Q(veh)	-	-	1.1	0.1	-	

Intersection						
Int Delay, s/veh	6.4					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	83	147	148	158	124	64
Future Vol, veh/h	83	147	148	158	124	64
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	2	2	2	0
Mvmt Flow	88	156	157	168	132	68
Major/Minor	Minor2	Major1		Major2		
Conflicting Flow All	648	166	200	0	-	0
Stage 1	166	-	-	-	-	-
Stage 2	482	-	-	-	-	-
Critical Hdwy	6.4	6.2	4.12	-	-	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	2.218	-	-	-
Pot Cap-1 Maneuver	438	884	1372	-	-	-
Stage 1	868	-	-	-	-	-
Stage 2	625	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	383	884	1372	-	-	-
Mov Cap-2 Maneuver	383	-	-	-	-	-
Stage 1	759	-	-	-	-	-
Stage 2	625	-	-	-	-	-
Approach	EB	NB		SB		
HCM Control Delay, s	15	3.9		0		
HCM LOS	C					
Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR	
Capacity (veh/h)	1372	-	601	-	-	
HCM Lane V/C Ratio	0.115	-	0.407	-	-	
HCM Control Delay (s)	8	0	15	-	-	
HCM Lane LOS	A	A	C	-	-	
HCM 95th %tile Q(veh)	0.4	-	2	-	-	

Intersection						
Int Delay, s/veh	4.7					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	16	120	190	24	153	112
Future Vol, veh/h	16	120	190	24	153	112
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	85	85	85	85	85	85
Heavy Vehicles, %	7	1	2	0	0	0
Mvmt Flow	19	141	224	28	180	132
Major/Minor	Minor1	Major1		Major2		
Conflicting Flow All	730	238	0	0	252	0
Stage 1	238	-	-	-	-	-
Stage 2	492	-	-	-	-	-
Critical Hdwy	6.47	6.21	-	-	4.1	-
Critical Hdwy Stg 1	5.47	-	-	-	-	-
Critical Hdwy Stg 2	5.47	-	-	-	-	-
Follow-up Hdwy	3.563	3.309	-	-	2.2	-
Pot Cap-1 Maneuver	382	803	-	-	1325	-
Stage 1	790	-	-	-	-	-
Stage 2	604	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	326	803	-	-	1325	-
Mov Cap-2 Maneuver	326	-	-	-	-	-
Stage 1	790	-	-	-	-	-
Stage 2	515	-	-	-	-	-
Approach	WB	NB		SB		
HCM Control Delay, s	11.9	0		4.7		
HCM LOS	B					
Minor Lane/Major Mvmt	NBT	NBRWBLn1	SBL	SBT		
Capacity (veh/h)	-	-	685	1325	-	
HCM Lane V/C Ratio	-	-	0.234	0.136	-	
HCM Control Delay (s)	-	-	11.9	8.1	0	
HCM Lane LOS	-	-	B	A	A	
HCM 95th %tile Q(veh)	-	-	0.9	0.5	-	

Intersection						
Int Delay, s/veh	0.3					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	5	4	7	232	259	7
Future Vol, veh/h	5	4	7	232	259	7
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, %	2	2	2	2	2	2
Mvmt Flow	5	4	8	252	282	8
Major/Minor	Minor2	Major1		Major2		
Conflicting Flow All	554	286	290	0	-	0
Stage 1	286	-	-	-	-	-
Stage 2	268	-	-	-	-	-
Critical Hdwy	6.42	6.22	4.12	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.218	-	-	-
Pot Cap-1 Maneuver	493	753	1272	-	-	-
Stage 1	763	-	-	-	-	-
Stage 2	777	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	490	753	1272	-	-	-
Mov Cap-2 Maneuver	490	-	-	-	-	-
Stage 1	758	-	-	-	-	-
Stage 2	777	-	-	-	-	-
Approach	EB	NB		SB		
HCM Control Delay, s	11.3	0.2		0		
HCM LOS	B					
Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR	
Capacity (veh/h)	1272	-	580	-	-	
HCM Lane V/C Ratio	0.006	-	0.017	-	-	
HCM Control Delay (s)	7.8	0	11.3	-	-	
HCM Lane LOS	A	A	B	-	-	
HCM 95th %tile Q(veh)	0	-	0.1	-	-	

Intersection						
Int Delay, s/veh	0.3					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	5	4	7	234	256	7
Future Vol, veh/h	5	4	7	234	256	7
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, %	2	2	2	2	2	2
Mvmt Flow	5	4	8	254	278	8
Major/Minor	Minor2	Major1		Major2		
Conflicting Flow All	552	282	286	0	-	0
Stage 1	282	-	-	-	-	-
Stage 2	270	-	-	-	-	-
Critical Hdwy	6.42	6.22	4.12	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.218	-	-	-
Pot Cap-1 Maneuver	495	757	1276	-	-	-
Stage 1	766	-	-	-	-	-
Stage 2	775	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	492	757	1276	-	-	-
Mov Cap-2 Maneuver	492	-	-	-	-	-
Stage 1	761	-	-	-	-	-
Stage 2	775	-	-	-	-	-
Approach	EB	NB		SB		
HCM Control Delay, s	11.3	0.2		0		
HCM LOS	B					
Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR	
Capacity (veh/h)	1276	-	583	-	-	
HCM Lane V/C Ratio	0.006	-	0.017	-	-	
HCM Control Delay (s)	7.8	0	11.3	-	-	
HCM Lane LOS	A	A	B	-	-	
HCM 95th %tile Q(veh)	0	-	0.1	-	-	

HCM Signalized Intersection Capacity Analysis

1: Saddle River Road & Old Nyack Turnpike

Build 2026 MIDDAY
12/03/2024

						
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	93	343	216	83	345	236
Future Volume (vph)	93	343	216	83	345	236
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.0		6.0			6.0
Lane Util. Factor	1.00		1.00			1.00
Frt	0.89		0.96			1.00
Flt Protected	0.99		1.00			0.97
Satd. Flow (prot)	1635		1804			1827
Flt Permitted	0.99		1.00			0.64
Satd. Flow (perm)	1635		1804			1196
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	99	365	230	88	367	251
RTOR Reduction (vph)	166	0	13	0	0	0
Lane Group Flow (vph)	298	0	305	0	0	618
Heavy Vehicles (%)	2%	3%	0%	5%	1%	1%
Turn Type	Prot		NA		pm+pt	NA
Protected Phases	8		6		5	2
Permitted Phases					2	
Actuated Green, G (s)	20.0		48.0			48.0
Effective Green, g (s)	20.0		48.0			48.0
Actuated g/C Ratio	0.25		0.60			0.60
Clearance Time (s)	6.0		6.0			6.0
Vehicle Extension (s)	3.0		3.0			3.0
Lane Grp Cap (vph)	408		1082			717
v/s Ratio Prot	c0.18		0.17			
v/s Ratio Perm						c0.52
v/c Ratio	0.73		0.28			0.86
Uniform Delay, d1	27.5		7.7			13.3
Progression Factor	1.00		1.00			1.00
Incremental Delay, d2	6.6		0.1			10.4
Delay (s)	34.1		7.8			23.7
Level of Service	C		A			C
Approach Delay (s)	34.1		7.8			23.7
Approach LOS	C		A			C
Intersection Summary						
HCM 2000 Control Delay			23.5		HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio			0.90			
Actuated Cycle Length (s)			80.0		Sum of lost time (s)	18.0
Intersection Capacity Utilization			93.6%		ICU Level of Service	F
Analysis Period (min)			15			
c Critical Lane Group						

Intersection						
Int Delay, s/veh	3.8					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	48	91	108	235	242	46
Future Vol, veh/h	48	91	108	235	242	46
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, %	2	2	2	2	2	2
Mvmt Flow	52	99	117	255	263	50
Major/Minor	Minor2	Major1		Major2		
Conflicting Flow All	777	288	313	0	-	0
Stage 1	288	-	-	-	-	-
Stage 2	489	-	-	-	-	-
Critical Hdwy	6.42	6.22	4.12	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.218	-	-	-
Pot Cap-1 Maneuver	365	751	1247	-	-	-
Stage 1	761	-	-	-	-	-
Stage 2	616	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	325	751	1247	-	-	-
Mov Cap-2 Maneuver	325	-	-	-	-	-
Stage 1	678	-	-	-	-	-
Stage 2	616	-	-	-	-	-
Approach	EB	NB		SB		
HCM Control Delay, s	14.8	2.6		0		
HCM LOS	B					
Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR	
Capacity (veh/h)	1247	-	517	-	-	
HCM Lane V/C Ratio	0.094	-	0.292	-	-	
HCM Control Delay (s)	8.2	0	14.8	-	-	
HCM Lane LOS	A	A	B	-	-	
HCM 95th %tile Q(veh)	0.3	-	1.2	-	-	

Intersection						
Int Delay, s/veh	6.9					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	92	84	186	74	80	222
Future Vol, veh/h	92	84	186	74	80	222
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	72	72	72	72	72	72
Heavy Vehicles, %	1	1	7	0	4	5
Mvmt Flow	128	117	258	103	111	308
Major/Minor	Minor1	Major1		Major2		
Conflicting Flow All	840	310	0	0	361	0
Stage 1	310	-	-	-	-	-
Stage 2	530	-	-	-	-	-
Critical Hdwy	6.41	6.21	-	-	4.14	-
Critical Hdwy Stg 1	5.41	-	-	-	-	-
Critical Hdwy Stg 2	5.41	-	-	-	-	-
Follow-up Hdwy	3.509	3.309	-	-	2.236	-
Pot Cap-1 Maneuver	337	732	-	-	1187	-
Stage 1	746	-	-	-	-	-
Stage 2	592	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	299	732	-	-	1187	-
Mov Cap-2 Maneuver	299	-	-	-	-	-
Stage 1	746	-	-	-	-	-
Stage 2	525	-	-	-	-	-
Approach	WB	NB		SB		
HCM Control Delay, s	25.2	0		2.2		
HCM LOS	D					
Minor Lane/Major Mvmt	NBT	NBRWBLn1	SBL	SBT		
Capacity (veh/h)	-	-	417	1187	-	
HCM Lane V/C Ratio	-	-	0.586	0.094	-	
HCM Control Delay (s)	-	-	25.2	8.3	0	
HCM Lane LOS	-	-	D	A	A	
HCM 95th %tile Q(veh)	-	-	3.6	0.3	-	

Intersection						
Int Delay, s/veh	6.3					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	72	139	167	135	117	97
Future Vol, veh/h	72	139	167	135	117	97
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, %	3	2	1	3	4	3
Mvmt Flow	77	149	180	145	126	104
Major/Minor	Minor2	Major1		Major2		
Conflicting Flow All	683	178	230	0	-	0
Stage 1	178	-	-	-	-	-
Stage 2	505	-	-	-	-	-
Critical Hdwy	6.43	6.22	4.11	-	-	-
Critical Hdwy Stg 1	5.43	-	-	-	-	-
Critical Hdwy Stg 2	5.43	-	-	-	-	-
Follow-up Hdwy	3.527	3.318	2.209	-	-	-
Pot Cap-1 Maneuver	413	865	1344	-	-	-
Stage 1	850	-	-	-	-	-
Stage 2	604	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	353	865	1344	-	-	-
Mov Cap-2 Maneuver	353	-	-	-	-	-
Stage 1	726	-	-	-	-	-
Stage 2	604	-	-	-	-	-
Approach	EB	NB		SB		
HCM Control Delay, s	15.2	4.5		0		
HCM LOS	C					
Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR	
Capacity (veh/h)	1344	-	579	-	-	
HCM Lane V/C Ratio	0.134	-	0.392	-	-	
HCM Control Delay (s)	8.1	0	15.2	-	-	
HCM Lane LOS	A	A	C	-	-	
HCM 95th %tile Q(veh)	0.5	-	1.9	-	-	

Intersection						
Int Delay, s/veh	4.5					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	15	138	164	17	124	134
Future Vol, veh/h	15	138	164	17	124	134
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, %	0	2	3	0	2	5
Mvmt Flow	16	148	176	18	133	144
Major/Minor	Minor1	Major1		Major2		
Conflicting Flow All	595	185	0	0	194	0
Stage 1	185	-	-	-	-	-
Stage 2	410	-	-	-	-	-
Critical Hdwy	6.4	6.22	-	-	4.12	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	3.318	-	-	2.218	-
Pot Cap-1 Maneuver	470	857	-	-	1379	-
Stage 1	852	-	-	-	-	-
Stage 2	674	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	421	857	-	-	1379	-
Mov Cap-2 Maneuver	421	-	-	-	-	-
Stage 1	852	-	-	-	-	-
Stage 2	603	-	-	-	-	-
Approach	WB	NB		SB		
HCM Control Delay, s	10.9	0		3.8		
HCM LOS	B					
Minor Lane/Major Mvmt	NBT	NBRWBLn1	SBL	SBT		
Capacity (veh/h)	-	-	778	1379	-	
HCM Lane V/C Ratio	-	-	0.211	0.097	-	
HCM Control Delay (s)	-	-	10.9	7.9	0	
HCM Lane LOS	-	-	B	A	A	
HCM 95th %tile Q(veh)	-	-	0.8	0.3	-	

Intersection						
Int Delay, s/veh	0.3					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	5	4	7	200	307	7
Future Vol, veh/h	5	4	7	200	307	7
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, %	2	2	2	2	2	2
Mvmt Flow	5	4	8	217	334	8
Major/Minor	Minor2	Major1		Major2		
Conflicting Flow All	571	338	342	0	-	0
Stage 1	338	-	-	-	-	-
Stage 2	233	-	-	-	-	-
Critical Hdwy	6.42	6.22	4.12	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.218	-	-	-
Pot Cap-1 Maneuver	482	704	1217	-	-	-
Stage 1	722	-	-	-	-	-
Stage 2	806	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	479	704	1217	-	-	-
Mov Cap-2 Maneuver	479	-	-	-	-	-
Stage 1	717	-	-	-	-	-
Stage 2	806	-	-	-	-	-
Approach	EB	NB		SB		
HCM Control Delay, s	11.6	0.3		0		
HCM LOS	B					
Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR	
Capacity (veh/h)	1217	-	558	-	-	
HCM Lane V/C Ratio	0.006	-	0.018	-	-	
HCM Control Delay (s)	8	0	11.6	-	-	
HCM Lane LOS	A	A	B	-	-	
HCM 95th %tile Q(veh)	0	-	0.1	-	-	

Intersection						
Int Delay, s/veh	0.3					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	5	4	7	200	307	7
Future Vol, veh/h	5	4	7	200	307	7
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, %	2	2	2	2	2	2
Mvmt Flow	5	4	8	217	334	8
Major/Minor	Minor2	Major1		Major2		
Conflicting Flow All	571	338	342	0	-	0
Stage 1	338	-	-	-	-	-
Stage 2	233	-	-	-	-	-
Critical Hdwy	6.42	6.22	4.12	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.218	-	-	-
Pot Cap-1 Maneuver	482	704	1217	-	-	-
Stage 1	722	-	-	-	-	-
Stage 2	806	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	479	704	1217	-	-	-
Mov Cap-2 Maneuver	479	-	-	-	-	-
Stage 1	717	-	-	-	-	-
Stage 2	806	-	-	-	-	-
Approach	EB	NB		SB		
HCM Control Delay, s	11.6	0.3		0		
HCM LOS	B					
Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR	
Capacity (veh/h)	1217	-	558	-	-	
HCM Lane V/C Ratio	0.006	-	0.018	-	-	
HCM Control Delay (s)	8	0	11.6	-	-	
HCM Lane LOS	A	A	B	-	-	
HCM 95th %tile Q(veh)	0	-	0.1	-	-	

HCM Signalized Intersection Capacity Analysis

1: Saddle River Road & Old Nyack Turnpike

Build 2026 Saturday
12/03/2024

						
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	20	74	28	27	59	43
Future Volume (vph)	20	74	28	27	59	43
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.0		6.0			6.0
Lane Util. Factor	1.00		1.00			1.00
Frt	0.89		0.93			1.00
Flt Protected	0.99		1.00			0.97
Satd. Flow (prot)	1668		1739			1803
Flt Permitted	0.99		1.00			0.83
Satd. Flow (perm)	1668		1739			1549
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	22	80	30	29	64	47
RTOR Reduction (vph)	59	0	14	0	0	0
Lane Group Flow (vph)	43	0	45	0	0	111
Heavy Vehicles (%)	0%	1%	4%	0%	2%	3%
Turn Type	Prot		NA		pm+pt	NA
Protected Phases	8		6		5	2
Permitted Phases					2	
Actuated Green, G (s)	15.3		29.8			29.8
Effective Green, g (s)	15.3		29.8			29.8
Actuated g/C Ratio	0.27		0.52			0.52
Clearance Time (s)	6.0		6.0			6.0
Vehicle Extension (s)	3.0		3.0			3.0
Lane Grp Cap (vph)	446		907			808
v/s Ratio Prot	c0.03		0.03			
v/s Ratio Perm						c0.07
v/c Ratio	0.10		0.05			0.14
Uniform Delay, d1	15.7		6.7			7.0
Progression Factor	1.00		1.00			1.00
Incremental Delay, d2	0.1		0.0			0.1
Delay (s)	15.8		6.7			7.1
Level of Service	B		A			A
Approach Delay (s)	15.8		6.7			7.1
Approach LOS	B		A			A
Intersection Summary						
HCM 2000 Control Delay			10.3		HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio			0.14			
Actuated Cycle Length (s)			57.1		Sum of lost time (s)	18.0
Intersection Capacity Utilization			47.5%		ICU Level of Service	A
Analysis Period (min)			15			
c Critical Lane Group						

Intersection						
Int Delay, s/veh	0.7					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	3	8	8	59	165	2
Future Vol, veh/h	3	8	8	59	165	2
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	3	9	9	64	179	2
Major/Minor	Minor2	Major1		Major2		
Conflicting Flow All	262	180	181	0	-	0
Stage 1	180	-	-	-	-	-
Stage 2	82	-	-	-	-	-
Critical Hdwy	6.42	6.22	4.12	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.218	-	-	-
Pot Cap-1 Maneuver	727	863	1394	-	-	-
Stage 1	851	-	-	-	-	-
Stage 2	941	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	722	863	1394	-	-	-
Mov Cap-2 Maneuver	722	-	-	-	-	-
Stage 1	845	-	-	-	-	-
Stage 2	941	-	-	-	-	-
Approach	EB	NB		SB		
HCM Control Delay, s	9.5	0.9		0		
HCM LOS	A					
Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR	
Capacity (veh/h)	1394	-	819	-	-	
HCM Lane V/C Ratio	0.006	-	0.015	-	-	
HCM Control Delay (s)	7.6	-	9.5	-	-	
HCM Lane LOS	A	-	A	-	-	
HCM 95th %tile Q(veh)	0	-	0	-	-	

Intersection						
Int Delay, s/veh	1.8					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	22	5	53	18	7	60
Future Vol, veh/h	22	5	53	18	7	60
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	4	0	0	0
Mvmt Flow	23	5	56	19	7	64

Major/Minor	Minor1	Major1	Major2
Conflicting Flow All	144	66	0
Stage 1	66	-	-
Stage 2	78	-	-
Critical Hdwy	6.4	6.2	-
Critical Hdwy Stg 1	5.4	-	-
Critical Hdwy Stg 2	5.4	-	-
Follow-up Hdwy	3.5	3.3	-
Pot Cap-1 Maneuver	853	1003	-
Stage 1	962	-	-
Stage 2	950	-	-
Platoon blocked, %		-	-
Mov Cap-1 Maneuver	849	1003	-
Mov Cap-2 Maneuver	849	-	-
Stage 1	962	-	-
Stage 2	945	-	-

Approach	WB	NB	SB
HCM Control Delay, s	9.3	0	0.8
HCM LOS	A		

Minor Lane/Major Mvmt	NBT	NBRWBLn1	SBL	SBT
Capacity (veh/h)	-	-	874	1537
HCM Lane V/C Ratio	-	-	0.033	0.005
HCM Control Delay (s)	-	-	9.3	7.4
HCM Lane LOS	-	-	A	A
HCM 95th %tile Q(veh)	-	-	0.1	0

Intersection						
Int Delay, s/veh	4					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	17	44	46	58	71	11
Future Vol, veh/h	17	44	46	58	71	11
Conflicting Peds, #/hr	0	0	0	0	0	59
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, %	2	2	0	2	6	0
Mvmt Flow	18	47	49	62	76	12
Major/Minor	Minor2	Major1		Major2		
Conflicting Flow All	301	141	147	0	-	0
Stage 1	141	-	-	-	-	-
Stage 2	160	-	-	-	-	-
Critical Hdwy	6.42	6.22	4.1	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.2	-	-	-
Pot Cap-1 Maneuver	691	907	1447	-	-	-
Stage 1	886	-	-	-	-	-
Stage 2	869	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	593	856	1366	-	-	-
Mov Cap-2 Maneuver	593	-	-	-	-	-
Stage 1	805	-	-	-	-	-
Stage 2	820	-	-	-	-	-
Approach	EB	NB		SB		
HCM Control Delay, s	10.2	3.4		0		
HCM LOS	B					
Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR	
Capacity (veh/h)	1366	-	762	-	-	
HCM Lane V/C Ratio	0.036	-	0.085	-	-	
HCM Control Delay (s)	7.7	0	10.2	-	-	
HCM Lane LOS	A	A	B	-	-	
HCM 95th %tile Q(veh)	0.1	-	0.3	-	-	

Intersection						
Int Delay, s/veh	2.4					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	10	33	64	16	29	101
Future Vol, veh/h	10	33	64	16	29	101
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	89	89	89	89	89	89
Heavy Vehicles, %	0	0	8	0	0	3
Mvmt Flow	11	37	72	18	33	113
Major/Minor	Minor1	Major1		Major2		
Conflicting Flow All	260	81	0	0	90	0
Stage 1	81	-	-	-	-	-
Stage 2	179	-	-	-	-	-
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	733	985	-	-	1518	-
Stage 1	947	-	-	-	-	-
Stage 2	857	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	716	985	-	-	1518	-
Mov Cap-2 Maneuver	716	-	-	-	-	-
Stage 1	947	-	-	-	-	-
Stage 2	837	-	-	-	-	-
Approach	WB	NB		SB		
HCM Control Delay, s	9.2	0		1.7		
HCM LOS	A					
Minor Lane/Major Mvmt	NBT	NBRWBLn1		SBL	SBT	
Capacity (veh/h)	-	- 906		1518	-	
HCM Lane V/C Ratio	-	- 0.053		0.021	-	
HCM Control Delay (s)	-	- 9.2		7.4	0	
HCM Lane LOS	-	- A		A	A	
HCM 95th %tile Q(veh)	-	- 0.2		0.1	-	

Intersection						
Int Delay, s/veh	0.6					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	4	4	4	71	78	4
Future Vol, veh/h	4	4	4	71	78	4
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, %	2	2	2	2	2	2
Mvmt Flow	4	4	4	77	85	4

Major/Minor	Minor2	Major1		Major2		
Conflicting Flow All	172	87	89	0	-	0
Stage 1	87	-	-	-	-	-
Stage 2	85	-	-	-	-	-
Critical Hdwy	6.42	6.22	4.12	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.218	-	-	-
Pot Cap-1 Maneuver	818	971	1506	-	-	-
Stage 1	936	-	-	-	-	-
Stage 2	938	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	816	971	1506	-	-	-
Mov Cap-2 Maneuver	816	-	-	-	-	-
Stage 1	933	-	-	-	-	-
Stage 2	938	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	9.1	0.4	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1506	-	887	-	-
HCM Lane V/C Ratio	0.003	-	0.01	-	-
HCM Control Delay (s)	7.4	0	9.1	-	-
HCM Lane LOS	A	A	A	-	-
HCM 95th %tile Q(veh)	0	-	0	-	-

Intersection						
Int Delay, s/veh	0.6					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	4	4	4	71	78	4
Future Vol, veh/h	4	4	4	71	78	4
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, %	2	2	2	2	2	2
Mvmt Flow	4	4	4	77	85	4

Major/Minor	Minor2	Major1		Major2		
Conflicting Flow All	172	87	89	0	-	0
Stage 1	87	-	-	-	-	-
Stage 2	85	-	-	-	-	-
Critical Hdwy	6.42	6.22	4.12	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.218	-	-	-
Pot Cap-1 Maneuver	818	971	1506	-	-	-
Stage 1	936	-	-	-	-	-
Stage 2	938	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	816	971	1506	-	-	-
Mov Cap-2 Maneuver	816	-	-	-	-	-
Stage 1	933	-	-	-	-	-
Stage 2	938	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	9.1	0.4	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1506	-	887	-	-
HCM Lane V/C Ratio	0.003	-	0.01	-	-
HCM Control Delay (s)	7.4	0	9.1	-	-
HCM Lane LOS	A	A	A	-	-
HCM 95th %tile Q(veh)	0	-	0	-	-

Appendix D \

NYSDOT Crash Data

DETAILS OF CRASH HISTORY FOR LOCATION (AS SHOWN ON COLLISION DIAGRAM)

DIAGRAM NO. 1

SHEET 1 OF 2

COUNTY <u>Rockland</u> ☐ TOWN ☐ CITY ☒ VILLAGE OF <u>Airmont</u>		P.I.N. <u> </u> OR IDENT. <u> </u>		ROUTE NO. OR STREET NAME <u>Saddle River Road</u> AT INTERSECTION WITH/OR BETWEEN <u>Old Nyack Turnpike</u>				CASE NO. <u> </u> FILE <u> </u> BY <u>CKD</u> DATE <u>8/5/2024</u>							
TIME PERIOD FROM <u>1/1/2021</u> TO <u>12/31/2023</u> NUMBER OF MONTHS <u>36</u>			ENVIRONMENTAL Use codes from MV 104 (shown on right) for these categories			LIGHT CONDITIONS 1. DAYLIGHT 2. DAWN 3. DUSK 4. DARK RD. LIGHTED 5. DARK ROAD UNLIGHTED 6. OTHER		ROADWAY CHARACTER 1. STRAIGHT AND LEVEL 2. STRAIGHT AND GRADE 3. STRAIGHT AT HILLCREST 4. CURVE AND LEVEL 5. CURVE AND GRADE 6. CURVE AT HILLCREST		ROADWAY SURFACE CONDITION 1. DRY 2. WET 3. MUDDY 4. SNOW/ICE 5. SLUSH 10. OTHER		WEATHER 1. CLEAR 2. CLOUDY 3. RAIN 4. SNOW 5. SLEET/HAIL/FREEZING RAIN 6. FOG/SMOG/SMOKE 10. OTHER			
			NO. OF VEHICLES ④ ⑤ ⑥ ⑦ ⑧ ⑨			SEVERITY ④ ⑤ ⑥ ⑦ ⑧ ⑨		CONDITIONS ④ ⑤ ⑥ ⑦ ⑧ ⑨		ROADWAY CHARACTER ④ ⑤ ⑥ ⑦ ⑧ ⑨		ROADWAY SURFACE CONDITION ④ ⑤ ⑥ ⑦ ⑧ ⑨		WEATHER ④ ⑤ ⑥ ⑦ ⑧ ⑨	
① NO. ② DATE ③ TIME			④ SEVERITY ⑤ LIGHT CONDITIONS ⑥ ROADWAY CHARACTER ⑦ ROADWAY SURFACE CONDITION ⑧ WEATHER			⑩ APPARENT CONTRIBUTING FACTORS		For Apparent Contributing Factors, use codes from MV 104 Police Report ⑪ DESCRIPTION							
1	2/11/2021	18:55	2	PDO	4	2	2	2	3	V1 backed out of a driveway onto Saddle River Road striking V2 stopped at a red light heading north.					
2	2/18/2021	23:00	2	PDO	4	2	2	4	29, 66	V2 traveling east on Old Nyack Turnpike entered their lane and V1 sideswiped V2.					
3	4/9/2021	8:05	2	PDO	1	2	1	1	9	V1 traveling west on Old Nyack turnpike turning right stopped at the yellow light and V2 rear ended V1					
4	5/14/2021	9:50	2	PI	1	1	1	1	17	V1 traveling west on Old Nyack Turnpike made a left and struck V2 heading south					
5	6/9/2021	8:49	2	PDO	1	2	1	1	4	V1 traveling west on Old Nyack Turnpike was stopped at the light and V2 rear ended them.					
6	8/17/2021	7:30	2	PDO	1	2	1	1	18	V1 traveling north on Saddle River Road was struck by V2 turning left.					
7	9/2/2021	18:30	1	PDO	1	1	1	1	29	V1 traveling north on Saddle River Road made a right turn and struck a utility pole.					
8	11/15/2021	17:05	2	PDO	4	1	1	1	7	V1 traveling north on Saddle River Road was struck by V2 making a left turn.					
9	12/1/2021	15:55	2	PDO	1	1	1	1	9	V1 stopped at the light on Old Nyack Turnpike was rear ended by V2.					
10	12/20/2021	8:02	3	PDO	1	1	1	1	None	V1 and V2 stopped at the light on Old Nyack Turnpike were rear ended by V3					
11	2/6/2022	17:37	1	PDO	4	2	1	1	4 5	V1 making a right turn onto Old Nyack Turnpike struck a telephone pole.					
12	2/7/2022	8:38	4	PDO	1	2	4	4	66	V1 traveling on Old Nyack Turnpike slipped in the snow coming to a stop rear ending V2 then V2 rear ended V3 and V3 then rear ended V4.					
13	4/4/2022	18:51	2	PDO	1	1	1	1	9	V1 traveling south on Saddle River Road stopped at the light was rear ended by V2.					
14	4/12/2022	14:15	2	PDO	1	1	1	1	9	V1 traveling south on Saddle River Road was rear ended by V2.					
15	6/19/2022	20:30	2	PDO	4	2	1	1	7	V1 making a right turn onto Old Nyack Turnpike was struck by V2 traveling straight.					
16	9/27/2022	18:30	2	PI	3	1	1	1	9	V1 traveling south on Saddle River Road stopped at the light was rear ended by V2.					
17	3/10/2023	12:32	2	PDO	1	2	1	2	4 9	V2 traveling south on Saddle River Road stopped at the light was rear ended by V1.					
18	3/27/2023	10:13	2	PDO	1	2	1	1	9	V1 traveling west on Old Nyack Turnpike stopped at the light was rear ended by V2.					
19	9/29/2022	16:19	2	PDO	1	2	1	1	13 27	V2 a cop crossed the double yellow to pull over a vehicle and V1 did not stop and V2 overtook V1.					
20	9/5/2023	21:40	1	PDO	4	1	1	1	4	V1 choking on water lost control traveling west on Old Nyack Turnpike struck a tree.					

RM

DETAILS OF CRASH HISTORY FOR LOCATION (AS SHOWN ON COLLISION DIAGRAM)

DIAGRAM NO. 1

SHEET 2 **OF** 2

RM

CRASH SUMMARY SHEET

MUNICIPALITY: Airmont

COUNTY: Rockland

LOCATION: Saddle River Road and Old Nyack Turnpike

HSI#: _____

TIME PERIOD: 1/1/2021 TO 12/31/2023

NO. OF MONTHS: 36

Crash Type No. of Crashes

Right Angle	<u>3</u>
Rear End	<u>12</u>
Overtaking	<u>1</u>
Left Turn	<u>3</u>
Parked Vehicle	<u>0</u>
Pedestrian	<u>0</u>
Bicycle	<u>0</u>
Side Swipe	<u>1</u>
Head-On	<u>0</u>
Animal	<u>0</u>
Fixed Object	<u>3</u>

w/Utility Poles	_____
w/Guide Rail	_____
w/Sign Posts	_____
w/Tree	_____
w/Ditch-Embank.	_____
w/Other	_____

TOTAL 23

Pavement No of Crashes

Dry	<u>20</u>
Wet	<u>2</u>
Muddy	<u>0</u>
Snow/Ice/Slush	<u>1</u>
Other	<u>0</u>

TOTAL 23

Weather No of Crashes

Clear	<u>19</u>
Cloudy	<u>2</u>
Rain	<u>0</u>
Snow	<u>2</u>
Sleet/Hail/Freezing Rain	<u>0</u>
Fog/Smog/Smoke	<u>0</u>
Other	<u>0</u>

TOTAL 23

Light Conditions No. of Crashes

Day	<u>15</u>
Dawn/Dusk	<u>1</u>
Night (unlighted)	<u>0</u>
Night (lighted)	<u>7</u>
Other	<u>0</u>

TOTAL 23

Crash Severity No. of Crashes

Fatal	<u>0</u>
Personal Injury	<u>3</u>
Property Damage Only	<u>20</u>
Non-Reportable	<u>0</u>

TOTAL 23

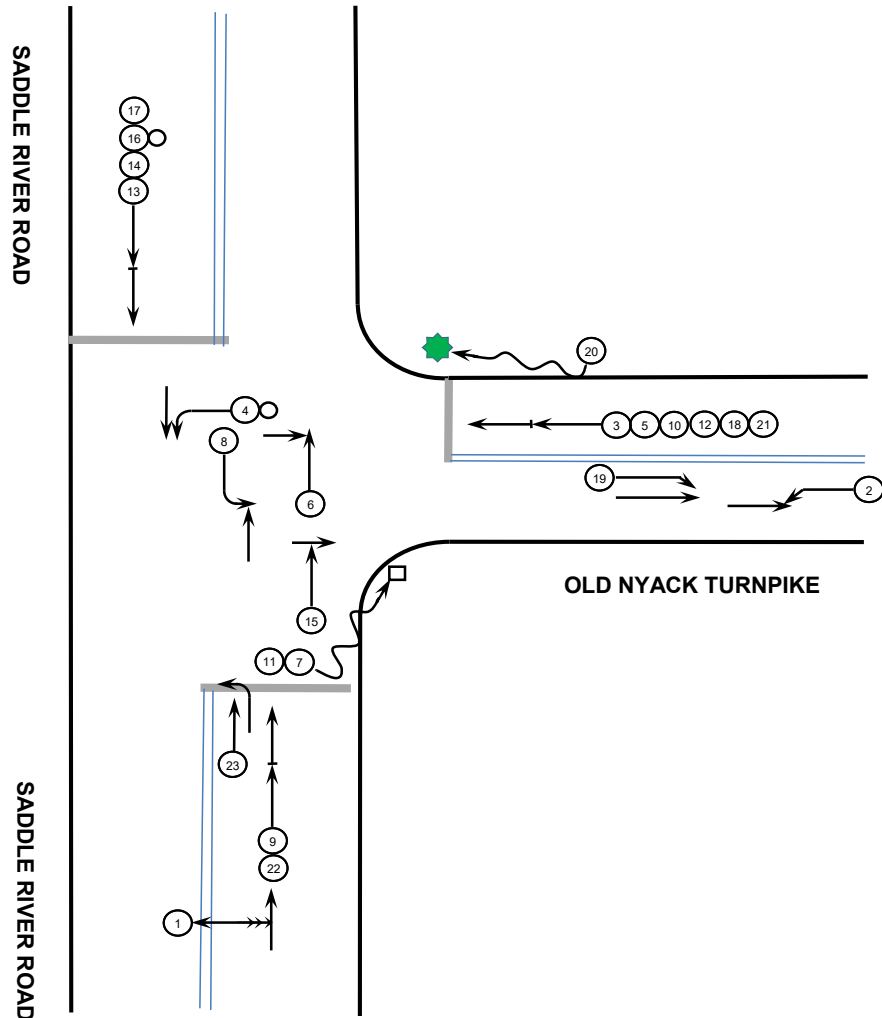
DATE: 8/5/2024



1 OF 1

CASE NO. _____

MUNICIPALITY: Airmont COUNTY: Rockland
 INTERSECTION: Saddle River Road AT Old Nyack Turnpike FILE: 0
 PERIOD: 3 YRS 0 MTHS FROM: 1/1/2021 TO 12/31/2023 BY: CKD



SYMBOLS			MANNER OF COLLISION			
	Moving Vehicle	 P -- Pedestrian		Rear-end		Head-on
	Motorcycle	 B — Bicycle		Out of control		Left-turn
	Backing Vehicle	 Fixed Object		Skidding		Right-angle
	Stopped Vehicle	 Personal Injury		Overtaken		Overtake
	Parked Vehicle	 Fatal Injury		Side-swipe		

DETAILS OF CRASH HISTORY FOR LOCATION (AS SHOWN ON COLLISION DIAGRAM)

DIAGRAM NO. 1

SHEET 1 **OF** 1

[illegible]RM

CRASH SUMMARY SHEET

MUNICIPALITY: Airmont

COUNTY: Rockland

LOCATION: Saddle River Road and Regina Road

HSI#: _____

TIME PERIOD: 1/1/2021 TO 12/31/2023

NO. OF MONTHS: 36

Crash Type No. of Crashes

Right Angle 2

Rear End 0

Overtaking 0

Left Turn 0

Parked Vehicle 0

Pedestrian 0

Bicycle 0

Side Swipe 0

Head-On 2

Animal 0

Fixed Object 0

w/Utility Poles _____

w/Guide Rail _____

w/Sign Posts _____

w/Tree _____

w/Ditch-Embank. _____

w/Other _____

TOTAL 4

Pavement No of Crashes

Dry 1

Wet 1

Muddy 0

Snow/Ice/Slush 2

Other 0

TOTAL 4

Weather No of Crashes

Clear 1

Cloudy 1

Rain 1

Snow 0

Sleet/Hail/Freezing Rain 1

Fog/Smog/Smoke 0

Other 0

TOTAL 4

Light Conditions No. of Crashes

Day 4

Dawn/Dusk 0

Night (unlighted) 0

Night (lighted) 0

Other 0

TOTAL 4

Crash Severity No. of Crashes

Fatal 0

Personal Injury 1

Property Damage Only 3

Non-Reportable 0

TOTAL 4

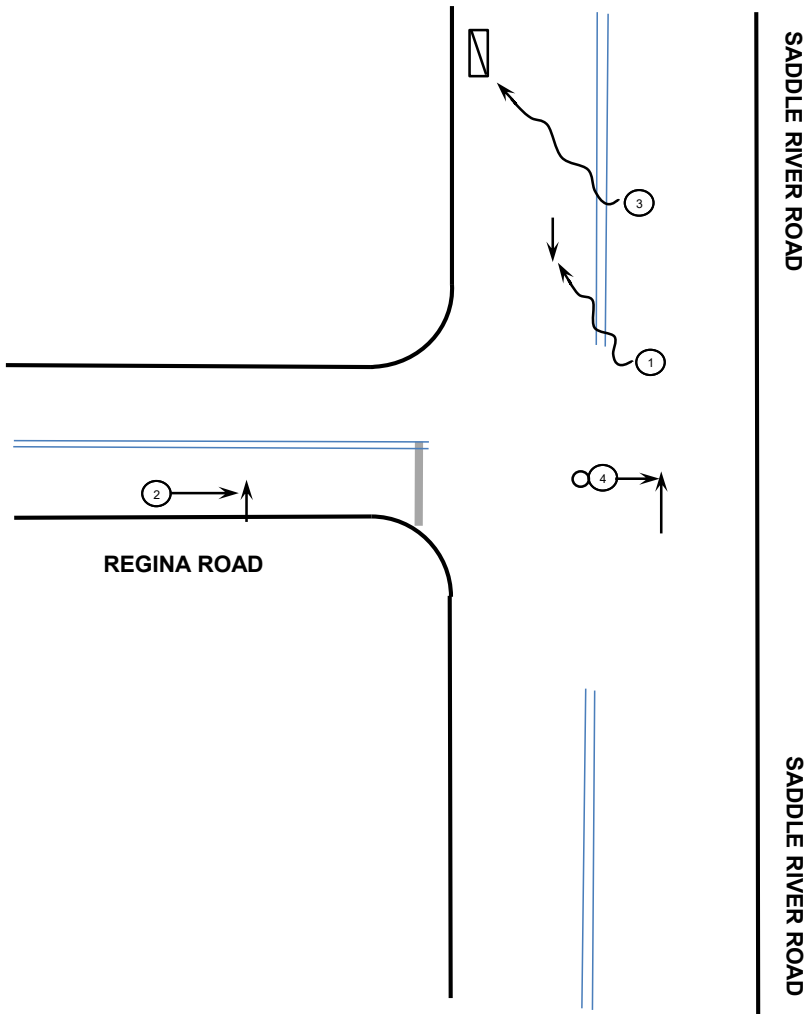
DATE: 8/5/2024

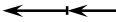


1 OF 1

CASE NO.

MUNICIPALITY: Airmont COUNTY: Rockland
 INTERSECTION: Saddle River Road AT Regina Road FILE: 0
 PERIOD: 3 YRS 0 MTHS FROM: 1/1/2021 TO 12/31/2023 BY: CKD



SYMBOLS			MANNER OF COLLISION		
	Moving Vehicle		Pedestrian		Head-on
	Motorcycle		Bicycle		Left-turn
	Backing Vehicle		Fixed Object		Right-angle
	Stopped Vehicle		Personal Injury		Overtake
	Parked Vehicle		Fatal Injury		
				Rear-end	
				Out of control	
				Skidding	
				Overturned	
				Side-swipe	

DETAILS OF CRASH HISTORY FOR LOCATION (AS SHOWN ON COLLISION DIAGRAM)

DIAGRAM NO. 1

SHEET 1 **OF** 1

[illegible]RM

CRASH SUMMARY SHEET

MUNICIPALITY: Airmont

COUNTY: Rockland

LOCATION: Saddle River Road and Margetts Road

HSI#: _____

TIME PERIOD: 1/1/2021 TO 12/31/2023

NO. OF MONTHS: 36

Crash Type No. of Crashes

Right Angle 1

Rear End 0

Overtaking 0

Left Turn 0

Parked Vehicle 1

Pedestrian 0

Bicycle 0

Side Swipe 0

Head-On 0

Animal 0

Fixed Object 0

w/Utility Poles _____

w/Guide Rail _____

w/Sign Posts _____

w/Tree _____

w/Ditch-Embank. _____

w/Other _____

TOTAL 2

Pavement No of Crashes

Dry 2

Wet 0

Muddy 0

Snow/Ice/Slush 0

Other 0

TOTAL 2

Weather No of Crashes

Clear 2

Cloudy 0

Rain 0

Snow 0

Sleet/Hail/Freezing Rain 0

Fog/Smog/Smoke 0

Other 0

TOTAL 2

Light Conditions No. of Crashes

Day 2

Dawn/Dusk 0

Night (unlighted) 0

Night (lighted) 0

Other 0

TOTAL 2

Crash Severity No. of Crashes

Fatal 0

Personal Injury 0

Property Damage Only 2

Non-Reportable 0

TOTAL 2

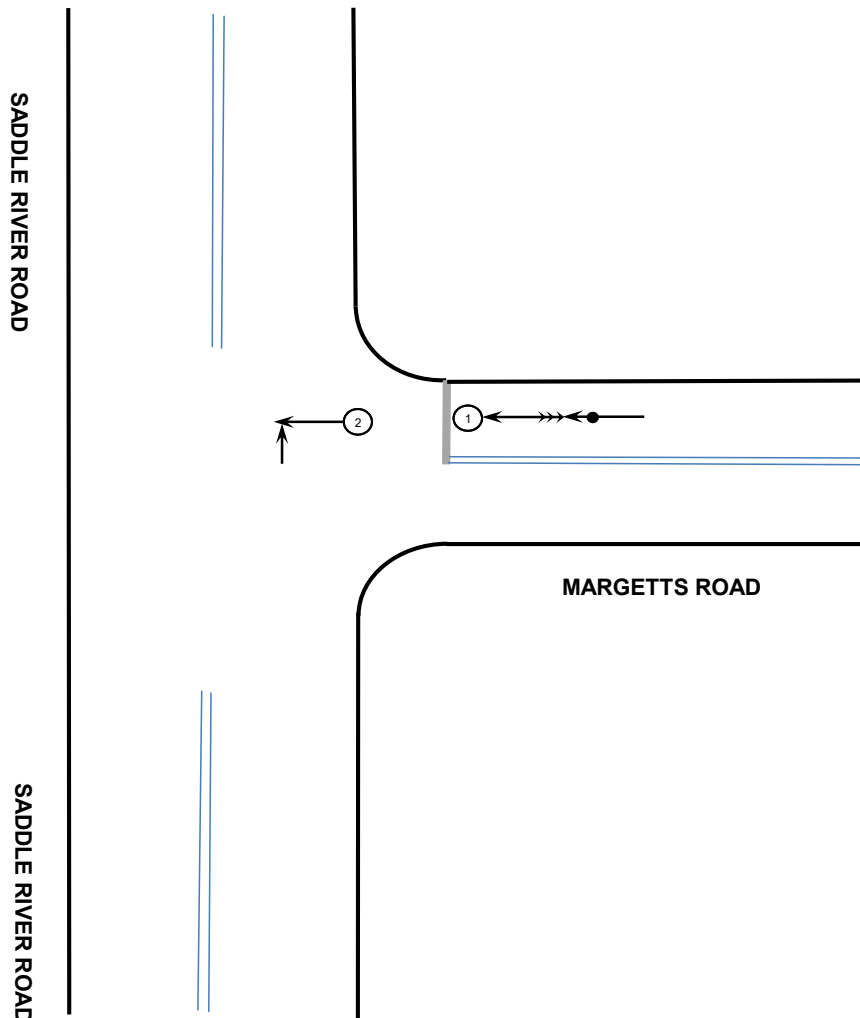
DATE: 8/5/2024



1 OF 1

CASE NO.

MUNICIPALITY: Airmont COUNTY: Rockland
 INTERSECTION: Saddle River Road AT Margetts Road FILE: 0
 PERIOD: 3 YRS 0 MTHS FROM: 1/1/2021 TO 12/31/2023 BY: CKD



SYMBOLS		MANNER OF COLLISION	
	Moving Vehicle		Rear-end
	Motorcycle		Out of control
	Backing Vehicle		Skidding
	Stopped Vehicle		Overturned
	Parked Vehicle		Side-swipe
	Pedestrian		Head-on
	Bicycle		Left-turn
	Fixed Object		Right-angle
	Personal Injury		Overtake
	Fatal Injury		

DETAILS OF CRASH HISTORY FOR LOCATION (AS SHOWN ON COLLISION DIAGRAM)

DIAGRAM NO. 1

SHEET 1 OF 1

COUNTY <u>Rockland</u> ☐ TOWN ☐ CITY ☒ VILLAGE OF <u>Airmont</u>		P.I.N. <u> </u> OR IDENT. <u> </u>		ROUTE NO. OR STREET NAME <u>Saddle River Road</u> AT INTERSECTION WITH/OR BETWEEN <u>South Monsey Road</u>				CASE NO. <u> </u> FILE <u> </u> BY <u>CKD</u> DATE <u>8/5/2024</u>				
TIME PERIOD NUMBER OF MONTHS <u>36</u> FROM <u>1/1/2021</u> TO <u>12/31/2023</u>			ENVIRONMENTAL Use codes from MV 104 (shown on right) for these categories		LIGHT CONDITIONS 1. DAYLIGHT 2. DAWN 3. DUSK 4. DARK RD. LIGHTED 5. DARK ROAD UNLIGHTED 6. OTHER		ROADWAY CHARACTER 1. STRAIGHT AND LEVEL 2. STRAIGHT AND GRADE 3. STRAIGHT AT HILLCREST 4. CURVE AND LEVEL 5. CURVE AND GRADE 6. CURVE AT HILLCREST		ROADWAY SURFACE CONDITION 1. DRY 2. WET 3. MUDDY 4. SNOW/ICE 5. SLUSH 10. OTHER		WEATHER 1. CLEAR 2. CLOUDY 3. RAIN 4. SNOW 5. SLEET/HAIL/FREEZING RAIN 6. FOG/SMOG/SMOKE 10. OTHER	
			NO. OF VEHICLES ④ ⑤ ⑥ ⑦ ⑧ ⑨		SEVERITY ⑩		CONDITIONS ⑪		ROADWAY CHARACTER ⑫		ROADWAY SURFACE CONDITION ⑬	
			WEATHER ⑭		APPARENT CONTRIBUTING FACTORS ⑮		For Apparent Contributing Factors, use codes from MV 104 Police Report ⑯ DESCRIPTION					
① NO.	② DATE	③ TIME	④ NO. OF VEHICLES	⑤ SEVERITY	⑥ CONDITIONS	⑦ ROADWAY CHARACTER	⑧ ROADWAY SURFACE CONDITION	⑨ WEATHER	⑩ APPARENT CONTRIBUTING FACTORS	⑪ DESCRIPTION		
1	8/17/2021	17:55	2	PDO	1	2	1	1	18	V1 traveling north took a left turn onto South Monsey Road and entered V1 lane heading east.		
2	9/2/2021	22:18	2	PDO	4	1	1	1	3	V2 backed out of their driveway onto Saddle River Road striking V1 heading south on Saddle River Road.		
3	12/4/2021	9:45	1	PDO	1	1	1	1	4 5	V1 didn't know how to use manual shifting and hit a utility pole		
4	12/14/2021	20:34	2	PDO	4	2	1	1	4 9	V1 stopped at the stop sign on South Monsey Road was rear ended by V2 trying to come to a stop.		
5	1/12/2022	9:02	1	PDO	1	5	1	1	18	V1 traveling south on South Monsey Road made a sharp turn and struck a utility pole		
6	6/17/2022	18:12	1	PDO	1	1	1	1	61	V1 traveling north on Saddle River Road stuck a deer crossing the road		
7	6/19/2022	12:11	2	PI	1	4	1	1	4 7	V1 made a left turn onto Saddle River Road and V2 was making a left turn onto South Monsey Road and V2 struck V1		
8	8/1/2022	17:10	2	PDO	1	1	1	1	7	V1 traveling north on Saddle River Road was struck by V2 making a left turn from South Monsey Road		
9	9/6/2022	15:21	2	PDO	1	2	2	3	7	V2 traveling north on Saddle River Road struck V1 pulling out taking a left from South Monsey Road.		
10	2/8/2023	9:17	2	PDO	1	2	2	1	4	V2 stopped at the stop sign on South Monsey Road was rear ended by V1.		
11	5/4/2023	15:12	2	PI	1	2	1	2	4	V1 traveling south on Saddle River Road when V2 made a left turn off South Monsey Road causing V1 to strike V2.		
12	11/8/2023	10:05	2	PDO	1	1	1	1	18	V1 stopped at the stop sign on South Monsey Road was struck by V2 taking a left onto South Monsey Road.		
13												
14												
15												
16												
17												
18												
19												
20												

RM

CRASH SUMMARY SHEET

MUNICIPALITY: Airmont

COUNTY: Rockland

LOCATION: Saddle River Road and South Monsey Road

HSI#: _____

TIME PERIOD: 1/1/2021 TO 12/31/2023

NO. OF MONTHS: 36

Crash Type No. of Crashes

Right Angle	<u>5</u>
Rear End	<u>2</u>
Overtaking	<u>0</u>
Left Turn	<u>2</u>
Parked Vehicle	<u>0</u>
Pedestrian	<u>0</u>
Bicycle	<u>0</u>
Side Swipe	<u>0</u>
Head-On	<u>0</u>
Animal	<u>1</u>
Fixed Object	<u>2</u>

w/Utility Poles	_____
w/Guide Rail	_____
w/Sign Posts	_____
w/Tree	_____
w/Ditch-Embank.	_____
w/Other	_____

TOTAL 12

Pavement No of Crashes

Dry	<u>10</u>
Wet	<u>2</u>
Muddy	<u>0</u>
Snow/Ice/Slush	<u>0</u>
Other	<u>0</u>

TOTAL 12

Weather No of Crashes

Clear	<u>10</u>
Cloudy	<u>1</u>
Rain	<u>1</u>
Snow	<u>0</u>
Sleet/Hail/Freezing Rain	<u>0</u>
Fog/Smog/Smoke	<u>0</u>
Other	<u>0</u>

TOTAL 12

Light Conditions No. of Crashes

Day	<u>10</u>
Dawn/Dusk	<u>0</u>
Night (unlighted)	<u>0</u>
Night (lighted)	<u>2</u>
Other	<u>0</u>

TOTAL 12

Crash Severity No. of Crashes

Fatal	<u>0</u>
Personal Injury	<u>2</u>
Property Damage Only	<u>10</u>
Non-Reportable	<u>0</u>

TOTAL 12

DETAILS OF CRASH HISTORY FOR LOCATION (AS SHOWN ON COLLISION DIAGRAM)

DIAGRAM NO. 1

SHEET 1 OF 1

COUNTY <u>Rockland</u> ☐ TOWN ☐ CITY ☒ VILLAGE OF <u>Airmont</u>		P.I.N. <u> </u> OR IDENT. <u> </u>		ROUTE NO. OR STREET NAME <u>Saddle River Road</u> AT INTERSECTION WITH/OR BETWEEN <u>Pine Brook Road</u>				CASE NO. <u> </u> FILE <u> </u> BY <u>CKD</u> DATE <u>8/5/2024</u>				
TIME PERIOD FROM <u>1/1/2021</u> TO <u>12/31/2023</u> NUMBER OF MONTHS <u>36</u>			ENVIRONMENTAL Use codes from MV 104 (shown on right) for these categories		LIGHT CONDITIONS 1. DAYLIGHT 2. DAWN 3. DUSK 4. DARK RD. LIGHTED 5. DARK ROAD UNLIGHTED 6. OTHER		ROADWAY CHARACTER 1. STRAIGHT AND LEVEL 2. STRAIGHT AND GRADE 3. STRAIGHT AT HILLCREST 4. CURVE AND LEVEL 5. CURVE AND GRADE 6. CURVE AT HILLCREST		ROADWAY SURFACE CONDITION 1. DRY 2. WET 3. MUDDY 4. SNOW/ICE 5. SLUSH 10. OTHER		WEATHER 1. CLEAR 2. CLOUDY 3. RAIN 4. SNOW 5. SLEET/HAIL/FREEZING RAIN 6. FOG/SMOG/SMOKE 10. OTHER	
			NO. OF VEHICLES (4) (5) (6) (7) (8) (9)		SEVERITY (10) APPARENT CONTRIBUTING FACTORS		For Apparent Contributing Factors, use codes from MV 104 Police Report (11) DESCRIPTION					
(1) NO.	(2) DATE	(3) TIME	NO. OF VEHICLES	SEVERITY	LIGHT CONDITIONS	ROADWAY CHARACTER	ROADWAY SURFACE CONDITION	WEATHER				
1	1/3/2021	18:19	1	PDO	4	2	4	5	66	V1 traveling west on Pine Brook couldn't stop due to the slippery road and struck a tree.		
2	2/2/2021	20:01	1	PDO	4	2	4	4	66	V1 traveling west on Pine Brook couldn't stop due to snow and struck a stone wall.		
3	2/2/2021	18:42	2	PI	4	2	4	4	66	V1 traveling west on Pine Brook was sliding due to snow and hit V2 traveling north on Saddle River Road		
4	2/22/2021	12:54	1	PDO	1	2	4	4	66	V1 traveling west on Pine Brook couldn't stop due to snow and struck a tree.		
5	6/14/2021	18:06	2	PDO	1	3	1	1	4 9	V2 stopped at the stop sign on Pine Brook was rear ended by V1.		
6	11/3/2021	19:10	2	PDO	4	1	1	1	13	V1 traveling southbound on Saddle River Road and V2 heading northbound veered into the other lane hitting V1 head on.		
7	12/8/2021	15:15	2	PDO	1	3	1	1	4 7	V2 making a left onto Saddle River Road was struck by V1 traveling north on Saddle River Road.		
8	1/11/2022	0:48	1	PDO	4	3	4	4	66	V1 traveling west on Pine Brook couldn't stop due to snow and struck a tree.		
9	1/17/20220	6:23	1	PDO	5	1	4	3	66	V1 traveling west on Pine Brook couldn't stop due to snow and struck a tree.		
10	1/20/2022	8:34	1	PDO	1	2	4	5	66	V1 traveling west on Pine Brook couldn't stop due to snow and struck a stone wall.		
11	4/11/2022	13:50	2	PDO	1	1	1	1	3	V1 traveling south on Saddle River Road made a left on Pine Brook when V2 was reversing on Pine Brook and V2 struck V1.		
12	12/11/2022	21:46	1	PDO	4	2	4	4	66	V1 traveling west on Pine Brook couldn't stop due to snow and struck a stone wall.		
13	8/30/2023	18:29	2	PDO	1	2	1	1	9 13	V1 stopped at the stop sign on Pine Brook was rear ended by V2.		
14	8/24/2023	22:14	1	PDO	4	2	2	3	66	V1 traveling west on Pine Brook couldn't stop due to snow and struck a stone wall.		
15												
16												
17												
18												
19												
20												

RM

CRASH SUMMARY SHEET

MUNICIPALITY: Airmont

COUNTY: Rockland

LOCATION: Saddle River Road and Pine Brook Road

HSI#: _____

TIME PERIOD: 1/1/2021 TO 12/31/2023

NO. OF MONTHS: 36

Crash Type No. of Crashes

Right Angle 3

Rear End 2

Overtaking 0

Left Turn 0

Parked Vehicle 0

Pedestrian 0

Bicycle 0

Side Swipe 0

Head-On 1

Animal 0

Fixed Object 8

w/Utility Poles _____

w/Guide Rail _____

w/Sign Posts _____

w/Tree _____

w/Ditch-Embank. _____

w/Other _____

TOTAL 14

Pavement No of Crashes

Dry 5

Wet 1

Muddy 0

Snow/Ice/Slush 8

Other 0

TOTAL 14

Weather No of Crashes

Clear 5

Cloudy 0

Rain 2

Snow 5

Sleet/Hail/Freezing Rain 2

Fog/Smog/Smoke 0

Other 0

TOTAL 14

Light Conditions No. of Crashes

Day 6

Dawn/Dusk 0

Night (unlighted) 1

Night (lighted) 7

Other 0

TOTAL 14

Crash Severity No. of Crashes

Fatal 0

Personal Injury 1

Property Damage Only 13

Non-Reportable 0

TOTAL 14

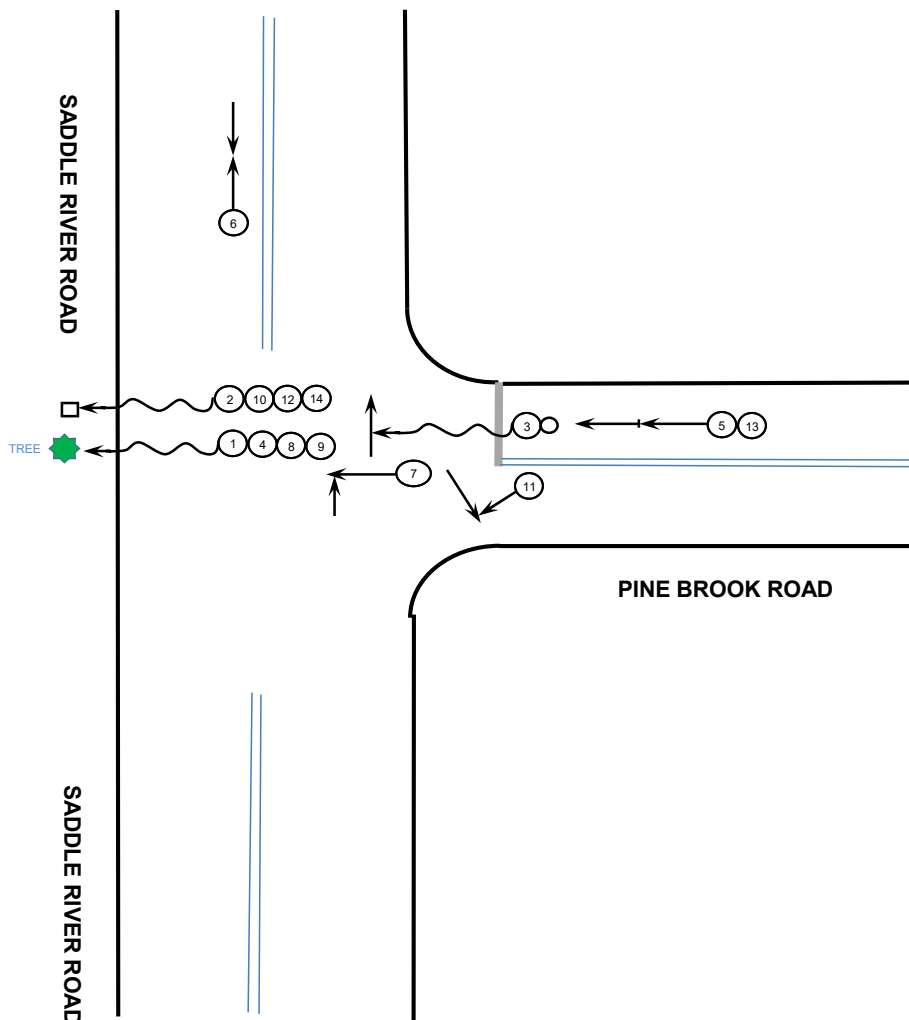
DATE: 8/5/2024



1 OF 1

CASE NO.

MUNICIPALITY: Airmont COUNTY: Rockland
 INTERSECTION: Saddle River Road AT Pine Brook Road FILE: 0
 PERIOD: 3 YRS 0 MTHS FROM: 1/1/2021 TO 12/31/2023 BY: CKD



SYMBOLS		MANNER OF COLLISION	
	Moving Vehicle		Rear-end
	Motorcycle		Out of control
	Backing Vehicle		Skidding
	Stopped Vehicle		Overturned
	Parked Vehicle		Side-swipe
	Pedestrian		Head-on
	Bicycle		Left-turn
	Fixed Object		Right-angle
	Personal Injury		Overtake
	Fatal Injury		

**Appendix E **

Previous Traffic Impact Studies

PROPOSED SYNAGOGUE
2 HILLSIDE AVENUE
TRAFFIC IMPACT STUDY
AIRMONT, NY

April 8, 2024

Prepared By:
Harry Baker & Associates
190 Old Colony Road
Hyannis, Ma 02601

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MINYAN
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MINYAN
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MINYAN
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MINYAN
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15. 2026 BUILD 8:00 AM TO 9:00 AM PEAK HOUR TRAFFIC
16. 2026 BUILD 4:00 PM TO 5:00 PM PEAK HOUR TRAFFIC
17. 2026 BUILD 5:00 PM TO 6:00 PM PEAK HOUR TRAFFIC

INTRODUCTION

The proposed Kollel synagogue is to be constructed at 2 Hillside Avenue is located on Block and Lot 62.14-2-13 in the Village of Airmont, NY. There is a single-family house on the lot. The new synagogue will be for the local residents.

There will be daily minyans Sunday – Friday starting at 7:00 am and continuing to 9:00 am. Over the course of these two hours, we would expect 65 people to drive and the balance walking. In the evening, we studied the 4:00 pm to 6:00 pm time periods because this is when the fall, winter and early spring minyans would take place. During the summer, the minyans start later beginning at 7:30 pm and could continue to 10:00 pm for those getting home late. We chose to analyze the 4:00 pm to 6:00 pm time periods because they represent the heaviest traffic flow in the study area.

Friday evening services would take place between 7:30 and 9:00 pm with approximately 85 congregants attending. On Shabbat morning, there could be up to 120 congregants. On Shabbat afternoon between 5:00 pm and 9:30 pm dependent on the time of year, approximately 70 congregants would attend. On Shabbat and holidays, the members will walk. No cars will be driven.

Figure 1 shows the project location. We have based our analysis on the site plan prepared by Paul Gdanski, dated 2/6/24 last revised 4/11/24. For traffic purposes, the future build-year is 2026.

The purpose of this study is to determine the potential traffic impact of the proposed religious building on the adjacent roadway network, and where necessary, make recommendations for roadway improvements necessary to serve the existing and future traffic volumes.

EXISTING ROADWAY NETWORK

The proposed project will be located along Hillside Avenue and Saddle River Road. A description of the existing local roadway system is provided below.

- Saddle River Road (CR81) is a two-lane roadway that runs in a north-south direction under the control of Rockland County. It begins at Route 59 in Monsey, New York and continues south to the NJ State Border. The posted speed limit is 30-mph. Near the project site, Saddle River Road has one travel lane in each direction. The land-use composition in the area is comprised of religious buildings, single family homes, commercial developments, cemeteries, and several synagogues.



PROJECT LOCATION

PROJECT LOCATION
FIGURE 1

- Old Nyack Turnpike (CR74) is a two-lane roadway that runs in an east-west direction under the control of Rockland County. The posted speed limit is 30 mph. It begins at the intersection of Route 45 and continues west to Saddle River Road. The posted speed limit is 30-mph. The development along Old Nyack Turnpike is comprised of single-family homes, multifamily homes, and Yeshivas.
- Hillside Avenue - is a two-lane roadway that runs in an east-west direction under the control of the Village of Airmont. The posted speed limit is 30 mph. It begins at the intersection of Saddle River Road/Hillside Avenue and continues west to the closed bridge. There are single family homes, the proposed mikvah under construction and a cemetery.

EXISTING TRAFFIC CONDITIONS – WEEKDAY

Manual Traffic Counts - Weekday

In order to properly assess the impacts of the proposed project, manual turning movement counts were taken during a typical weekday. The manual counts were conducted on Thursday, March 14, 2024, at the following intersections:

- Saddle River Road/Old Nyack Turnpike – signalized
- Saddle River Road/Hillside Avenue – unsignalized
- Saddle River Road/Pinebrook – unsignalized

The traffic counts were conducted in 15-minute intervals. The counts were classified by cars, trucks, buses, and school buses. Full size school buses were considered trucks for this study.

The time periods analyzed are as follows:

- Weekdays 7:00 to 8:00 am, 8:00 am to 9:00 am, 4:00 to 5:00 pm, and 5:00-6:00 pm.

The traffic volumes are shown in **Figures 2 thru 5** and show the peak our traffic. Appendix C shows the traffic counts for the manual counts.

The signal timing and phasing for the signalized intersections were obtained from the Rockland County Highway Department and Verde Electric. Verde Electric has the maintenance contract for the Town of Ramapo.

Capacity Analysis

The Synchro 11 software (standard Highway Capacity Manual) was used to calculate the Level of Service for each intersection. The traffic analysis is performed by calculating the capacity of the facility (e.g., intersection approach roadway) to process traffic. In general, the capacity of a facility is defined as the maximum number of vehicles or pedestrians that can reasonably be expected to traverse a point or section of roadway during a given time period under prevailing roadway, traffic, and control conditions. Therefore, capacity analyses are a set of procedures used to estimate the traffic carrying capabilities of facilities over a range of defined operational conditions. They provide tools for the analysis and improvement of existing facilities and for the planning and design of future facilities.

Signalized Intersections

The operation of signalized intersections in the Study Area was analyzed by applying the Percentile Delay Methodology included in the Synchro 11 traffic signal software (latest version approved by NYSDOT).

LOS can be characterized for the entire intersection, each intersection approach, and each lane group. Control delay alone is used to characterize LOS for the entire intersection or an approach. Delay quantifies the increase in travel time due to traffic signal control. It is also a surrogate measure of driver discomfort and fuel consumption. The volume-to-capacity ratio quantifies the degree to which a phase's capacity is utilized by a lane group.

LOS A describes operation with a control delay of 10 seconds per vehicle or less and volume-to capacity ratio no greater than 1.0. This level is typically assigned when the volume-to capacity ratio is low and ether progression is exceptionally favorable or the cycle length is very short. If it is due to favorable progression, most vehicles arrive during the green indication and travel through the intersection without stopping.

LOS B describes operation with a control delay between 10 and 20 seconds per vehicle or less and volume-to capacity ratio no greater than 1.0. This level is typically assigned when the volume-to capacity ratio is low and ether progression is exceptionally favorable or the cycle length is very short. More vehicles will stop than with LOS A.

LOS C describes operation with a control delay between 20 and 35 seconds per vehicle or less and volume-to capacity ratio no greater than 1.0. This level is typically assigned when the volume-to capacity ratio is moderate. Individual cycle failures (i.e., one or more queued vehicles are not able to depart as a result of insufficient capacity during the cycle) may appear at this level. The number of

vehicles stopping is significant, although many vehicles still pass through the intersection without stopping.

LOS D describes operation with a control delay between 35 and 55 seconds per vehicle or less and volume-to capacity ratio no greater than 1.0. This level is typically assigned when the volume-to capacity ratio is high and either progression is ineffective, or the cycle length is long. Many vehicles stop and individual cycle failures are noticeable.

LOS E describes operation with a control delay between 55 and 80 seconds per vehicle or less and volume-to capacity ratio no greater than 1.0. This level is typically assigned when the volume-to capacity ratio is high, progression is unfavorable, and the cycle length is long. Individual cycle failures are frequent.

LOS F describes operation with a control delay is greater than 80 seconds per vehicle or less and volume-to capacity ratio greater than 1.0. This level is typically assigned when the volume-to capacity ratio is very high, progression is very poor, and the cycle length is long. Most cycles fail to clear the queue.

A lane group can incur a delay less than 80 seconds per vehicle when the volume-to capacity ratio exceeds 1.0. This condition typically occurs when the cycle length is short, the signal progression is favorable, or both. As a result, both the delay and volume-to capacity ratio are considered when lane group LOS is established. A ratio of 1.0 or more indicates that cycle capacity is fully utilized and represents failure from a capacity perspective (just as delay in excess of 80 seconds per vehicle represents failure from a delay perspective.)

The control delay criteria for the range of service levels for signalized intersections are shown in **Table 1**.

Control Delay Per Vehicle	Level of Service (LOS)	
	v/c ratio $\leq$ 1.0	v/c ratio $\geq$ 1.0
≤ 10.0 Seconds	A	F
>10.0 and 20.0 seconds	B	F
>20.0 and 35.0 seconds	C	F
>35.0 and 55.0 seconds	D	F
>55.0 and 80.0 seconds	E	F
>80.0 seconds	F	F
Source: Transportation Research Board 2016 <i>Highway Capacity Manual</i> Note: (1) for approach- based and intersection wide assessments, LOS is defined solely by control delay.		

Unsignalized Intersections

The LOS criteria for both TWSC and AWSC unsignalized intersections are summarized in **Table 2**.

Control Delay Per Vehicle	Level of Service (LOS)	
	v/c ratio ≤ 1.0	v/c ratio ≥ 1.0
≤ 10.0 Seconds	A	F
>10.0 and 15.0 seconds	B	F
>15.0 and 25.0 seconds	C	F
>25.0 and 35.0 seconds	D	F
>35.0 and 50.0 seconds	E	F
>50.0 seconds	F	F
Source: Transportation Research Board 2016 <i>Highway Capacity Manual</i> Note: (1) For TWSC intersections, the LOS criteria apply to each lane on a given approach and to each approach on the minor street (for TWSC intersections.) LOS is not calculated for major-street approaches or for the intersection as a whole.		

Note that the LOS criteria for unsignalized intersections are somewhat different from the criteria used in signalized intersections. At TWSC intersections, drivers on the stop-controlled approaches are required to select gaps in the major-street flow in order to execute crossing or turning maneuvers. In the presence of a queue, each driver on the controlled approach must also use some time to move into the front-of-queue position and prepare to evaluate gaps in the major-street flow. AWSC intersections require drivers on all approaches to stop before proceeding into the intersection.

The results of the existing capacity analyses are shown in **Tables 3** for the existing conditions.

All of the approaches at the three intersections analyzed are operating at LOS "C" or better for time periods analyzed.

2026 NO-BUILD CONDITIONS

The no-build conditions represent the traffic volumes that would be on the street network prior to the completion of the development. We used a background growth rate of 1.01% based on the NYMTC projections for Rockland County. In addition, we added the traffic for the following projects:

- Hillside Avenue Mikvah
- 41-45 Dykstra's Way

TABLE 3
CAPACITY ANALYSIS SUMMARY
2024 EXISTING CONDITIONS
SIGNALIZED INTERSECTIONS

	7:00-8:00 AM			8:00-9:00 AM			4:00-5:00 PM			5:00-6:00 PM		
		V/C			V/C			V/C			V/C	
	LOS	Ratio	Delay	LOS	Ratio	Delay	LOS	Ratio	Delay	LOS	Ratio	Delay
Saddle River Road/Old Nyack Turnpike												
Saddle River Road												
Northbound Th + Rt	A	0.26	5.6	A	0.32	6.1	A	0.31	7.0	A	0.34	6.5
Southbound Lt + Th	B	0.56	11.1	B	0.67	14.7	C	0.84	26.0	C	0.87	28.6
Old Nyack Turnpike												
Westbound Lt + Rt	B	0.76	16.2	B	0.76	16.6	C	0.83	23.7	B	0.78	18.1
Overall	B		11.5	B		13.0	C		29.6	B		19.6

TABLE 3
CAPACITY ANALYSIS SUMMARY
2024 EXISTING CONDITIONS
UNSIGNALIZED INTERSECTIONS

[illegible]

These vehicle trips were added to the projected background growth traffic to produce the no-build traffic volumes. The traffic volumes are shown in **Figures 6 thru 9** show the peak hour traffic for the various time periods.

The results the weekday capacity analyses are shown in **Table 4** for the 2026 no-build conditions.

At the Saddle River Road/Old Nyack Turnpike intersection, the Saddle River Road southbound combination left/thru lane is projected to change from LOS “C” to “D” in the 4:00 to 5:00 pm hour.

At the Saddle River Road/Old Nyack Turnpike intersection, the Saddle River Road southbound combination left/thru lane is projected to change from LOS “C” to “D.” The Old Nyack Turnpike westbound combination left/right turn lane is projected to change from LOS “C” to “D” and the overall intersection LOS is projected to change from LOS “C” to “D” in the 5:00 to 6:00 pm hour.

The remaining approaches will remain at the LOS for the existing conditions.

2026 BUILD CONDITIONS

Figures 10 thru 13 show the distribution for the vehicle trips for each hour. **Figures 14 thru 17** show the peak hour traffic volumes for the 2026 Build condition.

The results of the Synchro analysis in **Table 5** are as follows.

At the Saddle River Road/Old Nyack Turnpike intersection, the Old Nyack Turnpike westbound combination left/right turn lane is projected to change from LOS “B” to “C” in the 8:00 to 9:00 am hour.

At the Saddle River/Hillside Avenue intersection, the Hillside Avenue eastbound combination left/right turn lane is projected to change from LOS “B” to “C” in the 5:00 to 6:00 pm hour.

The remaining approaches will remain at the LOS for the existing conditions.

CALCULATION OF SIGHT DISTANCE

The intersection sight distance is based on the AASHTO Design Manual “A Policy for Geometric Design of Highways and Streets.” Chapter 9 discusses the sight

TABLE 4 CAPACITY ANALYSIS SUMMARY 2026 NO-BUILD CONDITIONS SIGNALIZED INTERSECTIONS												
	7:00-8:00 AM			8:00-9:00 AM			4:00-5:00 PM			5:00-6:00 PM		
	LOS	V/C	Delay	LOS	V/C	Delay	LOS	V/C	Delay	LOS	V/C	Delay
Saddle River Road/Old Nyack Turnpike												
Saddle River Road												
Northbound Th + Rt	A	0.27	5.9	A	0.33	6.4	A	0.37	8.4	A	0.36	7.0
Southbound Lt + Th	B	0.58	12.0	B	0.69	16.2	D	0.87	49.3	D	0.93	37.4
Old Nyack Turnpike												
Westbound Lt + Rt	B	0.77	17.3	B	0.77	17.3	C	0.88	31.8	C	0.81	21.9
Overall	B		12.3	B		13.9	C		33.4	C		24.7

TABLE 4 CAPACITY ANALYSIS SUMMARY 2026 NO-BUILD CONDITIONS UNSIGNALIZED INTERSECTIONS												
	AM Peak			PM Peak			4:00-5:00 PM			5:00-6:00 PM		
	V/C			V/C			V/C			V/C		
	LOS	Ratio	Delay	LOS	Ratio	Delay	LOS	Ratio	Delay	LOS	Ratio	Delay
Saddle River Road/Hillside Avenue												
Saddle River Road												
Northbound Lt + Th	A	0.01	8.0	A	0.02	8.1	A	0.02	8.2	A	0.02	8.0
Hillside Avenue												
Eastbound Lt + Rt	B	0.06	11.0	B	0.09	12.2	B	0.09	14.5	B	0.09	13.6
Saddle River Road/Pinebrook Road												
Saddle River Road												
Southbound Lt + Th	A	0.06	7.8	A	0.10	7.9	A	0.16	8.1	A	0.12	8.1
Pinebrook Road												
Westbound Lt + Rt	A	0.12	9.6	B	0.24	10.5	B	0.36	12.8	B	0.36	12.9

TABLE 5
CAPACITY ANALYSIS SUMMARY
2026 BUILD CONDITIONS
SIGNALIZED INTERSECTIONS

	7:00-8:00 AM			8:00-9:00 AM			4:00-5:00 PM			5:00-6:00 PM		
		V/C			V/C			V/C			V/C	
	LOS	Ratio	Delay	LOS	Ratio	Delay	LOS	Ratio	Delay	LOS	Ratio	Delay
Saddle River Road/Old Nyack Turnpike												
Saddle River Road												
Northbound Th + Rt	A	0.29	6.3	A	0.36	7.3	A	0.37	8.6	A	0.37	7.4
Southbound Lt + Th	B	0.60	12.9	B	0.73	18.9	D	0.99	54.0	D	0.96	44.3
Old Nyack Turnpike												
Westbound Lt + Rt	B	0.79	19.6	C	0.82	23.0	C	0.89	32.8	C	0.82	23.9
Overall	B		13.6	B		17.0	D		35.7	C		28.3

TABLE 5
CAPACITY ANALYSIS SUMMARY
2026 BUILD CONDITIONS
UNSIGNALIZED INTERSECTIONS

	AM Peak V/C			PM Peak V/C			4:00-5:00 PM			5:00-6:00 PM		
	LOS	Ratio	Delay	LOS	Ratio	Delay		V/C			V/C	
							LOS	Ratio	Delay	LOS	Ratio	Delay
Saddle River Road/Hillside Avenue												
Saddle River Road Northbound Lt + Th	A	0.02	8.1	A	0.02	8.2	A	0.03	8.3	A	0.03	8.2
Hillside Avenue Eastbound Lt + Rt	B	0.11	11.5	B	0.17	13.3	B	0.13	14.9	C	0.17	15.0
Saddle River Road/Pinebrook Road												
Saddle River Road Southbound Lt + Th	A	0.07	7.9	A	0.11	7.9	A	0.17	8.2	A	0.13	8.2
Pinebrook Road Westbound Lt + Rt	A	0.13	9.7	B	0.26	10.7	B	0.38	13.0	B	0.38	13.2
Hillside Avenue/2 Hillside Avenue												
Hillside Avenue Eastbound Lt + Th	A	0.00	7.3	A	0.00	7.5	A	0.00	0.0	A	0.00	7.4
2 Hillside Avenue Southbound Lt + Rt	A	0.03	0.0	A	0.05	9.2	A	0.02	8.9	A	0.04	9.1

triangle requirements for a stop-controlled intersection and how to calculate the sight distance.

The sight triangle area must be clear of obstructions so a driver sitting in the driveway can see oncoming traffic and vice versa. Plantings in the sight triangle should not be more than two feet high. It is preferable that there be no plantings in the sight triangle.

The intersection sight distance is calculated based on the formula on Page 9-37. For a left turn from stop, Table 9-5 provides the Time Gap in seconds for the Design Speed of Major Road. For a passenger car, the Time Gap is 7.5 seconds. For a single unit truck, 9.5 seconds and for a combination truck 11.5 seconds. We measured the sight distance in the field and the results are as follows:

Using Case “F” from AASHTO, (left turn from major roadway) the required sight distance is 245 feet. Using Case “B1” (left turn out of the driveway) the required sight distance is 335 feet. For Case “B2” (right turn out of the driveway), the required sight distance is 290 feet.

Based on where the driveway will be located, looking left to Saddle River Road, the sight distance is 141 feet. Looking right from the driveway, the sight distance is over 400 feet. We do meet the required sight distance.

CRASH ANALYSIS

We obtained the 2021, 2022, and 2023 crash data from NYSDOT for the Saddle River Road/Old Nyack Turnpike, Saddle River Road/Hillside Avenue, and Saddle River Road/Pinebrook Road. **Tables 6 thru 8** summarize the crash information.

In 2021, there were a total of 20 crashes. The breakdown of the crashes by intersection is as follows:

Hillside Avenue/Saddle River Road – there was one other type crash and there were no injuries.

Old Nyack Turnpike/Saddle River Road – there were a total of four crashes on Old Nyack Turnpike and there were no injuries. There was 1 sideswipe, 1 other, and 2 rear end.

Pinebrook Road/Saddle River Road – There was one rear end crash on Pinebrook Road and there were no injuries.

Saddle River Road/Pinebrook Road – On Saddle River Road at this intersection there were a total of 7 crashes with 1 injury. There were 5 other and 2 right angle.

Saddle River Road/Hillside Avenue – on Saddle River Road at this intersection, there was one other type of crash and no injuries.

Saddle River Road/Old Nyack Turnpike – on Saddle River Road at this intersection, there were a total of 6 crashes with one injury. There were 3 other, 1 right angle, 1 left turn, and 1 not entered.

In 2022, there were a total of 12 crashes. The breakdown of the crashes by intersection is as follows:

Old Nyack Turnpike/Saddle River Road, on Old Nyack Turnpike there were a total of 2 crashes with no injuries. There were 2 other type crashes.

Saddle River Road/Pinebrook Road, on Saddle River Road there were a total of 4 crashes with no injuries. There were 4 other type of crashes.

Saddle River Road/Old Nyack Turnpike, in Saddle River Road there were a total of 3 crashes with no injuries. There were 2 other and 1 right turn crashes.

There were 3 other crashes on Saddle River Road, but no cross-street was given.

In 2023, there were a total of 9 crashes. The breakdown of the crashes by intersection is as follows:

Old Nyack Road/Saddle River Road, on Old Nyack Turnpike there were a total 6 crashes with no injuries. There were 4 rear end and 2 other type crashes.

Saddle River Road/Pinebrook Road, on Saddle River Road there were 2 crashes that included 1 rear end and 1 other type crash.

Saddle River Road/ Old Nyack Turnpike, on Saddle River Road there was one rear end crash with no injuries.

CONCLUSIONS

1. The proposed synagogue will generate 25 vehicle trips entering and 25 vehicle trips exiting in the 7:00 to 8:00 am hour. In the 8:00 to 9:00 am hour, there will be 40 vehicle trips entering and 40 vehicle trips exiting. In the

TABLE 6

	Crash Date	Crash Time		Collision Type	Light Conditions	Road Surface Conditions	Weather Conditions	Closest Cross Street	Direction From	Distance From (Meters)	On Street
1	2021-12-20T00:00:00	3:01 PM	PROPERTY DAMAGE	OTHER	DAYLIGHT	DRY	CLEAR	SADDLE RIVER RD	NORTH-WEST	9	HILLSIDE AVE
2	2021-02-18T00:00:00	11:00 PM	PROPERTY DAMAGE	SIDESWIPE	DARK-ROAD LIGHTED	WET	SNOW	SADDLE RIVER RD	WEST	15	OLD NYACK TPKE
3	2021-12-20T00:00:00	8:02 AM	PROPERTY DAMAGE	OTHER	DAYLIGHT	DRY	CLEAR	SADDLE RIVER RD	WEST	30	OLD NYACK TPKE
4	2021-04-09T00:00:00	8:05 AM	PROPERTY DAMAGE	REAR END	DAYLIGHT	DRY	CLEAR	SADDLE RIVER RD		0	OLD NYACK TPKE
5	2021-06-09T00:00:00	8:49 AM	PROPERTY DAMAGE	REAR END	DAYLIGHT	DRY	CLEAR	SADDLE RIVER RD		0	OLD NYACK TPKE
6	2021-06-14T00:00:00	6:06 PM	PROPERTY DAMAGE	REAR END	DAYLIGHT	DRY	CLEAR	SADDLE RIVER RD		0	PINEBROOK RD
7	2021-01-03T00:00:00	6:19 PM	PROPERTY DAMAGE	OTHER	DARK-ROAD LIGHTED	SNOW/ICE	SLEET/HAIL/FREEZING RAIN	PINEBROOK RD	SOUTH-EAST	0	SADDLE RIVER RD
8	2021-02-11T00:00:00	6:55 PM	PROPERTY DAMAGE	RIGHT ANGLE	DARK-ROAD LIGHTED	WET	CLOUDY	OLD NYACK TPKE	SOUTH-EAST	2	SADDLE RIVER RD
9	2021-02-02T00:00:00	8:01 PM	PROPERTY DAMAGE	OTHER	DARK-ROAD LIGHTED	SNOW/ICE	SNOW	PINEBROOK RD	SOUTH-EAST	0	SADDLE RIVER RD
10	2021-02-02T00:00:00	6:42 PM	INJURY	RIGHT ANGLE	DARK-ROAD LIGHTED	SNOW/ICE	SNOW	PINEBROOK RD	SOUTH-EAST	0	SADDLE RIVER RD
11	2021-02-22T00:00:00	12:54 PM	PROPERTY DAMAGE	OTHER	DAYLIGHT	SNOW/ICE	SNOW	PINEBROOK RD	SOUTH-EAST	0	SADDLE RIVER RD
12	2021-02-22T00:00:00	12:54 PM	PROPERTY DAMAGE	OTHER	DAYLIGHT	SNOW/ICE	SNOW	PINEBROOK RD	SOUTH-EAST	0	SADDLE RIVER RD
13	2021-05-14T00:00:00	9:50 AM	INJURY	OTHER	DAYLIGHT	DRY	CLEAR	OLD NYACK TPKE	WEST	0	SADDLE RIVER RD
14	2021-08-17T00:00:00	7:30 AM	PROPERTY DAMAGE	RIGHT ANGLE	DAYLIGHT	DRY	CLEAR	OLD NYACK TPKE	WEST	0	SADDLE RIVER RD
15	2021-09-02T00:00:00	6:30 PM	PROPERTY DAMAGE	OTHER	DAYLIGHT	DRY	CLEAR	OLD NYACK TPKE	WEST	0	SADDLE RIVER RD
16	2021-11-03T00:00:00	7:10 PM	PROPERTY DAMAGE	OTHER	DARK-ROAD LIGHTED	DRY	CLEAR	PINEBROOK RD	NORTH	30	SADDLE RIVER RD
17	2021-11-10T00:00:00	12:40 PM	PROPERTY DAMAGE	OTHER	DAYLIGHT	DRY	CLEAR	HILLSIDE AVE	NORTH	0	SADDLE RIVER RD
18	2021-11-15T00:00:00	5:05 PM	PROPERTY DAMAGE	LEFT TURN (AGAINST OTHER CAR)	DARK-ROAD LIGHTED	DRY	CLEAR	OLD NYACK TPKE	WEST	0	SADDLE RIVER RD
19	2021-12-01T00:00:00	3:55 PM	PROPERTY DAMAGE	NOT ENTERED	NOT ENTERED	NOT ENTERED	NOT ENTERED	OLD NYACK TPKE	WEST	0	SADDLE RIVER RD
20	2021-12-08T00:00:00	3:15 PM	PROPERTY DAMAGE	RIGHT ANGLE	DAYLIGHT	DRY	CLEAR	PINEBROOK RD	SOUTH-EAST	0	SADDLE RIVER RD

TABLE 7

	Crash Date	Crash Time	Collision Type	Light Conditions	Road Surface Conditions	Weather Conditions	Closest Cross Street	Direction From	Distance From (Meters)	On Street
1	2022-02-06T00:00:00	5:37 PM	PROPERTY DAMAGE	OTHER	DARK-ROAD LIGHTED	DRY	CLEAR	SADDLE RIVER RD	0	OLD NYACK TPKE
2	2022-02-07T00:00:00	8:38 AM	PROPERTY DAMAGE	OTHER	DAYLIGHT	SNOW/ICE	SNOW	SADDLE RIVER RD	30	OLD NYACK TPKE
3	2022-01-11T00:00:00	12:48 AM	PROPERTY DAMAGE	OTHER	DARK-ROAD LIGHTED	SNOW/ICE	SNOW	PINEBROOK RD	0	SADDLE RIVER RD
4	2022-01-17T00:00:00	6:23 AM	PROPERTY DAMAGE	OTHER	DARK-ROAD UNLIGHTED	SNOW/ICE	RAIN	PINEBROOK RD	0	SADDLE RIVER RD
5	2022-01-20T00:00:00	8:34 AM	PROPERTY DAMAGE	OTHER	DAYLIGHT	SNOW/ICE	SLEET/HAIL/FREEZING RAIN	PINEBROOK RD	0	SADDLE RIVER RD
6	2022-04-04T00:00:00	6:51 PM	PROPERTY DAMAGE	OTHER	DAYLIGHT	DRY	CLEAR	OLD NYACK TPKE	0	SADDLE RIVER RD
7	2022-04-12T00:00:00	2:15 PM	PROPERTY DAMAGE	OTHER	DAYLIGHT	DRY	CLEAR	OLD NYACK TPKE	0	SADDLE RIVER RD
8	2022-04-11T00:00:00	1:50 PM	PROPERTY DAMAGE	OTHER	DAYLIGHT	DRY	CLEAR	PINEBROOK RD	0	SADDLE RIVER RD
9	2022-06-19T00:00:00	8:30 PM	PROPERTY DAMAGE	RIGHT TURN (WITH OTHER CAR)	DARK-ROAD LIGHTED	DRY	CLEAR	OLD NYACK TPKE	0	SADDLE RIVER RD
10	2022-08-02T00:00:00	4:05 PM	PROPERTY DAMAGE	OTHER	DAYLIGHT	DRY	CLEAR		0	SADDLE RIVER ROAD
11	2022-09-27T00:00:00	6:30 PM	INJURY	OTHER	DUSK	DRY	CLEAR		0	SADDLE RIVER ROAD
12	2022-12-11T00:00:00	9:46 PM	PROPERTY DAMAGE	OTHER	DARK-ROAD LIGHTED	SNOW/ICE	SNOW		0	SADDLE RIVER ROAD

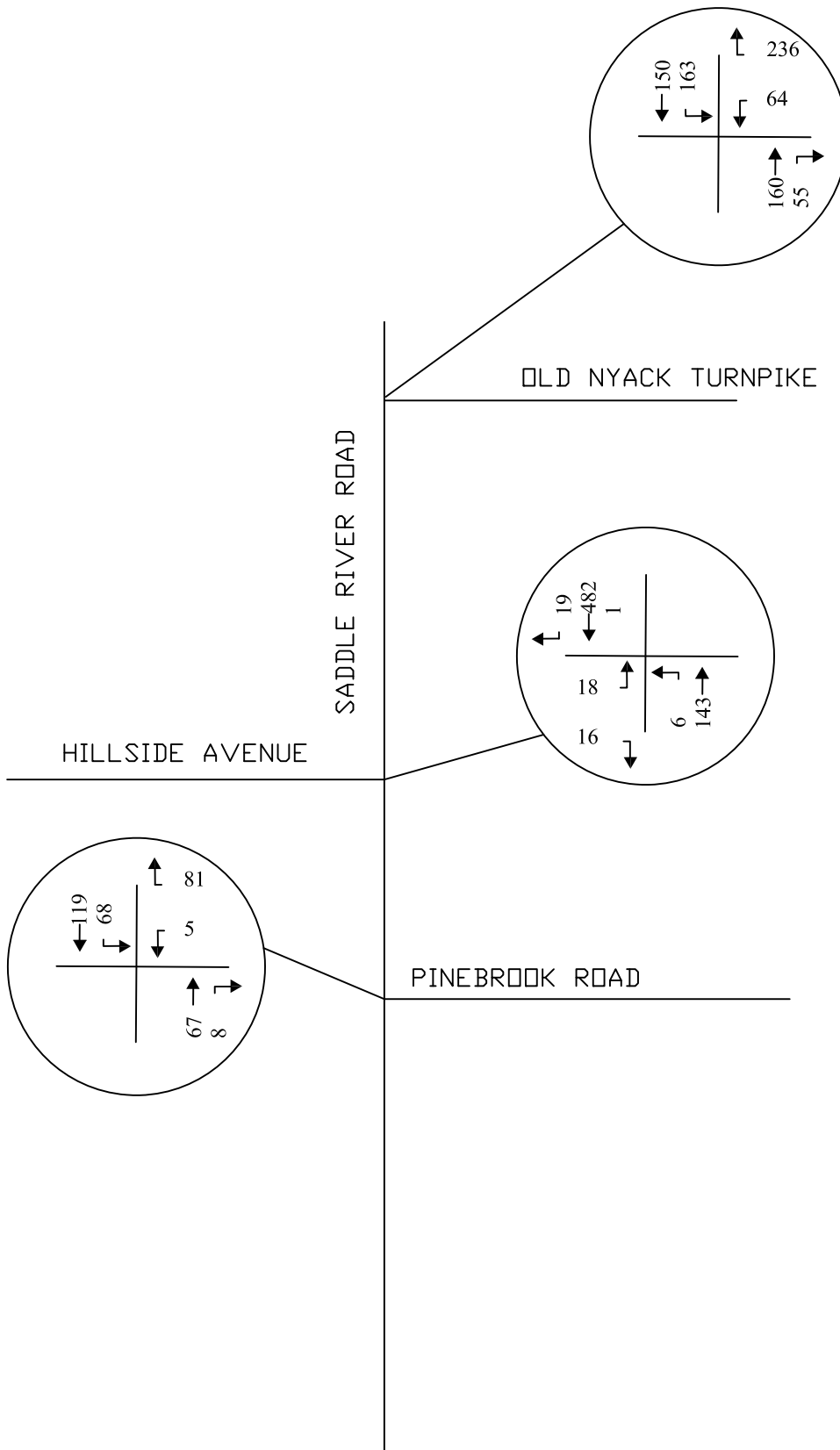
TABLE 8

	Crash Date	Crash Time	Collision Type		Light Conditions	Road Surface Conditions	Weather Conditions	Closest Cross Street	Direction From	Distance From (Meters)	On Street
1	2023-03-27T00:00:00	10:13 AM	PROPERTY DAMAGE	REAR END	DAYLIGHT	DRY	CLEAR	SADDLE RIVER ROAD	NORTH	0	OLD NYACK TURNPIKE
2	2022-09-29T00:00:00	4:19 PM	PROPERTY DAMAGE	OTHER	DAYLIGHT	DRY	CLEAR	SADDLE RIVER ROAD	SOUTH	0	OLD NYACK TURNPIKE
3	2023-09-05T00:00:00	9:40 PM	PROPERTY DAMAGE	OTHER	DARK-ROAD LIGHTED	DRY	CLEAR	SADDLE RIVER ROAD	EAST	72	OLD NYACK TURNPIKE
4	2023-10-04T00:00:00	2:25 PM	PROPERTY DAMAGE	REAR END	DAYLIGHT	DRY	CLEAR	SADDLE RIVER ROAD	NORTH	0	OLD NYACK TURNPIKE
5	2023-08-30T00:00:00	6:29 PM	PROPERTY DAMAGE	REAR END	DAYLIGHT	DRY	CLEAR	PINEBROOK ROAD	WEST	0	SADDLE RIVER ROAD
6	2023-03-10T00:00:00	12:32 PM	PROPERTY DAMAGE	REAR END	DAYLIGHT	DRY	CLOUDY	SADDLE RIVER ROAD	NORTH	0	OLD NYACK TURNPIKE
7	2023-08-24T00:00:00	10:14 PM	PROPERTY DAMAGE	OTHER	DARK-ROAD LIGHTED	WET	RAIN	PINEBROOK ROAD	WEST	0	SADDLE RIVER ROAD
8	2023-11-02T00:00:00	3:40 PM	PROPERTY DAMAGE	REAR END	DAYLIGHT	DRY	CLEAR	OLD NYACK TURNPIKE	SOUTH	30	SADDLE RIVER ROAD
9	2023-12-05T00:00:00	10:31 PM	INJURY	LEFT TURN (AGAINST OTHER CAR)	DARK-ROAD LIGHTED	DRY	CLEAR	SADDLE RIVER ROAD	NORTH	0	OLD NYACK TURNPIKE

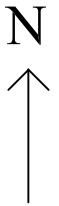
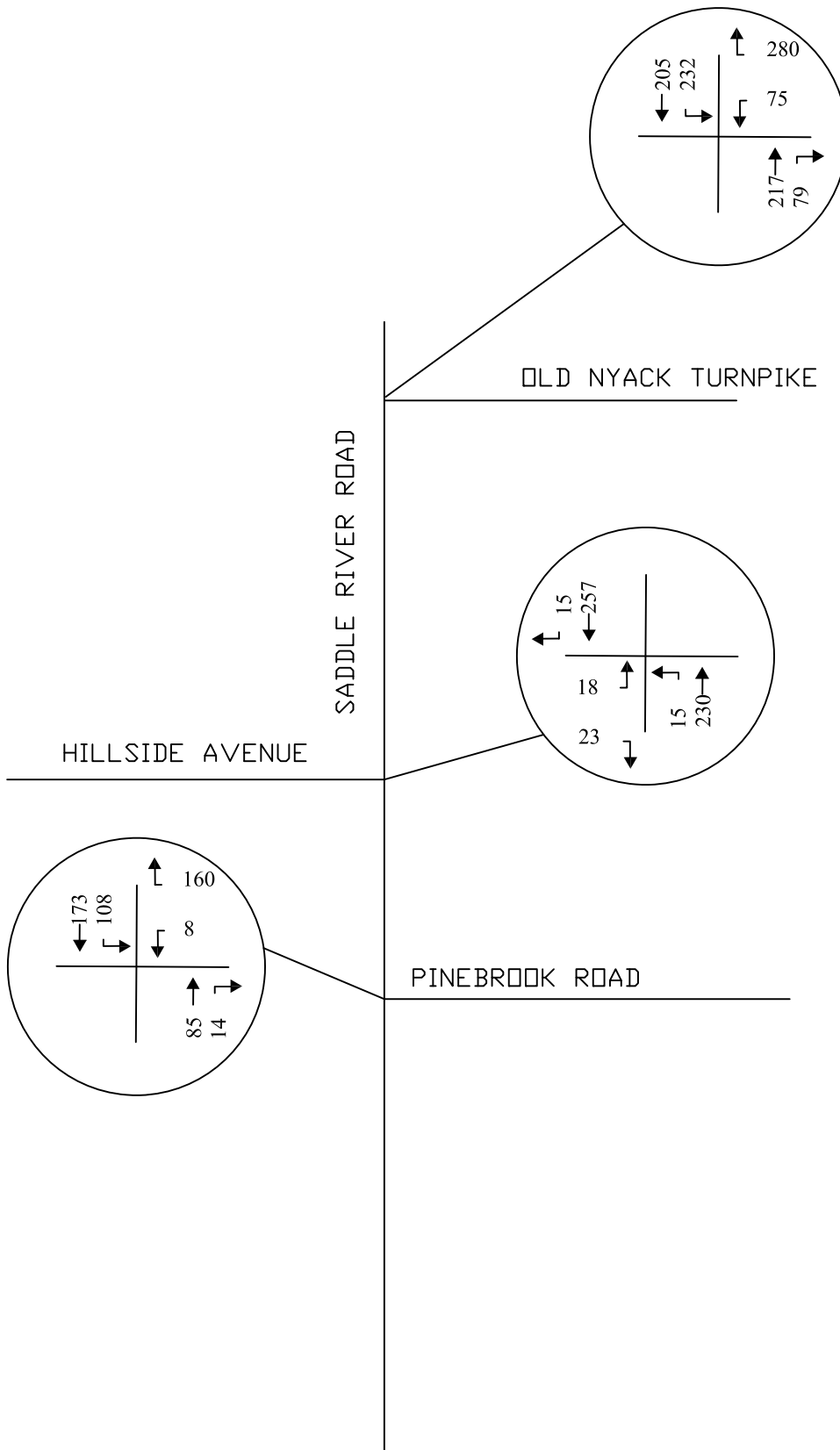
4:00 to 5:00 pm hour, there will be 15 vehicle trips entering and 14 vehicle trips exiting. In the 5:00 to 6:00 pm hour, there will be 30 vehicle trips entering and 30 vehicle trips exiting.

2. The LOS for the exiting driveway onto Hillside Avenue will be “A” for the four time periods analyzed.

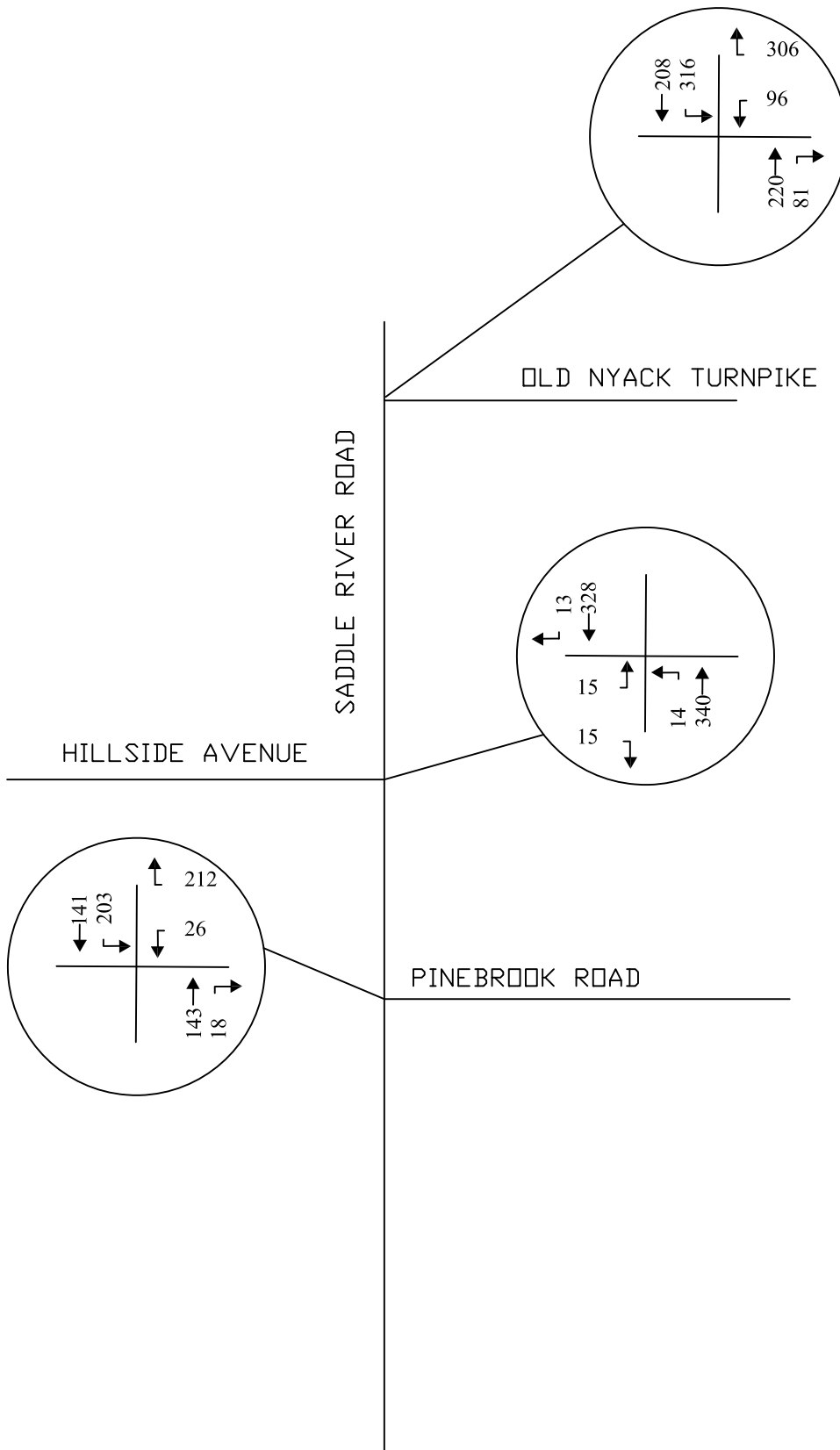
APPENDIX A
TRAFFIC VOLUME FIGURES



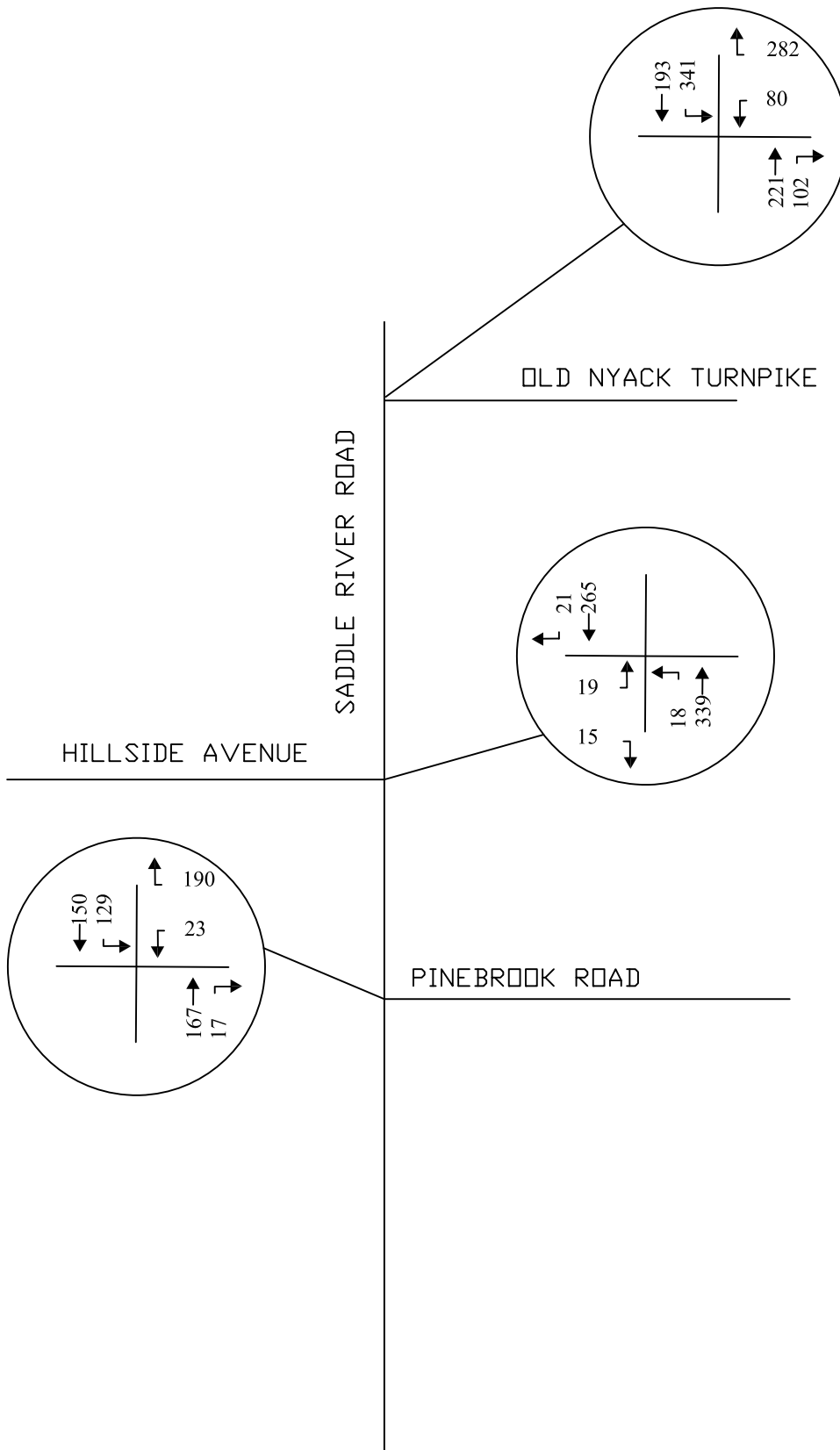
2024 EXISTING AM PK HR TRAFFIC
 7:00 AM - 8:00 AM
 FIGURE 2



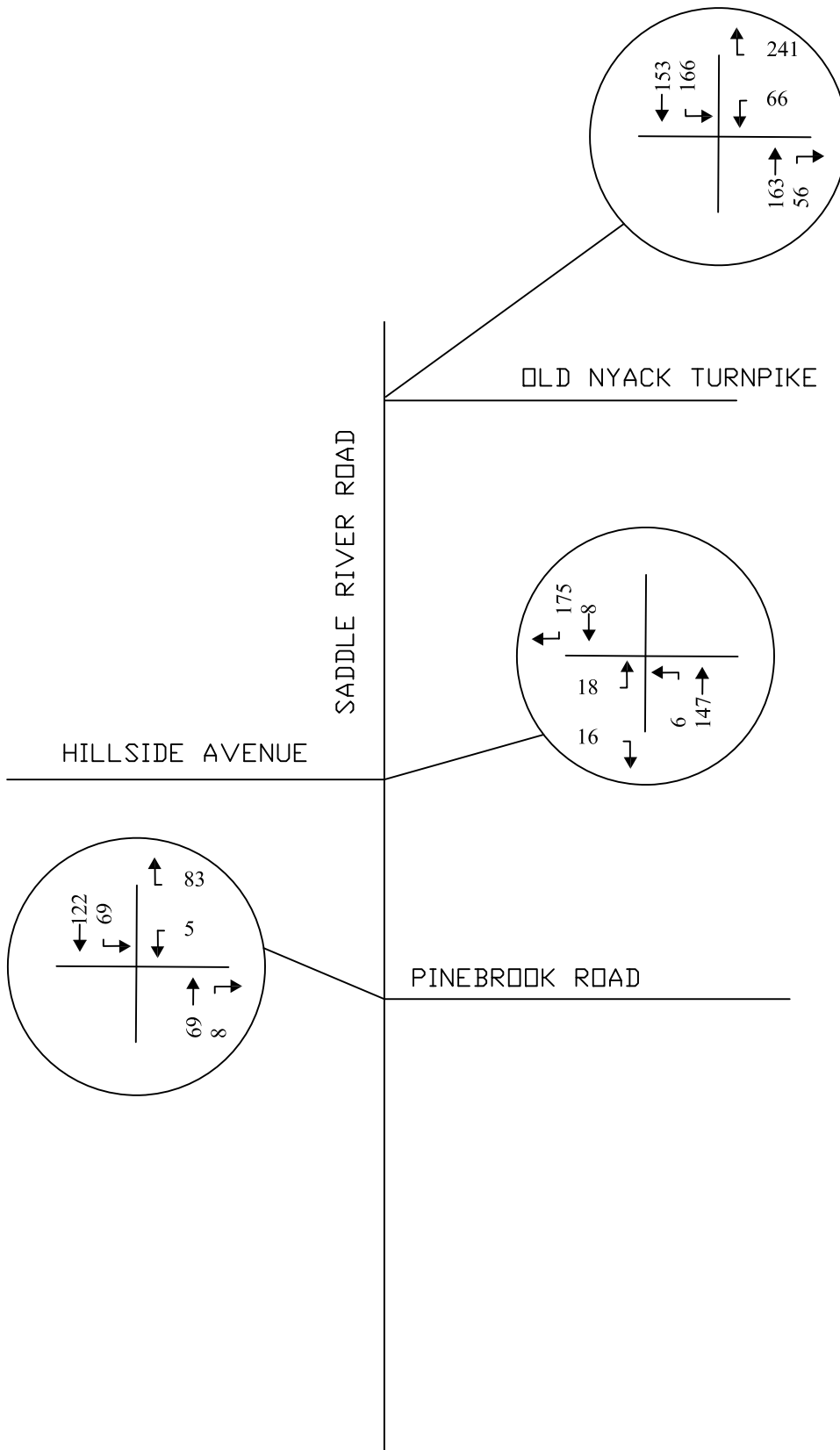
2024 EXISTING AM PK HR TRAFFIC
8:00 AM - 9:00 AM
FIGURE 3



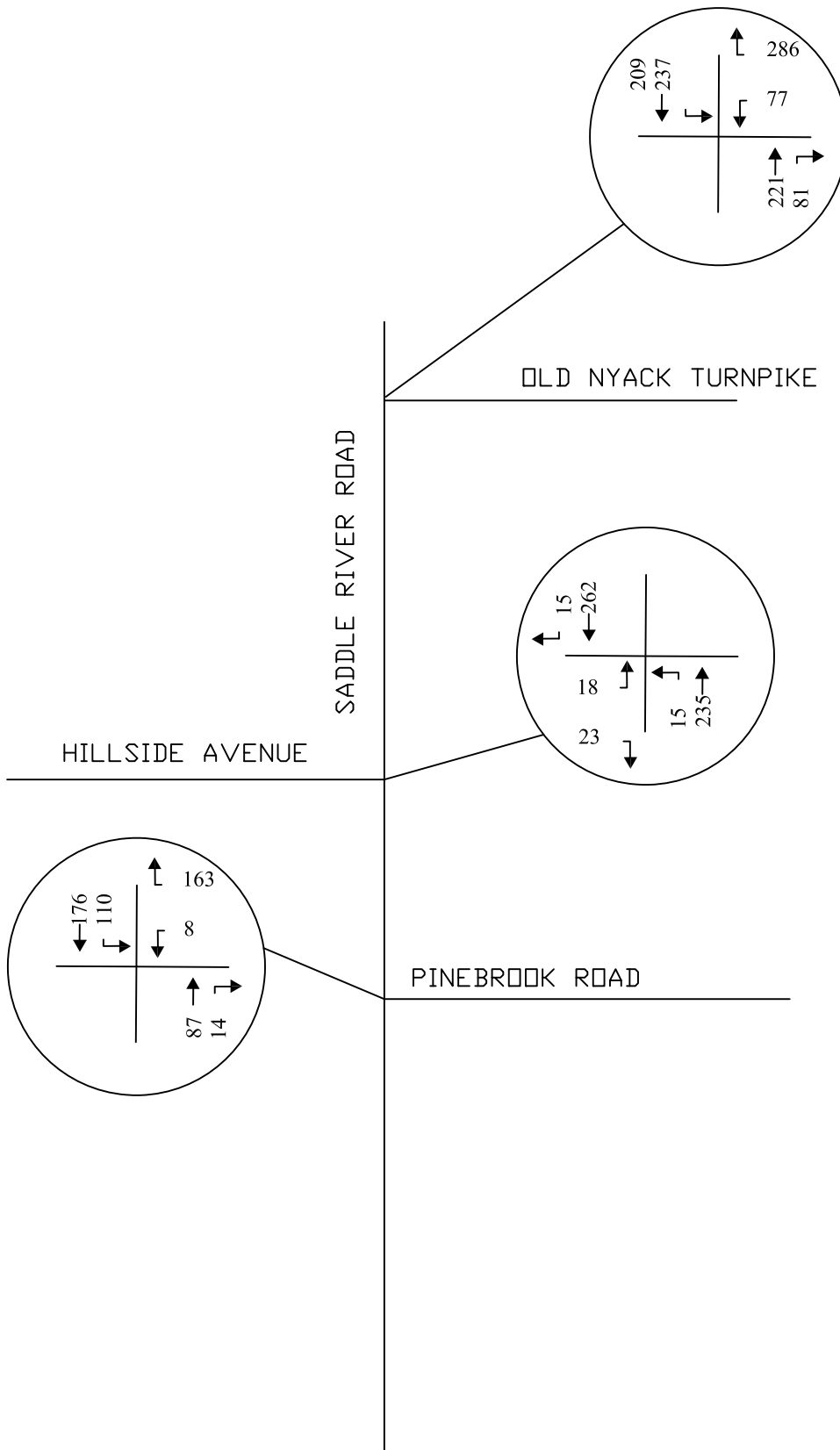
2024 EXISTING PM PK HR TRAFFIC
4:00 PM - 5:00 PM
FIGURE 4



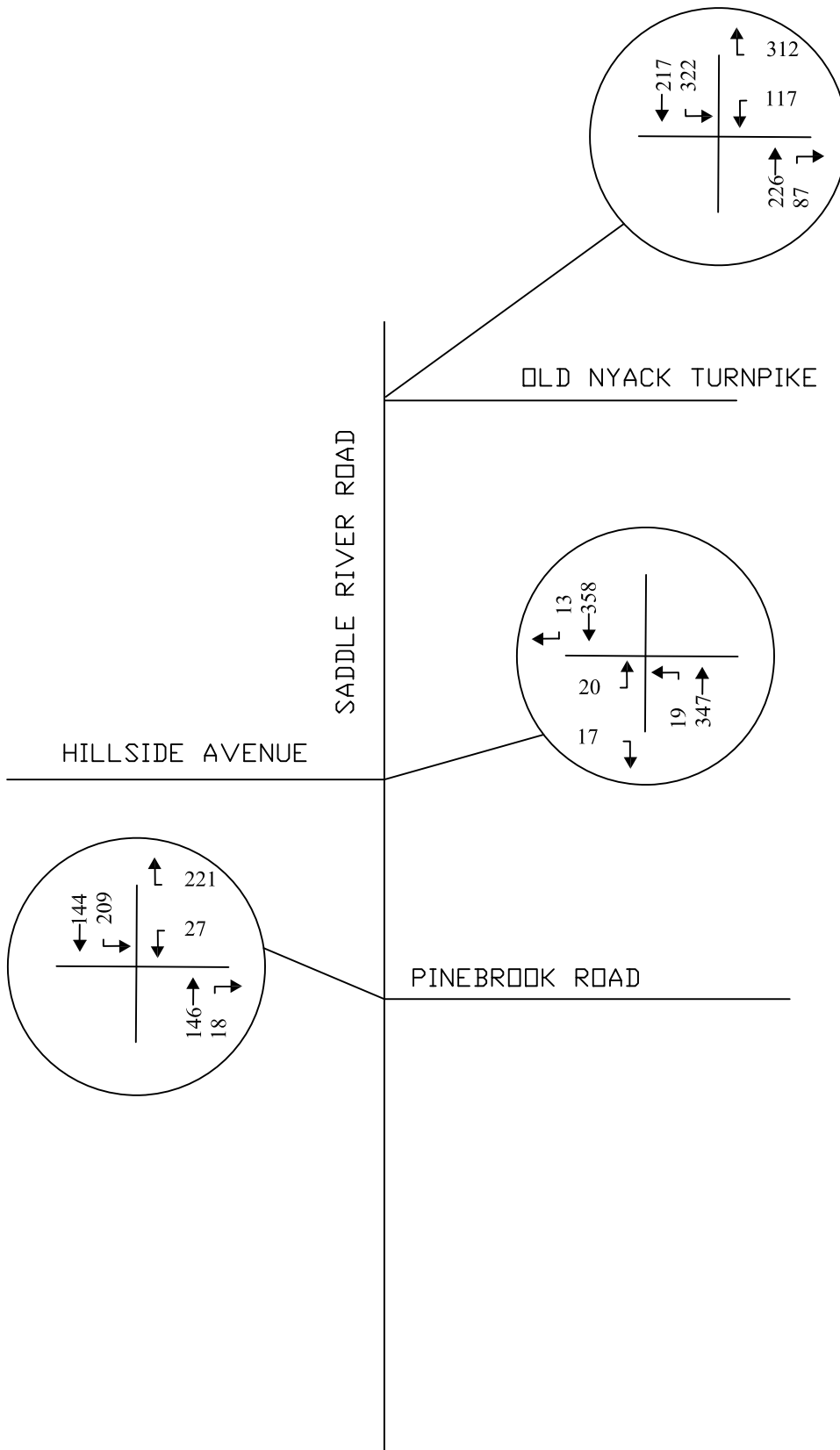
2024 EXISTING PM PK HR TRAFFIC
5:00 PM - 6:00 PM
FIGURE 5



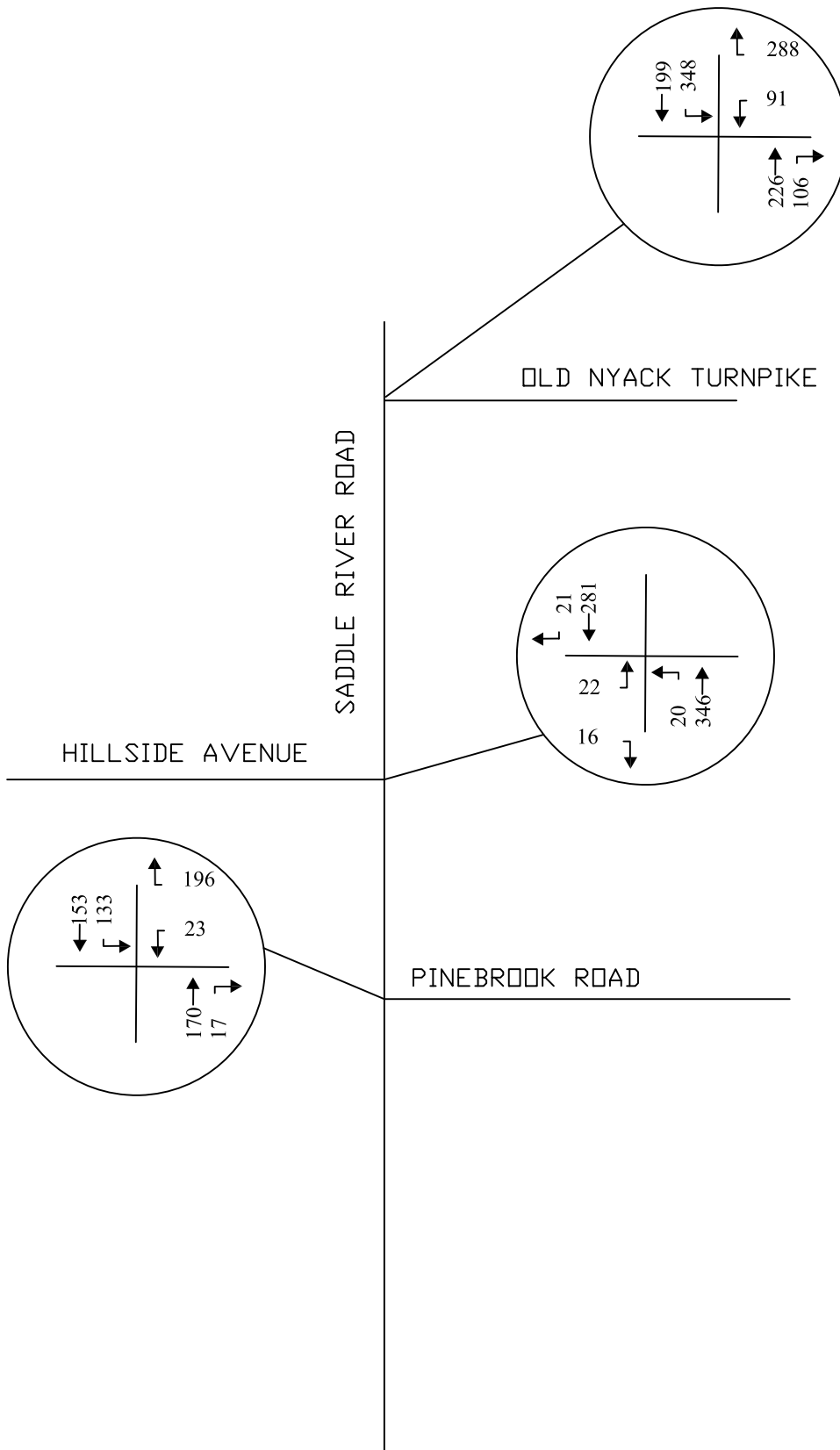
2026 NO-BUILD AM PK HR TRAFFIC
7:00 AM - 8:00 AM
FIGURE 6



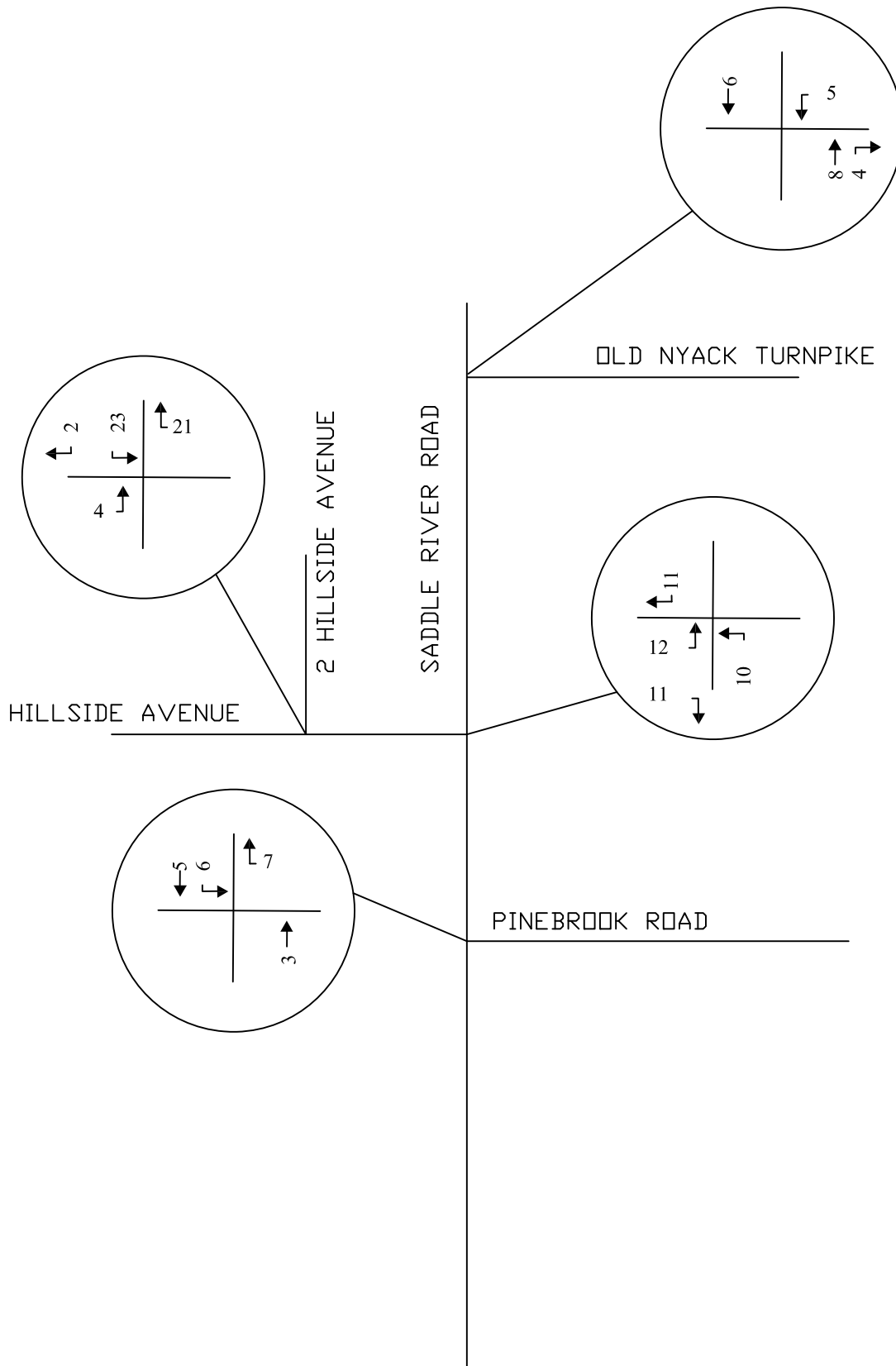
2026 NO-BUILD AM PK HR TRAFFIC
8:00 AM - 9:00 AM
FIGURE 7



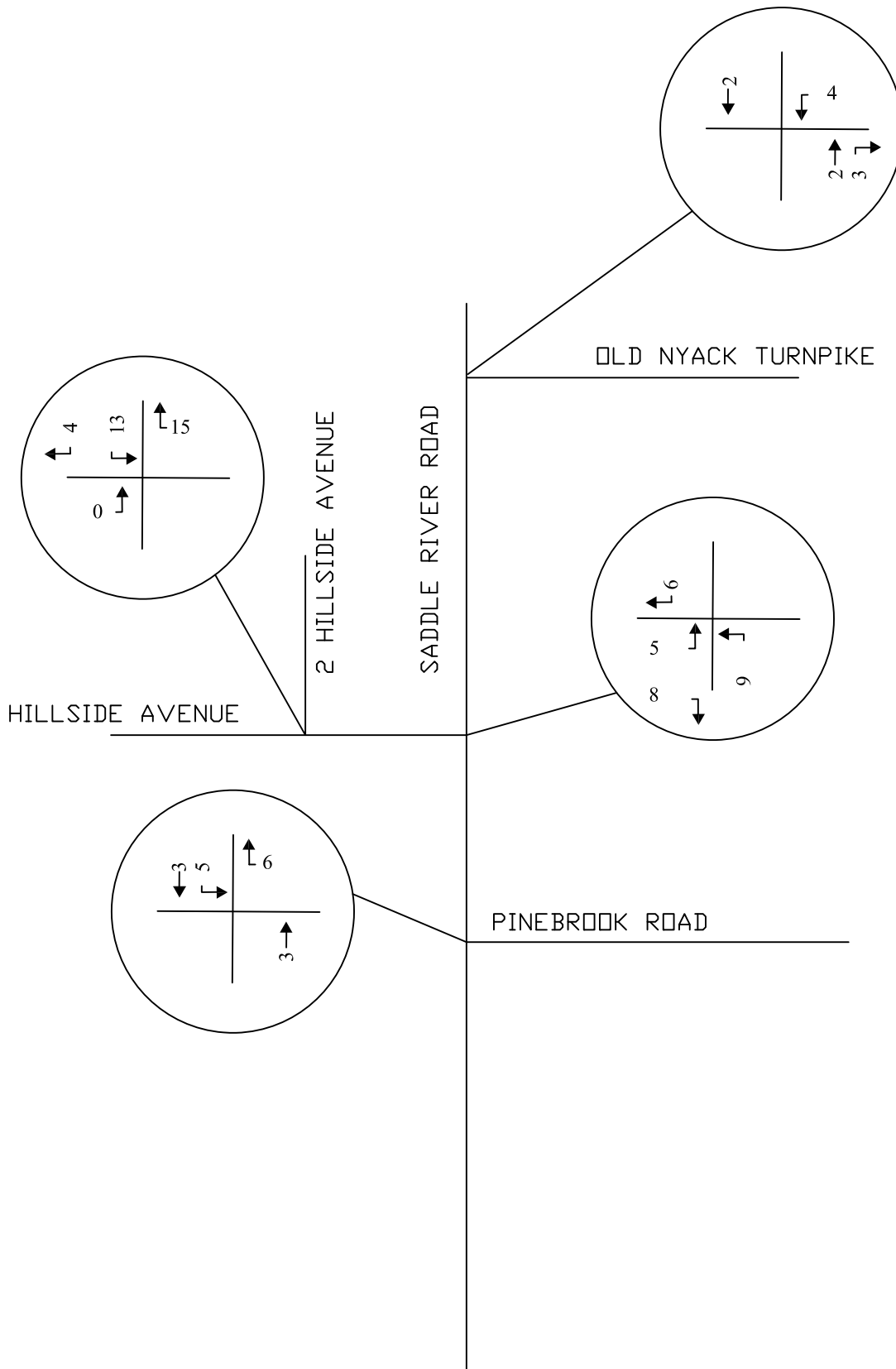
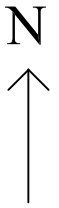
2026 NO-BUILD PM PK HR TRAFFIC
4:00 PM - 5:00 PM
FIGURE 8



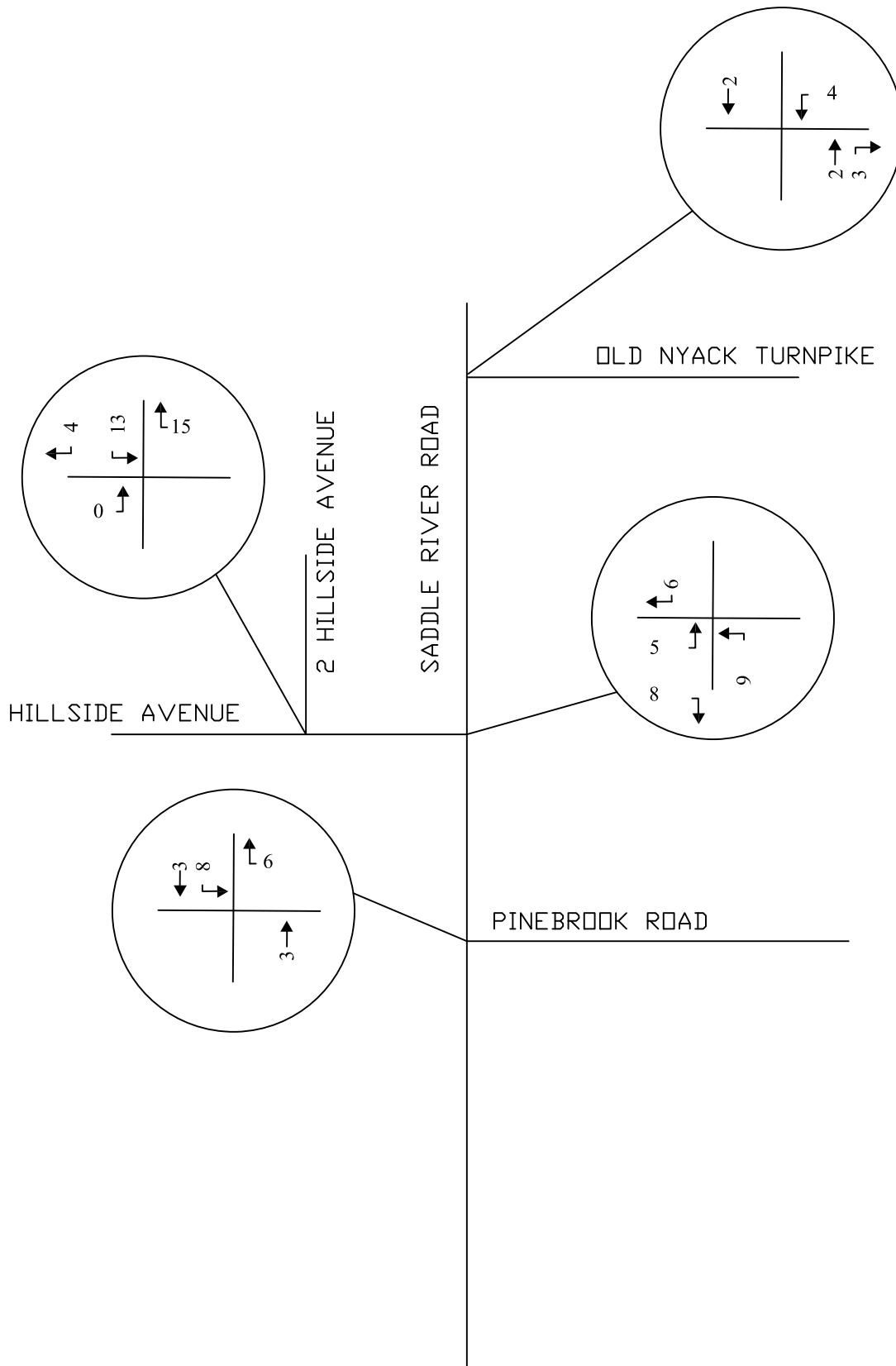
2026 NO-BUILD PM PK HR TRAFFIC
5:00 PM - 6:00 PM
FIGURE 9



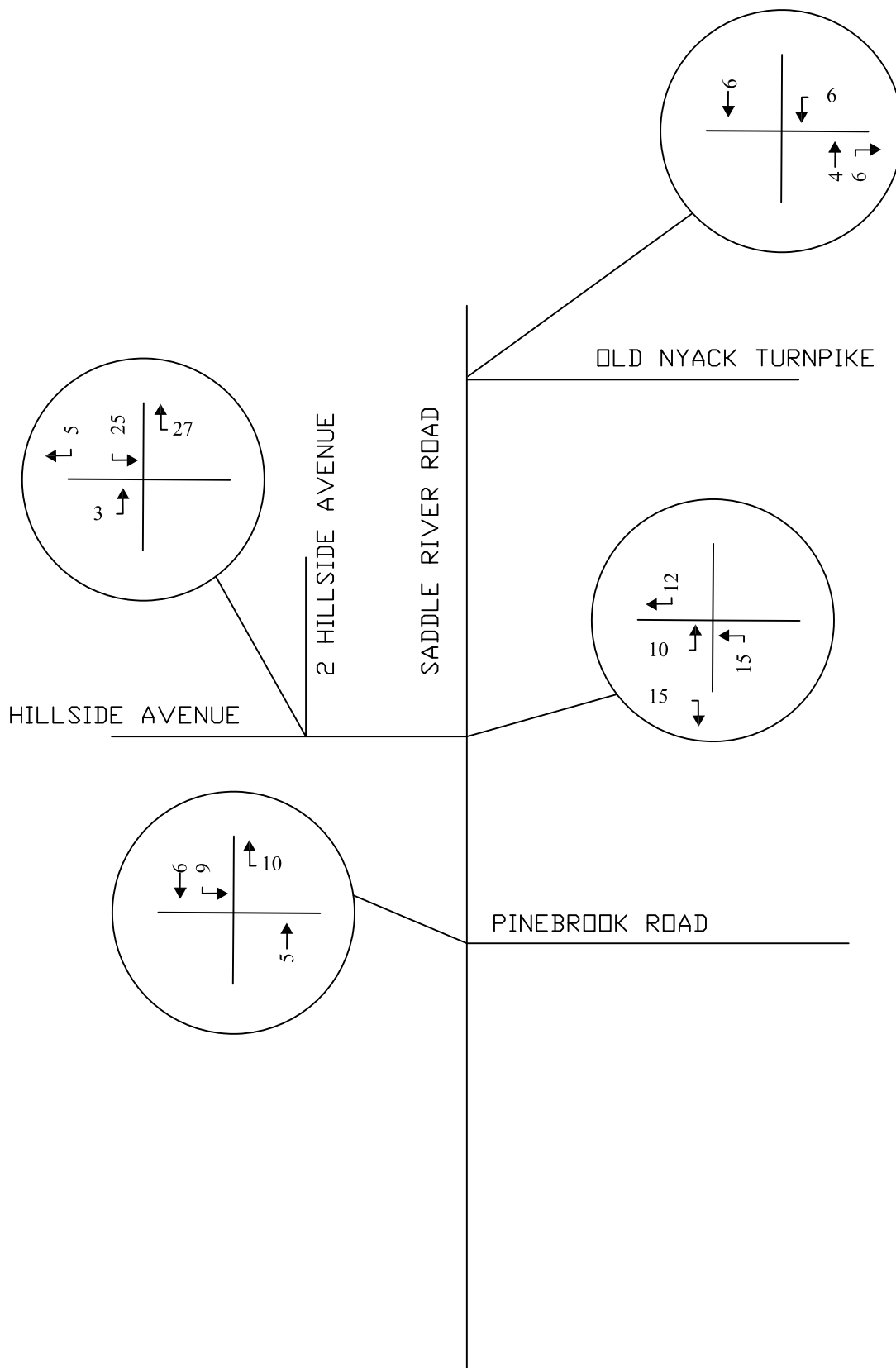
TRIP DISTRIBUTION
7:00 AM - 8:00 AM
FIGURE 10



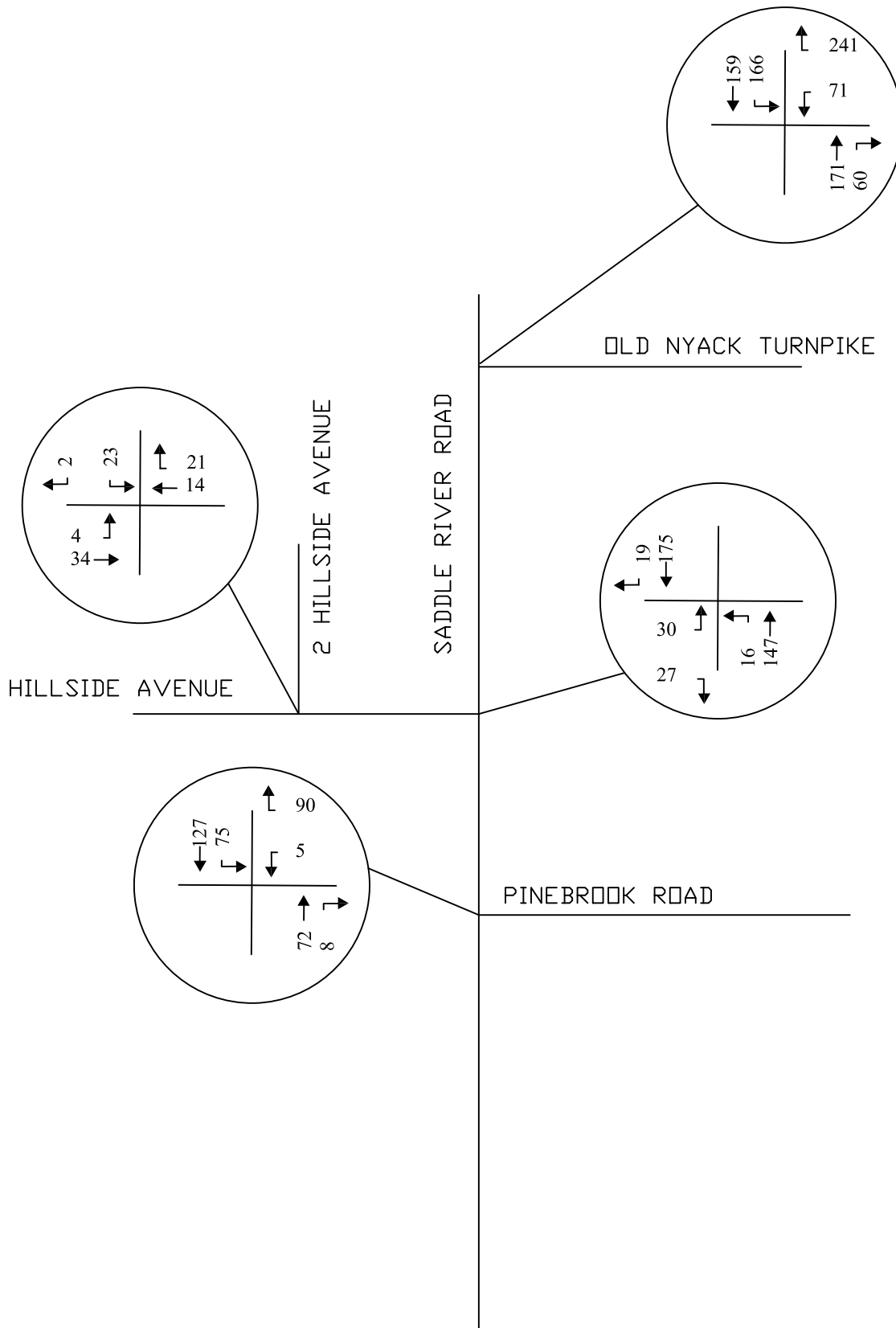
TRIP DISTRIBUTION
4:00 PM - 5:00 PM
FIGURE 12



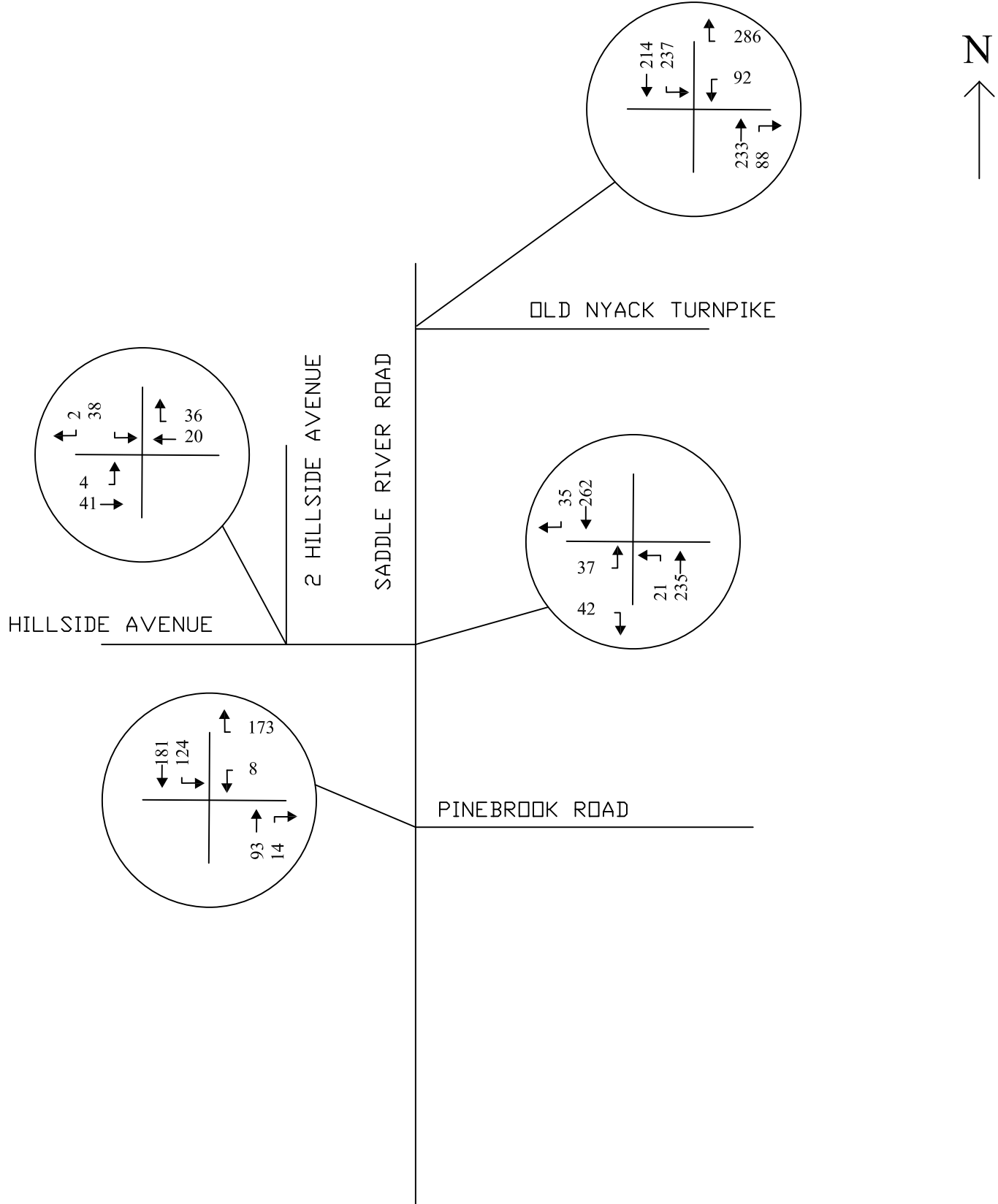
TRIP DISTRIBUTION
4:00 PM - 5:00 PM
FIGURE 12



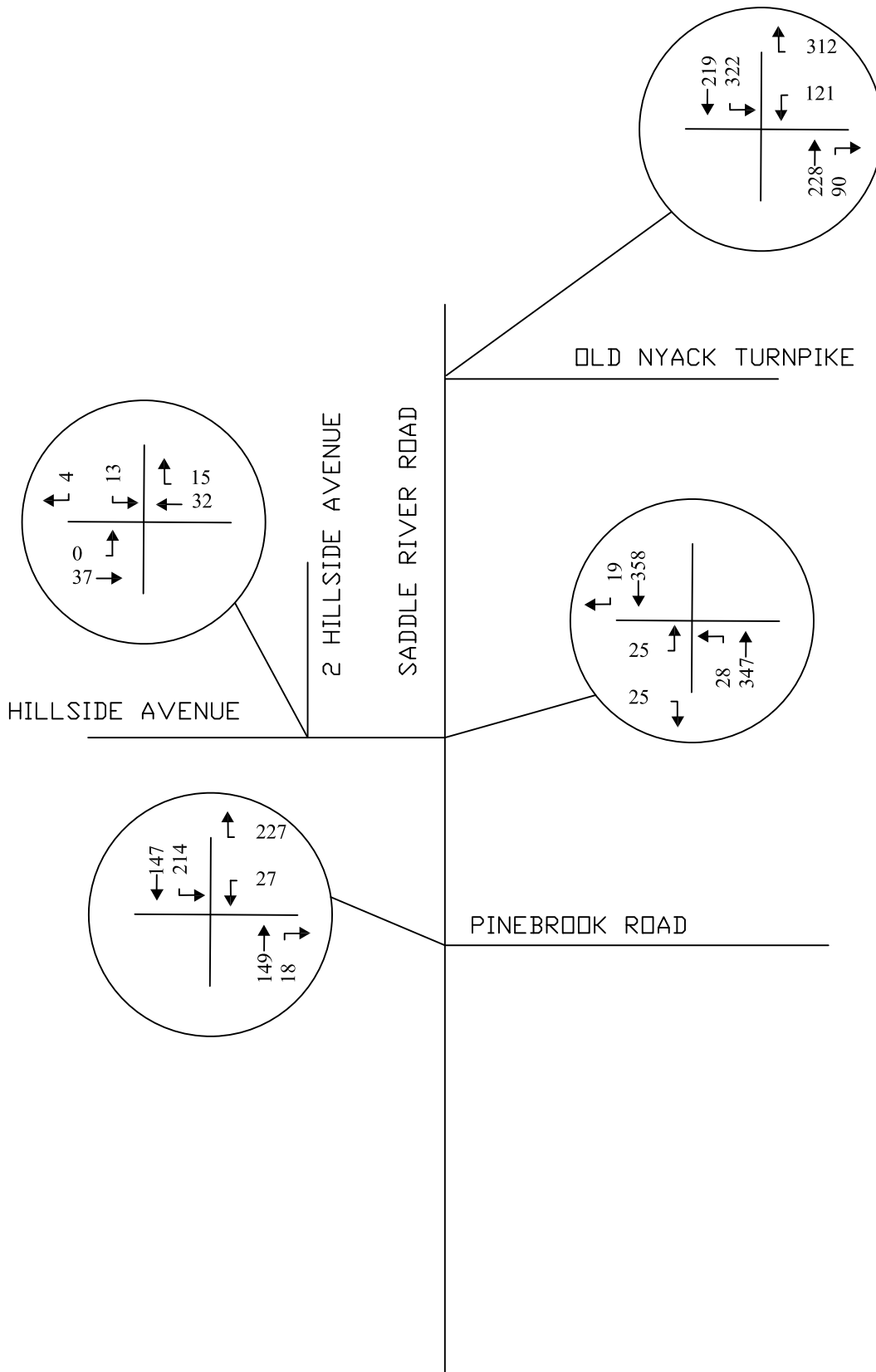
TRIP DISTRIBUTION
5:00 PM - 6:00 PM
FIGURE 13



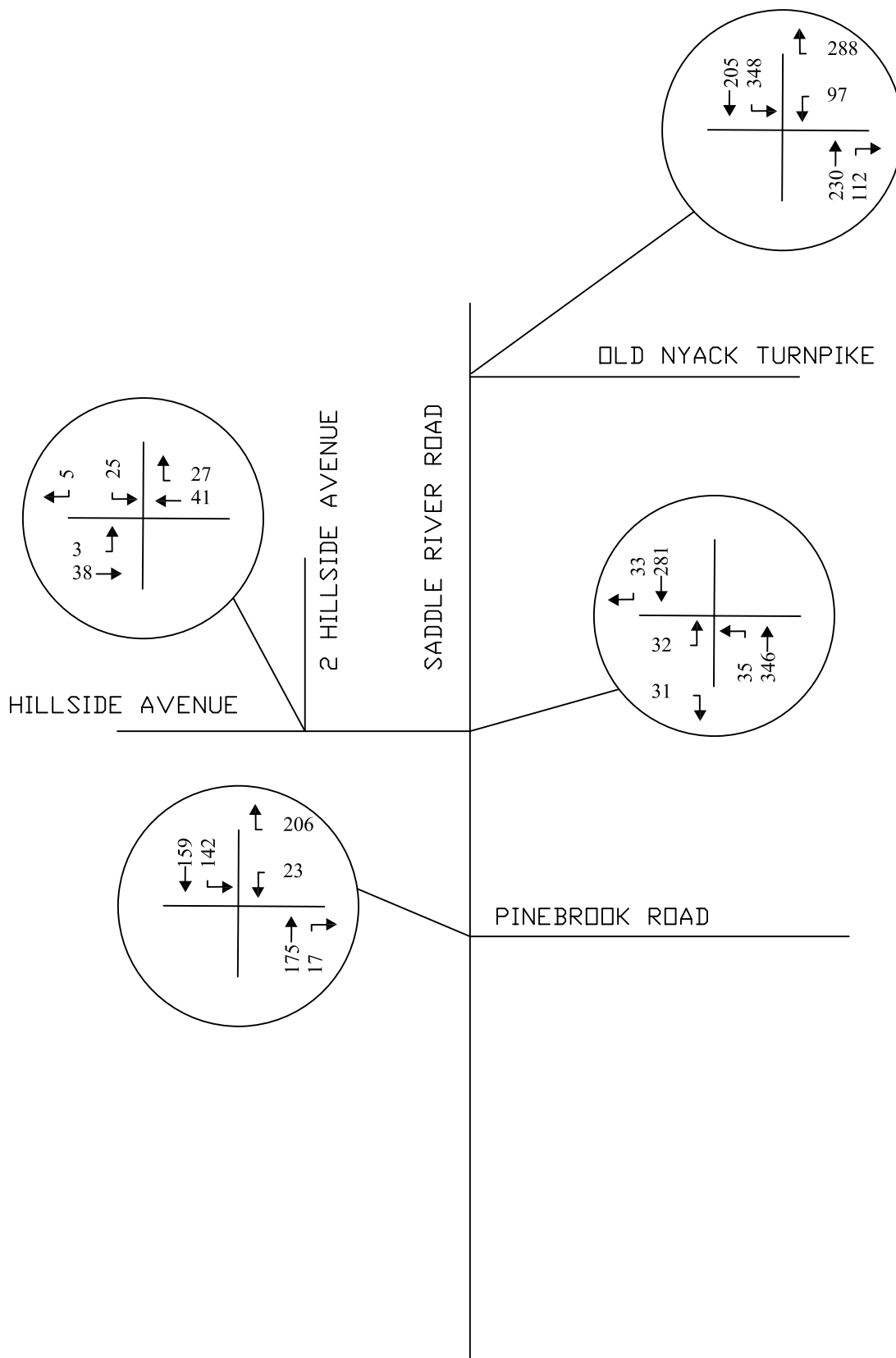
2026 BUILD AM PK HR TRAFFIC
7:00 AM - 8:00 AM
FIGURE 14



2026 BUILD AM PK HR TRAFFIC
8:00 AM - 9:00 AM
FIGURE 15



2026 BUILD PM PK HR TRAFFIC
4:00 PM - 5:00 PM
FIGURE 16



2026 BUILD PM PK HR TRAFFIC
5:00 PM - 6:00 PM
FIGURE 17

PROPOSED SYNAGOGUE 39 BESEN
PARKWAY
TRAFFIC IMPACT STUDY
VILLAGE OF AIRMONT, NY

May 16, 2024

Prepared By:
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INTRODUCTION

A free standing place of worship is proposed to be constructed at 39 Besen Parkway in the Village of Airmont, NY. This synagogue will have a membership of approximately 100 people that include women and children. There will be one morning and evening minyan held daily (Sunday thru Friday) at:

7:30 am to 8:30 am – 50 attendees with 10 walking

8:00 pm – 9:00 pm – 50 attendees with 12 walking

The number could vary based on the day. However, this would be the typical daily attendance. We originally planned to have minyans at 9:30 am and 5:00 pm. However, the traffic conditions at these times on the local roads are poor and therefore, we have opted to just hold these two minyans.

There will also be daily study groups. There is one room set aside that has 20 desks that can seat up to 40 people. However, the people that come and study can vary throughout the day. As an example, we could expect approximately 20 people to come and study at 6:30 am with 90% staying for the daily minyan. In addition to these people that remain, we could expect another 40 people with 10 walking (30 drive) because they live on Besen Parkway or Monsey Heights Road or even the other adjacent streets. There would be 48 cars parked for the morning minyan. At the end of the minyan, they would leave for work or their daily routine. Between 8:30 am and 5:00 pm, members could come and study with the Rabbi or by themselves. This is quite common in many of the synagogues in this area. Some come for an hour or less and some stay longer. There could be anywhere from 5 to 20 people at any given time. It should be noted that many will walk because they live in close proximity to the synagogue. The members that drive will come from the local neighborhood and not impact the traffic conditions because they can use Kenneth Street and Appleland Road to access the synagogue.

In the evening, people could arrive at 8:00 pm to study and then stay for the minyan. Similar to the morning minyan, we could expect 15 to 20 people with another 40 (28 drive) coming for the minyan. We would also expect a small portion of the people coming for the minyan to remain after to study. By 11:00 pm, the synagogue will close and everyone remaining will go back home. We do expect walkers to come to the minyan because they will be coming from home. Of the additional 40 people attending the minyan, we would expect at least 12 to walk and possibly more since many will be coming from their homes.

On Shabbat and holidays, the members would walk. On Purim and Hanukkah, we would expect the parking lot to be full as these are joyous holidays for the entire family. We do expect a portion will walk because they live either on Besen Parkway or the close adjacent streets.



39 Besen Pkwy

PROJECT LOCATION

PROJECT LOCATION
FIGURE 1

Google Earth



Figure 1 shows the project location. We have based our analysis on the site plan prepared by Paul Gdanski, P.E., dated February 28, 2024. For traffic purposes, the future build-year is 2026.

The purpose of this study is to determine the potential traffic impact of the proposed religious building on the adjacent roadway network, and where necessary, make recommendations for roadway improvements necessary to serve the existing and future traffic volumes.

EXISTING ROADWAY NETWORK

The proposed project will be located on Besen Parkway. A description of the existing local roadway system is provided below.

- Besen Parkway is a two-lane roadway that runs in an east-west direction under the control of the Village of Airmont. It begins at the intersection of Kennth Street and continues west to the dead-end. The posted speed limit is 30-mph. Near the project site, Besen Parkway has one travel lane in each direction. The land-use composition in the area of the proposed religious building has single family homes.
- Monsey Heights Road is a two-lane roadway that runs in a north-south direction under the control of the Village of Airmont. The posted speed limit is 30 mph. It has one travel lane in each direction. It begins at the intersection of New County Road/Christmas Hill Road and continues northwest tying into State Route 59. Development along this street is comprised of single-family homes.
- New County Road (CR81) is a two-lane roadway that runs in a north-south direction under the control of Rockland County. The posted speed limit is 30 mph. It begins at the intersection State Route 59/College Road and continues south to the intersection of Christmas Hill Road/New County Road/South Monsey Road. It has one travel lane in each direction. Development along this street is comprised of single-family homes.

EXISTING TRAFFIC CONDITIONS

Manual Traffic Counts

In order to properly assess the impacts of the proposed project, manual turning movement counts were taken during a typical weekday. The manual counts were conducted on Thursday, March 14, 2024, at the following intersections:

- Besen Parkway/Monsey Heights Road
- Monsey Heights Road/State Route 59
- Monsey Heights Road/New County Road/Christmas Hill Road/South Monsey Road

The traffic counts were conducted in 15-minute intervals. The counts were classified by cars, trucks, buses, and school buses. Full size school buses were considered trucks for this study.

The time periods analyzed are as follows:

7:30 am and 8:30 am
8:00 pm and 9:00 pm

The traffic volumes are shown in **Figures 2 and 3** and show the peak our traffic. Appendix C shows the traffic counts for the manual counts.

Capacity Analysis

The Synchro 11 software (standard Highway Capacity Manual) was used to calculate the Level of Service for each intersection. The traffic analysis is performed by calculating the capacity of the facility (e.g., intersection approach roadway) to process traffic. In general, the capacity of a facility is defined as the maximum number of vehicles or pedestrians that can reasonably be expected to traverse a point or section of roadway during a given time period under prevailing roadway, traffic, and control conditions. Therefore, capacity analyses are a set of procedures used to estimate the traffic carrying capabilities of facilities over a range of defined operational conditions. They provide tools for the analysis and improvement of existing facilities and for the planning and design of future facilities.

Signalized Intersections

The operation of signalized intersections in the Study Area was analyzed by applying the Percentile Delay Methodology included in the Synchro 11 traffic signal software (latest version approved by NYSDOT).

LOS can be characterized for the entire intersection, each intersection approach, and each lane group. Control delay alone is used to characterize LOS for the entire intersection or an approach. Delay quantifies the increase in travel time due to traffic signal control. It is also a surrogate measure of driver discomfort and fuel consumption. The volume-to-capacity ratio quantifies the degree to which a phase's capacity is utilized by a lane group.

LOS A describes operation with a control delay of 10 seconds per vehicle or less and volume-to capacity ratio no greater than 1.0. This level is typically assigned when the volume-to capacity ratio is low and ether progression is exceptionally favorable or the cycle length is very short. If it is due to favorable progression, most vehicles arrive during the green indication and travel through the intersection without stopping.

LOS B describes operation with a control delay between 10 and 20 seconds per vehicle or less and volume-to capacity ratio no greater than 1.0. This level is typically assigned when the volume-to capacity ratio is low and ether progression is exceptionally favorable or the cycle length is very short. More vehicles will stop than with LOS A.

LOS C describes operation with a control delay between 20 and 35 seconds per vehicle or less and volume-to capacity ratio no greater than 1.0. This level is typically assigned when the volume-to capacity ratio is moderate. Individual cycle failures (i.e., one or more queued vehicles are not able to depart as a result of insufficient capacity during the cycle) may appear at this level. The number of vehicles stopping is significant, although many vehicles still pass through the intersection without stopping.

LOS D describes operation with a control delay between 35 and 55 seconds per vehicle or less and volume-to capacity ratio no greater than 1.0. This level is typically assigned when the volume-to capacity ratio is high and either progression is ineffective, or the cycle length is long. Many vehicles stop and individual cycle failures are noticeable.

LOS E describes operation with a control delay between 55 and 80 seconds per vehicle or less and volume-to capacity ratio no greater than 1.0. This level is typically assigned when the volume-to capacity ratio is high, progression is unfavorable, and the cycle length is long. Individual cycle failures are frequent.

LOS F describes operation with a control delay is greater than 80 seconds per vehicle or less and volume-to capacity ratio greater than 1.0. This level is typically assigned when the volume-to capacity ratio is very high, progression is very poor, and the cycle length is long. Most cycles fail to clear the queue.

A lane group can incur a delay less than 80 seconds per vehicle when the volume-to-capacity ratio exceeds 1.0. This condition typically occurs when the cycle length is short, the signal progression is favorable, or both. As a result, both the delay and volume-to capacity ratio are considered when lane group LOS is established. A ratio of 1.0 or more indicates that cycle capacity is fully utilized and represents failure from a capacity perspective (just as delay in excess of 80 seconds per vehicle represents failure from a delay perspective.)

The control delay criteria for the range of service levels for signalized intersections are shown in **Table 1**.

Control Delay Per Vehicle	Level of Service (LOS)	
	v/c ratio $\leq$ 1.0	v/c ratio $\geq$ 1.0
≤ 10.0 Seconds	A	F
> 10.0 and 20.0 seconds	B	F
> 20.0 and 35.0 seconds	C	F
> 35.0 and 55.0 seconds	D	F
> 55.0 and 80.0 seconds	E	F
> 80.0 seconds	F	F
Source: Transportation Research Board 2016 <i>Highway Capacity Manual</i> Note: (1) for approach- based and intersection wide assessments, LOS is defined solely by control delay.		

Unsignalized Intersections

The LOS criteria for both TWSC and AWSC unsignalized intersections are summarized in **Table 2**.

Control Delay Per Vehicle	Level of Service (LOS)	
	v/c ratio $\leq$ 1.0	v/c ratio $\geq$ 1.0
≤ 10.0 Seconds	A	F
> 10.0 and 15.0 seconds	B	F
> 15.0 and 25.0 seconds	C	F
> 25.0 and 35.0 seconds	D	F
> 35.0 and 50.0 seconds	E	F
> 50.0 seconds	F	F
Source: Transportation Research Board 2016 <i>Highway Capacity Manual</i> Note: (1) For TWSC intersections, the LOS criteria apply to each lane on a given approach and to each approach on the minor street (for TWSC intersections.) LOS is not calculated for major-street approaches or for the intersection as a whole.		

Note that the LOS criteria for unsignalized intersections are somewhat different from the criteria used in signalized intersections. At TWSC intersections, drivers

on the stop-controlled approaches are required to select gaps in the major-street flow in order to execute crossing or turning maneuvers. In the presence of a queue, each driver on the controlled approach must also use some time to move into the front-of-queue position and prepare to evaluate gaps in the major-street flow. AWSC intersections require drivers on all approaches to stop before proceeding into the intersection.

The results of the existing capacity analyses are shown in **Tables 3** for the existing conditions.

The intersection approaches are operating at LOS “C” or better for approaches at the intersections studied.

2026 NO-BUILD CONDITIONS

The no-build conditions represent the traffic volumes that would be on the street network prior to the completion of the development. We used a background growth rate of 1.01% based on the NYMTC projections for Rockland County.

The traffic volumes are shown in **Figures 7 and 8** show the peak hour traffic

The results the weekday capacity analyses are shown in **Table 4** for the 2026 no-build conditions.

There will be no changes to the LOS for the intersections.

2026 BUILD CONDITIONS

Figures 12 and 13 show the distribution for the vehicle trips and **Figures 14 and 15** show the peak hour traffic volumes for the 2026 Build condition.

The results the weekday capacity analyses are shown in **Table 5** for the 2026 build conditions.

For the Route 59/Monsey Heights Road intersection, the Monsey Heights Road northbound approach is expected to change from LOS “C” to “D” in the 7:30 am to 8:30 am hour.

For the Christmas Hill Road/South Monsey Road/Monsey Heights Road/New County Road intersection, the Monsey Heights Road westbound approach is projected to change from LOS “C” to “D” in the 7:30 am to 8:30 hour

The remaining approaches will remain at the LOS for the existing conditions.

TABLE 3						
CAPACITY ANALYSIS SUMMARY						
2024 EXISTING CONDITIONS						
UNSIGNALIZED INTERSECTIONS						
Route 59/Monsey Heights Road Route 59 Westbound Lt Monsey Heights Road Northbound Lt + Rt	7:30 to 8:30 am			8:00 to 9:00 pm		
	V/C				V/C	
	LOS	Ratio	Delay	LOS	Ratio	Delay
	A	0.15	96.0	A	0.14	9.0
	C	0.45	21.8	C	0.47	19.8
Monsey Heights Road/Besen Parkway Monsey Heights Road Westbound Lt + Th Besen Parkway Northbound Lt + Rt						
	A	0.00	8.7	A	0.00	7.5
	B	0.05	11.2	B	0.03	10.5
Christmas Hill Road/South Monsey Road/Monsey Heights Road/New County Road South Monsey Road Northbound LTR New County Road Southbound LTR Christmas Hill Road Eastbound LTR Monsey Heights Road Westbound LTR						
	A	0.05	7.9	A	0.02	7.7
	A	0.01	8.5	A	0.00	7.6
	C	0.48	19.8	C	0.42	17.1
	C	0.36	20.3	C	0.28	15.8

TABLE 4						
CAPACITY ANALYSIS SUMMARY						
2026 NO-BUILD CONDITIONS						
UNSIGNALIZED INTERSECTIONS						
	7:30 to 8:30 am			8:00 to 9:00 pm		
	V/C			V/C		
	LOS	Ratio	Delay	LOS	Ratio	Delay
Route 59/Minsey Heights Road						
Route 59						
Westbound Lt	A	0.16	9.7	A	0.14	9.1
Monsey Heights Road						
Northbound Lt + Rt	C	0.46	22.6	C	0.48	20.6
Monsey Heights Road/Besen Parkway						
Monsey Heights Road						
Westbound Lt + Th	A	0.00	8.7	A	0.00	7.5
Besen Parkway						
Northbound Lt + Rt	B	0.05	11.3	B	0.03	10.5
Christmas Hill Road/South Monsey Road/Monsey Heights Road/New County Road						
South Monsey Road						
Northbound LTR	A	0.05	7.9	A	0.02	7.8
New County Road						
Southbound LTR	A	0.01	8.5	A	0.00	7.6
Christmas Hill Road						
Eastbound LTR	C	0.50	20.8	C	0.44	17.5
Monsey Heights Road						
Westbound LTR	C	0.37	20.9	C	0.30	16.2

TABLE 5						
CAPACITY ANALYSIS SUMMARY						
2026 BUILD CONDITIONS						
UNSIGNALIZED INTERSECTIONS						
Route 59/Monsey Heights Road Route 59 Westbound Lt	7:30 to 8:30 am			8:00 to 9:00 pm		
	V/C			V/C		
	LOS	Ratio	Delay	LOS	Ratio	Delay
	A	0.16	9.8	A	0.15	9.2
Monsey Heights Road Northbound Lt + Rt						
	D	0.57	28.6	C	0.55	23.9
Monsey Heights Road/Besen Parkway Monsey Heights Road Westbound Lt + Th						
	A	0.00	8.8	A	0.00	7.5
Besen Parkway Northbound Lt + Rt	B	0.05	11.6	B	0.04	10.8
Christmas Hill Road/South Monsey Road/Monsey Heights Road/New County Road						
South Monsey Road						
Northbound LTR	A	0.05	7.9	A	0.02	7.8
New County Road						
Southbound LTR	A	0.01	8.6	A	0.01	7.6
Christmas Hill Road						
Eastbound LTR	C	0.55	23.6	C	0.46	18.6
Monsey Heights Road						
Westbound LTR	D	0.50	26.1	C	0.37	18.1
Monsey Heights Road/Development Driveway						
Monsey Heights Road						
Westbound Lt + Th	A	0.02	7.5	A	0.01	7.5
Development Driveway						
Northbound LT + Rt	A	0.07	9.9	A	0.05	9.8

PARKING ANALYSIS

The proposed project will provide for 53 parking spaces. The Rabbi will have a separate parking area. As noted in the discussion regarding minyans, we would expect close to 50 people to attend with at least 10 people walking to each minyan. This means that if you include the people that attended the study session and assume they all drive, which they will not, we expect that 48 parking spaces will be filled for each minyan. This leaves 5 additional spaces in case other people decide to attend. There will be no parking on Monsey Heights Road.

During the day when people come to study, we could expect 10 to 15 parking spaces occupied in any hour. This will vary by the time of day. As noted, the study room can hold 40 people, however, we do not expect the study room to be filled as members work. Those that work at home may decide to spend time studying with the Rabbi or own their own. Some of these people will drive and others will walk.

CALCULATION OF SIGHT DISTANCE

The intersection sight distance is based on the AASHTO Design Manual "A Policy for Geometric Design of Highways and Streets." Chapter 9 discusses the sight triangle requirements for a stop-controlled intersection and how to calculate the sight distance.

The sight triangle area must be clear of obstructions so a driver sitting in the driveway can see oncoming traffic and vice versa. Plantings in the sight triangle should not be more than two feet high. It is preferable that there be no plantings in the sight triangle.

The intersection sight distance is calculated based on the formula on Page 9-37. For a left turn from stop, Table 9-5 provides the Time Gap in seconds for the Design Speed of Major Road. For a passenger car, the Time Gap is 7.5 seconds. For a single unit truck, 9.5 seconds and for a combination truck 11.5 seconds. We measured the sight distance in the field and the results are as follows:

For the new driveway on Monsey Heights Road, cars will be able to enter and exit. Using Case "F" from AASHTO, the required sight distance is 245 feet. If approaching from the south to make a left-turn into the driveway, the sight distance as measured in the field is 580 feet which is where the curve begins.

For Case "B1" (left turns) the required sight distance is 335 feet. The measured distance in the field is 580 feet looking to the right and 530 feet looking to the left. For Case "B2" (right turns), the required sight distance is 290 feet. The sight distance looking to left and right is 530 feet looking to the left.

There is an existing rock wall and some trees that will need to be removed to achieve these sight distances.

CRASH ANALYSIS

We obtained the 2021, 2022, and 2023 crash data from NYSDOT for the Route 59/Monsey Heights Road, Monsey Heights Road/Besen Parkway, and Monsey Heights Road/Christmas Hill Road/New County Road intersections. **Tables 6 thru 8** summarize the crash data.

In 2021, there were a total of 9 crashes. The breakdown of the crashes by intersection is as follows:

New County Road/Christmas Hill Road – there were a total of six crashes on New County Road with one injury. There was 1 rear end, 1 right angle and 4 other.

Route 59/Monsey Heights Road – there were a total of three crashes on Route 59 and there were no injuries. There was 1 rear end, 1 right angle, and 1 other crash types.

In 2022, there were a total of 16 crashes. The breakdown of the crashes by intersection is as follows:

New County Road/Christmas Hill Road, on Old Nyack Turnpike there were a total of 4 crashes with no injuries. There were 2 other, 1 left turn, and 1 right angle type crashes.

Christmas Hill Road/No Intersection, on Christmas Hill Road there were a total of 3 crashes with 3 injuries. There were 3 other types of crashes.

Christmas Hill Road/New County Road, on Christmas Hill Road there were a total of 1 crash with 1 injury. There was 1 other type of crash.

Monsey Heights Road/New County Road, on Monsey Heights Road there were a total of 2 crashes with 1 injury. There was 1 other and 1 overtaking type of crash.

Monsey Heights Road/ No Intersection, on Monsey Heights Road there was 1 crash with no injuries. There was 1 other type of crash.

Route 59/Monsey Heights Road, on Route 59 there was 1 right angle crash with no injuries.

Route 59/East Route 59, on Route 59 there was 1 other and 1 right angle crash with no injuries.

Route 59/No intersection, there was 1 other crash and no injuries.

In 2023, there were a total of 16 crashes. The breakdown of the crashes by intersection is as follows:

Christmas Hill Road/South Monsey Road, on Christmas Hill Road there were 2 right angle, 1 left turn, and 1 other with 2 injuries.

Christmas Hill Road/Monsey Heights Road, on Christmas Hill Road there were 2 right angle, 1 other, and 1 sideswipe and no injuries.

Christmas Hill Road/New County Road, on Christmas Hill Road there were a 2 other and 1 right angle with no injuries.

Monsey Heights Road/Route 59, on Monsey Heights Road there was 1 rear end, 1 unknown and 1 right angle with no injuries.

Route 59/East Route 59, on Route 59 there was 1 other crash and no injuries.

Route 59/No Intersection, on Route 59 there was 1 other crash and no injuries.

We do know that Rockland County is studying the Monsey Heights Road/Christmas Hill Road/New County Road intersection. No definitive decisions have been made at this time. The most likely solution will be to signalize the intersection which will improve the intersection's operation significantly.

CONCLUSIONS

1. The proposed synagogue will generate 40 vehicle trips in the 7:30 am to 8:30 am and 36 vehicle trips in the 8:00 pm and 9:00 pm for people attending the daily minyans.
2. The LOS for driveway on Monsey Heights Road will be "A" in the 7:30 am to 8:30 am and 8:00 pm and 9:00 pm hour.

TABLE 6
CRASH DATA SUMMARY

	Crash Date	Crash Time	Crash Severity	Collision Type	Light Conditions	Road Surface Conditions	Weather Conditions	Closest Cross Street	Distance From (Meters)	On Street	Road Name
1	2021-02-04T00:00:00	12:32 AM	INJURY	OTHER	DARK-ROAD LIGHTED	WET	CLEAR	CHRISTMAS HILL RD	0	NEW COUNTY RD	S MONSEY RD
2	2021-01-25T00:00:00	2:59 PM	PROPERTY DAMAGE	OTHER	DAYLIGHT	DRY	CLEAR	CHRISTMAS HILL RD	0	NEW COUNTY RD	S MONSEY RD
3	2021-03-07T00:00:00	4:49 PM	PROPERTY DAMAGE	OTHER	DAYLIGHT	DRY	CLEAR	CHRISTMAS HILL RD	0	NEW COUNTY RD	S MONSEY RD
4	2021-08-08T00:00:00	1:02 PM	PROPERTY DAMAGE	OTHER	DAYLIGHT	DRY	CLOUDY	CHRISTMAS HILL RD	0	NEW COUNTY RD	S MONSEY RD
5	2021-09-10T00:00:00	10:00 AM	PROPERTY DAMAGE	REAR END	DAYLIGHT	DRY	CLEAR	Christmas Hill Rd	5	NEW COUNTY RD	S MONSEY RD
6	2021-10-07T00:00:00	9:36 AM	PROPERTY DAMAGE	RIGHT ANGLE	DAYLIGHT	DRY	CLEAR	CHRISTMAS HILL RD	0	NEW COUNTY RD	S MONSEY RD
7	2021-05-02T00:00:00	4:30 PM	PROPERTY DAMAGE	REAR END	DAYLIGHT	DRY	CLEAR	MONSEY HEIGHTS RD	0	ROUTE 59	
8	2021-11-16T00:00:00	2:33 PM	PROPERTY DAMAGE	RIGHT ANGLE	DAYLIGHT	DRY	CLEAR	MONSEY HEIGHTS RD	0	ROUTE 59	
9	2021-11-16T00:00:00	4:05 PM	PROPERTY DAMAGE	OTHER	DAYLIGHT	DRY	CLEAR	MONSEY HEIGHTS RD	0	ROUTE 59	

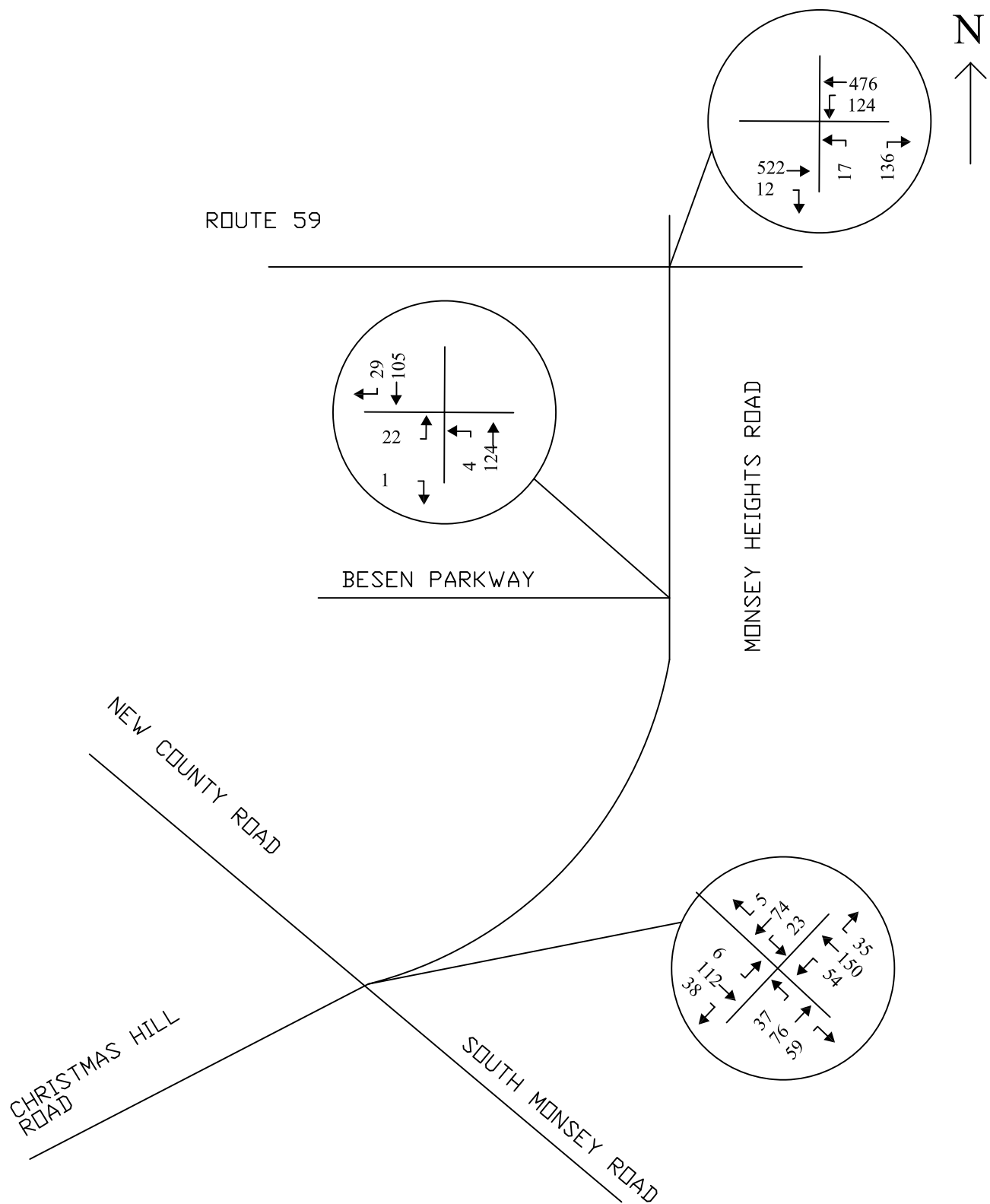
TABLE 7
CRASH DATA SUMMARY

	Crash Date	Crash Time	Crash Severity	Collision Type	Light Conditions	Road Surface Conditions	Weather Conditions	Closest Cross Street	Distance From (Meters)	On Street	Road Name
1	2022-07-19T00:00:00	5:31 PM	INJURY	OTHER	DAYLIGHT	UNKNOWN	CLEAR		0	CHRISTMAS HILL ROAD	S MONSEY RD
2	2022-07-15T00:00:00	6:22 PM	INJURY	OTHER	DAYLIGHT	DRY	CLEAR		0	CHRISTMAS HILL ROAD	S MONSEY RD
3	2022-08-29T00:00:00	7:24 AM	INJURY	OTHER	DAYLIGHT	DRY	CLOUDY		0	CHRISTMAS HILL ROAD	S MONSEY RD
4	2022-09-22T00:00:00	3:55 PM	INJURY	OTHER	DAYLIGHT	DRY	CLEAR	NEW COUNTY ROAD	0	CHRISTMAS HILL ROAD	MONSEY HEIGHTS
5	2022-09-13T00:00:00	3:14 PM	PROPERTY DAMAGE	OTHER	DAYLIGHT	DRY	CLEAR	MONSEY HEIGHTS ROAD	0	CHRISTMAS HILL ROAD	MONSEY HEIGHTS
6	2022-02-17T00:00:00	9:00 AM	PROPERTY DAMAGE	OTHER	DAYLIGHT	DRY	CLOUDY	NEW COUNTY RD	0	MONSEY HEIGHTS RD	S MONSEY RD
7	2022-03-02T00:00:00	4:15 PM	PROPERTY DAMAGE	OVERTAKING	DAYLIGHT	DRY	CLEAR	NEW COUNTY RD	30	MONSEY HEIGHTS RD	MONSEY HEIGHTS
8	2022-10-12T00:00:00	7:17 PM	PROPERTY DAMAGE	OTHER	DARK-ROAD LIGHTED	DRY	CLEAR		0	MONSEY HEIGHTS ROAD	
9	2022-01-24T00:00:00	2:51 PM	PROPERTY DAMAGE	OTHER	DAYLIGHT	DRY	CLEAR	CHRISTMAS HILL RD	0	NEW COUNTY RD	S MONSEY RD
10	2022-03-20T00:00:00	12:33 AM	PROPERTY DAMAGE	OTHER	DARK-ROAD UNLIGHTED	WET	CLEAR	Christmas Hill rd	30	NEW COUNTY RD	NEW COUNTY RD
11	2022-06-27T00:00:00	9:57 PM	PROPERTY DAMAGE	LEFT TURN (AGAINST OTHER CAR)	DARK-ROAD LIGHTED	DRY	CLEAR	CHRISTMAS HILL RD	0	NEW COUNTY RD	S MONSEY RD
12	2022-06-26T00:00:00	10:00 PM	PROPERTY DAMAGE	RIGHT ANGLE	DARK-ROAD UNLIGHTED	DRY	CLOUDY	Christmas Hill Rd	0	NEW COUNTY RD	S MONSEY RD
13	2022-01-12T00:00:00	5:30 PM	PROPERTY DAMAGE	RIGHT ANGLE	DARK-ROAD LIGHTED	DRY	CLEAR	MONSEY HEIGHTS RD	0	Route 59	
14	2022-10-25T00:00:00	5:40 PM	PROPERTY DAMAGE	OTHER	DUSK	DRY	CLOUDY	EAST ROUTE 59	0	ROUTE 59	
15	2022-10-23T00:00:00	6:34 AM	PROPERTY DAMAGE	OTHER	DARK-ROAD LIGHTED	DRY	CLEAR		35	ROUTE 59	
16	2022-11-11T00:00:00	12:57 PM	PROPERTY DAMAGE	RIGHT ANGLE	DAYLIGHT	WET	RAIN	EAST ROUTE 59	0	ROUTE 59	

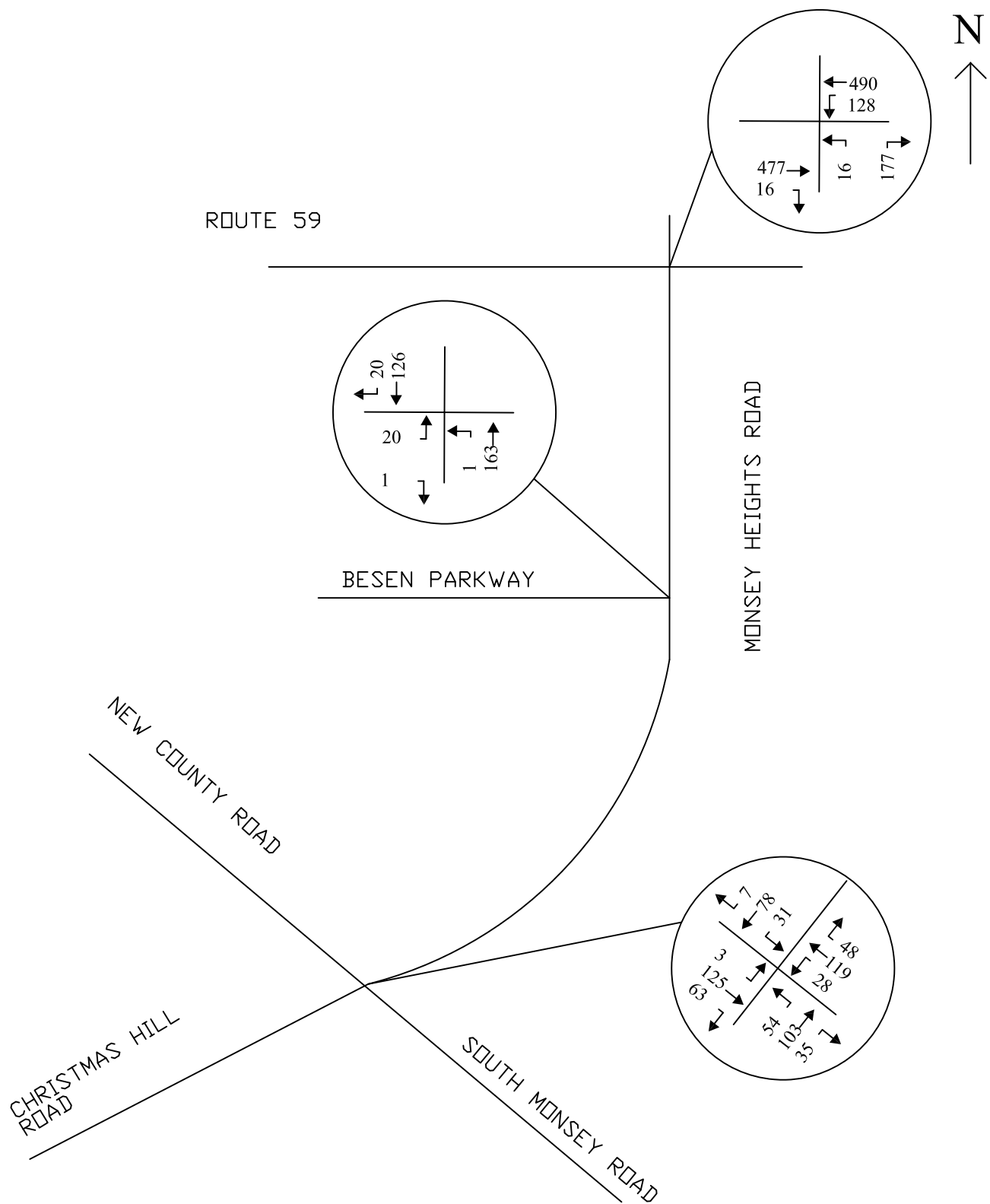
TABLE 8
CRASH DATA SUMMARY

	Crash Date	Crash Time	Crash Severity	Collision Type	Light Conditions	Road Surface Conditions	Weather Conditions	Closest Cross Street	Distance From (Meters)	On Street	Road Name
1	2023-02-07T00:00:00	12:47 PM	PROPERTY DAMAGE	RIGHT ANGLE	DAYLIGHT	DRY	CLEAR	SOUTH MONSEY ROAD	0	CHRISTMAS HILL ROAD	S MONSEY RD
2	2023-03-21T00:00:00	9:10 PM	INJURY	OTHER	DARK-ROAD LIGHTED	DRY	CLEAR	MONSEY HEIGHTS ROAD	0	CHRISTMAS HILL ROAD	MONSEY HEIGHTS
3	2023-04-04T00:00:00	4:41 PM	INJURY	RIGHT ANGLE	DAYLIGHT	DRY	CLEAR	SOUTH MONSEY ROAD	0	CHRISTMAS HILL ROAD	S MONSEY RD
4	2023-04-10T00:00:00	10:51 AM	PROPERTY DAMAGE	RIGHT ANGLE	DAYLIGHT	DRY	CLEAR	NEW COUNTY ROAD	0	CHRISTMAS HILL ROAD	MONSEY HEIGHTS
5	2023-05-11T00:00:00	3:45 PM	PROPERTY DAMAGE	OTHER	DAYLIGHT	DRY	CLEAR	NEW COUNTY ROAD	0	CHRISTMAS HILL ROAD	CHRISTMAS HILL
6	2023-05-19T00:00:00	12:16 PM	PROPERTY DAMAGE	OTHER	DAYLIGHT	DRY	CLEAR	NEW COUNTY ROAD	50	CHRISTMAS HILL ROAD	CHRISTMAS HILL
7	2023-06-08T00:00:00	4:06 PM	PROPERTY DAMAGE	RIGHT ANGLE	DAYLIGHT	DRY	CLOUDY	MONSEY HEIGHTS ROAD	0	CHRISTMAS HILL ROAD	S MONSEY RD
8	2023-06-23T00:00:00	10:40 AM	PROPERTY DAMAGE	LEFT TURN (AGAINST OTHER CAR)	DAYLIGHT	DRY	CLEAR	SOUTH MONSEY ROAD	0	CHRISTMAS HILL ROAD	S MONSEY RD
9	2023-08-08T00:00:00	3:57 PM	INJURY	OTHER	DAYLIGHT	DRY	CLEAR	SOUTH MONSEY ROAD	0	CHRISTMAS HILL ROAD	S MONSEY RD
10	2023-09-28T00:00:00	7:05 PM	PROPERTY DAMAGE	SIDESWIPE	DARK-ROAD LIGHTED	WET	RAIN	MONSEY HEIGHTS ROAD	100	CHRISTMAS HILL ROAD	CHRISTMAS HILL
11	2023-11-07T00:00:00	2:58 PM	PROPERTY DAMAGE	RIGHT ANGLE	DAYLIGHT	DRY	CLOUDY	MONSEY HEIGHTS ROAD	0	CHRISTMAS HILL ROAD	MONSEY HEIGHTS
12	2023-03-27T00:00:00	9:32 PM	PROPERTY DAMAGE	UNKNOWN	DARK-ROAD LIGHTED	WET	RAIN	ROUTE 59	0	MONSEY HEIGHTS ROAD	
13	2023-09-27T00:00:00	2:45 PM	PROPERTY DAMAGE	REAR END	DAYLIGHT	DRY	CLEAR	ROUTE 59	10	MONSEY HEIGHTS ROAD	MONSEY HEIGHTS
14	2023-12-28T00:00:00	6:20 PM	PROPERTY DAMAGE	RIGHT ANGLE	DARK-ROAD LIGHTED	WET	RAIN	ROUTE 59	0	MONSEY HEIGHTS ROAD	
15	2023-02-12T00:00:00	11:23 PM	PROPERTY DAMAGE	OTHER	DARK-ROAD LIGHTED	DRY	CLEAR	EAST ROUTE 59	0	ROUTE 59	
16	2023-10-24T00:00:00	5:44 PM	PROPERTY DAMAGE	OTHER	DAYLIGHT	DRY	CLEAR		0	ROUTE 59	

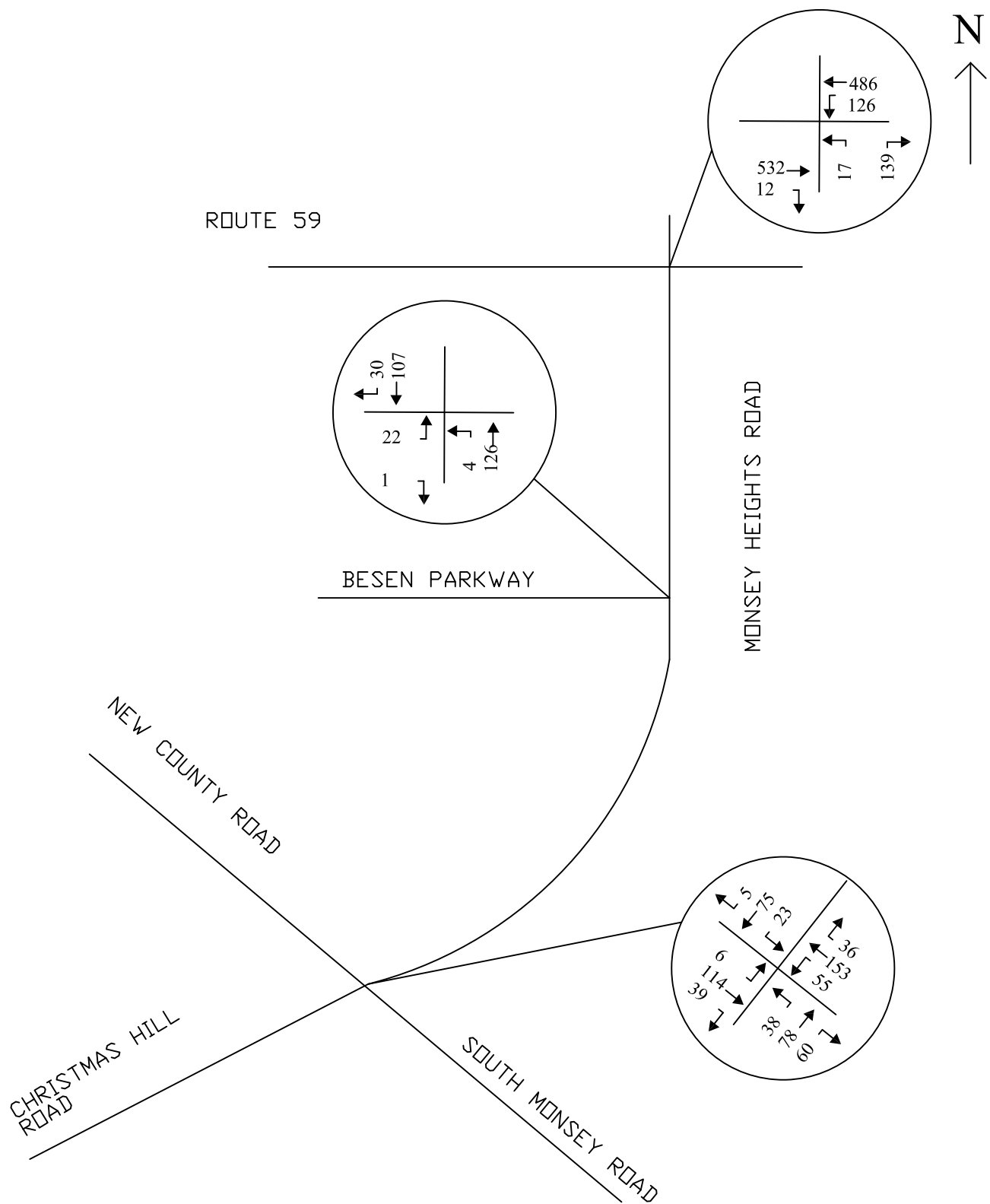
APPENDIX A
TRAFFIC VOLUME FIGURES



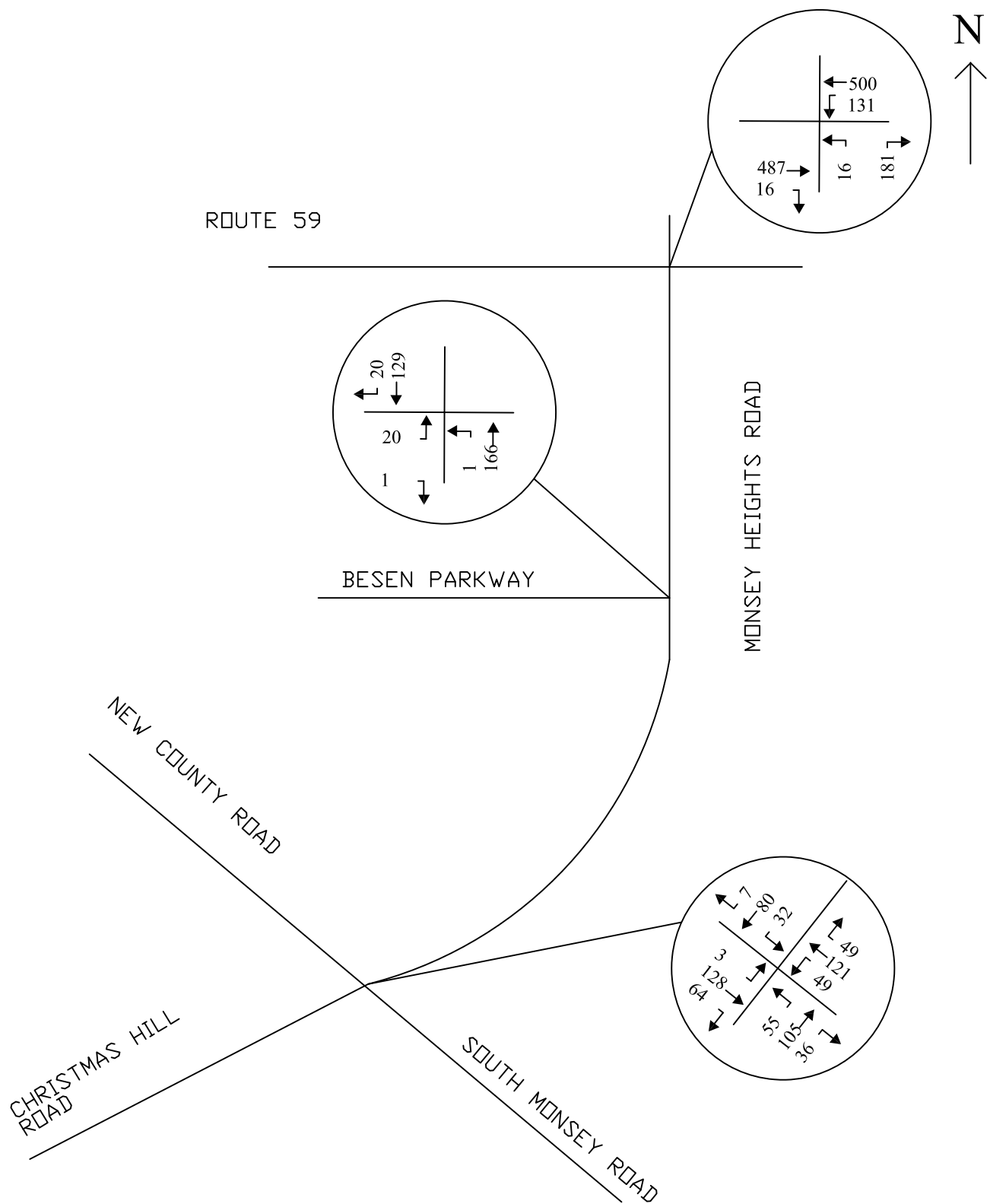
EXISTING 2024 AM PK HR
7:30 AM - 8:30 AM
FIGURE 2



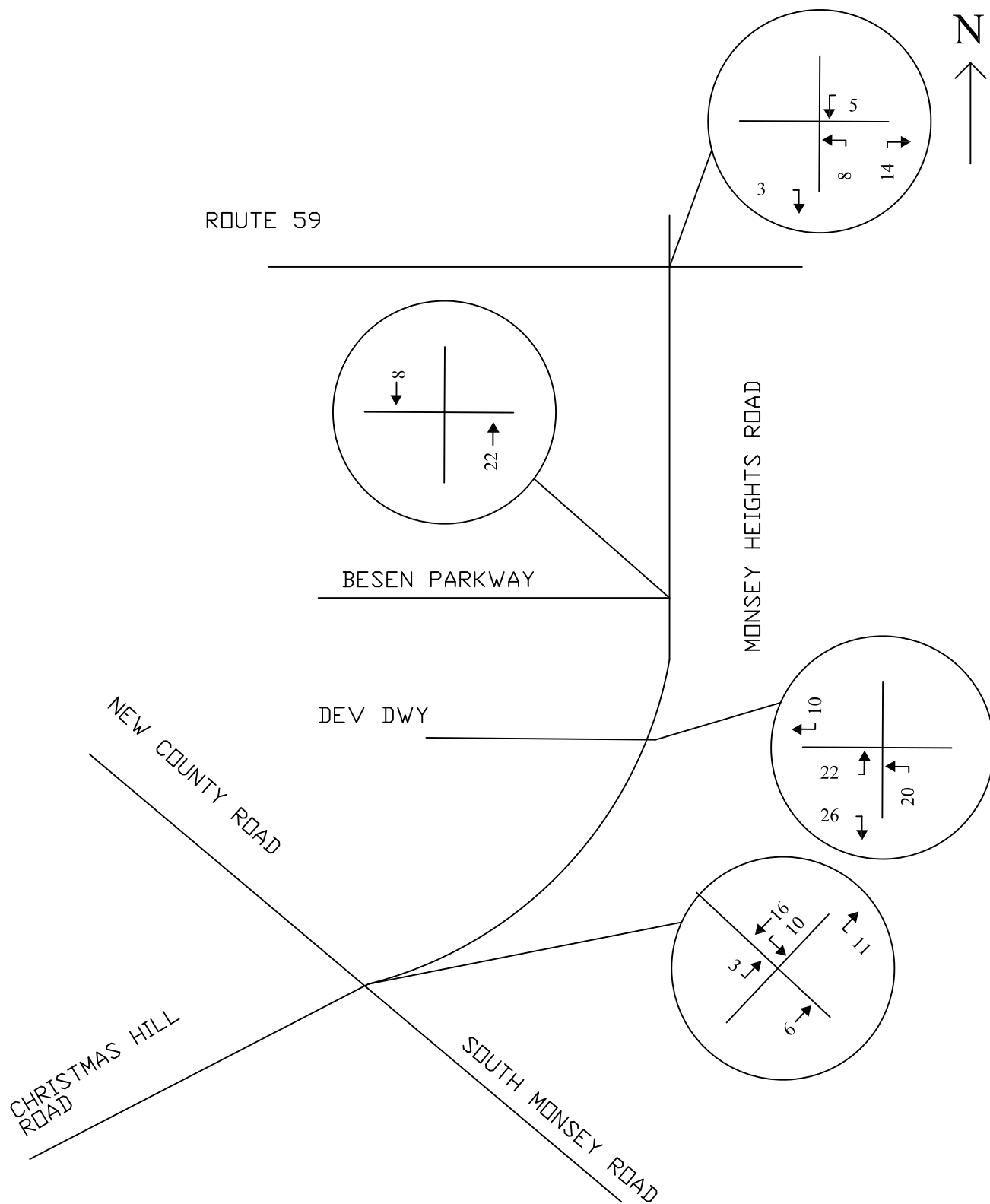
EXISTING 2024 PM PK HR
8:00 PM-9:00 PM
FIGURE 3



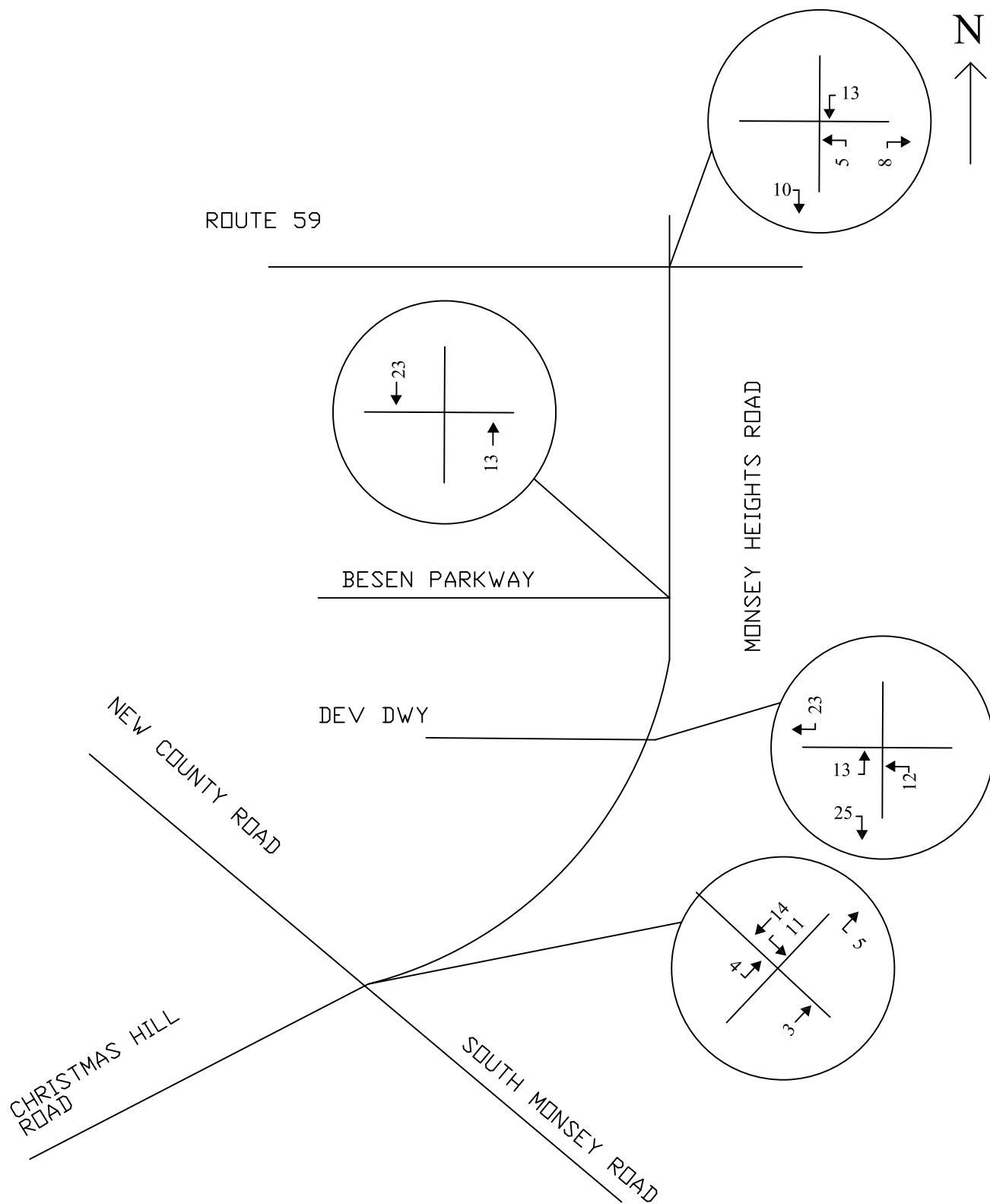
2026 NO-BUILD AM PK HR
7:30 AM - 8:30 AM
FIGURE 4



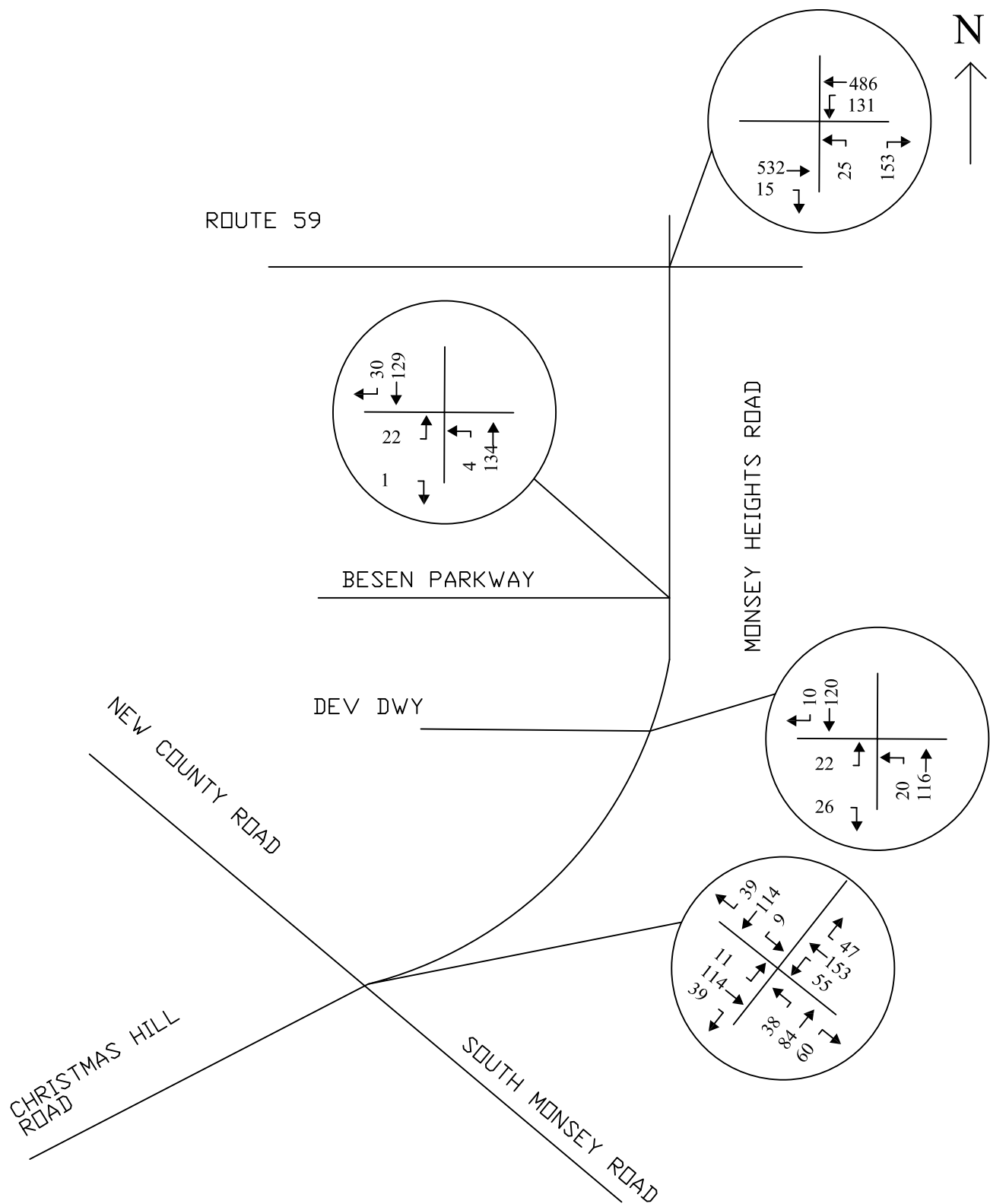
2026 NO-BUILD PM PK HR
 8:00 PM-9:00 PM
 FIGURE 5



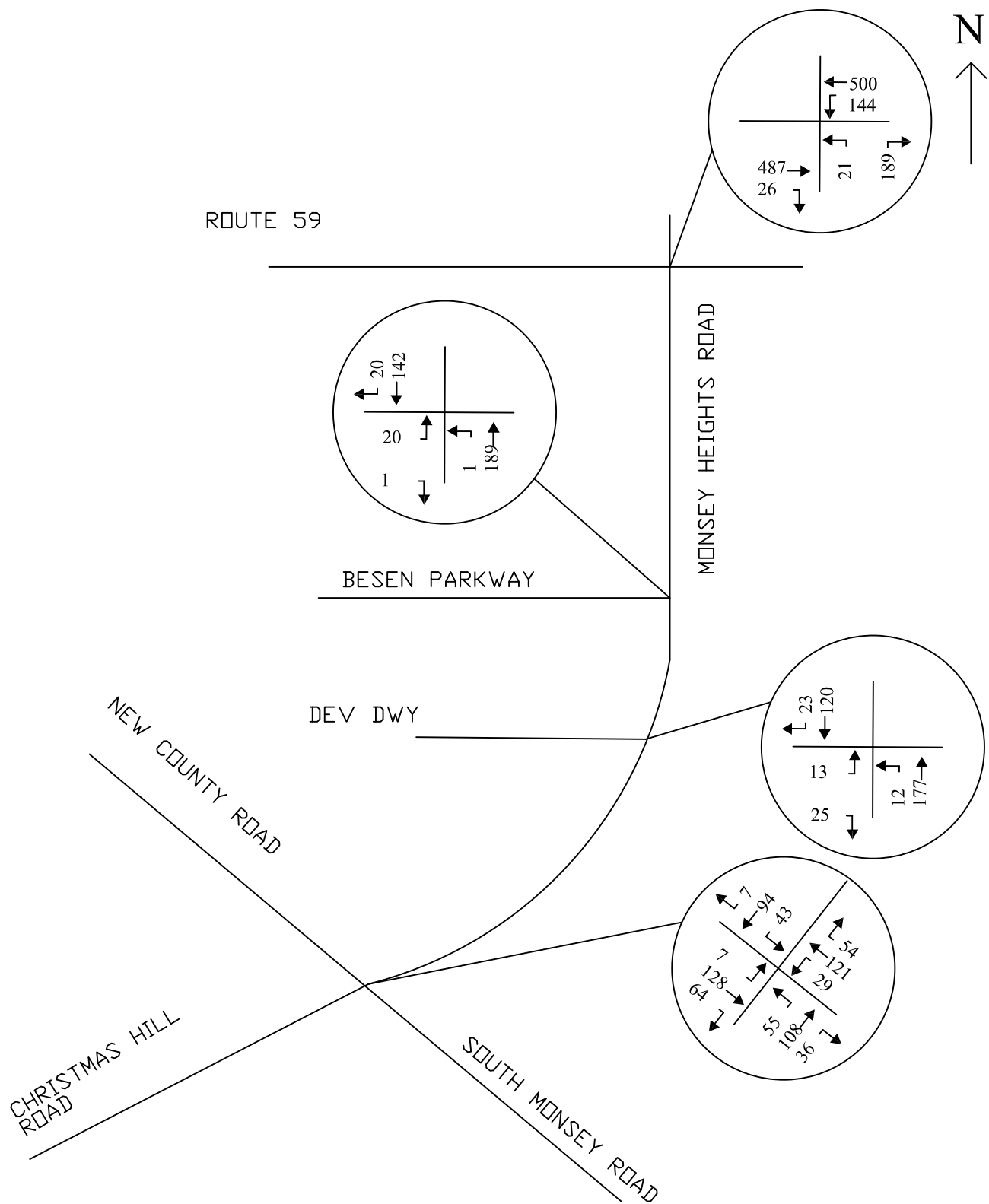
TRIP DISTRIBUTION
7:30 AM - 8:30 AM
FIGURE 6



TRIP DISTRIBUTION
8:00 PM - 9:00 PM
FIGURE 7



2026 BUILD AM PK HR
7:30 AM - 8:30 AM
FIGURE 8



2026 BUILD PM PK HR
 8:00 PM-9:00 PM
 FIGURE 9

APPENDIX C

TRAFFIC COUNTS

COUNT TYPE: Turning Movement
NODE ID:
LOCATION 1: Besen Parkway
LOCATION 2: Monsey Heights Road
BOROUGH CODE:
COLLECT DATE:
START DATE: 03/14/2024
START TIME: 7:30:00
END DATE: 03/14/2024
END TIME: 21:00:00
PERIOD: 3
INTERVAL (Min): 15
COMMENT:

		DIR	WB L	WB T	WB U	NB L	NB R	NB U	EB T	EB R	EB U				
From	To	Vehicle Class													
07:30:00	07:45:00	Auto	0	21	0	2	0	0	14	5	0	42	52		
		Trucks	0	1	0	0	0	0	0	1	0	2			
		Bus	0	5	0	0	0	0	2	1	0	8			
07:45:00	08:00:00	Auto	0	30	0	5	0	0	29	3	0	67	71		
		Trucks	0	0	0	0	1	0	0	0	0	1			
		Bus	0	0	0	1	0	0	1	1	0	3			
08:00:00	08:15:00	Auto	0	24	0	3	0	0	18	7	0	52	69		
		Trucks	0	0	0	1	0	0	2	0	0	3			
		Bus	3	5	0	2	0	0	4	0	0	14			
08:15:00	08:30:00	Auto	0	31	0	5	0	0	30	6	0	72	93	285	0.77
		Trucks	0	2	0	0	0	0	3	0	0	5			
		Bus	1	5	0	3	0	0	2	5	0	16			
20:00:00	20:15:00	Auto	0	37	0	5	0	0	40	6	0	88	89		
		Trucks	0	0	0	0	0	0	1	0	0	1			
		Bus	0	0	0	0	0	0	0	0	0	0			
20:15:00	20:30:00	Auto	1	42	0	5	0	0	23	6	0	77	79		
		Trucks	0	1	0	0	0	0	0	0	0	1			
		Bus	0	0	0	0	0	0	1	0	0	1			
20:30:00	20:45:00	Auto	0	33	0	7	1	0	31	5	0	77	78		
		Trucks	0	0	0	0	0	0	1	0	0	1			
		Bus	0	0	0	0	0	0	0	0	0	0			
20:45:00	21:00:00	Auto	0	50	0	3	0	0	29	3	0	85	85	331	0.93
		Trucks	0	0	0	0	0	0	0	0	0	0			
		Bus	0	0	0	0	0	0	0	0	0	0			
7:30-8:30			WB LT	WB ST		NB LT	NB RT		EB ST	EB RT		Total			
		Auto	0	106		15	0		91	21		233			
		Trucks	0	3		1	1		5	1		11			
		Bus	4	15		6	0		9	7		41			
		Totals	4	124		22	1		105	29		285			
		% HV	100%	15%		32%	100%		13%	28%		18%			
		PHF	0.77	0.77	0.77	0.77	0.77	0.77	0.77	0.77	0.77	0.77			
8:00-9:00			WB LT	WB ST		NB LT	NB RT		EB ST	EB RT		Total			
		Auto	1	162		20	1		123	20		327			
		Trucks	0	1		0	0		2	0		3			
		Bus	0	0		0	0		1	0		1			
		Totals	1	163		20	1		126	20		331			
		% HV	0%	1%		0%	0%		2%	0%		1%			
		PHF	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93			

COUNT TYPE: Turning Movement
NODE ID:
LOCATION 1: Monsey Heights Road
LOCATION 2: New County Road
BOROUGH CODE:
COLLECT DATE:
START DATE: 03/14/2024
START TIME: 7:30:00
END DATE: 03/14/2024
END TIME: 21:00:00
PERIOD: 3
INTERVAL (Min): 15
COMMENT:

		DIR	SB L	SB T	SB R	SB U	WB L	WB T	WB R	WB U	NB L	NB T	NB R	NB U	EB L	EB T	EB R	EB U				
From	To	Vehicle Class																				
07:30:00	07:45:00	Auto	0	12	5	0	1	10	1	0	4	29	2	0	4	18	13	0	99	118		
		Trucks	0	2	0	0	0	0	0	0	0	0	1	0	1	0	1	0	5			
		Bus	0	5	0	0	0	1	0	0	0	1	2	3	0	0	1	1	0			14
07:45:00	08:00:00	Auto	0	26	9	0	3	22	0	0	12	34	7	0	5	19	10	0	147	168		
		Trucks	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	2			
		Bus	0	5	1	0	0	2	0	0	2	3	3	0	1	0	2	0	19			
08:00:00	08:15:00	Auto	1	21	11	0	8	15	1	0	13	29	5	0	11	14	13	0	142	171		
		Trucks	0	2	0	0	1	1	0	0	0	0	0	0	0	0	0	0	4			
		Bus	1	4	3	0	0	5	1	0	3	0	3	0	2	3	0	0	25			
08:15:00	08:30:00	Auto	1	32	9	0	6	15	1	0	17	47	7	0	10	19	18	0	182	212	669	0.79
		Trucks	0	1	0	0	1	2	0	0	1	1	0	0	0	1	0	0	7			
		Bus	3	1	0	0	2	1	1	0	1	5	4	0	3	1	1	0	23			
20:00:00	20:15:00	Auto	3	35	15	0	13	17	3	0	7	40	10	0	17	26	9	0	195	197		
		Trucks	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	1			
		Bus	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1			
20:15:00	20:30:00	Auto	0	45	21	0	5	18	3	0	6	31	10	0	9	28	8	0	184	188		
		Trucks	0	1	0	0	0	0	0	0	0	0	0	0	0	1	0	0	2			
		Bus	0	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	2			
20:30:00	20:45:00	Auto	0	24	9	0	7	18	1	0	10	25	9	0	15	23	11	0	152	153		
		Trucks	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	1			
		Bus	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0			
20:45:00	21:00:00	Auto	0	20	16	0	5	23	0	0	4	22	19	0	12	25	6	0	152	156	694	0.88
		Trucks	0	0	1	0	0	0	0	0	1	0	0	0	0	0	0	0	2			
		Bus	0	0	0	0	0	0	0	0	0	1	0	0	0	1	0	0	2			
7:30-8:30		SBLT	SBST	SBRT	WBLT WBST WBRT			NBLT NBST NBRT			EBLT EBST EBRT			Total								
		Auto	2	91	34	18 62 3			46 139 21			30 70 54			570							
		Trucks	0	6	0	3 3 0			1 1 1			1 1 1			18							
		Bus	4	15	4	2 9 2			7 10 13			6 5 4			81							
		Totals	6	112	38	23 74 5			54 150 35			37 76 59			669							
		% HV	67%	19%	11%	22% 16% 40%			15% 7% 40%			19% 8% 8%			15%							
		PHF	0.79	0.79	0.79	0.79 0.79 0.79			0.79 0.79 0.79			0.79 0.79 0.79			0.79							
8:00-9:00		SBLT	SBST	SBRT	WBLT WBST WBRT			NBLT NBST NBRT			EBLT EBST EBRT			Total								
		Auto	3	124	61	30 76 7			27 118 48			53 102 34			683							
		Trucks	0	1	1	0 2 0			1 0 0			0 1 0			6							
		Bus	0	0	1	1 0 0			0 1 0			1 0 1			5							
		Totals	3	125	63	31 78 7			28 119 48			54 103 35			694							
		% HV	0%	1%	3%	3% 3% 0%			4% 1% 0%			2% 1% 3%			2%							
		PHF	0.88	0.88	0.88	0.88 0.88 0.88			0.88 0.88 0.88			0.88 0.88 0.88			0.88							

COUNT TYPE: Turning Movement
NODE ID:
LOCATION 1: Monsey Heights Road
LOCATION 2: State Route 59
BOROUGH CODE:
COLLECT DATE:
START DATE: 03/14/2024
START TIME: 7:30:00
END DATE: 03/14/2024
END TIME: 21:00:00
PERIOD: 3
INTERVAL (Min): 15
COMMENT:

		DIR	WB L	WB T	WB U	NB L	NB R	NB U	EB T	EB R	EB U				
From	To	Vehicle Class													
07:30:00	07:45:00	Auto	16	101	0	3	24	0	113	2	0	259	285		
		Trucks	1	5	0	0	1	0	4	0	0	11			
		Bus	3	5	0	1	4	0	2	0	0	15			
07:45:00	08:00:00	Auto	29	110	0	4	28	0	135	3	0	309	336		
		Trucks	0	9	0	0	0	0	6	0	0	15			
		Bus	2	2	0	0	1	0	7	0	0	12			
08:00:00	08:15:00	Auto	22	100	0	2	29	0	118	4	0	275	310		
		Trucks	1	5	0	0	1	0	10	1	0	18			
		Bus	4	1	0	0	7	0	5	0	0	17			
08:15:00	08:30:00	Auto	36	120	0	6	33	0	103	2	0	300	356	1287	0.90
		Trucks	3	11	0	0	2	0	10	0	0	26			
		Bus	7	7	0	1	6	0	9	0	0	30			
20:00:00	20:15:00	Auto	36	122	0	4	44	0	108	6	0	320	323		
		Trucks	1	1	0	0	0	0	1	0	0	3			
		Bus	0	0	0	0	0	0	0	0	0	0			
20:15:00	20:30:00	Auto	25	138	0	5	45	0	128	4	0	345	356		
		Trucks	0	2	0	0	1	0	1	0	0	4			
		Bus	1	4	0	0	0	0	2	0	0	7			
20:30:00	20:45:00	Auto	33	111	0	3	37	0	110	3	0	297	306		
		Trucks	1	1	0	0	0	0	5	0	0	7			
		Bus	0	0	0	0	0	0	2	0	0	2			
20:45:00	21:00:00	Auto	31	109	0	4	50	0	117	3	0	314	319	1304	0.92
		Trucks	0	0	0	0	0	0	2	0	0	2			
		Bus	0	2	0	0	0	0	1	0	0	3			
7:30-8:30			WBLT	WBST	NBLT		NBRT	EBST		EBRT	Total				
		Auto	103	431	15		114	469		11	1143				
		Trucks	5	30	0		4	30		1	70				
		Bus	16	15	2		18	23		0	74				
		Totals	124	476	17		136	522		12	1287				
		% HV	17%	9%	12%		16%	10%		8%	11%				
		PHF	0.90	0.90	0.90		0.90	0.90		0.90	0.90				
8:00-9:00			WBLT	WBST	NBLT		NBRT	EBST		EBRT	Total				
		Auto	125	480	16		176	463		16	1276				
		Trucks	2	4	0		1	9		0	16				
		Bus	1	6	0		0	5		0	12				
		Totals	128	490	16		177	477		16	1304				
		% HV	2%	2%	0%		1%	3%		0%	2%				
		PHF	0.92	0.92	0.92		0.92	0.92		0.92	0.92				

PROPOSED SYNAGOGUE
454 SADDLE RIVER ROAD
TRAFFIC IMPACT STUDY
AIRMONT, NY

August 5, 2024

Prepared By:
Harry Baker & Associates
190 Old Colony Road
Hyannis, Ma 02601

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INTRODUCTION

The proposed synagogue is to be constructed at 454 Saddle River Road and is located on Block and Lot 62.11-2-11.2 in the Village of Airmont, NY. The lot is currently empty. The new synagogue will be for the local residents. There will be 55 families that will belong to this synagogue.

There will be daily minyans Sunday – Friday that will start at 7:15 am and ending before 8:00 am. Within this hour, there will be an average of 23 members attending. Of these, on a typical day, 14 will drive and nine will walk. To arrive at these numbers, we counted the members attending the daily minyan at another location that is adjacent to this site. The survey was conducted for 3 days. We have included the surveys in the Appendix. In the evening, we studied the 5:00 pm to 6:00 pm time period because this is when the fall, winter and early spring minyans would take place. During the summer, the minyans start later beginning at 7:30 pm and could continue to 10:00 pm for those getting home late. We chose to analyze the 5:00 pm to 6:00 pm time period because they represent the heaviest traffic flow in the study area.

Friday evening services would take place between 7:30 and 9:00 pm with approximately 40 congregants attending. On Shabbat morning, there could be up to 100 congregants depending on the time of year. In the afternoon of Shabbat between 5:00 pm and 9:30 pm dependent on the time of year, approximately 40 congregants would attend. On Shabbat and holidays, the members will walk. No cars will be driven.

Figure 1 shows the project location. We have based our analysis on the site plan prepared by Civil Tec, dated 4/16/24. For traffic purposes, the future build-year is 2027.

The purpose of this study is to determine the potential traffic impact of the proposed religious building on the adjacent roadway network, and, where necessary, make recommendations for roadway improvements necessary to serve the existing and future traffic volumes.

EXISTING ROADWAY NETWORK

The proposed project will be located along Saddle River Road. A description of the existing local roadway system is provided below.

- Saddle River Road (CR81) is a two-lane roadway that runs in a north-south direction under the control of Rockland County. It begins at Route 59 in Monsey, New York and continues south to the NJ State Border. The posted speed limit is 30-mph. Near the project site, Saddle River Road has one travel



454 Saddle River Rd
PROJECT LOCATION

PROJECT LOCATION
FIGURE 1

500 ft

lane in each direction. The land-use composition in the area is comprised of religious buildings, single family homes, commercial developments, cemeteries, and several synagogues.

- Old Nyack Turnpike (CR74) is a two-lane roadway that runs in an east-west direction under the control of Rockland County. The posted speed limit is 30 mph. It begins at the intersection of Route 45 and continues west to Saddle River Road. The posted speed limit is 30-mph. The development along Old Nyack Turnpike is comprised of single-family homes, multifamily homes, and Yeshivas.
- Hillside Avenue - is a two-lane roadway that runs in an east-west direction under the control of the Village of Airmont. The posted speed limit is 30 mph. It begins at the intersection of Saddle River Road/Hillside Avenue and continues west to the closed bridge. There are single family homes, the proposed mikvah under construction and a cemetery.

EXISTING TRAFFIC CONDITIONS – WEEKDAY

Manual Traffic Counts - Weekday

In order to properly assess the impacts of the proposed project, manual turning movement counts were taken during a typical weekday. The manual counts were conducted on Thursday, March 14, 2024, at the following intersections:

- Saddle River Road/Old Nyack Turnpike – signalized
- Saddle River Road/Hillside Avenue – unsignalized
- Saddle River Road/Pinebrook – unsignalized

The traffic counts were conducted in 15-minute intervals. The counts were classified by cars, trucks, buses, and school buses. Full size school buses were considered trucks for this study.

The time periods analyzed are as follows:

- Weekdays 7:00 to 8:00 am and 5:00-6:00 pm.

The traffic volumes are shown in **Figures 2 and 3** and show the peak hour traffic. Appendix C shows the traffic counts for the manual counts.

The signal timing and phasing for the signalized intersections were obtained from the Rockland County Highway Department and Verde Electric. Verde Electric has the maintenance contract for the Town of Ramapo.

Capacity Analysis

The Synchro 11 software (standard Highway Capacity Manual) was used to calculate the Level of Service for each intersection. The traffic analysis is performed by calculating the capacity of the facility (e.g., intersection approach roadway) to process traffic. In general, the capacity of a facility is defined as the maximum number of vehicles or pedestrians that can reasonably be expected to traverse a point or section of roadway during a given time period under prevailing roadway, traffic, and control conditions. Therefore, capacity analyses are a set of procedures used to estimate the traffic carrying capabilities of facilities over a range of defined operational conditions. They provide tools for the analysis and improvement of existing facilities and for the planning and design of future facilities.

Signalized Intersections

The operation of signalized intersections in the Study Area was analyzed by applying the Percentile Delay Methodology included in the Synchro 11 traffic signal software (latest version approved by NYSDOT).

LOS can be characterized for the entire intersection, each intersection approach, and each lane group. Control delay alone is used to characterize LOS for the entire intersection or an approach. Delay quantifies the increase in travel time due to traffic signal control. It is also a surrogate measure of driver discomfort and fuel consumption. The volume-to-capacity ratio quantifies the degree to which a phase's capacity is utilized by a lane group.

LOS A describes operation with a control delay of 10 seconds per vehicle or less and volume-to capacity ratio no greater than 1.0. This level is typically assigned when the volume-to capacity ratio is low and ether progression is exceptionally favorable or the cycle length is very short. If it is due to favorable progression, most vehicles arrive during the green indication and travel through the intersection without stopping.

LOS B describes operation with a control delay between 10 and 20 seconds per vehicle or less and volume-to capacity ratio no greater than 1.0. This level is typically assigned when the volume-to capacity ratio is low and ether progression is exceptionally favorable or the cycle length is very short. More vehicles will stop than with LOS A.

LOS C describes operation with a control delay between 20 and 35 seconds per vehicle or less and volume-to capacity ratio no greater than 1.0. This level is typically assigned when the volume-to capacity ratio is moderate. Individual cycle failures (i.e., one or more queued vehicles are not able to depart as a result of insufficient capacity during the cycle) may appear at this level. The number of vehicles stopping is significant, although many vehicles still pass through the intersection without stopping.

LOS D describes operation with a control delay between 35 and 55 seconds per vehicle or less and volume-to capacity ratio no greater than 1.0. This level is typically assigned when the volume-to capacity ratio is high and either progression is ineffective, or the cycle length is long. Many vehicles stop and individual cycle failures are noticeable.

LOS E describes operation with a control delay between 55 and 80 seconds per vehicle or less and volume-to capacity ratio no greater than 1.0. This level is typically assigned when the volume-to capacity ratio is high, progression is unfavorable, and the cycle length is long. Individual cycle failures are frequent.

LOS F describes operation with a control delay is greater than 80 seconds per vehicle or less and volume-to capacity ratio greater than 1.0. This level is typically assigned when the volume-to capacity ratio is very high, progression is very poor, and the cycle length is long. Most cycles fail to clear the queue.

A lane group can incur a delay less than 80 seconds per vehicle when the volume-to capacity ratio exceeds 1.0. This condition typically occurs when the cycle length is short, the signal progression is favorable, or both. As a result, both the delay and volume-to capacity ratio are considered when lane group LOS is established. A ratio of 1.0 or more indicates that cycle capacity is fully utilized and represents failure from a capacity perspective (just as delay in excess of 80 seconds per vehicle represents failure from a delay perspective.)

The control delay criteria for the range of service levels for signalized intersections are shown in **Table 1**.

Control Delay Per Vehicle	Level of Service (LOS)	
	v/c ratio $\leq$ 1.0	v/c ratio $\geq$ 1.0
≤ 10.0 Seconds	A	F
> 10.0 and 20.0 seconds	B	F
> 20.0 and 35.0 seconds	C	F
> 35.0 and 55.0 seconds	D	F
> 55.0 and 80.0 seconds	E	F
> 80.0 seconds	F	F
Source: Transportation Research Board 2016 <i>Highway Capacity Manual</i> Note: (1) for approach- based and intersection wide assessments, LOS is defined solely by control delay.		

Unsignalized Intersections

The LOS criteria for both TWSC and AWSC unsignalized intersections are summarized in **Table 2**.

Control Delay Per Vehicle	Level of Service (LOS)	
	v/c ratio $\leq$ 1.0	v/c ratio $\geq$ 1.0
≤ 10.0 Seconds	A	F
> 10.0 and 15.0 seconds	B	F
> 15.0 and 25.0 seconds	C	F
> 25.0 and 35.0 seconds	D	F
> 35.0 and 50.0 seconds	E	F
> 50.0 seconds	F	F
Source: Transportation Research Board 2016 <i>Highway Capacity Manual</i> Note: (1) For TWSC intersections, the LOS criteria apply to each lane on a given approach and to each approach on the minor street (for TWSC intersections.) LOS is not calculated for major-street approaches or for the intersection as a whole.		

Note that the LOS criteria for unsignalized intersections are somewhat different from the criteria used in signalized intersections. At TWSC intersections, drivers on the stop-controlled approaches are required to select gaps in the major-street flow in order to execute crossing or turning maneuvers. In the presence of a queue, each driver on the controlled approach must also use some time to move into the front-of-queue position and prepare to evaluate gaps in the major-street flow. AWSC intersections require drivers on all approaches to stop before proceeding into the intersection.

The results of the existing capacity analyses are shown in **Table 3** for the existing conditions.

TABLE 3 CAPACITY ANALYSIS SUMMARY 2024 EXISTING CONDITIONS SIGNALIZED INTERSECTIONS						
	7:00-8:00 AM			5:00-6:00 PM		
		V/C			V/C	
	LOS	Ratio	Delay	LOS	Ratio	Delay
Saddle River Road/Old Nyack Turnpike						
Saddle River Road						
Northbound Th + Rt	A	0.26	5.6	A	0.34	6.5
Southbound Lt + Th	B	0.56	11.1	C	0.87	28.6
Old Nyack Turnpike						
Westbound Lt + Rt	B	0.76	16.2	B	0.78	18.1
Overall	B		11.5	B		19.6

TABLE 3 CAPACITY ANALYSIS SUMMARY 2024 EXISTING CONDITIONS UNSIGNALIZED INTERSECTIONS						
	AM Peak			5:00-6:00 PM		
	V/C			V/C		
	LOS	Ratio	Delay	LOS	Ratio	Delay
Saddle River Road/Hillside Avenue						
Saddle River Road						
Northbound Lt + Th	A	0.01	8.0	A	0.02	8.0
Hillside Avenue						
Eastbound Lt + Rt	B	0.06	10.9	B	0.09	13.6
Saddle River Road/Pinebrook Road						
Saddle River Road						
Southbound Lt + Th	A	0.06	7.8	A	0.12	8.1
Pinebrook Road						
Westbound Lt + Rt	A	0.12	9.6	B	0.35	12.7

All of the approaches at the three intersections analyzed are operating at LOS “C” or better for time periods analyzed.

2027 NO-BUILD CONDITIONS

The no-build conditions represent the traffic volumes that would be on the street network prior to the completion of the development. We used a background growth rate of 1.01% based on the NYMTC projections for Rockland County. In addition, we added the traffic for the following projects:

- Hillside Avenue Mikvah
- 41-45 Dykstra’s Way
- 2 Hillside Avenue

These vehicle trips were added to the projected background growth traffic to produce the no-build traffic volumes. **Figures 4 thru 7** show the vehicle trips for these three projects. The traffic volumes are shown in **Figures 8 and 9** show the peak hour traffic for the two time periods.

The results of the weekday capacity analyses are shown in **Table 4** for the 2027 no-build conditions.

At the Saddle River Road/Old Nyack Turnpike intersection, the Old Nyack Turnpike westbound combination left/right turn lane is projected to change from LOS “B” to “C” in the 7:00 to 8:00 am hour.

At the Saddle River Road/Old Nyack Turnpike intersection, the Saddle River Road southbound combination left/thru lane is projected to change from LOS “C” to “D.” The Old Nyack Turnpike westbound combination left/right turn lane is projected to change from LOS “B” to “C” and the overall intersection LOS is projected to change from LOS “B” to “C” in the 5:00 to 6:00 pm hour.

At the Saddle River Road/Hillside Avenue intersection, the Hillside Avenue eastbound approach is projected to change from LOS “B” to “C” in the 5:00 to 6:00 pm hour.

The remaining approaches will remain at the LOS for the existing conditions.

TABLE 4 CAPACITY ANALYSIS SUMMARY 2026 NO-BUILD CONDITIONS SIGNALIZED INTERSECTIONS						
	7:00-8:00 AM			5:00-6:00 PM		
		V/C			V/C	
	LOS	Ratio	Delay	LOS	Ratio	Delay
Saddle River Road/Old Nyack Turnpike						
Saddle River Road						
Northbound Th + Rt	A	0.29	6.4	A	0.38	7.5
Southbound Lt + Th	B	0.61	13.4	D	0.98	48.2
Old Nyack Turnpike						
Westbound Lt + Rt	C	0.79	20.1	C	0.83	23.9
Overall	B		13.9	C		30.0

TABLE 4 CAPACITY ANALYSIS SUMMARY 2026 NO-BUILD CONDITIONS UNSIGNALIZED INTERSECTIONS						
	AM Peak			5:00-6:00 PM		
		V/C			V/C	
	LOS	Ratio	Delay	LOS	Ratio	Delay
Saddle River Road/Hillside Avenue						
Saddle River Road						
Northbound Lt + Th	A	0.02	8.1	A	0.04	8.2
Hillside Avenue						
Eastbound Lt + Rt	B	0.11	11.6	C	0.17	15.1
Saddle River Road/Pinebrook Road						
Saddle River Road						
Southbound Lt + Th	A	0.07	7.9	A	0.13	8.2
Pinebrook Road						
Westbound Lt + Rt	A	0.12	9.7	B	0.36	12.6

2027 BUILD CONDITIONS

Figure 10 shows the distribution for the vehicle trips for two hours analyzed. **Figures 11 and 12** show the peak hour traffic volumes for the 2027 Build condition. **Figure 13** shows the pedestrian volumes of members walking to and from the synagogue on Friday night and Shabbat mornings and afternoons.

The results of the Synchro analysis in **Table 5** are as follows.

At the Saddle River Road/Old Nyack Turnpike intersection, the Saddle River Road southbound combination left/thru lane is projected to change from LOS “D” to “E” and the overall intersection LOS is projected to change from “C” to “D” in the 5:00 to 6:00 pm hour.

At the Saddle River Road/Hillside Avenue intersection, the Hillside Avenue eastbound approach is projected to change from LOS “C” to “D” in the 5:00 to 6:00 pm hour.

The remaining approaches will remain at the LOS for the existing conditions.

There will be no weddings or Bar Mitzvahs. There could be a Bris which is typically attended by the parents, grandparents, and possibly a few friends. There is sufficient parking to accommodate these people.

During Hanukkah and Purim, we would expect the parking lot to be nearly filled. There are many members that live within a quarter-mile, and we would expect many of them to walk. The 45 parking spaces will be sufficient to accommodate the cars that drive for these two holidays.

For pedestrian safety, the synagogue will construct a sidewalk in along the front of their site. This will allow members to move off of Saddle River Road. We also spoke with the leadership and recommended that all members at night wear reflective vests. There are no sidewalks on Saddle River Road. We would also recommend the County install a crosswalk in front of the synagogue along with the R1-1a crossing sign noting that people are crossing the street.

SIGNAL MITIGATION

Since the change in the LOS for the 5:00-6:00 pm goes from LOS “D” to “E,” we are required to propose mitigation. For a previous project, we proposed changing the traffic signal timing. This request was submitted to the County and was approved. For this project and based on the addition of traffic from the three other projects in the area described on the previous page, we are proposing to change the traffic signal timing as follows: Increase the cycle length from 66 seconds to 72

TABLE 5 CAPACITY ANALYSIS SUMMARY 2027 BUILD CONDITIONS SIGNALIZED INTERSECTIONS						
	7:00-8:00 AM			5:00-6:00 PM		
	LOS	V/C	Delay	LOS	V/C	Delay
Saddle River Road/Old Nyack Turnpike						
Saddle River Road						
Northbound Th + Rt	A	0.31	6.5	A	0.39	8.0
Southbound Lt + Th	B	0.62	13.7	E	1.02	61.3
Old Nyack Turnpike						
Westbound Lt + Rt	C	0.79	20.1	C	0.85	27.3
Overall	B		13.9	D		36.9

TABLE 5 CAPACITY ANALYSIS SUMMARY 2027 BUILD CONDITIONS UNSIGNALIZED INTERSECTIONS						
	AM Peak			5:00-6:00 PM		
	LOS	V/C	Delay	LOS	V/C	Delay
Saddle River Road/Hillside Avenue						
Saddle River Road						
Northbound Lt + Th	A	0.02	8.1	A	0.35	9.8
Hillside Avenue						
Eastbound Lt + Rt	B	0.11	11.5	D	0.39	33.4
Saddle River Road/Pinebrook Road						
Saddle River Road						
Southbound Lt + Th	A	0.07	7.9	A	0.13	8.2
Pinebrook Road						
Westbound Lt + Rt	A	0.13	9.7	B	0.36	12.6
Saddle River Road/454 Saddle River Road						
Northbound Lt + Th	A	0.00	7.8	A	0.00	8.1
454 Saddle River Road						
Eastbound Lt + Rt	B	0.03	11.4	B	0.05	14.9

seconds and assign the time to the Saddle River Road southbound approach. The LOS “E” condition will improve to LOS “D.” We will submit this change to Rockland County to obtain approval. **Table 6** summarizes the results.

CALCULATION OF SIGHT DISTANCE

The intersection sight distance is based on the AASHTO Design Manual “A Policy for Geometric Design of Highways and Streets.” Chapter 9 discusses the sight triangle requirements for a stop-controlled intersection and how to calculate the sight distance.

The sight triangle area must be clear of obstructions so a driver sitting in the driveway can see oncoming traffic and vice versa. Plantings in the sight triangle should not be more than two feet high. It is preferable that there be no plantings in the sight triangle.

The intersection sight distance is calculated based on the formula on Page 9-37. For a left turn from stop, Table 9-5 provides the Time Gap in seconds for the Design Speed of Major Road. For a passenger car, the Time Gap is 7.5 seconds. For a single unit truck, 9.5 seconds and for a combination truck 11.5 seconds. The posted speed limit is 30 mph. The 85th percentile speed limit is 35 mph. We used the 85th percentile speed to calculate the sight distance. We measured the sight distance in the field and the results are as follows:

Using Case “F” from AASHTO, (left turn from major roadway) the required sight distance is 285 feet. Using Case “B1” (left turn out of the driveway) the required sight distance is 390 feet. For Case “B2” (right turn out of the driveway), the required sight distance is 335 feet.

Based on where the driveway will be located, looking left to Saddle River Road (northbound), the sight distance is 598 feet to Lancaster Lane. Looking right (southbound) from the driveway, the sight distance is 327 feet. Because we are 63 feet short, we checked the stopping sight distance. The required stopping sight distance is 250 feet. We do meet this distance.

CRASH ANALYSIS

We obtained the 2021, 2022, and 2023 crash data from NYSDOT for the Saddle River Road/Old Nyack Turnpike, Saddle River Road/Hillside Avenue, and Saddle River Road/Pinebrook Road. **Tables 7 thru 9** summarize the crash information.

In 2021, there were a total of 20 crashes. The breakdown of the crashes by intersection is as follows:

TABLE 6
CAPACITY ANALYSIS SUMMARY
2027 BUILD CONDITIONS WITH MITIGATION
SIGNALIZED INTERSECTIONS

	2027 NO-BUILD 7:00-8:00 AM			2027 BUILD 5:00-6:00 PM			2027 BUILD WITH MITIGATION 5:00-6:00 PM		
		V/C			V/C			V/C	
	LOS	Ratio	Delay	LOS	Ratio	Delay	LOS	Ratio	Delay
Saddle River Road/Old Nyack Turnpike									
Saddle River Road									
Northbound Th + Rt	A	0.31	6.5	A	0.39	8.0	A	0.37	7.7
Southbound Lt + Th	B	0.62	13.7	E	1.02	61.3	D	1.00	54.5
Old Nyack Turnpike									
Westbound Lt + Rt	C	0.79	20.1	C	0.85	27.3	C	0.88	34.3
Overall	B		13.9	D		36.9	D		36.0

Hillside Avenue/Saddle River Road – there was one other type crash and there were no injuries.

Old Nyack Turnpike/Saddle River Road – there were a total of four crashes on Old Nyack Turnpike and there were no injuries. There was 1 sideswipe, 1 other, and 2 rear end.

Pinebrook Road/Saddle River Road – There was one rear end crash on Pinebrook Road and there were no injuries.

Saddle River Road/Pinebrook Road – On Saddle River Road at this intersection there were a total of 7 crashes with 1 injury. There were 5 other and 2 right angle.

Saddle River Road/Hillside Avenue – on Saddle River Road at this intersection, there was one other type of crash and no injuries.

Saddle River Road/Old Nyack Turnpike – on Saddle River Road at this intersection, there were a total of 6 crashes with one injury. There were 3 other, 1 right angle, 1 left turn, and 1 not entered.

In 2022, there were a total of 12 crashes. The breakdown of the crashes by intersection is as follows:

Old Nyack Turnpike/Saddle River Road, on Old Nyack Turnpike there were a total of 2 crashes with no injuries. There were 2 other type crashes.

Saddle River Road/Pinebrook Road, on Saddle River Road there were a total of 4 crashes with no injuries. There were 4 other type of crashes.

Saddle River Road/Old Nyack Turnpike, in Saddle River Road there were a total of 3 crashes with no injuries. There were 2 other and 1 right turn crashes.

There were 3 other crashes on Saddle River Road, but no cross-street was given.

In 2023, there were a total of 9 crashes. The breakdown of the crashes by intersection is as follows:

Old Nyack Road/Saddle River Road, on Old Nyack Turnpike there were a total 6 crashes with no injuries. There were 4 rear end and 2 other type crashes.

Saddle River Road/Pinebrook Road, on Saddle River Road there were 2 crashes that included 1 rear end and 1 other type crash.

TABLE 7

	Crash Date	Crash Time		Collision Type	Light Conditions	Road Surface Conditions	Weather Conditions	Closest Cross Street	Direction From	Distance From (Meters)	On Street
1	2021-12-20T00:00:00	3:01 PM	PROPERTY DAMAGE	OTHER	DAYLIGHT	DRY	CLEAR	SADDLE RIVER RD	NORTH-WEST	9	HILLSIDE AVE
2	2021-02-18T00:00:00	11:00 PM	PROPERTY DAMAGE	SIDESWIPE	DARK-ROAD LIGHTED	WET	SNOW	SADDLE RIVER RD	WEST	15	OLD NYACK TPKE
3	2021-12-20T00:00:00	8:02 AM	PROPERTY DAMAGE	OTHER	DAYLIGHT	DRY	CLEAR	SADDLE RIVER RD	WEST	30	OLD NYACK TPKE
4	2021-04-09T00:00:00	8:05 AM	PROPERTY DAMAGE	REAR END	DAYLIGHT	DRY	CLEAR	SADDLE RIVER RD		0	OLD NYACK TPKE
5	2021-06-09T00:00:00	8:49 AM	PROPERTY DAMAGE	REAR END	DAYLIGHT	DRY	CLEAR	SADDLE RIVER RD		0	OLD NYACK TPKE
6	2021-06-14T00:00:00	6:06 PM	PROPERTY DAMAGE	REAR END	DAYLIGHT	DRY	CLEAR	SADDLE RIVER RD		0	PINEBROOK RD
7	2021-01-03T00:00:00	6:19 PM	PROPERTY DAMAGE	OTHER	DARK-ROAD LIGHTED	SNOW/ICE	SLEET/HAIL/FREEZING RAIN	PINEBROOK RD	SOUTH-EAST	0	SADDLE RIVER RD
8	2021-02-11T00:00:00	6:55 PM	PROPERTY DAMAGE	RIGHT ANGLE	DARK-ROAD LIGHTED	WET	CLOUDY	OLD NYACK TPKE	SOUTH-EAST	2	SADDLE RIVER RD
9	2021-02-02T00:00:00	8:01 PM	PROPERTY DAMAGE	OTHER	DARK-ROAD LIGHTED	SNOW/ICE	SNOW	PINEBROOK RD	SOUTH-EAST	0	SADDLE RIVER RD
10	2021-02-02T00:00:00	6:42 PM	INJURY	RIGHT ANGLE	DARK-ROAD LIGHTED	SNOW/ICE	SNOW	PINEBROOK RD	SOUTH-EAST	0	SADDLE RIVER RD
11	2021-02-22T00:00:00	12:54 PM	PROPERTY DAMAGE	OTHER	DAYLIGHT	SNOW/ICE	SNOW	PINEBROOK RD	SOUTH-EAST	0	SADDLE RIVER RD
12	2021-02-22T00:00:00	12:54 PM	PROPERTY DAMAGE	OTHER	DAYLIGHT	SNOW/ICE	SNOW	PINEBROOK RD	SOUTH-EAST	0	SADDLE RIVER RD
13	2021-05-14T00:00:00	9:50 AM	INJURY	OTHER	DAYLIGHT	DRY	CLEAR	OLD NYACK TPKE	WEST	0	SADDLE RIVER RD
14	2021-08-17T00:00:00	7:30 AM	PROPERTY DAMAGE	RIGHT ANGLE	DAYLIGHT	DRY	CLEAR	OLD NYACK TPKE	WEST	0	SADDLE RIVER RD
15	2021-09-02T00:00:00	6:30 PM	PROPERTY DAMAGE	OTHER	DAYLIGHT	DRY	CLEAR	OLD NYACK TPKE	WEST	0	SADDLE RIVER RD
16	2021-11-03T00:00:00	7:10 PM	PROPERTY DAMAGE	OTHER	DARK-ROAD LIGHTED	DRY	CLEAR	PINEBROOK RD	NORTH	30	SADDLE RIVER RD
17	2021-11-10T00:00:00	12:40 PM	PROPERTY DAMAGE	OTHER	DAYLIGHT	DRY	CLEAR	HILLSIDE AVE	NORTH	0	SADDLE RIVER RD
18	2021-11-15T00:00:00	5:05 PM	PROPERTY DAMAGE	LEFT TURN (AGAINST OTHER CAR)	DARK-ROAD LIGHTED	DRY	CLEAR	OLD NYACK TPKE	WEST	0	SADDLE RIVER RD
19	2021-12-01T00:00:00	3:55 PM	PROPERTY DAMAGE	NOT ENTERED	NOT ENTERED	NOT ENTERED	NOT ENTERED	OLD NYACK TPKE	WEST	0	SADDLE RIVER RD
20	2021-12-08T00:00:00	3:15 PM	PROPERTY DAMAGE	RIGHT ANGLE	DAYLIGHT	DRY	CLEAR	PINEBROOK RD	SOUTH-EAST	0	SADDLE RIVER RD

TABLE 8

	Crash Date	Crash Time	Collision Type	Light Conditions	Road Surface Conditions	Weather Conditions	Closest Cross Street	Direction From	Distance From (Meters)	On Street
1	2022-02-06T00:00:00	5:37 PM	PROPERTY DAMAGE	OTHER	DARK-ROAD LIGHTED	DRY	CLEAR	SADDLE RIVER RD	0	OLD NYACK TPKE
2	2022-02-07T00:00:00	8:38 AM	PROPERTY DAMAGE	OTHER	DAYLIGHT	SNOW/ICE	SNOW	SADDLE RIVER RD	30	OLD NYACK TPKE
3	2022-01-11T00:00:00	12:48 AM	PROPERTY DAMAGE	OTHER	DARK-ROAD LIGHTED	SNOW/ICE	SNOW	PINEBROOK RD	0	SADDLE RIVER RD
4	2022-01-17T00:00:00	6:23 AM	PROPERTY DAMAGE	OTHER	DARK-ROAD UNLIGHTED	SNOW/ICE	RAIN	PINEBROOK RD	0	SADDLE RIVER RD
5	2022-01-20T00:00:00	8:34 AM	PROPERTY DAMAGE	OTHER	DAYLIGHT	SNOW/ICE	SLEET/HAIL/FREEZING RAIN	PINEBROOK RD	0	SADDLE RIVER RD
6	2022-04-04T00:00:00	6:51 PM	PROPERTY DAMAGE	OTHER	DAYLIGHT	DRY	CLEAR	OLD NYACK TPKE	0	SADDLE RIVER RD
7	2022-04-12T00:00:00	2:15 PM	PROPERTY DAMAGE	OTHER	DAYLIGHT	DRY	CLEAR	OLD NYACK TPKE	0	SADDLE RIVER RD
8	2022-04-11T00:00:00	1:50 PM	PROPERTY DAMAGE	OTHER	DAYLIGHT	DRY	CLEAR	PINEBROOK RD	0	SADDLE RIVER RD
9	2022-06-19T00:00:00	8:30 PM	PROPERTY DAMAGE	RIGHT TURN (WITH OTHER CAR)	DARK-ROAD LIGHTED	DRY	CLEAR	OLD NYACK TPKE	0	SADDLE RIVER RD
10	2022-08-02T00:00:00	4:05 PM	PROPERTY DAMAGE	OTHER	DAYLIGHT	DRY	CLEAR		0	SADDLE RIVER ROAD
11	2022-09-27T00:00:00	6:30 PM	INJURY	OTHER	DUSK	DRY	CLEAR		0	SADDLE RIVER ROAD
12	2022-12-11T00:00:00	9:46 PM	PROPERTY DAMAGE	OTHER	DARK-ROAD LIGHTED	SNOW/ICE	SNOW		0	SADDLE RIVER ROAD

TABLE 9

	Crash Date	Crash Time	Collision Type		Light Conditions	Road Surface Conditions	Weather Conditions	Closest Cross Street	Direction From	Distance From (Meters)	On Street
1	2023-03-27T00:00:00	10:13 AM	PROPERTY DAMAGE	REAR END	DAYLIGHT	DRY	CLEAR	SADDLE RIVER ROAD	NORTH	0	OLD NYACK TURNPIKE
2	2022-09-29T00:00:00	4:19 PM	PROPERTY DAMAGE	OTHER	DAYLIGHT	DRY	CLEAR	SADDLE RIVER ROAD	SOUTH	0	OLD NYACK TURNPIKE
3	2023-09-05T00:00:00	9:40 PM	PROPERTY DAMAGE	OTHER	DARK-ROAD LIGHTED	DRY	CLEAR	SADDLE RIVER ROAD	EAST	72	OLD NYACK TURNPIKE
4	2023-10-04T00:00:00	2:25 PM	PROPERTY DAMAGE	REAR END	DAYLIGHT	DRY	CLEAR	SADDLE RIVER ROAD	NORTH	0	OLD NYACK TURNPIKE
5	2023-08-30T00:00:00	6:29 PM	PROPERTY DAMAGE	REAR END	DAYLIGHT	DRY	CLEAR	PINEBROOK ROAD	WEST	0	SADDLE RIVER ROAD
6	2023-03-10T00:00:00	12:32 PM	PROPERTY DAMAGE	REAR END	DAYLIGHT	DRY	CLOUDY	SADDLE RIVER ROAD	NORTH	0	OLD NYACK TURNPIKE
7	2023-08-24T00:00:00	10:14 PM	PROPERTY DAMAGE	OTHER	DARK-ROAD LIGHTED	WET	RAIN	PINEBROOK ROAD	WEST	0	SADDLE RIVER ROAD
8	2023-11-02T00:00:00	3:40 PM	PROPERTY DAMAGE	REAR END	DAYLIGHT	DRY	CLEAR	OLD NYACK TURNPIKE	SOUTH	30	SADDLE RIVER ROAD
9	2023-12-05T00:00:00	10:31 PM	INJURY	LEFT TURN (AGAINST OTHER CAR)	DARK-ROAD LIGHTED	DRY	CLEAR	SADDLE RIVER ROAD	NORTH	0	OLD NYACK TURNPIKE

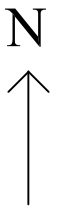
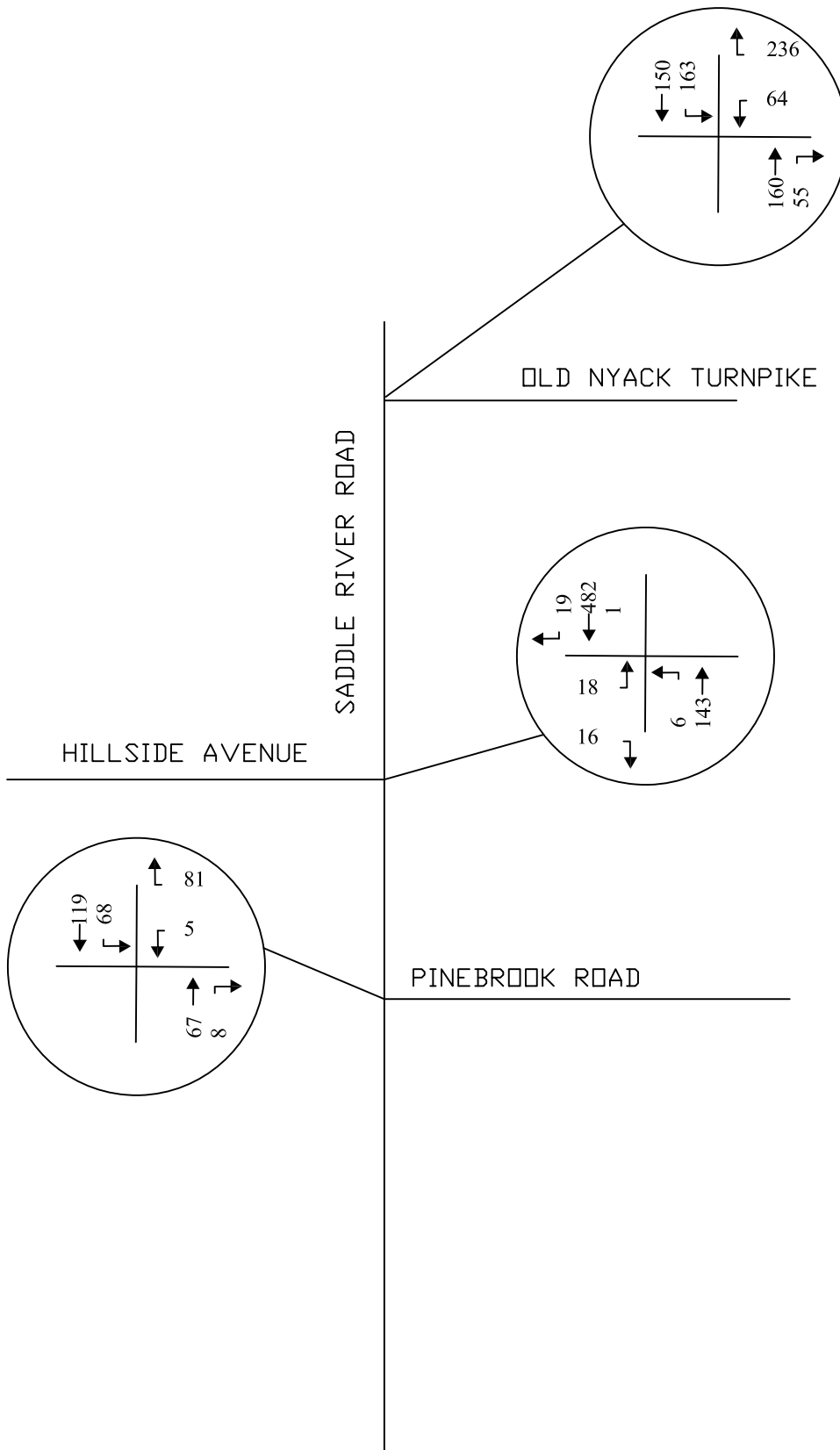
Saddle River Road/ Old Nyack Turnpike, on Saddle River Road there was one rear end crash with no injuries.

The reason for many of these crashes is driver inattentiveness and not stopping on the yellow light indication. Drivers are distracted by their phones. Also, in a rush to drive through the intersection, drivers run the yellow light or red light causing crashes.

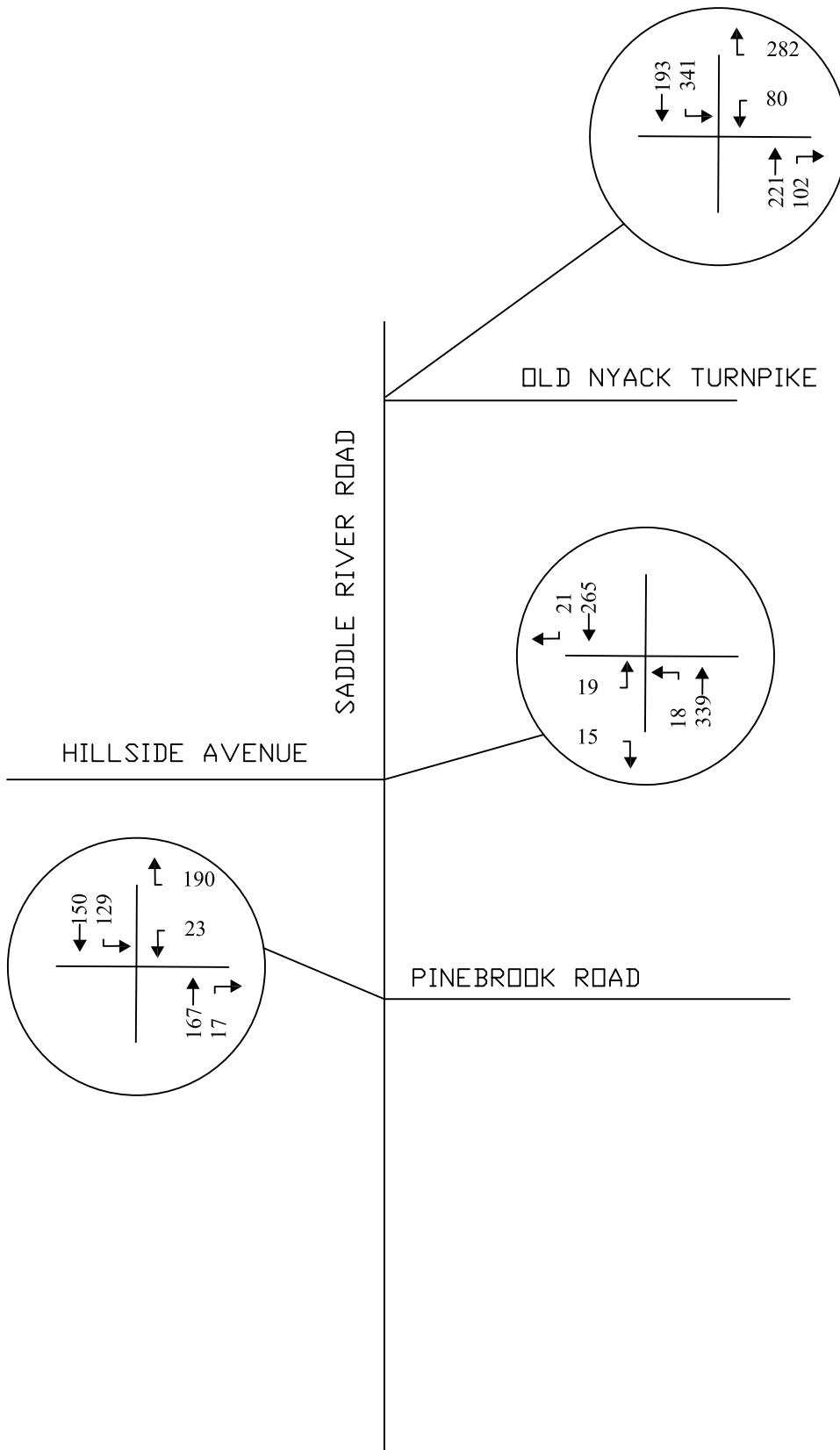
CONCLUSIONS

1. The proposed synagogue will generate 14 vehicle trips entering and 14 vehicle trips exiting in the 7:00 to 8:00 am hour. In the 5:00 to 6:00 pm hour, there will be 14 vehicle trips entering and 14 vehicle trips exiting. There are other members that will walk.
2. The LOS for the proposed driveway onto Saddle River Road will be “B” for the two time periods analyzed.
3. This project considered in conjunction with the three other projects will change the LOS for Saddle River Road southbound approach from “D” to “E” in the pm peak hour at the Saddle River Road/Old Nyack Turnpike intersection. By increasing the traffic signal cycle length from 66 to 72 seconds and assigning this additional time to the Saddle River Road southbound approach, we can improve the LOS from “E” to “D.”
4. The project driveway meets the intersection sight distance for Case B1 looking left from the driveway and meets the stopping sight distance looking right from the driveway.

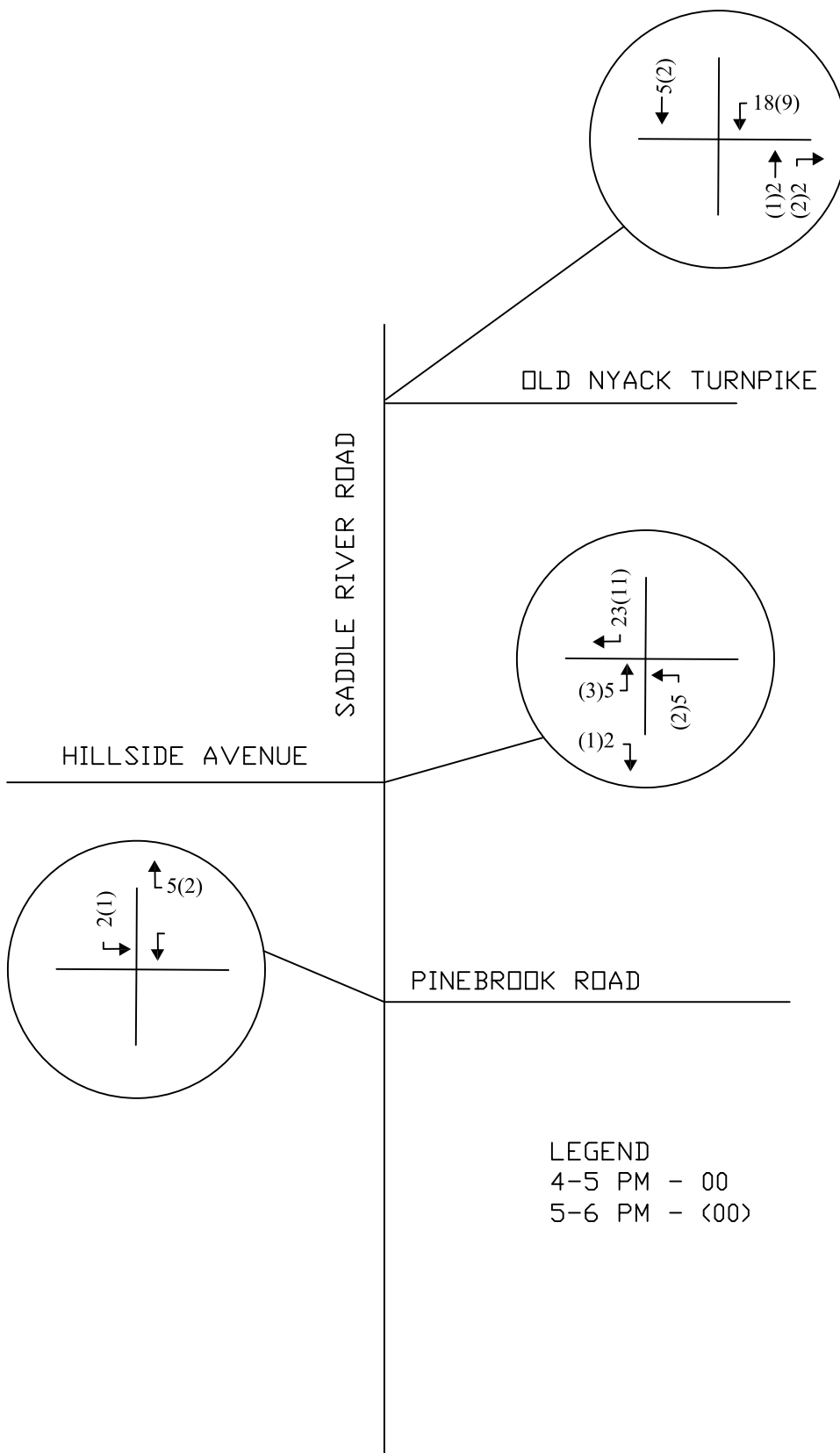
APPENDIX A
TRAFFIC VOLUME FIGURES



2024 EXISTING AM PK HR TRAFFIC
7:00 AM - 8:00 AM
FIGURE 2



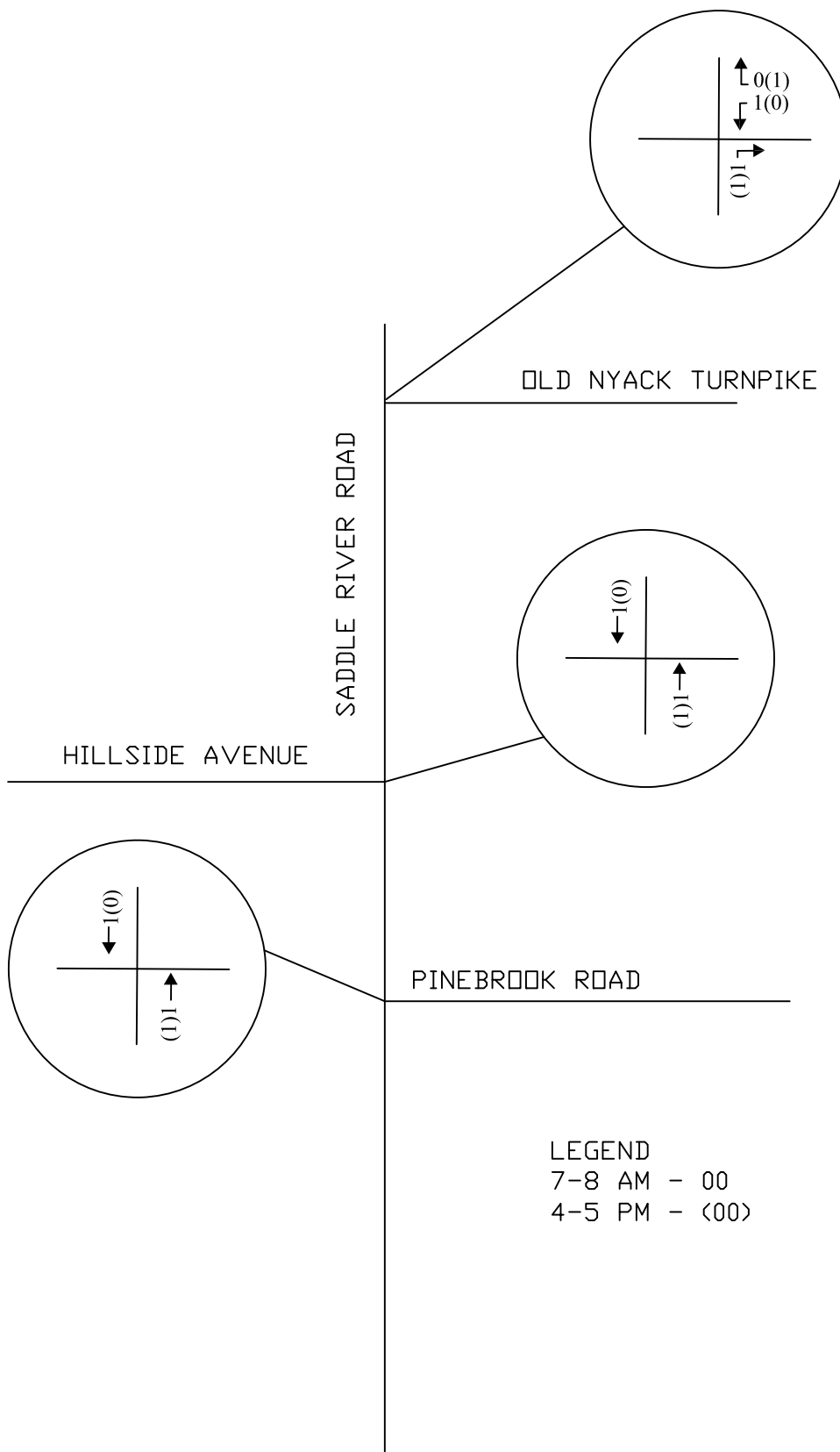
2024 EXISTING PM PK HR TRAFFIC
5:00 PM - 6:00 PM
FIGURE 3



LEGEND
 4-5 PM - 00
 5-6 PM - (00)

TRIP DISTRIBUTION MIKVAH

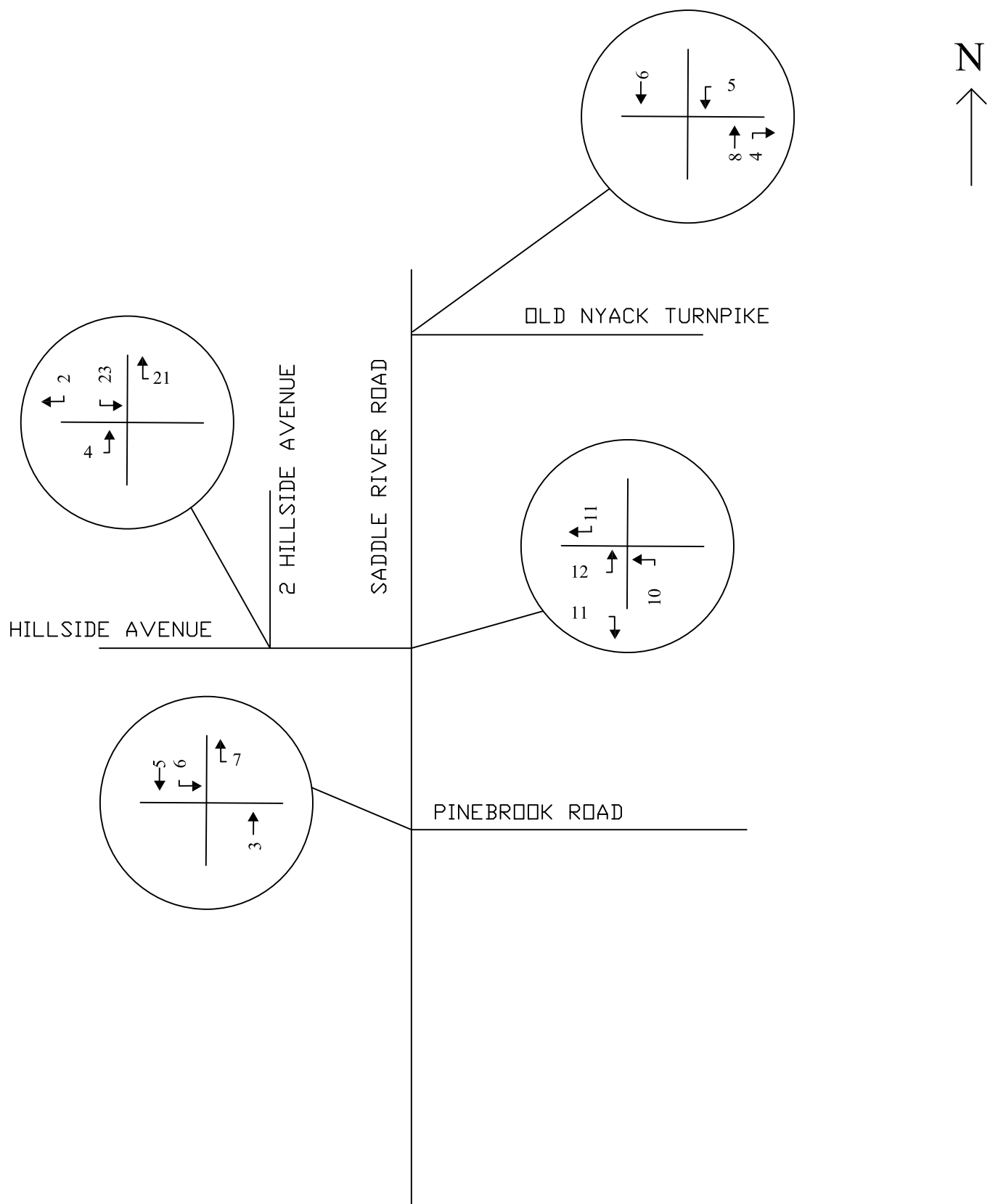
FIGURE 4



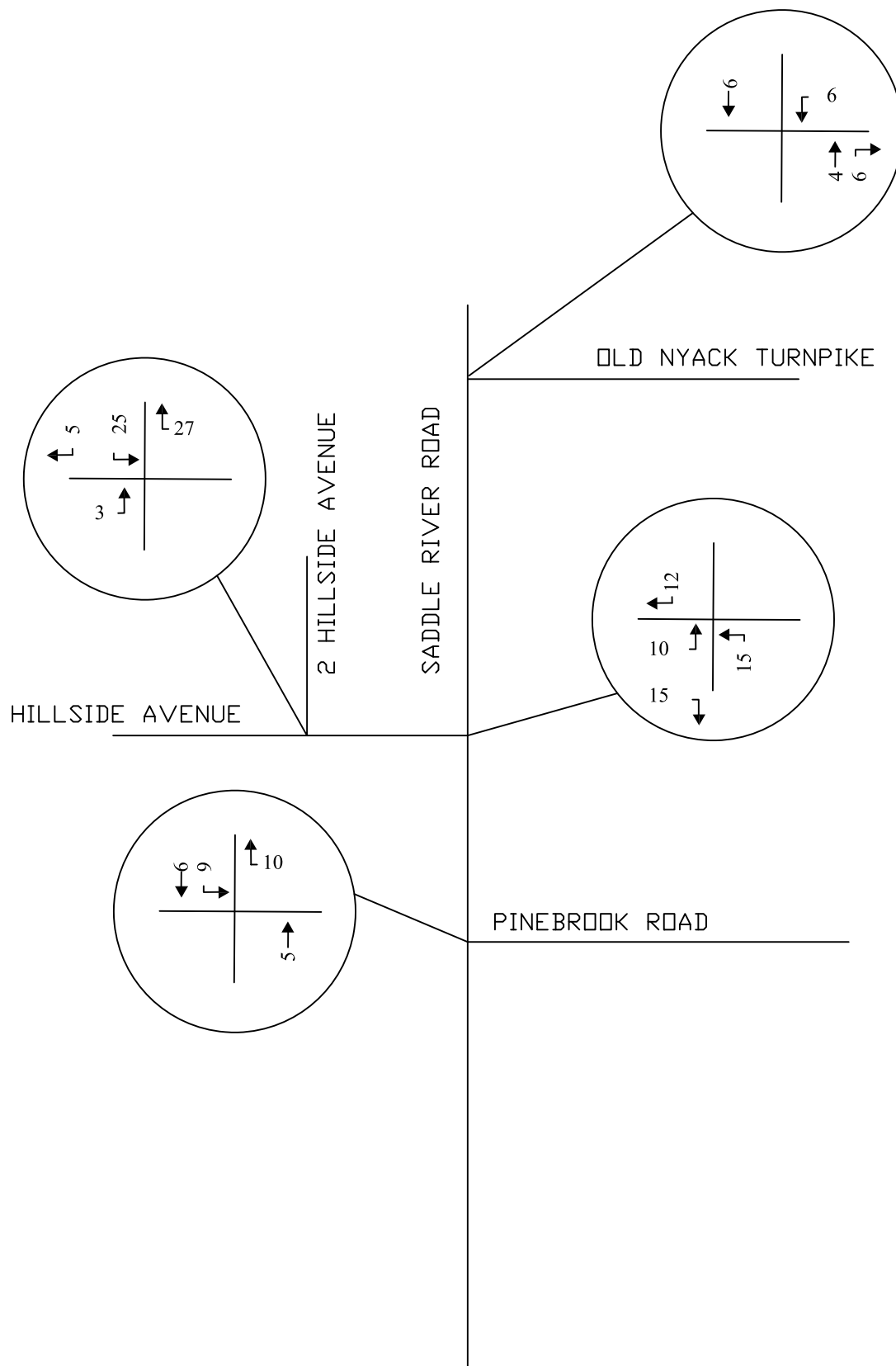
LEGEND
 7-8 AM - 00
 4-5 PM - (00)

TRIP DISTRIBUTION 41-45 OLD NYACK TPKE

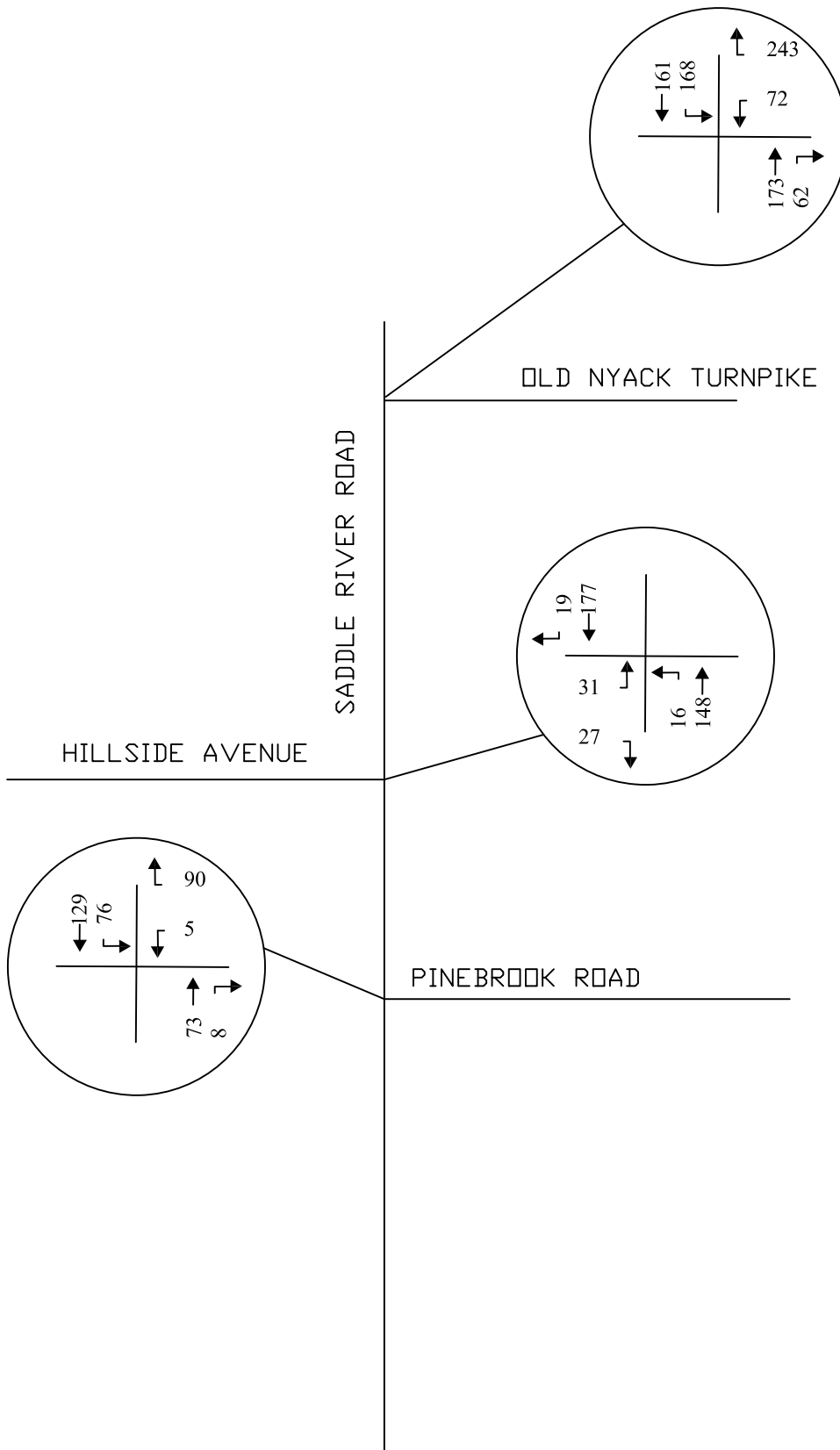
FIGURE 6



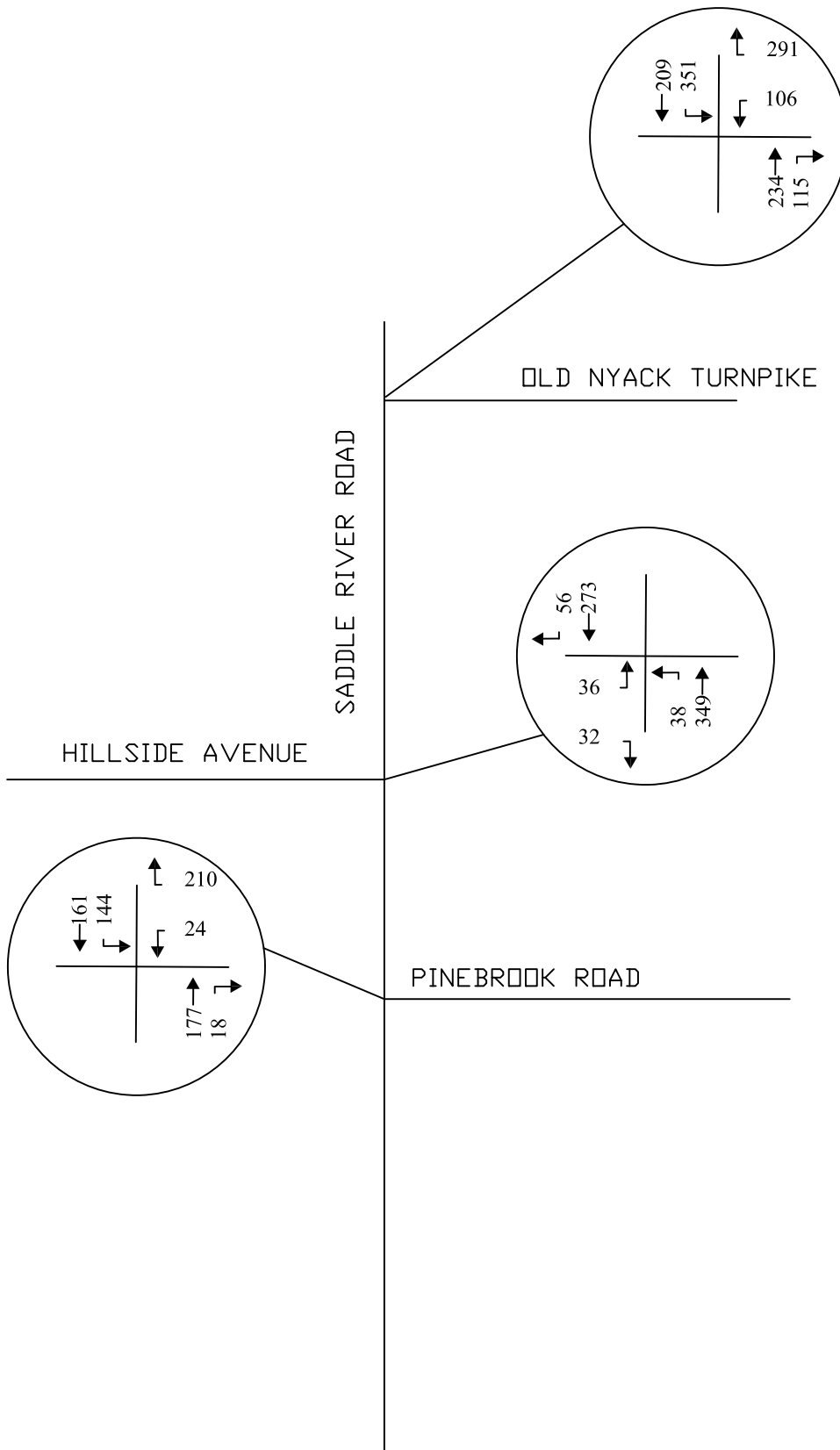
TRIP DISTRIBUTION - 2 HILLSIDE AVENUE
7:00 AM - 8:00 AM
FIGURE 6



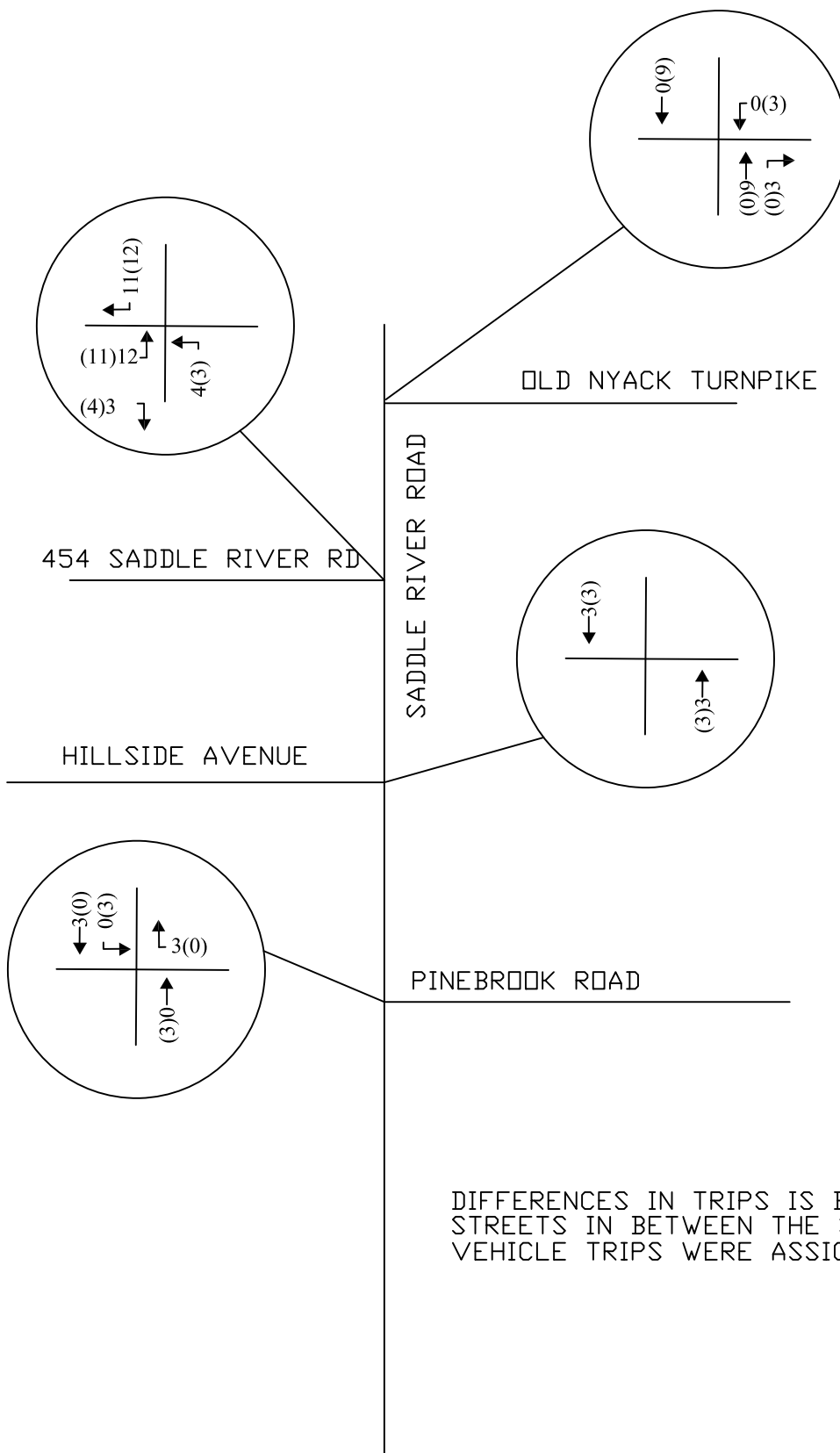
TRIP DISTRIBUTION - 2 HILLSIDE AVENUE
5:00 PM - 6:00 PM
FIGURE 7



2027 NO-BUILD AM PK HR TRAFFIC
7:00 AM - 8:00 AM
FIGURE 8



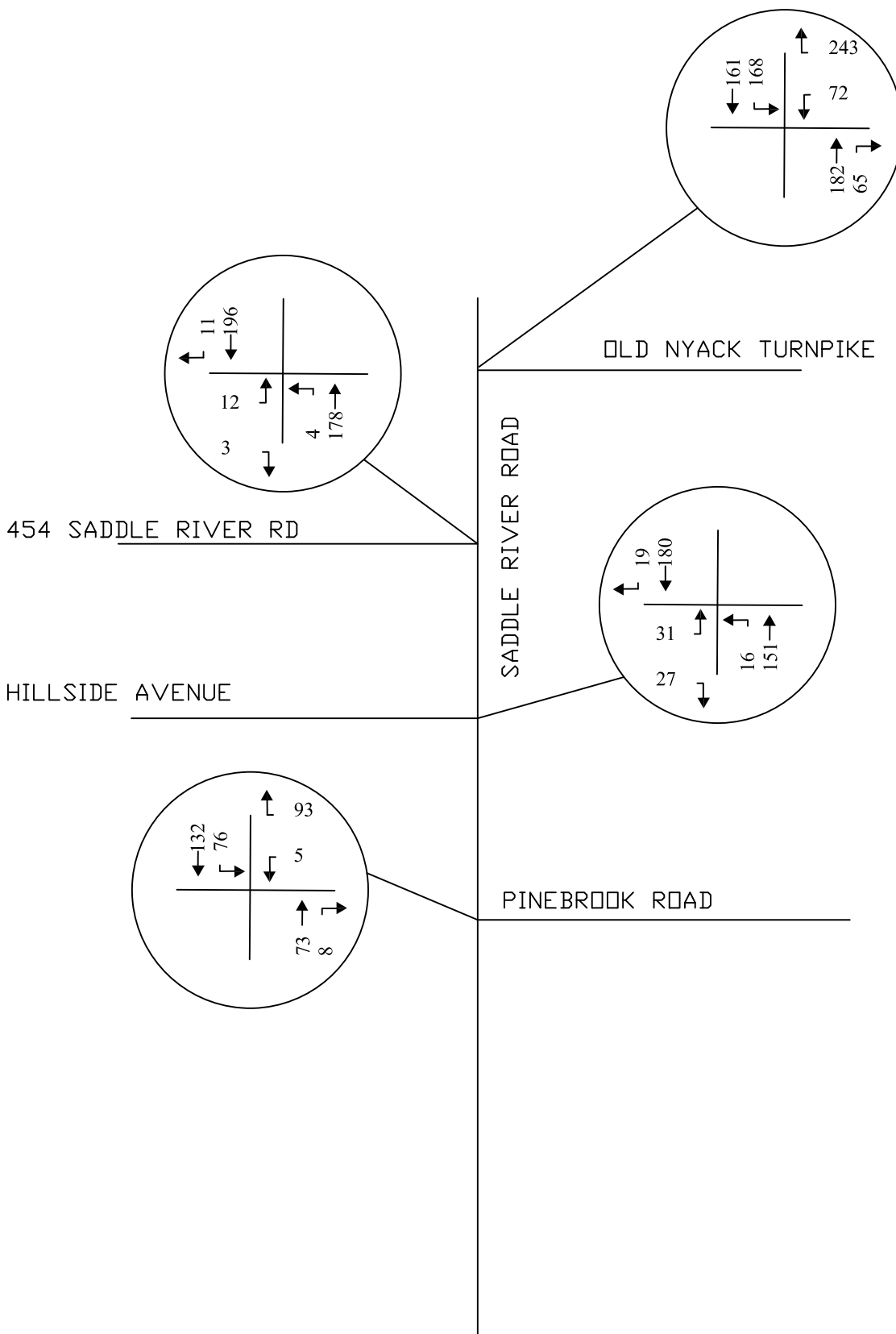
2027 NO-BUILD PM PK HR TRAFFIC
5:00 PM - 6:00 PM
FIGURE 9



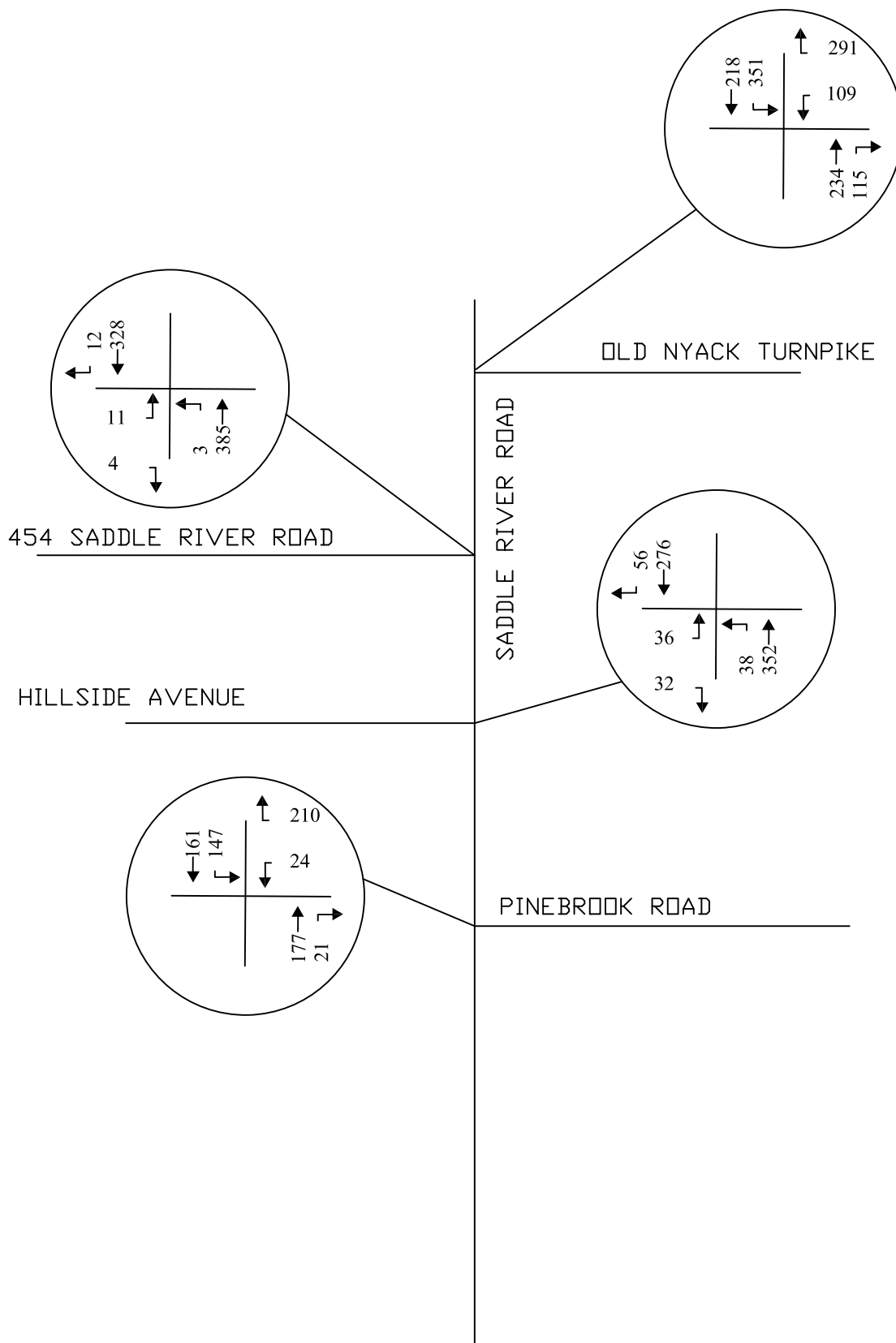
DIFFERENCES IN TRIPS IS BECAUSE THERE ARE
STREETS IN BETWEEN THE SITE AND WHERE
VEHICLE TRIPS WERE ASSIGNED

TRIP DISTRIBUTION

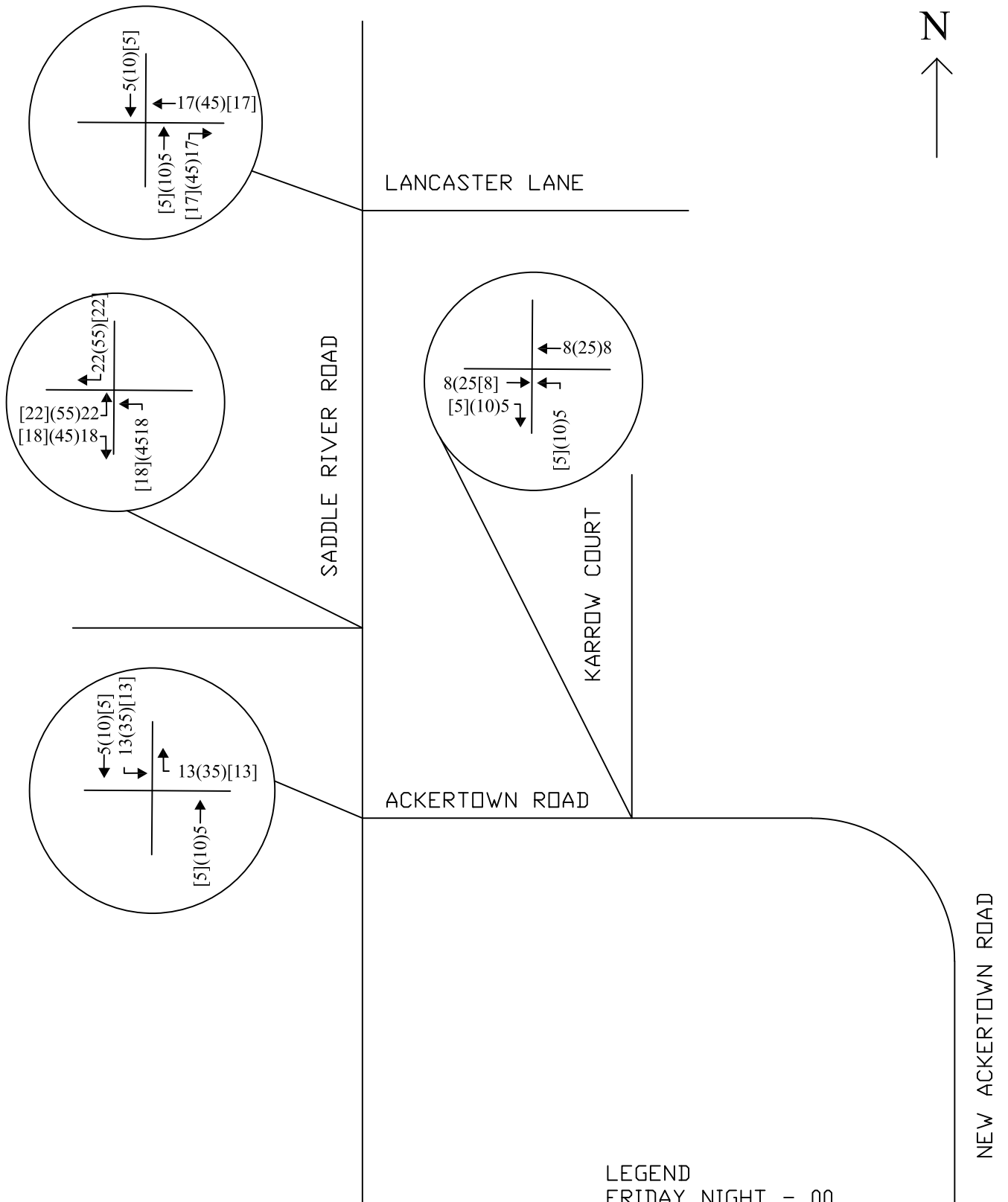
FIGURE 10



2027 BUILD AM PK HR TRAFFIC
7:00 AM - 8:00 AM
FIGURE 11



2027 BUILD PM PK HR TRAFFIC
5:00 PM - 6:00 PM
FIGURE 12



LEGEND
FRIDAY NIGHT - 00
SATURDAY MORNING - <00>
SATURDAY NIGHT - [00]

PEDESTRIAN TRAFFIC

FIGURE 13

APPENDIX C

2
15

		DIR	SB T	SB R	SB U	NBL	NBT	NB U	EB L	EB R	EB U				
From	To	Vehicle Class													
07:00:00	07:15:00	Auto	21	0	0	1	21	0	3	6	0	52	66		
		Trucks	0	0	0	0	2	0	0	0	0	2			
		Bus	2	2	0	1	5	0	1	1	0	12			
07:15:00	07:30:00	Auto	42	1	0	0	24	0	2	3	0	72	84		
		Trucks	1	0	0	0	1	0	0	0	0	2			
		Bus	4	1	0	0	3	0	1	1	0	10			
07:30:00	07:45:00	Auto	37	0	0	1	42	0	5	2	0	87	105		
		Trucks	4	0	0	0	0	0	0	0	0	4			
		Bus	5	2	0	0	4	0	2	1	0	14			
07:45:00	08:00:00	Auto	46	2	0	2	37	0	3	1	0	91	107	362	
		Trucks	1	0	0	0	0	0	0	0	0	1			
		Bus	8	0	0	1	4	0	1	1	0	15			
08:00:00	08:15:00	Auto	50	5	0	1	36	0	3	8	0	103	120	416	
		Trucks	3	0	0	0	1	0	1	0	0	5			
		Bus	6	0	0	0	6	0	0	0	0	12			
08:15:00	08:30:00	Auto	61	3	0	5	54	0	9	2	0	134	149	481	
		Trucks	1	1	0	1	2	0	0	0	0	5			
		Bus	2	1	0	0	6	0	1	0	0	10			
08:30:00	08:45:00	Auto	51	4	0	3	46	0	2	7	0	113	128	504	
		Trucks	1	0	0	0	5	0	0	2	0	8			
		Bus	2	1	0	0	4	0	0	0	0	7			
08:45:00	09:00:00	Auto	72	0	0	4	66	0	1	3	0	146	161	558	
		Trucks	1	0	0	0	1	0	0	0	0	2			
		Bus	7	0	0	1	3	0	1	1	0	13			
16:00:00	16:15:00	Auto	65	3	0	7	82	0	2	4	0	163	172	0.87	
		Trucks	0	0	0	0	2	0	0	0	0	2			
		Bus	2	1	0	0	3	0	1	0	0	7			
16:15:00	16:30:00	Auto	91	2	0	1	64	1	2	3	0	164	175		
		Trucks	2	0	0	0	1	0	0	1	0	4			
		Bus	3	0	0	0	4	0	0	0	0	7			
16:30:00	16:45:00	Auto	84	3	0	4	79	0	4	3	0	177	194		
		Trucks	1	0	0	0	1	0	0	0	0	2			
		Bus	7	2	0	0	5	0	0	1	0	15			
16:45:00	17:00:00	Auto	71	2	0	1	86	0	4	3	0	167	185	726	
		Trucks	1	0	0	0	7	0	0	0	0	8			
		Bus	1	0	0	1	6	0	2	0	0	10			
17:00:00	17:15:00	Auto	75	5	0	3	94	0	4	5	0	186	194		
		Trucks	0	0	0	0	2	0	0	0	0	2			
		Bus	2	0	0	1	2	0	0	1	0	6			
17:15:00	17:30:00	Auto	57	5	0	6	77	0	7	2	0	154	169		
		Trucks	1	0	0	0	3	0	0	0	0	4			
		Bus	2	2	0	0	6	0	1	0	0	11			
17:30:00	17:45:00	Auto	61	3	0	3	78	0	4	4	0	153	163		
		Trucks	1	0	0	0	1	0	0	0	0	2			
		Bus	5	0	0	0	2	0	1	0	0	8			
17:45:00	18:00:00	Auto	58	6	0	5	69	0	2	3	0	143	151	677	
		Trucks	1	0	0	0	2	0	0	0	0	3			
		Bus	2	0	0	0	3	0	0	0	0	5			
7:00-8:00			SBST	SBRT	NBLT		NBST	EBLT		EBRT	Total				
		Auto	146	3	4		124	13		12	302				
		Trucks	6	0	0		3	0		0	9				
		Bus	19	5	2		16	5		4	51				
		Totals	171	8	6		143	18		16	362				
		% HV	15%	63%	33%		13%	28%		25%	17%				
		PHF	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85			
8:00-9:00			SBST	SBRT	NBLT		NBST	EBLT		EBRT	Total				
		Auto	234	12	13		202	15		20	496				
		Trucks	6	1	1		9	1		2	20				
		Bus	17	2	1		19	2		1	42				
		Totals	257	15	15		230	18		23	558				
		% HV	9%	20%	13%		12%	17%		13%	11%				
		PHF	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87			
4:00-5:00			SBST	SBRT	NBLT		NBST	EBLT		EBRT	Total				
		Auto	311	10	13		311	12		13	670				
		Trucks	4	0	0		11	0		1	16				
		Bus	13	3	1		18	3		1	39				
		Totals	328	13	14		340	15		15	725				
		% HV	5%	23%	7%		9%	20%		13%	8%				
		PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94			
5:00-6:00			SBST	SBRT	NBLT		NBST	EBLT		EBRT	Total				
		Auto	251	19	17		318	17		14	636				
		Trucks	3	0	0		8	0		0	11				
		Bus	11	2	1		13	2		1	30				
		Totals	265	21	18		339	19		15	677				
		% HV	5%	10%	6%		6%	11%		7%	6%				
		PHF	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87			

2
15

		DIR	SBL	SBT	SB U	WBL	WBR	WB U	NBT	NBR	NB U			
From	To	Vehicle Class												
07:00:00	07:15:00	Auto	26	22	0	10	39	0	29	1	0	127		
		Trucks	3	0	0	0	1	0	1	0	0	5		
		Bus	8	9	0	1	6	0	4	6	0	34	166	
07:15:00	07:30:00	Auto	23	29	0	12	42	0	22	11	0	139		
		Trucks	0	0	0	1	2	0	1	0	0	4		
		Bus	11	4	0	1	7	0	6	3	0	32	175	
07:30:00	07:45:00	Auto	28	28	0	15	63	0	35	14	0	183		
		Trucks	1	3	0	1	0	0	2	0	0	7		
		Bus	12	6	0	2	10	0	4	3	0	37	227	
07:45:00	08:00:00	Auto	44	37	0	18	56	0	53	15	0	223		
		Trucks	2	2	0	0	1	0	1	2	0	8		
		Bus	5	10	0	3	9	0	2	0	0	29	260	828
08:00:00	08:15:00	Auto	52	50	0	20	53	0	38	15	0	228		0.80
		Trucks	0	8	0	0	2	0	0	1	0	11		
		Bus	6	5	0	4	6	0	9	4	0	34	273	935
08:15:00	08:30:00	Auto	51	39	0	20	53	0	39	13	0	215		
		Trucks	7	1	0	0	3	0	1	1	0	13		
		Bus	7	4	0	1	13	0	8	2	0	35	263	1023
08:30:00	08:45:00	Auto	45	42	0	9	74	0	53	20	0	243		
		Trucks	0	2	0	0	3	0	3	0	0	8		
		Bus	12	5	0	3	7	0	9	6	0	42	293	1089
08:45:00	09:00:00	Auto	43	44	0	15	62	0	49	16	0	229		
		Trucks	0	1	0	1	1	0	4	0	0	7		
		Bus	9	4	0	2	3	0	4	1	0	23	259	1088
16:00:00	16:15:00	Auto	72	37	0	23	75	0	38	14	0	259		0.93
		Trucks	1	2	0	0	1	0	3	0	0	7		
		Bus	11	5	0	4	7	0	4	0	0	31	297	
16:15:00	16:30:00	Auto	73	53	0	24	69	0	53	14	0	286		
		Trucks	1	1	0	0	1	0	1	2	0	6		
		Bus	7	6	0	4	5	0	2	2	0	26	318	
16:30:00	16:45:00	Auto	56	50	0	11	64	0	48	20	0	249		
		Trucks	3	0	0	1	0	0	1	1	0	6		
		Bus	4	9	0	5	6	0	6	2	0	32	287	
16:45:00	17:00:00	Auto	76	38	0	20	68	0	57	21	0	280		
		Trucks	2	0	0	0	3	0	3	0	0	8		
		Bus	10	7	0	4	7	0	4	5	0	37	325	1227
17:00:00	17:15:00	Auto	70	48	0	22	64	0	49	24	0	277		0.94
		Trucks	4	2	0	2	1	0	0	1	0	10		
		Bus	4	6	0	1	4	0	5	6	0	26	313	
17:15:00	17:30:00	Auto	79	54	1	19	75	0	47	27	0	302		
		Trucks	0	0	0	1	1	0	3	1	0	6		
		Bus	10	5	0	2	4	0	4	3	0	28	336	
17:30:00	17:45:00	Auto	78	37	0	13	61	0	58	17	0	264		
		Trucks	0	0	0	1	2	0	1	0	0	4		
		Bus	6	0	0	0	1	0	4	1	0	12	280	
17:45:00	18:00:00	Auto	84	35	0	15	64	0	48	16	0	262		
		Trucks	1	0	0	0	0	0	1	2	0	4		
		Bus	5	6	0	4	5	0	1	4	0	25	291	1220
7:00-8:00			SBLT	SBST		WBLT	WBRT		NBLT	NBRT		Total		
		Auto	121	116		55	200		139	41		672		
		Trucks	6	5		2	4		5	2		24		
		Bus	36	29		7	32		16	12		132		
		Totals	163	150		64	236		160	55		828		
		% HV	26%	23%		14%	15%		13%	25%		19%		
		PHF	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80		
8:00-9:00			SBLT	SBST		WBLT	WBRT		NBLT	NBRT		Total		
		Auto	191	175		64	242		179	64		915		
		Trucks	7	12		1	9		8	2		39		
		Bus	34	18		10	29		30	13		134		
		Totals	232	205		75	280		217	79		1088		
		% HV	18%	15%	0.93	15%	14%	0.93	18%	19%	0.93	16%		
		PHF	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93		
4:00-5:00			SBLT	SBST		WBLT	WBRT		NBLT	NBRT		Total		
		Auto	277	178		78	276		196	69		1074		
		Trucks	7	3		1	5		8	3		27		
		Bus	32	27		17	25		16	9		126		
		Totals	316	208		96	306		220	81		1227		
		% HV	12%	14%	0.94	19%	10%	0.94	11%	15%	0.94	12%		
		PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94		
5:00-6:00			SBLT	SBST		WBLT	WBRT		NBLT	NBRT		Total		
		Auto	311	174		69	264		202	84		1104		
		Trucks	5	2		4	4		5	4		24		
		Bus	25	17		7	14		14	14		91		
		Totals	341	193		80	282		221	102		1219		
		% HV	9%	10%	0.91	14%	6%	0.91	9%	18%	0.91	9%		
		PHF	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91		

2
15

		DIR	SB L	SB T	SB U	WB L	WB R	WB U	NB T	NB R	NB U				
From	To	Vehicle Class													
07:00:00	07:15:00	Auto	8	20	0	1	7	0	14	1	0	51	62		
		Trucks	0	0	0	0	0	0	2	0	0	2			
		Bus	2	1	0	0	6	0	0	0	0	9			
07:15:00	07:30:00	Auto	12	33	0	1	20	0	6	1	0	73	85		
		Trucks	0	1	0	0	0	0	1	0	0	2			
		Bus	4	1	0	1	2	0	2	0	0	10			
07:30:00	07:45:00	Auto	11	28	0	1	19	0	22	4	0	85	97		
		Trucks	0	3	0	0	0	0	0	0	0	3			
		Bus	3	3	0	0	3	0	0	0	0	9			
07:45:00	08:00:00	Auto	18	28	0	1	19	0	20	1	0	87	104	348	0.84
		Trucks	1	1	0	0	0	0	0	0	0	2			
		Bus	9	0	0	0	5	0	0	1	0	15			
08:00:00	08:15:00	Auto	24	35	0	3	26	0	11	3	0	102	118	404	
		Trucks	1	2	0	0	0	0	1	0	0	4			
		Bus	5	1	0	0	6	0	0	0	0	12			
08:15:00	08:30:00	Auto	20	43	0	1	41	0	18	2	0	125	138	457	
		Trucks	0	1	0	0	2	0	2	0	0	5			
		Bus	2	0	0	0	5	0	1	0	0	8			
08:30:00	08:45:00	Auto	17	41	0	1	26	0	23	5	0	113	127	487	
		Trucks	0	3	0	0	1	0	3	1	0	8			
		Bus	2	0	0	0	3	0	1	0	0	6			
08:45:00	09:00:00	Auto	30	45	0	3	47	0	23	2	0	150	165	548	0.83
		Trucks	0	1	0	0	0	0	1	1	0	3			
		Bus	7	1	0	0	3	0	1	0	0	12			
16:00:00	16:15:00	Auto	43	24	0	6	55	0	34	5	0	167	176		
		Trucks	0	0	0	1	0	0	2	0	0	3			
		Bus	1	1	0	1	2	0	1	0	0	6			
16:15:00	16:30:00	Auto	53	44	0	3	39	0	29	2	0	170	181		
		Trucks	0	3	0	0	1	0	0	0	0	4			
		Bus	3	0	0	0	4	0	0	0	0	7			
16:30:00	16:45:00	Auto	52	35	0	8	46	0	35	5	0	181	197		
		Trucks	0	1	0	0	0	0	1	0	0	2			
		Bus	7	1	0	1	4	0	1	0	0	14			
16:45:00	17:00:00	Auto	43	31	0	6	52	0	35	6	0	173	189	743	0.94
		Trucks	0	1	0	0	3	0	4	0	0	8			
		Bus	1	0	0	0	6	0	1	0	0	8			
17:00:00	17:15:00	Auto	39	41	0	9	57	1	40	4	0	191	201		
		Trucks	0	0	0	0	1	0	1	0	0	2			
		Bus	2	1	0	0	3	0	1	1	0	8			
17:15:00	17:30:00	Auto	26	33	0	4	44	0	39	2	0	148	159		
		Trucks	1	0	0	0	1	0	2	0	0	4			
		Bus	1	1	0	0	2	0	3	0	0	7			
17:30:00	17:45:00	Auto	27	38	0	6	41	0	40	7	0	159	168		
		Trucks	0	1	0	0	0	0	1	0	0	2			
		Bus	3	2	0	0	1	0	1	0	0	7			
17:45:00	18:00:00	Auto	28	32	0	4	37	0	37	3	0	141	149	677	0.84
		Trucks	0	1	0	0	0	0	2	0	0	3			
		Bus	2	0	0	0	3	0	0	0	0	5			
7:00-8:00			SBLT	SBST	WBLT		WBRT	NBST		NBRT	Total				
		Auto	49	109	4		65	62		7	296				
		Trucks	1	5	0		0	3		0	9				
		Bus	18	5	1		16	2		1	43				
		Totals	68	119	5		81	67		8	348				
		% HV	28%	8%	20%		20%	7%		13%	15%				
		PHF	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84				
8:00-9:00			SBLT	SBST	WBLT		WBRT	NBST		NBRT	Total				
		Auto	91	164	8		140	75		12	490				
		Trucks	1	7	0		3	7		2	20				
		Bus	16	2	0		17	3		0	38				
		Totals	108	173	8		160	85		14	548				
		% HV	16%	5%	0%		13%	12%		14%	11%				
		PHF	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83				
4:00-5:00			SBLT	SBST	WBLT		WBRT	NBST		NBRT	Total				
		Auto	191	134	23		192	133		18	691				
		Trucks	0	5	1		4	7		0	17				
		Bus	12	2	2		16	3		0	35				
		Totals	203	141	26		212	143		18	743				
		% HV	6%	5%	12%		9%	7%		0%	7%				
		PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94				
5:00-6:00			SBLT	SBST	WBLT		WBRT	NBST		NBRT	Total				
		Auto	120	144	23		179	156		16	638				
		Trucks	1	2	0		2	6		0	11				
		Bus	8	4	0		9	5		1	27				
		Totals	129	150	23		190	167		17	676				
		% HV	7%	4%	0%		6%	7%		6%	6%				
		PHF	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84				

APPENDIX D

MINYAN SURVEYS

Date	Evening Minyan				
7/23/2024					
	walk	drive	street	go to work	go to home
		d	pinebrook		h
	w		new ackertown		h
	w		saddle river		h
		d	Lancaster		h
	w		ackertown		h
		d	ackertown		w
		d	unicorn		h
		d	milrose		h
	w		maggets		h
	w		Lancaster		h
	w		saddle river		h
		d	unicorn		h
		d	balanche		h
	w		maggets		h
		d	ackertown		w
	w		saddle river		h
	d		new ackertown		w
	d		ackertown		h
	d		Capricorn		w
	d		Capricorn		w
	d		saddle river		w
	w		saddle river		h
	w		pinebrook		h
	w		terrace ct		h
	d		terrace Court		w
	w		terrace		h

Date	Evening Minyan				
7/24/2024					
	walk	drive	street	come from work	come from home
	w		maggets	h	
		drive	pinebrook	h	
		drive	pinebrook	w	
	walk		terrace	h	
		drive	ulman	h	
		drive	Capricorn	h	
		drive	saddle river	w	
	walk		Lancaster	h	
	walk		Lancaster	h	
		drive	new ackertown		w
		drive	new ackertown		w
	walk		Lancaster	h	
		drive	ehret	h	
	walk		milrose	h	
		drive	pinebrook	h	
		drive	pinebrook	w	
	walk		Lancaster	h	
	walk		Lancaster	h	
	walk		terrace	h	

Date	Evening Minyan				
7/25/2024					
	walk	drive	street	come from work	come from home
		drive	keith	work	
		drive	milrose	home	home
	walk		terrace ct		home
	walk		terrace		home
		drive	pinebrook		home
		drive	maggets		home
		drive	Capricorn	work	
		drive	ullman		
		drive	pinebrook		home
	walk		lancaster		home
	walk		lancster		home
		drive	park ave		home
	walk		new ackertown		home
		drive	ackertown		home
		drive	chestnut ridgeroad		home
	walk		magetts		home
		drive	regina	work	
		drive	ehret		home
		drive	lancstar		home
		drive	MANOCKER		HOME

**Appendix F **

Safety Letter to Town of Ramapo Highway
Department



October 25, 2024

Fred Brinn
Superintendent of Highways
Town of Ramapo
16 Pioneer Avenue
Suffern, NY 10901

Re: Pine Brook Road Westbound
Intersection with Saddle River Road (CR 73)

Dear Superintendent Brinn:

MJ Engineering, Architecture, Landscape Architecture, and Land Surveying, P.C. (MJ) was hired to perform a Traffic Impact Study (TIS) for the proposed Blue Rill Estates senior housing development at 444 Saddle River Road. As part of the TIS, a safety analysis was performed at the intersection of Saddle River Road (CR 73) and Pine Brook Road.

The number of fixed object crashes that occurred at the Saddle River Road / Pine Brook Road intersection were overrepresented, meaning the proportion is higher than the comparable statewide proportion for similar facilities and crash type. Eight (8) out of the total 14 crashes that occurred at this intersection were fixed object crashes that occurred with either a tree or a stone wall due to vehicles traveling westbound down the hill on Pine Brook Road trying to make a stop during slippery roadway conditions. (see attached collision diagram) An existing W7-1 Hill warning sign is posted for motorists travelling westbound on Pine Brook Road in advance of the downgrade.

The overrepresented Pine Brook Road fixed object crash pattern is existing and not related to the proposed development at 444 Saddle River Road. Although Pine Brook Road is within the Village of Chestnut Ridge, it is our understanding that the Town of Ramapo maintains the road.

MJ recommends the Town of Ramapo install two advanced warning signs on westbound Pine Brook Road:

1. 30"x30" W3-1 Stop Ahead sign, 200 feet east of the stop bar on Pine Brook Road
2. 30"x30" W8-5 slippery when wet sign 400 feet east of the stop bar on Pine Brook Road



These signs will provide vehicles traveling westbound down the hill on Pine Brook Road with advance warning of both the stop condition and the potential for their vehicles to slip while attempting to stop. Should you have any questions regarding this recommendation, please contact Mark Pyskadlo at 518-371-0799 or mpyskadlo@mjteam.com.

Sincerely,

Mark Pyskadlo, PE, PTOE
Traffic Engineering Manager

**Appendix G **

Traffic Signal Timing for the Saddle River Road and Old Nyack Turnpike Intersection

Timings

1: Saddle River Road & Old Nyack Turnpike

2024 Existing AM
12/04/2024

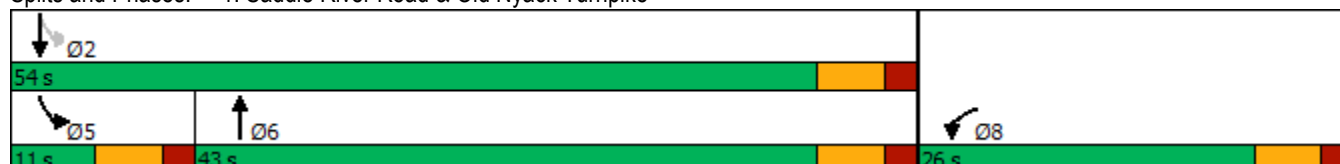


Lane Group	WBL	NBT	SBL	SBT
Lane Configurations				
Traffic Volume (vph)	57	157	196	189
Future Volume (vph)	57	157	196	189
Turn Type	Prot	NA	pm+pt	NA
Protected Phases	8	6	5	2
Permitted Phases			2	
Detector Phase	8	6	5	2
Switch Phase				
Minimum Initial (s)	20.0	25.0	5.0	25.0
Minimum Split (s)	26.0	31.0	11.0	31.0
Total Split (s)	26.0	43.0	11.0	54.0
Total Split (%)	32.5%	53.8%	13.8%	67.5%
Yellow Time (s)	4.0	4.0	4.0	4.0
All-Red Time (s)	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0		0.0
Total Lost Time (s)	6.0	6.0		6.0
Lead/Lag		Lag	Lead	
Lead-Lag Optimize?		Yes	Yes	
Recall Mode	None	Min	None	Min
Act Effect Green (s)	20.2	29.0		29.0
Actuated g/C Ratio	0.33	0.47		0.47
v/c Ratio	0.44	0.25		0.64
Control Delay	7.3	8.9		17.3
Queue Delay	0.0	0.0		0.0
Total Delay	7.3	8.9		17.3
LOS	A	A		B
Approach Delay	7.3	8.9		17.3
Approach LOS	A	A		B

Intersection Summary

Cycle Length: 80
 Actuated Cycle Length: 61.3
 Natural Cycle: 70
 Control Type: Actuated-Uncoordinated
 Maximum v/c Ratio: 0.64
 Intersection Signal Delay: 12.0
 Intersection LOS: B
 Intersection Capacity Utilization 74.3%
 ICU Level of Service D
 Analysis Period (min) 15

Splits and Phases: 1: Saddle River Road & Old Nyack Turnpike





M.J. Engineering and Land Surveying, P.C.

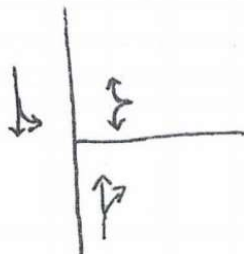
1533 Crescent Road, Clifton Park, NY 12065
Phone: 518.371.0799 / Fax: 518.371.0822
www.mjels.com

Project _____
MJ No. _____ By: _____
Date: 12-7-22 Day: Wed.
Weather: Overcast
Start Time: 5:50 pm Int. #: _____

Signal Timing Worksheet

Intersection: xx #1

Saddle River Road at
Old Nyack Turnpike



Intersection Sketch

N

→ Protected
→ Permitted
→ Stopped

Red / Yellow Time:
Red: x sec.
Yellow: x sec.

Green Timings

	↓↙↑ T	↓↘↑ T	↓↕↑ T	↘↙ Arrow	Y For Arrow	Y	R	Y	R
1	24 ⁰¹	26 ¹⁴	20 ¹⁴	10 ³⁶	3 ⁴¹	3 ³⁵	2 ⁰⁷		
2	24 ⁰²	28 ²²	21 ⁰⁴	11 ³⁷	1 ⁹⁰	3 ²⁷	2 ¹²		
3	24 ⁵¹	26 ⁹⁷	20 ³¹	11 ⁴⁵	2 ⁷⁹	3 ¹⁹	2 ²⁰		
4	24 ⁴¹	27 ¹⁰	20 ⁷²	11 ²³	3 ¹²	3 ⁴⁰	2 ¹⁰		
5									
6									
7									
8	26 ⁴⁵	23 ⁷⁶	19 ⁹⁵	9 ¹⁷	4 ²⁰	4 ⁰⁹	2 ⁴⁹		
9	26 ⁴⁸	26 ⁹¹	20 ³³	7 ⁹³	3 ⁷²	3 ²⁶	1 ⁰⁸		
10	26 ³⁵	23 ⁷⁶	20 ⁴⁰	8 ¹⁶	4 ¹⁴	3 ⁹⁵	1 ⁷⁷		
11	26 ²²	24 ⁰¹	20 ⁵⁶	8 ⁴⁴	4 ²¹	2 ⁶³	2 ¹⁰		

Average Green Timings

--	--	--	--	--	--	--	--	--	--

Average Cycle Length ##### sec.

12/7
PM

12/8
7:00
AM