



III.F

Traffic and Transportation

Dynamic Traffic LLC (Dynamic) prepared a Traffic Impact Study (“TIS”) for the Proposed Action, dated September 16, 2022 (see **Appendix E**). The TIS describes the existing roadway network and public transportation serving the Project Site, existing traffic volumes, and traffic accident data. The TIS also identifies potential traffic impacts of the Proposed Action including future traffic volumes, impacts on key intersections and roadway capacity, and describes proposed modifications to site access and area roadways. The TIS compares the potential impacts of the Proposed Action to the existing conditions and background growth under “No Build” conditions in the year 2024. It also identifies mitigation measures necessary to avoid potential significant adverse traffic impacts. The scope of the TIS was developed through consultations with the Village of Suffern, the Village of Montebello, Rockland County Highway Department, the New York State Thruway Authority, and New York State Department of Transportation (NYSDOT).

1. Existing Conditions

Existing Roadways

Lafayette Avenue (NYS Route 59)

Lafayette Avenue (NYS Route 59) is an Urban Principal Arterial roadway under NYSDOT jurisdiction with a general east/west orientation. In the vicinity of the Project Site the posted speed limit is 30 miles per hour (MPH) and the roadway provides one travel lane in each direction. On-street parking is not provided along either side of the roadway. Curb is provided along both sides of the roadway, while sidewalk is provided intermittently along both sides of the roadway. The pavement surface appears to be in good condition. Lafayette Avenue provides a slightly curved horizontal alignment west of Hemion Road with a downgrade from east to west and provides generally adequate sight distance. The land uses along Lafayette Avenue in the vicinity of the Project Site are mixed commercial and residential.

Hemion Road (CR 93)

Hemion Road (CR 93) is an Urban Major Collector roadway under Rockland County jurisdiction with a general north/south orientation. In the vicinity of the Project Site the posted speed limit is 30 MPH and the roadway provides one travel lane in each direction. On-street parking is not provided along either side of the roadway. Curb and sidewalk are only provided intermittently near the intersection

of Campbell Avenue/Hemion Road and Lafayette Avenue (NYS Route 59). The pavement surface appears to be in good condition. Hemion Road provides a curved horizontal alignment with an upgrade from north to south and provides generally adequate sight distance. The land uses along Hemion Road in the vicinity of the Project Site are primarily industrial.

Airmont Road (CR 89)

Airmont Road (CR 89) is an Urban Minor Arterial roadway under Rockland County jurisdiction with a general north/south orientation. In the vicinity of the Project Site the posted speed limit is 30 MPH and the roadway provides two travel lanes in each direction north of Lafayette Avenue (NYS Route 59) and one travel lane in each direction south of Lafayette Avenue (NYS Route 59). On-street parking is not provided along either side of the roadway, while curb and sidewalk are provided along both sides of the roadway. The pavement surface appears to be in good condition. Airmont Road provides a curved horizontal alignment and a rolling vertical alignment and provides generally adequate sight distance. The land uses along Airmont Road in the vicinity of the Project Site are primarily commercial.

Interstate 87/Interstate 287 (New York State Thruway)

Interstate 87/Interstate 287 ("New York State Thruway" or "the Thruway") is an Urban Principal Arterial Interstate roadway under New York State Thruway Authority jurisdiction. In the vicinity of the Project Site the posted speed limit is 55 MPH and the roadway provides three lanes of travel in each direction. On-street parking is not provided along either side of the roadway. Curb and sidewalk are not provided along either side of the roadway. The pavement surface along the ramps at Airmont Road appears to be in good condition. I-87/I-287 has an overall curved horizontal alignment and rolling vertical alignment. The land uses in the vicinity of the I-87/I-287 ramps at Airmont Road are a mix of commercial, office, and industrial.

Montebello Road (CR 64)

Montebello Road (CR 64) is an Urban Major Collector roadway under Rockland County jurisdiction to the east of Hemion Road and municipal jurisdiction to the west of Hemion Road with a general east/west orientation. The road has a posted 5-ton vehicular weight restriction. In the vicinity of the Project Site the posted speed limit is 30 MPH and the roadway provides one lane of travel in each direction. On-street parking is not provided along either side of the roadway. Curb and sidewalk are not provided along either side of the roadway. The pavement surface appears to be in good condition. Montebello Road provides a curved horizontal alignment and a rolling vertical alignment. Adequate sight distance is generally provided at the study area intersection; however, due to the horizontal curves along Montebello Road (CR 64) to the east of the Suffern Middle School, limited sight distance is provided for driveways in the vicinity of the curves. The land uses along Montebello Road are primarily residential.

Campbell Avenue

Campbell Avenue is an Urban Minor Arterial roadway under municipal jurisdiction with a general north/south orientation. In the vicinity of the Project Site the posted speed limit is 30 MPH and the roadway provides one travel lane in each direction. On-street parking is not provided along either side of the roadway. Curb is provided along both sides of the roadway, while sidewalk is provided along the northbound side of the roadway. The pavement surface appears to be in good condition. Campbell Avenue provides a curved horizontal alignment with a downgrade from north to south and

provides generally adequate sight distance. The land uses along Campbell Avenue in the vicinity of the Project Site are primarily residential.

North DeBaun Avenue

North DeBaun Avenue is a local roadway under private jurisdiction with a general east/west orientation. In the vicinity of the Project Site the speed limit is not posted and the roadway provides one lane of travel in each direction. On-street parking is not provided along either side of the roadway. Curb is provided along both sides of the roadway, while sidewalk is provided along the westbound side of the roadway. The pavement surface appears to be in good condition. North DeBaun Avenue provides a straight horizontal alignment and a flat vertical alignment and provides generally adequate sight distance. The land uses along North DeBaun Avenue are a mix of commercial, office, and hotel.

Rella Boulevard

Rella Boulevard is a local roadway under municipal jurisdiction with a general east/west orientation. In the vicinity of the Project Site the speed limit is not posted and the roadway provides one lane of travel in each direction. On-street parking is not provided along either side of the roadway. Curb is provided along both sides of the roadway, while sidewalk is not provided along either side of the roadway. The pavement surface appears to be in good condition. Rella Boulevard provides a straight horizontal alignment and a downhill vertical alignment from east to west. The land uses along Rella Boulevard are a mix of office and residential.

Brookside Avenue

Brookside Avenue is a local roadway under municipal jurisdiction with a general north/south orientation. In the vicinity of the Project Site the posted speed limit is 30 MPH and the roadway provides one lane of travel in each direction. On-street parking is not provided along either side of the roadway. Curb and sidewalk are not provided along either side of the roadway. The pavement surface appears to be in good condition. Brookside Avenue provides a straight horizontal alignment with an upgrade from north to south and provides generally adequate sight distance. The land uses along Brookside Avenue are primarily residential.

Ryan Mansion Drive

Ryan Mansion Drive is a local roadway under private jurisdiction with a general north/south orientation. In the vicinity of the Project Site the posted speed limit is 15 MPH and the roadway provides one lane of travel in each direction. On-street parking is not provided along either side of the roadway. Curb is provided along both sides of the roadway while sidewalk is intermittently provided along both sides of the roadway. The pavement surface appears to be in good condition. Ryan Mansion Drive provides a straight horizontal alignment and a downgrade from north to south and provides generally adequate sight distance. The land uses along Ryan Mansion Drive are primarily residential.

Old Mill Road

Old Mill Road is a local roadway under New York State Thruway Authority jurisdiction with a general east/west orientation. At the time of publication of this DEIS, it is understood that the jurisdiction of Old Mill Road may change as the New York State Thruway Authority is in the process of auctioning

off the roadway. In the vicinity of the Project Site the speed limit is not posted and the roadway provides one lane of travel in each direction. On-street parking is not provided along either side of the roadway. Curb and sidewalk are not provided along either side of the roadway. The pavement surface appears to be in good condition. Old Mill Road provides a relatively straight horizontal alignment with a horizontal curve near the intersection with Hemion Road (CR 93) and a downgrade from east to west and provides generally adequate sight distance.

Existing Bicycle and Pedestrian Facilities

Pedestrian and bicycle facilities in the vicinity of the Project Site are provided in the form of paved shoulders intermittently along Hemion Road. Paved shoulders are also provided along both sides along Lafayette Avenue, along with sidewalk fully along the westbound side and intermittently along the eastbound side. Paved shoulders are not provided along either side of Airmont Road, while sidewalk is provided along both sides of Airmont Road south of Dunnigan Drive, along the southbound side between Dunnigan Drive and Executive Boulevard, and along the northbound side between Executive Boulevard and Montebello Road/Rella Boulevard.

Painted crosswalks and curb ramps are provided along all four legs of the intersections of Lafayette Avenue & Hemion Road/Campbell Avenue and Lafayette Avenue & Airmont Road. Painted crosswalks and curb ramps without detectable warning surfaces are provided along the western legs of the Airmont Road & I-287/I-87 Ramp intersections.

Existing Mass Transit Facilities

Hudson Link and Transport of Rockland (TOR) provide bus service in the nearby area. Hudson Link provides bus service in the area via the H01 and H01X lines, which runs from Suffern to the Palisades Center in West Nyack. The nearest Hudson Link bus stop is located approximately 1.7 miles from the Project Site at the intersection of Airmont Road and Hemion Road. TOR provides bus service in the area via the 59 and Loop 3 lines, which run from Suffern to Nyack and Suffern to the Spring Valley Transit Center, respectively. The nearest 59 Line bus stop is located approximately 1.7 miles from the Project Site at the intersection of Airmont Road and Hemion Road, while the nearest Loop 3 Line bus stop is located approximately 1.2 miles from the site at Good Samaritan Hospital.

NJ Transit provides train service in the area via the Main/Bergen County-Port Jervis Line, which runs from Port Jervis, New York to Hoboken, New Jersey with transfers to New York Penn Station and Trenton, New Jersey via Secaucus Junction. The nearest train station is located approximately 2.3 miles from the Project Site at the intersection of Orange Avenue (U.S. Route 202) and Park Place in the Village of Suffern.

Existing Truck Routes

The Thruway and NYS Route 17 are designated as "Qualifying Highways" according to the October 2020 edition of the NYSDOT *Official Description of Designated Qualifying and Access Highways*. A "Qualifying Highway" is defined as a highway designated as part of the Surface Transportation Assistance Act (STAA) of 1982 which allows STAA vehicles (tractor trailer combinations greater than 65 feet, tractors with 28-foot tandem trailers, maxi-cubes, triple saddle mounts, stinger-steered auto carriers and boat transporters) and 53-foot trailers to use that highway and any other highway within one linear mile of the Qualifying Highway. No truck restrictions exist along Lafayette Avenue (NYS

Route 59), Airmont Road (CR 89), or Hemion Road (CR 93) which provide direct truck access to/from the Thruway.

Existing School Activities

The Suffern Middle School and Montebello Elementary School are located to the north of the Project Site along Hemion Road (CR 93) and Montebello Road (CR 64). Access to the Suffern Middle School is provided via one ingress only driveway along Hemion Road (CR 93), one egress only driveway along Hemion Road (CR 93), and one full movement driveway along Montebello Road (CR 64). Access to the Montebello Elementary School is provided via one full movement driveway along Montebello Road (CR 64). The start times for both schools are currently offset by 50 minutes and the dismissal times for both schools are currently offset by 30 minutes. At the Suffern Middle School, both buses and cars enter using the ingress only driveway along Hemion Road (CR 93). Buses circulate in front of the school for pick up/drop off and exit along Hemion Road (CR 93). Parents circulate around the rear of the school for pick up/drop off and exit along Montebello Road (CR 64). An exiting left turn lane restriction is currently in place at the Montebello Road (CR 64) driveway from 7:40 – 8:25 AM and from 2:30 – 3:15 PM.

Existing Traffic Volumes

In order to establish existing traffic conditions in the vicinity of the Project Site, manual turning movement (MTM) counts were conducted on Wednesday, June 15, 2022 from 7:00 – 9:00 AM and 3:00 – 6:30 PM at the following intersections:

- › Lafayette Avenue (NYS Route 59) & Campbell Avenue/Hemion Road (CR 93)
- › Lafayette Avenue (NYS Route 59) & Airmont Road (CR 89)
- › Airmont Road (CR 89) & I-87 SB/I-287 EB Ramps
- › Airmont Road (CR 89) & I-87 NB/I-287 WB Ramps
- › Airmont Road (CR 89) & North DeBaun Avenue
- › Hemion Road (CR 93) & Dunnigan Drive
- › Lafayette Avenue (NYS Route 59) & Brookside Avenue
- › Montebello Road (CR 64) & Hemion Road (CR 93)/Ryan Mansion Drive

Additional MTM counts were conducted on Thursday, September 8, 2022 from 7:00 – 9:00 AM and 3:00 – 6:30 PM at the following intersections:

- › Airmont Road (CR 89) & Dunnigan Drive/Interstate Waste Services Driveway
- › Hemion Road (CR 93) & Suffern Middle School Ingress Driveway/Ramapo Cirque Boulevard
- › Hemion Road (CR 93) & Suffern Middle School Egress Driveway
- › Montebello Road (CR 64) & Suffern Middle School Driveway
- › Montebello Road (CR 64) & Montebello Elementary School Driveway

MTM counts were also conducted on Wednesday, July 27, 2022 from 7:00 – 9:00 AM and 3:00 – 6:30 PM at the intersection of Airmont Road (CR 89) & Montebello Road (CR 64)/Rella Boulevard. A seasonal adjustment factor of 1.112 for commuter-dominated roadways during the work week was obtained from the NYSDOT Seasonal Adjustment Factor Table published in May 2022 to account for the decrease in traffic during the summer months.

Review of the collected traffic data reveals that the weekday morning peak street hour (PSH) occurs between 7:45 - 8:45 AM and the weekday evening PSH occurs between 3:15 - 4:15 PM.

It should be noted that various traffic related impacts associated with the COVID-19 pandemic were in effect as of the time of the traffic counts. As a result, current traffic volumes on the surrounding roadways may be atypical and not entirely representative of "existing" traffic conditions. Therefore, an adjustment factor of 1.12 and 1.22 for the AM and PM were applied to the collected traffic volumes respectively to provide a conservative analysis. **Figure III.F-1** shows the adjusted existing peak hour traffic volumes at the study intersections (This figure is Figure 3 from the Traffic Impact Study in **Appendix E**).

Existing Capacity and Queuing Analysis

The methodology utilized in the capacity analyses is described in the Highway Capacity Manual (HCM), published by the Transportation Research Board, and Chapter 5 of the NYSDOT Highway Design Manual. In general, the term Level of Service (LOS) is used to provide a "qualitative" evaluation of capacity based upon certain "quantitative" calculations related to empirical values, such as traffic volume and intersection control.

All capacity and queuing analyses were performed utilizing Synchro 11 software. **Table III.F-1** summarizes the existing levels of service (LOS) and delays. All capacity analysis calculation worksheets are contained in **Appendix E**.

Table III.F-1 Existing Levels of Service and Vehicle-to-Capacity Ratios

Intersection	Direction/ Movement	AM PSH		PM PSH		
		LOS	v/c	LOS	v/c	
Lafayette Avenue (NYS Route 59) & Campbell Avenue/ Hemion Road (CR 93)	EB	L	E (74)	0.93	D (46)	0.80
		T	D (49)	0.85	C (32)	0.73
		R	A (1)	0.06	A (1)	0.10
	WB	L	C (31)	0.61	B (16)	0.28
		T	E (65)	0.96	D (53)	0.94
		R	A (1)	0.11	A (1)	0.11
	NB	L	C (32)	0.58	C (33)	0.58
		TR	D (43)	0.66	E (56)	0.83
	SB	L	C (29)	0.50	C (33)	0.59
		TR	E (55)	0.87	F (82)	0.99
	Overall	D (49)	0.96	D (45)	0.99	
Lafayette Avenue (NYS Route 59) & Airmont Road (CR 89)	EB	L	F (86)	0.99	F (110)	1.08
		T	D (42)	0.57	D (48)	0.65
		R	A (1)	0.03	A (2)	0.09
	WB	L	D (40)	0.34	D (37)	0.46
		T	E (65)	0.78	F (83)	0.90
		R	C (34)	0.65	C (31)	0.74
	NB	L	C (25)	0.10	D (40)	0.19
		TR	D (53)	0.72	D (53)	0.68
	SB	L	F (104)	1.03	E (64)	0.84
		T	F (87)	0.94	F (83)	0.97
R		A (3)	0.51	A (8)	0.60	
	Overall	E (58)	1.03	E (56)	1.08	
Airmont Road (CR 89) & I-87 SB/I-287 EB Ramps	EB	LT	C (22)	0.65	C (27)	0.69
		R	D (41)	0.92	C (31)	0.86
	NB	T	B (17)	0.61	A (8)	0.46
		R	F (167)	1.30	F (48)	1.01
	SB	L	D (36)	0.75	C (32)	0.78
		T	C (21)	0.40	A (7)	0.45
	Overall	D (55)	1.30	C (22)	1.01	
Airmont Road (CR 89) & I-87 NB/I-287 WB Ramps	WB	L	D (39)	0.83	C (33)	0.76
		LT	D (40)	0.83	C (33)	0.76
		R	C (22)	0.69	B (16)	0.69
	NB	L	F (215)	1.40	D (44)	0.92
		T	B (12)	0.52	A (4)	0.33
	SB	T	C (22)	0.61	D (38)	0.71
		R	A (6)	0.48	B (17)	0.55
	Overall	D (44)	1.40	C (26)	0.92	

Airmont Road (CR 89) & North DeBaun Avenue	EB	LTR	C (33)	0.37	C (33)	0.35
	WB	LTR	C (30)	0.14	C (31)	0.20
	NB	L	A (3)	0.08	A (4)	0.09
		TR	A (9)	0.56	A (10)	0.57
	SB	L	A (5)	0.06	A (5)	0.08
		TR	A (2)	0.54	A (2)	0.58
Overall			A (7)	0.56	A (7)	0.58
Airmont Road (CR 89) & Montebello Road (CR 64)/ Rella Boulevard	EB	LT	C (22)	0.28	C (28)	0.33
		R	C (26)	0.75	C (26)	0.63
	WB	L	B (20)	0.01	C (26)	0.16
		T	B (20)	0.01	C (25)	0.06
		R	C (20)	0.01	C (26)	0.16
	NB	L	A (10)	0.44	B (10)	0.63
		TR	A (1)	0.38	A (1)	0.40
	SB	L	B (11)	0.03	A (7)	0.05
		TR	B (16)	0.43	B (13)	0.47
	Overall			B (13)	0.75	B (11)
Hemion Road (CR 93) & Dunnigan Drive	WB	LR	b (14)	0.054	b (14)	0.086
	SB	L	a (9)	0.005	a (8)	0.002
Lafayette Avenue (NYS Route 59) & Brookside Avenue	WB	L	a (9)	0.083	b (11)	0.218
	NB	LR	c (15)	0.297	c (21)	0.387
Montebello Road (CR 64) & Hemion Road (CR 93)/Ryan Mansion Drive	WB	L	a (9)	0.257	a (8)	0.204
	NB	LTR	d (35)	0.753	d (26)	0.708
	SB	LTR	d (31)	0.029	c (16)	0.034
Airmont Road (CR 89) & Dunnigan Drive/Interstate Waste Services Driveway	EB	LT	f (74)	0.393	f (92)	0.609
		R	b (12)	0.033	b (13)	0.084
	WB	LTR	b (13)	0.023	b (12)	0.031
	NB	L	a (10)	0.018	a (10)	0.021
	SB	L	a (10)	0.007	b (11)	0.006
Hemion Road (CR 93) & Suffern Middle School Driveway/Ramapo Cirque Boulevard	EB	L	c (23)	0.063	c (16)	0.073
		R	b (12)	0.031	b (10)	0.013
	NB	L	a (9)	0.016	a (8)	0.010
	SB	L	a (9)	0.069	a (8)	0.029
Hemion Road (CR 93) & Suffern Middle School Egress Driveway	WB	LR	c (16)	0.140	b (13)	0.132
Montebello Road (CR 93) & Suffern Middle School Driveway	WB	L	a (9)	0.013	a (8)	0.020
	NB	LR	c (17)	0.300	b (14)	0.138
Montebello Road (CR 93) & Montebello Elementary School Driveway	WB	L	a (8)	0.062	a (8)	0.016
	NB	LR	b (13)	0.148	b (12)	0.168

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

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

Source: Dynamic

Note: This table is Table IV from the Traffic Impact Study

Queue length conditions at the study intersections were analyzed. The 95th percentile queues for each study peak hour are summarized in **Table III.F-2** below.

Table III.F-2 Existing Queue Analysis

Intersection	Direction/ Movement	Storage Length	AM PSH	PM PSH	
Lafayette Avenue (NYS Route 59) & Campbell Avenue/Hemion Road (CR 93)	EB	L	75'	233'	238'
		T	-	447'	478'
		R	310'	-	-
	WB	L	180'	108'	62'
		T	-	530'	575'
		R	560'	-	-
	NB	L	150'	98'	125'
		TR	-	239'	249'
	SB	L	145'	109'	128'
TR		-	330'	350'	
Lafayette Avenue (NYS Route 59) & Airmont Road (CR 89)	EB	L	330'	634'	753'
		T	-	283'	356'
		R	145'	-	11'
	WB	L	175'	103'	152'
		T	-	210'	299'
		R	170'	202'	284'
	NB	L	140'	50'	99'
		TR	-	411'	396'
	SB	L	100'	616'	483'
T		-	465'	633'	
R		-	36'	117'	
Airmont Road (CR 89) & I-87 SB/I-287 EB Ramps	EB	LT	120'	208'	190'
		R	-	330'	215'
	NB	T	-	140'	83'
		R	80'	1015'	405'
	SB	L	150'	158'	153'
T		-	270'	158'	
Airmont Road (CR 89) & I-87 NB/I-287 WB Ramps	WB	L	520'	202'	236'
		LT	-	202'	238'
		R	350'	129'	157'
	NB	L	105'	282'	262'
		T	-	156'	14'
	SB	T	-	183'	331'
R		140'	43'	170'	

Intersection	Direction/ Movement		Storage Length	AM PSH	PM PSH
Airmont Road (CR 89) & North DeBaun Avenue	EB	LTR	-	88'	83'
	WB	LTR	-	30'	45'
	NB	L	130'	8'	8'
		TR	-	218'	228'
	SB	L	155'	5'	5'
		TR	-	25'	30'
Airmont Road (CR 89) & Montebello Road (CR 64)/ Rella Boulevard	EB	LT	-	73'	78'
		R	140'	253'	170'
	WB	L	90'	3'	48'
		T	-	-	15'
		R	35'	3'	38'
	NB	L	290'	63'	80'
		TR	-	10'	13'
	SB	L	290'	8'	8'
		TR	-	193'	215'
	Hemion Road (CR 93) & Dunnigan Drive	WB	LR	-	5'
SB		L	-	-	-
Lafayette Avenue (NYS Route 59) & Brookside Avenue	WB	L	-	8'	20'
	NB	LR	-	30'	45'
Montebello Road (CR 64) & Hemion Road (CR 93)/Ryan Mansion Drive	WB	L	-	25'	13'
	NB	LTR	-	155'	143'
	SB	LTR	-	3'	5'
Airmont Road (CR 89) & Dunnigan Drive/Interstate Waste Services Driveway	EB	LT	-	40'	73'
		R	290'	3'	8'
	WB	LTR	-	3'	3'
	NB	L	100'	3'	3'
Hemion Road (CR 93) & Suffern Middle School Ingress Driveway/Ramapo Cirque Boulevard	EB	L	-	5'	5'
		R	-	3'	0'
	NB	L	-	0'	0'
Hemion Road (CR 93) & Suffern Middle School Egress Driveway	SB	L	-	5'	3'
	WB	LR	-	13'	13'
Montebello Road (CR 93) & Suffern Middle School Driveway	WB	L	-	0'	3'
	NB	LR	-	30'	13'
Montebello Road (CR 93) & Montebello Elementary School Driveway	WB	L	-	5'	3'
	NB	LR	-	13'	15'

Source: Dynamic

Note: This table is Table V from the Traffic Impact Study in Appendix E

The following discussion pertains to each of the existing intersections analyzed. Additional details related to intersection types, layout, and signal timing directives are provided in the TIS in **Appendix E**. It should be noted that HCM 6th Edition methodology does not support clustered intersections. In order to include the existing bus pre-emption along Lafayette Avenue in the analysis, the appropriate intersections were modeled as a clustered intersection with a separate signalized intersection for the bus pre-emption. Therefore, Synchro methodology was used to obtain the levels of service, delays, and queues.

Lafayette Avenue (NYS Route 59) and Campbell Avenue/Hemion Road (CR 93)

Campbell Avenue and Hemion Road (CR 93) both intersect Lafayette Avenue (NYS Route 59) to form a four-leg intersection controlled by a traffic signal. A review of the existing analysis reveals that the intersection operates at overall levels of service "D" during the analyzed peak periods. Additionally, all intersection movements operate at levels of service "E" or better during the analyzed peak periods, with the exception of the southbound through/right turn movement, which operates at level of service "F" during the weekday evening peak hour. See **Table III.F-1** for the individual movement levels of service and delays.

A review of the existing analysis reveals that the 95th percentile queue length for the eastbound left turn lane exceeds the available storage length during the weekday morning and evening peak hours. See **Table III.F-2** for the individual movement 95th percentile queues.

Lafayette Avenue (NYS Route 59) & Airmont Road (CR 89)

Airmont Road (CR 89) intersects Lafayette Avenue (NYS Route 59) to form a four-leg intersection controlled by a traffic signal. A review of the existing analysis reveals that the intersection operates at overall level of service "E" during the analyzed peak periods. Additionally, all intersection movements operate at levels of service "E" or better during the analyzed peak periods, with the exception of the eastbound left turn and southbound left turn and through movements during the weekday morning peak hour and the eastbound left turn, westbound through, and southbound through movements during the weekday evening peak hour which operate at level of service "F". See **Table III.F-1** for the individual movement levels of service and delays.

A review of the existing analysis reveals that the 95th percentile queue length for the eastbound left turn lane, westbound right turn lane, and the southbound left turn lane exceeds the available storage length during the weekday morning and evening peak hours. See **Table III.F-2** for the individual movement 95th percentile queues.

Airmont Road (CR 89) & I-87 SB/I-287 EB Ramps

The I-87 SB/I-287 EB on/off ramps intersect Airmont Road (CR 89) to form a four-leg intersection controlled by a traffic signal. A review of the existing analysis reveals that the intersection operates at overall levels of service "D" or better during the analyzed peak periods. Additionally, all movements operate at levels of service "D" or better during the analyzed peak periods, with the exception of the northbound right turn movement during the weekday morning and evening peak hour, which operates at level of service "F". See **Table III.F-1** for the individual movement levels of service and delays.

A review of the existing analysis reveals that the 95th percentile queue length exceeds the available storage length for the eastbound left turn/through lane, northbound right turn lane, and the southbound left turn lane during the weekday morning and evening peak hours. See **Table III.F-2** for the individual movement 95th percentile queues.

Airmont Road (CR 89) & I-87 NB/I-287 WB Ramps

The I-87 NB/I-287 WB on/off ramps intersect Airmont Road (CR 89) to form a four-leg intersection controlled by a traffic signal. A review of the existing analysis reveals that the intersection operates at overall levels of service "D" or better during the analyzed peak periods. Additionally, all movements operate at levels of service "E" or better during the analyzed peak periods, with the exception of the

northbound left turn movement during the weekday morning peak hour, which operates at level of service "F". See **Table III.F-1** for the individual movement levels of service and delays.

A review of the existing analysis reveals that the 95th percentile queue length exceeds the available storage length for the northbound left turn lane during the weekday morning and evening peak hours and the southbound right turn lane during the weekday evening peak hour. See **Table III.F-2** for the individual movement 95th percentile queues.

Airmont Road (CR 89) & North DeBaun Avenue

North DeBaun Avenue intersects Airmont Road to form a four-leg intersection controlled by a traffic signal. A review of the existing analysis reveals that the intersection operates at overall level of service "A" and all movements operate at levels of service "C" or better during the analyzed peak periods. See **Table III.F-1** for the individual movement levels of service and delays.

Airmont Road (CR 89) & Montebello Road (CR 64)/Rella Boulevard

North DeBaun Avenue intersects Airmont Road to form a four-leg intersection controlled by a traffic signal. A review of the existing analysis reveals that the intersection operates at overall level of service "B" and all movements operate at levels of service "C" or better during the analyzed peak periods. See **Table III.F-1** for the individual movement levels of service and delays.

A review of the existing analysis reveals that the 95th percentile queue length exceeds the storage length for the eastbound right turn lane during the weekday morning and evening peak hours. See **Table III.F-2** for the individual movement 95th percentile queues.

Hemion Road (CR 93) & Dunnigan Drive

Dunnigan Drive intersects Hemion Road to form an unsignalized T-intersection with the westbound approach of Dunnigan Drive operating under stop control. A review of the existing analysis reveals that all movements operate at levels of service "B" or better during the analyzed peak periods. See **Table III.F-1** for the individual movement levels of service and delays.

Lafayette Avenue (NYS Route 59) & Brookside Avenue

Brookside Avenue intersects Lafayette Avenue to form an unsignalized T-intersection with the northbound approach of Brookside Avenue operating under stop control. A review of the existing analysis reveals that all movements operate at levels of service "C" or better during the analyzed peak periods. See **Table III.F-1** for the individual movement levels of service and delays.

Montebello Road (CR 64) & Hemion Road (CR 93)/Ryan Mansion Drive

Hemion Road and Ryan Mansion Drive intersect Montebello Road to form an unsignalized four-leg intersection with the northbound approach of Hemion Road and the southbound approach of Ryan Mansion Drive operating under stop control. A review of the existing analysis reveals that all movements operate at levels of service "D" or better during the analyzed peak periods. See **Table III.F-1** for the individual movement levels of service and delays.

Airmont Road (CR 89) & Dunnigan Drive/Interstate Waste Services Driveway

Dunnigan Drive and the Interstate Waste Services driveway intersect Airmont Road to form an unsignalized four-leg intersection with the eastbound approach of Dunnigan Drive and the

westbound approach of the Interstate Waste Services driveway operating under stop control. A review of the existing analysis reveals that all movements operate at levels of service "B" or better during the analyzed peak periods, with the exception of the eastbound left turn and through movements during the weekday morning and evening peak hours, which operate at levels of service "F". See **Table III.F-1** for the individual movement levels of service and delays.

Hemion Road (CR 93) & Suffern Middle School Ingress Driveway/Ramapo Cirque Boulevard

The Suffern Middle School ingress driveway and Ramapo Cirque Boulevard intersect Hemion Road to form an unsignalized four-leg intersection with the eastbound approach of Ramapo Cirque Boulevard and the westbound approach of the Suffern Middle School ingress driveway operating under stop control. A review of the existing analysis reveals that all movements operate at levels of service "C" or better during the analyzed peak periods. See **Table III.F-1** for the individual movement levels of service and delays.

Hemion Road (CR 93) & Suffern Middle School Egress Driveway

The Suffern Middle School egress driveway intersects Hemion Road to form an unsignalized T-intersection with the westbound approach of the Suffern Middle School egress driveway operating under stop control. A review of the existing analysis reveals that all movements operate at levels of service "C" or better during the analyzed peak periods. See **Table III.F-1** for the individual movement levels of service and delays.

Montebello Road (CR 64) & Suffern Middle School Driveway

The Suffern Middle School driveway intersects Montebello Road to form an unsignalized T-intersection with the northbound approach of the Suffern Middle School driveway operating under stop control. A review of the existing analysis reveals that all movements operate at levels of service "C" or better during the analyzed peak periods. See **Table III.F-1** for the individual movement levels of service and delays.

Montebello Road (CR 64) & Montebello Elementary School Driveway

The Montebello Elementary School driveway intersects Montebello Road to form an unsignalized T-intersection with the northbound approach of the Montebello Elementary School driveway operating under stop control. A review of the existing analysis reveals that all movements operate at levels of service "B" or better during the analyzed peak periods. See **Table III.F-1** for the individual movement levels of service and delays.

Crash Analysis

Police reports for crashes occurring from January 2018 to July 2022 in the vicinity of the Project Site were gathered. The crash rates at each intersection detailed below were calculated using the Average Annual Daily Traffic (AADT) from the NYSDOT Traffic Data viewer and compared to the 2016 Average Accident Rates Table published by the New York State Department of Motor Vehicles. The following details the crash history at each intersection. The full crash analysis memo is included in **Appendix E**.

Lafayette Avenue (NYS Route 59) & Campbell Avenue/Hemion Road (CR 93)

As shown in **Table III.F-3**, a total of 41 crashes have occurred at the intersection within the 5-year study period. This equates to a crash rate of 1.03 crashes per million entering vehicles (MEV), which is

higher than the statewide average of 0.52 crashes per MEV for urban signalized four-leg intersections. Note that 24 of those crashes (approximately 59 percent) were same direction rear-end crashes that are typical at signalized intersections as a result of driver inattentiveness. Eight of the reported crashes resulted in minor injuries; no major injuries or fatalities were reported.

Table III.F-3 Crash Rate Calculations

Intersection	Entering AADT	Total Crashes	Injury Crashes	Fatal Crashes	Total Crash Rate (per MEV)	Injury Crash Rate (per MEV)	Fatal Crash Rate (per MEV)
Lafayette Avenue (Route 59) & Hemion Road (CR 93)	21769	41	8	0	1.03	0.20	0.00
Lafayette Ave (Route 59) & Airmont Rd (CR 89)	28709	90	8	0	1.72	0.15	0.00
Airmont Rd (CR 89) & I-87 SB/I-287 EB Ramp	33331	24	4	0	0.39	0.07	0.00
Airmont Rd (CR 89) & I-87 NB/I-287 WB Ramp	37426	26	2	0	0.38	0.03	0.00
Airmont Rd (CR 89) & North DeBaun Avenue	10543	29	4	0	1.51	0.21	0.00
Airmont Rd (CR 89) & Montebello Rd (CR 64)/ Rella Blvd	32689	24	6	0	0.40	0.10	0.00
Lafayette Ave (Route 59) & Brookside Avencue	14274	15	3	0	0.58	0.12	0.00
Hemion Road (CR 93) & Montebello Road (CR 64)	13596	4	1	0	0.16	0.04	0.00
Airmont Rd (CR 89) & Dunningan Drive	26716	8	2	0	0.16	0.04	0.00

Source: Dynamic

Note: This table is from the Crash Analysis Memo in Appendix E

Lafayette Avenue (NYS Route 59) & Airmont Road (CR 89)

As shown in **Table III.F-3**, a total of 90 crashes have occurred at the intersection within the 5-year study period. This equates to a crash rate of 1.72 crashes per MEV, which is higher than the statewide average of 0.52 crashes per MEV for urban signalized four-leg intersections. Note that 37 of those crashes (approximately 41 percent) were same direction rear-end crashes that are typical at signalized intersections as a result of driver inattentiveness. Another 19 crashes (approximately 21 percent) were same-direction sideswipe crashes. Eight of the reported crashes resulted in minor injuries; no major injuries or fatalities were reported.

Airmont Road (CR 89) & I-87 SB/I-287 EB Ramps

As shown in **Table III.F-3**, a total of 24 crashes have occurred at the intersection within the 5-year study period. This equates to a crash rate of 0.39 crashes per MEV, which is lower than the statewide average of 0.52 crashes per MEV for urban signalized four-leg intersections. Eight of the reported crashes (approximately 33 percent) involved a same-direction sideswipe collision. Note that 13 of the reported crashes (approximately 24 percent) involved same direction rear-end that are typical at signalized intersections as a result of driver inattentiveness. Four of the reported crashes resulted in minor or moderate injuries; no major injuries or fatalities were reported.

Airmont Road (CR 89) & I-87 NB/I-287 WB Ramps

As shown in **Table III.F-3**, a total of 26 crashes have occurred at the intersection within the 5-year study period. This equates to a crash rate of 0.38 crashes per MEV, which is lower than the statewide average of 0.52 crashes per MEV for urban signalized four-leg intersections. Note that eight of those crashes (approximately 31 percent) were same direction rear-end crashes that are typical at

signalized intersections as a result of driver inattentiveness. Two of the reported crashes resulted in minor or moderate injuries; no major injuries or fatalities were reported.

Airmont Road (CR 89) & North DeBaun Avenue

As shown in **Table III.F-3**, a total of 29 crashes have occurred at the intersection within the 5-year study period. This equates to a crash rate of 1.51 crashes per MEV, which is higher than the statewide average of 0.52 crashes per MEV for urban signalized four-leg intersections. Four of the reported crashes resulted in minor injuries; no major injuries or fatalities were reported.

Airmont Road (CR 89) & Montebello Road (CR 64)/Rella Boulevard

As shown in **Table III.F-3**, a total of 24 crashes have occurred at the intersection within the 5-year study period. This equates to a crash rate of 0.40 crashes per MEV, which is lower than the statewide average of 0.52 crashes per MEV for urban signalized four-leg intersections. Note that ten of those crashes (approximately 42 percent) were same direction rear-end crashes that are typical at signalized intersections as a result of driver inattentiveness. Six of the reported crashes resulted in minor or moderate injuries; no major injuries or fatalities were reported.

Hemion Road (CR 93) & Dunnigan Drive

No crashes were reported at this intersection.

Lafayette Avenue (Route 59) & Brookside Avenue

As shown in **Table III.F-3**, a total of 15 crashes have occurred at the intersection within the 5-year study period. This equates to a crash rate of 0.58 crashes per MEV, which is higher than the statewide average of 0.18 crashes per MEV for urban unsignalized three-leg intersections. Note that four of those crashes (approximately 27 percent) were same direction rear-end crashes that are typical at signalized intersections as a result of driver inattentiveness. Three of the reported crashes resulted in minor injuries; no major injuries or fatalities were reported.

Hemion Road (CR 93) & Montebello Road (CR 64)

As shown in **Table III.F-3**, a total of four crashes have occurred at the intersection within the 5-year study period. This equates to a crash rate of 0.16 crashes per million entering vehicles (MEV), which is lower than the statewide average of 0.29 crashes per MEV for urban unsignalized four-leg intersections. Two of the reported crashes (approximately 50 percent) were same direction rear-end crashes that are typical at stop-controlled intersections. All crashes occurred during the daytime. One of the reported crashes resulted in minor injuries; no major injuries or fatalities were reported.

Airmont Road (CR 89) & Dunnigan Drive

As shown in **Table III.F-3**, a total of eight crashes have occurred at the intersection within the 5-year study period. This equates to a crash rate of 0.16 crashes per MEV, which is lower than the statewide average of 0.29 crashes per MEV for urban unsignalized four-leg intersections. Two of the reported crashes (approximately 25 percent) were same direction rear-end crashes that are typical at stop-controlled intersections. Two of the reported crashes resulted in minor or moderate injuries; no major injuries or fatalities were reported.

Hemion Road (CR 93) & Suffern Middle School Driveway

No crashes were reported at this intersection.

Montebello Road (CR 64) & Suffern Middle School Driveway

No crashes were reported at this intersection.

Montebello Road (CR 64) & Montebello Elementary School Driveway

No crashes were reported at this intersection.

2. Potential Impacts

No Build Traffic Volumes

Traffic volumes and operational analyses were developed for both the 2024 No Build and Build conditions.¹ The No Build conditions provide a baseline for assessing the impact of the Proposed Project traffic on the roadway system. The process of developing the No Build and Build traffic volumes and the subsequent analyses are outlined below.

Regardless of whether the Project Site is developed or not, traffic volumes on the surrounding roadways are expected to increase as a result of developments throughout the region. A growth rate for roadways within the study area was assumed to be 2.0 percent per year.

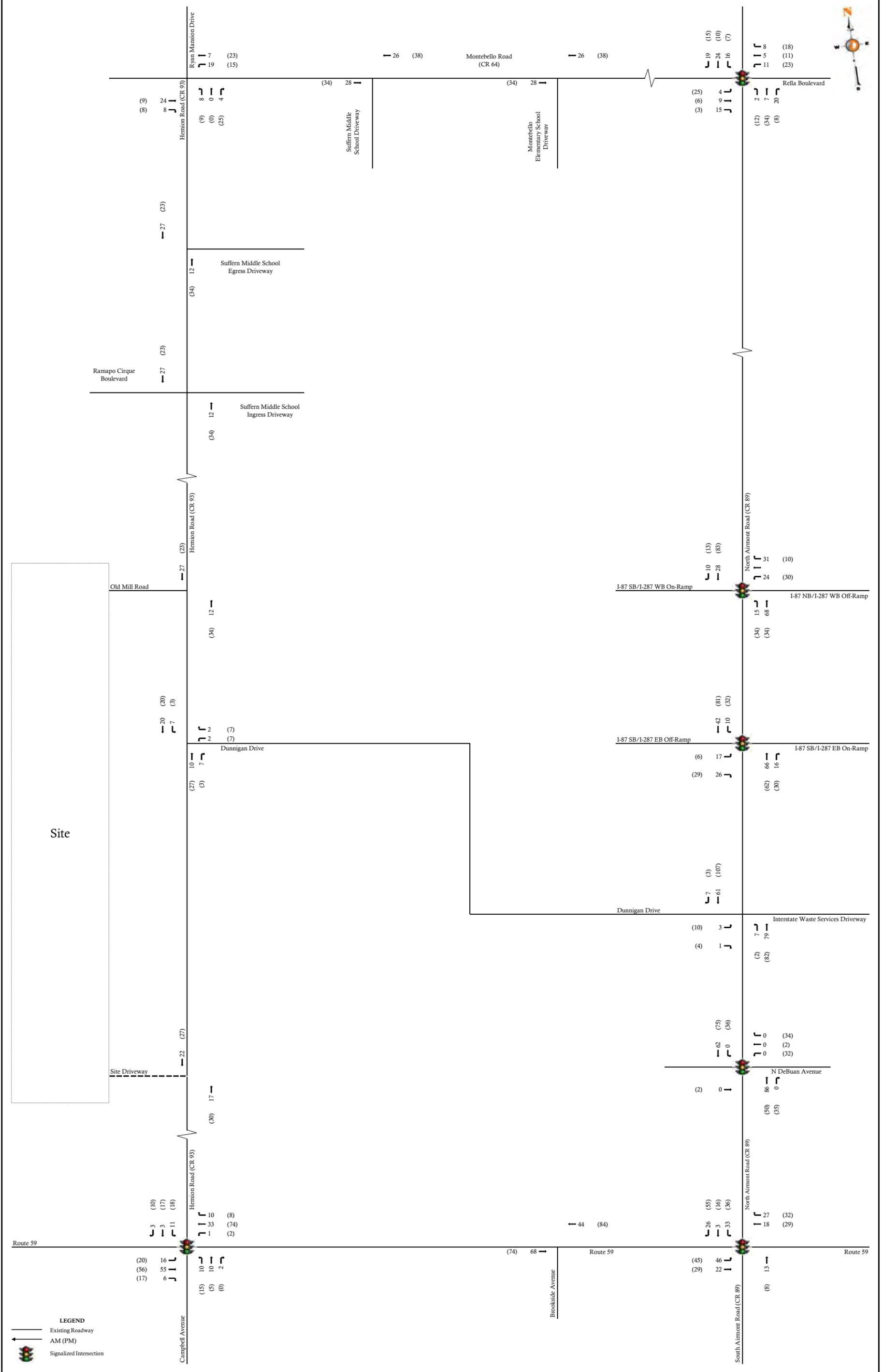
Based on consultation with the Village of Suffern, the Village of Montebello, and the Village of Airmont Planning Board staff, there are nine developments in the vicinity of the Project Site that have been approved but not yet constructed that are identified as a potential significant traffic generator, detailed below.² The adjacent development traffic volumes passing the Project Site are shown on **Figure III.F-2** (This figure is Figure 4 from the Traffic Impact Study in **Appendix E**). It was assumed that the background growth rate was adequate to account for the traffic associated with all developments not listed hereafter.

- › A development consisting of a two-story medical office building, located at 5 Hemion Road, has been approved. Projections of the associated traffic volumes were taken from the traffic study for the development, prepared by Harry Baker & Associates, last revised July 13, 2020.
- › A development consisting of a 200-bed assisted living facility, a 10,000-square-foot (SF) medical office building, and a 14,698-SF pharmacy with drive-through window, located on the north side of Lafayette Avenue (NY Route 59) between Campbell Avenue/Hemion Road and Hillcrest Road, has been approved. Projections of the associated traffic volumes were taken from traffic study for the development, prepared by Maser Consulting PA, dated April 15, 2020.
- › A development consisting of a 4,429-SF Panera, located in the northeast quadrant of the intersection of Airmont Road (CR 89) and DeBaun Avenue in Airmont, New York, has been approved. Projections of the associated traffic volumes taken from the traffic study for the development, prepared by Dynamic Traffic, dated October 31, 2018.

¹ 2024 is the anticipated build year for the Proposed Project. None of the coordinating agencies for the TIS requested an analysis year beyond the build year.

² The DEIS Final Scope identified The Sentinel of Rockland located at 200 Rella Boulevard as a potential significant traffic generator. However, this development was already opened at the time traffic counts were conducted, and therefore is accounted for in the existing conditions analysis.

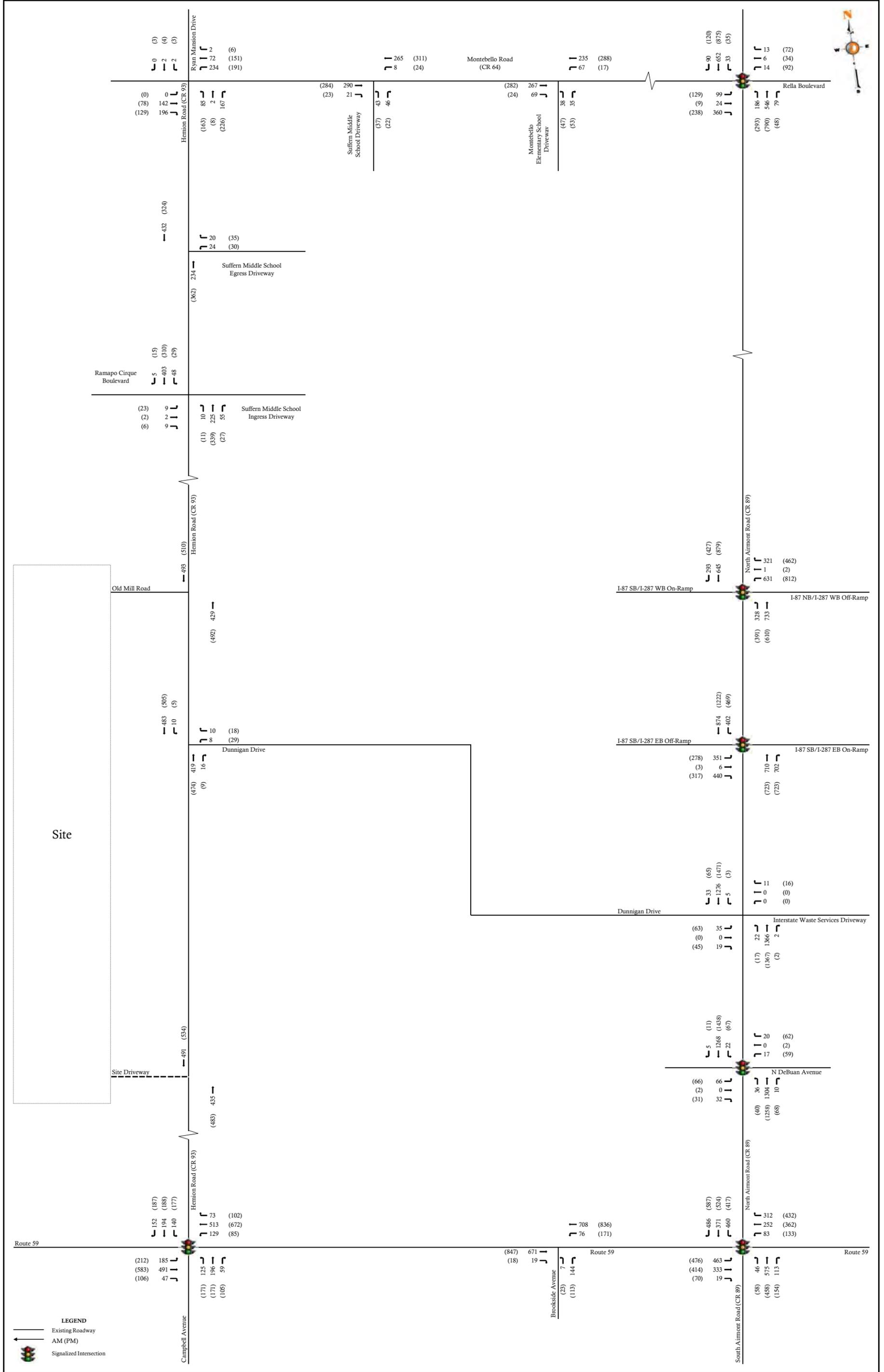
Figure III.F-2 Adjacent Development Traffic Volumes



- › A development consisting of 199,000 SF of warehouse space, 6,000 SF of ancillary office space, and 101,440 SF of self-storage space, located at 100 & 300 Rella Boulevard in Montebello, New York, has been approved. Projections of the associated traffic volumes were taken from the 100 & 300 Rella Boulevard – Updated Site Plan (Traffic) Memorandum, prepared by Colliers Engineering & Design, dated June 3, 2022.
- › An approximately 102,390-SF expansion of the existing Manhattan Beer Distributor warehouse located at 10-20 Dunnigan Drive, Montebello, New York, has been approved and is under construction. Projections of the associated traffic volumes were developed using the Institute of Transportation Engineers (ITE) publication *Trip Generation, 11th Edition* for Land Use Code (LUC) 150 – Warehousing.
- › A development known as Montebello Gateway consisting of 47,642 SF of office space, located at the northwest quadrant of the intersection of North Airmont Road and Executive Boulevard in Montebello, New York has been approved. Projections of the associated traffic volumes were taken from the traffic study prepared for the development by Harry Baker & Associates, dated July 13, 2020, last revised February 8, 2021.
- › A development consisting of 78,101 SF of warehouse space and 2,000 SF of office space, located at 9 Executive Boulevard in Montebello, New York, has been approved and is under construction. Projections of the associated traffic volumes were developed using the Institute of Transportation Engineers (ITE) publication *Trip Generation, 11th Edition* for Land Use Code (LUC) 150 – Warehousing and 710 – General Office Building.
- › A development known as the Allegro Office Building consisting of 10,350 SF of medical office space and 12,000 SF of office space, located at 10 South DeBaun Avenue in the Village of Airmont, New York, has been approved. Projections of the associated traffic volumes were obtained from the Traffic Impact Study, prepared by Maser Consulting, P.A, dated July 27, 2015, and Supplemental Review, prepared by Maser Consulting, P.A, dated January 8, 2018.
- › A development consisting of 29,426 SF of warehouse space and 5,620 SF of office space, located at 124-130 NYS Route 59 in the Village of Airmont, New York, has been approved. Projections of the associated traffic volumes were obtained from the Traffic Impact Study, prepared by Harry Baker & Associates, dated April 5, 2019, revised December 7, 2020.

Future No Build traffic volumes were developed by applying the background growth rate of 2.0 percent for two years to the study area roadways existing traffic volumes and adding the adjacent development traffic volumes. **Figure III.F-3** shows the No Build traffic volumes (This figure is Figure 5 from the Traffic Impact Study in **Appendix E**).

Figure III.F-3 No Build Traffic Volumes



Proposed Project Traffic Generation

Trip generation projections for the Proposed Project were prepared utilizing trip generation research data as published under Land Use Code (LUC) 150 – Warehousing in the Institute of Transportation Engineers' (ITE) publication, *Trip Generation, 11th Edition*. This publication sets forth trip generation rates based on traffic counts conducted at research sites throughout the country. It should be noted that consistent with data published by ITE for LUC 150, 13 percent of the AM site generated trips and 15 percent of the PM site generated trips were assumed to be trucks. **Table III.F-4** summarizes the trip generation for each of the three proposed buildings as well as the total trip generation for the Proposed Project. It should be noted that conservatively, no credit was taken for the use of mass transit or ride sharing, which would result in an overall decrease in vehicular trip generation to/from the Project Site. It is anticipated that future transit access to the Project Site would be considered and coordinated with Transport of Rockland.

Trip generation projections for daily traffic broken down by hour were also prepared and are included in the TIS in **Appendix E**. For LUC 150, the peak period for passenger car traffic generally occurs from 6:00 AM to 9:00 AM and corresponds with the weekday morning peak hour for the adjacent street network, while the peak period for passenger car traffic exiting generally occurs from 3:00 PM to 6:00 PM and corresponds with the weekday evening peak hour for the adjacent street network. Truck traffic generally peaks between 9:00 AM and 12:00 PM, immediately following the morning peak period for passenger car traffic.

Table III.F-4 Proposed Project Trip Generation

Use	Trip Type	AM PSH			PM PSH			SAT PSH		
		In	Out	Total	In	Out	Total	In	Out	Total
Building 1 – 963,100 SF	Total	107	32	139	40	102	142	31	17	48
	Trucks	14	4	18	6	15	21	-	-	-
	Cars	93	28	121	34	87	121	-	-	-
Building 2 – 170,500 SF	Total	34	10	44	13	34	47	6	3	9
	Trucks	4	2	6	2	5	7	-	-	-
	Cars	30	8	38	11	29	40	-	-	-
Building 3 – 88,200 SF	Total	26	8	34	10	27	37	3	1	4
	Trucks	3	1	4	2	4	6	-	-	-
	Cars	23	7	30	8	23	31	-	-	-
Total	Total	167	50	217	63	163	226	40	21	61
	Trucks	21	7	28	10	24	34	-	-	-
	Cars	146	43	189	53	139	192	-	-	-

Source: Dynamic

Note: This table is Table VI from the Traffic Impact Study in Appendix E

As can be seen above, the Proposed Project is projected to generate 217 trips during the weekday morning peak hour, 226 trips during the weekday evening peak hour, and 61 trips during the Saturday peak hour. The number of new trips on Saturday falls below the industry accepted standard of a significant increase in traffic of 100 trips. Based on *Transportation Impact Analysis for Site Development*, published by the ITE, "it is suggested that a transportation impact study be conducted whenever a proposed development will generate 100 or more added (new) trips during the adjacent roadways' peak hour or the development's peak hour." Hence, it is not anticipated that the Proposed Project would result in a significant impact on operating conditions for the surrounding roadway network during the Saturday peak hour. As such, the weekend peak hour was not analyzed.

Once the magnitude of traffic to be generated by the Project Site is known, it is necessary to assign that traffic to the adjacent street system. The distribution of new traffic to the surrounding roadways is based on the location of primary arterial roadways, major signalized intersections and existing traffic patterns. Employee automobile traffic was routed to/from I-87/I-287 via Lafayette Avenue as it is a shorter distance and avoids the high-traffic intersection of Hemion Road/Ryan Mansion Drive and Montebello Road, especially during the start and end of the school day. Trucks were routed towards I-87/I-287 or NYS Route 17, which are designated as truck routes in the October 2020 edition of the NYSDOT *Official Description of Designated Qualifying and Access Highways*. All trucks must travel to/from the Project Site via Lafayette Avenue due to Montebello Road's weight restriction. Proposed Project trip assignments are included in the TIS in **Appendix E**.

The Total Site Generated Volumes assigned to the study area network were added to the Future No Build traffic volumes to generate the Future Build traffic volumes, which are shown in **Figure III.F-4** (This figure is Figure 16 from the Traffic Impact Study in **Appendix E**).

Future Roadway Improvements

The Lower Hudson Transit Link Integrated Corridor Management & Ramp Metering project is currently under construction and is anticipated to be substantially completed by June 2023. The goal of this project is to encourage public transit use with ramp metering, traffic signal improvements, and transit stop improvements. These signal improvements are the bus signal pre-emption at the intersections of Lafayette Avenue & Hemion Road and Lafayette Avenue & Airmont Road. This pre-emption is included in the Existing, No-Build, and Build analyses.

Future Capacity Analysis

Operational conditions at the study intersections were analyzed under the No Build and Build conditions and are summarized in **Table III.F-5** and **Table III.F-6** and detailed below. Mitigation measures were reviewed and considered where level of service degradations, significant increases in delay and/or queue lengths extending beyond available storage were observed.

Table III.F-5 Future AM Levels of Service and Vehicle-to-Capacity Ratios

Intersection	Direction/ Movement		AM PSH					
			No Build		Build		Build w/ Mit.	
			LOS	v/c	LOS	v/c	LOS	v/c
Lafayette Avenue (NYS Route 59) & Campbell Avenue/ Hemion Road (CR 93)	EB	L	F (115)	1.09	F (174)	1.25	F (125)	1.12
		T	E (80)	1.02	F (83)	1.03	E (69)	0.98
		R	A (1)	0.08	A (1)	0.08	A (1)	0.08
	WB	L	D (44)	0.74	D (45)	0.74	D (47)	0.76
		T	F (100)	1.09	F (105)	1.10	F (105)	1.10
		R	A (1)	0.13	A (5)	0.25	A (4)	0.24
	NB	L	D (38)	0.67	D (39)	0.68	D (46)	0.73
		TR	D (44)	0.69	D (46)	0.73	D (54)	0.80
	SB	L	C (31)	0.58	D (38)	0.69	D (41)	0.72
		TR	E (57)	0.89	E (58)	0.90	E (61)	0.91
	Overall		E (68)	1.09	E (75)	1.25	E (70)	1.12
Lafayette Avenue (NYS Route 59) & Airmont Road (CR 89)	EB	L	F (131)	1.15	F (149)	1.19	F (136)	1.16
		T	D (44)	0.60	D (44)	0.60	D (43)	0.45
		R	A (1)	0.03	A (1)	0.03	A (1)	0.03
	WB	L	D (39)	0.34	D (38)	0.33	D (38)	0.21
		T	E (68)	0.81	E (68)	0.81	E (68)	0.40
		R	D (36)	0.74	C (35)	0.71	D (35)	0.71
	NB	L	C (27)	0.11	C (28)	0.11	C (29)	0.11
		TR	E (57)	0.77	E (58)	0.78	E (60)	0.80
	SB	L	F (161)	1.21	F (164)	1.22	F (166)	1.22
		T	F (91)	0.95	F (91)	0.95	F (91)	0.96
		R	A (5)	0.58	A (7)	0.64	A (7)	0.64
Overall		E (73)	1.21	E (76)	1.22	E (75)	1.22	
Airmont Road (CR 89) & I-87 SB/I-287 EB Ramps	EB	LT	C (21)	0.65	B (20)	0.63	B (20)	0.63
		R	D (44)	0.93	D (46)	0.94	D (46)	0.94
	NB	T	C (20)	0.78	C (24)	0.83	C (20)	0.78
		R	F (271)	1.54	F (314)	1.64	F (271)	1.54
	SB	L	D (37)	0.78	D (37)	0.78	D (46)	0.89
		T	C (23)	0.47	C (24)	0.49	C (24)	0.49
Overall		E (76)	1.54	F (86)	1.64	E (78)	1.54	
Airmont Road (CR 89) & I-87 NB/I-287 WB Ramps	WB	L	D (42)	0.86	D (44)	0.88	D (44)	0.88
		LT	D (42)	0.86	D (44)	0.88	D (44)	0.88
		R	C (29)	0.79	C (28)	0.78	C (28)	0.78
	NB	L	F (333)	1.67	F (351)	1.71	F (287)	1.56
		T	B (13)	0.61	B (13)	0.61	B (14)	0.61
	SB	T	C (25)	0.69	C (28)	0.70	C (31)	0.76
		R	A (7)	0.51	A (10)	0.51	B (11)	0.54
	Overall		E (59)	1.67	E (62)	1.71	E (56)	1.56

Intersection	Direction/ Movement		AM PSH					
			No Build		Build		Build w/ Mit.	
			LOS	v/c	LOS	v/c	LOS	v/c
Airmont Road (CR 89) & North DeBaun Avenue	EB	LTR	C (34)	0.39	C (33)	0.38	-	-
	WB	LTR	C (30)	0.14	C (30)	0.17	-	-
	NB	L	A (4)	0.09	A (4)	0.09	-	-
		TR	A (10)	0.62	B (10)	0.63	-	-
	SB	L	A (5)	0.07	A (6)	0.07	-	-
		TR	A (2)	0.59	A (2)	0.61	-	-
	Overall		A (7)	0.62	A (8)	0.63	-	-
Airmont Road (CR 89) & Montebello Road (CR 64)/ Rella Boulevard	EB	LT	C (22)	0.31	C (22)	0.35	-	-
		R	C (27)	0.77	C (26)	0.77	-	-
	WB	L	B (19)	0.03	C (25)	0.05	-	-
		T	B (19)	0.04	B (19)	0.04	-	-
	NB	R	B (19)	0.03	B (19)	0.03	-	-
		L	B (11)	0.51	B (12)	0.53	-	-
	SB	TR	A (2)	0.45	A (2)	0.45	-	-
		L	B (11)	0.07	B (11)	0.07	-	-
	Overall		B (14)	0.77	B (15)	0.77	-	-
Hemion Road (CR 93) & Dunnigan Drive	WB	LR	c (16)	0.078	c (17)	0.070	-	-
	SB	L	a (9)	0.017	a (9)	0.019	-	-
Lafayette Avenue (NYS Route 59) & Brookside Avenue	WB	L	a (10)	0.094	a (10)	0.095	-	-
	NB	LR	c (17)	0.347	c (19)	0.383	-	-
Montebello Road (CR 64) & Hemion Road (CR 93)/Ryan Mansion Drive	EB	L	-	-	-	-	c (23)	0.694
	WB	L	a (10)	0.306	b (11)	0.380	d (30)	0.813
	NB	LTR	f (89)	1.02	f (213)	1.345	e (42)	0.894
	SB	LTR	e (38)	0.050	f (55)	0.071	b (12)	0.014
Airmont Road (CR 89) & Dunnigan Drive/Interstate Waste Services Driveway	EB	LT	f (82)	0.455	f (82)	0.455	-	-
		R	b (12)	0.039	b (13)	0.042	-	-
	WB	LTR	b (14)	0.028	b (14)	0.028	-	-
	SB	L	b (10)	0.007	b (10)	0.007	-	-
Hemion Road (CR 93) & Suffern Middle School Driveway/Ramapo Cirque Boulevard	EB	L	d (26)	0.073	d (31)	0.089	-	-
		R	b (13)	0.034	b (14)	0.038	-	-
	NB	L	a (9)	0.016	a (9)	0.018	-	-
	SB	L	a (9)	0.074	a (9)	0.076	-	-
Hemion Road (CR 93) & Suffern Middle School Egress Driveway	WB	LR	c (17)	0.162	c (19)	0.183	-	-
Montebello Road (CR 93) & Suffern Middle School Driveway	WB	L	a (9)	0.013	a (9)	0.013	-	-
	NB	LR	c (21)	0.362	c (24)	0.406	-	-
Montebello Road (CR 93) & Montebello Elementary School Driveway	WB	L	a (8)	0.068	a (8)	0.069	-	-
	NB	LR	b (13)	0.166	b (14)	0.177	-	-
Hemion Road (CR 93) & Old Mill Road	EB	LR	-	-	e (43)	0.234	-	-
	NB	L	-	-	b (11)	0.088	-	-
Hemion Road (CR 93) & Site Driveway	EB	L	-	-	e (36)	0.131	-	-
		R	-	-	b (14)	0.060	-	-
	NB	L	-	-	b (10)	0.109	-	-

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

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

Source: Dynamic

Note: This table is Table VII from the Traffic Impact Study in Appendix E

Table III.F-6 Future PM Levels of Service and Vehicle-to-Capacity Ratios

Intersection	Direction/ Movement		PM PSH					
			No Build		Build		Build w/ Mit.	
			LOS	v/c	LOS	v/c	LOS	v/c
Lafayette Avenue (NYS Route 59) & Campbell Avenue/ Hemion Road (CR 93)	EB	L	E (75)	0.96	F (89)	1.01	E (69)	0.94
		T	D (37)	0.81	D (37)	0.81	C (33)	0.78
		R	A (1)	0.12	A (1)	0.12	A (1)	0.12
	WB	L	B (17)	0.35	B (17)	0.36	B (17)	0.35
		T	E (74)	1.03	E (75)	1.04	E (76)	1.04
		R	A (1)	0.12	A (2)	0.15	A (2)	0.15
	NB	L	D (38)	0.66	D (38)	0.67	E (62)	0.85
		TR	E (68)	0.91	E (75)	0.94	F (89)	0.99
	SB	L	D (41)	0.71	F (82)	0.98	F (83)	0.98
		TR	F (134)	1.16	F (188)	1.30	F (140)	1.19
	Overall		E (62)	1.16	E (76)	1.30	E (69)	1.19
Lafayette Avenue (NYS Route 59) & Airmont Road (CR 89)	EB	L	F (194)	1.30	F (256)	1.46	F (197)	1.31
		T	D (47)	0.67	D (47)	0.68	D (44)	0.63
		R	A (2)	0.10	A (2)	0.10	A (2)	0.11
	WB	L	D (40)	0.51	D (40)	0.52	D (38)	0.46
		T	E (72)	0.87	E (72)	0.87	E (76)	0.87
		R	D (37)	0.82	D (37)	0.82	D (36)	0.79
	NB	L	D (48)	0.23	D (48)	0.24	E (57)	0.35
		TR	E (61)	0.75	E (61)	0.75	E (74)	0.86
	SB	L	F (107)	1.03	F (107)	1.04	F (111)	1.04
		T	F (96)	1.01	F (96)	1.01	E (76)	0.91
		R	B (13)	0.72	B (15)	0.74	B (12)	0.68
Overall		E (74)	1.30	F (83)	1.46	E (75)	1.31	
Airmont Road (CR 89) & I-87 SB/I-287 EB Ramps	EB	LT	C (25)	0.65	C (25)	0.64	C (26)	0.65
		R	C (34)	0.88	C (35)	0.88	D (47)	0.90
	NB	T	B (12)	0.58	A (9)	0.61	A (8)	0.59
		R	F (123)	1.21	F (143)	1.27	F (130)	1.24
	SB	L	C (32)	0.80	C (32)	0.80	D (35)	0.82
		T	A (9)	0.53	A (9)	0.54	B (15)	0.53
Overall		D (38)	1.21	D (42)	1.27	D (42)	1.24	
Airmont Road (CR 89) & I-87 NB/I-287 WB Ramps	WB	L	C (34)	0.79	C (34)	0.79	D (39)	0.83
		LT	C (34)	0.79	C (34)	0.79	D (39)	0.83
		R	B (20)	0.74	B (20)	0.74	B (18)	0.74
	NB	L	E (73)	1.05	F (94)	1.11	E (75)	1.06
		T	A (4)	0.37	A (4)	0.37	A (4)	0.36
	SB	T	D (45)	0.88	D (44)	0.88	D (43)	0.88
		R	B (20)	0.63	B (19)	0.63	B (18)	0.62
Overall		C (32)	1.05	C (35)	1.11	C (33)	1.06	

Intersection	Direction/ Movement		PM PSH					
			No Build		Build		Build w/ Mit.	
			LOS	v/c	LOS	v/c	LOS	v/c
Airmont Road (CR 89) & North DeBaun Avenue	EB	LTR	C (33)	0.36	C (33)	0.36	-	-
	WB	LTR	C (34)	0.45	C (34)	0.46	-	-
	NB	L	A (5)	0.11	A (5)	0.11	-	-
		TR	B (14)	0.68	B (14)	0.71	-	-
	SB	L	A (7)	0.17	A (8)	0.17	-	-
		TR	A (6)	0.64	A (6)	0.66	-	-
Overall		B (11)	0.68	B (12)	0.71	-	-	
Airmont Road (CR 89) & Montebello Road (CR 64)/ Rella Boulevard	EB	LT	C (29)	0.44	C (31)	0.58	-	-
		R	C (26)	0.64	C (25)	0.62	-	-
	WB	L	C (26)	0.21	C (25)	0.20	-	-
		T	C (25)	0.09	C (24)	0.09	-	-
	NB	R	C (25)	0.12	C (25)	0.20	-	-
		L	B (16)	0.73	B (18)	0.75	-	-
	SB	TR	A (1)	0.45	A (1)	0.46	-	-
		L	A (8)	0.07	A (8)	0.07	-	-
	Overall	TR	B (14)	0.51	B (14)	0.53	-	-
			B (13)	0.73	B (13)	0.75	-	-
Hemion Road (CR 93) & Dunnigan Drive	WB	LR	c (15)	0.136	c (17)	0.153	-	-
	SB	L	a (9)	0.006	a (9)	0.006	-	-
Lafayette Avenue (NYS Route 59) & Brookside Avenue	WB	L	b (12)	0.251	b (12)	0.264	-	-
	NB	LR	d (26)	0.467	d (30)	0.508	-	-
Montebello Road (CR 64) & Hemion Road (CR 93)/Ryan Mansion Drive	EB	L	-	-	-	-	b (13)	0.406
	WB	L	a (8)	0.164	a (8)	0.182	c (22)	0.703
	NB	LTR	e (47)	0.890	f (86)	1.057	d (28)	0.807
	SB	LTR	c (19)	0.041	c (21)	0.047	b (10)	0.022
Airmont Road (CR 89) & Dunnigan Drive/Interstate Waste Services Driveway	EB	LT	f (119)	0.761	f (122)	0.769	-	-
		R	b (14)	0.105	b (14)	0.105	-	-
	WB	LTR	b (13)	0.036	b (13)	0.039	-	-
	SB	L	b (12)	0.006	b (12)	0.007	-	-
Hemion Road (CR 93) & Suffern Middle School Driveway/Ramapo Cirque Boulevard	EB	L	c (18)	0.087	c (20)	0.101	-	-
		R	b (10)	0.014	b (11)	0.014	-	-
	NB	L	a (8)	0.011	a (8)	0.011	-	-
SB	L	a (9)	0.032	a (9)	0.034	-	-	
Hemion Road (CR 93) & Suffern Middle School Egress Driveway	WB	LR	b (14)	0.149	b (15)	0.167	-	-
Montebello Road (CR 93) & Suffern Middle School Driveway	WB	L	a (8)	0.022	a (8)	0.023	-	-
	NB	LR	c (16)	0.165	c (17)	0.185	-	-
Montebello Road (CR 93) & Montebello Elementary School Driveway	WB	L	a (8)	0.018	a (9)	0.019	-	-
	NB	LR	b (13)	0.192	b (13)	0.207	-	-
Hemion Road (CR 93) & Old Mill Road	EB	LR	-	-	d (27)	0.300	-	-
	NB	L	-	-	a (9)	0.021	-	-
Hemion Road (CR 93) & Site Driveway	EB	L	-	-	d (30)	0.254	-	-
		R	-	-	b (15)	0.165	-	-
	NB	L	-	-	a (10)	0.034	-	-

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

Source: Dynamic

Note: This table is Table VIII from the Traffic Impact Study in Appendix E

Future Queue Analysis

Queue length conditions at the study intersections were analyzed under the No Build and Build conditions. The 95th percentile queues for each study peak hour are summarized in **Table III.F-7** below.

Table III.F-7 Future Queue Analysis

Intersection	Direction/ Movement	Storage Length	AM PSH			PM PSH			
			No Build	Build	Build w/ Mit.	No Build	Build	Build w/ Mit.	
Lafayette Avenue (NYS Route 59) & Campbell Avenue/ Hemion Road (CR 93)	EB	L	325'	282'	337'	313'	293'	312'	299'
		T	-	580'	580'	548'	599'	599'	562'
		R	310'	0'	0'	0'	8'	8'	8'
	WB	L	180'	149'	148'	148'	66'	66'	65'
		T	-	657'	657'	618'	789'	789'	799'
		R	560'	2'	30'	28'	7'	18'	18'
	NB	L	150'	108'	108'	122'	140'	140'	182'
		TR	-	262'	288'	307'	265'	292'	297'
	SB	L	300'	122'	136'	142'	161'	253'	255'
		TR	-	354'	372'	408'	425'	506'	476'
Lafayette Avenue (NYS Route 59) & Airmont Road (CR 89)	EB	L	330'	801'	842'	829'	947'	1068'	1069'
		T	-	319'	321'	317'	404'	411'	413'
		R	145'	-	-	-	12'	12'	10'
	WB	L	175'	105'	104'	103'	156'	156'	156'
		T	-	234'	240'	238'	342'	345'	346'
		R	170'	230'	225'	229'	376'	376'	365'
	NB	L	140'	54'	54'	55'	116'	116'	80'
		TR	140'	451'	454'	463'	437'	438'	517'
	SB	L	100'	784'	792'	799'	690'	693'	764'
		T	-	493'	496'	496'	730'	732'	926'
R		-	70'	104'	102'	224'	245'	252'	
Airmont Road (CR 89) & I-87 SB/I-287 EB Ramps	EB	LT	120'	220'	215'	215'	195'	193'	200'
		R	-	370'	393'	393'	250'	255'	295'
	NB	T	-	168'	190'	168'	125'	90'	85'
		R	80'	1430'	1578'	1440'	865'	943'	875'
	SB	L	150'	163'	163'	175'	155'	155'	165'
T	-	288'	295'	290'	183'	188'	283'		
Airmont Road (CR 89) & I-87 NB/I-287 WB Ramps	WB	L	520'	221'	228'	228'	261'	264'	291'
		LT	-	221'	228'	228'	263'	266'	293'
		R	350'	167'	167'	167'	195'	195'	195'
	NB	L	105'	341'	349'	336'	317'	339'	339'
		T	-	185'	185'	185'	16'	16'	52'
	SB	T	-	219'	224'	227'	396'	396'	370'
R	140'	64'	67'	69'	169'	160'	156'		

Intersection	Direction/ Movement		Storage Length	AM PSH			PM PSH		
				No Build	Build	Build w/ Mit.	No Build	Build	Build w/ Mit.
Airmont Road (CR 89) & North DeBaun Avenue	EB	LTR	-	93'	93'	-	83'	88'	-
	WB	LTR	-	33'	38'	-	113'	115'	-
	NB	L	130'	8'	8'	-	10'	10'	-
		TR	-	255'	260'	-	308'	325'	-
	SB	L	155'	5'	5'	-	15'	15'	-
		TR	-	33'	35'	-	135'	138'	-
Airmont Road (CR 89) & Montebello Road (CR 64)/ Rella Boulevard	EB	LT	-	85'	98'	-	108'	153'	-
		R	140'	0'	268'	-	178'	175'	-
	WB	L	90'	273'	10'	-	65'	65'	-
		T	-	10'	5'	-	23'	23'	-
	NB	R	35'	5'	8'	-	53'	50'	-
		L	290'	8'	73'	-	108'	115'	-
	SB	TR	-	73'	25'	-	15'	15'	-
		L	290'	25'	15'	-	10'	13'	-
Hemion Road (CR 93) & Dunnigan Drive	WB	LR	-	8'	8'	-	13'	13'	-
	SB	L	-	3'	3'	-	0'	0'	-
Lafayette Avenue (NYS Route 59) & Brookside Avenue	WB	L	-	8'	8'	-	25'	28'	-
	NB	LR	-	38'	45'	-	60'	68'	-
Montebello Road (CR 64) & Hemion Road (CR 93)/Ryan Mansion Drive	EB	L	-	-	-	205'	-	-	50'
	WB	L	-	33'	45'	263'	23'	18'	140'
	NB	LTR	-	298'	488'	135'	248'	395'	203'
	SB	LTR	-	5'	5'	0'	3'	3'	3'
Airmont Road (CR 89) & Dunnigan Drive/Interstate Waste Services Driveway	EB	LT	-	48'	48'	-	98'	100'	-
		R	290'	3'	3'	-	8'	8'	-
	WB	LTR	-	3'	3'	-	3'	3'	-
	NB	L	100'	3'	3'	-	3'	3'	-
Hemion Road (CR 93) & Suffern Middle School Ingress Driveway/Ramapo Cirque Boulevard	EB	L	-	5'	8'	-	8'	8'	-
		R	-	3'	3'	-	0'	0'	-
SB	L	-	3'	3'	-	0'	0'	-	
	L	-	5'	5'	-	3'	3'	-	
Hemion Road (CR 93) & Suffern Middle School Egress Driveway	WB	LR	-	15'	18'	-	13'	15'	-
Montebello Road (CR 93) & Suffern Middle School Driveway	WB	L	-	0'	0'	-	3'	3'	-
	NB	LR	-	40'	48'	-	15'	18'	-
Montebello Road (CR 93) & Montebello Elementary School Driveway	WB	L	-	5'	5'	-	3'	3'	-
	NB	LR	-	15'	15'	-	18'	20'	-
Hemion Road (CR 93) & Old Mill Road	EB	LR	-	-	23'	-	-	30'	-
	NB	L	-	-	8'	-	-	3'	-
Hemion Road (CR 93) & Site Driveway	EB	L	-	-	10'	-	-	25'	-
		R	195'	-	5'	-	-	15'	-
	NB	L	150'	-	10'	-	-	3'	-

Source: Dynamic

Note: This table is Table IX from the Traffic Impact Study in Appendix E

Lafayette Avenue (NYS Route 59) & Campbell Avenue/Hemion Road (CR 93)

With the addition of site generated traffic, the intersection is anticipated to operate at overall levels of service "E" or better during the analyzed peak hours (same as the No Build). Additionally, each movement is anticipated to operate at levels of service "E" or better, with the exception of the eastbound left turn movement during the weekday morning and evening peak hour, the westbound through movement during the weekday morning peak hour, as well as the southbound left turn and through/right turn movements during the weekday evening peak hour, which operate at level of

service "F". It should be noted that with minor signal timing adjustments, the intersection will operate with levels of service and delays more consistent with the No Build condition.

Additionally, as part of the Project, it is proposed to restripe the eastbound left turn lane to provide 325 feet of storage length and southbound left turn lane to provide 300 feet of storage length at the intersection. Further, it is proposed to modify the radius on the northeast corner of the intersection to help facilitate westbound right turn movements for tractor trailers. See **Table III.F-5** and **Table III.F-6** for the individual movement levels of service and delays.

With the addition of site generated traffic, proposed signal retiming, and restriping of the eastbound and southbound left turn lanes, there is anticipated to be a maximum increase of approximately 2 vehicles in the 95th percentile queues for all movements at the intersection. It is not anticipated that the increase in queues will have a detrimental impact on the operation of the intersection. See **Table III.F-7** for the individual movement 95th percentile queues.

It is anticipated that the restriping of the eastbound and southbound left turn lanes can be accomplished with minor pavement widening and without the need for right-of-way acquisition. The modification of the northeast corner of the intersection would require pavement widening, but it is anticipated to be completed without the acquisition of additional right-of-way. Relocation of the existing traffic signal equipment, crosswalks, and utility poles may be required depending on the final design. The intersection improvements would be phased in such a way to minimize impacts to the existing intersection traffic. Detailed Work Zone Traffic Control Plans would ultimately be prepared for use by the contractor during construction. These improvements, along with the signal timing modifications, would need to be coordinated with the NYSDOT and appropriate utility companies. Funding of the necessary improvements would be provided by the Applicant.

It should be noted that it is not anticipated that the ability of ambulances to utilize Lafayette Avenue to travel to Good Samaritan Hospital just west of this intersection would be degraded. There are paved shoulders and a striped or two-way left turn lane median through Lafayette Avenue corridor between Hemion Road and Airmont Road. These provide space for vehicles to pull off and emergency vehicles to pass in the event of an emergency.

Lafayette Avenue (NYS Route 59) & Airmont Road (CR 89)

With the addition of site generated traffic, the intersection is anticipated to operate at overall level of service "E" during the weekday morning peak hour and overall level of service "F" during the weekday evening peak hour. Additionally, each movement is anticipated to operate at levels of service "E" or better, with the exception of the eastbound left turn, southbound left turn, and the southbound through movements, which are anticipated to operate at level of service "F" during the weekday morning and evening peak hour. It should be noted that with a minor signal timing adjustment, the intersection would operate at overall level of service "E" and all movements would operate with levels of service and delays more consistent with No Build conditions.

Additionally, the Proposed Project would incorporate proposed modifications to the radius on the northwest corner of the intersection to help facilitate southbound right turn movements for tractor trailers. See **Table III.F-5** and **Table III.F-6** for the individual movement levels of service and delays.

With the addition of site generated traffic and proposed signal retiming, there is anticipated to be a maximum increase of approximately 8 vehicles in the 95th percentile queues for all movements at the intersection. It is not anticipated that the increase in queues will have a detrimental impact on the operation of the intersection. See **Table III.F-7** for the individual movement 95th percentile queues.

The modification of the northwest corner of the intersection would require pavement widening, but it is anticipated to be completed without the acquisition of additional right-of-way. Relocation of the existing traffic signal equipment, crosswalks, and utility poles may be required depending on the final design. The intersection improvements would be phased in such a way to minimize impacts to the existing intersection traffic. Detailed Work Zone Traffic Control Plans would ultimately be prepared for use by the contractor during construction. These improvements, along with the signal timing modifications, would need to be coordinated with the NYSDOT and appropriate utility companies. Funding of the necessary improvements would be provided by the Applicant.

Airmont Road (CR 89) & I-87 SB/I-287 EB Ramps

With the addition of site generated traffic, the intersection is anticipated to operate at overall level of service "F" during the weekday morning peak hour and overall level of service "D" during the weekday evening peak hour. Additionally, each movement is anticipated to operate at levels of service "D" or better, with the exception of the northbound right turn movement, which operates at level of service "F" during the weekday morning and evening peak hour. It should be noted that with minor signal timing adjustments, the intersection can operate with levels of service and delays more consistent with No Build conditions. See [Table III.F-5](#) and [Table III.F-6](#) for the individual movement levels of service and delays.

Signal timing modifications would need to be coordinated with the operator of the signals. No roadway improvements or additional right-of-way would be necessary. Funding of the necessary improvements would be provided by the Applicant.

With the addition of site generated traffic and proposed signal retiming, there is anticipated to be a maximum increase of approximately four vehicles in the 95th percentile queues for all movements at the intersection. It is not anticipated that the increase in queues would have a detrimental impact on the operation of the intersection. See [Table III.F-7](#) for the individual movement 95th percentile queues.

Airmont Road (CR 89) & I-87 NB/I-287 WB Ramps

With the addition of site generated traffic, the intersection is anticipated to operate at overall levels of service "E" or better during the analyzed peak hours. Additionally, each movement is anticipated to operate at levels of service "D" or better during the analyzed peak hours, with the exception of the northbound left turn movement, which operates at level of service "F" during the weekday morning and evening peak hour. It should be noted that with minor signal timing adjustments, the northbound left turn movement would operate with delays more consistent with No Build conditions. See [Table III.F-5](#) and [Table III.F-6](#) for the individual movement levels of service and delays.

Signal timing modifications would need to be coordinated with the operator of the signals. No roadway improvements or additional right-of-way would be necessary.

With the addition of site generated traffic and proposed signal retiming, there is anticipated to be a maximum increase of approximately one vehicle in the 95th percentile queues for all movements at the intersection. It is not anticipated that the increase in queues would have a detrimental impact on the operation of the intersection. See [Table III.F-7](#) for the individual movement 95th percentile queues.

Airmont Road (CR 89) & North DeBaun Avenue

With the addition of site generated traffic, the intersection is anticipated to operate at overall levels of service "B" or better during the analyzed peak hours. Additionally, each movement is anticipated to operate at levels of service "C" or better during the analyzed peak hours. See **Table III.F-5** and **Table III.F-6** for the individual movement levels of service and delays.

With the addition of site generated traffic, there is anticipated to be a maximum increase of less than one vehicle in the 95th percentile queues for all movements at the intersection. It is not anticipated that the increase in queues would have a detrimental impact on the operation of the intersection. See **Table III.F-7** for the individual movement 95th percentile queues.

Airmont Road (CR 89) & Montebello Road (CR 64)/Rella Boulevard

With the addition of site generated traffic, the intersection is anticipated to operate at overall level of service "B" during the analyzed peak hours. Additionally, each movement is anticipated to operate at levels of service "C" or better during the analyzed peak hours. See **Table III.F-5** and **Table III.F-6** for the individual movement levels of service and delays.

With the addition of site generated traffic, there is anticipated to be a maximum increase of approximately 2 vehicles in the 95th percentile queues for all movements at the intersection. It is not anticipated that the increase in queues would have a detrimental impact on the operation of the intersection. See **Table III.F-7** for the individual movement 95th percentile queues.

Hemion Road (CR 93) & Dunnigan Drive

With the addition of site generated traffic, all movements are anticipated to operate at level of service "C" or better with little to no change in delay during the analyzed peak hours. See **Table III.F-5** and **Table III.F-6** for the individual movement levels of service and delays.

With the addition of site generated traffic, there is anticipated to be a minimal increase in the 95th percentile queues for all movements at the intersection. See **Table III.F-7** for the individual movement 95th percentile queues.

Lafayette Avenue (NYS Route 59) & Brookside Avenue

With the addition of site generated traffic, all movements are anticipated to operate at level of service "D" or better with little to no change in delay during the analyzed peak hours. See **Table III.F-5** and **Table III.F-6** for the individual movement levels of service and delays.

With the addition of site generated traffic, there is anticipated to be a maximum increase of approximately one vehicle in the 95th percentile queues for all movements at the intersection. It is not anticipated that the increase in queues would have a detrimental impact on the operation of the intersection. See **Table III.F-7** for the individual movement 95th percentile queues.

Montebello Road (CR 64) & Hemion Road (CR 93)/Ryan Mansion Drive

With the addition of site generated traffic, the northbound movement is anticipated to continue to operate at level of service "F" during the analyzed peak hours.

As part of the Proposed Project, it is proposed to convert the intersection to multi-way stop control, which would result in all movements operating at level of service "E" or better during the analyzed

peak hours. See **Table III.F-5** and **Table III.F-6** for the individual movement levels of service and delays.

With the addition of site generated traffic and the conversion to multi-way stop control, the northbound 95th percentile queue would also be anticipated to be reduced by 18 percent when compared to No Build conditions and 48 percent when compared to Build conditions. This would prevent the northbound approach queuing from blocking the Suffern Middle School Driveway along Hemion Road. See **Table III.F-7** for the individual movement 95th percentile queues.

The application of multi-way stop control would require an evaluation submitted to Rockland County to determine if such control is warranted according to Manual on Uniform Traffic Control Devices (MUTCD) criteria. Additional improvements to ensure consistent operations of the Suffern Middle School driveways may also be necessary. Funding of the necessary improvements would be provided by the Applicant.

Airmont Road (CR 89) & Dunnigan Drive/Interstate Waste Services Driveway

With the addition of site generated traffic, all movements are anticipated to operate at levels of service consistent with No-Build conditions with little to no change in delay during the analyzed peak hours. See **Table III.F-5** and **Table III.F-6** for the individual movement levels of service and delays.

With the addition of site generated traffic, there is anticipated to be an increase of less than one vehicle in the 95th percentile queues for all movements at the intersection. See **Table III.F-7** for the individual movement 95th percentile queues.

Hemion Road (CR 93) & Suffern Middle School Ingress Driveway/Ramapo Cirque Boulevard

With the addition of site generated traffic, all movements are anticipated to operate at levels of service "D" or better with little to no change in delay during the analyzed peak hours. See **Table III.F-5** and **Table III.F-6** for the individual movement levels of service and delays.

With the addition of site generated traffic, there is anticipated to be an increase of less than one vehicle in the 95th percentile queues for all movements at the intersection. See **Table III.F-7** for the individual movement 95th percentile queues.

Hemion Road (CR 93) & Suffern Middle School Egress Driveway

With the addition of site generated traffic, all movements are anticipated to operate at levels of service "C" or better with little to no change in delay during the analyzed peak hours. See **Table III.F-5** and **Table III.F-6** for the individual movement levels of service and delays.

With the addition of site generated traffic, there is anticipated to be an increase of less than one vehicle in the 95th percentile queues for all movements at the intersection. See **Table III.F-7** for the individual movement 95th percentile queues.

Montebello Road (CR 93) & Suffern Middle School Driveway

With the addition of site generated traffic, all movements are anticipated to operate at levels of service "C" or better with little to no change in delay during the analyzed peak hours. See **Table III.F-5** and **Table III.F-6** for the individual movement levels of service and delays.

With the addition of site generated traffic, there is anticipated to be an increase of less than one vehicle in the 95th percentile queues for all movements at the intersection. See **Table III.F-7** for the individual movement 95th percentile queues.

Montebello Road (CR 93) & Montebello Elementary School Driveway

With the addition of site generated traffic, all movements are anticipated to operate at levels of service "B" or better with little to no change in delay during the analyzed peak hours. See **Table III.F-5** and **Table III.F-6** for the individual movement levels of service and delays.

With the addition of site generated traffic, there is anticipated to be an increase of less than one vehicle in the 95th percentile queues for all movements at the intersection. See **Table III.F-7** for the individual movement 95th percentile queues.

Hemion Road (CR 93) & Old Mill Road

Old Mill Road intersects Hemion Road to form an unsignalized T-intersection with the eastbound approach of Old Mill Road operating under stop control. The northbound approach of Hemion Road provides a shared left turn/through lane, while the southbound approach provides a shared through/right turn lane. The eastbound approach of Old Mill Road provides a shared left turn/right turn lane.

As designed, all movements are anticipated to operate at levels of service "E" or better during the analyzed peak hours. See **Table III.F-5** and **Table III.F-6** for the individual movement levels of service and delays.

As designed, Old Mill Road is anticipated to operate with a 95th percentile queue length of 30 feet. The driveway provides significant throat length prior to the first on-site intersection. Therefore, it is not anticipated that this queue would impact on-site circulation. See **Table III.F-7** for the individual movement 95th percentile queues.

Hemion Road (CR 93) & Site Driveway

The site driveway is proposed to intersect Hemion Road to form an unsignalized T-intersection with the eastbound approach of the site driveway operating under stop control. It is proposed to restripe Hemion Road so that the northbound approach is proposed to provide a dedicated left turn lane with 150 feet of storage length and a dedicated through lane, while the southbound approach is proposed to provide a dedicated through lane and a dedicated right turn lane with a storage length of 100 feet. The eastbound approach of the site driveway is proposed to provide a dedicated left turn lane and a dedicated right turn lane with a storage length of 195 feet.

Trucks shall be restricted to left-in/right-out movements at the site driveway. This will be accomplished via regulatory signage, pavement markings, and communication with drivers on-site.

As designed, the site driveway is anticipated to operate at levels of service "E" or better during the analyzed peak hours. See **Table III.F-5** and **Table III.F-6** for the individual movement levels of service and delays.

As designed, the site driveway is anticipated to operate with a 95th percentile queue length of 25 feet. The driveway provides significant throat length prior to the first on-site intersection. Therefore, it is not anticipated that this queue will impact on-site circulation. See **Table III.F-7** for the individual movement 95th percentile queues.

Site Access and Circulation

Access to the Project Site would be provided via a full movement driveway at the south end of the Project Site along Hemion Road and two full movement driveways at the north end of the Project Site along Old Mill Road. Trucks would be restricted to left-in/right-in/right-out movements along Hemion Road (CR 93).

The Proposed Project parking lots would be serviced by parking aisles with a width of 24 feet, in compliance with the Village of Suffern Village Code minimum requirements. These aisles would allow for two-way circulation and 90 degree parking. Circulation between the driveway and buildings would be serviced by aisles with a width of 36 feet. Truck loading areas, which are separated from the parking lots, would be serviced by aisles with a width of 70 feet. The Proposed Project has been designed such that the Project Site can sufficiently accommodate a large wheel base vehicle, such as a single unit truck (SU), or a tractor with a 53-foot trailer, along with the automobile traffic anticipated.

The Proposed Project security gate would be located to allow for ample throat length to accommodate potential queuing vehicles and trucks. In addition, vehicle circulation plans are provided in **Appendix E** showing the feasibility for the largest anticipated trucks to access the Project Site.

Loading areas would be located on both sides of Building 1 and on one side of Buildings 2 and 3, separated from the employee parking areas. A bypass truck aisle would be provided for Building 1 so trucks can travel past the building without interfering with loading movements. Trucks are anticipated to enter the Project Site, complete their necessary loading and/or unloading, park their trailer within one of the trailer parking spaces, and then exit the Project Site. The use of yard jockeys is not anticipated, and all trucks would be equipped by backup beepers as required by law.

Parking

The Proposed Project would meet all of the parking requirements as set forth in the Village of Suffern parking ordinance. The ordinance sets forth a parking requirement of 3.3 parking spaces per 1,000 SF of sales and office area and 1 parking space per 3 employees on the largest shift for warehouse uses. This equates to a parking requirement of 178 spaces for Building 1 with 21,000 SF of office space and 324 employees on the maximum shift, 30 spaces for Building 2 with 3,200 SF of office space and 56 employees on the maximum shift, and 22 spaces for Building 3 with 3,200 SF of office space and 33 employees on the maximum shift. This equates to a total requirement of 230 parking spaces. The Proposed Project would provide 661 parking spaces. The ordinance also requires one parking space for each commercial vehicle to be stored on the Project Site. The Proposed Project would provide 238 trailer parking spaces, which is anticipated to be sufficient to support the demands of the Proposed Project.

The Proposed Project would also provide passenger vehicle parking stalls with dimensions of 9x18 feet, in keeping with the minimum dimensional requirements, and trailer parking stalls that measure 13x55 feet, of sufficient size to park 53-foot trailers.

Finally, the ordinance also sets forth a loading requirement of one loading space per the first 1,500 SF and one loading space for each additional 10,000 SF of floor area for warehouse uses. This equates to a loading requirement of 95 loading spaces for Building 1 with 942,100 SF of warehouse floor area, 17 loading spaces for Building 2 with 85,000 SF of warehouse floor area, and 17 loading

spaces for Building 3 with 85,000 SF of warehouse floor area. This equates to a total loading space requirement of 121 loading spaces for the Proposed Project. In compliance with this requirement, the Proposed Project would provide 194 loading spaces, measuring 14x60 feet in keeping with general engineering standards for loading space size.

3. Mitigation Measures

As detailed above, mitigation measures were reviewed and considered where level of service degradations, significant increases in delay and/or queue lengths extending beyond available storage were observed for each of the study intersections. The following mitigation measures are proposed:

- › Lafayette Avenue (NYS Route 59) & Campbell Avenue/Hemion Road (CR 93): minor signal timing adjustments as well as restriping the eastbound and southbound left turn lanes to provide 325 and 300 feet of storage length, respectively, and to modify the radius on the northeast corner of the intersection to facilitate tractor trailer turning maneuvers
- › Lafayette Avenue (NYS Route 59) and Airmont Road (CR 89): minor signal timing adjustments and modification of the radius on the northwest corner of the intersection to facilitate tractor trailer turning maneuvers
- › Airmont Road (CR 89) and the I-87 SB/I-287 EB Ramps: minor signal timing adjustments
- › Airmont Road (CR 89) and the I-87 NB/I-287 WB Ramps: minor signal timing adjustments
- › Montebello Road (CR 64) & Hemion Road (CR 93)/Ryan Mansion Drive: installation of a multi-way stop control

It is anticipated that the above mitigation measures can be accomplished without the need for right-of-way acquisition. Relocation of existing traffic signal equipment, crosswalks, and utility poles may be required depending on the final designs. All intersection improvements would be phased in such a way as to minimize impacts to the existing intersection traffic. Detailed Work Zone Traffic Control Plans would ultimately be prepared for use by the contractor during construction. These improvements, along with any signal timing modifications, would need to be coordinated with the agencies having jurisdiction and with the appropriate utility companies. The application of multi-way stop control at the intersection of Montebello Road (CR 64) & Hemion Road (CR 93)/Ryan Mansion Drive would require an evaluation submitted to Rockland County to determine if such control is warranted according to Manual on Uniform Traffic Control Devices (MUTCD) criteria. If warranted, the multi-way stop control would be installed as part of the other mitigation measures at the time of construction of the Proposed Project. Funding of the necessary improvements would be provided by the Applicant.

With the implementation of these proposed mitigation measures and as outlined in the TIS in **Appendix E**, the surrounding street system of the Village of Suffern, the Village of Montebello, Rockland County, and NYSDOT would not experience any significant degradation in operating conditions with the construction of the Proposed Project, and therefore no significant adverse traffic impacts are anticipated.