3.5 Traffic & Transportation

Introduction

The project site is located in the Towns of Haverstraw and Ramapo, Rockland County, New York. The site location and regional transportation network are shown in Figure 3.5-1. A *Traffic Impact Study,* prepared by John Collins Engineer's, P.C., dated November 24, 2008 is included as Appendix D. This study is an update of the original traffic study prepared for the project. It reflects the changes in the development plan since preparation of the DEIS and addresses additional items as identified in the adopted Scope for this SEIS.

The *Traffic Impact Study* evaluates existing and future traffic conditions at fourteen intersections which are proximate to the Minisceongo Park property. The following intersections were analyzed, the locations of which are shown in Figure 3.5-1:

1. Intersection of NYS Route 202 & Route 45
2. Intersection of NYS Route 202 & Thiells-Mount Ivy Road
3. Intersection of NYS Route 202 & Palisades Interstate Parkway Southbound Ramp (Exit 13)
4. Intersection of Route 202 & Camp Hill Road
5. Intersection of Thiells Mount Ivy Rd & Palisades Interstate Parkway Northbound Ramp
6. Intersection of Quaker Rd. & Palisades Interstate Parkway SB Access Ramp
7. Intersection of Route 202 & Shopping Center Driveway /proposed Main Site Access Driveway
8. Intersection of Route 202 & Pacesetter Park - West (Super Stop & Shop)
9. Intersection of Route 202 & Ramapo Plaza/proposed Secondary Site Access Driveway
10. Intersection of Route 202 & Martino Way
11. Intersection of Route 202 & Pacesetter Park - East
12. Intersection of Route 202 and NYS Route 306
13. Intersection of Route 45 and Old Route 202 Park & Ride Access
14. Intersection of Route 202 & Crystal Hill Club/Balsam Road

3.5.1 Existing Traffic Conditions

The Minisceongo Park project site is located on the north side of NYS Route 202, immediately west of the Palisades Interstate Parkway (PIP) Exit 13.

The project site lies on the border between the Towns of Haverstraw and Ramapo. Regional transportation access is provided via the PIP and its connection to the New York State Thruway approximately 6 miles to the south. NYS Route 202 is the primary arterial corridor in the area.

In order to establish the existing traffic volumes for the study intersections in the vicinity of the Minisceongo Park property, manual turning movement traffic counts were conducted by John Collins Engineers, P.C., during May and September 2008 to determine the 2008 existing traffic volumes for the Weekday Peak AM, Weekday Peak PM and Saturday Peak hours for the study intersections.

Based upon a review of these counts, the weekday morning peak hour period of 7:30 AM to 8:30 AM was determined to be critical with respect to traffic analysis. The critical period for the weekday evening peak hour was identified as 5:00 PM to 6:00 PM, and the Saturday peak hour was determined to be 11:30 AM to 12:30 PM.

3.5.2 Existing Roadway Network

Minisceongo Park will have direct access to U.S. Route 202. The following is a description of the primary roads within the project vicinity: U.S. Route 202, the Palisades Interstate Parkway ("PIP"), Quaker Road and Camp Hill Road.

U.S. Route 202 - U.S. Route 202 is a major east/west arterial which traverses Rockland County through the Town of Ramapo (and its various incorporated villages), the Town of Haverstraw and east into the Village of Haverstraw. In the immediate vicinity of the site, the road is one lane in each direction widened at various intersections. This section of roadway has a posted speed limit of 45 mph.

Palisades Interstate Parkway - The Palisades Interstate Parkway (PIP) is a major north-south limited access highway which originates in New Jersey and travels through Rockland County and into Orange County, New York. In the vicinity of the site, it is a four lane divided, limited access highway.

Access to the PIP southbound is provided via U.S. Route 202. Access onto the PIP northbound is provided via NYS Route 45, and access from the PIP northbound is provided via Thiells - Mt. Ivy Road. The Palisades Interstate Parkway has a posted speed limit of 55 mph. Exit 13 of the PIP is currently being upgraded and reconstructed.

Quaker Road - Quaker Road is a Town road which originates in the vicinity of the project site at an intersection with the PIP southbound on/off ramp. Quaker Road continues in a northwesterly direction passing the Barr Labs complex and continues in a northwesterly direction into the Village of Pomona. Quaker Road changes alignment to a southwesterly direction and connects with Camp Hill Road at a stop sign controlled intersection farther to the west.

Camp Hill Road - Camp Hill Road originates at an intersection with Calls Hollow Road and travels in a southerly direction intersecting with Quaker Road, U.S. Route 202, and then continues south, terminating at an intersection with Pomona Road. The Camp Hill Road intersection with U.S. Route 202 is signalized.

NYS Route 306 - NYS Route 306 is a New York State highway which generally runs north and south throughout Rockland County. It extends from NYS Route 59 in the Town of Ramapo and continues north to the Village of New Hempstead and intersects with US Route 202 at a signalized intersection.

NYS Route 45 - NYS Route 45 is generally a two lane roadway which originates at a signalized intersection with US Route 202 in the Town of Haverstraw. It continues in a southerly direction providing access to the PIP both northbound and southbound.

Martino Way - Martino Way is an existing two lane town roadway which originates at a signalized intersection with US Route 202, providing access to the residential area in its vicinity.

3.5.3 Level of Service Criteria

Peak hour vehicle delays were calculated to establish the quality of operation (level of service) at intersection approach lanes under the existing conditions. Future conditions without the project (No-Build condition) and future conditions with the project (Build condition) were also analyzed.

In order to determine existing and future traffic operating conditions at the study area intersections, capacity analyses were performed based on procedures from the 2000 I.T.E. Highway Capacity Manual. The following is a brief description of the methodology:

Signalized Intersection Capacity Analysis

The capacity analysis for a signalized intersection is performed in accordance with the procedures described in the 2000 Highway Capacity Manual, published by the Transportation Research Board. The terminology used in identifying traffic flow conditions is Levels of Service. A Level of Service "A" represents the best condition and a Level of Service "F" represents the worst condition. A Level of Service "C" is generally used as a design standard while a Level of Service "D" is acceptable during peak periods. A Level of Service "E" represents an operation near capacity. In order to identify an intersection's Level of Service, the average amount of vehicle delay is computed for each approach to the intersection as well as for the overall intersection. Synchro/Sim traffic techniques were also utilized to analyze signalized intersections.

Unsignalized Intersection Capacity Analysis

The unsignalized intersection capacity analysis was performed in accordance with the procedures described in the 2000 Highway Capacity Manual. The procedure is based on total elapsed time from when a vehicle stops at the end of the queue until the vehicle departs from the stop line. The average total delay for any particular critical movement is a function of the service rate or capacity of the approach and the degree of saturation. In order to identify the level of service, the average amount of vehicle delay is computed for each critical movement to the intersection as well as for the overall intersection.

Additional information concerning signalized and unsignalized levels of service can be found in Appendix D of this SEIS.

Table 3.5-1 presents the levels of service criteria for signalized and unsignalized intersections.

Table 3.5-1
Level of Service Criteria

UNSIGNALIZED INTERSECTIONS		SIGNALIZED INTERSECTIONS	
Level of Service	Average Total Delay (Seconds Per Vehicle)	Level of Service	Stopped Delay Per Vehicle (Sec)
A	≤ 10	A	≤ 10
B	>10 and ≤ 15	B	>10 and ≤ 20
C	>15 and ≤ 25	C	>20 and ≤ 35
D	>25 and ≤ 35	D*	>35 and ≤ 55
E	>35 and ≤ 50	E	>55 and ≤ 80
F	> 50	F	> 80.0

Source: Highway Capacity Manual, Transportation Research Board, National Research Council, Special Report 209, Washington, D.C..
* For urban areas, the minimum level of service for design of lane-groups (one or more movements) assuming reasonable costs and impacts.

The New York State Department of Transportation (NYSDOT) generally seeks a minimum level of service D (delay of 55 seconds or less for a signalized intersection) for all lane groups. The NYSDOT Highway Design Manual notes: "*In some cases, it may be necessary to accept level of service E or F on individual lane groups due to unreasonable costs or impacts associated with improving the level of service*." A lane group is a set of lanes on an approach having the same common movement(s).

For all intersections, the volume to capacity ratio is an indication of the unused capacity or the ability of the intersection to process more traffic. It is possible to have a movement with an adequate level of service (level of service A, B, C or D) and be at capacity for the movement. It is also possible to have a movement with a level of service E or F, with additional capacity available on the movement. The NYSDOT goal for volume to capacity (V/C) ratios at signalized intersections for lane groups is generally below 0.95. The ability of an entire intersection to handle more traffic is a complex issue as traffic can be added to under capacity movements without impacting over capacity movements.

3.5.4 Existing Levels of Service

Existing traffic volumes for the roadway network are shown in Figures 3.5-2, 3.5-3 and 3.5-4. A summary of the capacity analyses for the area intersections under Existing Conditions is provided in the Level of Service Summary Table 3.5-2.

Table 3.5-2
Level of Service Summary Table

	LOCATION	YEAR 2008 EXISTING			YEAR 2011 NO-BUILD			YEAR 2011 BUILD w/o Patrick Farm			YEAR 2011 BUILD with Patrick Farm		
		AM	PM	SAT	AM	PM	SAT	AM	PM	SAT	AM	PM	SAT
1.	U.S. ROUTE 202 & NYS ROUTE 45												
	SIGNALIZED												
	EASTBOUND LEFT	C [25.7]	B [17.8]	B[17.8]	C [30.6]	B [19.0]	C[20.2]	C[32.4]	C[22.6]	C[25.7]	C[32.7]	C[23.2]	C[26.2]
	EASTBOUND THROUGH	B [19.4]	C [28.2]	C [28.2]	A [9.7]	C[33.9]	C[32.4]	B[10.0]	E[58.2]	D[48.3]	B[10.2]	E[60.2]	D[49.9]
	EASTBOUND RIGHT	B [10.1]	B [12.6]	B [12.3]	B [10.5]	B [13.1]	B[12.6]	B[10.5]	B[13.6]	B[13.3]	B[10.7]	B[13.8]	B[13.5]
	EASTBOUND APPROACH	B [15.4]	C [27.0]	C [23.0]	B [10.2]	C[27.0]	C[25.9]	B[10.4]	D[43.3]	D[36.6]	B[10.6]	D[44.5]	D[37.4]
	WESTBOUND LEFT	B [16.8]	C [28.3]	C [21.6]	B [14.9]	C[32.5]	C[26.0]	B[15.6]	C [33.4]	C[31.4]	B[16.0]	C [33.4]	C[31.5]
	WESTBOUND THROUGH / RIGHT	C [33.4]	C [26.6]	C [27.9]	D [45.2]	C [29.3]	C[31.3]	D[51.1]	D[35.3]	D[44.4]	D[52.2]	D[36.6]	D[45.9]
	WESTBOUND APPROACH	C [29.2]	C [27.1]	C [26.6]	D [37.6]	C [30.2]	C[30.2]	D[42.4]	C[34.8]	D[42.0]	D[43.4]	D[35.8]	D[43.3]
	NORTHBOUND LEFT	D [39.6]	D [45.5]	D [41.0]	D [40.1]	D [51.2]	D[43.0]	D [40.3]	D[54.6]	D[45.6]	D [40.4]	E[56.5]	D[46.3]
	NORTHBOUND LEFT / THROUGH	D [39.0]	D [45.1]	D [39.8]	D [39.4]	D [49.8]	D[40.5]	D [39.5]	D[53.2]	D[41.7]	D [39.6]	D[54.6]	D[42.1]
	NORTHBOUND RIGHT	C [28.4]	D [48.9]	C [25.4]	C [28.7]	E[59.8]	C[25.7]	C [28.7]	E[59.8]	C[25.7]	C [28.7]	E[59.8]	C[25.7]
	NORTHBOUND APPROACH	C [34.1]	D [47.1]	C [33.2]	C [34.6]	E[55.9]	C[34.3]	C[34.8]	E[57.2]	D[35.8]	C[34.9]	E[58.0]	D[36.3]
	SOUTHBOUND LEFT / THROUGH / RIGHT	D [44.3]	D [42.6]	D [41.5]	D [44.7]	D[42.8]	D[41.6]	D [44.7]	D[42.8]	D[41.6]	D [44.7]	D[42.8]	D[41.6]
	OVERALL INTERSECTION	**C [26.2]**	**C [34.1]**	**C [27.0]**	**C [28.0]**	**D[37.8]**	**C[29.6]**	**C[30.2]**	**D[45.3]**	**D[38.3]**	**C[30.5]**	**D[46.3]**	**D[39.2]**
2.	U.S. ROUTE 202 & THIELLS - MT. IVY RD												
	SIGNALIZED												
	EASTBOUND LEFT	D [37.2]	C [29.2]	C[27.6]	-	-	-	-	-	-	-	-	-
	EASTBOUND THROUGH / RIGHT	B [10.3]	B [12.5]	B[11.1]	-	-	-	-	-	-	-	-	-
	EASTBOUND APPROACH	B [18.2]	B [17.5]	B[14.8]	-	-	-	-	-	-	-	-	-
	WESTBOUND LEFT	B [15.2]	B [18.5]	B[18.2]	-	-	-	-	-	-	-	-	-
	WESTBOUND THROUGH	D [53.1]	C [31.0]	D[35.5]	-	-	-	-	-	-	-	-	-
	WESTBOUND RIGHT	B [16.7]	C [22.0]	C[20.1]	-	-	-	-	-	-	-	-	-
	WESTBOUND APPROACH	D [47.8]	C [28.0]	C[32.4]	-	-	-	-	-	-	-	-	-
	NORTHBOUND LEFT / THROUGH / RIGHT	C [24.8]	C [25.3]	C[24.8]	-	-	-	-	-	-	-	-	-
	SOUTHBOUND LEFT / THROUGH	D [40.5]	D [39.8]	D[39.7]	-	-	-	-	-	-	-	-	-
	SOUTHBOUND RIGHT	E [62.3]	C [20.9]	B[17.5]	-	-	-	-	-	-	-	-	-
	SOUTHBOUND APPROACH	E [55.7]	C [27.7]	C[26.9]	-	-	-	-	-	-	-	-	-
	OVERALL INTERSECTION	**D [44.4]**	**C[24.3]**	**C[25.4]**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**
	W/ NYSDOT IMPROVEMENTS SIGNALIZED												
	EASTBOUND LEFT	-	-	-	C[22.0]	B[19.9]	B[16.2]	C[23.3]	C[24.6]	C[21.0]	C[24.0]	C[25.7]	C[21.8]
	EASTBOUND THROUGH	-	-	-	A[1.7]	A[3.2]	A[2.0]	A[1.7]	A[5.4]	A[3.4]	A[1.8]	A[5.8]	A[3.7]
	EASTBOUND APPROACH	-	-	-	A[7.5]	A[8.0]	A[5.1]	A[7.8]	B[10.7]	A[7.1]	A[8.0]	B[11.3]	A[7.5]
	WESTBOUND THROUGH	-	-	-	B[16.6]	B[15.2]	B[15.5]	B[17.0]	B[16.0]	B[16.8]	B[17.1]	B[16.2]	B[17.0]
	WESTBOUND RIGHT	-	-	-	C[21.5]	C[25.3]	C[22.5]	C[21.5]	C[25.3]	C[22.5]	C[21.5]	C[25.3]	C[22.5]
	WESTBOUND APPROACH	-	-	-	B[17.3]	B[18.3]	B[16.9]	B[17.7]	B[18.6]	B[17.8]	B[17.7]	B[18.7]	B[17.9]
	SOUTHBOUND LEFT	-	-	-	C[30.4]	C[28.6]	C[29.1]	C[30.4]	C[28.6]	C[29.1]	C[30.4]	C[28.6]	C[29.1]
	SOUTHBOUND RIGHT	-	-	-	D[36.5]	C[20.7]	B[16.2]	D[48.8]	C[34.0]	C[26.2]	D[54.7]	D[50.3]	C[31.7]
	SOUTHBOUND APPROACH	-	-	-	C[34.6]	C[23.5]	C[21.7]	D[43.3]	C[32.4]	C[27.1]	D[47.6]	D[44.2]	C[30.9]
	OVERALL INTERSECTION	**-**	**-**	**-**	**C[21.8]**	**B[16.5]**	**B[15.0]**	**C[25.5]**	**C[20.4]**	**B[17.8]**	**C[27.1]**	**C[24.9]**	**B[19.3]**
3.	U.S. ROUTE 202 & PIP SB ON/OFF RAMP												
	SIGNALIZED												
	EASTBOUND LEFT	C [22.5]	B [18.4]	B[16.9]	C[27.2]	C[26.0]	C[25.3]	C[28.5]	D[36.9]	F[88.5]	D[37.8]	D[40.3]	F[114.5]
	EASTBOUND THROUGH / RIGHT	A [5.9]	A [7.8]	A[6.5]	A[1.2]	A[2.3]	A[6.9]	A[1.3]	A[3.7]	A[8.6]	A[1.3]	A[4.0]	A[9.0]
	EASTBOUND APPROACH	B [11.7]	A [9.7]	A[9.4]	B [10.9]	A[7.1]	B[12.3]	B [11.7]	B[13.1	D[38.8]	B [16.1]	B[14.7]	D[49.9]
	WESTBOUND LEFT	B [15.4]	B [15.8]	B[13.6]	B [15.5]	B[15.6]	B[13.6]	B [15.5]	B[15.7]	B[13.7]	B [15.5]	B[15.7]	B[13.8]
	WESTBOUND THROUGH	C [28.0]	C [26.2]	C[21.5]	C [23.3]	C[25.8]	C[26.1]	D [40.4]	F[120.6]	F[126.0]	D [47.5]	F[167.9]	F[157.1]
	WESTBOUND RIGHT	B [18.2]	A [7.3]	A[5.7]	C [24.2]	A[7.7]	A[6.0]	C [24.2]	A[7.7]	A[6.0]	C [24.2]	A[7.7]	A[6.0]
	WESTBOUND APPROACH	C [22.1]	B [17.3]	B[14.1]	C[23.7]	B[17.8]	B[17.1]	C [31.3]	E[78.4]	F[84.3]	C [34.6]	F[111.2]	F[106.7]
	NORTHBOUND LEFT / THROUGH / RIGHT	C [32.4]	C [32.4]	C[32.3]	C [32.4]	C[32.4]	C[32.3]	C [32.4]	C [32.4]	C[32.3]	C [32.4]	C [32.4]	C[32.3]
	SOUTHBOUND LEFT / THROUGH	D [37.6]	D [40.3]	D[35.8]	D [39.2]	D[43.0]	D[36.3]	D [39.2]	D [43.0]	D[36.3]	D [39.2]	D [43.0]	D[36.3]
	SOUTHBOUND RIGHT	B [17.7]	B [16.6]	B[18.3]	B [18.1]	B[16.9]	B[18.5]	B [18.2]	B [17.3]	B[19.2]	B [18.3]	B [17.4]	B[19.3]
	SOUTHBOUND APPROACH	C [25.7]	C [29.7]	C[26.6]	C [26.4]	C[31.1]	C[27.0]	C[26.3]	C[30.1]	C[26.1]	C[26.3]	C [29.8]	C[26.0]
	OVERALL INTERSECTION	C [20.1]	B [16.1]	B[13.9]	C [20.7]	B[15.5]	B[16.6]	C[25.3]	D[46.9]	E[60.7]	C[28.2]	E [63.9]	E[76.4]

Table 3.5-2
Level of Service Summary Table

	LOCATION	YEAR 2008 EXISTING			YEAR 2011 NO-BUILD			YEAR 2011 BUILD w/o Patrick Farm			YEAR 2011 BUILD with Patrick Farm		
		AM	PM	SAT	AM	PM	SAT	AM	PM	SAT	AM	PM	SAT
	WITH IMPROVEMENTS SIGNALIZED												
	EASTBOUND LEFT	-	-	-	-	-	-	B[13.1]	C[21.9]	D[47.9]	B[16.8]	C[23.2]	D[48.4]
	EASTBOUND THROUGH / RIGHT	-	-	-	-	-	-	A[1.3]	A[3.7]	A[8.6]	A[1.3]	A[4.0]	A[9.0]
	EASTBOUND APPROACH	-	-	-	-	-	-	A[5.8]	A[8.9]	C[23.5]	A[7.6]	A[9.7]	C[24.2]
	WESTBOUND LEFT	-	-	-	-	-	-	B [15.5]	B[15.7]	B[13.7]	B [15.5]	B[15.7]	B[13.8]
	WESTBOUND THROUGH	-	-	-	-	-	-	A[9.3]	B[10.5]	C[20.1]	A[9.4]	B[11.3]	C[20.9]
	WESTBOUND RIGHT	-	-	-	-	-	-	C [24.2]	A[7.7]	A[6.0]	C [24.2]	A[7.7]	A[6.0]
	WESTBOUND APPROACH	-	-	-	-	-	-	B[17.5]	A[9.5]	B[15.2]	B[17.4]	B[10.1]	B[16.0]
	NORTHBOUND LEFT / THROUGH / RIGHT	-	-	-	-	-	-	C [32.4]	C [32.4]	C[32.3]	C [32.4]	C [32.4]	C[32.3]
	SOUTHBOUND LEFT / THROUGH	-	-	-	-	-	-	D [39.2]	D [43.0]	D[36.3]	D [39.2]	D [43.0]	D[36.3]
	SOUTHBOUND RIGHT	-	-	-	-	-	-	B [18.2]	B [17.3]	B[19.2]	B [18.3]	B [17.4]	B[19.3]
	SOUTHBOUND APPROACH	-	-	-	-	-	-	C[26.3]	C[30.1]	C[26.1]	C[26.3]	C [29.8]	C[26.0]
	OVERALL INTERSECTION	**-**	**-**	**-**	**-**	**-**	**-**	**B[15.5]**	**B[11.6]**	**B[19.6]**	**B[15.7]**	**B[12.1]**	**C[20.2]**
4.	U.S. ROUTE 202 & CAMP HILL ROAD												
	SIGNALIZED												
	EASTBOUND LEFT / THROUGH / RIGHT	B[11.5]	B[13.3]	B[12.2]	B[15.1]	B[12.3]	B[12.8]	B[13.9]	B[14.5]	B[15.8]	B[16.4]	B[16.6]	B[18.7]
	WESTBOUND LEFT / THROUGH / RIGHT	B[19.9]	B[15.3]	B[13.4]	B[13.3]	A[5.2]	A[3.8]	C[26.0]	B[12.2]	B[16.4]	D[35.6]	C[26.7]	C[33.1]
	NORTHBOUND LEFT / THROUGH / RIGHT	C[26.3]	C[26.6]	C[28.8]	C[26.4]	C[30.8]	C[30.9]	C[26.6]	C[31.6]	C[32.9]	C[26.6]	C[31.6]	C[32.9]
	SOUTHBOUND LEFT / THROUGH / RIGHT	C[29.8]	C[26.8]	C[28.6]	C[31.6]	C[31.7]	C[31.0]	C[32.8]	D[35.1]	D[40.8]	C[32.8]	D[35.1]	D[40.8]
	OVERALL INTERSECTION	**B[19.0]**	**B[16.0]**	**B[16.8]**	**B[16.7]**	**B[11.7]**	**B[13.2]**	**C[23.2]**	**B[16.3]**	**C[20.8]**	**C[28.5]**	**C[23.6]**	**C[28.7]**
5.	THIELLS - MT. IVY ROAD & PIP NB OFF RAMP												
	UNSIGNALIZED												
	EASTBOUND LEFT	E (45.1)	F (362.8)	E[42.4]	F[65.7]	F[522.4]	F[65.4]	F[67.4]	F[583.1]	F[86.2]	F[70.1]	F[605.2]	F[92.5]
	EASTBOUND RIGHT	D (33.8)	D (25.2)	C[17.3]	F[59.1]	F[50.7]	C[23.2]	F[91.0]	F[147.0]	F[89.3]	F[106.1]	F[208.3]	F[123.3]
	EASTBOUND APPROACH	E (37.9)	F (200.2)	D[29.8]	F[61.3]	F[275.4]	E[42.4]	F[83.9]	F[325.1]	F[88.3]	F[95.7]	F[360.8]	F[113.3]
	W/ SIGNALIZATION												
	EASTBOUND LEFT	------	------	------	C[26.9]	C[24.1]	C[21.7]	C[26.9]	C[24.1]	C[21.7]	C[26.9]	C[24.1]	C[21.7]
	EASTBOUND RIGHT	------	------	------	C[31.9]	C[27.8]	C[23.5]	D[35.2]	D[44.7]	D[37.1]	D[36.6]	E[65.8]	D[45.4]
	EASTBOUND LEFT / THROUGH / RIGHT	------	------	------	C[30.3]	C[26.1]	C[22.7]	C[32.7]	D[36.3]	D[31.9]	C[33.8]	D[49.8]	D[37.7]
	NORTHBOUND THROUGH	------	------	------	A[9.9]	C[20.1]	B[15.4]	A[9.9]	C[20.8]	B[15.8]	B[10.0]	C[21.0]	B[15.8]
	SOUTHBOUND LEFT / THROUGH	------	------	------	C[20.7]	C[20.8]	B[19..1]	C[21.2]	C[21.4]	B[19.9]	C[21.3]	C[21.8]	C[20.1]
	OVERALL INTERSECTION	**------**	**------**	**------**	**C[21.0]**	**C[22.7]**	**B[19.8]**	**C[22.1]**	**C[27.7]**	**C[24.6]**	**C[22.5]**	**C[34.1]**	**C[27.6]**
6.	PIP SB ON /OFF RAMP & QUAKER ROAD												
	UNSIGNALIZED												
	EASTBOUND LEFT / THROUGH	A (8.2)	A (8.0)	A[7.9]	A (8.4)	A (8.1)	A[7.9]	A (8.4)	A (8.3)	A[8.1]	A (8.4)	A (8.3)	A[8.1]
	SOUTHBOUND LEFT / RIGHT	F (626.7)	F (50.2)	D[28.9]	F (*)	F (100.6)	E[41.6]	F (*)	F[219.7]	F[110.1]	F (*)	F[251.3]	F[129.6]
	W/ SIGNALIZATION												
	EASTBOUND LEFT	------	------	------	B[10.9]	B[16.3]	B[14.7]	B[11.1]	B[17.1]	B[15.8]	B[11.1]	B[17.4]	B[16.0]
	EASTBOUND RIGHT	------	------	------	C[25.3]	B[16.2]	B[18.1]	D[28.3]	C[20.9]	C[30.1]	D[38.2]	C[22.3]	C[35.0]
	EASTBOUND LEFT / THROUGH / RIGHT	------	------	------	C[23.0]	B[16.2]	B[17.4]	C[25.5]	C[20.0]	C[27.6]	C[34.1]	C[21.3]	C[31.9]
	WESTBOUND LEFT / THROUGH / RIGHT	------	------	------	B[14.9]	C[20.5]	C[20.1]	B[15.0]	C[20.9]	C[20.6]	B[15.0]	C[20.9]	C[20.6]
	SOUTHBOUND LEFT / THROUGH	------	------	------	D[46.4]	C[25.6]	C[24.1]	D[47.0]	C[25.9]	C[24.3]	D[47.0]	C[25.9]	C[24.3]
	OVERALL INTERSECTION	**------**	**------**	**------**	**C[26.0]**	**B[18.8]**	**B[18.8]**	**C[27.8]**	**C[21.2]**	**C[26.2]**	**C[33.6]**	**C[22.0]**	**C[29.3]**
7.	U.S. ROUTE 202 & SHOPPING CENTER DRIVEWAY												
	UNSIGNALIZED												
	WESTBOUND LEFT / THROUGH	A[8.8]	A[9.7]	A[9.6]	A[9.4]	B[10.3]	B[10.2]	------	------	------	------	------	------
	NORTHBOUND LEFT / RIGHT	C[18.6]	D[31.3]	F[71.2]	D[25.1]	F[50.7]	F[192.9]	------	------	------	------	------	------
	U.S. ROUTE 202 & PROPOSED SITE ACESS												

Table 3.5-2
Level of Service Summary Table

	LOCATION	YEAR 2008 EXISTING			YEAR 2011 NO-BUILD			YEAR 2011 BUILD w/o Patrick Farm			YEAR 2011 BUILD with Patrick Farm		
		AM	PM	SAT	AM	PM	SAT	AM	PM	SAT	AM	PM	SAT
7.	U.S. ROUTE 202 & SHOPPING CENTER DRIVEWAY												
	SIGNALIZED												
	EASTBOUND LEFT	------	------	------	------	------	------	B [16.8]	D[47.2]	D[52.5]	B [17.2]	D[48.0]	D[52.9]
	EASTBOUND THROUGH / RIGHT	------	------	------	------	------	------	A[1.1]	A[1.3]	A[4.2]	A[1.1]	A[1.3]	A[3.7]
	EASTBOUND APPROACH	------	------	------	------	------	------	A[3.0]	B[12.7]	C[21.2]	A[2.9]	B[12.5]	B[19.9]
	WESTBOUND LEFT	------	------	------	------	------	------	B[14.5]	B[17.0]	D[38.7]	B[14.7]	B[17.1]	D[38.8]
	WESTBOUND THROUGH	------	------	------	------	------	------	D[38.6]	C[30.6]	D[54.6]	D[46.5]	E[64.2]	E[78.8]
	WESTBOUND RIGHT	------	------	------	------	------	------	A[6.3]	A[9.3]	B[17.5]	A[6.3]	A[9.3]	B[17.5]
	WESTBOUND APPROACH	------	------	------	------	------	------	C[33.5]	C[22.2]	D[35.6]	D[40.2]	D[44.2]	D[47.9]
	NORTHBOUND LEFT / THROUGH / RIGHT	------	------	------	------	------	------	D[41.7]	D[42.6]	D[43.3]	D[39.8]	D[40.3]	D[43.3]
	SOUTHBOUND LEFT	------	------	------	------	------	------	D[36.6]	D[52.4]	D[54.9]	D[36.6]	D[52.4]	E[66.8]
	SOUTHBOUND LEFT / THROUGH	------	------	------	------	------	------	D[36.6]	D[52.1]	D[54.5]	D[36.6]	D[52.1]	E[66.8]
	SOUTHBOUND RIGHT	------	------	------	------	------	------	C[27.7]	C[30.8]	C[28.8]	C[27.7]	C[30.8]	C[30.7]
	SOUTHBOUND APPROACH	------	------	------	------	------	------	C[32.8]	D[43.4]	D[44.0]	C[32.8]	D[43.4]	D[51.9]
	OVERALL INTERSECTION	**------**	**------**	**------**	**------**	**------**	**------**	**C[23.0]**	**C[24.0]**	**C[34.0]**	**C[25.1]**	**C[32.0]**	**D[40.1]**
8.	U.S. ROUTE 202 & PACESETTER (WEST)												
	SIGNALIZED												
	EASTBOUND THROUGH / RIGHT	B [15.7]	B[18.7]	B[17.2]	B[19.5]	C[26.5]	C[20.7]	A[5.0]	C[32.3]	B[18..1]	A[7.4]	D[48.6]	C[30.0]
	WESTBOUND LEFT	B [10.0]	B[15.4]	B[12.6]	B[11.9]	B[19.1]	B[14.8]	A[5.1]	A[8.9]	A[7.3]	A[5.2]	A[9.3]	A[7.5]
	WESTBOUND THROUGH	A [7.9]	A[6.6]	A[6.4]	A[9.3]	A[7.6]	A[7.0]	A[3.1]	A[2.0]	A[2.1]	A[3.4]	A[2.7]	A[2.6]
	WESTBOUND APPROACH	A [8.1]	A[9.0]	A[7.9]	A[9.5]	B[10.3]	A[8.7]	A[3.2]	A[3.6]	A[3.2]	A[3.5]	A[4.1]	A[3.6]
	NORTHBOUND LEFT	C [32.6]	D [35.4]	C[34.3]	C[32.6]	D [35.6]	C[34.4]	C [32.6]	D [35.6]	C[34.4]	C [32.6]	D [35.6]	C[34.4]
	NORTHBOUND RIGHT	C [33.0]	C [34.1]	C[34.0]	C[33.0]	C [34.2]	C[34.1]	C [33.2]	D[35.0]	D[35.2]	C [33.2]	D[35.0]	D[35.2]
	NORTHBOUND APPROACH	C [32.8]	C[34.9]	C[34.2]	C[32.9]	D[35.1]	C[34.3]	C[33.0]	D[35.4]	C[34.9]	C[33.0]	D[35.4]	C[34.9]
	OVERALL INTERSECTION	**B [12.3]**	**B[16.5]**	**B[15.0]**	**B[14.8]**	**C[20.3]**	**B[16.7]**	**A[5.3]**	**C[20.1]**	**B[12.9]**	**A[6.4]**	**C[27.3]**	**B[18.1]**
9.	U.S. ROUTE 202 & RAMAPO PLAZA												
	UNSIGNALIZED												
	WESTBOUND LEFT / THROUGH	A[9.2]	A[9.8]	A[9.3]	A[9.9]	B[10.5]	A[9.8]	B[10.2]	B[12.3]	B[12.1]	B[10.8]	B[10.7]	B[12.5]
	NORTHBOUND LEFT / RIGHT	F[67.2]	D[31.3]	D[27.4]	F[205.3]	F[52.6]	E[41.1]	F[87.2]	F[61.0]	F[75.8]	F[132.7]	F[80.1]	F[97.7]
10.	U.S. ROUTE 202 & MARTINO WAY												
	SIGNALIZED												
	EASTBOUND LEFT	A [5.0]	A [4.3]	A[4.2]	A[5.4]	A[4.7]	A[4.5]	A[5.5]	A[5.1]	A[5.0]	A[5.5]	A[5.2]	A[5.0]
	EASTBOUND THROUGH	A [3.3]	A[9.3]	A[3.9]	A[3.5]	B[13.1]	A[4.3]	A[3.5]	B[18.6]	A[5.1]	A[3.6]	B[19.0]	A[5.1]
	EASTBOUND APPROACH	A [3.4]	A[8.8]	A[3.9]	A[3.6]	B[12.4]	A[4.3]	A[3.6]	B[17.5]	A[5.1]	A[3.7]	B[17.8]	A[5.1]
	WESTBOUND THROUGH / RIGHT	C [25.1]	B[12.1]	B[13.4]	D[39.0]	B[13.7]	B[15.3]	D[44.6]	B [15.8]	B[19.7]	D[45.3]	B [15.1]	C[20.1]
	SOUTHBOUND LEFT	D [36.8]	D[36.1]	D[36.1]	D[36.9]	D[36.1]	D[36.1]	D[36.9]	D[36.1]	D[36.1]	D[36.9]	D[36.1]	D[36.1]
	SOUTHBOUND RIGHT	C [25.8]	C [24.2]	C[24.8]	C[26.0]	C[24.2]	C[24.9]	C[26.0]	C[24.2]	C[24.9]	C[26.0]	C[24.2]	C[24.9]
	SOUTHBOUND APPROACH	C [28.4]	C [27.5]	C[26.8]	C[28.5]	C[27.5]	C[26.9]	C[28.5]	C[27.5]	C[26.9]	C[28.5]	C[27.5]	C[26.9]
	OVERALL INTERSECTION	**B [18.4]**	**B[10.5]**	**A[9.7]**	**C[26.4]**	**B[13.2]**	**B[10.7]**	**C [29.6]**	**B [17.1]**	**B[13.1]**	**C [29.8]**	**B [17.5]**	**B[13.3]**
11.	U.S. ROUTE 202 & PACESETTER (EAST)												
	UNSIGNALIZED												
	NORTHBOUND RIGHT	B[12.4]	C[16.5]	B[14.0]	B[14.1]	C[20.1]	C[16.0]	B[13.7]	D[26.4]	C[21.3]	C[15.1]	D[28.9]	C[23.5]
12.	U.S. ROUTE 202 & NYS ROUTE 306												
	SIGNALIZED												
	EASTBOUND LEFT	B[18.5]	B[15.2]	B[18.9]	B[19.0]	B[15.2]	B[19.2]	B[19.1]	B[15.3]	B[19.4]	B[19.1]	B[15.3]	B[19.5]
	EASTBOUND THROUGH / RIGHT	C[23.0]	C[21.5]	C[21.7]	C[25.5]	C[23.5]	C[22.6]	C[24.5]	C[25.1]	C[23.7]	C[26.2]	C[26.3]	C[24.5]
	EASTBOUND APPROACH	C[22.9]	C[21.4]	C[21.4]	C[25.4]	C[23.4]	C[22.3]	C[24.4]	C[25.1]	C[23.3]	C[26.1]	C[26.2]	C[24.1]
	WESTBOUND LEFT	B[18.4]	B[19.0]	B[14.5]	C[23.4]	C[25.2]	B[16.9]	C[22.3]	C[28.2]	B[19.4]	C[25.6]	C[34.5]	C[21.7]
	WESTBOUND THROUGH / RIGHT	B[17.9]	B[10.1]	B[12.7]	C[20.4]	B[10.7]	B[13.3]	C[21.5]	B[10.9]	B[13.9]	C[22.1]	B[11.4]	B[14.3]
	WESTBOUND APPROACH	B[18.0]	B[12.8]	B[13.0]	C[21.0]	B[15.7]	B[14.1]	C[21.7]	B[16.7]	B[15.2]	C[22.9]	B[19.6]	B[16.3]
	NORTHBOUND LEFT / THROUGH / RIGHT	C[23.3]	C[28.4]	C[23.6]	C[26.0]	C[30.4]	C[24.4]	C[25.1]	C[31.9]	C[25.1]	C[26.4]	C[33.7]	C[25.8]
	SOUTHBOUND LEFT / THROUGH / RIGHT	C[22.1]	C[25.3]	C[21.9]	C[22.4]	C[26.5]	C[22.0]	C[22.5]	C[26.9]	C[22.3]	C[22.5]	C[26.9]	C[22.3]
	OVERALL INTERSECTION	**B[20.0]**	**B[19.1]**	**B[18.1]**	**C[23.0]**	**C[21.5]**	**B[18.9]**	**C[22.8]**	**C[22.9]**	**B[19.9]**	**C[24.2]**	**C[24.7]**	**C[20.7]**

Table 3.5-2
Level of Service Summary Table

	LOCATION	YEAR 2008 EXISTING			YEAR 2011 NO-BUILD			YEAR 2011 BUILD w/o Patrick Farm			YEAR 2011 BUILD with Patrick Farm		
		AM	PM	SAT	AM	PM	SAT	AM	PM	SAT	AM	PM	SAT
13.	NYS ROUTE 45 & OLD ROUTE 202 PARK & RIDE ACCESS												
	UNSIGNALIZED												
	EASTBOUND LEFT / THROUGH / RIGHT	B[13.3]	D[29.6]	C[16.8]	C[21.6]	F[95.4]	C[24.0]	C[21.8]	F[116.6]	D[27.5]	C[22.5]	F[125.6]	D[28.4]
	WESTBOUND LEFT / THROUGH / RIGHT	F[232.7]	F[98.3]	C[24.5]	F[313.0]	F[306.6]	E[39.3]	F[320.1]	F[382.7]	F[52.3]	F[342.4]	F[407.0]	F[55.7]
	NORTHBOUND LEFT / THROUGH / RIGHT	A[8.9]	A[8.3]	A[8.1]	A[8.8]	A[8.5]	A[8.2]	A[8.8]	A[8.7]	A[8.4]	A[8.8]	A[8.7]	A[8.4]
	SOUTHBOUND LEFT / THROUGH / RIGHT	A[8.2]	A[10.0]	A[8.4]	A[8.3]	B[10.4]	A[8.6]	A[8.3]	B[10.5]	A[8.7]	A[8.3]	B[10.5]	A[8.7]
	SIGNALIZED												
	EASTBOUND LEFT / THROUGH / RIGHT	------	------	------	B[13.6]	B[13.9]	B[13.6]	B[13.6]	B[13.9]	B[13.6]	B[13.6]	B[13.9]	B[13.6]
	WESTBOUND LEFT / THROUGH / RIGHT	------	------	------	C[21.8]	B[15.3]	B[15.3]	C[21.8]	B[15.3]	B[15.3]	C[21.8]	B[15.3]	B[15.3]
	NORTHBOUND LEFT	------	------	------	A[7.6]	A[7.6]	A[7.6]	A[7.6]	A[7.6]	A[7.6]	A[7.6]	A[7.6]	A[7.6]
	NORTHBOUND THROUGH / RIGHT	------	------	------	A[8.7]	B[10.7]	A[9.0]	A[8.7]	B[10.9]	A[9.1]	A[8.7]	B[10.9]	A[9.1]
	NORTHBOUND APPROACH	------	------	------	A[8.7]	B[10.7]	A[9.0]	A[8.7]	B[10.9]	A[9.1]	A[8.7]	B[10.9]	A[9.1]
	SOUTHBOUND LEFT / THROUGH / RIGHT	------	------	------	B[14.1]	B[12.2]	B[10.6]	B[14.1]	B[13.2]	B[11.5]	B[14.7]	B[13.5]	B[11.7]
	OVERALL INTERSECTION	**------**	**------**	**------**	**B[14.0]**	**B[11.7]**	**B[10.4]**	**B[14.0]**	**B[12.1]**	**B[10.8]**	**B[14.3]**	**B[12.2]**	**B[10.9]**
14.	U.S. ROUTE 202 & CRYSTAL HILL CLUB/ BALSAM ROAD												
	SIGNALIZED												
	EASTBOUND LEFT	A[9.4]	A[4.9]	A[7.9]	B[11.6]	A[6.0]	A[9.2]	B[12.2]	A[7.2]	B[11.6]	B[12.3]	A[7.4]	B[11.9]
	EASTBOUND THROUGH / RIGHT	B[14.7]	B[17.2]	B[18.9]	B[15.8]	C[20.6]	C[20.9]	B[16.2]	C[25.8]	C[26.1]	B[16.4]	C[26.1]	C[26.6]
	EASTBOUND APPROACH	B[14.7]	B[16.8]	B[18.7]	B[15.7]	C[20.2]	C[20.7]	B[16.1]	C[25.2]	C[25.8]	B[16.4]	C[25.5]	C[26.3]
	WESTBOUND LEFT	A[5.2]	A[7.5]	A[7.3]	A[5.7]	A[9.9]	A[8.4]	A[5.9]	B[12.9]	B[10.8]	A[6.0]	B[13.1]	B[11.0]
	WESTBOUND THROUGH / RIGHT	C[22.8]	B[13.3]	B[19.9]	C[27.6]	B[14.8]	C[22.4]	C[29.0]	B[16.4]	C[27.2]	C[29.3]	B[16.7]	C[27.9]
	WESTBOUND APPROACH	C[22.6]	B[13.0]	B[19.4]	C[27.3]	B[14.6]	C[21.9]	C[28.7]	B[16.2]	C[26.7]	C[29.0]	B[16.5]	C[27.3]
	NORTHBOUND LEFT / THROUGH	C[32.8]	D[39.3]	C[32.3]	C[33.1]	D[39.7]	C[32.5]	C[33.4]	D[41.7]	C[33.8]	C[33.4]	D[41.7]	C[33.8]
	NORTHBOUND RIGHT	C[30.8]	D[38.9]	C[32.2]	C[30.9]	D[39.1]	C[32.4]	C[30.9]	D[39.1]	C[32.4]	C[30.9]	D[39.1]	C[32.4]
	NORTHBOUND APPROACH	C[32.1]	D[39.1]	C[32.2]	C[32.3]	D[39.4]	C[32.5]	C[32.5]	D[40.5]	C[33.1]	C[32.5]	D[40.5]	C[33.1]
	SOUTHBOUND LEFT / THROUGH / RIGHT	C[32.7]	D[40.1]	C[32.5]	C[32.9]	D[40.5]	C[32.8]	C[33.0]	D[41.1]	C[33.2]	C[33.0]	D[41.1]	C[33.2]
	OVERALL INTERSECTION	**C[20.9]**	**B[16.6]**	**C[20.4]**	**C[23.8]**	**B[18.9]**	**C[22.5]**	**C[24.7]**	**C[22.3]**	**C[27.0]**	**C[24.9]**	**C[22.6]**	**C[27.4]**

Source: John Collins Engineers, 2008.

3.5.5 No-Build Traffic Conditions

Based on historical data, the annual background growth for the area is between 1½ percent to 2 percent. To account for normal background growth the Year 2008 Existing Traffic Volumes were increased by a total background growth of 6 percent to the year 2011, as shown in Figures 3.5-5, 3.5-6 and 3.5-7. In addition traffic from the following planned or approved developments in the surrounding area was considered in projecting the total No-Build Traffic volumes. The traffic to be generated as a result of these projects is shown on Figures 3.5-8, 3.5-9 and 3.5-10. This traffic was added to the 2011 projected traffic volumes, for a total No-Build traffic volume.

- Cumberland Farms
- Pomona Heights Office Building
- H.A.S.C. of Rockland
- Mesifta Beth Shraga
- Bobover Yeshiva of Monsey
- Congregation Kahal Torath Charm of Rockland

The total No-Build Traffic Volumes are shown on Figures 3.5-11, 3.5-12 and 3.5-13, for the Weekday AM Peak, Weekday PM Peak and Saturday Peak hours, respectively. No-Build levels of service are shown in the Level of Service Summary Table 3.5-2.

3.5.6 Build Traffic Conditions

In order to estimate the anticipated amount of traffic to be generated by the Minisceongo Park development during peak hours, information published by the Institute of Transportation Engineers (ITE) as contained in their publication entitled, "Trip Generation", 7th Edition, November 2003, was utilized.

Tables 3.5-3 and 3.5-4 summarize trip generation rates and the number of trips assigned to the project components. The project will generate approximately 325 vehicular trips in the weekday AM peak hour, 1,044 vehicular trips in the weekday PM peak hour, and 1,350 vehicular trips during the Saturday peak hour.[1] Over the course of an hour, there would be 675 entering and 675 exiting vehicles at the site. Not all trips remain on the site for an hour and thus this also represents an overlap in terms of the number of vehicles present on the site at any one time.

Table 3.5-3
Project Site Trip Generation Rates

Land Uses (size) {ITE Code}[1]	Trip Rates					
	AM Peak Hour		PM Peak Hour		Saturday Peak Hour	
	Enter	Exit	Enter	Exit	Enter	Exit
Apartment Units - 219 units {220}*	0.10	0.41	0.41	0.22	0.25	0.25
Commercial - 270,850 square feet {820}**	0.54	0.41	2.23	2.23	3.05	3.05

[1]Trip Generation, Institute of Transportation Engineers, 7th edition, Washington DC, 2003.
*Trip generation rates for residential are per unit.
**Trip generation rates for commercial uses are per 1,000 square feet

[1] Note that the number of trips generated in a given hour includes the trips generated by the residential development and represent ingoing and outgoing trips.

Table 3.5-4
Project Site Trip Generation

Land Uses (size) {ITE Code}[1]	Trips								
	AM Peak Hour			PM Peak Hour			Saturday Peak Hour		
	Enter	Exit	Total	Enter	Exit	Total	Enter	Exit	Total
Apartment Units - 219 units {220}*	22	89	111	90	48	138	55	55	110
Commercial - 270,850 square feet {820}**	131	83	214	453	453	906	620	620	1240
Total	153	172	**325**	543	501	**1044**	675	675	**1350**

[1]Trip Generation, Institute of Transportation Engineers, 7th edition, Washington DC, 2003.

The peak traffic periods for the residential portion of the development would occur during the weekday AM and PM commuter time period. Traffic from the commercial component peaks typically occur on a weekend Saturday. Thus, the peak period for these two component land uses would differ.

Based on the results of the traffic counts conducted for the traffic study, a review of the other existing traffic volumes on the area roadway, the population and employment centers in the area, and in consideration of the market area to be served by the retail space, the expected arrival/departure distributions were identified. The resulting arrival and departure distributions are shown on Figures 3.5-14 and 3.5-15 for the residential use and on Figures 3.5-16 and 3.5-17 for the commercial portion of the project.

The trips projected for the AM, PM and Saturday peak hours were distributed over the project network (see Figures 3.5-18, through 3.5-23).

The project-generated traffic was added to the No-Build traffic to produce the Build traffic condition. Figures 3.5-24, 3.5-25 and 3.5-26 show traffic volumes for the Build condition.

In order to evaluate existing and future traffic operating conditions for the area intersections, capacity analyses were conducted utilizing the procedures described above. The capacity analysis worksheets and the Synchro/Sim traffic analysis are contained in Appendix D of this SEIS. The following is a brief description of each of the intersections analyzed, the results of the capacity analyses and any corresponding recommended improvements. Build Traffic Levels of Service are shown in the Level of Service Summary Table 3.5-2.

1. U.S. Route 202 and NYS Route 45

NYS Route 45 intersects with U.S. Route 202 opposite Old Country Road at a signalized intersection.

Capacity analyses conducted utilizing the Year 2008 existing traffic volumes indicate that the intersection is currently operating at an overall Level of Service “C” during the weekday AM, PM and Saturday peak hour.

In the 2011 No-Build condition, with signal timing changes and signal coordination with adjacent traffic signals, the intersection is projected to operate at an overall Level of Service “C” during

the peak AM hour and the peak Saturday hour, and at an overall Level of Service "D" during the peak PM hour.

For the 2011 Build condition, the intersection will continue to operate at an overall Level of Service "C" during the peak AM hour and at an overall Level of Service "D" during the peak PM and Saturday peak hours.

2. U.S. Route 202 and Thiells - Mt. Ivy Road

Thiells - Mt. Ivy Road intersects with U.S. Route 202 opposite an existing Park and Ride facility at a signalized intersection.

In the 2008 Existing condition, the intersection is operating at an overall Level of Service "D" during the weekday peak AM hour and at an overall Level of Service "C" during the weekday peak PM hour and the Saturday peak hour.

The NYSDOT plans to improve (P.I.N. 8093.48) this intersection by eliminating the existing park and ride entrance opposite Thiells - Mt. Ivy Road and replacing it with a right turn entry only driveway to the west and a right turn exit only driveway to the east. In addition, the U.S. Route 202 westbound approach will be widened to provide an additional through lane which will tie into the westbound right turn lane at the Palisades Interstate Parkway southbound on/off ramp. As part of this project, the U.S. Route 202 eastbound right turn lane at NYS Route 45 will be extended to the west past the Thiells - Mt. Ivy Road intersection. Implementation of these improvements is currently underway.

Upon completion of the improvement measures described above, the 2011 No-Build condition, the intersection is projected to operate at an overall Level of Service "C" or better during the peak AM hour, peak PM peak hour and Saturday peak hour.

In the 2011 Build condition, the intersection will continue to operate at an overall Level of Service "C" or better during the peak AM hour, peak PM peak hour and Saturday peak hour.

3. U.S. Route 202 and PIP Southbound On/Off Ramp

The Palisades Interstate Parkway Southbound On/Off Ramp intersects with U.S. Route 202 opposite the Mt. Ivy Diner at a signalized intersection.

In the 2008 Existing condition, the intersection operates at an overall Level of Service "C" during the weekday peak AM hour and at an overall Level of Service "B" during the weekday peak PM hour and during the Saturday peak hour.

In the 2011 No-Build condition, the intersection is projected to operate at an overall Level of Service "C" during the peak AM hour and at an overall Level of Service "B" during the peak PM hour and during the Saturday peak hour.

In the 2011 Build condition, the intersection will continue to operate at an overall Level of Service "C" during the peak AM hour and will operate at an overall Level of Service "E" during the peak PM hour and the Saturday peak hour.

With the construction of the proposed Minisceongo Park development, this segment of Route

202 will be widened and will provide additional storage for the U.S. Route 202 eastbound left turn. This widening, together with the coordination of the traffic signal at the Minisceongo Park development, will improve operating conditions at this location to level of service "C" or better.

4. U.S. Route 202 and Camp Hill Road

Camp Hill Road intersects with U.S. Route 202 at a signalized intersection.

In the 2008 Existing condition, the intersection operates at an overall Level of Service “B” during the weekday peak AM, weekday peak PM hours and Saturday peak hour.

The 2011 No-Build analysis indicates that the intersection is projected to operate at an overall Level of Service “B” during the peak AM, peak PM hour and Saturday peak hours. Some signal timing changes will be required to provide the most efficient operation.

Capacity analyses conducted for the 2011 Build condition indicate the intersection will operate at an overall Level of Service “C” or better during the weekday peak AM, peak PM and Saturday peak hours.

5. Thiells - Mt. Ivy Road and PIP Northbound Off Ramp

The Palisades Interstate Parkway Northbound Off Ramp intersects with Thiells - Mt. Ivy Road at an unsignalized intersection.

Capacity analyses for the 2008 Existing condition indicate that the PIP Northbound Off Ramp is currently operating at a Level of Service “E” during the weekday peak AM hour, at a Level of Service “F” during the weekday peak PM hour and level of service "E" during the Saturday peak hour.

Capacity analyses for the 2011 No-Build and 2008 Build conditions indicate that the PIP Northbound Off Ramp will operate at a Level of Service “F” during the weekday peak AM and PM hours and during the Saturday peak hour.

In order to improve the operation of this intersection regardless of the proposed development, a traffic signal would be required. With signalization, this intersection will operate at an overall Level of Service “C” or better during the weekday peak AM, peak PM and Saturday peak hours for the 2011 No-Build and Build conditions.

6. PIP Southbound On/Off Ramp and Quaker Road

Quaker Road intersects with the Palisades Interstate Parkway Southbound On/Off Ramp at an unsignalized intersection.

Capacity analyses conducted for the 2008 Existing condition indicate that the Quaker Road approach is currently operating at a Level of Service “F” during the weekday peak AM and weekday peak PM hours and at level of service "D" during the Saturday peak hour.

Capacity analyses for the 2011 No-Build and 2011 Build conditions indicate that the Quaker Road approach will continue to operate at a Level of Service “F” during the weekday peak AM and PM hours and during the Saturday peak hour.

In order to improve the operation of this intersection regardless of the proposed development, a traffic signal would be required as well as a separate left turn lane to Quaker Road. With these improvements, this intersection will operate at an overall Level of Service "C" or better during the weekday peak AM, peak PM and Saturday peak hours for the 2011 No-Build and 2011 Build conditions.

7. U.S. Route 202 and Proposed Site Access

As previously discussed, access to the Minisceongo Park is proposed via a full movement access road to U.S. Route 202 to be constructed opposite an existing shopping center driveway.

In order to accommodate turning movements to and from the Minisceongo Park site as well as improve the access to the shopping center located on the south side of U.S. Route 202, it is recommended that a separate left turn lane on U.S. Route 202 be constructed in order to accommodate turning movements to and from the site. It is also recommended that a separate right turn lane on U.S. Route 202 for traffic entering the site be constructed. The proposed driveway should be constructed to provide three exiting lanes in the form of a separate right turn lane, a through left lane and a separate left turn lane. In addition, Route 202 will have to be widened to accommodate the dual left turn exit movement from the Minisceongo Park driveway. A traffic signal will be installed to control the turning movements at this location. This signal will have to be interconnected with adjacent signals.

Capacity analyses conducted with these improvements indicate that this intersection will operate at an overall Level of Service "C" or better during the weekday peak AM, peak PM and Saturday peak hours.

8. U.S. Route 202 and Pacesetter Shopping Center

The Pacesetter Shopping Center intersects with U.S. Route 202 at a signalized intersection.

Capacity analyses for the 2008 Existing condition indicate that the intersection is operating at an overall Level of Service "B" during the weekday peak AM, peak PM and Saturday peak hour.

Capacity analyses for the 2011 No-Build condition indicate that the intersection is projected to operate at an overall Level of Service "B" during the weekday peak AM hour and the Saturday peak hour, and is projected to operate at an overall Level of Service "C" during the weekday peak PM hour.

Capacity analyses for the 2011 Build condition indicate that the intersection will continue to operate at an overall Level of Service "C" or better during the peak AM, peak PM and Saturday peak hour. The existing traffic signal will have to be interconnected with the adjacent traffic signal at the proposed site access.

9. U.S. Route 202 and Ramapo Plaza

Ramapo Plaza intersects with U.S. Route 202 at an unsignalized intersection.

In the 2008 Existing condition, the intersection is operating at a Level of Service "F" during the

weekday peak AM hour and at a Level of Service "D" during the weekday peak PM and Saturday peak hour.

The 2011 No-Build condition indicates that the intersection will operate at Level of Service "F" during the weekday peak AM and peak PM hours and at a Level of Service "E" during the Saturday peak hour.

Capacity analyses for the 2011 Build condition indicate that the intersection will operate at Level of Service "F" during the weekday peak AM, peak PM and Saturday peak hour.

With the construction of the proposed Minisceongo Park development, this section of U.S. Route 202 will be widened. This widening, together with the coordination of the traffic signal at the Minisceongo Park development, should improve operating conditions at this and other driveways including Ramapo Plaza.

10. U.S. Route 202 and Martino Way

Martino Way intersects with U.S. Route 202 at an unsignalized intersection. Capacity analyses for the 2008 Existing condition indicate that the intersection is operating at a Level of Service "B" or better during the weekday peak AM, peak PM and Saturday peak hours.

Capacity analyses for the 2011 No-Build and 2011 Build conditions indicate that the intersection will operate at a Level of Service "C" or better during the weekday peak AM, peak PM and Saturday peak hours.

11. U.S. Route 202 and Pacesetter Shopping Center (East)

U.S. Route 202 intersects with the east driveway for the Pacesetter Shopping Center at an unsignalized intersection. Capacity analyses for the 2011 Existing condition indicate that the intersection is operating at a Level of Service "C" or better during the weekday peak AM, PM and Saturday peak hours.

Capacity analyses for the 2011 No-Build and 2011 Build conditions indicate that the intersection will operate at Level of Service "D" or better during the weekday peak AM, PM and Saturday peak hours.

12 . U.S. Route 202 and NYS Route 306

US Route 202 and NYS Route 306 intersect at a signalized full movement intersection. Capacity analyses for the 2008 Existing condition indicate that the intersection is operating at a Level of Service "B" during the weekday peak AM, peak PM and Saturday peak hours.

Capacity analyses for the 2011 No-Build and 2011 Build conditions indicate that the intersection will operate at Level of Service "C" or better during the weekday peak AM, PM hours and Saturday peak hours.

13. NYS Route 45 & Old Route 202/Park and Ride

Old Route 202 intersects with U.S. Route 202 opposite the driveway to the Park and Ride facility. Associated with the NYSDOT improvements in the area a traffic signal is being installed at this intersection.

Capacity analyses for the 2011 No-Build and 2011 Build conditions indicate that the intersection will operate at Level of Service "B" or better during the weekday peak AM, PM hours and Saturday peak hours.

14. US Route 202 & Crystal Hill Club/Balsam Road

Balsam Road and the Crystal Hill Club driveway intersect with U.S. Route 202 at a signalized intersection.

In the 2008 Existing condition, the intersection operates at an overall Level of Service "C" or better during the weekday peak AM, weekday peak PM hours and Saturday peak hour.

Capacity analyses for the 2011 No-Build and 2011 Build conditions indicate that the intersection will continue to operate at Level of Service "C" or better during the weekday peak AM, PM hours and Saturday peak hours.

3.5.7 Evaluation of Conditions with the Proposed Patrick Farm Development

In addition to the other developments considered as part of the overall traffic evaluation, Patrick Farm, a 497 unit residential development proposed in the Town of Ramapo, was also considered as part of a separate evaluation since this development is expected to be completed after the Minisceongo Park development. A series of figures and analysis are contained in Appendix C of the SEIS which evaluate the effect of the additional traffic from this potential development.

3.5.8 Internal Circulation

Access to the site is proposed via a multi-lane signalized new driveway access to US Route 202. The main access includes a grass median to provide a boulevard entrance which separates the residential area from commercial pads located along the Route 202 frontage. A second right turn only driveway entrance, located east of the main access, provides direct access to restaurants and the bank anticipated along the US Route 202 frontage. Internal circulation is provided via a ring road encompassing the large format retail commercial spaces. The ring road also provides a connection to the residential area, located in the western portion of the site, which is generally a "T" shape with a parking and landscaped area located in the center and the multifamily residential buildings surrounding a central landscaped area. Sidewalks are proposed to provide access from the residential area to US Route 202 in the vicinity of a potential bus stop location. Sidewalks are also located along the front of the residential buildings and along the central landscaped area. An emergency access is provided from the eastern end of the commercial area to Quaker Road. A pedestrian crossing at the site intersection with Route 202 would be striped.

3.5.9 Sight Distance

Stopping sight distance is the distance a vehicle requires to stop on wet pavement to avoid a collision with a vehicle entering the traffic stream. The stopping sight distance increases as vehicle speed increases. Intersection sight distance provides an additional margin of safety above stopping sight distance.

Intersection sight distance is defined as the sight distance that is necessary for a vehicle to safely enter the traffic stream requiring only minor speed adjustments by vehicles in the traffic stream. Table 3.5-5 provides the Stopping and Intersection Sight Distances recommended by the American Association of State Highway and Transportation Officials (AASHTO).

Table 3.5-5
Sight Distance

Speed (in miles/hour)	Stopping Sight Distance	Intersection Sight Distance
30	200 Feet	335 Feet
35	250 Feet	390 Feet
40	305 Feet	445 Feet
45	360 Feet	500 Feet
50	425 Feet	555 Feet

A Policy on Geometric Design of Highways and Streets, American Association of State Highway and Transportation Officials, 5th ed., 2004.

The proposed project proposed a new signalized intersection at Route 202, in addition to a right turn only entrance driveway for commercial access. The project includes the widening and construction of turn lanes as shown on Figure 3.5-36. The speed limit of US Route 202 in the vicinity of the proposed access is 45 miles per hour, thus the AASHTO recommended intersection sight distance is 500 feet in either direction.

3.5.10 Traffic Accident Data

Accident data for area roads were collected from the New York State Department of Transportation for the latest three-year period. Copies of accident data are contained in Appendix D of the SEIS. Table A in the Appendix provides a summary of the accidents by location, type, weather conditions, number of vehicles involved and other important contributing factors.

3.5.11 Pedestrian Circulation

There were no pedestrians observed during the traffic counts external to the project site. Sidewalks are proposed along the main entrance providing access from the residential portion of the project to both US Route 202 and to the commercial portion of the project.

The applicant will consult with NYSDOT to determine designs that will encourage pedestrian connections between the north and south sides of Route 202, including push button sidewalk crossings, safe haven center islands, and other applicable measures. Such measures would be installed at the main access drive.

3.5.12 Mass Transit

Rockland County Department of Public Transportation provides public bus transportation within the project area. Transport of Rockland (TOR) provides mass transit service through six main lines and three loop bus routes to serve the County. The closest bus route to the project site is the TOR 95 Route providing service from Haverstraw to Rockland Community College in Ramapo along Routes 202 and 306. Connections are available to TOR Route 91 and 94. The T.R.I.P.S. System, also run by Rockland County, provides para-transit service to senior citizens and persons with disabilities. A full description of the Rockland County bus service provided by Rockland County Department of Public Transportation including fares and schedules is available at www.co.rockland.ny.us/PublicTrans/index.htm.

The TOR Ferry Express Bus provides express bus service along NYS Route 202 from the Mount Ivy Park and Ride lot along NYS Route 202 to the Haverstraw/Ossining Ferry Station, in Haverstraw.

With the development of Minisceongo Park, coordination with the Rockland Department of Public Transportation will be undertaken to provide a bus stop to accommodate residents. These will be coordinated during the site plan approval process.

It is envisioned that at least three stops would be integrated into the site's design. One stop would be located at the entrance only access drive, one stop would be located in front of the largest retail building, and the third stop would be located near the multifamily complex The specific locations will be identified and refined at the site approval stage in coordination with the Rockland County Department of Public Transportation.

3.5.13 Mitigation Measures

According the results of the *Traffic Impact Study* (Appendix D), there are certain existing traffic delays occurring during peak periods. It is the applicant's contention that with the completion of the improvements as listed in Table 3.5-6, the traffic to and from Minisceongo Park can be accommodated. Traffic flow and public safety along the frontage of the site will be provided as a result of the proposed road improvements and project mitigation measures that are shown in Figure 3.5-36.

Table 3.5-6
Summary of Recommended Improvements

Location		2011 No-Build	2011 Build Mitigation Measures
1	NYS Route 202 & Route 45	Complete NYSDOT planned Improvement	Modify Signal timing and upgrade signal coordination
2	NYS Route 202 & Thiells-Mount Ivy Road	Complete NYSDOT planned Improvement	Modify Signal timing and upgrade signal coordination
3	NYS Route 202 & Palisades Interstate Parkway Southbound Ramp (Exit 13)	Complete NYSDOT planned Improvement	Widen to provide additional through lane in each direction on Route 202 through this intersection Coordinate traffic signal with adjacent traffic signals on Route 202
4	Route 202 & Camp Hill Road	Modify Signal timing and provide signal coordination	Same as No-Build
5	Thiells Mount Ivy Rd & Palisades Interstate Parkway Northbound Ramp	Monitor for Signalization	Same as No-Build
6	Quaker Rd. & Palisades Interstate Parkway SB Access Ramp	Monitor for Signalization	Same as No-Build
7	Route 202 & Shopping Center Driveway / Proposed Main Site Access Driveway	Monitor for Signalization	Install new traffic signal and interconnect Construct multi lane driveway Widen Route 202 to provide additional eastbound through lane. Construct separate left turn lane and right turn lanes on the westbound approach.
8	Route 202 & Pacesetter Park - West (Super Stop & Shop)	None	Interconnect traffic signals on Route 202
9	Route 202 & Ramapo Plaza/proposed Secondary Site Access Driveway	None	Interconnect traffic signals on Route 202
10	Route 202 & Martino Way	None	None
11	Route 202 & Pacesetter Park - East	None	None
12	Route 202 and NYS Route 306	None	None
13	Route 45 and Old Route 202 Park & Ride Access	Complete NYSDOT planned Improvement	Same as No-Build
14	Route 202 & Crystal Hill Club/Balsam Road	None	None

Source: John Collins Engineers, 2008.