FINAL SUPPLEMENTAL ENVIRONMENTAL IMPACT STATEMENT FOR THE CROTON WATER TREATMENT PLANT

THE FOLLOWING FIGURES ARE LOCATED AT THE END OF THE SECTION

5.21. COMBINED IMPACTS

5.21.1. Introduction

This section summarizes the potential operational and construction impacts that could result from adding together the results of the impacts of both the proposed Croton Water Treatment Plant (Croton project) and Catskill/Delaware Ultraviolet Light Disinfection Facility (Cat/Del UV Facility) being located at the Eastview Site. This section provides an alternative perspective to the environmental impact assessment in the preceding sections. By adding the predicted environmental consequences, particularly for those impact categories such as, traffic, air and noise that are expressed by numerical results, the environmental impacts attributable to the New York City Department of Environmental Protection (NYCDEP) proposed projects can be increased. The baseline conditions (Existing Conditions and Future Without the Croton project) for the various technical impact analyses have been examined and discussed fully in the preceding sections of this Final SEIS, and provide part of the basis for the analyses presented in this Combined Impacts section. (In this section, the "Without Cat/Del UV Facility at Eastview Site" scenario for the Future Without the Croton project is used for comparison purposes.) The various study areas defined in the individual technical analyses are the same for the analyses presented below, as for those presented in the preceding sections of this Final SEIS. Additionally, the methodologies used to prepare the analyses in this section are the same as those presented in Section 4, Data Collection and Impact Methodologies.

While the NYCDEP may undertake several projects at the Eastview Site, during the same general timeframe, the projects identified in this Final SEIS are functionally independent and they are not part of the same plan. As identified in each preceding section, the potential projects include the proposed action (Croton project), the Cat/Del UV Facility, a Police Precinct, an Administration Building, and the Kensico-City Tunnel. As shown in Section 5.1, Introduction and Project Description, Figure 5.1-8, the Cat/Del UV Facility may be located in the southeast corner of the Eastview Site. The Police Precinct may be located in the southwest corner of the Eastview Site. Similar to the proposed project, construction of the Cat/Del UV Facility would take place over many years; it is anticipated that the construction process may start in 2005 and the facility would be placed into operation in 2009. The Police Precinct, a much smaller project, is anticipated to be completed by 2006. The Administration Building is less certain, however, the Eastview Site is one of several properties currently being considered as a possible site. In addition to these projects, the Kensico-City Tunnel may be under construction at the Eastview Site starting in 2009. Although this project would be regional in nature, it could include several subsurface structures and a temporary staging area at the Eastview Site.

All of these NYCDEP projects are analyzed in this Final SEIS to the extent to which information is available. They are all separate actions from the proposed facility and are subject to their own independent environmental reviews. The NYCDEP could proceed with any of the proposed projects, subject to necessary approvals, irrespective of the outcome of any other project. The largest amount and more quantitative types of information is available for the Cat/Del UV Facility, for which a Draft EIS was published in May 2004. In general, the following analysis focuses on the combined impacts of the proposed action and the Cat/Del UV Facility.

The consideration of potential combined impacts for both the proposed Croton project and Cat/Del UV Facility together could worsen the predicted environmental consequences. The effects of this analysis on traffic and transportation, air quality, noise, and natural resources are described below. Where impacts have been identified, the discussion below describes the mitigation measures that have been identified to resolve or lessen these potential impacts.

5.21.2. Potential Project Impacts

In 2010, with both the proposed Croton project and Cat/Del UV Facility in operation at the same time at the Eastview Site, there could be adverse impacts resulting from adding the potential operational impacts of both projects together. Below is an analysis of these potential adverse impacts that could result from the combined impacts of these two NYCDEP projects.

5.21.2.1. Traffic and Transportation

5.21.2.1.1. Traffic Conditions

This section examines the potential project impacts on the area's transportation system (including traffic, parking, pedestrian safety and mass transit) resulting from combined trips generated by both the proposed Croton project and Cat/Del UV Facility operating at the Eastview Site. This section describes the operation of the various study area intersections (and their approaches and lane groups) based on their ability to process traffic as calculated using the HCM methodologies, described in Section 4.9, Data Collection and Impact Methodologies, Traffic and Transportation, for the combined effects of the Croton project and Cat/Del UV Facility taken together.

The Future Without the Project conditions without the construction or operation of either the proposed Croton project or Cat/Del UV Facility referred to in this section are those that have been fully examined and presented in Section 5.9, Traffic and Transportation. These Future Without the Project conditions serve as a "baseline" for the evaluation of the combined project-related impacts. The analysis year for project impacts/operations is 2010 because that is the first full year when both projects would be operational. Figures 5.21-1 and 5.21-2 show the total 2010 Future Without the Project traffic volumes at the study area intersections for the AM and PM peak hours, respectively.

Eighty-two vehicles per hour (vph) would be generated for the combined operations of the Croton project and Cat/Del UV Facility (2010 Build condition) during the peak analysis periods. When distributed among the different ingress/egress routes to the site, very few of the study area intersections would receive greater than the 50-vph CEQR threshold. The largest generated volumes would be experienced at the three intersections just to the southeast of the site along Grasslands Road (Route 100C).

The traffic generated by operation of the Croton project with the concurrent operation of the Cat/Del UV Facility at the Eastview Site is shown in Figures 5.21-3 and 5.21-4 for the AM and PM peak hours, respectively. Figures 5.21-5 and 5.21-6 show the total combined traffic under 2010 Build conditions for the AM and PM peak hours, respectively. Table 5.21-1 shows a

comparison of the 2010 Future Without the Project conditions and the 2010 Combined Build conditions; highlighting potential adverse traffic impacts from the simultaneous operation of the combined projects. Applying the *CEQR Technical Manual* impact criteria to the analyses of 2010 Combined Build conditions shows that the addition of project-generated traffic from both projects taken together would result in potential adverse traffic impacts. There would be a total of four potential adverse traffic impacts at intersections in the primary study area under 2010 Combined Build conditions (two during the AM peak hour and two during the PM peak hour).

The following is a summary of the potential 2010 Combined Build condition adverse traffic impacts associated with the concurrent operation of the proposed Croton project and Cat/Del UV Facility at the Eastview Site. All increases in delay described below are given in comparison to the 2010 Future Without the Project conditions (without the traffic from any proposed NYCDEP projects included in the Future Without the Project volumes).

Potential Adverse Impacts Occurring at Signalized Intersections

- At the intersection of Grasslands Road (Route 100C) and the Sprain Brook Parkway Northbound Ramp, the northbound left/through movement would be impacted during the AM peak hour. The delay would increase from 76.4 seconds (LOS E) to 89.0 seconds (LOS F).

Potential Adverse Impacts Occurring at Unsignalized Intersections

- At the intersection of Old Saw Mill River Road and Saw Mill River Road (Rt. 9A) SB Ramps, the northbound left-turn movement would be impacted during the AM peak hour, where delays are more than 150 seconds.

- At the intersection of Old Saw Mill River Road and Saw Mill River Road (Rt. 9A) SB Ramps, the northbound left-turn movement would also be impacted during the PM peak hour, where delays are more than 150 seconds.

- The intersection of Saw Mill River Road (Route 9A) and Ramada Inn/Broadway Plaza the eastbound through movement would be impacted during the PM peak hour, where the delay would increase from 102.0 seconds (LOS F) to 107.5 seconds (LOS F).

Measures have been identified that would mitigate these potential combined project-related adverse traffic impacts. A description of the measures and an analysis showing the resulting effects of implementing the measures suggested as mitigation for these impacts are fully discussed below, in Section 5.21.4, Mitigation of Potential Combined Impacts.

TABLE 5.21-1. 2010 POTENTIAL PROJECT IMPACTS FOR EASTVIEW SITE

SIGNALIZED INTERSECTIONS	LANE GROUP	2010 FUTURE WITHOUT THE PROJECT						2010 OPERATIONAL					
		WEEKDAY AM PEAK HOUR			WEEKDAY PM PEAK HOUR			WEEKDAY AM PEAK			WEEKDAY PM PEAK		
		V/C RATIO	DELAY (SEC/VEH)	LOS	V/C RATIO	DELAY (SEC/VEH)	LOS	V/C RATIO	DELAY (SEC/ VEH)	LOS	V/C RATIO	DELAY (SEC/ VEH)	LOS
Saw Mill River Road (Rt. 9A) (N-S) at Saw Mill River Pkwy Ramps to Exec Park	EB – L	0.66	32.4	C	0.54	29.6	C	0.66	32.4	C	0.54	29.6	C
	EB – LTR	0.14	25.0	C	0.15	25.8	C	0.14	25.0	C	0.15	25.8	C
	WB – L	0.15	32.4	C	0.14	34.2	C	0.15	32.4	C	0.14	34.2	C
	WB – LT	0.10	32.1	C	0.09	33.8	C	0.10	32.1	C	0.09	33.8	C
	WB - R	0.05	31.8	C	0.22	34.8	C	0.05	31.8	C	0.22	34.8	C
	NB-L	0.19	14.2	B	0.83	34.6	C	0.19	14.2	B	0.83	34.6	C
	NB-TR	0.32	14.9	B	0.57	15.6	B	0.32	14.9	B	0.57	15.7	B
	SB-L	0.10	13.3	B	0.16	21.7	C	0.10	13.3	B	0.16	21.7	C
	SB-TR	0.56	17.3	B	1.01	61.2	E	0.56	17.4	B	1.01	61.8	E
	Intersection		**19.7**	**B**		**36.8**	**D**		**19.7**	**B**		**37.0**	**D**
Grasslands Road (Route 100C) (E-W) at Bradhurst Avenue	EB - L	0.77	41.7	D	>1.50	>150	F	0.77	41.7	D	>1.50	>150	F
	EB - T	1.06	84.2	F	0.60	22.7	C	1.06	84.2	F	0.61	22.8	C
	EB - R	0.36	16.5	B	0.28	12.2	B	0.36	16.5	B	0.28	12.2	B
	WB-L	0.70	59.8	E	0.23	18.2	B	0.70	59.8	E	0.24	18.2	B
	WB-TR	0.45	26.2	C	1.01	63.9	E	0.46	26.3	C	1.01	63.9	E
	NB - L	0.23	23.7	C	0.89	63.4	E	0.24	23.8	C	0.90	65.1	E
	NB - TR	0.35	26.1	C	0.20	16.4	B	0.35	26.1	C	0.20	16.4	B
	SB - L	0.53	41.2	D	0.34	25.6	C	0.53	41.2	D	0.34	25.6	C
	SB - TR	0.70	50.8	D	1.15	121.9	F	0.70	50.8	D	1.15	121.9	F
	Intersection		**48.9**	**D**		**76.7**	**E**		**48.8**	**D**		**76.8**	**E**
Knollwood Road (E-W) at Cross Westchester Expwy (I-287) WB ramps	WB-LT	0.47	27.8	C	0.82	41.1	D	0.47	27.8	C	0.82	41.1	D
	WB-R	0.25	25.5	C	0.46	27.8	C	0.25	25.5	C	0.46	27.8	C
	NB-L	0.53	10.2	B	1.00	66.7	E	0.53	10.2	B	1.00	67.5	E
	NB-T	0.52	10.5	B	0.54	10.7	B	0.52	10.5	B	0.54	10.7	B
	SB-T	0.31	13.5	B	0.46	14.9	B	0.31	13.5	B	0.46	15.0	B
	SB-R	0.14	12.2	B	0.23	12.9	B	0.14	12.2	B	0.23	12.9	B
	Intersection		**14.6**	**B**		**30.1**	**C**		**14.6**	**B**		**30.2**	**C**
Knollwood Road (E-W) at Cross Westchester Expwy (I-287) EB ramps	EB-L	0.70	33.6	C	0.49	24.6	C	0.70	33.6	C	0.49	24.6	C
	EB-TR	0.01	23.6	C	0.00	20.0	C	0.01	23.6	C	0.00	20.0	C
	EB-R	0.60	30.5	C	0.80	36.2	D	0.60	30.5	C	0.80	36.2	D
	NB-T	0.51	15.5	B	0.89	34.4	C	0.51	15.5	B	0.89	34.5	C
	NB-R	0.54	16.2	B	0.65	21.5	C	0.54	16.2	B	0.65	21.5	C
	SB-L	0.41	10.0	B	0.84	35.5	D	0.41	10.0	B	0.84	35.5	D
	SB-T	0.30	8.5	A	0.67	15.9	B	0.30	8.5	A	0.67	16.0	B
	Intersection		**19.0**	**B**		**27.4**	**C**		**19.0**	**B**		**27.4**	**C**
Tarrytown/White Plains Rd. (E-W) WB Ramps at Knollwood Road (Rt. 100A)	WB-LT	0.15	24.6	C	0.36	26.5	C	0.15	24.6	C	0.36	26.5	C
	WB-R	0.52	28.6	C	0.99	73.0	E	0.52	28.6	C	0.99	73.0	E
	NB-LT	0.42	10.3	B	0.62	13.0	B	0.42	10.3	B	0.62	13.0	B
	SB-T	0.21	15.3	B	0.45	17.5	B	0.21	15.3	B	0.45	17.5	B
	SB-R	0.20	15.4	B	0.49	18.2	B	0.20	15.4	B	0.49	18.2	B
	Intersection		**15.6**	**B**		**26.9**	**C**		**15.6**	**B**		**26.9**	**C**

TABLE 5.21-1. 2010 POTENTIAL PROJECT IMPACTS FOR EASTVIEW SITE

SIGNALIZED INTERSECTIONS	LANE GROUP	2010 FUTURE WITHOUT THE PROJECT						2010 OPERATIONAL					
		WEEKDAY AM PEAK HOUR			WEEKDAY PM PEAK HOUR			WEEKDAY AM PEAK			WEEKDAY PM PEAK		
		V/C RATIO	DELAY (SEC/VEH)	LOS	V/C RATIO	DELAY (SEC/VEH)	LOS	V/C RATIO	DELAY (SEC/ VEH)	LOS	V/C RATIO	DELAY (SEC/ VEH)	LOS
Knollwood Rd. (Rt 100A) at Tarrytown White Plains Rd. (Rt. 119) EB Ramps	EB – LT	0.73	35.1	D	0.81	40.2	D	0.73	35.1	D	0.81	40.2	D
	EB – R	0.16	24.8	C	0.36	26.6	C	0.16	24.8	C	0.36	26.6	C
	NB-TR	0.41	20.3	C	0.43	20.4	C	0.41	20.3	C	0.43	20.4	C
	SB-L	0.32	12.3	B	0.49	15.3	B	0.32	12.3	B	0.49	15.3	B
	SB-T	0.28	9.3	A	0.56	12.0	B	0.28	9.3	A	0.56	12.0	B
	Intersection		**20.8**	**C**		**21.7**	**C**		**20.8**	**C**		**21.7**	**C**
Saw Mill River Rd. (Rt 9A) at Cross Westchester Expwy (I-287) WB Ramps	WB-L	1.11	107.4	F	0.76	39.2	D	1.11	107.4	F	0.76	39.2	D
	WB-R	0.50	27.7	C	0.43	20.6	C	0.50	27.8	C	0.43	20.6	C
	NB-LTR	0.37	9.0	A	0.72	24.0	C	0.38	9.0	A	0.73	24.2	C
	SB-TR	0.48	9.9	A	0.88	24.2	C	0.49	9.9	A	0.88	24.7	C
	Intersection		**36.7**	**D**		**25.6**	**C**		**36.5**	**D**		**25.9**	**C**
Saw Mill River Road (Rt 9A) and Cross Westchester Exp (I-287) EB Ramps	NB-TR	0.32	12.4	B	0.91	37.4	D	0.32	12.4	B	0.92	37.8	D
	SB-L	0.51	2.0	A	0.76	25.0	C	0.52	2.1	A	0.77	25.4	C
	SB-LT	0.16	0.2	A	0.55	0.5	A	0.17	0.2	A	0.55	0.5	A
	Intersection		**5.1**	**A**		**18.9**	**B**		**5.2**	**A**		**19.0**	**B**
Saw Mill River Rd. (Rt. 9A) at Tarrytown White Plains Rd. (Rt. 119)	EB-L	1.00	78.1	E	1.02	84.8	F	1.01	80.6	F	1.03	86.3	F
	EB-TR	0.39	14.7	B	0.48	20.4	C	0.39	14.7	B	0.48	20.4	C
	WB-L	0.18	22.4	C	0.43	34.7	C	0.18	22.4	C	0.43	34.7	C
	WB-TR	0.31	23.6	C	0.91	51.6	D	0.31	23.6	C	0.91	51.6	D
	NB-L	0.40	34.4	C	0.32	25.3	C	0.40	34.5	C	0.32	25.4	C
	NB-TR	0.63	41.0	D	0.85	43.5	D	0.64	41.3	D	0.85	44.0	D
	SB-L	0.25	34.4	C	0.57	36.8	D	0.25	34.5	C	0.58	37.0	D
	SB-T	0.43	35.1	D	0.27	22.9	C	0.44	35.2	D	0.27	23.0	C
	SB-R	0.23	22.1	C	0.40	11.1	B	0.23	22.1	C	0.41	11.1	B
	Intersection		**33.9**	**C**		**37.1**	**D**		**34.5**	**C**		**37.3**	**D**
Saw Mill River Rd. (Rt. 9A) at Hunter Lane	EB – LTR	0.01	29.1	C	0.01	32.9	C	0.01	29.1	C	0.01	32.9	C
	WB – LT	0.32	32.5	C	0.83	59.5	E	0.32	32.5	C	0.83	59.5	E
	W-R	0.01	18.7	B	0.08	23.0	C	0.01	18.7	B	0.08	23.0	C
	NB – LTR	0.71	23.1	C	0.72	20.2	C	0.72	23.5	C	0.72	20.3	C
	SB – LTR	0.73	16.3	B	0.81	16.3	B	0.74	16.6	B	0.82	16.8	B
	Intersection		**20.3**	**C**		**21.8**	**C**		**20.7**	**C**		**22.1**	**C**
Saw Mill River Rd. (Rt. 9A) at Dana Rd.	EB-LT	0.07	25.5	C	0.31	27.8	C	0.07	25.5	C	0.32	27.9	C
	EB-R	0.08	25.6	C	0.24	26.9	C	0.08	25.6	C	0.24	26.9	C
	WB-L	0.16	26.2	C	0.68	36.0	D	0.18	26.4	C	0.73	38.6	D
	WB-TR	0.07	25.5	C	0.48	29.3	C	0.08	25.6	C	0.49	29.4	C
	NB-L	0.12	30.5	C	0.39	32.7	C	0.12	30.5	C	0.39	32.7	C
	NB-TR	0.71	27.0	C	0.87	34.4	C	0.72	27.4	C	0.88	34.9	C
	SB-L	0.46	33.4	C	0.17	30.8	C	0.47	33.6	C	0.17	30.9	C
	SB-TR	0.61	24.4	C	0.76	28.5	C	0.61	24.4	C	0.76	28.5	C
	Intersection		**26.5**	**C**		**31.6**	**C**		**26.7**	**C**		**32.1**	**C**

TABLE 5.21-1. 2010 POTENTIAL PROJECT IMPACTS FOR EASTVIEW SITE

SIGNALIZED INTERSECTIONS	LANE GROUP	2010 FUTURE WITHOUT THE PROJECT						2010 OPERATIONAL					
		WEEKDAY AM PEAK HOUR			WEEKDAY PM PEAK HOUR			WEEKDAY AM PEAK			WEEKDAY PM PEAK		
		V/C RATIO	DELAY (SEC/VEH)	LOS	V/C RATIO	DELAY (SEC/VEH)	LOS	V/C RATIO	DELAY (SEC/ VEH)	LOS	V/C RATIO	DELAY (SEC/ VEH)	LOS
Saw Mill River Rd. at Saw Mill River Pkwy SB Off Ramp	EB-LT	0.92	34.2	C	1.10	92.7	F	0.92	34.9	C	1.11	94.2	F
	WB-TR	0.25	4.8	A	0.50	9.8	A	0.25	4.8	A	0.50	9.9	A
	SB-L	0.70	37.9	D	0.29	23.2	C	0.70	37.9	D	0.29	23.2	C
	SB-LR	0.17	28.3	C	0.22	22.6	C	0.17	28.3	C	0.22	22.6	C
	Intersection		**24.1**	**C**		**40.8**	**D**		**24.3**	**C**		**41.1**	**D**
Saw Mill River Rd. at Saw Mill River Pkwy NB Off Ramp	EB-T	0.50	17.7	B	0.42	13.4	B	0.50	17.7	B	0.42	13.4	B
	WB-T	0.21	7.8	A	0.33	4.4	A	0.21	7.8	A	0.34	4.4	A
	NB-LR	0.54	26.1	C	0.48	31.8	C	0.55	26.3	C	0.49	31.8	C
	NB-R	0.51	25.5	C	0.46	31.7	C	0.52	25.8	C	0.47	31.8	C
	Intersection		**17.3**	**B**		**11.9**	**B**		**17.4**	**B**		**11.9**	**B**
Grassland Rd. (Route 100 C) and Clearbrook Rd/Walker Road	EB-L	0.16	3.1	A	0.16	10.3	B	0.19	3.2	A	0.20	10.7	B
	EB-TR	0.38	3.8	A	0.75	17.9	B	0.38	3.8	A	0.75	17.9	B
	WB-L	0.39	4.1	A	>1.50	>150	F	0.39	4.1	A	>1.50	>150	F
	WB-TR	0.40	3.9	A	0.72	17.2	B	0.43	4.1	A	0.74	17.8	B
	NB-LT	0.22	33.8	C	0.21	20.1	C	0.22	33.8	C	0.21	20.1	C
	SB-LT	0.21	33.8	C	0.24	20.4	C	0.32	35.0	D	0.33	21.2	C
	SB-R	0.08	32.7	C	0.19	19.9	B	0.10	32.8	C	0.21	20.0	C
	Intersection		**5.5**	**A**		**50.5**	**D**		**5.9**	**A**		**49.8**	**D**
Grassland Rd. (Route 100 C) at Woods Drive/Taylor Road	EB-L	0.30	7.9	A	0.35	14.5	B	0.32	8.4	A	0.35	14.7	B
	EB-TR	0.27	5.3	A	0.58	12.7	B	0.28	5.3	A	0.60	13.0	B
	WB-L	0.00	9.3	A	0.01	12.6	B	0.00	9.3	A	0.01	12.6	B
	WB-TR	0.59	14.4	B	0.75	21.9	C	0.61	14.7	B	0.76	22.1	C
	NB-LTR	0.01	32.9	C	0.01	24.6	C	0.01	32.9	C	0.01	24.6	C
	SB-LT	0.56	39.7	D	0.81	43.5	D	0.56	39.7	D	0.81	43.5	D
	SB-R	0.09	21.2	C	0.12	17.2	B	0.09	21.2	C	0.12	17.2	B
	Intersection		**13.0**	**B**		**20.2**	**C**		**13.2**	**B**		**20.3**	**C**
Grassland Rd. (Route 100C) at Sprain Brook Pkwy SB Ramps	EB-TR	0.28	7.6	A	0.69	12.0	B	0.29	7.6	A	0.71	12.4	B
	WB-T	0.33	7.9	A	0.54	9.7	A	0.34	8.0	A	0.54	9.7	A
	SB-L	0.56	34.4	C	0.18	29.7	C	0.56	34.4	C	0.18	29.7	C
	SB-R	0.34	31.2	C	0.13	29.2	C	0.37	31.5	C	0.14	29.3	C
	Intersection		**13.2**	**B**		**11.8**	**B**		**13.3**	**B**		**12.1**	**B**
Grassland Rd. (Route 100C) at Sprain Brook Pkwy NB Ramps	EB-L	0.09	14.8	B	0.51	15.6	B	0.11	14.9	B	0.55	16.3	B
	EB-T	0.51	18.2	B	0.33	9.0	A	0.51	18.2	B	0.33	9.0	A
	WB-TR	0.48	24.8	C	1.09	79.6	E	0.48	24.8	C	1.09	80.2	F
	NB-LT	1.03	76.4	E	0.71	30.2	C	1.07	89.0	F	0.73	30.8	C
	NB-R	1.05	84.7	F	0.37	23.2	C	1.05	84.7	F	0.37	23.2	C
	Intersection		**48.2**	**D**		**48.7**	**D**		**51.4**	**D**		**48.9**	**D**

TABLE 5.21-1. 2010 POTENTIAL PROJECT IMPACTS FOR EASTVIEW SITE

SIGNALIZED INTERSECTIONS	LANE GROUP	2010 FUTURE WITHOUT THE PROJECT						2010 OPERATIONAL					
		WEEKDAY AM PEAK HOUR			WEEKDAY PM PEAK HOUR			WEEKDAY AM PEAK			WEEKDAY PM PEAK		
		V/C RATIO	DELAY (SEC/VEH)	LOS	V/C RATIO	DELAY (SEC/VEH)	LOS	V/C RATIO	DELAY (SEC/ VEH)	LOS	V/C RATIO	DELAY (SEC/ VEH)	LOS
Virginia Road @ Bronx River Pkwy Westbound	EB-LT	1.17	145.3	F	1.21	>150	F	1.17	145.3	F	1.21	>150	F
	EB-R	0.22	19.7	B	0.41	34.8	C	0.22	19.7	B	0.41	34.8	C
	WB-LTR	0.43	35.1	D	1.40	>150	F	0.43	35.1	D	1.40	>150	F
	NB-L	0.06	46.4	D	0.06	11.1	B	0.06	46.4	D	0.06	11.1	B
	NB-TR	0.27	20.2	C	0.64	25.8	C	0.27	20.2	C	0.64	25.8	C
	SB-L	1.14	>150	F	0.14	12.0	B	1.14	>150	F	0.14	12.0	B
	SB-T	0.72	27.9	C	0.61	25.1	C	0.72	27.9	C	0.61	25.1	C
	Intersection		**58.3**	**E**		**72.6**	**E**		**58.3**	**E**		**72.6**	**E**
Grassland Road (Route 100C) @ WCC East Gate	EB-T	0.42	7.8	A	0.75	17.9	B	0.42	7.8	A	0.75	17.9	B
	WB-L	0.27	5.3	A	0.22	11.6	B	0.27	5.3	A	0.22	11.6	B
	WB-T	0.25	3.2	A	0.59	8.2	A	0.25	3.2	A	0.59	8.2	A
	NB-L	0.07	45.8	D	0.64	31.3	C	0.07	45.8	D	0.64	31.3	C
	Intersection		**6.4**	**A**		**15.2**	**B**		**6.4**	**A**		**15.3**	**B**
Old Saw Mill River Road @ Landmark West Driveway	EB-LTR	0.81	11.1	B	0.60	6.4	A	0.82	11.5	B	0.61	6.4	A
	WB-LTR	0.27	4.2	A	0.51	5.4	A	0.28	4.2	A	0.52	5.5	A
	NB-LTR	0.02	21.0	C	0.08	21.2	C	0.02	21.0	C	0.08	21.2	C
	SB-LTR	0.04	21.1	C	0.03	21	C	0.04	21.1	C	0.03	21.0	C
	Intersection		**9.5**	**A**		**6.2**	**A**		**9.8**	**A**		**6.2**	**A**

TABLE 5.21-1. 2010 POTENTIAL PROJECT IMPACTS FOR EASTVIEW SITE

UNSIGNALIZED INTERSECTIONS	LANE GROUP	2010 FUTURE WITHOUT THE PROJECT						2010 OPERATIONAL					
		WEEKDAY AM PEAK HOUR			WEEKDAY PM PEAK HOUR			WEEKDAY AM PEAK			WEEKDAY PM PEAK		
		V/C RATIO	DELAY (SEC/VEH)	LOS	V/C RATIO	DELAY (SEC/VEH)	LOS	V/C RATIO	DELAY (SEC/ VEH)	LOS	V/C RATIO	DELAY (SEC/ VEH)	LOS
Sprain Parkway SB On Ramps (N-S) at Broadway (Rt. 9A)/Bradhurst Ave.	WB-LT	0.12	10.8	B	0.20	9.6	A	0.12	10.8	B	0.20	9.7	A
Saw Mill River Road (Rt. 9A) (N-S) at Beverly Road	NB-LT	0.01	10.4	B	0.03	13.3	B	0.01	10.5	B	0.03	13.4	B
	EB-LR	0.07	21.9	C	0.06	31.5	D	0.07	22.0	C	0.06	31.7	D
Saw Mill River Road (Rt. 9A) and Stevens Avenue North	NB-LT	0.02	11.0	B	0.01	9.9	A	0.02	11.1	B	0.01	9.9	A
	SB-LT	0.03	9.2	A	0.02	10.6	B	0.03	9.2	A	0.02	10.6	B
	EB-LTR	0.03	37.1	E	0.14	25.2	D	0.03	37.1	E	0.14	25.3	D
	WB-LTR	0.04	17.1	C	0.08	16.1	C	0.04	17.2	C	0.08	16.1	C
Saw Mill River Road (Rt. 9A) and Stevens Avenue South	SB-LT	0.00	8.8	A	0.00	10.5	B	0.00	8.8	A	0.00	10.6	B
	WB-LR	0.04	22.6	C	0.16	36.2	E	0.04	22.7	C	0.16	36.5	E
Bradhurst Ave and Lakeview Ave	SB-LT	0.02	8.3	A	0.01	8.1	A	0.02	8.3	A	0.01	8.1	A
	WB-LR	0.28	15.8	C	0.48	20.2	C	0.28	15.8	C	0.48	20.2	C
Knollwood Road (Rt 100A) and Hevelyne Road	NB-LT	0.01	8.3	A	0.00	8.0	A	0.01	8.3	A	0.00	8.0	A
	EB-LR	0.04	13.4	B	0.01	10.9	B	0.04	13.4	B	0.01	10.9	B
Saw Mill River Road (Rt 9A) and Ramada Inn/Broadway Plaza	NB-L	0.10	10.2	B	0.17	10.8	B	0.10	10.2	B	0.17	10.9	B
	SB-LT	0.01	9.0	A	0.01	9.6	A	0.01	9.0	A	0.01	9.6	A
	EB-L	0.02	36.0	E	0.01	59.5	F	0.02	37.1	E	0.02	61.2	F
	EB-T	0.02	42.9	E	0.12	102.0	F	0.02	44.6	E	0.13	107.5	F
	WB-LT	0.12	38.9	E	0.14	69.1	F	0.12	40.6	E	0.14	71.4	F
	WB-TR	0.01	10.9	B	0.03	18.7	C	0.01	11.0	B	0.03	19.1	C
Dana Road & Walker Road	NB-LR	0.23	12.1	B	0.09	11.7	B	0.26	12.5	B	0.15	13.7	B
	WB-LT	0.02	8.7	A	0.11	8.1	A	0.02	8.8	A	0.11	8.2	A
Old Saw Mill River Road and Saw Mill River Road (Rt. 9A) SB Ramps	NB-L	1.00	>150	F	1.31	>150	F	1.02	>150	F	1.35	>150	F
	NB-R	0.24	18.6	C	0.30	16.5	C	0.24	18.9	C	0.30	16.6	C
	WB-L	0.17	12.2	B	0.19	11.6	B	0.17	12.2	B	0.19	11.6	B
Grasslands Road (Route 100C) (E-W) and Saw Mill River Road NB Ramps (N-S)	NB-LT	0.07	29.2	D	0.06	28.8	D	0.07	29.5	D	0.06	29.2	D
	NB-TR	0.08	15.1	C	0.18	14.7	B	0.08	15.3	C	0.18	14.8	B
	EB-L	0.22	10.3	B	0.19	11.3	B	0.22	10.3	B	0.20	11.4	B
Grasslands Road (Route 100C) @ Virginia Road	SB-LT	0.24	8.4	A	0.39	10.6	B	0.24	8.4	A	0.39	10.6	B
	WB-LR	0.58	17.8	C	1.35	>150	F	0.58	17.8	C	1.35	>150	F

TABLE 5.21-1. 2010 POTENTIAL PROJECT IMPACTS FOR EASTVIEW SITE

UNSIGNALIZED INTERSECTIONS	LANE GROUP	2010 FUTURE WITHOUT THE PROJECT						2010 OPERATIONAL					
		WEEKDAY AM PEAK HOUR			WEEKDAY PM PEAK HOUR			WEEKDAY AM PEAK			WEEKDAY PM PEAK		
		V/C RATIO	DELAY (SEC/VEH)	LOS	V/C RATIO	DELAY (SEC/VEH)	LOS	V/C RATIO	DELAY (SEC/ VEH)	LOS	V/C RATIO	DELAY (SEC/ VEH)	LOS
Grasslands Road (Route 100C) @ Legion Drive	SB-L	0.46	32.9	D	1.42	**	F	0.46	33.2	D	1.42	>150	F
	SB-R	0.21	12.4	B	0.49	20.9	C	0.21	12.5	B	0.49	20.9	C
	EB-LT	0.07	8.6	A	0.25	10.9	B	0.07	8.6	A	0.25	10.9	B
Grasslands Road (Route 100C) @ WCC West Gate	NB-L	0.06	21.4	C	0.31	57.9	F	0.06	21.5	C	0.31	57.9	F
	NB-R	0.01	13.9	B	0.53	19.9	C	0.01	13.9	B	0.53	20.0	C
	WB-LT	0.00	10.1	B	0.13	9.2	A	0.00	10.1	B	0.13	9.2	A
Old Saw Mill River Road @ Landmark East Driveway	NB-LTR	0.09	19.6	C	0.13	37.7	E	0.09	19.9	C	0.14	38.6	E
	SB-LTR	0.01	10.5	B	0.09	20.5	C	0.01	10.5	B	0.09	20.9	C
	EB-LTR	0.01	8.1	A	0.01	9.0	A	0.01	8.2	A	0.01	9.1	A
	WB-LTR	0.02	10.7	B	0.01	9.3	A	0.02	10.7	B	0.01	9.3	A

ABBREVIATIONS:

EB-Eastbound, WB-Westbound, NB-Northbound, SB-Southbound

L-Left, T-Through, R-Right, E-W: East-West Roadway, N-S: North-South Roadway

V/C Ratio - Volume to Capacity Ratio

SEC/VEH - Seconds per Vehicle

LOS - Level of Service

--- HCS results not provided for given lane group

Figure 5.21-7 provides a comparative summary of the potential mitigation measures that are included in this section for combined impacts and Section 9.1, Mitigation of Potential Adverse Impacts, for the impacts from the Croton project. This figure summarizes the types of mitigation measures suggested for the 12 alternatives analyzed. This comparison includes both operational and construction impacts for the Croton project alone and combined with the Cat/Del UV Facility.

As shown in Figure 5.21-7, operation of the proposed Croton project (2010) would result in a minimal number of adverse traffic impacts. Operational conditions analyzed #1 (Croton project alone), #2 (Croton project with Cat/Del UV Facility in the Future Without the Project), and #8 (Croton project and Cat/Del UV Facility combined) would result in 3, 2, and 3 impacts, respectively. The mitigation measures associated with these impacts would involve simple signal retiming and the possible installation of traffic signals at one (#2) to two (#1 and #8) intersections. For all three operational conditions analyzed (#1, #2 and #8), the proposed mitigation measures would be feasible.

Construction of the proposed Croton project in 2008 (condition # 3) would result in 7 temporary adverse traffic impacts. These impacts range from simple to moderate signal retiming and phasing changes and the possible installation of three traffic signals. The recommended mitigation measures for condition #3, although more expensive and involved compared to operational conditions (#1, #2 and #8), would also be feasible.

The 2008 construction conditions with the Cat/Del UV Facility in the Future Without the Project (#4, #5, #6, and #7) would result in a higher number of adverse traffic impacts (ranging from 12 to 21) compared to only 7 temporary adverse impacts with the construction of Croton project alone. The 2008 mitigation measures with the Cat/Del UV Facility in the Future Without the Project would be more involved and expensive, requiring the potential signalization of more intersections (5 to 6), more elaborate signal retiming and phasing changes, and geometric/physical roadway changes. The 2008 construction conditions worsen when the Croton project and Cat/Del UV Facility are analyzed together in the combined condition (#9, #10, #11 and #12). In this condition, the number of adverse traffic impacts increases to 18, 23, 18 and 17 for conditions #9, #10, #11 and #12, respectively. Again, the mitigation measures associated with these conditions would be more involved and expensive compared to either 2008 Croton project alone or 2008 Croton project with the Cat/Del UV Facility in the Future Without the Project. The combined conditions (#9, #10, #11 and #12) would involve the potential signalization of 5 to 7 intersections, moderate to elaborate signal timing and phasing changes, and geometric/physical changes at several intersections within the study area. The construction worker parking option that would result in the greatest number of impacts (when the Cat/Del UV Facility is in either the Future Without the Project or as part of the combined analysis) is parking at Westchester Community College (#5 and #10).

MITIGATION MEASURED / CONDITION ANALYZED	1	2	3	4	5	6	7	8	9	10	11	12
Proposed Signalization	2	1	2	5	5	6	5	2	5	6	7	5
Proposed Pavement Restriping Changes	0	0	0	1	3	2	1	0	2	1	2	3
Proposed Retiming/Rephasing Changes	1	1	5	7	10	7	7	1	10	12	9	9
Proposed Geometric/Physical Changes	0	0	0	1	3	0	0	0	1	4	0	0
Total Number of Proposed Traffic Mitigation Measures*	3	2	7	14	21	15	13	3	18	23	18	17

* NOTE: Total Number of Poposed Mitigation Measures Do Not Necessarily Equal the Nuber of Intersections Impacted. Some Intersections Have Multiple Mitigation Measures (e.g. Retiming and Restriping).

LEGEND

1 2010 Operation without Cat/Del UV Facility
2 2010 Operation with Cat/Del UV Facility
3 2008 Construction without Cat/Del UV Facility
4 2008 Construction Option A
5 2008 Construction Option B
6 2008 Construction Option C
7 2008 Construction Option D
8 2010 OperationCombined
9 2008 Construction Option A Combined
10 2008 Construction Option B Combined
11 2008 Construction Option C Combined
12 2008 Construction Option D Combined

OPTION A: Construction Workers Park at the Landmark at Eastview
OPTION B: Construction Workers Park at Westchester Community Collage
OPTION C: Construction Workers Split Parking Evenly at the Landmark at Eastview and Westchester Community College
OPTION D: Construction Workers Park at the Landmark at Eastview and Home Depot

Summary of Estimated Traffic Mitigation Measures

Croton Water Treatment Plant

Figure 5.21-7

5.21.2.1.2. Parking

Sufficient on-site parking would be provided as part of each of the proposed projects to accommodate all employees and visitors to both the Croton project and the Cat/Del UV Facility. Therefore, no adverse parking impacts would be anticipated in 2010 as a result of the combined operation of the proposed Croton project and Cat/Del UV Facility.

5.21.2.1.3. Safety

No additional accidents are anticipated given the low combined traffic volumes generated by the proposed Croton project and Cat/Del UV Facility; therefore, no adverse traffic safety impacts are anticipated.

5.21.2.1.4. Transit

Neither project would generate any transit trips. In addition because of the low generation of trips from the proposed Croton project, the Cat/Del UV Facility, and the existing Bee Line Bus Facility, the combined operation of the Croton project and the Cat/Del UV Facility would not be expected to impact bus operations. Approximately 25 buses per hour in the morning and afternoon peak hours would either leave or enter the Bee Line Bus Facility. At the bus and employee entrances to the facility, a center lane is provided on Walker Road for left turns into the facility's driveways. It was observed that at the bus facility, the street widths on Walker Road are wide enough to accommodate bus maneuvers, and no safety issues were observed in the field. Therefore, no adverse transit-related impacts would be anticipated under the 2010 Combined Build conditions.

5.21.2.2. Air Quality

Mobile Sources. For the Future With the Project analysis, a mobile source air quality analysis was conducted for the scenario with the Cat/Del UV Facility at Eastview for the build year of 2010 Carbon Monoxide (CO) only. Concentrations were determined for the 1-hour and 8-hour averaging times for CO. Particulate Matter analyses were not conducted because in the build year 2010, all intersections are under the CEQR diesel truck trip threshold for fine particulate matter.

Carbon Monoxide. As indicated in Table 5.21-2, the predicted concentrations of CO for the build year (2010) are below the corresponding ambient air quality standards. Both 1-hour and 8-hour averaging periods for each modeled intersection are in compliance with the standards. In addition, the CEQR *de minimis* values were calculated for the 8-hour period as described in Section 4.11 Data Collection and Impact Methodologies, Air Quality. As indicated in Table 5.21-3, the CEQR *de minimis* values for the 8-hour period were not exceeded. Therefore, no impacts for CO were predicted in the Future With the Croton project and with the Cat/Del UV Facility at Eastview.

Stationary Source Impacts. The source descriptions and emission rates are the same as those described previously for each source included at the Croton project and the Cat/Del UV

Facility. The sources were combined into a single multiple source modeling scenario and the results are present below in Tables 5.21-4, 5.21-5 and 5.21-6.

TABLE 5.21-2. COMBINED SCENARIO: PREDICTED CO 1-HOUR AND 8-HOUR CONCENTRATIONS IN THE FUTURE WITH BOTH THE PROPOSED CROTON PROJECT AND CAT/DEL UV FACILITY AT EASTVIEW SITE BUILD YEAR 2010 (PPM)

Intersection	Averaging Period	Ambient AQ Background	Model Results		Total Predicted Conc.[1]		Standard
			AM	PM	AM	PM	
Build Year 2010							
Route 100C at Sprain Brook Parkway Interchange	1-hour	5.9	2.3	2.5	8.2	8.4	35
	8-hour	2.0	1.6	1.8	3.6	3.8	9

Notes: [1]Ambient AQ Background + Model Results = Total Predicted Concentration.

TABLE 5.21-3. 8-HOUR CONCENTRATIONS AND CEQR *DE MINIMIS* VALUES[1] FUTURE WITH THE PROJECT– WITH CAT/DEL UV FACILITY AT EASTVIEW SITE

Intersection	Averaging Period	No Build Conc.		Build Conc.		*De minimis* Values	
		AM	PM	AM	PM	AM	PM
Build Year 2010							
Route 100C at Sprain Brook Parkway Interchange	8-hour	3.6	3.8	3.6	3.8	6.3	6.4

Notes: [1]*De minimis* value is the concentration above which the impact of a project is considered significant. See Section 4.11 Data Collection and Impact Methodologies, Air Quality for details on how this value is calculated.

TABLE 5.21-4. COMBINED SCENARIO: MODELING RESULTS OF CRITERIA POLLUTANTS WITH SOURCES FROM BOTH THE PROPOSED CROTON PROJECT AND THE CAT/DEL UV FACILITY

Pollutant	Averaging Time	Predicted Conc. All Sources µg/m^3	Background Conc. Mg/m^3	Total Conc. µg/m^3	Ambient Air Quality Standards µg/m^3
NO_X	Annual	3.8	58	62	100
CO	1-hour	1,152	6858	8,010	40,000
	8-hourl	126	4,572	4,698	10,000
PM_{10}	24-hourl	8.2	45	53	150
	Annual	0.53	21	22	50
SO_2	3-hour	362	183	545	1300
	24-hours	155	120	275	365
	Annual	2.9	26	29	80

TABLE 5.21-5. COMBINED SCENARIO: TOTAL CONCENTRATIONS OF TACS WITH SOURCES FROM BOTH THE PROPOSED CROTON PROJECT AND THE CAT/DEL UV FACILITY

Pollutant	Maximum 1-hr Conc. µg/m^3	NYSDEC SGC[1] µg/m^3	Maximum Annual Concentration µg/m^3	NYSDEC AGC[1] µg/m^3
Benzene (HAP)	9.95E-02	1300	6.69E-04	0.13
Toluene (HAP)	1.70E-01	37000	8.00E-04	400
Xylenes (HAP)	2.56E-02	4300	1.45E-04	700
Ethylbenzene	1.39E-03	54,000	4.48E-06	1,000
1,1,1 Trichloroethane	5.06E-03	NL	1.63E-05	NL
Formaldehyde (HAP)	1.22E+00	30	8.85E-03	0.06
Fluorene	9.80E-05	NL	4.49E-07	NL
Naphthalene (HAP)	4.04E-02	7900	2.02E-04	3
Acenaphthylene (HAP)	1.11E-03	NL	6.68E-06	0.02
Acenaphthene (HAP)	1.02E-03	NL	4.91E-06	0.02
Phenanthrene (HAP)	5.13E-03	NL	3.06E-05	0.02
Anthracene (HAP)	1.74E-04	NL	1.08E-06	0.02
Fluoranthene (HAP)	5.90E-04	NL	3.36E-06	0.02
Pyrene (HAP)	5.39E-04	NL	3.18E-06	0.02
Benzo(a)anthracene (HAP)	1.63E-04	NL	8.12E-07	0.02
Chrysene (HAP)	2.36E-04	NL	1.34E-06	0.02
Benzo(b)fluoranthene (HAP)	1.05E-02	NL	5.75E-05	0.02
Benzo(k)fluoranthene (HAP)	2.09E-03	NL	1.14E-05	0.02
Benzo(a)pyrene (HAP)	2.43E-03	NL	1.33E-05	0.02
Indeno(1,2,3-cd)pyrene (HAP)	3.95E-03	NL	2.16E-05	0.02
Dibenz(a,h)anthracene (HAP)	3.29E-03	NL	1.80E-05	0.02
Benzo(g,h,l)perylene (HAP)	5.29E-03	NL	2.89E-05	0.02
2-Methylnaphthalene (HAP)	7.19E-05	NL	1.15E-06	0.02
3-Methylchloranthrene (HAP)	5.39E-06	NL	8.66E-08	0.02
7,12-Dimethylbenz(a)anthracene (HAP)	4.79E-05	NL	7.70E-07	0.02
Dichlorobenzene (HAP)	3.60E-03	NL	5.77E-05	0.09
Butane	6.29E+00	NL	1.01E-01	45000
Pentane	7.79E+00	NL	1.25E-01	4200
Propane	4.79E+00	NL	7.70E-02	110000
Hexane (HAP)	5.39E+00	NL	8.66E-02	200
Arsenic (HAP)	1.22E-02	NL	4.89E-05	0.00023
Beryllium (HAP)	9.18E-03	1	3.01E-05	0.00042

TABLE 5.21-5. COMBINED SCENARIO: TOTAL CONCENTRATIONS OF TACS WITH SOURCES FROM BOTH THE PROPOSED CROTON PROJECT AND THE CAT/DEL UV FACILITY

Pollutant	Maximum 1-hr Conc. µg/m^3	NYSDEC SGC[1] µg/m^3	Maximum Annual Concentration µg/m^3	NYSDEC AGC[1] µg/m^3
Cadmium (HAP)	9.18E-03	NL	8.24E-05	0.0005
Chromium (HAP)	9.18E-03	NL	9.68E-05	1.2
Cobalt (HAP)	2.52E-04	NL	4.04E-06	0.005
Manganese (HAP)	1.84E-02	NL	7.72E-05	0.05
Mercury (HAP)	1.84E-02	1.8	7.72E-05	0.3
Nickel (HAP)	9.18E-03	6	1.31E-04	0.004
Selenium (HAP)	4.59E-02	NL	1.49E-04	20
Lead (HAP)	2.75E-02	NL	1.13E-04	0.75
Barium	1.32E-02	NL	2.12E-04	1.2
Copper	1.84E-02	100	9.99E-05	0.02
Molybdenum	3.30E-03	NL	5.29E-05	12
Vanadium	6.89E-03	NL	1.11E-04	0.2
Zinc	8.69E-02	NL	1.43E-03	50

Notes:
1. NL represents "Not Listed."

TABLE 5.21-6. COMBINED SCENARIO: MODELING RESULTS OF $PM_{2.5}$ WITH SOURCES FROM BOTH THE PROPOSED CROTON PROJECT AND CAT/DEL UV FACILITY

Pollutant	Total Predicted Conc.[1] µg/m^3	Interim Guidance Criteria µg/m^3	Promulgated Standard µg/m^3
$PM_{2.5}$ 24-Hour	4.15	5.0	65
$PM_{2.5}$ Annual (Discrete)	0.23	0.3	15
$PM_{2.5}$ Annual (Neighborhood)	0.05	0.1	15

Notes:
[1]. Total combined concentration of boilers and emergency generators

As indicated in the tables, maximum predicted off-site concentrations from the combined emissions of all Croton project sources and Cat/Del UV Facility sources are below applicable ambient air quality standards and guidance thresholds. Since the maximum predicted concentrations from all combustion emission sources at the Eastview Site are in compliance with the standards/guidance the impacts are not considered significant.

5.21.2.3. Noise

This section examines the potential noise impacts due to operations on the noise-sensitive receptors resulting from the combined operation-induced noise generated by both the proposed Croton project and Cat/Del UV Facility at the Eastview Site. The combined noise effects during

operations were calculated using the methodologies described in Section 4.10, Data Collection and Impact Methodologies, Noise. Both a stationary source noise analysis and mobile source noise analysis (2010) were performed.

The future without the construction/operation of either the proposed Croton project or Cat/Del UV Facility referred to in this section are those that have been fully examined and presented in Section 5.10, Noise. This "baseline" condition evaluates the combined project-related impacts. The analysis year for the combined project impact analysis for operations is 2010.

5.21.2.3.1. Mobile Source Noise (2010)

A preliminary noise screening using passenger car equivalent (PCE) values was performed to determine whether receptors located near the identified noise-sensitive route segments would experience an increase in noise levels of 3 decibels (dBA) or more as a result of the additional vehicular traffic generated by the project. The preliminary noise screening was performed by comparing the existing PCEs with existing PCEs plus the addition of the future project-generated PCEs with the proposed Croton project and Cat/Del UV Facility. The AM time period representing the largest increase in future PCEs resulting from both the Croton project and Cat/Del UV Facility operations were used for the comparative analysis. For the PM time period, the largest increase in future PCEs resulting from the Cat/Del UV Facility was the hour of 3:30 PM to 4:30 PM, while for the Croton project the peak PM hour was 5:00 PM to 6:00 PM. The combined impact analyses was performed for the 3:30 PM to 4:30 PM since this is the time period with the lower traffic volumes, and thus results in a more conservative analysis. The analysis year for the project impact analysis for operations is 2010.

The roadways considered for the mobile source noise analysis at the Eastview Site are the eleven route segments presented in Section 5.10, Noise. The roadways considered for analysis were those local routes identified as possible transportation routes that connect the major thoroughfares to the proposed Croton project and Cat/Del UV Facility site where sensitive receptors along the proposed transportation routes were identified.

Table 5.21-7 presents the comparison of future PCEs from the proposed Croton project and Cat/Del UV Facility to existing PCEs along route segments for operations.

As shown above in Table 5.21-7, none of the noise-sensitive route segments would experience a doubling of PCEs in the Future with the Croton project and Cat/Del UV Facility. It was concluded that the noise-sensitive route segments in the vicinity of the project site would not exceed the 3 to 5 dBA impact threshold established in the *CEQR Technical Manual*. Therefore, noise-sensitive route segments associated with the Eastview Site were not examined further.

5.21.2.3.2. Stationary Source Noise (2010)

The total future noise levels due to operation of proposed Croton project with the concurrent operation of the Cat/Del UV Facility at the Eastview Site are summarized in Table 5.21-8. The noise due to combined project operations at Receptors EV-S5 and EV-S6 would be primarily a function of noise resulting from operations of the Cat/Del UV Facility as opposed to

TABLE 5.21-7. COMPARISON OF ANTICIPATED FUTURE PCES WITH CROTON PROJECT AND CAT/DEL UV FACILITY DURING OPERATIONS (2010) TO EXISTING PCES

	Route Segment	Period of Analysis (Weekday)	Pure No Build (without Croton) PCEs	Time	New Passenger Car (Croton)	New Trucks (Croton)	New Passenger Car (CatDel)	New Trucks (CatDel)	New PCEs	PCE Ratio	Incremental Change in dBA	Further Analysis Required?
1	Saw Mill River Road btw Tarrytown Rd & I-287	AM Peak	12743	8:00-9:00	5	0	4	0	9	1.00	0.00	No
		PM Peak	5863	3:30-4:30	5	0	3	0	8	1.00	0.01	No
2	Saw Mill River Rd. btw Hunter Ln and Grasslands Rd.	AM Peak	14355	8:00-9:00	0	0	0	0	0	1.00	0.00	No
		PM Peak	6061	3:30-4:30	0	0	0	0	0	1.00	0.00	No
3	Knollwood Rd btw Tarrytown Rd and I287	AM Peak	6792	8:00-9:00	0	0	0	0	0	1.00	0.00	No
		PM Peak	2622	3:30-4:30	0	0	0	0	0	1.00	0.00	No
4	Knollwood Rd. btw I-287 and Hevelyne Rd	AM Peak	2593	8:00-9:00	0	0	0	1	47	1.02	0.08	No
		PM Peak	1155	3:30-4:30	0	0	0	1	47	1.04	0.17	No
5	Knollwood Rd. btw Hevelyne rd. and Grasslands Rd.	AM Peak	2594	8:00-9:00	0	0	0	1	47	1.02	0.08	No
		PM Peak	896	3:30-4:30	0	0	0	1	47	1.05	0.22	No
6	Bradhurst btw Grasslands and Lakeview	AM Peak	3258	8:00-9:00	0	0	0	0	0	1.00	0.00	No
		PM Peak	1171	3:30-4:30	0	0	0	0	0	1.00	0.00	No
7	Grasslands Rd. btw Bradhurst and Sprain Brook Pkwy	AM Peak	7021	8:00-9:00	1	0	1	1	49	1.01	0.03	No
		PM Peak	2451	3:30-4:30	1	0	1	1	49	1.02	0.09	No
8	Grasslands Rd. btw Sprain Brook Pkwy and Walker Road	AM Peak	6937	8:00-9:00	25	0	17	0	42	1.01	0.03	No
		PM Peak	2422	3:30-4:30	25	0	17	0	42	1.02	0.07	No
9	Saw Mill River rd. btw Dana Rd. and Stevens Ave	AM Peak	14603	8:00-9:00	3	0	2	1	52	1.00	0.02	No
		PM Peak	6075	3:30-4:30	3	0	2	1	52	1.01	0.04	No
10	Saw Mill River Rd. bw Stevens Ave. and Saw Mill River Pkwy	AM Peak	12836	8:00-9:00	3	0	2	2	99	1.01	0.03	No
		PM Peak	5702	3:30-4:30	3	0	2	2	99	1.02	0.07	No
11	Dana Rd./Cottage Rd btw Saw Mill River Rd and Penitentiary Rd.	AM Peak	5455	8:00-9:00	0	0	0	0	0	1.00	0.00	No
		PM Peak	558	3:30-4:30	0	0	0	0	0	1.00	0.00	No

Notes:
New PCEs = (no. of cars + no. of trucks(47))
PCE ratio = (Existing PCEs + Project generated PCEs) / Existing PCEs
Incremental change in dBA = 10 log (PCE ratio)

the proposed Croton project, since the proposed Cat/Del UV Facility would be located closer to the receptors and would shield any potential noise from the Croton project. Therefore, the monthly total noise levels at Receptors EV-S5 and EV-S6 would remain the same as described in Section 5.10, Noise. Predicted noise levels were calculated by the noise prediction algorithms at each identified sensitive receptor with both projects for operations. The predicted noise levels at each receptor are summarized in Table 5.21-8.

TABLE 5.21-8. MAXIMUM NOISE LEVELS FROM OPERATIONS (CROTON PROJECT AND CAT/DEL UV FACILITY, 2010) AT RECEPTORS NEAR EASTVIEW SITE DURING WEEKDAY (L_{EQ}, dBA)

Proximate Receptor	Monitoring Period	Future Without Projects Noise Level (2010)	Predicted Operational Noise Level	Total Future Operations Noise Level[1] (2010)	Incremental Change	Impact Threshold	Exceed Threshold? (Y/N)
EV-S1	Quietest (3-5 am)	52.2	41.5	52.6	0.4	3.0	No
	Noisiest (7-9 pm)	58.4	41.5	58.5	0.1	5.0	No
EV-S2	Quietest (3-5 am)	53.4	31.7	53.4	0.0	3.0	No
	Noisiest (1-2 pm)	56.6	31.7	56.6	0.0	5.0	No
EV-S3	Quietest (3-5 am)	47.0	31.9	47.1	0.1	3.0	No
	Noisiest (7-9 pm)	60.6	31.9	60.6	0.0	4.0	No
EV-S4	Quietest (3-5 am)	51.1	36.2	51.2	0.1	3.0	No
	Noisiest (1-2 pm)	58.7	36.2	58.7	0.0	5.0	No
EV-S5[2]	Quietest (4-5 pm)	52.8	21.1	52.8	0.0	5.0	No
	Noisiest (7-8 am)	58.2	21.1	58.2	0.0	5.0	No
EV-S6[2]	Quietest (7-8 am)	59.0	19.1	59.0	0.0	5.0	No
	Noisiest (3-4 pm)	62.1	19.1	62.1	0.0	3.0	No

Notes:
[1]Total Noise Level During Normal Weekday Operations based on logarithmic addition of Future Baseline (without Croton project or Cat/Del UV Facility) and Predicted Operational Noise Levels for Croton WTP and Cat/Del UV Facility.
[2]Predicted operational noise levels for Croton project not available. Predicted Cat/Del UV Facility noise levels shown above.

Table 5.21-8 compares future baseline noise levels from the Croton project and Cat/Del UV Facility with the future anticipated normal operations noise levels at each receptor during the noisiest and quietest weekday hours (daytime/nighttime hours, whichever the quietest/noisiest time periods fall into). The greatest incremental change would be 0.4 dBA at receptor EV-S1. Therefore, the contribution of stationary source noise to the total noise generated from normal operations and experienced at sensitive receptors during weekdays would not exceed the 3 to 5 dBA threshold.

5.21.2.4. Natural Resources

If both the proposed Croton project and the Cat/Del UV Facility are constructed on the Eastview Site, the combined effects of both these projects would result in the clearing of a substantial portion of the north parcel. A total of approximately 61 acres of vegetation would be cleared from the Eastview Site as a result of the introduction of these NYCDEP projects. Approximately 16.7 acres of the Eastview Site would be developed with buildings, roadways, and other impervious features that represent the footprint of the Croton project and Cat/Del UV Facility (Table 5.21-9). Approximately 30.9 acres surrounding the proposed buildings for the permanent proposed structures would be maintained lawn or landscaped area. These disturbances would also constitute a permanent loss of the existing on-site vegetation. Approximately seven acres of the existing successional old field habitat in the Eastview Site would be revegetated with a shrubland/grassland community which would represent an improvement in habitat quality.

5.21.2.4.1. Vegetation

A total of 1,974 trees greater than 4 inch dbh would be cut on the Eastview Site under the combined scenario. Of the trees that would be cut, 1,146 trees are greater than six inches dbh (the size regulated by the Town of Mount Pleasant). Trees immediately adjacent to the construction impact area, although not proposed for removal, may be threatened by construction activity, for example from compacted soils, so their survival is uncertain. A total of 378 trees greater than 4 inch dbh in the Eastview Site would be threatened. Of the trees threatened, 272 trees are greater than six inches dbh.

Permanent vegetative impacts on the Eastview Site would be limited to the buildings, roadways, storage areas, the storm water detention basins, the security and parking areas associated with the proposed Croton project and Cat/Del UV Facility, and the pipeline right-of-ways. Most of the potential impacts on the site would be located within successional shrubland, successional southern hardwood forest, and oak-tulip tree forest. The loss of trees and habitat that is anticipated under the combined scenario would be a significant impact that would be mitigated through off-site reforestation (see Section 9.1, Mitigation for the Eastview Site).

5.21.2.4.2. Wetlands

The proposed Croton project and Cat/Del UV Facility buildings and construction staging areas would encroach into several of the wetland areas previously identified on the Eastview Site. The anticipated direct disturbance of on-site wetlands on the Eastview Site would be approximately 1.7 acres. It is anticipated that an additional 1.2 acres of floodplain forest wetland immediately west of the Croton water treatment plant would be indirectly impacted by groundwater dewatering operations during construction and operation of the Cat/Del UV Facility (see below and Section 5.15, Water Resources for a discussion of impacts from groundwater dewatering). Therefore, the total direct and indirect disturbance of on-site wetlands in the Eastview Site would be approximately 2.9 acres.

TABLE 5.21-9. HABITAT COVER TYPE CHANGE AT MOUNT PLEASANT WITH CROTON PROJECT AND CAT/DEL UV FACILITY

Cover Type (acres)	Existing Area	Future Without the Project	Future With the Project	Croton +UV Induced Impacts	New York State Natural Heritage Program Cover Type Categories		
					System	Subsystem	Community Type
Floodplain Forest Wetland	4.8	4.8	*3.5*	*-1.3 (27.1%)*	Palustrine	Forested Mineral Soil Wetland	Floodplain Forest
Red Maple Hardwood Swamp	4.2	4.2	*4.2*	*0.00*	Palustrine	Forested Mineral Soil Wetland	Red Maple Hardwood Swamp
Shrub Swamp	2.3	2.3	*0.7*	*-1.6 (69.6%)*	Palustrine	Open Mineral Soil Wetland	Shrub Swamp
Reedgrass/Purple Loosestrife Marsh	0.4	0.4	*0.4*	*0.0*	Palustrine	Palustrine Cultural	Reedgrass Marsh
Oak-Tulip Tree Forest	8.3	8.3	*3.9*	*-4.4 (53.0%)*	Terrestrial	Forested Upland	Oak-Tulip Tree Forest
Successional Southern Hardwood Forest	20.8	20.8	*0.8*	*-20.0 (96.00%)*	Terrestrial	Forested Uplands	Successional Southern Hardwoods
Successional Shrubland	32.2	31.1	*2.6*	*-28.5 (86.2%)*	Terrestrial	Open Uplands	Successional Shrubland
Successioal Old Field	8.1	5.7	*0.9*	*-4.8 (58.0%)*	Terrestrial	Open Uplands	Successional Old Field
Cultural Trees	0.7	0.7	*0.0*	*-0.7 (100%)*	Terrestrial	Terrestrial Cultural	Planted Shade Trees
Detention Basin	0.00	0.00	*1.3*	*1.3*	Terrestrial	Palustrine Cultural	Water Recharge Basin
Landscaped/Lawn Area	0.4	1.8	*32.7*	*30.9*	Terrestrial	Terrestrial Cultural	Mowed Lawn with Trees
Roads, Parking, Buildings	1.1	3.2	19.9	16.7	Terrestrial	Terrestrial Cultural	Mixed Community Types
Shrubland/Grassland Restoration	0.00	0.00	*7.1*	*7.1*	Terrestrial	Open Uplands	Successional Old Field

TABLE 5.21-9. HABITAT COVER TYPE CHANGE AT MOUNT PLEASANT WITH CROTON PROJECT AND CAT/DEL UV FACILITY

Cover Type (acres)	Existing Area	Future Without the Project	Future With the Project	Croton +UV Induced Impacts	New York State Natural Heritage Program Cover Type Categories		
					System	Subsystem	Community Type
Restored Area	0.00	0.00	*3.6*	*3.6*	Terrestrial	Terrestrial Cultural	Mixed Community Types
Wetland Enhancement/Creation	0.00	0.00	1.7	*1.7*	Palustrine	Forested Mineral Soil Wetland	Floodplain Forest
TOTAL	83.3	83.3	--	--	--	--	--
Stream Length (feet)	2,345	2,345	2,345	0.0	Riverine	Natural	Perrenial Stream
50-foot Wetland Buffer	11.4	11.4	6.2	5.2	NA	NA	NA

Note: The Additional Croton Impacts and Croton + Cat/Del UV Induced Impacts are based on preliminary engineering designs and are likely to change when final engineering designs become available.

In order to compensate for the 2.9 acres of project related wetland impacts, 6.0 acres of wetland enhancement/creation would be undertaken on-site and off-site with native vegetation to compensate for the functions and values of the wetlands lost (see Section 9.1, Mitigation for the Eastview Site).

5.21.2.4.3. Fish and Benthic Macroinvertebrates

A road crossing of Mine Brook is necessary to connect the Cat/Del UV Facility with other project components during construction and operation. The proposed project would temporarily convey a section of Mine Brook through culverts during construction to allow for the rebuilding of the current culvert under Route 100C. This section of Mine Brook is currently characterized as a culvert; therefore, no significant impacts are anticipated from this temporary construction work. No significant adverse impacts to the stream channel or the fauna associated with it are anticipated as a result of the proposed road crossing. The proposed Croton project would temporarily convey an approximately 50-foot section of the stream through culverts during construction to allow for the installation of underground conduits. Although piping of the stream would result in temporary disturbances to flora and fauna that might utilize this section of the channel, it would protect the water quality of the stream from any potential contaminants eroding from the construction area into the surface water. Following construction, the affected stream channel would be re-engineered to create a natural stream morphology complete with riffle and pool dynamics and wetland terraces, thereby attenuating stream velocities and improving water quality.

5.21.2.4.4. Reptiles and Amphibians

The loss of the forest and wetland habitat under the combined scenario could displace some of the local herpetile community (salamanders, green frogs, and garter snakes) but would not represent a potentially significant adverse impact to regional populations. The surrounding wetlands, upland forest, and running water through the remainder of the site could provide habitat to support viable communities of herpetile species. In addition, the planned off-site wetland enhancement/creation to partially mitigate for the impacts to shrub and forested wetland would provide additional criteria needed for the regional herpetile community (see Section 9.1, Mitigation of the Eastview Site).

5.21.2.4.5. Avifauna

No long-term significant adverse impacts to the avifauna of the Eastview Site are anticipated to occur from the proposed Croton project and Cat/Del UV Facility. Any potential impacts are anticipated to be short-term and primarily related to the construction phases of the project. The location of the site, near the Hudson and Saw Mill Rivers, may place the property on the fringe of a migratory corridor for migrating passerines (perching birds). All of the migrant species observed during the field surveys (eastern phoebe, red-eyed vireo, cedar waxwing, and black-and-white warbler) are common and anticipated in the region. It is anticipated that the vegetative communities that would remain on-site during operation would continue to provide adequate habitat for migrating passerines that may use the site.

5.21.2.4.6. Mammals

The change to existing habitats on the Eastview Site resulting from construction of the NYCDEP projects would decrease the amount of food and shelter for many species such as gray squirrel, chipmunk, groundhog, coyote, red fox, and white-tailed deer. Species requiring forested habitat would probably relocate to within the remaining oak-tulip tree forest, floodplain forest wetland, and red maple hardwood swamp in the northeast portion of the Eastview Site. However, most of the species found on the site can utilize both forested and shrub/field habitats. While a portion of the local wildlife population may be displaced or lost due to a reduction in habitat, no long-term significant adverse impacts to regional wildlife populations are anticipated. The local wildlife community could also experience a decrease in diversity as well due to the loss of habitat. Regional extirpation would not occur as a result of the proposed facilities because the lost habitat is common in a regional context.

5.21.3. Potential Construction Impacts

In 2008, the peak year when both projects would be under construction at the same time on the Eastview Site, there could be adverse impacts resulting in several areas from these facilities being constructed simultaneously. Below is an analysis of these potential adverse impacts that could result from the combined impacts of these two NYCDEP projects.

5.21.3.1. Traffic and Transportation

This section examines the potential construction impacts on the area's transportation system (including traffic, parking, pedestrian safety and mass transit) resulting from combined trips generated by both the proposed Croton project and Cat/Del UV Facility at the Eastview Site. This section describes the operation of the various study area intersections (and their approaches and lane groups) based on their ability to process traffic as calculated using the HCM methodologies, described in Section 4.9, Data Collection and Impact Methodologies, Traffic and Transportation, for the combined effects of the Croton project and Cat/Del UV Facility taken together.

The Future Without the Project conditions without the construction of either the proposed Croton project and Cat/Del UV Facility referred to in this section are those that have been fully examined and presented in Section 5.9, Traffic and Transportation. These Future Without the Project conditions serve as a "baseline" for the evaluation of the combined project-related impacts. The construction analysis year is 2008. Figures 5.21-8 and 5.21-9 show the total 2008 Future Without the Project traffic volumes at the study area intersections for the AM and PM peak hours, respectively.

The 2008 Combined Construction conditions included in this section have four Options, based on where the construction workers for both facilities would park. This is because if both the proposed Croton project and the Cat/Del UV Facility were to be under construction at the Eastview Site at the same time, there would not be enough space on-site for all of the workers for both projects to park, as most of the available land area would either be under construction, or in use as construction lay-down or staging areas. These construction worker parking Options have

been selected for analysis purposes, as representative of the types of routings that worker vehicles could use for off-site parking. Each of the four construction worker parking options also includes an additional assignment for shuttle buses that would transport the workers between the Eastview Site and the parking areas. These are the same Options (A, B, C, and D) that were explained and examined in the 2008 construction discussion in Section 5.9, Traffic and Transportation, and are briefly reiterated below.

- *Option A:* All of the construction workers for both the Croton project and Cat/Del UV Facility would park at the Landmark at Eastview office park (Landmark property), west of the project site, and would be shuttled to the site in buses or vans.

- *Option B:* All of the construction workers for both the Croton project and Cat/Del UV Facility would park at the Westchester Community College (WCC) Campus, east of the project site, and would be shuttled to the site in buses or vans.

- *Option C:* Parking for all of the construction workers for both the Croton project and Cat/Del UV Facility would be split evenly between the Landmark property and WCC, and would be shuttled to the site in buses or vans.

- *Option D:* All of the construction workers for the Croton project would park at the Landmark property, west of the project site, and all of the construction workers for the Cat/Del UV Facility would park at the new Home Depot off Dana Road, just northwest of the project site. Rather than simply splitting the workers between the two sites, workers from the Cat/Del UV Facility were assigned to the Home Depot site because the property owner indicated that they anticipated that the parking that would be available would be just enough to accommodate the projected number of Cat/Del UV Facility construction worker vehicles, but would not be sufficient to accommodate the projected number of Croton project worker vehicles. All workers for either project would be shuttled to the site from their respective parking areas in buses or vans.

It is important to note that these 2008 Construction (Options A through D) conditions, reflect the maximum number of worker trips that would be expected at the peak of the concurrent construction of the Croton project and Cat/Del UV Facility, expected to occur for approximately 16 months (from the end of 2007 through the beginning of 2009). During other times during the 6-year construction period, the numbers of total workers traveling to and from the Eastview site would be substantially lower than for peak conditions in 2008. It may be possible to accommodate construction workers on-site during the non-peak construction periods. During these times with fewer workers and the ability to accommodate the parking for construction workers on the north parcel of the Eastview Site, the impacts would be less than those discussed in the subsections below, and would be likely to occur at locations similar to conditions outlined for Option A. This is because the routing of construction worker vehicles parking on the north parcel would be very similar to the routing examined for Option A.

The analyses for 2008 Combined Construction conditions examines a peak 2008 Combined Construction condition that adds onto a “pure” 2008 Future Without the Project that only includes background growth and traffic from known discrete No Build projects (as described in

Section 5.9, Traffic and Transportation.) As mentioned previously, under 2008 conditions with both the Croton project and Cat/Del UV Facility under construction, construction workers would be required to park off-site. This led to the analysis of the four construction worker parking options (Options A, B, C, and D) outlined above. It is important to note that under these conditions, not only are the workers associated with the Croton project's construction routed to one or more off-site locations, but the construction workers associated with the Cat/Del UV Facility have also been routed to one or more of the same off-site parking locations as the Croton project's workers.

Under all 2008 Construction Combined conditions (Options A through D), tunnels and conduits would have to be dug under Route 100C, which would require closing part of this roadway on two occasions for periods on the order of two months each. During these time periods, NYCDEP would provide temporary roadway pavement alongside the permanent Route 100C roadbed to accommodate a comparable number of lanes of through traffic. This temporary roadway to carry diverted Route 100C traffic would require the approval of NYSDOT.

The anticipated volumes and conditions, including the identification of 2008 Combined Construction period potential temporary adverse impacts for each of the working parking Options are outlined and summarized below.

5.21.3.1.1. Option A – Parking at the Landmark Site

The traffic generated by the concurrent construction of the Croton project and Cat/Del UV Facility on the site for Option A is shown in Figures 5.21-10 and 5.21-11, for the AM and PM peak hours, respectively. Figures 5.21-12 and 5.21-13 show the total resulting 2008 Combined Construction Option A traffic volumes. Table 5.21-10 shows a comparison of the results of the HCM analyses for the 2008 Future Without the Project conditions and the 2008 Combined Construction (Option A) conditions.

Option A Traffic. The following is a summary of the potential temporary adverse impacts that have been identified during 2008, associated with the combined effects of the Croton project's peak construction activities and the Cat/Del UV Facility construction at the Eastview Site under worker parking Option A conditions. There would be a total of 31 potential temporary adverse impacts at intersections in the primary study area under 2008 Combined Construction Option A conditions (15 at signalized intersections, 4 during the AM peak hour and 11 during the PM peak hour, and 16 at unsignalized intersections, 6 during the AM peak hour and 10 during the PM peak hour).

Potential Adverse Impacts Occurring at Signalized Intersections

- Saw Mill River Road (Route 9A)/Saw Mill River Parkway Ramp Intersection. During the PM peak hour, the southbound through/right movement would deteriorate from LOS D to LOS E, with delays increasing from 54.3 to 58.5 seconds.

TABLE 5.21-10. 2008 FUTURE WITHOUT THE PROJECT VS. 2008 COMBINED CONSTRUCTION OPTION A TRAFFIC CONDITIONS

SIGNALIZED INTERSECTIONS	LANE GROUP	2008 FUTURE WITHOUT THE PROJECT						2008 CONSTRUCTION					
		WEEKDAY AM PEAK HOUR			WEEKDAY PM PEAK HOUR			WEEKDAY AM PEAK			WEEKDAY PM PEAK		
		V/C RATIO	DELAY (SEC/VEH)	LOS	V/C RATIO	DELAY (SEC/VEH)	LOS	V/C RATIO	DELAY (SEC/ VEH)	LOS	V/C RATIO	DELAY (SEC/ VEH)	LOS
Saw Mill River Road (Rt. 9A) (N-S) at Saw Mill River Pkwy Ramps to Exec Park	EB – L	0.64	31.6	C	0.52	29.3	C	0.64	31.6	C	0.52	29.3	C
	EB – LTR	0.14	25.0	C	0.14	25.8	C	0.14	25.0	C	0.14	25.8	C
	WB – L	0.14	32.4	C	0.14	34.1	C	0.14	32.4	C	0.14	34.1	C
	WB – LT	0.10	32.1	C	0.09	33.8	C	0.10	32.1	C	0.09	33.8	C
	WB - R	0.02	31.6	C	0.04	33.6	C	0.02	31.6	C	0.04	33.6	C
	NB-L	0.18	14.1	B	0.81	31.5	C	0.20	14.3	B	0.81	31.6	C
	NB-TR	0.31	14.8	B	0.55	15.4	B	0.34	15.0	B	0.61	16.3	B
	SB-L	0.05	13.0	B	0.13	21.4	C	0.05	13.0	B	0.14	21.6	C
	SB-TR	0.54	17.1	B	0.98	54.3	D	0.60	17.9	B	1.00	58.5	E
	Intersection		**19.5**	**B**		**33.7**	**C**		**19.7**	**B**		**35.1**	**D**
Grasslands Road (Route 100C) (E-W) at Bradhurst Avenue	EB - L	0.71	36.6	D	>1.50	>150	F	0.75	39.9	D	>1.50	>150	F
	EB - T	1.03	75.1	E	0.59	22.3	C	1.03	75.5	E	0.61	22.9	C
	EB - R	0.35	16.3	B	0.27	12.1	B	0.36	16.5	B	0.30	12.3	B
	WB-L	0.68	56.6	E	0.22	18.0	B	0.68	56.6	E	0.23	18.1	B
	WB-TR	0.43	25.8	C	0.98	55.5	E	0.45	26.2	C	0.98	55.9	E
	NB - L	0.23	23.3	C	0.87	58.7	E	0.26	23.9	C	0.90	64.9	E
	NB - TR	0.34	25.9	C	0.20	16.3	B	0.34	25.9	C	0.20	16.3	B
	SB - L	0.50	40.1	D	0.30	25.1	C	0.50	40.1	D	0.30	25.1	C
	SB - TR	0.68	49.7	D	1.12	109.2	F	0.68	49.7	D	1.12	109.2	F
	Intersection		**45.2**	**D**		**70.0**	**E**		**45.3**	**D**		**70.0**	**E**
Knollwood Road (E-W) at Cross Westchester Expwy (I-287) WB ramps	WB-LT	0.46	27.6	C	0.79	39.0	D	0.46	27.6	C	0.79	39.0	D
	WB-R	0.24	25.4	C	0.45	27.6	C	0.24	25.5	C	0.45	27.6	C
	NB-L	0.50	9.8	A	0.95	52.6	D	0.51	10.0	A	0.97	58.2	E
	NB-T	0.51	10.3	B	0.52	10.5	B	0.53	10.6	B	0.53	10.6	B
	SB-T	0.30	13.4	B	0.44	14.8	B	0.31	13.5	B	0.46	15.0	B
	SB-R	0.13	12.1	B	0.23	12.8	B	0.14	12.2	B	0.23	12.9	B
	Intersection		**14.4**	**B**		**26.7**	**C**		**14.5**	**B**		**27.7**	**C**
Knollwood Road (E-W) at Cross Westchester Expwy (I-287) EB ramps	EB-L	0.67	32.7	C	0.48	24.4	C	0.68	32.9	C	0.48	24.5	C
	EB-TR	0.01	23.6	C	0.00	20.0	C	0.01	23.6	C	0.00	20.0	C
	EB-R	0.58	30.0	C	0.77	34.2	C	0.58	30.0	C	0.77	34.2	C
	NB-T	0.49	15.3	B	0.86	31.6	C	0.51	15.5	B	0.87	32.4	C
	NB-R	0.52	15.9	B	0.62	20.9	C	0.52	15.9	B	0.62	20.9	C
	SB-L	0.39	9.8	A	0.79	29.3	C	0.40	10.0	A	0.81	31.3	C
	SB-T	0.29	8.4	A	0.65	15.4	B	0.30	8.5	A	0.66	15.8	B
	Intersection		**18.6**	**B**		**25.6**	**C**		**18.6**	**B**		**26.0**	**C**
Tarrytown/White Plains Rd. (E-W) WB Ramps at Knollwood Road (Rt. 100A)	WB-LT	0.14	24.6	C	0.35	26.4	C	0.14	24.6	C	0.35	26.4	C
	WB-R	0.51	28.3	C	0.96	64.3	E	0.51	28.3	C	0.96	65.3	E
	NB-LT	0.40	10.1	B	0.60	12.6	B	0.41	10.2	B	0.60	12.6	B
	SB-T	0.20	15.3	B	0.43	17.4	B	0.20	15.3	B	0.44	17.4	B
	SB-R	0.19	15.3	B	0.47	18.0	B	0.20	15.4	B	0.48	18.2	B
	Intersection		**15.5**	**B**		**25.0**	**C**		**15.5**	**B**		**25.3**	**C**

TABLE 5.21-10. 2008 FUTURE WITHOUT THE PROJECT VS. 2008 COMBINED CONSTRUCTION OPTION A TRAFFIC CONDITIONS

SIGNALIZED INTERSECTIONS	LANE GROUP	2008 FUTURE WITHOUT THE PROJECT						2008 CONSTRUCTION					
		WEEKDAY AM PEAK HOUR			WEEKDAY PM PEAK HOUR			WEEKDAY AM PEAK			WEEKDAY PM PEAK		
		V/C RATIO	DELAY (SEC/VEH)	LOS	V/C RATIO	DELAY (SEC/VEH)	LOS	V/C RATIO	DELAY (SEC/ VEH)	LOS	V/C RATIO	DELAY (SEC/ VEH)	LOS
Knollwood Rd. (Rt 100A) at Tarrytown White Plains Rd. (Rt. 119) EB Ramps	EB – LT	0.71	34.2	C	0.78	38.4	D	0.73	35.1	D	0.79	38.7	D
	EB – R	0.16	24.8	C	0.35	26.5	C	0.16	24.8	C	0.35	26.5	C
	NB-TR	0.40	20.1	C	0.41	20.3	C	0.41	20.2	C	0.41	20.3	C
	SB-L	0.31	11.9	B	0.47	14.7	B	0.32	12.1	B	0.48	14.8	B
	SB-T	0.28	9.2	A	0.54	11.8	B	0.28	9.2	A	0.55	11.9	B
	Intersection		**20.4**	**C**		**21.1**	**C**		**20.8**	**C**		**21.2**	**C**
Saw Mill River Rd. (Rt 9A) at Cross Westchester Expwy (I-287) WB Ramps	WB-L	1.09	97.9	F	0.74	38.2	D	1.09	97.9	F	0.74	38.2	D
	WB-R	0.48	27.5	C	0.42	20.4	C	0.61	29.6	C	0.43	20.6	C
	NB-LTR	0.36	8.9	A	0.69	22.8	C	0.43	9.4	A	0.77	25.8	C
	SB-TR	0.47	9.7	A	0.85	22.5	C	0.51	10.2	B	0.96	34.4	C
	Intersection		**34.3**	**C**		**24.4**	**C**		**33.0**	**C**		**30.8**	**C**
Saw Mill River Road (Rt 9A) and Cross Westchester Exp (I-287) EB Ramps	NB-TR	0.31	12.3	B	0.89	34.7	C	0.36	12.8	B	0.90	36.4	D
	SB-L	0.50	1.7	A	0.74	23.2	C	0.55	3.6	A	0.82	28.7	C
	SB-LT	0.16	0.2	A	0.53	0.5	A	0.17	0.2	A	0.59	0.6	A
	Intersection		**5.0**	**A**		**17.5**	**B**		**6.0**	**A**		**18.8**	**B**
Saw Mill River Rd. (Rt. 9A) at Tarrytown White Plains Rd. (Rt. 119)	EB-L	0.97	66.8	E	0.99	76.6	E	1.12	113.5	F	1.02	83.3	F
	EB-TR	0.38	14.5	B	0.46	20.2	C	0.38	14.5	B	0.46	20.2	C
	WB-L	0.17	22.3	C	0.42	34.4	C	0.17	22.3	C	0.42	34.4	C
	WB-TR	0.30	23.5	C	0.88	48.6	D	0.31	23.6	C	0.89	49.7	D
	NB-L	0.38	34.2	C	0.30	25.0	C	0.39	34.4	C	0.34	25.8	C
	NB-TR	0.62	40.3	D	0.82	41.0	D	0.72	44.9	D	0.83	42.1	D
	SB-L	0.24	33.9	C	0.54	35.0	C	0.29	36.6	D	0.58	36.5	D
	SB-T	0.42	34.9	C	0.26	22.8	C	0.44	35.3	D	0.34	23.8	C
	SB-R	0.23	22.1	C	0.39	11.0	B	0.24	22.2	C	0.43	11.3	B
	Intersection		**31.8**	**C**		**35.0**	**C**		**42.3**	**D**		**35.9**	**D**
Saw Mill River Rd. (Rt. 9A) at Hunter Lane	EB – LTR	0.01	29.1	C	0.01	32.9	C	0.01	29.1	C	0.01	32.9	C
	WB – LT	0.31	32.4	C	0.81	56.6	E	0.31	32.4	C	0.81	56.6	E
	W-R	0.01	18.7	B	0.07	22.9	C	0.01	18.7	B	0.07	22.9	C
	NB – LTR	0.64	21.3	C	0.69	19.4	B	0.81	27.0	C	0.71	20.1	C
	SB – LTR	0.67	14.5	B	0.73	13.3	B	0.78	18.3	B	0.87	19.8	B
	Intersection		**18.6**	**B**		**20.1**	**C**		**23.3**	**C**		**23.0**	**C**
Saw Mill River Rd. (Rt. 9A) at Dana Rd.	EB-LT	0.07	25.5	C	0.28	27.4	C	0.07	25.5	C	0.29	27.6	C
	EB-R	0.08	25.6	C	0.24	26.9	C	0.08	25.6	C	0.24	26.9	C
	WB-L	0.12	25.9	C	0.44	29.1	C	0.28	27.3	C	0.55	31.1	C
	WB-TR	0.06	25.4	C	0.40	28.4	C	0.15	26.1	C	0.42	28.7	C
	NB-L	0.12	30.5	C	0.39	32.7	C	0.12	30.5	C	0.39	32.7	C
	NB-TR	0.63	25.1	C	0.84	31.9	C	0.67	26.0	C	0.93	40.5	D
	SB-L	0.38	32.6	C	0.15	30.7	C	0.41	33.0	C	0.18	31.0	C
	SB-TR	0.59	24.1	C	0.74	27.7	C	0.64	25.2	C	0.74	27.8	C
	Intersection		**25.4**	**C**		**29.8**	**C**		**26.3**	**C**		**33.6**	**C**

TABLE 5.21-10. 2008 FUTURE WITHOUT THE PROJECT VS. 2008 COMBINED CONSTRUCTION OPTION A TRAFFIC CONDITIONS

SIGNALIZED INTERSECTIONS	LANE GROUP	2008 FUTURE WITHOUT THE PROJECT						2008 CONSTRUCTION					
		WEEKDAY AM PEAK HOUR			WEEKDAY PM PEAK HOUR			WEEKDAY AM PEAK			WEEKDAY PM PEAK		
		V/C RATIO	DELAY (SEC/VEH)	LOS	V/C RATIO	DELAY (SEC/VEH)	LOS	V/C RATIO	DELAY (SEC/ VEH)	LOS	V/C RATIO	DELAY (SEC/ VEH)	LOS
Saw Mill River Rd. at Saw Mill River Pkwy SB Off Ramp	EB-LT	0.87	28.2	C	1.04	70.0	E	0.90	31.7	C	1.09	86.2	F
	WB-TR	0.23	4.7	A	0.42	9.2	A	0.24	4.7	A	0.54	10.3	B
	SB-L	0.68	36.9	D	0.29	23.1	C	0.72	39.0	D	0.29	23.1	C
	SB-LR	0.16	28.2	C	0.21	22.6	C	0.16	28.2	C	0.21	22.6	C
	Intersection		**21.2**	**C**		**33.9**	**C**		**23.2**	**C**		**37.1**	**D**
Saw Mill River Rd. at Saw Mill River Pkwy NB Off Ramp	EB-T	0.48	17.5	B	0.41	13.3	B	0.50	17.7	B	0.41	13.3	B
	WB-T	0.19	7.7	A	0.28	4.2	A	0.20	7.8	A	0.36	4.6	A
	NB-LR	0.44	24.7	C	0.45	31.5	C	0.64	28.7	C	0.46	31.6	C
	NB-R	0.41	24.3	C	0.41	31.1	C	0.61	28.1	C	0.43	31.4	C
	Intersection		**16.5**	**B**		**12.0**	**B**		**18.7**	**B**		**11.4**	**B**
Grassland Rd. (Route 100 C) and Clearbrook Rd/Walker Road	EB-L	0.01	2.6	A	0.04	9.2	A	0.29	4.2	A	0.04	9.3	A
	EB-TR	0.37	3.8	A	0.73	17.2	B	0.39	3.8	A	1.23	133.1	F
	WB-L	0.38	4.0	A	1.40	>150	F	0.39	4.1	A	>1.50	>150	F
	WB-TR	0.39	3.9	A	0.70	16.7	B	0.81	10.5	B	0.73	17.5	B
	NB-LT	0.21	33.7	C	0.19	19.9	B	0.21	33.7	C	0.19	19.9	B
	SB-LT	0.21	33.8	C	0.23	20.3	C	0.21	33.8	C	0.23	20.3	C
	SB-R	0.00	32.2	C	0.01	18.5	B	0.00	32.2	C	0.08	19.0	B
	Intersection		**5.3**	**A**		**42.3**	**D**		**8.5**	**A**		**144.3**	**F**
Grassland Rd. (Route 100 C) at Woods Drive/Taylor Road	EB-L	0.28	7.5	A	0.33	13.8	B	0.40	18.7	B	0.34	14.5	B
	EB-TR	0.26	5.2	A	0.57	12.5	B	0.28	5.3	A	0.84	19.4	B
	WB-L	0.00	9.3	A	0.01	12.5	B	0.00	9.3	A	0.01	12.7	B
	WB-TR	0.57	14.1	B	0.73	21.2	C	0.91	26.0	C	0.75	22.0	C
	NB-LTR	0.01	32.9	C	0.01	24.6	C	0.01	32.9	C	0.01	24.6	C
	SB-LT	0.55	39.2	D	0.79	41.6	D	0.55	39.2	D	0.79	41.6	D
	SB-R	0.08	21.2	C	0.11	17.2	B	0.08	21.2	C	0.11	17.2	B
	Intersection		**12.8**	**B**		**19.6**	**B**		**21.1**	**C**		**22.3**	**C**
Grassland Rd. (Route 100C) at Sprain Brook Pkwy SB Ramps	EB-TR	0.27	7.5	A	0.67	11.7	B	0.29	7.6	A	0.95	26.0	C
	WB-T	0.32	7.8	A	0.52	9.5	A	0.48	9.0	A	0.54	9.7	A
	SB-L	0.55	34.0	C	0.17	29.6	C	0.55	34.0	C	0.17	29.6	C
	SB-R	0.32	31.0	C	0.12	29.2	C	0.82	48.4	D	0.16	29.4	C
	Intersection		**13.1**	**B**		**11.5**	**B**		**16.8**	**B**		**20.3**	**C**
Grassland Rd. (Route 100C) at Sprain Brook Pkwy NB Ramps	EB-L	0.09	14.7	B	0.50	15.4	B	0.14	15.2	B	1.11	104.4	F
	EB-T	0.50	18.0	B	0.32	9.0	A	0.51	18.1	B	0.34	9.1	A
	WB-TR	0.47	24.6	C	1.06	67.9	E	0.51	25.1	C	1.07	71.4	E
	NB-LT	1.00	68.7	E	0.69	29.4	C	>1.50	>150	F	0.73	30.8	C
	NB-R	1.02	74.8	E	0.35	23.1	C	1.02	74.8	E	0.35	23.1	C
	Intersection		**44.0**	**D**		**42.6**	**D**		**132.9**	**F**		**53.2**	**D**

TABLE 5.21-10. 2008 FUTURE WITHOUT THE PROJECT VS. 2008 COMBINED CONSTRUCTION OPTION A TRAFFIC CONDITIONS

SIGNALIZED INTERSECTIONS	LANE GROUP	2008 FUTURE WITHOUT THE PROJECT						2008 CONSTRUCTION					
		WEEKDAY AM PEAK HOUR			WEEKDAY PM PEAK HOUR			WEEKDAY AM PEAK			WEEKDAY PM PEAK		
		V/C RATIO	DELAY (SEC/VEH)	LOS	V/C RATIO	DELAY (SEC/VEH)	LOS	V/C RATIO	DELAY (SEC/ VEH)	LOS	V/C RATIO	DELAY (SEC/ VEH)	LOS
Virginia Road @ Bronx River Pkwy Westbound	EB-LT	1.12	126.9	F	1.16	139.6	F	1.13	130.6	F	1.17	144.9	F
	EB-R	0.21	19.6	B	0.39	34.6	C	0.21	19.6	B	0.40	34.7	C
	WB-LTR	0.40	34.6	C	1.26	>150	F	0.40	34.7	C	1.28	>150	F
	NB-L	0.04	46.3	D	0.06	10.9	B	0.06	46.4	D	0.06	10.9	B
	NB-TR	0.26	20.1	C	0.62	25.3	C	0.26	20.1	C	0.62	25.3	C
	SB-L	1.10	141.5	F	0.13	11.7	B	1.10	141.5	F	0.13	11.7	B
	SB-T	0.70	27.3	C	0.59	24.7	C	0.70	27.3	C	0.59	24.7	C
	Intersection		**53.9**	**D**		**61.7**	**E**		**54.5**	**D**		**63.5**	**E**
Grassland Road (Route 100C) @ WCC East Gate	EB-T	0.41	7.7	A	0.72	16.6	B	0.41	7.7	A	0.74	17.4	B
	WB-L	0.26	5.2	A	0.21	11.1	B	0.26	5.2	A	0.22	11.4	B
	WB-T	0.24	3.2	A	0.58	7.9	A	0.25	3.2	A	0.58	7.9	A
	NB-L	0.07	45.8	D	0.62	30.6	C	0.07	45.8	D	0.62	30.6	C
	Intersection		**6.3**	**A**		**14.5**	**B**		6.3	A		14.9	B
Old Saw Mill River Road @ Landmark West Driveway	EB-LTR	0.74	8.7	A	0.57	6.0	A	0.88	14.6	B	0.58	6.1	A
	WB-LTR	0.26	4.1	A	0.43	4.9	A	0.26	4.1	A	0.43	4.9	A
	NB-LTR	0.02	21.0	C	0.08	21.2	C	0.07	21.2	C	0.92	63.3	E
	SB-LTR	0.04	21.1	C	0.03	21.0	C	0.04	21.1	C	0.03	21.0	C
	Intersection		**7.7**	**A**		**5.8**	**A**		**12.4**	**B**		**13.2**	**B**

TABLE 5.21-10. 2008 FUTURE WITHOUT THE PROJECT VS. 2008 COMBINED CONSTRUCTION OPTION A TRAFFIC CONDITIONS

UNSIGNALIZED INTERSECTIONS	LANE GROUP	2008 FUTURE WITHOUT THE PROJECT						2008 CONSTRUCTION					
		WEEKDAY AM PEAK HOUR			WEEKDAY PM PEAK HOUR			WEEKDAY AM PEAK			WEEKDAY PM PEAK		
		V/C RATIO	DELAY (SEC/VEH)	LOS	V/C RATIO	DELAY (SEC/VEH)	LOS	V/C RATIO	DELAY (SEC/ VEH)	LOS	V/C RATIO	DELAY (SEC/ VEH)	LOS
Sprain Parkway SB On Ramps (N-S) at Broadway (Rt. 9A)/Bradhurst Ave.	WB-LT	0.12	10.6	B	0.19	9.5	A	0.12	10.8	B	0.21	9.9	A
Saw Mill River Road (Rt. 9A) (N-S) at Beverly Road	NB-LT	0.01	10.3	B	0.03	13.1	B	0.01	10.6	B	0.03	13.2	B
	EB-LR	0.07	21.1	C	0.05	29.7	D	0.08	23.0	C	0.06	32.1	D
Saw Mill River Road (Rt. 9A) and Stevens Avenue North	NB-LT	0.02	10.9	B	0.01	9.8	A	0.02	11.3	B	0.01	9.8	A
	SB-LT	0.03	9.2	A	0.02	10.5	B	0.03	9.3	A	0.02	10.9	B
	EB-LTR	0.02	35.0	D	0.13	24.1	C	0.03	40.6	E	0.15	26.2	D
	WB-LTR	0.03	16.7	C	0.07	15.7	C	0.04	18.1	C	0.08	16.9	C
Saw Mill River Road (Rt. 9A) and Stevens Avenue South	SB-LT	0.00	8.8	A	0.00	10.4	B	0.00	8.9	A	0.00	10.8	B
	WB-LR	0.03	21.4	C	0.14	34.0	D	0.03	23.5	C	0.17	38.9	E
Bradhurst Ave and Lakeview Ave	SB-LT	0.02	8.2	A	0.01	8.1	A	0.02	8.2	A	0.01	8.1	A
	WB-LR	0.26	15.1	C	0.45	18.8	C	0.26	15.1	C	0.45	18.8	C
Knollwood Road (Rt 100A) and Hevelyne Road	NB-LT	0.01	8.3	A	0.00	8.0	A	0.01	8.3	A	0.00	8.0	A
	EB-LR	0.03	13.1	B	0.01	10.9	B	0.03	13.4	C	0.01	11.0	B
Saw Mill River Road (Rt 9A) and Ramada Inn/Broadway Plaza	NB-L	0.09	10.0	A	0.15	10.3	B	0.20	11.0	B	0.16	10.5	B
	SB-LT	0.01	8.7	A	0.01	9.4	A	0.01	9.1	A	0.01	9.6	A
	EB-L	0.01	31.9	D	0.01	48.4	E	0.03	54.3	F	0.01	53.6	F
	EB-T	0.02	36.9	E	0.08	79.9	F	0.03	66.0	F	0.09	92.7	F
	WB-LT	0.10	33.1	D	0.11	56.3	F	0.19	65.7	F	0.13	63.9	F
	WB-TR	0.01	10.6	B	0.03	17.0	C	0.01	11.2	B	0.03	18.0	C
Dana Road & Walker Road	NB-LR	0.09	10.5	B	0.04	10.5	B	0.24	12.1	B	0.14	11.9	B
	WB-LT	0.00	8.3	A	0.01	7.8	A	0.00	8.5	A	0.01	7.9	A
Old Saw Mill River Road and Saw Mill River Road (Rt. 9A) SB Ramps	NB-L	0.78	85.3	F	0.99	145.4	F	>1.50	>150	F	>1.50	>150	F
	NB-R	0.20	16.3	C	0.28	15.7	C	0.22	17.9	C	0.68	57.2	F
	WB-L	0.15	11.3	B	0.17	11.2	B	0.16	11.9	B	0.39	23.5	C
Grasslands Road (Route 100C) (E-W) and Saw Mill River Road NB Ramps (N-S)	NB-LT	0.06	25.7	D	0.05	25.0	C	>1.50	>150	F	0.16	58.5	F
	NB-TR	0.07	13.7	B	0.16	14.2	B	0.07	14.7	B	0.35	29.6	D
	EB-L	0.21	10.1	B	0.17	10.5	B	0.37	16.1	C	0.29	11.8	B
Grasslands Road (Route 100C) @ Virginia Road	SB-LT	0.23	8.3	A	0.36	10.3	B	0.23	8.4	A	0.37	10.4	B
	WB-LR	0.55	16.6	C	1.23	>150	F	0.56	17.1	C	1.26	>150	F

TABLE 5.21-10. 2008 FUTURE WITHOUT THE PROJECT VS. 2008 COMBINED CONSTRUCTION OPTION A TRAFFIC CONDITIONS

UNSIGNALIZED INTERSECTIONS	LANE GROUP	2008 FUTURE WITHOUT THE PROJECT						2008 CONSTRUCTION					
		WEEKDAY AM PEAK HOUR			WEEKDAY PM PEAK HOUR			WEEKDAY AM PEAK			WEEKDAY PM PEAK		
		V/C RATIO	DELAY (SEC/VEH)	LOS	V/C RATIO	DELAY (SEC/VEH)	LOS	V/C RATIO	DELAY (SEC/ VEH)	LOS	V/C RATIO	DELAY (SEC/ VEH)	LOS
Grasslands Road (Route 100C) @ Legion Drive	SB-L	0.42	29.8	D	1.27	>150	F	0.43	31.0	D	1.31	>150	F
	SB-R	0.20	12.1	B	0.47	19.7	C	0.21	12.4	B	0.47	19.7	C
	EB-LT	0.07	8.5	A	0.24	10.7	B	0.07	8.6	A	0.24	10.7	B
Grasslands Road (Route 100C) @ WCC West Gate	NB-L	0.06	20.5	C	0.26	50.2	F	0.06	20.9	C	0.27	52.5	F
	NB-R	0.01	13.7	B	0.49	18.4	C	0.01	13.7	B	0.51	19.2	C
	WB-LT	0.00	9.9	A	0.12	9.1	A	0.00	9.9	A	0.12	9.2	A
Old Saw Mill River Road @ Landmark East Driveway	NB-LTR	0.07	17.5	C	0.11	30.0	D	0.21	19.7	C	1.08	103.2	F
	SB-LTR	0.01	10.3	B	0.07	17.4	C	>1.50	>150	F	>1.50	>150	F
	EB-LTR	0.01	8.1	A	0.01	8.7	A	0.02	9.3	A	0.01	8.8	A
	WB-LTR	0.02	10.2	B	0.01	9.2	A	0.55	16.1	C	0.06	9.4	A

ABBREVIATIONS:

EB-Eastbound, WB-Westbound, NB-Northbound, SB-Southbound

L-Left, T-Through, R-Right, E-W: East-West Roadway, N-S: North-South Roadway

V/C Ratio - Volume to Capacity Ratio

SEC/VEH - Seconds per Vehicle

LOS - Level of Service

--- HCS results not provided for given lane group

- Grasslands Road (Route 100C)/Bradhurst Avenue (Route 100) Intersection. During the PM peak hour, the northbound left-turn movement would remain at LOS E, with delays increasing from 58.7 to 64.9 seconds.

- Knollwood Road (Route 100A)/Cross Westchester Expressway (I-287) Westbound Ramp Intersection. During the PM peak hour, the northbound left-turn movement would deteriorate from LOS D to LOS E, with delays increasing from 52.6 to 58.2 seconds.

- Saw Mill River Road (Route 9A)/Tarrytown-White Plains Road (Route 119) Intersection. During the AM peak hour, the eastbound left-turn movement would deteriorate from LOS E to LOS F, with delays increasing from 66.8 to 113.5 seconds. During the PM peak hour the eastbound left-turn movement would deteriorate from LOS E to LOS F, with delays increasing from 76.6 to 83.3 seconds.

- Old Saw Mill River Road/Saw Mill River Parkway Southbound Off-Ramp Intersection. During the PM peak hour, the eastbound approach would deteriorate from LOS E to LOS F, with delays increasing from 70.0 to 86.2 seconds.

- Grasslands Road (Route 100C)/Clearbrook Road/Walker Road Intersection. During the PM peak hour, the eastbound through/right lane group would deteriorate from LOS B to LOS F, with delays increasing from 17.2 to 133.1 seconds. The westbound left-turn movement would remain at LOS F, with delays of more than 150 seconds, during the PM peak hour.

- Grasslands Road (Route 100C)/Sprain Brook Parkway Southbound Ramp Intersection. During the AM peak hour, the southbound right-turn movement would deteriorate from LOS C to LOS D, with delays increasing from 31.0 to 48.4 seconds.

- Grasslands Road (Route 100C)/Sprain Brook Parkway Northbound Ramp Intersection. During the AM peak hour, the northbound left/through lane group would deteriorate from LOS E to LOS F, with delays increasing from 68.7 to well beyond 150 seconds. During the PM peak hour, the eastbound left-turn movement would deteriorate from LOS B to LOS F, with delays increasing from 15.4 to 104.4 seconds.

- Virginia Road/Bronx River Parkway Intersection. During the AM and PM peak hours, the eastbound left/through movement would remain at LOS F, with delays increasing from 126.9 to 130.6 seconds during the AM peak hour, and from 139.6 to 144.9 seconds during the PM peak hour. During the PM peak hour, the westbound approach would also remain at LOS F, with delays of more than 150 seconds.

- Old Saw Mill River Road/Landmark at Eastview West Driveway Intersection. During the PM peak hour, the northbound approach would deteriorate from LOS C to LOS E, with delays increasing from 21.2 to 63.3 seconds.

Potential Adverse Impacts Occurring at Unsignalized Intersections

- Saw Mill River Road (Route 9A)/Ramada Inn/Broadway Plaza Intersection. During the AM peak hour, the eastbound left-turn lane group would deteriorate from LOS D (31.9 seconds delay) to LOS F (54.3 seconds delay), the eastbound through movement would deteriorate from LOS E (36.9 seconds delay) to LOS F (66.0 seconds delay), and the westbound left/through lane group would deteriorate from LOS D (33.1 seconds delay) to LOS F (65.7 seconds delay). During the PM peak hour, the eastbound left-turn lane group would deteriorate from LOS E (48.4 seconds delay) to LOS F (53.6 seconds delay), the eastbound through movement would remain at LOS F (delay increasing from 79.9 to 92.7 seconds), and the westbound left/through lane group would remain at LOS F (delay increasing from 56.3 to 63.9 seconds).

- Old Saw Mill River Road and Saw Mill River Road SB Ramps Intersection. During both the AM and PM peak hours, the northbound left-turn movement would remain at LOS F, with delays increasing from 85.3 seconds to well beyond 150 seconds during the AM peak, and with delays increasing from 145.4 to well beyond 150 seconds during the PM peak). The northbound right-turn movement would deteriorate from LOS C (15.7 seconds delay) to LOS F (57.2 seconds delay) during the PM peak hour.

- Grasslands Road (Route 100C)/Saw Mill River Road (Route 9A) Northbound Ramp Intersection. During the AM peak hour, the northbound left/through lane group would deteriorate from LOS D (25.7 seconds delay) to LOS F (with over 150 seconds delay). During the PM peak hour, the northbound left/through lane group would deteriorate from LOS C (25.0 seconds delay) to LOS F (58.5 seconds delay).

- Grasslands Road (Route 100)/Virginia Road Intersection. During the PM peak hour, the westbound approach would remain at LOS F (delay increasing from 155.8 to 166.5 seconds).

- Grasslands Road (Route 100)/Legion Drive Intersection. During the PM peak hour, the southbound left-turn movement would remain at LOS F, with delays of more than 150 seconds.

- Old Saw Mill River Road/Landmark at Eastview East Driveway Intersection. During both the AM peak hour, the southbound approach would deteriorate from LOS B to LOS F, with delays increasing from 10.3 seconds to well beyond 150 seconds). During the PM peak hour the southbound approach would deteriorate from LOS C to LOS F, with delays increasing from 17.4 seconds to well beyond 150 seconds). In addition, the northbound approach would deteriorate from LOS D (30.0 seconds delay) to LOS F (103.2 seconds delay) during the PM peak hour.

Although these potential temporary adverse impacts would not be permanent, because they are construction-related, measures have been identified that would mitigate the construction-related potential temporary adverse traffic impacts predicted to occur under 2008 Combined Construction Option A conditions. A description of the measures, and an analysis showing the

resulting effects of implementing the measures suggested as mitigation for these impacts, are fully discussed below, in Section 5.21.4, Mitigation of Potential Combined Impacts.

Parking. Nearly the entire Eastview construction site would be unavailable for construction worker parking because of the concurrent construction of the Croton project and Cat/Del UV Facility under 2008 Combined Construction Option A conditions. As discussed in Section 4.9, Data Collection and Impact Methodologies, Traffic and Transportation, an off-site parking facility has been identified at the Landmark at Eastview for construction vehicles and workers during combined project construction, under Option A conditions. Based on the transportation data and planning assumptions presented in Section 4.9, this off-site parking facility would need to accommodate 543 construction worker vehicles from the Croton project's construction, as well as 400 worker vehicles related to the concurrent construction of the Cat/Del UV Facility. It is anticipated that this off-site parking facility would be able to accommodate these parked vehicles, therefore; no temporary adverse parking impacts are anticipated to occur to the public and private parking facilities in the vicinity of the Eastview Site under 2008 Combined Construction Option A conditions.

Safety. The combined construction activities would increase the study area traffic volumes by 1 to 40 percent at key study area intersections during peak-hour operating conditions. This projected traffic growth can be anticipated to translate to between 1 and 15 additional accidents per year along the roadway corridors during the construction period.

Transit. The combined construction of the Croton project and Cat/Del UV Facility under 2008 Construction Option A conditions is not anticipated to generate any considerable transit ridership. In addition because of the low generation of trips from the Bee Line Bus Facility during the combined peak construction hours, the combined construction of the Croton project and Cat/Del UV Facility would not impact bus operations. Therefore, no adverse transit-related impacts would be anticipated to occur under these 2008 Construction Option A conditions.

Pavement Infrastructure. Roadway pavements deteriorate with traffic loads, environmental conditions and time. Highways are typically able to carry higher traffic loads than arterials and other lower volume roadways. The principal measure of traffic loading is "equivalent 18,000 pounds single axle loads" (18 kip Equivalent Single Axle Load [ESAL]) over the useful life of the pavement, typically 20 years. As these loads are applied over time, the pavement's serviceability declines to the point where it must be repaired. Different types of trucks affect pavement differently. Trucks that have concentrated wheel loads (*e.g.*, full concrete trucks) would cause worse pavement effects than a flat-bed tractor-trailer combination carrying steel reinforcing rods. Highways can have design loads of 10,000,000 to 80,000,000 (or more) ESAL, arterials generally between 2,000,000 to 5,000,000 ESAL and low-volume roadways 50,000 to 500,000 ESAL (or more).

The combined construction of the proposed Croton project and Cat/Del UV Facility is anticipated to generate a total of approximately 199,382 entering/exiting truck trips over the approximately four and one-half-year construction period, anticipated to run from April 2005 through September 2009. These truck trips equate to a total of approximately 135,580 ESAL inbound and 135,580 ESAL outbound, over the duration of combined construction for the

proposed Croton project and Cat/Del UV Facility. This would translate to a predicted truck load over the duration of construction of approximately 271,160 ESAL on the proposed truck routes to and from the site (e.g., about 80 percent of the trips using Grasslands Road to Route 9A – 216,930 EASL, and about 20 percent of the trips using Knollwood Road to Route 119 – 54,230 ESAL). The peak construction truck generation is anticipated to occur in 2007, when the combined construction of the Croton project and Cat/Del UV Facility would generate an annual total of approximately 61,160 entering/exiting truck trips. These truck trips translate to a total of approximately 41,600 ESAL inbound and 41,600 ESAL outbound, in 2007. Comparing the predicted truck loads with the range of designed loads for arterial roadways, the anticipated loads generated from the combined construction of the proposed Croton project and Cat/Del UV Facility would represent between 5.4 and 13.6 percent of the design load of an arterial roadway. However, this trucking activity would be temporary and would not be an adverse impact.

5.21.3.1.2. Option B – Parking at the Westchester Community College Campus

The traffic generated by the concurrent construction of the Croton project and Cat/Del UV Facility on the site for Option B is shown in Figures 5.21-14 and 5.21-15, for the AM and PM peak hours, respectively. Figures 5.21-16 and 5.21-17 show the total resulting 2008 Combined Construction Option B traffic volumes. Table 5.21-11 shows a comparison of the results of the HCM analyses for the 2008 Future Without the Project conditions and the 2008 Combined Construction (Option B) conditions.

Option B Traffic. The following is a summary of the potential temporary adverse impacts that have been identified during 2008, associated with the combined effects of the Croton project's peak construction activities and the Cat/Del UV Facility's construction at the Eastview Site under worker parking Option B conditions. There would be a total of 39 potential temporary adverse impacts at intersections in the primary study area under 2008 Combined Construction Option B conditions (21 at signalized intersections, 9 during the AM peak hour and 12 during the PM peak hour, and 18 at unsignalized intersections, 9 during the AM peak hour and 9 during the PM peak hour).

Potential Adverse Impacts Occurring at Signalized Intersections

- Saw Mill River Road (Route 9A)/Saw Mill River Parkway Ramp Intersection. During the PM peak hour, the southbound through/right movement would deteriorate from LOS D to LOS E, with delays increasing from 54.3 to 58.5 seconds.

- Grasslands Road (Route 100C)/Bradhurst Avenue (Route 100) Intersection. During the AM peak hour, the eastbound left-turn movement would deteriorate from LOS D to LOS E, with delays increasing from 36.6 to 64.3 seconds; the eastbound through movement would deteriorate from LOS E to LOS F, with delays increasing from 75.1 seconds to greater than 150 seconds. During the PM peak hour, the westbound through/right movement would deteriorate from LOS E to LOS F, with delays increasing from 55.5 seconds to well above 150 seconds; the northbound left-turn movement would remain at LOS E, with delays increasing from 58.7 to 64.9 seconds.

TABLE 5.21-11. 2008 FUTURE WITHOUT THE PROJECT VS. 2008 COMBINED CONSTRUCTION OPTION B TRAFFIC CONDITIONS

SIGNALIZED INTERSECTIONS	LANE GROUP	2008 FUTURE WITHOUT THE PROJECT						2008 CONSTRUCTION					
		WEEKDAY AM PEAK HOUR			WEEKDAY PM PEAK HOUR			WEEKDAY AM PEAK			WEEKDAY PM PEAK		
		V/C RATIO	DELAY (SEC/VEH)	LOS	V/C RATIO	DELAY (SEC/VEH)	LOS	V/C RATIO	DELAY (SEC/ VEH)	LOS	V/C RATIO	DELAY (SEC/ VEH)	LOS
Saw Mill River Road (Rt. 9A) (N-S) at Saw Mill River Pkwy Ramps to Exec Park	EB – L	0.64	31.6	C	0.52	29.3	C	0.64	31.6	C	0.52	29.3	C
	EB – LTR	0.14	25.0	C	0.14	25.8	C	0.14	25.0	C	0.14	25.8	C
	WB – L	0.14	32.4	C	0.14	34.1	C	0.14	32.4	C	0.14	34.1	C
	WB – LT	0.10	32.1	C	0.09	33.8	C	0.10	32.1	C	0.09	33.8	C
	WB - R	0.02	31.6	C	0.04	33.6	C	0.02	31.6	C	0.04	33.6	C
	NB-L	0.18	14.1	B	0.81	31.5	C	0.20	14.3	B	0.81	31.6	C
	NB-TR	0.31	14.8	B	0.55	15.4	B	0.34	15.0	B	0.60	16.1	B
	SB-L	0.05	13.0	B	0.13	21.4	C	0.05	13.0	B	0.14	21.5	C
	SB-TR	0.54	17.1	B	0.98	54.3	D	0.60	17.9	B	1.00	58.5	E
	Intersection		**19.5**	**B**		**33.7**	**C**		**19.7**	**B**		**35.2**	**D**
Grasslands Road (Route 100C) (E-W) at Bradhurst Avenue	EB - L	0.71	36.6	D	>1.50	>150	F	0.90	64.3	E	>1.50	>150	F
	EB - T	1.03	75.1	E	0.59	22.3	C	>1.50	>150	F	0.69	25.2	C
	EB - R	0.35	16.3	B	0.27	12.1	B	0.36	16.5	B	0.29	12.2	B
	WB-L	0.68	56.6	E	0.22	18.0	B	0.68	56.6	E	0.32	19.4	B
	WB-TR	0.43	25.8	C	0.98	55.5	E	0.55	27.9	C	>1.50	>150	F
	NB - L	0.23	23.3	C	0.87	58.7	E	0.25	23.6	C	0.90	64.9	E
	NB - TR	0.34	25.9	C	0.20	16.3	B	0.36	26.2	C	0.20	16.3	B
	SB - L	0.50	40.1	D	0.30	25.1	C	0.52	40.8	D	0.30	25.1	C
	SB - TR	0.68	49.7	D	1.12	109.2	F	0.68	49.7	D	1.12	109.2	F
	Intersection		**45.2**	**D**		**70.0**	**E**		**>150**	**F**		**>150**	**F**
Knollwood Road (E-W) at Cross Westchester Expwy (I-287) WB ramps	WB-LT	0.46	27.6	C	0.79	39.0	D	0.46	27.6	C	0.79	39.0	D
	WB-R	0.24	25.4	C	0.45	27.6	C	0.24	25.5	C	0.45	27.6	C
	NB-L	0.50	9.8	A	0.95	52.6	D	0.51	10.0	A	0.97	58.2	E
	NB-T	0.51	10.3	B	0.52	10.5	B	0.53	10.6	B	0.53	10.6	B
	SB-T	0.30	13.4	B	0.44	14.8	B	0.31	13.5	B	0.46	15.0	B
	SB-R	0.13	12.1	B	0.23	12.8	B	0.14	12.2	B	0.23	12.9	B
	Intersection		**14.4**	**B**		**26.7**	**C**		**14.5**	**B**		**27.7**	**C**
Knollwood Road (E-W) at Cross Westchester Expwy (I-287) EB ramps	EB-L	0.67	32.7	C	0.48	24.4	C	0.68	32.9	C	0.48	24.5	C
	EB-TR	0.01	23.6	C	0.00	20.0	C	0.01	23.6	C	0.00	20.0	C
	EB-R	0.58	30.0	C	0.77	34.2	C	0.58	30.0	C	0.77	34.2	C
	NB-T	0.49	15.3	B	0.86	31.6	C	0.51	15.5	B	0.87	32.4	C
	NB-R	0.52	15.9	B	0.62	20.9	C	0.52	15.9	B	0.62	20.9	C
	SB-L	0.39	9.8	A	0.79	29.3	C	0.40	10.0	A	0.81	31.3	C
	SB-T	0.29	8.4	A	0.65	15.4	B	0.30	8.5	A	0.66	15.8	B
	Intersection		**18.6**	**B**		**25.6**	**C**		**18.6**	**B**		**26.0**	**C**
Tarrytown/White Plains Rd. (E-W) WB Ramps at Knollwood Road (Rt. 100A)	WB-LT	0.14	24.6	C	0.35	26.4	C	0.14	24.6	C	0.35	26.4	C
	WB-R	0.51	28.3	C	0.96	64.3	E	0.51	28.3	C	0.96	65.3	E
	NB-LT	0.40	10.1	B	0.60	12.6	B	0.41	10.2	B	0.60	12.6	B
	SB-T	0.20	15.3	B	0.43	17.4	B	0.20	15.3	B	0.44	17.4	B
	SB-R	0.19	15.3	B	0.47	18.0	B	0.20	15.4	B	0.48	18.2	B
	Intersection		**15.5**	**B**		**25.0**	**C**		**15.5**	**B**		**25.3**	**C**

TABLE 5.21-11. 2008 FUTURE WITHOUT THE PROJECT VS. 2008 COMBINED CONSTRUCTION OPTION B TRAFFIC CONDITIONS

SIGNALIZED INTERSECTIONS	LANE GROUP	2008 FUTURE WITHOUT THE PROJECT						2008 CONSTRUCTION					
		WEEKDAY AM PEAK HOUR			WEEKDAY PM PEAK HOUR			WEEKDAY AM PEAK			WEEKDAY PM PEAK		
		V/C RATIO	DELAY (SEC/VEH)	LOS	V/C RATIO	DELAY (SEC/VEH)	LOS	V/C RATIO	DELAY (SEC/ VEH)	LOS	V/C RATIO	DELAY (SEC/ VEH)	LOS
Knollwood Rd. (Rt 100A) at Tarrytown White Plains Rd. (Rt. 119) EB Ramps	EB – LT	0.71	34.2	C	0.78	38.4	D	0.73	35.1	D	0.79	38.7	D
	EB – R	0.16	24.8	C	0.35	26.5	C	0.16	24.8	C	0.35	26.5	C
	NB-TR	0.40	20.1	C	0.41	20.3	C	0.41	20.2	C	0.41	20.3	C
	SB-L	0.31	11.9	B	0.47	14.7	B	0.32	12.1	B	0.48	14.8	B
	SB-T	0.28	9.2	A	0.54	11.8	B	0.28	9.2	A	0.55	11.9	B
	Intersection		**20.4**	**C**		**21.1**	**C**		**20.8**	**C**		**21.2**	**C**
Saw Mill River Rd. (Rt 9A) at Cross Westchester Expwy (I-287) WB Ramps	WB-L	1.09	97.9	F	0.74	38.2	D	1.09	97.9	F	0.74	38.2	D
	WB-R	0.48	27.5	C	0.42	20.4	C	0.61	29.6	C	0.43	20.6	C
	NB-LTR	0.36	8.9	A	0.69	22.8	C	0.43	9.4	A	0.76	25.5	C
	SB-TR	0.47	9.7	A	0.85	22.5	C	0.51	10.2	B	0.95	32.6	C
	Intersection		**34.3**	**C**		**24.4**	**C**		**33.0**	**C**		**29.9**	**C**
Saw Mill River Road (Rt 9A) and Cross Westchester Exp (I-287) EB Ramps	NB-TR	0.31	12.3	B	0.89	34.7	C	0.36	12.8	B	0.90	36.4	D
	SB-L	0.50	1.7	A	0.74	23.2	C	0.55	3.6	A	0.81	27.9	C
	SB-LT	0.16	0.2	A	0.53	0.5	A	0.17	0.2	A	0.58	0.6	A
	Intersection		**5.0**	**A**		**17.5**	**B**		**6.0**	**A**		**18.7**	**B**
Saw Mill River Rd. (Rt. 9A) at Tarrytown White Plains Rd. (Rt. 119)	EB-L	0.97	66.8	E	0.99	76.6	E	1.12	113.5	F	1.02	83.3	F
	EB-TR	0.38	14.5	B	0.46	20.2	C	0.38	14.5	B	0.46	20.2	C
	WB-L	0.17	22.3	C	0.42	34.4	C	0.17	22.3	C	0.42	34.4	C
	WB-TR	0.30	23.5	C	0.88	48.6	D	0.31	23.6	C	0.89	49.7	D
	NB-L	0.38	34.2	C	0.30	25.0	C	0.39	34.4	C	0.34	25.8	C
	NB-TR	0.62	40.3	D	0.82	41.0	D	0.72	44.9	D	0.83	42.1	D
	SB-L	0.24	33.9	C	0.54	35.0	C	0.29	36.6	D	0.57	36.4	D
	SB-T	0.42	34.9	C	0.26	22.8	C	0.44	35.3	D	0.34	23.7	C
	SB-R	0.23	22.1	C	0.39	11.0	B	0.24	22.2	C	0.43	11.3	B
	Intersection		**31.8**	**C**		**35.0**	**C**		**42.3**	**D**		**35.9**	**D**
Saw Mill River Rd. (Rt. 9A) at Hunter Lane	EB – LTR	0.01	29.1	C	0.01	32.9	C	0.01	29.1	C	0.01	32.9	C
	WB – LT	0.31	32.4	C	0.81	56.6	E	0.31	32.4	C	0.81	56.6	E
	W-R	0.01	18.7	B	0.07	22.9	C	0.01	18.7	B	0.07	22.9	C
	NB – LTR	0.64	21.3	C	0.69	19.4	B	0.81	27.0	C	0.71	20.1	C
	SB – LTR	0.67	14.5	B	0.73	13.3	B	0.78	18.3	B	0.85	18.9	B
	Intersection		**18.6**	**B**		**20.1**	**C**		**23.3**	**C**		**22.6**	**C**
Saw Mill River Rd. (Rt. 9A) at Dana Rd.	EB-LT	0.07	25.5	C	0.28	27.4	C	0.07	25.5	C	0.29	27.6	C
	EB-R	0.08	25.6	C	0.24	26.9	C	0.08	25.6	C	0.24	26.9	C
	WB-L	0.12	25.9	C	0.44	29.1	C	0.28	27.3	C	0.55	31.1	C
	WB-TR	0.06	25.4	C	0.40	28.4	C	0.15	26.1	C	0.42	28.7	C
	NB-L	0.12	30.5	C	0.39	32.7	C	0.12	30.5	C	0.39	32.7	C
	NB-TR	0.63	25.1	C	0.84	31.9	C	0.67	26.0	C	0.91	38.3	D
	SB-L	0.38	32.6	C	0.15	30.7	C	0.60	36.5	D	0.19	31.0	C
	SB-TR	0.59	24.1	C	0.74	27.7	C	0.59	24.1	C	0.74	27.7	C
	Intersection		**25.4**	**C**		**29.8**	**C**		**26.5**	**C**		**32.6**	**C**

TABLE 5.21-11. 2008 FUTURE WITHOUT THE PROJECT VS. 2008 COMBINED CONSTRUCTION OPTION B TRAFFIC CONDITIONS

SIGNALIZED INTERSECTIONS	LANE GROUP	2008 FUTURE WITHOUT THE PROJECT						2008 CONSTRUCTION					
		WEEKDAY AM PEAK HOUR			WEEKDAY PM PEAK HOUR			WEEKDAY AM PEAK			WEEKDAY PM PEAK		
		V/C RATIO	DELAY (SEC/VEH)	LOS	V/C RATIO	DELAY (SEC/VEH)	LOS	V/C RATIO	DELAY (SEC/ VEH)	LOS	V/C RATIO	DELAY (SEC/ VEH)	LOS
Saw Mill River Rd. at Saw Mill River Pkwy SB Off Ramp	EB-LT	0.87	28.2	C	1.04	70.0	E	0.90	31.7	C	1.08	83.6	F
	WB-TR	0.23	4.7	A	0.42	9.2	A	0.23	4.7	A	0.52	10.1	B
	SB-L	0.68	36.9	D	0.29	23.1	C	0.72	39.0	D	0.29	23.1	C
	SB-LR	0.16	28.2	C	0.21	22.6	C	0.16	28.2	C	0.21	22.6	C
	Intersection		**21.2**	**C**		**33.9**	**C**		**23.3**	**C**		**36.6**	**D**
Saw Mill River Rd. at Saw Mill River Pkwy NB Off Ramp	EB-T	0.48	17.5	B	0.41	13.3	B	0.50	17.7	B	0.41	13.3	B
	WB-T	0.19	7.7	A	0.28	4.2	A	0.20	7.8	A	0.35	4.5	A
	NB-LR	0.44	24.7	C	0.45	31.5	C	0.61	27.9	C	0.46	31.5	C
	NB-R	0.41	24.3	C	0.41	31.1	C	0.59	27.4	C	0.43	31.4	C
	Intersection		**16.5**	**B**		**12.0**	**B**		**18.3**	**B**		**11.5**	**B**
Grassland Rd. (Route 100 C) and Clearbrook Rd/Walker Road	EB-L	0.01	2.6	A	0.04	9.2	A	0.01	2.6	A	0.07	9.7	A
	EB-TR	0.37	3.8	A	0.73	17.2	B	0.61	5.5	A	0.74	17.8	B
	WB-L	0.38	4.0	A	1.40	>150	F	0.68	11.1	B	>1.50	>150	F
	WB-TR	0.39	3.9	A	0.70	16.7	B	0.44	4.1	A	1.10	79.6	E
	NB-LT	0.21	33.7	C	0.19	19.9	B	0.30	34.8	C	0.20	20.0	C
	SB-LT	0.21	33.8	C	0.23	20.3	C	0.68	48.5	D	0.34	21.4	C
	SB-R	0.00	32.2	C	0.01	18.5	B	0.00	32.2	C	0.01	18.5	B
	Intersection		**5.3**	**A**		**42.3**	**D**		**8.4**	**A**		**71.9**	**E**
Grassland Rd. (Route 100 C) at Woods Drive/Taylor Road	EB-L	0.28	7.5	A	0.33	13.8	B	0.30	8.4	A	0.37	20.9	C
	EB-TR	0.26	5.2	A	0.57	12.5	B	0.46	6.4	A	0.60	13.0	B
	WB-L	0.00	9.3	A	0.01	12.5	B	0.00	9.3	A	0.01	12.6	B
	WB-TR	0.57	14.1	B	0.73	21.2	C	0.61	14.8	B	0.98	41.6	D
	NB-LTR	0.01	32.9	C	0.01	24.6	C	0.01	32.9	C	0.01	24.6	C
	SB-LT	0.55	39.2	D	0.79	41.6	D	0.55	39.2	D	0.79	41.6	D
	SB-R	0.08	21.2	C	0.11	17.2	B	0.08	21.2	C	0.11	17.2	B
	Intersection		**12.8**	**B**		**19.6**	**B**		**12.3**	**B**		**29.8**	**C**
Grassland Rd. (Route 100C) at Sprain Brook Pkwy SB Ramps	EB-TR	0.27	7.5	A	0.67	11.7	B	0.44	8.7	A	0.70	12.3	B
	WB-T	0.32	7.8	A	0.52	9.5	A	0.35	8.0	A	0.72	12.6	B
	SB-L	0.55	34.0	C	0.17	29.6	C	0.88	53.9	D	0.19	29.8	C
	SB-R	0.32	31.0	C	0.12	29.2	C	0.32	31.0	C	0.12	29.2	C
	Intersection		**13.1**	**B**		**11.5**	**B**		**17.1**	**B**		**13.1**	**B**
Grassland Rd. (Route 100C) at Sprain Brook Pkwy NB Ramps	EB-L	0.09	14.7	B	0.50	15.4	B	0.10	15.4	B	0.50	15.4	B
	EB-T	0.50	18.0	B	0.32	9.0	A	0.92	33.4	C	0.36	9.2	A
	WB-TR	0.47	24.6	C	1.06	67.9	E	0.56	26.0	C	>1.50	>150	F
	NB-LT	1.00	68.7	E	0.69	29.4	C	1.00	68.7	E	0.69	29.4	C
	NB-R	1.02	74.8	E	0.35	23.1	C	>1.50	>150	F	0.38	23.3	C
	Intersection		**44.0**	**D**		**42.6**	**D**		**93.1**	**F**		**>150**	**F**

TABLE 5.21-11. 2008 FUTURE WITHOUT THE PROJECT VS. 2008 COMBINED CONSTRUCTION OPTION B TRAFFIC CONDITIONS

SIGNALIZED INTERSECTIONS	LANE GROUP	2008 FUTURE WITHOUT THE PROJECT						2008 CONSTRUCTION					
		WEEKDAY AM PEAK HOUR			WEEKDAY PM PEAK HOUR			WEEKDAY AM PEAK			WEEKDAY PM PEAK		
		V/C RATIO	DELAY (SEC/VEH)	LOS	V/C RATIO	DELAY (SEC/VEH)	LOS	V/C RATIO	DELAY (SEC/ VEH)	LOS	V/C RATIO	DELAY (SEC/ VEH)	LOS
Virginia Road @ Bronx River Pkwy Westbound	EB-LT	1.12	126.9	F	1.16	139.6	F	1.17	145.7	F	1.47	>150	F
	EB-R	0.21	19.6	B	0.39	34.6	C	0.22	19.8	B	0.67	41.5	D
	WB-LTR	0.40	34.6	C	1.26	>150	F	0.43	35.0	D	>1.50	>150	F
	NB-L	0.04	46.3	D	0.06	10.9	B	0.70	59.8	E	0.07	11.0	B
	NB-TR	0.26	20.1	C	0.62	25.3	C	0.26	20.1	C	0.62	25.3	C
	SB-L	1.10	141.5	F	0.13	11.7	B	1.10	141.5	F	0.13	11.7	B
	SB-T	0.70	27.3	C	0.59	24.7	C	0.70	27.3	C	0.59	24.7	C
	Intersection		**53.9**	**D**		**61.7**	**E**		**57.0**	**E**		**113.1**	**F**
Grassland Road (Route 100C) @ WCC East Gate	EB-T	0.41	7.7	A	0.72	16.6	B	0.41	7.7	A	0.72	16.6	B
	WB-L	0.26	5.2	A	0.21	11.1	B	0.53	7.7	A	0.24	11.3	B
	WB-T	0.24	3.2	A	0.58	7.9	A	0.24	3.2	A	0.58	7.9	A
	NB-L	0.07	45.8	D	0.62	30.6	C	0.56	52.0	D	3.01	>150	F
	Intersection		**6.3**	**A**		**14.5**	**B**		**10.4**	**B**		**>150**	**F**
Old Saw Mill River Road @ Landmark West Driveway	EB-LTR	0.74	8.7	A	0.57	6.0	A	0.86	13.6	B	0.58	6.1	A
	WB-LTR	0.26	4.1	A	0.43	4.9	A	0.26	4.1	A	0.55	5.7	A
	NB-LTR	0.02	21.0	C	0.08	21.2	C	0.02	21.0	C	0.08	21.2	C
	SB-LTR	0.04	21.1	C	0.03	21.0	C	0.04	21.1	C	0.03	21.0	C
	Intersection		**7.7**	**A**		**5.8**	**A**		**11.5**	**B**		**6.2**	**A**

TABLE 5.21-11. 2008 FUTURE WITHOUT THE PROJECT VS. 2008 COMBINED CONSTRUCTION OPTION B TRAFFIC CONDITIONS

UNSIGNALIZED INTERSECTIONS	LANE GROUP	2008 FUTURE WITHOUT THE PROJECT						2008 CONSTRUCTION					
		WEEKDAY AM PEAK HOUR			WEEKDAY PM PEAK HOUR			WEEKDAY AM PEAK			WEEKDAY PM PEAK		
		V/C RATIO	DELAY (SEC/VEH)	LOS	V/C RATIO	DELAY (SEC/VEH)	LOS	V/C RATIO	DELAY (SEC/ VEH)	LOS	V/C RATIO	DELAY (SEC/ VEH)	LOS
Sprain Parkway SB On Ramps (N-S) at Broadway (Rt. 9A)/Bradhurst Ave.	WB-LT	0.12	10.6	B	0.19	9.5	A	0.12	10.8	B	0.20	9.9	A
Saw Mill River Road (Rt. 9A) (N-S) at Beverly Road	NB-LT	0.01	10.3	B	0.03	13.1	B	0.01	10.6	B	0.03	13.2	B
	EB-LR	0.07	21.1	C	0.05	29.7	D	0.08	23.0	C	0.06	31.7	D
Saw Mill River Road (Rt. 9A) and Stevens Avenue North	NB-LT	0.02	10.9	B	0.01	9.8	A	0.02	11.3	B	0.01	9.8	A
	SB-LT	0.03	9.2	A	0.02	10.5	B	0.03	9.3	A	0.02	10.8	B
	EB-LTR	0.02	35.0	D	0.13	24.1	C	0.03	40.6	E	0.14	25.8	D
	WB-LTR	0.03	16.7	C	0.07	15.7	C	0.04	18.1	C	0.08	16.6	C
Saw Mill River Road (Rt. 9A) and Stevens Avenue South	SB-LT	0.00	8.8	A	0.00	10.4	B	0.00	8.9	A	0.00	10.7	B
	WB-LR	0.03	21.4	C	0.14	34.0	D	0.03	23.5	C	0.16	37.7	E
Bradhurst Ave and Lakeview Ave	SB-LT	0.02	8.2	A	0.01	8.1	A	0.02	8.2	A	0.01	8.1	A
	WB-LR	0.26	15.1	C	0.45	18.8	C	0.26	15.1	C	0.45	18.8	C
Knollwood Road (Rt 100A) and Hevelyne Road	NB-LT	0.01	8.3	A	0.00	8.0	A	0.01	8.3	A	0.00	8.0	A
	EB-LR	0.03	13.1	B	0.01	10.9	B	0.03	13.4	C	0.01	11.0	B
Saw Mill River Road (Rt 9A) and Ramada Inn/Broadway Plaza	NB-L	0.09	10.0	A	0.15	10.3	B	0.10	10.3	B	0.16	10.5	B
	SB-LT	0.01	8.7	A	0.01	9.4	A	0.02	9.4	A	0.01	9.6	A
	EB-L	0.01	31.9	D	0.01	48.4	E	0.02	41.0	E	0.01	53.0	F
	EB-T	0.02	36.9	E	0.08	79.9	F	0.03	52.4	F	0.09	90.6	F
	WB-LT	0.10	33.1	D	0.11	56.3	F	0.15	50.5	F	0.13	63.9	F
	WB-TR	0.01	10.6	B	0.03	17.0	C	0.01	11.6	B	0.03	18.0	C
Dana Road & Walker Road	NB-LR	0.09	10.5	B	0.04	10.5	B	0.25	12.4	B	0.14	11.9	B
	WB-LT	0.00	8.3	A	0.01	7.8	A	0.00	8.7	A	0.01	7.9	A
Old Saw Mill River Road and Saw Mill River Road (Rt. 9A) SB Ramps	NB-L	0.78	85.3	F	0.99	145.4	F	1.10	>150	F	>1.50	>150	F
	NB-R	0.20	16.3	C	0.28	15.7	C	0.26	20.4	C	0.28	15.8	C
	WB-L	0.15	11.3	B	0.17	11.2	B	0.19	12.8	B	0.43	14.0	B
Grasslands Road (Route 100C) (E-W) and Saw Mill River Road NB Ramps (N-S)	NB-LT	0.06	25.7	D	0.05	25.0	C	0.07	30.5	D	0.08	37.4	E
	NB-TR	0.07	13.7	B	0.16	14.2	B	0.63	32.1	D	0.19	14.5	B
	EB-L	0.21	10.1	B	0.17	10.5	B	0.21	10.2	B	0.24	13.5	B
Grasslands Road (Route 100C) @ Virginia Road	SB-LT	0.23	8.3	A	0.36	10.3	B	0.24	8.4	A	0.57	12.8	B
	WB-LR	0.55	16.6	C	1.23	>150	F	0.81	27.3	D	>1.50	>150	F

TABLE 5.21-11. 2008 FUTURE WITHOUT THE PROJECT VS. 2008 COMBINED CONSTRUCTION OPTION B TRAFFIC CONDITIONS

UNSIGNALIZED INTERSECTIONS	LANE GROUP	2008 FUTURE WITHOUT THE PROJECT						2008 CONSTRUCTION					
		WEEKDAY AM PEAK HOUR			WEEKDAY PM PEAK HOUR			WEEKDAY AM PEAK			WEEKDAY PM PEAK		
		V/C RATIO	DELAY (SEC/VEH)	LOS	V/C RATIO	DELAY (SEC/VEH)	LOS	V/C RATIO	DELAY (SEC/ VEH)	LOS	V/C RATIO	DELAY (SEC/ VEH)	LOS
Grasslands Road (Route 100C) @ Legion Drive	SB-L	0.42	29.8	D	1.27	>150	F	0.58	50.3	F	>1.50	>150	F
	SB-R	0.20	12.1	B	0.47	19.7	C	0.26	15.3	C	0.47	20.1	C
	EB-LT	0.07	8.5	A	0.24	10.7	B	0.08	9.3	A	0.24	10.8	B
Grasslands Road (Route 100C) @ WCC West Gate	NB-L	0.06	20.5	C	0.26	50.2	F	0.24	84.1	F	1.04	>150	F
	NB-R	0.01	13.7	B	0.49	18.4	C	0.04	36.0	E	0.56	22.1	C
	WB-LT	0.00	9.9	A	0.12	9.1	A	0.01	16.3	C	0.13	9.5	A
Old Saw Mill River Road @ Landmark East Driveway	NB-LTR	0.07	17.5	C	0.11	30.0	D	0.09	21.0	C	0.14	39.2	E
	SB-LTR	0.01	10.3	B	0.07	17.4	C	0.01	10.3	B	0.09	21.4	C
	EB-LTR	0.01	8.1	A	0.01	8.7	A	0.01	8.1	A	0.01	9.2	A
	WB-LTR	0.02	10.2	B	0.01	9.2	A	0.02	11.0	B	0.01	9.2	A

ABBREVIATIONS:

EB-Eastbound, WB-Westbound, NB-Northbound, SB-Southbound

L-Left, T-Through, R-Right, E-W: East-West Roadway, N-S: North-South Roadway

V/C Ratio - Volume to Capacity Ratio

SEC/VEH - Seconds per Vehicle

LOS - Level of Service

--- HCS results not provided for given lane group

- Knollwood Road (Route 100A)/Cross Westchester Expressway (I-287) Westbound Ramp Intersection. During the PM peak hour, the northbound left-turn movement would deteriorate from LOS D to LOS E, with delays increasing from 52.6 to 58.2 seconds.

- Saw Mill River Road (Route 9A)/Tarrytown-White Plains Road (Route 119) Intersection. During the AM peak hour, the eastbound left-turn movement would deteriorate from LOS E to LOS F, with delays increasing from 66.8 to 113.5 seconds. During the PM peak hour, the eastbound left-turn movement would deteriorate from LOS E to LOS F, with delays increasing from 76.6 to 83.3 seconds.

- Old Saw Mill River Road/Saw Mill River Parkway Southbound Off-Ramp Intersection. During the PM peak hour, the eastbound approach would deteriorate from LOS E to LOS F, with delays increasing from 70.0 to 83.6 seconds.

- Grasslands Road (Route 100C)/Clearbrook Road/Walker Road Intersection. During the AM peak hour, the southbound left/through land group would deteriorate from LOS C to LOS D, with delays increasing from 33.8 to 48.5 seconds. During the PM peak hour, the westbound left-turn movement would remain at LOS F, with delays of more than 150 seconds, and the westbound through/right land group would deteriorate from LOS B to LOS E, with delays increasing from 16.7 to 79.6 seconds.

- Grasslands Road (Route 100C)/Sprain Brook Parkway Southbound Ramp Intersection. During the AM peak hour, the southbound left-turn movement would deteriorate from LOS C to LOS D, with delays increasing from 34.0 to 53.9 seconds.

- Grasslands Road (Route 100C)/Sprain Brook Parkway Northbound Ramp Intersection. During the AM peak hour, the northbound right-turn movement would deteriorate from LOS E to LOS F, with delays increasing from 74.8 seconds to greater than 150 seconds. During the PM peak hour, the westbound approach would deteriorate from LOS E to LOS F, with delays increasing from 67.9 seconds to well above 150 seconds.

- Virginia Road/Bronx River Parkway Intersection. During the AM peak hour, the eastbound left/through lane group would remain at LOS F, with delays increasing from 126.9 to 145.7 seconds, and the northbound left-turn movement would deteriorate from LOS D to LOS E, with delays increasing from 46.3 to 59.8 seconds. During the PM peak hour, the eastbound left/through lane group would remain at LOS F, with delays increasing from 139.6 seconds to greater than 150 seconds, and the westbound approach would remain at LOS F, with delays of more than 150 seconds.

- Grasslands Road (Route 100)/Westchester Community College East Gate Intersection. During the AM peak hour, the northbound left-turn movement would remain at LOS D, with delays increasing from 45.8 to 52.0 seconds. During the PM peak hour, the northbound left-turn movement would deteriorate from LOS C to LOS F, with delays increasing from 30.6 seconds to well above 150 seconds.

Potential Adverse Impacts Occurring at Unsignalized Intersections

- Saw Mill River Road (Route 9A)/Stevens Avenue North Intersection. During the AM peak hour, the eastbound approach would deteriorate from LOS D to LOS E, with delays increasing from 35.0 to 40.6 seconds.

- Saw Mill River Road (Route 9A)/Ramada Inn/Broadway Plaza Intersection. During the AM peak hour, the eastbound left-turn movement would deteriorate from LOS D to LOS E, with delays increasing from 31.9 to 41.0 seconds, the eastbound through movement would deteriorate from LOS E to LOS F, with delays increasing from 36.9 to 52.4 seconds, and the westbound left/through land group would deteriorate from LOS D to LOS F, with delays increasing from 33.1 to 50.5 seconds. During the PM peak hour, the eastbound left-turn movement would deteriorate from LOS E to LOS F, with delays increasing from 48.4 to 53.0 seconds, the eastbound through movement would remain at LOS F, with delays increasing from 79.9 to 90.6 seconds, and the westbound left/through land group would remain at LOS F, with delays increasing from 56.3 to 63.9 seconds.

- Old Saw Mill River Road/Saw Mill River Road (Rt. 9A) SB Ramps Intersection. During the AM peak hour, the northbound left-turn movement would remain at LOS F, with delays increasing from 85.3 to 195.5 seconds. During the PM peak hour, the northbound left-turn movement would remain at LOS F, with delays increasing from 145.4 seconds to much greater than 150 seconds.

- Grasslands Road (Route 100C)/Saw Mill River Road (Route 9A) Northbound Ramp Intersection. During the AM peak hour, the northbound through/right lane group would deteriorate from LOS B to LOS D, with delays increasing from 13.7 to 32.1 seconds. During the PM peak hour, the northbound left/through lane group would deteriorate from LOS C to LOS E, with delays increasing from 25.0 to 37.4 seconds.

- Grasslands Road (Route 100)/Virginia Road Intersection. During the PM peak hour, the westbound approach would remain at LOS F, with delays of more than 150 seconds.

- Grasslands Road (Route 100)/Legion Drive intersection. During the AM peak hour, the southbound left-turn movement would deteriorate from LOS D to LOS F, with delays increasing from 29.8 to 50.3 seconds. During the PM peak hour, the southbound left-turn movement would remain at LOS F, with delays of more than 150 seconds.

- Grasslands Road (Route 100)/Westchester Community College East Gate Intersection. During the AM peak hour, the northbound left-turn movement would deteriorate from LOS C to LOS F, with delays increasing from 20.5 to 84.1 seconds, and the northbound right-turn movement would deteriorate from LOS B to LOS E, with delays increasing from 13.7 to 36.0 seconds. During the PM peak hour, the northbound left-turn movement would remain at LOS F, with delays increasing from 50.2 to well above 150 seconds.

- Old Saw Mill River Road/Landmark at Eastview East Driveway Intersection. During the PM peak hour, the northbound approach would deteriorate from LOS D to LOS E, with delays increasing from 30.0 to 39.2 seconds.

Although these impacts would not be permanent, because they are construction-related, measures have been identified that would mitigate the construction-related potential adverse traffic impacts predicted to occur under 2008 Combined Construction Option B conditions. A description of the measures, and an analysis showing the resulting effects of implementing the measures suggested as mitigation for these impacts, are fully discussed below, in Section 5.21.4, Mitigation of Potential Combined Impacts.

Parking. Nearly the entire Eastview construction site would be unavailable for construction worker parking because of the concurrent construction of the Croton project and Cat/Del UV Facility under 2008 Combined Construction Option B conditions. As discussed in Section 4.9, Data Collection and Impact Methodologies, Traffic and Transportation, an off-site parking facility has been identified at the WCC Campus for construction vehicles and workers during combined project construction, under Option B conditions. Based on the transportation data and planning assumptions presented in Section 4.9, this off-site parking facility would need to accommodate 543 construction worker vehicles from the Croton project's constructions, as well as 400 worker vehicles related to the concurrent construction of the Cat/Del UV Facility. It is anticipated that this off-site parking facility would be able to accommodate these parked vehicles; therefore, no temporary adverse parking impacts are anticipated to occur to the public and private parking facilities in the vicinity of the Eastview Site under 2008 Combined Construction Option B conditions.

Safety. The combined construction activities would increase the study area traffic volumes by 1 to 40 percent at key study area intersections during peak-hour operating conditions. This projected traffic growth can be anticipated to translate to between 1 and 15 additional accidents per year along the roadway corridors during the construction period.

Transit. The combined construction of the Croton project and Cat/Del UV Facility under 2008 Construction Option B conditions is not anticipated to generate any considerable transit ridership. In addition because of the low generation of trips from the existing Bee Line Bus Facility during the combined peak construction hours, the combined construction of the Croton project and Cat/Del UV Facility would not impact bus operations. Therefore, no adverse transit-related impacts would be anticipated to occur under 2008 Construction conditions.

Pavement Infrastructure. Roadway pavements deteriorate with traffic loads, environmental conditions and time. Highways are typically able to carry higher traffic loads than arterials and other lower volume roadways. The principal measure of traffic loading is "equivalent 18,000 pounds single axle loads" (18 kip Equivalent Single Axle Load [ESAL]) over the useful life of the pavement, typically 20 years. As these loads are applied over time, the pavement's serviceability declines to the point where it must be repaired. Different types of trucks affect pavement differently. Trucks that have concentrated wheel loads (*e.g.,* full concrete trucks) would cause worse pavement effects than a flat-bed tractor-trailer combination carrying steel reinforcing rods. Highways can have design loads of 10,000,000 to 80,000,000 (or more)

ESAL, arterials generally between 2,000,000 to 5,000,000 ESAL and low-volume roadways 50,000 to 500,000 ESAL (or more).

The combined construction of the proposed Croton project and Cat/Del UV Facility is anticipated to generate a total of approximately 199,382 entering/exiting truck trips over the approximately four and one-half-year construction period, anticipated to run from April 2005 through September 2009. These truck trips equate to a total of approximately 135,580 ESAL inbound and 135,580 ESAL outbound, over the duration of combined construction for the proposed Croton project and Cat/Del UV Facility. This would translate to a predicted truck load over the duration of construction of approximately 271,160 ESAL on the proposed truck routes to and from the site (e.g., about 80 percent of the trips using Grasslands Road to Route 9A – 216,930 EASL, and about 20 percent of the trips using Knollwood Road to Route 119 – 54,230 ESAL). The peak construction truck generation is anticipated to occur in 2007, when the combined construction of the Croton project and Cat/Del UV Facility would generate an annual total of approximately 61,160 entering/exiting truck trips. These truck trips translate to a total of approximately 41,600 ESAL inbound and 41,600 ESAL outbound, in 2007. Comparing the predicted truck loads with the range of designed loads for arterial roadways, the anticipated loads generated from the combined construction of the proposed Croton project and Cat/Del UV Facility would represent between 5.4 and 13.6 percent of the design load of an arterial roadway. However, this trucking activity would be temporary and would not be an adverse impact.

5.21.3.1.3. Option C – Parking at both the Landmark Property and the WCC Campus

The traffic generated by the concurrent construction of the Croton project and Cat/Del UV Facility on the site for Option C is shown in Figures 5.21-18 and 5.21-19, for the AM and PM peak hours, respectively. Figures 5.21-20 and 5.21-21 show the total resulting 2008 Combined Construction Option C traffic volumes. Table 5.21-12 shows a comparison of the results of the HCM analyses for the 2008 Future Without the Project conditions and the 2008 Combined Construction (Option C) conditions.

Option C Traffic. The following is a summary of the potential temporary adverse impacts that have been identified during 2008, associated with the combined effects of the Croton project's peak construction activities and the Cat/Del UV Facility construction at the Eastview Site under worker parking Option C conditions. There would be a total of 33 potential temporary adverse impacts at intersections in the primary study area under 2008 Combined Construction Option C conditions (15 at signalized intersections, 5 during the AM peak hour and 10 during the PM peak hour, and 18 at unsignalized intersections, 9 during the AM peak hour and 9 during the PM peak hour).

Potential Adverse Impacts Occurring at Signalized Intersections

- Saw Mill River Road (Route 9A)/Saw Mill River Parkway Ramp Intersection. During the PM peak hour, the southbound through/right movement would deteriorate from LOS D to LOS E, with delays increasing from 54.3 to 58.5 seconds.

TABLE 5.21-12. 2008 FUTURE WITHOUT THE PROJECT VS. 2008 COMBINED CONSTRUCTION OPTION C TRAFFIC CONDITIONS

SIGNALIZED INTERSECTIONS	LANE GROUP	2008 FUTURE WITHOUT THE PROJECT						2008 CONSTRUCTION					
		WEEKDAY AM PEAK HOUR			WEEKDAY PM PEAK HOUR			WEEKDAY AM PEAK			WEEKDAY PM PEAK		
		V/C RATIO	DELAY (SEC/VEH)	LOS	V/C RATIO	DELAY (SEC/VEH)	LOS	V/C RATIO	DELAY (SEC/ VEH)	LOS	V/C RATIO	DELAY (SEC/ VEH)	LOS
Saw Mill River Road (Rt. 9A) (N-S) at Saw Mill River Pkwy Ramps to Exec Park	EB – L	0.64	31.6	C	0.52	29.3	C	0.64	31.6	C	0.52	29.3	C
	EB – LTR	0.14	25.0	C	0.14	25.8	C	0.14	25.0	C	0.14	25.8	C
	WB – L	0.14	32.4	C	0.14	34.1	C	0.14	32.4	C	0.14	34.1	C
	WB – LT	0.10	32.1	C	0.09	33.8	C	0.10	32.1	C	0.09	33.8	C
	WB - R	0.02	31.6	C	0.04	33.6	C	0.02	31.6	C	0.04	33.6	C
	NB-L	0.18	14.1	B	0.81	31.5	C	0.20	14.3	B	0.81	31.6	C
	NB-TR	0.31	14.8	B	0.55	15.4	B	0.34	15.0	B	0.61	16.2	B
	SB-L	0.05	13.0	B	0.13	21.4	C	0.05	13.0	B	0.14	21.6	C
	SB-TR	0.54	17.1	B	0.98	54.3	D	0.60	17.9	B	1.00	58.5	E
	Intersection		**19.5**	**B**		**33.7**	**C**		**19.7**	**B**		**35.1**	**D**
Grasslands Road (Route 100C) (E-W) at Bradhurst Avenue	EB - L	0.71	36.6	D	>1.50	>150	F	0.82	48.0	D	>1.50	>150	F
	EB - T	1.03	75.1	E	0.59	22.3	C	>1.50	>150	F	0.65	23.9	C
	EB - R	0.35	16.3	B	0.27	12.1	B	0.36	16.5	B	0.29	12.3	B
	WB-L	0.68	56.6	E	0.22	18.0	B	0.68	56.6	E	0.28	18.7	B
	WB-TR	0.43	25.8	C	0.98	55.5	E	0.50	26.9	C	1.48	>150	F
	NB - L	0.23	23.3	C	0.87	58.7	E	0.26	23.8	C	0.90	64.9	E
	NB - TR	0.34	25.9	C	0.20	16.3	B	0.35	26.1	C	0.20	16.3	B
	SB - L	0.50	40.1	D	0.30	25.1	C	0.51	40.5	D	0.30	25.1	C
	SB - TR	0.68	49.7	D	1.12	109.2	F	0.68	49.7	D	1.12	109.2	F
	Intersection		**45.2**	**D**		**70.0**	**E**		**147.5**	**F**		**137.0**	**F**
Knollwood Road (E-W) at Cross Westchester Expwy (I-287) WB ramps	WB-LT	0.46	27.6	C	0.79	39.0	D	0.46	27.6	C	0.79	39.0	D
	WB-R	0.24	25.4	C	0.45	27.6	C	0.25	25.5	C	0.45	27.6	C
	NB-L	0.50	9.8	A	0.95	52.6	D	0.51	10.0	A	0.97	58.2	E
	NB-T	0.51	10.3	B	0.52	10.5	B	0.53	10.6	B	0.53	10.6	B
	SB-T	0.30	13.4	B	0.44	14.8	B	0.31	13.5	B	0.46	15.0	B
	SB-R	0.13	12.1	B	0.23	12.8	B	0.14	12.2	B	0.23	12.9	B
	Intersection		**14.4**	**B**		**26.7**	**C**		**14.5**	**B**		**27.7**	**C**
Knollwood Road (E-W) at Cross Westchester Expwy (I-287) EB ramps	EB-L	0.67	32.7	C	0.48	24.4	C	0.68	32.9	C	0.48	24.5	C
	EB-TR	0.01	23.6	C	0.00	20.0	C	0.01	23.6	C	0.00	20.0	C
	EB-R	0.58	30.0	C	0.77	34.2	C	0.58	30.0	C	0.77	34.2	C
	NB-T	0.49	15.3	B	0.86	31.6	C	0.51	15.5	B	0.87	32.4	C
	NB-R	0.52	15.9	B	0.62	20.9	C	0.52	15.9	B	0.62	20.9	C
	SB-L	0.39	9.8	A	0.79	29.3	C	0.40	10.0	A	0.81	31.3	C
	SB-T	0.29	8.4	A	0.65	15.4	B	0.30	8.5	A	0.66	15.8	B
	Intersection		**18.6**	**B**		**25.6**	**C**		**18.6**	**B**		**26.0**	**C**
Tarrytown/White Plains Rd. (E-W) WB Ramps at Knollwood Road (Rt. 100A)	WB-LT	0.14	24.6	C	0.35	26.4	C	0.14	24.6	C	0.35	26.4	C
	WB-R	0.51	28.3	C	0.96	64.3	E	0.51	28.3	C	0.97	65.9	E
	NB-LT	0.40	10.1	B	0.60	12.6	B	0.41	10.2	B	0.60	12.6	B
	SB-T	0.20	15.3	B	0.43	17.4	B	0.20	15.3	B	0.44	17.4	B
	SB-R	0.19	15.3	B	0.47	18.0	B	0.20	15.4	B	0.48	18.2	B
	Intersection		**15.5**	**B**		**25.0**	**C**		**15.5**	**B**		**25.4**	**C**

TABLE 5.21-12. 2008 FUTURE WITHOUT THE PROJECT VS. 2008 COMBINED CONSTRUCTION OPTION C TRAFFIC CONDITIONS

SIGNALIZED INTERSECTIONS	LANE GROUP	2008 FUTURE WITHOUT THE PROJECT						2008 CONSTRUCTION					
		WEEKDAY AM PEAK HOUR			WEEKDAY PM PEAK HOUR			WEEKDAY AM PEAK			WEEKDAY PM PEAK		
		V/C RATIO	DELAY (SEC/VEH)	LOS	V/C RATIO	DELAY (SEC/VEH)	LOS	V/C RATIO	DELAY (SEC/ VEH)	LOS	V/C RATIO	DELAY (SEC/ VEH)	LOS
Knollwood Rd. (Rt 100A) at Tarrytown White Plains Rd. (Rt. 119) EB Ramps	EB – LT	0.71	34.2	C	0.78	38.4	D	0.73	35.1	D	0.79	38.7	D
	EB – R	0.16	24.8	C	0.35	26.5	C	0.16	24.8	C	0.35	26.5	C
	NB-TR	0.40	20.1	C	0.41	20.3	C	0.41	20.2	C	0.41	20.3	C
	SB-L	0.31	11.9	B	0.47	14.7	B	0.32	12.1	B	0.48	14.8	B
	SB-T	0.28	9.2	A	0.54	11.8	B	0.28	9.2	A	0.55	11.9	B
	Intersection		**20.4**	**C**		**21.1**	**C**		**20.8**	**C**		**21.2**	**C**
Saw Mill River Rd. (Rt 9A) at Cross Westchester Expwy (I-287) WB Ramps	WB-L	1.09	97.9	F	0.74	38.2	D	1.09	97.9	F	0.74	38.2	D
	WB-R	0.48	27.5	C	0.42	20.4	C	0.62	29.9	C	0.44	20.6	C
	NB-LTR	0.36	8.9	A	0.69	22.8	C	0.43	9.4	A	0.76	25.7	C
	SB-TR	0.47	9.7	A	0.85	22.5	C	0.51	10.2	B	0.96	33.6	C
	Intersection		**34.3**	**C**		**24.4**	**C**		**33.5**	**C**		**30.4**	**C**
Saw Mill River Road (Rt 9A) and Cross Westchester Exp (I-287) EB Ramps	NB-TR	0.31	12.3	B	0.89	34.7	C	0.36	12.8	B	0.90	36.4	D
	SB-L	0.50	1.7	A	0.74	23.2	C	0.55	3.6	A	0.82	28.3	C
	SB-LT	0.16	0.2	A	0.53	0.5	A	0.17	0.2	A	0.58	0.6	A
	Intersection		**5.0**	**A**		**17.5**	**B**		**6.0**	**A**		**18.7**	**B**
Saw Mill River Rd. (Rt. 9A) at Tarrytown White Plains Rd. (Rt. 119)	EB-L	0.97	66.8	E	0.99	76.6	E	1.12	113.5	F	1.02	83.2	F
	EB-TR	0.38	14.5	B	0.46	20.2	C	0.38	14.5	B	0.46	20.2	C
	WB-L	0.17	22.3	C	0.42	34.4	C	0.17	22.3	C	0.42	34.4	C
	WB-TR	0.30	23.5	C	0.88	48.6	D	0.31	23.6	C	0.89	49.3	D
	NB-L	0.38	34.2	C	0.30	25.0	C	0.39	34.4	C	0.34	25.8	C
	NB-TR	0.62	40.3	D	0.82	41.0	D	0.72	44.9	D	0.83	42.1	D
	SB-L	0.24	33.9	C	0.54	35.0	C	0.29	36.6	D	0.57	36.4	D
	SB-T	0.42	34.9	C	0.26	22.8	C	0.44	35.3	D	0.34	23.8	C
	SB-R	0.23	22.1	C	0.39	11.0	B	0.24	22.2	C	0.43	11.3	B
	Intersection		**31.8**	**C**		**35.0**	**C**		**42.3**	**D**		**35.8**	**D**
Saw Mill River Rd. (Rt. 9A) at Hunter Lane	EB – LTR	0.01	29.1	C	0.01	32.9	C	0.01	29.1	C	0.01	32.9	C
	WB – LT	0.31	32.4	C	0.81	56.6	E	0.31	32.4	C	0.81	56.6	E
	W-R	0.01	18.7	B	0.07	22.9	C	0.01	18.7	B	0.07	22.9	C
	NB – LTR	0.64	21.3	C	0.69	19.4	B	0.81	27.0	C	0.71	20.1	C
	SB – LTR	0.67	14.5	B	0.73	13.3	B	0.78	18.3	B	0.86	19.4	B
	Intersection		**18.6**	**B**		**20.1**	**C**		**23.3**	**C**		**22.8**	**C**
Saw Mill River Rd. (Rt. 9A) at Dana Rd.	EB-LT	0.07	25.5	C	0.28	27.4	C	0.07	25.5	C	0.29	27.6	C
	EB-R	0.08	25.6	C	0.24	26.9	C	0.08	25.6	C	0.24	26.9	C
	WB-L	0.12	25.9	C	0.44	29.1	C	0.28	27.3	C	0.55	31.1	C
	WB-TR	0.06	25.4	C	0.40	28.4	C	0.15	26.1	C	0.42	28.7	C
	NB-L	0.12	30.5	C	0.39	32.7	C	0.12	30.5	C	0.39	32.7	C
	NB-TR	0.63	25.1	C	0.84	31.9	C	0.67	26.0	C	0.92	39.3	D
	SB-L	0.38	32.6	C	0.15	30.7	C	0.51	34.1	C	0.19	31.0	C
	SB-TR	0.59	24.1	C	0.74	27.7	C	0.62	24.6	C	0.74	27.8	C
	Intersection		**25.4**	**C**		**29.8**	**C**		**26.3**	**C**		**33.1**	**C**

TABLE 5.21-12. 2008 FUTURE WITHOUT THE PROJECT VS. 2008 COMBINED CONSTRUCTION OPTION C TRAFFIC CONDITIONS

SIGNALIZED INTERSECTIONS	LANE GROUP	2008 FUTURE WITHOUT THE PROJECT						2008 CONSTRUCTION					
		WEEKDAY AM PEAK HOUR			WEEKDAY PM PEAK HOUR			WEEKDAY AM PEAK			WEEKDAY PM PEAK		
		V/C RATIO	DELAY (SEC/VEH)	LOS	V/C RATIO	DELAY (SEC/VEH)	LOS	V/C RATIO	DELAY (SEC/ VEH)	LOS	V/C RATIO	DELAY (SEC/ VEH)	LOS
Saw Mill River Rd. at Saw Mill River Pkwy SB Off Ramp	EB-LT	0.87	28.2	C	1.04	70.0	E	0.90	31.7	C	1.08	86.1	F
	WB-TR	0.23	4.7	A	0.42	9.2	A	0.23	4.7	A	0.53	10.2	B
	SB-L	0.68	36.9	D	0.29	23.1	C	0.72	39.0	D	0.29	23.1	C
	SB-LR	0.16	28.2	C	0.21	22.6	C	0.16	28.2	C	0.21	22.6	C
	Intersection		**21.2**	**C**		**33.9**	**C**		**23.3**	**C**		**37.2**	**D**
Saw Mill River Rd. at Saw Mill River Pkwy NB Off Ramp	EB-T	0.48	17.5	B	0.41	13.3	B	0.50	17.7	B	0.41	13.3	B
	WB-T	0.19	7.7	A	0.28	4.2	A	0.20	7.8	A	0.36	4.5	A
	NB-LR	0.44	24.7	C	0.45	31.5	C	0.62	28.3	C	0.46	31.5	C
	NB-R	0.41	24.3	C	0.41	31.1	C	0.60	27.7	C	0.43	31.4	C
	Intersection		**16.5**	**B**		**12.0**	**B**		**18.5**	**B**		**11.4**	**B**
Grassland Rd. (Route 100 C) and Clearbrook Rd/Walker Road	EB-L	0.01	2.6	A	0.04	9.2	A	0.08	2.9	A	0.07	9.7	A
	EB-TR	0.37	3.8	A	0.73	17.2	B	0.50	4.4	A	0.99	43.7	D
	WB-L	0.38	4.0	A	1.40	>150	F	0.50	5.1	A	>1.50	>150	F
	WB-TR	0.39	3.9	A	0.70	16.7	B	0.63	5.8	A	0.92	30.5	C
	NB-LT	0.21	33.7	C	0.19	19.9	B	0.23	33.9	C	0.20	20.0	B
	SB-LT	0.21	33.8	C	0.23	20.3	C	0.44	36.4	D	0.29	20.9	C
	SB-R	0.00	32.2	C	0.01	18.5	B	0.00	32.2	C	0.04	18.7	B
	Intersection		**5.3**	**A**		**42.3**	**D**		**6.6**	**A**		**101.5**	**F**
Grassland Rd. (Route 100 C) at Woods Drive/Taylor Road	EB-L	0.28	7.5	A	0.33	13.8	B	0.38	13.5	B	0.37	17.6	B
	EB-TR	0.26	5.2	A	0.57	12.5	B	0.37	5.8	A	0.72	15.4	B
	WB-L	0.00	9.3	A	0.01	12.5	B	0.00	9.3	A	0.01	12.6	B
	WB-TR	0.57	14.1	B	0.73	21.2	C	0.76	18.2	B	0.86	27.0	C
	NB-LTR	0.01	32.9	C	0.01	24.6	C	0.01	32.9	C	0.01	24.6	C
	SB-LT	0.55	39.2	D	0.79	41.6	D	0.55	39.2	D	0.79	41.6	D
	SB-R	0.08	21.2	C	0.11	17.2	B	0.08	21.2	C	0.11	17.2	B
	Intersection		**12.8**	**B**		**19.6**	**B**		**14.9**	**B**		**22.8**	**C**
Grassland Rd. (Route 100C) at Sprain Brook Pkwy SB Ramps	EB-TR	0.27	7.5	A	0.67	11.7	B	0.36	8.1	A	0.83	16.0	B
	WB-T	0.32	7.8	A	0.52	9.5	A	0.41	8.5	A	0.63	10.9	B
	SB-L	0.55	34.0	C	0.17	29.6	C	0.71	39.7	D	0.18	29.7	C
	SB-R	0.32	31.0	C	0.12	29.2	C	0.57	34.8	C	0.14	29.3	C
	Intersection		**13.1**	**B**		**11.5**	**B**		**15.1**	**B**		**14.4**	**B**
Grassland Rd. (Route 100C) at Sprain Brook Pkwy NB Ramps	EB-L	0.09	14.7	B	0.50	15.4	B	0.12	15.3	B	0.80	32.8	C
	EB-T	0.50	18.0	B	0.32	9.0	A	0.72	22.2	C	0.35	9.2	A
	WB-TR	0.47	24.6	C	1.06	67.9	E	0.53	25.6	C	1.38	>150	F
	NB-LT	1.00	68.7	E	0.69	29.4	C	1.32	>150	F	0.71	30.0	C
	NB-R	1.02	74.8	E	0.35	23.1	C	1.27	>150	F	0.37	23.2	C
	Intersection		**44.0**	**D**		**42.6**	**D**		**93.0**	**F**		**116.2**	**F**

TABLE 5.21-12. 2008 FUTURE WITHOUT THE PROJECT VS. 2008 COMBINED CONSTRUCTION OPTION C TRAFFIC CONDITIONS

SIGNALIZED INTERSECTIONS	LANE GROUP	2008 FUTURE WITHOUT THE PROJECT						2008 CONSTRUCTION					
		WEEKDAY AM PEAK HOUR			WEEKDAY PM PEAK HOUR			WEEKDAY AM PEAK			WEEKDAY PM PEAK		
		V/C RATIO	DELAY (SEC/VEH)	LOS	V/C RATIO	DELAY (SEC/VEH)	LOS	V/C RATIO	DELAY (SEC/ VEH)	LOS	V/C RATIO	DELAY (SEC/ VEH)	LOS
Virginia Road @ Bronx River Pkwy Westbound	EB-LT	1.12	126.9	F	1.16	139.6	F	1.17	148.9	F	1.32	>150	F
	EB-R	0.21	19.6	B	0.39	34.6	C	0.22	19.7	B	0.53	36.9	D
	WB-LTR	0.40	34.6	C	1.26	>150	F	0.44	35.2	D	>1.50	>150	F
	NB-L	0.04	46.3	D	0.06	10.9	B	0.36	49.2	D	0.06	11.0	B
	NB-TR	0.26	20.1	C	0.62	25.3	C	0.26	20.1	C	0.62	25.3	C
	SB-L	1.10	141.5	F	0.13	11.7	B	1.10	141.5	F	0.13	11.7	B
	SB-T	0.70	27.3	C	0.59	24.7	C	0.70	27.3	C	0.59	24.7	C
	Intersection		**53.9**	**D**		**61.7**	**E**		**57.0**	**E**		**87.5**	**F**
Grassland Road (Route 100C) @ WCC East Gate	EB-T	0.41	7.7	A	0.72	16.6	B	0.41	7.7	A	0.73	17.0	B
	WB-L	0.26	5.2	A	0.21	11.1	B	0.39	6.1	A	0.23	11.3	B
	WB-T	0.24	3.2	A	0.58	7.9	A	0.24	3.2	A	0.58	7.9	A
	NB-L	0.07	45.8	D	0.62	30.6	C	0.31	47.8	D	>1.50	>150	F
	Intersection		**6.3**	**A**		**14.5**	**B**		**8.2**	**A**		**132.3**	**F**
Old Saw Mill River Road @ Landmark West Driveway	EB-LTR	0.74	8.7	A	0.57	6.0	A	0.81	10.8	B	0.58	6.0	A
	WB-LTR	0.26	4.1	A	0.43	4.9	A	0.26	4.1	A	0.43	4.9	A
	NB-LTR	0.02	21.0	C	0.08	21.2	C	0.04	21.1	C	0.50	24.5	C
	SB-LTR	0.04	21.1	C	0.03	21.0	C	0.04	21.1	C	0.03	21.0	C
	Intersection		**7.7**	**A**		**5.8**	**A**		**9.4**	**A**		**7.1**	**A**

TABLE 5.21-12. 2008 FUTURE WITHOUT THE PROJECT VS. 2008 COMBINED CONSTRUCTION OPTION C TRAFFIC CONDITIONS

UNSIGNALIZED INTERSECTIONS	LANE GROUP	2008 FUTURE WITHOUT THE PROJECT						2008 CONSTRUCTION					
		WEEKDAY AM PEAK HOUR			WEEKDAY PM PEAK HOUR			WEEKDAY AM PEAK			WEEKDAY PM PEAK		
		V/C RATIO	DELAY (SEC/VEH)	LOS	V/C RATIO	DELAY (SEC/VEH)	LOS	V/C RATIO	DELAY (SEC/ VEH)	LOS	V/C RATIO	DELAY (SEC/ VEH)	LOS
Sprain Parkway SB On Ramps (N-S) at Broadway (Rt. 9A)/Bradhurst Ave.	WB-LT	0.12	10.6	B	0.19	9.5	A	0.12	10.8	B	0.20	9.9	A
Saw Mill River Road (Rt. 9A) (N-S) at Beverly Road	NB-LT	0.01	10.3	B	0.03	13.1	B	0.01	10.6	B	0.03	13.2	B
	EB-LR	0.07	21.1	C	0.05	29.7	D	0.08	23.0	C	0.06	31.9	D
Saw Mill River Road (Rt. 9A) and Stevens Avenue North	NB-LT	0.02	10.9	B	0.01	9.8	A	0.02	11.3	B	0.01	9.8	A
	SB-LT	0.03	9.2	A	0.02	10.5	B	0.03	9.3	A	0.02	10.9	B
	EB-LTR	0.02	35.0	D	0.13	24.1	C	0.03	40.6	E	0.14	25.9	D
	WB-LTR	0.03	16.7	C	0.07	15.7	C	0.04	18.1	C	0.08	16.7	C
Saw Mill River Road (Rt. 9A) and Stevens Avenue South	SB-LT	0.00	8.8	A	0.00	10.4	B	0.00	8.9	A	0.00	10.8	B
	WB-LR	0.03	21.4	C	0.14	34.0	D	0.03	23.5	C	0.16	38.3	E
Bradhurst Ave and Lakeview Ave	SB-LT	0.02	8.2	A	0.01	8.1	A	0.02	8.2	A	0.01	8.1	A
	WB-LR	0.26	15.1	C	0.45	18.8	C	0.26	15.1	C	0.45	18.8	C
Knollwood Road (Rt 100A) and Hevelyne Road	NB-LT	0.01	8.3	A	0.00	8.0	A	0.01	8.3	A	0.00	8.0	A
	EB-LR	0.03	13.1	B	0.01	10.9	B	0.03	13.5	B	0.01	11.1	B
Saw Mill River Road (Rt 9A) and Ramada Inn/Broadway Plaza	NB-L	0.09	10.0	A	0.15	10.3	B	0.15	10.6	B	0.16	10.5	B
	SB-LT	0.01	8.7	A	0.01	9.4	A	0.02	9.3	A	0.01	9.6	A
	EB-L	0.01	31.9	D	0.01	48.4	E	0.02	47.4	E	0.01	53.0	F
	EB-T	0.02	36.9	E	0.08	79.9	F	0.03	58.7	F	0.09	90.6	F
	WB-LT	0.10	33.1	D	0.11	56.3	F	0.17	57.7	F	0.13	63.9	F
	WB-TR	0.01	10.6	B	0.03	17.0	C	0.01	11.4	B	0.03	18.0	C
Dana Road & Walker Road	NB-LR	0.09	10.5	B	0.04	10.5	B	0.25	12.2	B	0.14	11.9	B
	WB-LT	0.00	8.3	A	0.01	7.8	A	0.00	8.6	A	0.01	7.9	A
Old Saw Mill River Road and Saw Mill River Road (Rt. 9A) SB Ramps	NB-L	0.78	85.3	F	0.99	145.4	F	>1.50	>150	F	>1.50	>150	F
	NB-R	0.20	16.3	C	0.28	15.7	C	0.24	19.1	C	0.44	26.2	D
	WB-L	0.15	11.3	B	0.17	11.2	B	0.17	12.3	B	0.45	18.7	C
Grasslands Road (Route 100C) (E-W) and Saw Mill River Road NB Ramps (N-S)	NB-LT	0.06	25.7	D	0.05	25.0	C	0.51	64.4	F	0.11	45.0	E
	NB-TR	0.07	13.7	B	0.16	14.2	B	0.34	19.6	C	0.25	19.9	C
	EB-L	0.21	10.1	B	0.17	10.5	B	0.28	12.4	B	0.27	12.7	B
Grasslands Road (Route 100C) @ Virginia Road	SB-LT	0.23	8.3	A	0.36	10.3	B	0.24	8.4	A	0.47	11.4	B
	WB-LR	0.55	16.6	C	1.23	>150	F	0.69	20.6	C	>1.50	>150	F

TABLE 5.21-12. 2008 FUTURE WITHOUT THE PROJECT VS. 2008 COMBINED CONSTRUCTION OPTION C TRAFFIC CONDITIONS

UNSIGNALIZED INTERSECTIONS	LANE GROUP	2008 FUTURE WITHOUT THE PROJECT						2008 CONSTRUCTION					
		WEEKDAY AM PEAK HOUR			WEEKDAY PM PEAK HOUR			WEEKDAY AM PEAK			WEEKDAY PM PEAK		
		V/C RATIO	DELAY (SEC/VEH)	LOS	V/C RATIO	DELAY (SEC/VEH)	LOS	V/C RATIO	DELAY (SEC/ VEH)	LOS	V/C RATIO	DELAY (SEC/ VEH)	LOS
Grasslands Road (Route 100C) @ Legion Drive	SB-L	0.42	29.8	D	1.27	>150	F	0.50	39.1	E	1.46	>150	F
	SB-R	0.20	12.1	B	0.47	19.7	C	0.23	13.7	B	0.47	19.9	C
	EB-LT	0.07	8.5	A	0.24	10.7	B	0.08	8.9	A	0.24	10.8	B
Grasslands Road (Route 100C) @ WCC West Gate	NB-L	0.06	20.5	C	0.26	50.2	F	0.12	38.9	E	0.54	136.4	F
	NB-R	0.01	13.7	B	0.49	18.4	C	0.02	21.2	C	0.53	20.5	C
	WB-LT	0.00	9.9	A	0.12	9.1	A	0.01	12.4	B	0.13	9.3	A
Old Saw Mill River Road @ Landmark East Driveway	NB-LTR	0.07	17.5	C	0.11	30.0	D	0.14	18.5	C	0.59	28.0	D
	SB-LTR	0.01	10.3	B	0.07	17.4	C	0.55	>150	F	>1.50	>150	F
	EB-LTR	0.01	8.1	A	0.01	8.7	A	0.02	8.6	A	0.01	8.7	A
	WB-LTR	0.02	10.2	B	0.01	9.2	A	0.28	12.1	B	0.03	9.3	A

ABBREVIATIONS:

EB-Eastbound, WB-Westbound, NB-Northbound, SB-Southbound

L-Left, T-Through, R-Right, E-W: East-West Roadway, N-S: North-South Roadway

V/C Ratio - Volume to Capacity Ratio

SEC/VEH - Seconds per Vehicle

LOS - Level of Service

--- HCS results not provided for given lane group

- Grasslands Road (Route 100C)/Bradhurst Avenue (Route 100) Intersection. During the AM peak hour, the eastbound through movement would remain at LOS F, with delays increasing from 75.1 to 311.2 seconds. During the PM peak hour, the westbound through/right lane group would deteriorate from LOS E to LOS F, with delays increasing from 55.5 seconds to greater than 150.0 seconds.

- Knollwood Road (Route 100A)/Cross Westchester Expressway (I-287) Westbound Ramp Intersection. During the PM peak hour, the northbound left-turn movement would deteriorate from LOS D to LOS E, with delays increasing from 52.6 to 58.2 seconds.

- Saw Mill River Road (Route 9A)/Tarrytown-White Plains Road (Route 119) Intersection. During the AM peak hour, the eastbound left-turn movement would deteriorate from LOS E to LOS F, with delays increasing from 66.8 to 113.5 seconds. During the PM peak hour, the eastbound left-turn movement would deteriorate from LOS E to LOS F, with delays increasing from 76.6 to 83.2 seconds.

- Old Saw Mill River Road/Saw Mill River Parkway Southbound Off-Ramp Intersection. During the PM peak hour, the eastbound approach would deteriorate from LOS E to LOS F, with delays increasing from 70.0 to 86.1 seconds.

- Grasslands Road (Route 100C)/Clearbrook Road/Walker Road Intersection. During the PM peak hour, the westbound left-turn movement would remain at LOS F, with delays of more than 150 seconds.

- Grasslands Road (Route 100C)/Sprain Brook Parkway Northbound Ramp Intersection. During the AM peak hour, the northbound left/through movement would deteriorate from LOS E to LOS F, with delays increasing from 68.7 to 187.6 seconds, and the northbound right-turn movement would deteriorate from LOS E to LOS F, with delays increasing from 74.8 to 165.4 seconds. During the PM peak hour, the westbound approach would deteriorate from LOS E to LOS F, with delays increasing from 67.9 to 199.0 seconds.

- Virginia Road/Bronx River Parkway Intersection. During the AM peak hour, the eastbound left/through lane group would remain at LOS F, with delays increasing from 126.9 to 148.9 seconds. During the PM peak hour, the eastbound left/through lane group would remain at LOS F, with delays increasing from 139.6 to 205.4 seconds, and the westbound approach would remain at LOS F, with delays of more than 150 seconds.

- Grasslands Road (Route 100)/Westchester Community College East Gate Intersection. During the PM peak hour, the northbound left-turn movement would deteriorate from LOS C to LOS F, with delays increasing from 30.6 seconds to well beyond 150 seconds.

Potential Adverse Impacts Occurring at Unsignalized Intersections

- Saw Mill River Road (Route 9A)/Stevens Avenue North Intersection. During the AM peak hour, the eastbound approach would deteriorate from LOS D to LOS E, with delays increasing from 35.0 to 40.6 seconds.

- Saw Mill River Road (Route 9A)/Ramada Inn/Broadway Plaza Intersection. During the AM peak hour, the eastbound left-turn movement would deteriorate from LOS D to LOS E, with delays increasing from 31.9 to 47.4 seconds, the eastbound through movement would deteriorate from LOS E to LOS F, with delays increasing from 36.9 to 58.7 seconds, and the westbound left/through lane group would deteriorate from LOS D to LOS F, with delays increasing from 33.1 to 57.7 seconds. During the PM peak hour, the eastbound left-turn movement would deteriorate from LOS E to LOS F, with delays increasing from 48.4 to 53.0 seconds, the eastbound through movement would remain at LOS F, with delays increasing from 79.9 to 90.6 seconds, and the westbound left/through land group would remain at LOS F, with delays increasing from 56.3 to 63.9 seconds.

- Old Saw Mill River Road/Saw Mill River Road (Rt. 9A) SB Ramps Intersection. During the AM peak hour, the northbound left-turn movement would remain at LOS F, with delays increasing from 85.3 seconds to well beyond 150 seconds. During the PM peak hour, the northbound left-turn movement would remain at LOS F, with delays increasing from 145.4 seconds to well beyond 150 seconds.

- Grasslands Road (Route 100C)/Saw Mill River Road (Route 9A) Northbound Ramp Intersection. During the AM peak hour, the northbound left/through lane group would deteriorate from LOS D to LOS F, with delays increasing from 25.7 to 64.4 seconds. During the PM peak hour, the northbound left/through lane group would deteriorate from LOS C to LOS E, with delays increasing from 25.0 to 45.0 seconds.

- Grasslands Road (Route 100)/Virginia Road Intersection. During the PM peak hour, the westbound approach would remain at LOS F, with delays of more than 150 seconds.

- Grasslands Road (Route 100)/Legion Drive intersection. During the AM peak hour, the southbound left-turn movement would deteriorate fro LOS D to LOS E, with delays increasing from 29.8 to 39.1 seconds. During the PM peak hour, the southbound left-turn movement would remain at LOS F, with delays of more than 150 seconds.

- Grasslands Road (Route 100)/Westchester Community College East Gate Intersection. During the AM peak hour, the northbound left-turn movement would deteriorate from LOS C to LOS E, with delays increasing from 20.5 to 39.8 seconds. During the PM peak hour, the northbound left-turn movement would remain at LOS F, with delays increasing from 50.2 to 136.4 seconds.

- Old Saw Mill River Road/Landmark at Eastview East Driveway Intersection. During the AM peak hour, the southbound approach would deteriorate from LOS B to LOS F, with delays increasing from 10.3 to 174.1 seconds. During the PM peak hour, the southbound

approach would deteriorate from LOS C to LOS F, with delays increasing from 17.4 seconds to well beyond 150 seconds.

Although these potential temporary adverse impacts would not be permanent, because they are construction-related, measures have been identified that would mitigate the construction-related potential temporary adverse traffic impacts predicted to occur under 2008 Combined Construction Option C conditions. A description of the measures, and an analysis showing the resulting effects of implementing the measures suggested as mitigation for these impacts, are fully discussed below, in Section 5.21.4, Mitigation of Potential Combined Impacts.

Parking. Nearly the entire Eastview construction site would be unavailable for construction worker parking because of the concurrent construction of the Croton project and Cat/Del UV Facility under 2008 Combined Construction Option C conditions. As discussed in Section 4.9, Data Collection and Impact Methodologies, Traffic and Transportation, two off-site parking facilities have been identified for construction vehicles and workers during project construction, under Combined Option C conditions. One facility is located at the Landmark at Eastview, west on the project site; the other is located at the WCC Campus, east of the project site. Based on the transportation data and planning assumptions presented in Section 4.9, these two off-site parking facilities would each need to accommodate half of the estimated 543 construction worker vehicles from the Croton project's constructions, as well as half of the estimated 400 worker vehicles related to the concurrent construction of the Cat/Del UV Facility. It is anticipated that these off-site parking facilities would be able to accommodate these parked vehicles, therefore; no temporary adverse parking impacts are anticipated to occur to the public and private parking facilities in the vicinity of the Croton project under 2008 Combined Construction Option C conditions.

Safety. The combined construction activities would increase the study area traffic volumes by 1 to 40 percent at key study area intersections during peak-hour operating conditions. This projected traffic growth can be anticipated to translate to between 1 and 15 additional accidents per year along the roadway corridors during the construction period.

Transit. The combined construction of the Croton project and Cat/Del UV Facility under 2008 Construction Option C conditions is not anticipated to generate any considerable transit ridership. In addition because of the low generation of trips from the Bee Line Bus Facility during the combined peak construction hours, the combined construction of the Croton project and Cat/Del UV Facility would not impact bus operations. Therefore, no adverse transit-related impacts would be anticipated to occur under 2008 Construction conditions.

Pavement Infrastructure. Roadway pavements deteriorate with traffic loads, environmental conditions and time. Highways are typically able to carry higher traffic loads than arterials and other lower volume roadways. The principal measure of traffic loading is "equivalent 18,000 pounds single axle loads" (18 kip Equivalent Single Axle Load [ESAL]) over the useful life of the pavement, typically 20 years. As these loads are applied over time, the pavement's serviceability declines to the point where it must be repaired. Different types of trucks affect pavement differently. Trucks that have concentrated wheel loads (*e.g.*, full concrete trucks) would cause worse pavement effects than a flat-bed tractor-trailer combination carrying

steel reinforcing rods. Highways can have design loads of 10,000,000 to 80,000,000 (or more) ESAL, arterials generally between 2,000,000 to 5,000,000 ESAL and low-volume roadways 50,000 to 500,000 ESAL (or more).

The combined construction of the proposed Croton project and Cat/Del UV Facility is anticipated to generate a total of approximately 199,382 entering/exiting truck trips over the approximately four and one-half-year construction period, anticipated to run from April 2005 through September 2009. These truck trips equate to a total of approximately 135,580 ESAL inbound and 135,580 ESAL outbound, over the duration of combined construction for the proposed Croton project and Cat/Del UV Facility. This would translate to a predicted truck load over the duration of construction of approximately 271,160 ESAL on the proposed truck routes to and from the site (e.g., about 80 percent of the trips using Grasslands Road to Route 9A – 216,930 EASL, and about 20 percent of the trips using Knollwood Road to Route 119 – 54,230 ESAL). The peak construction truck generation is anticipated to occur in 2007, when the combined construction of the Croton project and Cat/Del UV Facility would generate an annual total of approximately 61,160 entering/exiting truck trips. These truck trips translate to a total of approximately 41,600 ESAL inbound and 41,600 ESAL outbound, in 2007. Comparing the predicted truck loads with the range of designed loads for arterial roadways, the anticipated loads generated from the combined construction of the proposed Croton project and Cat/Del UV Facility would represent between 5.4 and 13.6 percent of the design load of an arterial roadway. However, this trucking activity would be temporary and would not be an adverse impact.

5.21.3.1.4. Option D – Parking at the Landmark Property and Home Depot Sites

The traffic generated by the concurrent construction of the Croton project and Cat/Del UV Facility on the site for Option D is shown in Figures 5.21-22 and 5.21-23, for the AM and PM peak hours, respectively. Figures 5.21-24 and 5.21-25 show the total resulting 2008 Combined Construction Option D traffic volumes. Table 5.21-13 shows a comparison of the results of the HCM analyses for the 2008 Future Without the Project conditions and the 2008 Combined Construction (Option D) conditions.

Option D Traffic. The following is a summary of the potential adverse impacts that have been identified during 2008, associated with the combined effects of the Croton project's peak construction activities and the Croton project construction at the Eastview Site under worker parking Option D conditions. There would be a total of 32 potential adverse impacts at intersections in the primary study area under 2008 Combined Construction Option D conditions (16 at signalized intersections, 4 during the AM peak hour and 12 during the PM peak hour, and 16 at unsignalized intersections, 6 during the AM peak hour and 10 during the PM peak hour).

Potential Adverse Impacts Occurring at Signalized Intersections

- Saw Mill River Road (Route 9A)/Saw Mill River Parkway Ramp Intersection. During the PM peak hour, the southbound through/right movement would deteriorate from LOS D to LOS E, with delays increasing from 54.3 to 58.5 seconds.

TABLE 5.21-13. 2008 FUTURE WITHOUT THE PROJECT VS. 2008 COMBINED CONSTRUCTION OPTION D TRAFFIC CONDITIONS

SIGNALIZED INTERSECTIONS	LANE GROUP	2008 FUTURE WITHOUT THE PROJECT						2008 CONSTRUCTION					
		WEEKDAY AM PEAK HOUR			WEEKDAY PM PEAK HOUR			WEEKDAY AM PEAK			WEEKDAY PM PEAK		
		V/C RATIO	DELAY (SEC/VEH)	LOS	V/C RATIO	DELAY (SEC/VEH)	LOS	V/C RATIO	DELAY (SEC/ VEH)	LOS	V/C RATIO	DELAY (SEC/ VEH)	LOS
Saw Mill River Road (Rt. 9A) (N-S) at Saw Mill River Pkwy Ramps to Exec Park	EB – L	0.64	31.6	C	0.52	29.3	C	0.64	31.6	C	0.52	29.3	C
	EB – LTR	0.14	25.0	C	0.14	25.8	C	0.14	25.0	C	0.14	25.8	C
	WB – L	0.14	32.4	C	0.14	34.1	C	0.14	32.4	C	0.14	34.1	C
	WB – LT	0.10	32.1	C	0.09	33.8	C	0.10	32.1	C	0.09	33.8	C
	WB - R	0.02	31.6	C	0.04	33.6	C	0.02	31.6	C	0.04	33.6	C
	NB-L	0.18	14.1	B	0.81	31.5	C	0.20	14.3	B	0.81	31.6	C
	NB-TR	0.31	14.8	B	0.55	15.4	B	0.34	15.0	B	0.61	16.3	B
	SB-L	0.05	13.0	B	0.13	21.4	C	0.05	13.0	B	0.14	21.6	C
	SB-TR	0.54	17.1	B	0.98	54.3	D	0.60	17.9	B	1.00	58.5	E
	Intersection		**19.5**	**B**		**33.7**	**C**		**19.7**	**B**		**35.1**	**D**
Grasslands Road (Route 100C) (E-W) at Bradhurst Avenue	EB - L	0.71	36.6	D	>1.50	>150	F	0.75	39.9	D	>1.50	>150	F
	EB - T	1.03	75.1	E	0.59	22.3	C	1.03	75.5	E	0.61	22.9	C
	EB - R	0.35	16.3	B	0.27	12.1	B	0.36	16.5	B	0.30	12.3	B
	WB-L	0.68	56.6	E	0.22	18.0	B	0.68	56.6	E	0.23	18.1	B
	WB-TR	0.43	25.8	C	0.98	55.5	E	0.45	26.2	C	0.98	55.9	E
	NB - L	0.23	23.3	C	0.87	58.7	E	0.26	23.9	C	0.90	64.9	E
	NB - TR	0.34	25.9	C	0.20	16.3	B	0.34	25.9	C	0.20	16.3	B
	SB - L	0.50	40.1	D	0.30	25.1	C	0.50	40.1	D	0.30	25.1	C
	SB - TR	0.68	49.7	D	1.12	109.2	F	0.68	49.7	D	1.12	109.2	F
	Intersection		**45.2**	**D**		**70.0**	**E**		**45.3**	**D**		**70.0**	**E**
Knollwood Road (E-W) at Cross Westchester Expwy (I-287) WB ramps	WB-LT	0.46	27.6	C	0.79	39.0	D	0.46	27.6	C	0.79	39.0	D
	WB-R	0.24	25.4	C	0.45	27.6	C	0.24	25.5	C	0.45	27.6	C
	NB-L	0.50	9.8	A	0.95	52.6	D	0.51	10.0	A	0.97	58.2	E
	NB-T	0.51	10.3	B	0.52	10.5	B	0.53	10.6	B	0.53	10.6	B
	SB-T	0.30	13.4	B	0.44	14.8	B	0.31	13.5	B	0.46	15.0	B
	SB-R	0.13	12.1	B	0.23	12.8	B	0.14	12.2	B	0.23	12.9	B
	Intersection		**14.4**	**B**		**26.7**	**C**		**14.5**	**B**		**27.7**	**C**
Knollwood Road (E-W) at Cross Westchester Expwy (I-287) EB ramps	EB-L	0.67	32.7	C	0.48	24.4	C	0.68	32.9	C	0.48	24.5	C
	EB-TR	0.01	23.6	C	0.00	20.0	C	0.01	23.6	C	0.00	20.0	C
	EB-R	0.58	30.0	C	0.77	34.2	C	0.58	30.0	C	0.77	34.2	C
	NB-T	0.49	15.3	B	0.86	31.6	C	0.51	15.5	B	0.87	32.4	C
	NB-R	0.52	15.9	B	0.62	20.9	C	0.52	15.9	B	0.62	20.9	C
	SB-L	0.39	9.8	A	0.79	29.3	C	0.40	10.0	A	0.81	31.3	C
	SB-T	0.29	8.4	A	0.65	15.4	B	0.30	8.5	A	0.66	15.8	B
	Intersection		**18.6**	**B**		**25.6**	**C**		**18.6**	**B**		**26.0**	**C**
Tarrytown/White Plains Rd. (E-W) WB Ramps at Knollwood Road (Rt. 100A)	WB-LT	0.14	24.6	C	0.35	26.4	C	0.14	24.6	C	0.35	26.4	C
	WB-R	0.51	28.3	C	0.96	64.3	E	0.51	28.3	C	0.96	65.3	E
	NB-LT	0.40	10.1	B	0.60	12.6	B	0.41	10.2	B	0.60	12.6	B
	SB-T	0.20	15.3	B	0.43	17.4	B	0.20	15.3	B	0.44	17.4	B
	SB-R	0.19	15.3	B	0.47	18.0	B	0.20	15.4	B	0.48	18.2	B
	Intersection		**15.5**	**B**		**25.0**	**C**		**15.5**	**B**		**25.3**	**C**

TABLE 5.21-13. 2008 FUTURE WITHOUT THE PROJECT VS. 2008 COMBINED CONSTRUCTION OPTION D TRAFFIC CONDITIONS

SIGNALIZED INTERSECTIONS	LANE GROUP	2008 FUTURE WITHOUT THE PROJECT						2008 CONSTRUCTION					
		WEEKDAY AM PEAK HOUR			WEEKDAY PM PEAK HOUR			WEEKDAY AM PEAK			WEEKDAY PM PEAK		
		V/C RATIO	DELAY (SEC/VEH)	LOS	V/C RATIO	DELAY (SEC/VEH)	LOS	V/C RATIO	DELAY (SEC/ VEH)	LOS	V/C RATIO	DELAY (SEC/ VEH)	LOS
Knollwood Rd. (Rt 100A) at Tarrytown White Plains Rd. (Rt. 119) EB Ramps	EB – LT	0.71	34.2	C	0.78	38.4	D	0.73	35.1	D	0.79	38.7	D
	EB – R	0.16	24.8	C	0.35	26.5	C	0.16	24.8	C	0.35	26.5	C
	NB-TR	0.40	20.1	C	0.41	20.3	C	0.41	20.2	C	0.41	20.3	C
	SB-L	0.31	11.9	B	0.47	14.7	B	0.32	12.1	B	0.48	14.8	B
	SB-T	0.28	9.2	A	0.54	11.8	B	0.28	9.2	A	0.55	11.9	B
	Intersection		**20.4**	**C**		**21.1**	**C**		**20.8**	**C**		**21.2**	**C**
Saw Mill River Rd. (Rt 9A) at Cross Westchester Expwy (I-287) WB Ramps	WB-L	1.09	97.9	F	0.74	38.2	D	1.09	97.9	F	0.74	38.2	D
	WB-R	0.48	27.5	C	0.42	20.4	C	0.61	29.6	C	0.43	20.6	C
	NB-LTR	0.36	8.9	A	0.69	22.8	C	0.43	9.4	A	0.77	25.8	C
	SB-TR	0.47	9.7	A	0.85	22.5	C	0.51	10.2	B	0.96	34.4	C
	Intersection		**34.3**	**C**		**24.4**	**C**		**33.4**	**C**		**30.8**	**C**
Saw Mill River Road (Rt 9A) and Cross Westchester Exp (I-287) EB Ramps	NB-TR	0.31	12.3	B	0.89	34.7	C	0.36	12.8	B	0.90	36.4	D
	SB-L	0.50	1.7	A	0.74	23.2	C	0.55	3.6	A	0.82	28.7	C
	SB-LT	0.16	0.2	A	0.53	0.5	A	0.17	0.2	A	0.59	0.6	A
	Intersection		**5.0**	**A**		**17.5**	**B**		**6.0**	**A**		**18.8**	**B**
Saw Mill River Rd. (Rt. 9A) at Tarrytown White Plains Rd. (Rt. 119)	EB-L	0.97	66.8	E	0.99	76.6	E	1.12	113.5	F	1.02	83.3	F
	EB-TR	0.38	14.5	B	0.46	20.2	C	0.38	14.5	B	0.46	20.2	C
	WB-L	0.17	22.3	C	0.42	34.4	C	0.17	22.3	C	0.42	34.4	C
	WB-TR	0.30	23.5	C	0.88	48.6	D	0.31	23.6	C	0.89	49.7	D
	NB-L	0.38	34.2	C	0.30	25.0	C	0.39	34.4	C	0.34	25.8	C
	NB-TR	0.62	40.3	D	0.82	41.0	D	0.72	44.9	D	0.83	42.1	D
	SB-L	0.24	33.9	C	0.54	35.0	C	0.29	36.6	D	0.58	36.5	D
	SB-T	0.42	34.9	C	0.26	22.8	C	0.44	35.3	D	0.34	23.8	C
	SB-R	0.23	22.1	C	0.39	11.0	B	0.24	22.2	C	0.43	11.3	B
	Intersection		**31.8**	**C**		**35.0**	**C**		**42.3**	**D**		**35.9**	**D**
Saw Mill River Rd. (Rt. 9A) at Hunter Lane	EB – LTR	0.01	29.1	C	0.01	32.9	C	0.01	29.1	C	0.01	32.9	C
	WB – LT	0.31	32.4	C	0.81	56.6	E	0.31	32.4	C	0.81	56.6	E
	W-R	0.01	18.7	B	0.07	22.9	C	0.01	18.7	B	0.07	22.9	C
	NB – LTR	0.64	21.3	C	0.69	19.4	B	0.81	27.0	C	0.71	20.1	C
	SB – LTR	0.67	14.5	B	0.73	13.3	B	0.78	18.3	B	0.87	19.8	B
	Intersection		**18.6**	**B**		**20.1**	**C**		**23.3**	**C**		**23.0**	**C**
Saw Mill River Rd. (Rt. 9A) at Dana Rd.	EB-LT	0.07	25.5	C	0.28	27.4	C	0.15	26.1	C	0.99	81.2	F
	EB-R	0.08	25.6	C	0.24	26.9	C	0.11	25.8	C	0.61	32.2	C
	WB-L	0.12	25.9	C	0.44	29.1	C	0.29	27.4	C	1.50	>150	F
	WB-TR	0.06	25.4	C	0.40	28.4	C	0.74	38.3	D	0.48	29.3	C
	NB-L	0.12	30.5	C	0.39	32.7	C	0.56	35.3	D	0.41	32.9	C
	NB-TR	0.63	25.1	C	0.84	31.9	C	0.67	26.0	C	0.91	37.4	D
	SB-L	0.38	32.6	C	0.15	30.7	C	0.41	33.0	C	0.18	31.0	C
	SB-TR	0.59	24.1	C	0.74	27.7	C	0.65	25.2	C	0.74	27.8	C
	Intersection		**25.4**	**C**		**29.8**	**C**		**28.5**	**C**		**53.0**	**D**

TABLE 5.21-13. 2008 FUTURE WITHOUT THE PROJECT VS. 2008 COMBINED CONSTRUCTION OPTION D TRAFFIC CONDITIONS

SIGNALIZED INTERSECTIONS	LANE GROUP	2008 FUTURE WITHOUT THE PROJECT						2008 CONSTRUCTION					
		WEEKDAY AM PEAK HOUR			WEEKDAY PM PEAK HOUR			WEEKDAY AM PEAK			WEEKDAY PM PEAK		
		V/C RATIO	DELAY (SEC/VEH)	LOS	V/C RATIO	DELAY (SEC/VEH)	LOS	V/C RATIO	DELAY (SEC/ VEH)	LOS	V/C RATIO	DELAY (SEC/ VEH)	LOS
Saw Mill River Rd. at Saw Mill River Pkwy SB Off Ramp	EB-LT	0.87	28.2	C	1.04	70.0	E	0.90	31.7	C	1.09	86.2	F
	WB-TR	0.23	4.7	A	0.42	9.2	A	0.24	4.7	A	0.54	10.3	B
	SB-L	0.68	36.9	D	0.29	23.1	C	0.72	39.0	D	0.29	23.1	C
	SB-LR	0.16	28.2	C	0.21	22.6	C	0.16	28.2	C	0.21	22.6	C
	Intersection		**21.2**	**C**		**33.9**	**C**		**23.2**	**C**		**37.1**	**D**
Saw Mill River Rd. at Saw Mill River Pkwy NB Off Ramp	EB-T	0.48	17.5	B	0.41	13.3	B	0.50	17.7	B	0.41	13.3	B
	WB-T	0.19	7.7	A	0.28	4.2	A	0.20	7.8	A	0.36	4.6	A
	NB-LR	0.44	24.7	C	0.45	31.5	C	0.64	28.7	C	0.46	31.6	C
	NB-R	0.41	24.3	C	0.41	31.1	C	0.61	28.1	C	0.43	31.4	C
	Intersection		**16.5**	**B**		**12.0**	**B**		**18.7**	**B**		**11.6**	**B**
Grassland Rd. (Route 100 C) and Clearbrook Rd/Walker Road	EB-L	0.01	2.6	A	0.04	9.2	A	0.19	3.6	A	0.04	9.3	A
	EB-TR	0.37	3.8	A	0.73	17.2	B	0.38	3.8	A	1.03	55.4	E
	WB-L	0.38	4.0	A	1.40	>150	F	0.38	4.1	A	>1.50	>150	F
	WB-TR	0.39	3.9	A	0.70	16.7	B	0.84	11.7	B	0.73	17.7	B
	NB-LT	0.21	33.7	C	0.19	19.9	B	0.22	33.7	C	0.30	21.1	C
	SB-LT	0.21	33.8	C	0.23	20.3	C	0.31	34.8	C	0.78	34.5	C
	SB-R	0.00	32.2	C	0.01	18.5	B	0.00	32.2	C	0.05	18.8	B
	Intersection		**5.3**	**A**		**42.3**	**D**		**9.4**	**A**		**108.6**	**F**
Grassland Rd. (Route 100 C) at Woods Drive/Taylor Road	EB-L	0.28	7.5	A	0.33	13.8	B	0.40	18.7	B	0.34	14.5	B
	EB-TR	0.26	5.2	A	0.57	12.5	B	0.28	5.3	A	0.84	19.4	B
	WB-L	0.00	9.3	A	0.01	12.5	B	0.00	9.3	A	0.01	12.7	B
	WB-TR	0.57	14.1	B	0.73	21.2	C	0.91	26.0	C	0.75	22.0	C
	NB-LTR	0.01	32.9	C	0.01	24.6	C	0.01	32.9	C	0.01	24.6	C
	SB-LT	0.55	39.2	D	0.79	41.6	D	0.55	39.2	D	0.79	41.6	D
	SB-R	0.08	21.2	C	0.11	17.2	B	0.08	21.2	C	0.11	17.2	B
	Intersection		**12.8**	**B**		**19.6**	**B**		**21.1**	**C**		**22.3**	**C**
Grassland Rd. (Route 100C) at Sprain Brook Pkwy SB Ramps	EB-TR	0.27	7.5	A	0.67	11.7	B	0.29	7.6	A	0.95	26.0	C
	WB-T	0.32	7.8	A	0.52	9.5	A	0.48	9.0	A	0.54	9.7	A
	SB-L	0.55	34.0	C	0.17	29.6	C	0.55	34.0	C	0.17	29.6	C
	SB-R	0.32	31.0	C	0.12	29.2	C	0.82	48.4	D	0.16	29.4	C
	Intersection		**13.1**	**B**		**11.5**	**B**		**16.8**	**B**		**20.3**	**C**
Grassland Rd. (Route 100C) at Sprain Brook Pkwy NB Ramps	EB-L	0.09	14.7	B	0.50	15.4	B	0.14	15.2	B	1.11	104.4	F
	EB-T	0.50	18.0	B	0.32	9.0	A	0.51	18.1	B	0.34	9.1	A
	WB-TR	0.47	24.6	C	1.06	67.9	E	0.51	25.1	C	1.07	71.4	E
	NB-LT	1.00	68.7	E	0.69	29.4	C	>1.50	>150	F	0.73	30.8	C
	NB-R	1.02	74.8	E	0.35	23.1	C	1.02	74.8	E	0.35	23.1	C
	Intersection		**44.0**	**D**		**42.6**	**D**		**132.9**	**F**		**53.2**	**D**

TABLE 5.21-13. 2008 FUTURE WITHOUT THE PROJECT VS. 2008 COMBINED CONSTRUCTION OPTION D TRAFFIC CONDITIONS

SIGNALIZED INTERSECTIONS	LANE GROUP	2008 FUTURE WITHOUT THE PROJECT						2008 CONSTRUCTION					
		WEEKDAY AM PEAK HOUR			WEEKDAY PM PEAK HOUR			WEEKDAY AM PEAK			WEEKDAY PM PEAK		
		V/C RATIO	DELAY (SEC/VEH)	LOS	V/C RATIO	DELAY (SEC/VEH)	LOS	V/C RATIO	DELAY (SEC/ VEH)	LOS	V/C RATIO	DELAY (SEC/ VEH)	LOS
Virginia Road @ Bronx River Pkwy Westbound	EB-LT	1.12	126.9	F	1.16	139.6	F	1.13	130.6	F	1.17	144.9	F
	EB-R	0.21	19.6	B	0.39	34.6	C	0.21	19.6	B	0.40	34.7	C
	WB-LTR	0.40	34.6	C	1.26	>150	F	0.40	34.7	C	1.28	>150	F
	NB-L	0.04	46.3	D	0.06	10.9	B	0.06	46.4	D	0.06	10.9	B
	NB-TR	0.26	20.1	C	0.62	25.3	C	0.26	20.1	C	0.62	25.3	C
	SB-L	1.10	141.5	F	0.13	11.7	B	1.10	141.5	F	0.13	11.7	B
	SB-T	0.70	27.3	C	0.59	24.7	C	0.70	27.3	C	0.59	24.7	C
	Intersection		**53.9**	**D**		**61.7**	**E**		**54.5**	**D**		**63.5**	**E**
Grassland Road (Route 100C) @ WCC East Gate	EB-T	0.41	7.7	A	0.72	16.6	B	0.41	7.7	A	0.74	17.4	B
	WB-L	0.26	5.2	A	0.21	11.1	B	0.26	5.2	A	0.22	11.4	B
	WB-T	0.24	3.2	A	0.58	7.9	A	0.25	3.2	A	0.58	7.9	A
	NB-L	0.07	45.8	D	0.62	30.6	C	0.07	45.8	D	0.62	30.6	C
	Intersection		**6.3**	**A**		**14.5**	**B**		**6.3**	**A**		**14.9**	**B**
Old Saw Mill River Road @ Landmark West Driveway	EB-LTR	0.74	8.7	A	0.57	6.0	A	0.87	14.0	B	0.58	6.1	A
	WB-LTR	0.26	4.1	A	0.43	4.9	A	0.26	4.1	A	0.48	5.2	A
	NB-LTR	0.02	21.0	C	0.08	21.2	C	0.04	21.1	C	0.59	27.0	C
	SB-LTR	0.04	21.1	C	0.03	21.0	C	0.04	21.1	C	0.03	21.0	C
	Intersection		**7.7**	**A**		**5.8**	**A**		**11.9**	**B**		**7.5**	**A**

TABLE 5.21-13. 2008 FUTURE WITHOUT THE PROJECT VS. 2008 COMBINED CONSTRUCTION OPTION D TRAFFIC CONDITIONS

UNSIGNALIZED INTERSECTIONS	LANE GROUP	2008 FUTURE WITHOUT THE PROJECT						2008 CONSTRUCTION					
		WEEKDAY AM PEAK HOUR			WEEKDAY PM PEAK HOUR			WEEKDAY AM PEAK			WEEKDAY PM PEAK		
		V/C RATIO	DELAY (SEC/VEH)	LOS	V/C RATIO	DELAY (SEC/VEH)	LOS	V/C RATIO	DELAY (SEC/ VEH)	LOS	V/C RATIO	DELAY (SEC/ VEH)	LOS
Sprain Parkway SB On Ramps (N-S) at Broadway (Rt. 9A)/Bradhurst Ave.	WB-LT	0.12	10.6	B	0.19	9.5	A	0.12	10.8	B	0.21	9.9	A
Saw Mill River Road (Rt. 9A) (N-S) at Beverly Road	NB-LT	0.01	10.3	B	0.03	13.1	B	0.01	10.6	B	0.03	13.2	B
	EB-LR	0.07	21.1	C	0.05	29.7	D	0.08	23.0	C	0.06	32.1	D
Saw Mill River Road (Rt. 9A) and Stevens Avenue North	NB-LT	0.02	10.9	B	0.01	9.8	A	0.02	11.3	B	0.01	9.8	A
	SB-LT	0.03	9.2	A	0.02	10.5	B	0.03	9.3	A	0.02	10.9	B
	EB-LTR	0.02	35.0	D	0.13	24.1	C	0.03	40.6	E	0.15	26.2	D
	WB-LTR	0.03	16.7	C	0.07	15.7	C	0.04	18.1	C	0.08	16.9	C
Saw Mill River Road (Rt. 9A) and Stevens Avenue South	SB-LT	0.00	8.8	A	0.00	10.4	B	0.00	8.9	A	0.00	10.8	B
	WB-LR	0.03	21.4	C	0.14	34.0	D	0.03	23.5	C	0.17	38.9	E
Bradhurst Ave and Lakeview Ave	SB-LT	0.02	8.2	A	0.01	8.1	A	0.02	8.2	A	0.01	8.1	A
	WB-LR	0.26	15.1	C	0.45	18.8	C	0.26	15.1	C	0.45	18.8	C
Knollwood Road (Rt 100A) and Hevelyne Road	NB-LT	0.01	8.3	A	0.00	8.0	A	0.01	8.3	A	0.00	8.0	A
	EB-LR	0.03	13.1	B	0.01	10.9	B	0.03	13.4	C	0.01	11.0	B
Saw Mill River Road (Rt 9A) and Ramada Inn/Broadway Plaza	NB-L	0.09	10.0	A	0.15	10.3	B	0.16	10.7	B	0.17	10.9	B
	SB-LT	0.01	8.7	A	0.01	9.4	A	0.02	9.3	A	0.01	9.6	A
	EB-L	0.01	31.9	D	0.01	48.4	E	0.02	48.4	E	0.02	60.4	F
	EB-T	0.02	36.9	E	0.08	79.9	F	0.03	60.4	F	0.10	102.1	F
	WB-LT	0.10	33.1	D	0.11	56.3	F	0.17	59.3	F	0.14	69.1	F
	WB-TR	0.01	10.6	B	0.03	17.0	C	0.01	11.3	B	0.03	19.0	C
Dana Road & Walker Road	NB-LR	0.09	10.5	B	0.04	10.5	B	0.64	19.7	C	0.22	13.6	B
	WB-LT	0.00	8.3	A	0.01	7.8	A	0.00	8.6	A	0.01	8.6	A
Old Saw Mill River Road and Saw Mill River Road (Rt. 9A) SB Ramps	NB-L	0.78	85.3	F	0.99	145.4	F	2.36	>150	F	2.25	>150	F
	NB-R	0.20	16.3	C	0.28	15.7	C	0.24	19.0	C	0.48	30.1	D
	WB-L	0.15	11.3	B	0.17	11.2	B	0.16	12.2	B	0.28	16.6	C
Grasslands Road (Route 100C) (E-W) and Saw Mill River Road NB Ramps (N-S)	NB-LT	0.06	25.7	D	0.05	25.0	C	0.99	>150	F	0.10	40.3	E
	NB-TR	0.07	13.7	B	0.16	14.2	B	0.07	14.3	B	0.26	21.2	C
	EB-L	0.21	10.1	B	0.17	10.5	B	0.43	14.8	B	0.25	11.3	B
Grasslands Road (Route 100C) @ Virginia Road	SB-LT	0.23	8.3	A	0.36	10.3	B	0.23	8.4	A	0.37	10.4	B
	WB-LR	0.55	16.6	C	1.23	>150	F	0.56	17.1	C	1.26	>150	F

TABLE 5.21-13. 2008 FUTURE WITHOUT THE PROJECT VS. 2008 COMBINED CONSTRUCTION OPTION D TRAFFIC CONDITIONS

UNSIGNALIZED INTERSECTIONS	LANE GROUP	2008 FUTURE WITHOUT THE PROJECT						2008 CONSTRUCTION					
		WEEKDAY AM PEAK HOUR			WEEKDAY PM PEAK HOUR			WEEKDAY AM PEAK			WEEKDAY PM PEAK		
		V/C RATIO	DELAY (SEC/VEH)	LOS	V/C RATIO	DELAY (SEC/VEH)	LOS	V/C RATIO	DELAY (SEC/ VEH)	LOS	V/C RATIO	DELAY (SEC/ VEH)	LOS
Grasslands Road (Route 100C) @ Legion Drive	SB-L	0.42	29.8	D	1.27	>150	F	0.43	31.0	D	1.31	>150	F
	SB-R	0.20	12.1	B	0.47	19.7	C	0.21	12.4	B	0.47	19.7	C
	EB-LT	0.07	8.5	A	0.24	10.7	B	0.07	8.6	A	0.24	10.7	B
Grasslands Road (Route 100C) @ WCC West Gate	NB-L	0.06	20.5	C	0.26	50.2	F	0.06	20.9	C	0.27	52.5	F
	NB-R	0.01	13.7	B	0.49	18.4	C	0.01	13.7	B	0.51	19.2	C
	WB-LT	0.00	9.9	A	0.12	9.1	A	0.00	9.9	A	0.12	9.2	A
Old Saw Mill River Road @ Landmark East Driveway	NB-LTR	0.07	17.5	C	0.11	30.0	D	0.18	20.5	C	0.71	35.9	E
	SB-LTR	0.01	10.3	B	0.07	17.4	C	1.18	>150	F	7.25	>150	F
	EB-LTR	0.01	8.1	A	0.01	8.7	A	0.02	8.8	A	0.01	9.0	A
	WB-LTR	0.02	10.2	B	0.01	9.2	A	0.36	13.5	B	0.04	9.3	A

ABBREVIATIONS:

EB-Eastbound, WB-Westbound, NB-Northbound, SB-Southbound

L-Left, T-Through, R-Right, E-W: East-West Roadway, N-S: North-South Roadway

V/C Ratio - Volume to Capacity Ratio

SEC/VEH - Seconds per Vehicle

LOS - Level of Service

--- HCS results not provided for given lane group

- Grasslands Road (Route 100C)/Bradhurst Avenue (Route 100) Intersection. During the PM peak hour, the northbound left-turn movement would remain at LOS E, with delays increasing from 58.7 to 64.9 seconds.

- Knollwood Road (Route 100A)/Cross Westchester Expressway (I-298) Westbound Ramp Intersection. During the PM peak hour, the northbound left-turn movement would deteriorate from LOS D to LOS E, with delays increasing from 52.6 to 58.2 seconds.

- Saw Mill River Road (Route 9A)/Tarrytown-White Plains Road (Route 119) Intersection. During the AM peak hour, the eastbound left-turn movement would deteriorate from LOS E to LOS F, with delays increasing from 66.8 to 113.5 seconds. During the PM peak hour the eastbound left-turn movement would deteriorate from LOS E to LOS F, with delays increasing from 76.6 to 83.3 seconds.

- Saw Mill River Road (Route 9A)/Dana Road Intersection. During the PM peak hour, the eastbound left/through movement would deteriorate from LOS C to LOS F, with delays increasing from 27.4 to 81.2 seconds. During the PM peak hour the westbound left-turn movement would also deteriorate from LOS C to LOS F, with delays increasing from 29.1 seconds to greater than 150.0 seconds.

- Grasslands Road (Route 100C)/Clearbrook Road/Walker Road Intersection. During the PM peak hour, the eastbound through/right lane group would deteriorate from LOS B to LOS E, with delays increasing from 17.2 to 55.4 seconds. The westbound left-turn movement would remain at LOS F, with delays of more than 150 seconds, during the PM peak hour.

- Grasslands Road (Route 100C)/Sprain Brook Parkway Southbound Ramp Intersection. During the AM peak hour, the southbound right-turn movement would deteriorate from LOS C to LOS D, with delays increasing from 31.0 to 48.4 seconds.

- Grasslands Road (Route 100C)/Sprain Brook Parkway Northbound Ramp Intersection. During the AM peak hour, the northbound left/through lane group would deteriorate from LOS E to LOS F, with delays increasing from 68.7 seconds to beyond 150 seconds. During the PM peak hour, the eastbound left-turn movement would deteriorate from LOS B to LOS F, with delays increasing from 15.4 to 104.4 seconds.

- Virginia Road/Bronx River Parkway Intersection. During the AM and PM peak hours, the eastbound left/through movement would remain at LOS F, with delays increasing from 126.9 to 130.6 seconds during the AM peak hour, and from 139.6 to 144.9 seconds during the PM peak hour. During the PM peak hour, the westbound approach would also remain at LOS F, with delays increasing from 185.8 to 193.5 seconds.

  Potential Adverse Impacts Occurring at Unsignalized Intersections

- Saw Mill River Road (Route 9A)/Ramada Inn/Broadway Plaza Intersection. During the AM peak hour, the eastbound left-turn lane group would deteriorate from LOS D (31.9

seconds delay) to LOS E (48.4 seconds delay), the eastbound through movement would deteriorate from LOS E (36.9 seconds delay) to LOS F (60.4 seconds delay), and the westbound left/through lane group would deteriorate from LOS D (33.1 seconds delay) to LOS F (59.3 seconds delay). During the PM peak hour, the eastbound left-turn lane group would deteriorate from LOS E (48.4 seconds delay) to LOS F (60.4 seconds delay), the eastbound through movement would remain at LOS F (delay increasing from 79.9 to 102.1 seconds), and the westbound left/through lane group would remain at LOS F (delay increasing from 56.3 to 69.1 seconds).

- Old Saw Mill River Road/Saw Mill River Road (Rt. 9A) SB Ramps Intersection. During both the AM and PM peak hours, the northbound left-turn movement would remain at LOS F, with delays increasing from 85.3 seconds to well beyond 150 seconds during the AM peak, and with delays increasing from 145.4 seconds to well beyond 150 seconds during the PM peak). The northbound right-turn movement would deteriorate from LOS C (15.7 seconds delay) to LOS D (30.1 seconds delay) during the PM peak hour.

- Grasslands Road (Route 100C)/Saw Mill River Road (Route 9A) Northbound Ramp Intersection. During the AM peak hour, the northbound left/through lane group would deteriorate from LOS D (25.7 seconds delay) to LOS F (202.6 seconds delay). During the PM peak hour, the northbound left/through lane group would deteriorate from LOS C (25.0 seconds delay) to LOS E (40.3 seconds delay).

- Grasslands Road (Route 100)/Virginia Road Intersection. During the PM peak hour, the westbound approach would remain at LOS F (delay increasing from 155.8 to 166.5 seconds).

- Grasslands Road (Route 100)/Legion Drive Intersection. During the PM peak hour, the southbound left-turn movement would remain at LOS F (delay increasing from 210.8 to 227.1 seconds).

- Old Saw Mill River Road/Landmark at Eastview East Driveway Intersection. During both the AM peak hour, the northbound approach would deteriorate from LOS D (30.0 seconds delay) to LOS E (35.9 seconds delay). The southbound approach would deteriorate from LOS B (10.3 seconds delay) to LOS F (with well beyond 150 seconds delay) during the AM peak hour, and this approach would deteriorate from LOS C (17.4 seconds delay) to LOS F (well beyond 150 seconds delay) during the PM peak hour.

Although these potential adverse impacts would not be permanent, because they are construction-related, measures have been identified that would mitigate the construction-related potential adverse traffic impacts predicted to occur under 2008 Combined Construction Option D conditions. A description of the measures, and an analysis showing the resulting effects of implementing the measures suggested as mitigation for these impacts, are fully discussed below, in Section 5.21.4, Mitigation of Potential Combined Impacts.

Parking. Nearly the entire Eastview construction site would be unavailable for construction worker parking because of the concurrent construction of the Croton project and

Cat/Del UV Facility under 2008 Construction Option D conditions. As discussed in Section 4.9, Data Collection and Impact Methodologies, Traffic and Transportation, two off-site parking facilities have been identified for use by construction workers. One is at the Landmark at Eastview, which would be used for parking construction worker vehicles related to the Croton project's construction, the other is at the Home Depot off Dana Road that is currently under construction, and anticipated to be completed sometime in 2005. The Home Depot parking lot would be used to accommodate the construction worker vehicles from the Cat/Del UV Facility construction, under Option D conditions. Rather than simply splitting the workers between the two sites, workers from the Cat/Del UV Facility were assigned to the Home Depot site because the property owner indicated that they anticipated that the parking that would be available would be just enough to accommodate the projected number of Cat/Del UV Facility construction worker vehicles, but would not be sufficient to accommodate the projected number of Croton project worker vehicles. Based on the transportation data and planning assumptions presented in Section 4.9, these off-site parking facilities would need to accommodate 400 construction worker vehicles from the Cat/Del UV Facility's construction (at Home Depot), as well as 543 worker vehicles related to the concurrent construction of the Croton project (at the Landmark at Eastview). It is anticipated that these off-site parking facilities would be able to accommodate these parked vehicles, therefore; no adverse parking impacts are anticipated to occur to the public and private parking facilities in the vicinity of the Croton project under 2008 Option D conditions.

Safety. The combined construction activities would increase the study area traffic volumes by 1 to 40 percent at key study area intersections during peak-hour operating conditions. This projected traffic growth can be anticipated to translate to between 1 and 15 additional accidents per year along the roadway corridors during the construction period.

Transit. The combined construction of the Croton project and Cat/Del UV Facility under 2008 Construction Option D conditions is not anticipated to generate any considerable transit ridership. In addition because of the low generation of trips from the existing Bee Line Bus Facility during the combined peak construction hours, the combined construction of the Croton project and Cat/Del UV Facility would not impact bus operations. Therefore, no adverse transit-related impacts would be anticipated to occur under 2008 Construction conditions.

Pavement Infrastructure. Roadway pavements deteriorate with traffic loads, environmental conditions and time. Highways are typically able to carry higher traffic loads than arterials and other lower volume roadways. The principal measure of traffic loading is "equivalent 18,000 pounds single axle loads" (18 kip Equivalent Single Axle Load [ESAL]) over the useful life of the pavement, typically 20 years. As these loads are applied over time, the pavement's serviceability declines to the point where it must be repaired. Different types of trucks affect pavement differently. Trucks that have concentrated wheel loads (*e.g.*, full concrete trucks) would cause worse pavement effects than a flat-bed tractor-trailer combination carrying steel reinforcing rods. Highways can have design loads of 10,000,000 to 80,000,000 (or more) ESAL, arterials generally between 2,000,000 to 5,000,000 ESAL and low-volume roadways 50,000 to 500,000 ESAL (or more).

The combined construction of the proposed Croton project and Cat/Del UV Facility is anticipated to generate a total of approximately 199,382 entering/exiting truck trips over the approximately four and one-half-year construction period, anticipated to run from April 2005 through September 2009. These truck trips equate to a total of approximately 135,580 ESAL inbound and 135,580 ESAL outbound, over the duration of combined construction for the proposed Croton project and Cat/Del UV Facility. This would translate to a predicted truck load over the duration of construction of approximately 271,160 ESAL on the proposed truck routes to and from the site (e.g., about 80 percent of the trips using Grasslands Road to Route 9A – 216,930 EASL, and about 20 percent of the trips using Knollwood Road to Route 119 – 54,230 ESAL). The peak construction truck generation is anticipated to occur in 2007, when the combined construction of the Croton project and Cat/Del UV Facility would generate an annual total of approximately 61,160 entering/exiting truck trips. These truck trips translate to a total of approximately 41,600 ESAL inbound and 41,600 ESAL outbound, in 2007. Comparing the predicted truck loads with the range of designed loads for arterial roadways, the anticipated loads generated from the combined construction of the proposed Croton project and Cat/Del UV Facility would represent between 5.4 and 13.6 percent of the design load of an arterial roadway. However, this trucking activity would be temporary and would not be an adverse impact.

5.21.3.2. Air Quality

Mobile Sources In the Future With the Project, a mobile source air quality analysis was conducted for the scenario with the Cat/Del UV Facility at Eastview with the construction workers using parking option C, which would generate the highest number of construction related vehicles traveling through the analyzed intersection during the construction year 2008. Concentrations were determined for the 1-hour and 8-hour averaging times for CO. Concentrations were determined for the 24-hour and annual averaging times for PM_{10} and $PM_{2.5}$.

Carbon Monoxide. As indicated in Tables 5.21-14 and 5.21-15, the predicted concentrations of CO for the peak construction year 2008, are below the corresponding ambient air quality standards. Both 1-hour and 8-hour averaging periods for each modeled intersection are in compliance with the standards.

In addition, the CEQR *de minimis* values were calculated for the 8-hour period as described in Section 4.10 Data Collection and Impact Methodologies, Air Quality. As indicated in Table 5.21-15, the CEQR *de minimis* values for the 8-hour period were not exceeded. The Future With the Croton project and with the Cat/Del UV Facility at Eastview would not result in significant impacts for CO.

TABLE 5.21-14. PREDICTED CO 1-HOUR AND 8-HOUR CONCENTRATIONS IN THE FUTURE WITH THE CROTON PROJECT– WITH CAT/DEL UV FACILITY AT EASTVIEW SITE PEAK YEAR 2008 (PPM)

Intersection	Averaging Period	Ambient AQ Background	Model Results		Total Predicted Conc.[1]		Standard
			AM	PM	AM	PM	
Peak Year 2008							
Route 100C at Sprain Brook Parkway Interchange	1-hour	5.9	3.0	3.7	8.9	9.6	35
	8-hour	2.0	2.1	2.6	4.1	4.6	9

Notes: [1] Total Predicted Concentration = Ambient AQ Background + Model Results.

TABLE 5.21-15. 8-HOUR CONCENTRATIONS AND CEQR *DE MINIMIS* VALUES[1] FUTURE WITH THE CROTON PROJECT– WITH CAT/DEL UV FACILITY AT EASTVIEW SITE

Intersection	Averaging Period	No Build Conc.		Build Conc.		Project Increment[1]		*De Minimis Criteria*	
		AM	PM	AM	PM	AM	PM	AM	PM
Peak Traffic Year 2008									
Route 100C at Sprain Brook Parkway Interchange	8-hour	3.6	3.9	4.1	4.6	0.5	0.6	2.7	2.6

Notes: [1]The increments between the no-build and the build concentrations are 0.5 ppm and 0.6 ppm for the AM and the PM periods, respectively. These values are below the *de minimis* criteria..

Particulate Matter (PM_{10}). As indicated in Tables 5.21-16 the predicted concentrations of $PM_{10,}$ for the construction year 2008, are below the corresponding ambient air quality standards. Both the 24-hour and Annual averaging periods for each modeled intersection are in compliance with the standard. Therefore, there would be no significant impacts for PM_{10} in the Future With the Croton project and with the Cat/Del UV Facility at Eastview.

To estimate the annual neighborhood concentration, receptors were located at a distance of 15 meters (49 feet) from the roadways. The microscale analysis for 24-hour averaging periods was run with the same receptors used in the CO models.

As indicated in Table 5.21-17, the predicted concentrations of $PM_{2.5}$ for the construction year 2008 are below the corresponding ambient air quality interim guidance levels. No significant impacts for $PM_{2.5}$ were predicted in the Future With the Croton project and with the Cat/Del UV Facility at Eastview.

TABLE 5.21-16. PREDICTED PM_{10} 24-HOUR AND ANNUAL CONCENTRATIONS IN THE FUTURE WITH THE CROTON PROJECT – WITH CAT/DEL UV FACILITY AT EASTVIEW SITE PEAK YEAR 2008 ($\mu g/m^3$)

Intersection	Averaging Period	Ambient AQ Background	Model Results	Total Predicted Conc.[1]	Standard
Peak Traffic Year 2008					
Route 100C at Sprain Brook Parkway Interchange	24 hour	45	36	81	150
	Annual	21	13	34	50

Notes: [1] Total Predicted Concentration = Ambient AQ Background + Model Results..

TABLE 5.21-17. PREDICTED PM2.5 24-HOUR AND ANNUAL CONCENTRATIONS IN THE FUTURE WITH THE CROTON PROJECT AND THE CAT/DEL UV FACILITY AT EASTVIEW SITE PEAK YEAR 2008

Intersection	Averaging Time	Predicted Conc.[1]		Project Increment[2]	Interim Guidance
		With Project	Without Project		
Peak Traffic Year 2008					
Grasslands Road (Rt. 100C) at Sprain Brook Parkway Interchange	24-hour	6.07	5.96	0.11	5
	Annual	0.29	0.28	0.01	0.1

Notes: [1]Annual impacts are for neighborhood receptors. The reported concentration is the highest of four different parking alternatives.

[2] The increment was calculated by subtracting $PM_{2.5}$ concentrations for the Future Without the Croton project and without the Cat/Del UV Facility from the $PM_{2.5}$ concentrations for the Future With the Croton project and with the Cat/Del UV Facility.

Construction Equipment Sources.

The source descriptions and emission rates are the same as those described previously for each source included in the individual construction analyses for the proposed Croton project and Cat/Del UV Facility. The sources were combined into a single multiple source modeling scenario and the results are presented below in Tables 5.21-18 and 5.21-19.

TABLE 5.21-18. RESULTS OF DISPERSION ANALYSIS FOR CONSTRUCTION ACTIVITIES – WITH CROTON PROJECT AND CAT/DEL UV FACILITY

Modeled Pollutant	Averaging Period	Units	Maximum Predicted Conc.		Background Conc. µg/m^3	Total Concentration		Ambient Air Quality Standards
			All Modeled Receptors[a]	All Sensitive Receptors		All Modeled Receptors[a]	All Sensitive Receptors	
NO_2	Annual	µg/m^3	5.26	4.60	58	63.4	63	100
SO_2	3-Hour	µg/m^3	0.53	0.45	183	183.5	184	1,300
	24-Hour	µg/m^3	0.13	0.08	120	120	120	365
	Annual	µg/m^3	0.01	0.007	26	26	26	80
CO	1-Hour	µg/m^3	931	615	6,858	7,789	7,473	40,000
	8-Hour	µg/m^3	239	162	4,572	4,811	4,734	10,000
PM_{10}	24-Hour	µg/m^3	31.4	20.9	45	76	66	150
	Annual	µg/m^3	2.08	1.11	21	23	22	50

Notes: [a] Includes fenceline receptors. NO_X emissions are based on a NO_2 to NO_X ratio of 59%

As indicated in Table 5.21-18, the maximum predicted concentrations (including background) of each criteria pollutant for each averaging period are below the corresponding air quality standards. No significant impacts from the combined construction of the proposed Croton project and Cat/Del UV Facility were predicted for the criteria pollutants.

TABLE 5.21-19. PREDICTED $PM_{2.5}$ CONCENTRATIONS WITH CROTON PROJECT AND CAT/DEL UV FACILITY

Modeled Pollutant	Averaging Period	Units	Maximum Predicted Concentration		Interim Guidance
			All Modeled Receptors[a]	All Sensitive Receptors	
$PM_{2.5}$	24-Hours	µg/m^3	9.74	6.45	5[b]
	Annual (Discrete)	µg/m^3	0.49	0.41	0.3[b]
	Annual (Neighborhod)	µg/m^3	0.08	N/A	0.1[c]

Notes: [a] Includes fenceline receptors.
[b] Values for a discrete location.
[c] Values for a neighborhood analysis

NYCDEP is employing interim guidance criteria for evaluating the significance of potential $PM_{2.5}$ concentrations from NYCDEP projects under environmental review. The interim guidance criteria for determining the potential for significant adverse impacts from $PM_{2.5}$ are as follows:

- Predicted incremental impacts of $PM_{2.5}$ greater than 5 µg/m3 averaged over a 24-hour (daily) period at a discrete location of public access, either at ground or elevated levels (microscale analysis); or
- Predicted incremental ground-level impacts of $PM_{2.5}$ greater than 0.1 µg/m3 on an annual average neighborhood-scale basis (i.e., the computed annual concentration averaged over receptors placed over a one kilometer by one kilometer grid, centered around the location where the maximum impact is predicted).

- In addition, NYSDEC consider incremental impacts of $PM_{2.5}$ greater than 0.3 μg/m3 from stationary sources at any discrete ground-level or elevated locations as having potential for a significant impact.

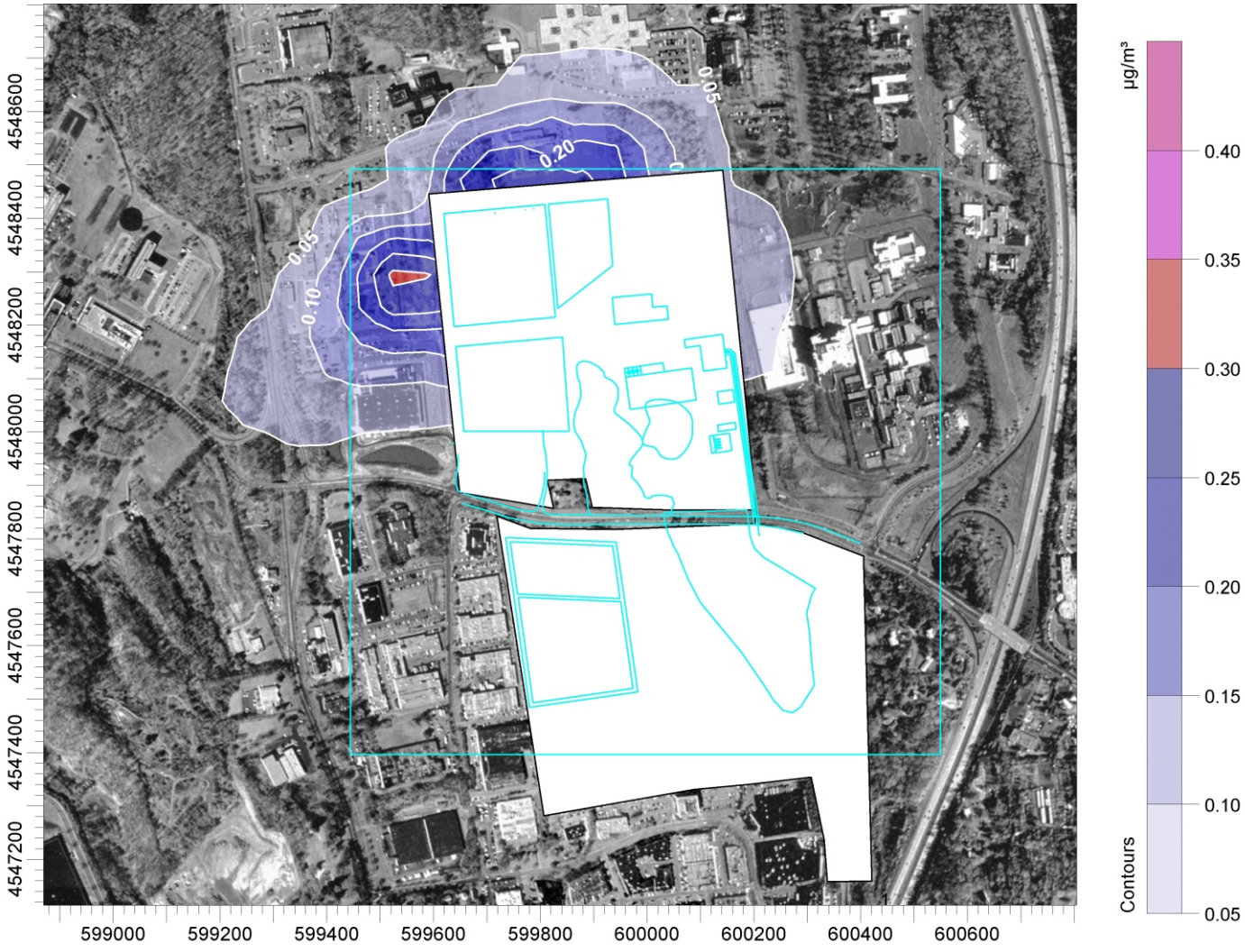
The air modeling analysis calculates the highest predicted increase in the 24-hour $PM_{2.5}$ concentration as 8.75 $\mu g/m^3$ at the fence line and 5.49 $\mu g/m^3$ at the Westchester County Laboratories and Research Building. While the highest incremental $PM_{2.5}$ concentration occurred at the fence line was higher than the interim guidance criteria for the localized 24-hour impacts (i.e.,5 $\mu g/m^3$), the maximum predicted incremental 24-hour concentration at sensitive public locations would be significantly lower. In addition, the 24-hour $PM_{2.5}$ concentration from construction for the proposed project was based on the month (April 2006) when the maximum short-term emissions would be expected; therefore, the actual increase in $PM_{2.5}$ concentration is expected to be lower than the predicted values for the rest of the construction period. Furthermore, the predicted 24 hour construction concentration would last, at the Research Building, for only ten months during the site preparation phase of the construction. For the remainder of the construction period, the emissions would be at least 30% lower.

The highest predicted annual increase was 0.69 $\mu g/m^3$ at the fence line and 0.22 $\mu g/m^3$ at the Westchester County Laboratories and Research Building. While the highest annual concentration was slightly higher than the NYSDEC criteria of 0.3 $\mu g/m^3$ at the fence line, the concentration at the Westchester County Laboratories and Research Building would be lower than the interim guidance criteria.

The annual $PM_{2.5}$ concentrations decrease quickly with distance relative to the construction site as shown by the construction impact isopleths in Figuresz 5.21-26 and 27.

On a neighborhood scale basis, the predicted incremental impact of $PM_{2.5}$ would be 0.05 $\mu g/m^3$, which is below the NYCDEP interim guidance.

Based on the above, the impact from the construction of the project on $PM_{2.5}$ was not considered significant.



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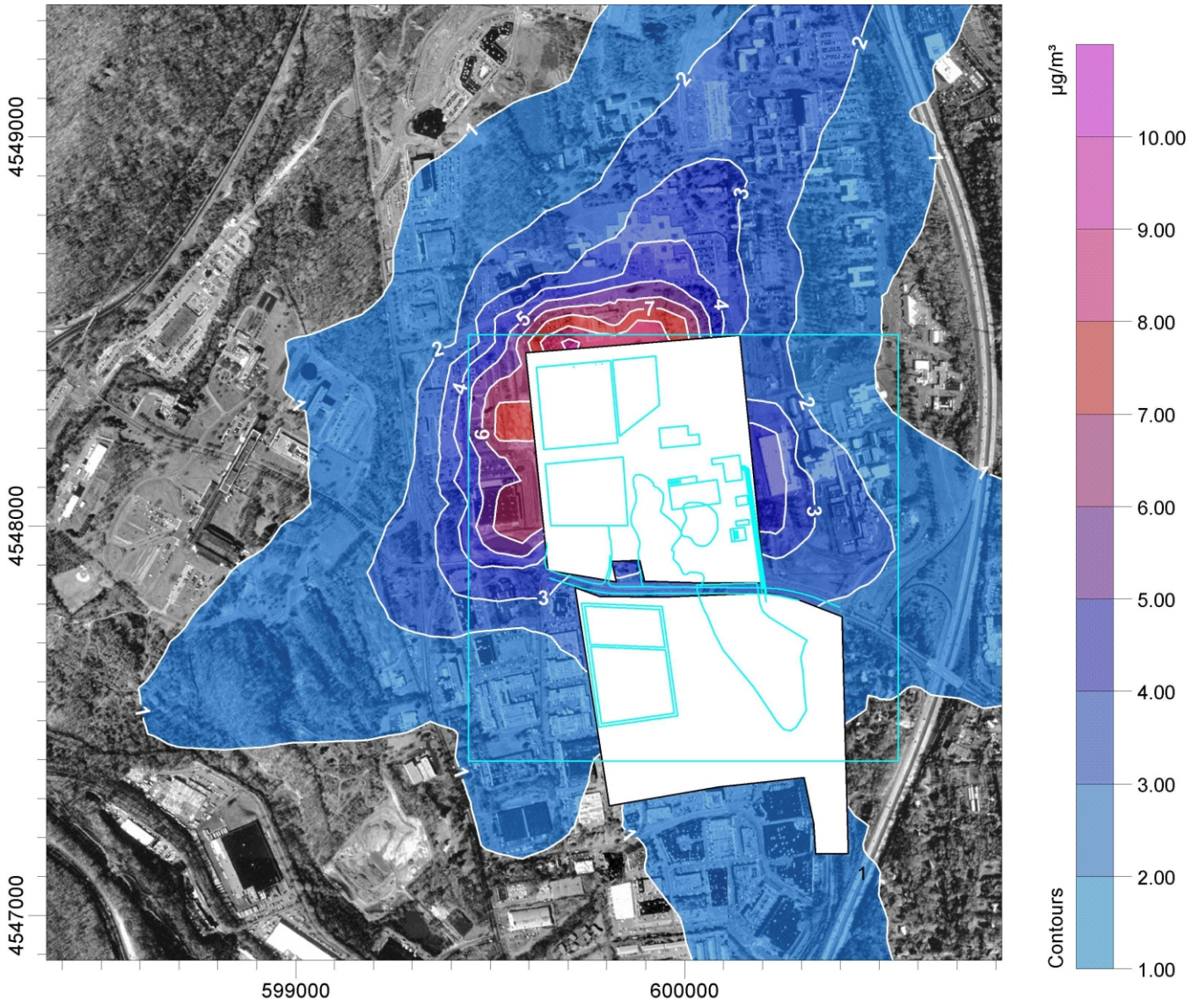
Isopleths of the Incremental PM*2.5* Combined Concentrations From On-Site Construction - Annual

Croton Water Treatment Plant

Figure 5.21-26



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Isopleths of the Incremental PM*2.5* Combined Concentrations From On-Site Construction - 24 Hour

Croton Water Treatment Plant

Figure 5.21-27

5.21.3.3. Noise

This section examines the potential construction impacts on the noise-sensitive receptors resulting from combined construction-induced noise generated by both the proposed Croton project and Cat/Del UV Facility at the Eastview Site. The combined noise effects during construction of the Croton project and Cat/Del UV Facility were calculated using the methodologies described in Section 4.10, Data Collection and Impact Methodologies, Noise. Both a mobile source noise analysis (2008) and a stationary source noise analysis (2006) were performed.

The future without the construction of either the proposed Croton project or Cat/Del UV Facility referred to in this section are those that have been fully examined and presented in Section 5.10, Noise. This "baseline" condition evaluates the combined project-related impacts for the 2008 construction analysis year.

5.21.3.3.1. Mobile Source Noise (2008)

A preliminary noise screening using passenger car equivalent (PCE) values was performed to determine whether receptors located near the identified noise-sensitive route segments would experience an increase in noise levels of 3 decibels (dBA) or more as a result of the additional vehicular traffic generated by the project. The preliminary noise screening was performed by comparing the existing PCEs with existing PCEs plus the addition of the future project-generated PCEs with the Croton project and Cat/Del UV Facility. The two time periods representing the largest increase in future PCEs resulting from the proposed construction activities were used for the comparative analysis. The anticipated construction-related peak mobile source year (2008) was selected for the construction analysis.

The roadways considered for the mobile source noise analysis at the Eastview Site are the eleven route segments presented in Section 5.10, Noise. The roadways considered for analysis were those local routes identified as possible transportation routes that connect the major thoroughfares to the Croton project and Cat/Del UV Facility sites where sensitive receptors along the proposed transportation routes were identified.

Tables 5.21-20 through 5.21-23, respectively, present the comparison of future PCEs from the proposed Croton project and Cat/Del UV Facility to existing PCEs along route segments for construction with the four different construction worker parking Options which are as follows:

Option A: All of the construction workers for both the Croton project and Cat/Del UV Facility would park at the Landmark property, west of the project site, and would be shuttled to the construction site in buses or vans.

Option B: All of the construction workers for both the Croton project and Cat/Del UV Facility would park at the Westchester Community College (WCC) Campus, east of the project site, and would be shuttled to the construction site in buses or vans.

TABLE 5.21-20. COMPARISON OF ANTICIPATED FUTURE PCES WITH THE CROTON PROJECT AND CAT/DEL UV FACILITY DURING CONSTRUCTION (2008) TO FUTURE PCES WITHOUT THE PROJECTS (CONSTRUCTION WORKER PARKING OPTION A)

	Route Segment	Period of Analysis (Weekday)	Pure No Build (without Croton) PCEs	Time	New Passenger Car (Croton)	New Trucks (Croton)	New Shuttle Buses (Croton)	New Passenger Car (CatDel)	New Trucks (CatDel)	New Shuttle Buses (CatDel)	New PCEs	PCE Ratio	Incremental Change in dBA	Further Analysis Performed?
1	Saw Mill River Road btw Tarrytown Rd & I-287	AM Peak	4428	6:30-7:30	43	9	2	29	9	2	981	1.22	0.87	No
		PM Peak	5863	3:30-4:30	54	9	2	36	9	2	999	1.17	0.68	No
2	Saw Mill River Rd. btw Hunter Ln and Grasslands Rd.	AM Peak	6541	6:30-7:30	46	0	0	31	0	0	77	1.01	0.05	No
		PM Peak	6061	3:30-4:30	2	0	0	2	0	0	4	1.00	0.00	No
3	Knollwood Rd btw Tarrytown Rd and I287	AM Peak	2392	6:30-7:30	5	2	0	3	2	0	196	1.08	0.34	No
		PM Peak	2622	3:30-4:30	3	3	1	4	2	0	251	1.10	0.40	No
4	Knollwood Rd. btw I-287 and Hevelyne Rd	AM Peak	1022	6:30-7:30	5	5	0	3	5	0	478	1.47	1.67	No
		PM Peak	1155	3:30-4:30	5	5	0	3	5	0	478	1.41	1.50	No
5	Knollwood Rd. btw Hevelyne rd. and Grasslands Rd.	AM Peak	1249	6:30-7:30	5	5	0	3	5	0	478	1.38	1.41	No
		PM Peak	896	3:30-4:30	5	5	0	3	5	0	478	1.53	1.86	No
6	Bradhurst btw Grasslands and Lakeview	AM Peak	1197	6:30-7:30	0	0	0	0	0	0	0	1.00	0.00	No
		PM Peak	1171	3:30-4:30	0	0	0	0	0	0	0	1.00	0.00	No
7	Grasslands Rd. btw Bradhurst and Sprain Brook Pkwy	AM Peak	2904	6:30-7:30	16	5	0	11	5	0	497	1.17	0.69	No
		PM Peak	2451	3:30-4:30	16	5	0	11	5	0	497	1.20	0.80	No
8	Grasslands Rd. btw Sprain Brook Pkwy and Walker Road	AM Peak	2399	6:30-7:30	309	0	0	204	0	0	513	1.21	0.84	No
		PM Peak	2422	3:30-4:30	309	0	0	204	0	0	513	1.21	0.83	No
9	Saw Mill River rd. btw Dana Rd. and Stevens Ave	AM Peak	7473	6:30-7:30	33	5	6	21	5	4	686	1.09	0.38	No
		PM Peak	6075	3:30-4:30	33	5	6	21	5	4	686	1.11	0.46	No
10	Saw Mill River Rd. bw Stevens Ave. and Saw Mill River Pkwy	AM Peak	8852	6:30-7:30	33	5	6	21	5	4	686	1.08	0.32	No
		PM Peak	5702	3:30-4:30	33	5	6	21	5	4	686	1.12	0.49	No
11	Dana Rd./Cottage Rd btw Saw Mill River Rd and Penitentiary Rd.	AM Peak	536	6:30-7:30	0	0	0	0	0	0	0	1.00	0.00	No
		PM Peak	558	3:30-4:30	0	0	0	0	0	0	0	1.00	0.00	No

Notes:

New PCEs = (no. of cars + no. of trucks(47)+ no. of buses(18))

PCE ratio = (Existing PCEs + Project generated PCEs) / Existing PCEs

Incremental change in dBA = 10 log (PCE ratio)

TABLE 5.21-21. COMPARISON OF ANTICIPATED FUTURE PCES WITH THE CROTON PROJECT AND CAT/DEL UV FACILITY DURING CONSTRUCTION (2008) TO FUTURE PCES WITHOUT THE PROJECTS (CONSTRUCTION WORKER PARKING OPTION B)

	Route Segment	Period of Analysis (Weekday)	Pure No Build (without Croton) PCEs	Time	New Passenger Car (Croton)	New Trucks (Croton)	New Shuttle Buses (Croton)	New Passenger Car (CatDel)	New Trucks (CatDel)	New Shuttle Buses (CatDel)	New PCEs	PCE Ratio	Incremental Change in dBA	Further Analysis Performed?
1	Saw Mill River Road btw Tarrytown Rd & I-287	AM Peak	4428	6:30-7:30	43	9	2	29	9	2	981	1.22	0.87	No
		PM Peak	5863	3:30-4:30	54	9	0	36	9	0	936	1.16	0.64	No
2	Saw Mill River Rd. btw Hunter Ln and Grasslands Rd.	AM Peak	6541	6:30-7:30	88	0	0	58	0	0	146	1.02	0.10	No
		PM Peak	6061	3:30-4:30	5	0	0	3	0	0	8	1.00	0.01	No
3	Knollwood Rd btw Tarrytown Rd and I287	AM Peak	2392	6:30-7:30	5	2	0	3	2	0	196	1.08	0.34	No
		PM Peak	2622	3:30-4:30	6	2	0	4	2	0	198	1.08	0.32	No
4	Knollwood Rd. btw I-287 and Hevelyne Rd	AM Peak	1022	6:30-7:30	5	5	0	3	5	0	478	1.47	1.67	No
		PM Peak	1155	3:30-4:30	5	5	0	3	5	0	478	1.41	1.50	No
5	Knollwood Rd. btw Hevelyne rd. and Grasslands Rd.	AM Peak	1249	6:30-7:30	5	5	0	3	5	0	478	1.38	1.41	No
		PM Peak	896	3:30-4:30	5	5	0	3	5	0	478	1.53	1.86	No
6	Bradhurst btw Grasslands and Lakeview	AM Peak	1197	6:30-7:30	0	0	0	0	0	0	0	1.00	0.00	No
		PM Peak	1171	3:30-4:30	0	0	0	0	0	0	0	1.00	0.00	No
7	Grasslands Rd. btw Bradhurst and Sprain Brook Pkwy	AM Peak	2904	6:30-7:30	429	5	11	283	5	7	1506	1.52	1.81	No
		PM Peak	2451	3:30-4:30	428	5	11	283	5	7	1505	1.61	2.08	No
8	Grasslands Rd. btw Sprain Brook Pkwy and Walker Road	AM Peak	2399	6:30-7:30	223	0	11	146	0	7	693	1.29	1.10	No
		PM Peak	2422	3:30-4:30	223	0	11	146	0	7	693	1.29	1.09	No
9	Saw Mill River rd. btw Dana Rd. and Stevens Ave	AM Peak	7473	6:30-7:30	33	5	6	21	5	4	686	1.09	0.38	No
		PM Peak	6075	3:30-4:30	33	5	0	21	5	0	524	1.09	0.36	No
10	Saw Mill River Rd. bw Stevens Ave. and Saw Mill River Pkwy	AM Peak	8852	6:30-7:30	33	5	6	21	5	4	686	1.08	0.32	No
		PM Peak	5702	3:30-4:30	33	5	0	21	5	0	524	1.09	0.38	No
11	Dana Rd./Cottage Rd btw Saw Mill River Rd and Penitentiary Rd.	AM Peak	536	6:30-7:30	0	0	0	0	0	0	0	1.00	0.00	No
		PM Peak	558	3:30-4:30	0	0	0	0	0	0	0	1.00	0.00	No

Notes:

New PCEs = (no. of cars + no. of trucks(47)+ no. of buses(18))

PCE ratio = (Existing PCEs + Project generated PCEs) / Existing PCEs

Incremental change in dBA = 10 log (PCE ratio)

TABLE 5.21-22. COMPARISON OF ANTICIPATED FUTURE PCES WITH THE CROTON PROJECT AND CAT/DEL UV FACILITY DURING CONSTRUCTION (2008) TO FUTURE PCES WITHOUT THE PROJECTS (CONSTRUCTION WORKER PARKING OPTION C)

	Route Segment	Period of Analysis (Weekday)	Pure No Build (without Croton) PCEs	Time	New Passenger Car (Croton)	New Trucks (Croton)	New Shuttle Buses (Croton)	New Passenger Car (CatDel)	New Trucks (CatDel)	New Shuttle Buses (CatDel)	New PCEs	PCE Ratio	Incremental Change in dBA	Further Analysis Performed?
1	Saw Mill River Road btw Tarrytown Rd & I-287	AM Peak	4428	6:30-7:30	46	9	3	28	9	1	992	1.22	0.88	No
		PM Peak	5863	3:30-4:30	52	9	2	36	9	1	970	1.17	0.66	No
2	Saw Mill River Rd. btw Hunter Ln and Grasslands Rd.	AM Peak	6541	6:30-7:30	67	0	0	44	0	0	111	1.02	0.07	No
		PM Peak	6061	3:30-4:30	3	0	0	3	0	0	6	1.00	0.00	No
3	Knollwood Rd btw Tarrytown Rd and I287	AM Peak	2392	6:30-7:30	6	2	0	4	2	0	198	1.08	0.35	No
		PM Peak	2622	3:30-4:30	4	2	0	4	2	0	196	1.07	0.31	No
4	Knollwood Rd. btw I-287 and Hevelyne Rd	AM Peak	1022	6:30-7:30	6	5	0	4	5	0	480	1.47	1.67	No
		PM Peak	1155	3:30-4:30	6	5	0	4	5	0	480	1.42	1.51	No
5	Knollwood Rd. btw Hevelyne rd. and Grasslands Rd.	AM Peak	1249	6:30-7:30	6	5	0	4	5	0	480	1.38	1.41	No
		PM Peak	896	3:30-4:30	6	5	0	4	5	0	480	1.54	1.86	No
6	Bradhurst btw Grasslands and Lakeview	AM Peak	1197	6:30-7:30	0	0	0	0	0	0	0	1.00	0.00	No
		PM Peak	1171	3:30-4:30	0	0	0	0	0	0	0	1.00	0.00	No
7	Grasslands Rd. btw Bradhurst and Sprain Brook Pkwy	AM Peak	2904	6:30-7:30	222	5	6	146	5	4	1000	1.34	1.29	No
		PM Peak	2451	3:30-4:30	223	5	6	152	3	4	889.5	1.36	1.34	No
8	Grasslands Rd. btw Sprain Brook Pkwy and Walker Road	AM Peak	2399	6:30-7:30	266	0	6	166	0	4	594	1.25	0.96	No
		PM Peak	2422	3:30-4:30	267	0	6	176	0	4	605	1.25	0.97	No
9	Saw Mill River rd. btw Dana Rd. and Stevens Ave	AM Peak	7473	6:30-7:30	32	5	5	22	5	4	686	1.09	0.38	No
		PM Peak	6075	3:30-4:30	32	5	3	22	5	2	605	1.10	0.41	No
10	Saw Mill River Rd. bw Stevens Ave. and Saw Mill River Pkwy	AM Peak	8852	6:30-7:30	32	5	5	22	5	4	686	1.08	0.32	No
		PM Peak	5702	3:30-4:30	32	5	3	22	5	2	605	1.11	0.44	No
11	Dana Rd./Cottage Rd btw Saw Mill River Rd and Penitentiary Rd.	AM Peak	536	6:30-7:30	0	0	0	0	0	0	0	1.00	0.00	No
		PM Peak	558	3:30-4:30	0	0	0	0	0	0	0	1.00	0.00	No

Notes:

New PCEs = (no. of cars + no. of trucks(47)+ no. of buses(18))

PCE ratio = (Existing PCEs + Project generated PCEs) / Existing PCEs

Incremental change in dBA = 10 log (PCE ratio)

TABLE 5.21-23. COMPARISON OF ANTICIPATED FUTURE PCES WITH THE CROTON PROJECT AND CAT/DEL UV FACILITY DURING CONSTRUCTION (2008) TO FUTURE PCES WITHOUT THE PROJECTS (CONSTRUCTION WORKER PARKING OPTION D)

	Route Segment	Period of Analysis (Weekday)	Pure No Build (without Croton) PCEs	Time	New Passenger Car (Croton)	New Trucks (Croton)	New Shuttle Buses (Croton)	New Passenger Car (CatDel)	New Trucks (CatDel)	New Shuttle Buses (CatDel)	New PCEs	PCE Ratio	Incremental Change in dBA	Further Analysis Performed?
1	Saw Mill River Road btw Tarrytown Rd & I-287	AM Peak	4428	6:30-7:30	43	9	2	29	9	2	981	1.22	0.87	No
		PM Peak	5863	3:30-4:30	54	9	2	36	9	2	999	1.17	0.68	No
2	Saw Mill River Rd. btw Hunter Ln and Grasslands Rd.	AM Peak	6541	6:30-7:30	46	0	0	0	0	0	46	1.01	0.03	No
		PM Peak	6061	3:30-4:30	2	0	0	0	0	0	2	1.00	0.00	No
3	Knollwood Rd btw Tarrytown Rd and I287	AM Peak	2392	6:30-7:30	5	2	0	3	2	0	196	1.08	0.34	No
		PM Peak	2622	3:30-4:30	3	3	1	4	2	0	251	1.10	0.40	No
4	Knollwood Rd. btw I-287 and Hevelyne Rd	AM Peak	1022	6:30-7:30	5	5	0	3	5	0	478	1.47	1.67	No
		PM Peak	1155	3:30-4:30	5	5	0	3	5	0	478	1.41	1.50	No
5	Knollwood Rd. btw Hevelyne rd. and Grasslands Rd.	AM Peak	1249	6:30-7:30	5	5	0	3	5	0	478	1.38	1.41	No
		PM Peak	896	3:30-4:30	5	5	0	3	5	0	478	1.53	1.86	No
6	Bradhurst btw Grasslands and Lakeview	AM Peak	1197	6:30-7:30	0	0	0	0	0	0	0	1.00	0.00	No
		PM Peak	1171	3:30-4:30	0	0	0	0	0	0	0	1.00	0.00	No
7	Grasslands Rd. btw Bradhurst and Sprain Brook Pkwy	AM Peak	2904	6:30-7:30	16	5	0	11	5	0	497	1.17	0.69	No
		PM Peak	2451	3:30-4:30	16	5	0	11	5	0	497	1.20	0.80	No
8	Grasslands Rd. btw Sprain Brook Pkwy and Walker Road	AM Peak	2399	6:30-7:30	309	0	0	204	0	0	513	1.21	0.84	No
		PM Peak	2422	3:30-4:30	309	0	0	204	0	0	513	1.21	0.83	No
9	Saw Mill River rd. btw Dana Rd. and Stevens Ave	AM Peak	7473	6:30-7:30	33	5	6	1	5	4	666	1.09	0.37	No
		PM Peak	6075	3:30-4:30	33	5	6	20	5	4	685	1.11	0.46	No
10	Saw Mill River Rd. bw Stevens Ave. and Saw Mill River Pkwy	AM Peak	8852	6:30-7:30	33	5	6	21	5	4	686	1.08	0.32	No
		PM Peak	5702	3:30-4:30	33	5	6	21	5	4	686	1.12	0.49	No
11	Dana Rd./Cottage Rd btw Saw Mill River Rd and Penitentiary Rd.	AM Peak	536	6:30-7:30	0	0	0	0	0	0	0	1.00	0.00	No
		PM Peak	558	3:30-4:30	0	0	0	0	0	0	0	1.00	0.00	No

Notes:

New PCEs = (no. of cars + no. of trucks(47)+ no. of buses(18))

PCE ratio = (Existing PCEs + Project generated PCEs) / Existing PCEs

Incremental change in dBA = 10 log (PCE ratio)

Option C: Parking for all the construction workers for both the Croton project and Cat/Del UV Facility would be split evenly between the Landmark property and WCC, and would be shuttled to the construction site in buses or vans.

Option D: Construction workers for the Croton project would park at the Landmark property, and construction workers for the Cat/Del UV Facility would park at the Home Depot, and both would be shuttled to the construction site in buses or vans.

As shown above in Tables 5.21-20 through 5.21-23, none of the noise-sensitive route segments would experience a doubling of PCEs in the Future with the Croton project and Cat/Del UV Facility. It was concluded that the noise-sensitive route segments in the vicinity of the project site would not exceed the 3 to 5 dBA impact threshold established in the *CEQR Technical Manual*. Therefore, noise-sensitive route segments associated with the Eastview Site were not examined further.

5.21.3.3.2. Stationary Source Noise (2006)

The construction-induced noise at Receptors EV-S5 and EV-S6 would be primarily a function of construction-induced noise resulting from the proposed Cat/Del UV Facility as opposed to the Croton project since the receptors are in close proximity to the Cat/Del UV Facility's construction activity zone. Therefore, the monthly total noise levels at Receptors EV-S5 and EV-S6 would remain the same as described in Section 5.10, Noise. Predicted noise levels were calculated by the noise prediction algorithms at each identified sensitive receptor for the full duration of the construction phase for both projects. The predicted noise levels at each receptor are summarized in Table 5.21-24.

An analysis was performed to determine the total distance beyond each receptor that noise levels exceeding the 3 to 5 dBA threshold would extend. This was performed to determine the distance that these unacceptable noise level increases would extend and to what extent local noise-sensitive receptors would be affected.

Noise levels that exceed the 3 to 5 dBA threshold would extend from the north end of the site to a maximum distance of approximately 3800 feet to the north of the County Laboratory, and extend approximately 1425 feet to the east of the penitentiary. The noise levels that exceed the 3 to 5 dBA threshold would extend approximately 1,225 feet to the south of the Hammond House. At receptors EV-S5 and EV-S6, the dominant noise source would be the Cat/Del UV Facility construction noise, therefore, refer to Section 5.10, discussing the lateral extents at these receptors.

The noise levels at receptor EV-S1 would exceed the 3 to 5 dBA threshold for the entire time period the Croton project and Cat/Del UV Facility are under construction. At receptor EV-S2, the duration of the noise level exceedances would occur through the construction periods of the Croton project and Cat/Del UV Facility together, with the exception of August 2006. At receptor EV-S3, the noise level exceedances would occur throughout the duration of construction activities, with the exception of August and September of 2009. The noise levels at receptor EV-S4 would exceed the 3 to 5 dBA threshold from September 2005 through July 2006, and

sporadically from November 2006 through June 2008. Duration of exceedances at receptors EV-S5 and EV-S6 are discussed in Section 5.10.

TABLE 5.21-24. MAXIMUM NOISE LEVELS FROM COMBINED CONSTRUCTION ACTIVITIES (CROTON PROJECT AND CAT/DEL UV FACILITY) AT RECEPTORS NEAR EASTVIEW SITE WITHOUT MITIGATION (LEQ, DBA)

Proximate Receptor	Monitoring Period	Future Without Projects Noise Level (2006)	Predicted Construction Noise Level (Croton project) (2005)	Predicted Construction Noise Level (Cat/Del UV Facility) (2006)	Total Noise Level During Construction[1] (2006)	Incremental Change	Impact Threshold	Exceed Threshold? (Y/N)
EV-S1	Quietest (2-3 pm)	52.8	77.4	69.3	78.1	25.3	5.0	Yes
	Noisiest (1-2 pm)	57.5	77.4	69.3	78.1	20.6	5.0	Yes
EV-S2	Quietest (2-3 pm)	56.3	76.8	64.9	78.0	21.7	5.0	Yes
	Noisiest (1-2 pm)	56.6	76.8	64.9	78.0	21.4	5.0	Yes
EV-S3	Quietest (2-3 pm)	54.6	61.6	63.9	66.4	11.8	5.0	Yes
	Noisiest (1-2 pm)	56.2	61.6	63.9	66.6	10.4	5.0	Yes
EV-S4	Quietest (2-3 pm)	56.7	67.5	60.0	68.8	12.1	5.0	Yes
	Noisiest (1-2 pm)	58.7	67.5	60.0	69.0	10.3	5.0	Yes
EV-S5[2]	Quietest (11-12 pm)	52.8	NA	59.4	60.3	7.5	5.0	Yes
	Noisiest (7-8 am)	58.2	NA	59.4	61.9	3.7	5.0	No
EV-S6[2]	Quietest (7-8 am)	59.0	NA	51.0	59.6	0.6	5.0	No
	Noisiest (3-4 pm)	62.1	NA	51.0	62.4	0.3	3.0	No

Notes:
[1]Total Noise Level During Construction based on logarithmic addition of Future Baseline (without Croton project and Cat/Del UV Facility) and Predicted Construction Noise Levels for Croton project and Cat/Del UV Facility. Note, predicted construction noise levels for Croton project peak construction year (2005) used.
[2]Predicted construction noise levels for Croton project not available. Predicted Cat/Del UV Facility noise levels shown above.

Noise levels due to construction activities would not violate the Town of Mount Pleasant noise ordinance that governs construction activities at three of the receptor locations as shown in Table 5.21-25. The predicted L_{10} construction-induced noise levels were calculated by the noise prediction algorithms in Section 4.10, Data Collection and Impact Methodologies, Noise. Measures to ensure compliance with Town of Mount Pleasant code under this scenario could include temporary noise barriers, fit air compressors, and cranes with silencers, or the use of walled enclosures around noisy construction activities.

TABLE 5.21-25. MAXIMUM NOISE LEVELS FROM COMBINED CONSTRUCTION ACTIVITIES (CROTON PROJECT AND CAT/DEL UV FACILITY) AT RECEPTORS NEAR EASTVIEW SITE WITHOUT MITIGATION COMPARED TO MOUNT PLEASANT CODE (L_{10}, dBA)

Proximate Receptor	Monitoring Period	Future Without Projects Noise Level[1] (2006)	Total Noise Level During Construction (2006)	Mount Pleasant Code (measured 400 ft. from construction site)[2]	Code Compliance
EV-S1	Quietest[3] (2-3 pm)	53.4	78.7	75.0	Exceeds
	Noisiest (1-2 pm)	56.2	76.9	75.0	Exceeds
EV-S2	Quietest (2-3 pm)	57.6	79.3	70.0	Exceeds
	Noisiest (1-2 pm)	57.2	78.7	70.0	Exceeds
EV-S3	Quietest (2-3 pm)	57.2	69.0	70.0	Meets
	Noisiest (1-2 pm)	56.0	66.4	70.0	Meets
EV-S4	Quietest (2-3 pm)	58.0	70.1	70.0	Meets
	Noisiest (1-2 pm)	60.2	70.5	70.0	Exceeds
EV-S5[4]	Quietest (11-12 pm)	58.4	65.5	70.0	Meets
	Noisiest (7-8 am)	58.4	62.1	70.0	Meets
EV-S6[4]	Quietest (7-8 am)	60.0	60.6	70.0	Meets
	Noisiest (3-4 pm)	63.0	63.3	70.0	Meets

Notes: [1]Total Noise Level During Construction based on logarithmic addition of Future Baseline (without Croton project and Cat/Del UV Facility) and Predicted Construction Noise Levels for Croton project and Cat/Del UV Facility. Note, predicted construction noise levels for Croton project peak construction year (2005) used.
[1]Maximum allowable noise levels based on land use.
[2]Quietest and noisiest time periods based on measured L_{eq} noise levels.
[3]Predicted construction noise levels for Croton project not available. Predicted Cat/Del UV Facility noise levels shown above.

5.21.4. Mitigation of Potential Combined Impacts

5.21.4.1. Traffic and Transportation

Mitigation analyses have been prepared to develop measures that would restore traffic conditions (lane group and/or approach delays and LOS) to Future Without the Project levels or better. Where it has not been possible to identify measures that would return service conditions to Future Without the Project levels, when those levels were better than mid-point LOS D, (delays of 45 seconds or less for signalized intersections and delays of 30 seconds or less for unsignalized intersections), measures have been identified that would result in at least a Mitigation condition of mid-LOS D.

The following text describes recommended mitigation measures for the combined impacts of the proposed Croton project and Cat/Del UV Facility, for both the 2010 Build (operational) condition potential adverse traffic impacts, and the 2008 Construction conditions (Options A, B, C, and D) potential temporary adverse impacts, for each of these types of impacts for the relevant project scenarios.

5.21.4.1.1. 2010 Combined Project Impacts and Mitigation

The combined operation of the proposed Croton project and Cat/Del UV Facility project would result in four potential adverse impacts (two during the AM peak hour and two during the PM peak hour) as compared to the "pure" 2010 Future Without the Project condition that includes neither project. These locations could be fully mitigated as shown in Table 5.21-26 and as described below.

The tables showing the results of applying the mitigation measures, also indicate the specific measures recommended for each location. For many of the locations, more than one measure was identified that could be implemented that would reduce delays back to or below Future Without the Project conditions. The assessment presented here relies on a combination of new traffic signals and traffic signal retiming or phasing changes as the recommended measures. Once the Croton project and Cat/Del UV Facility are built and operational, the various agencies responsible for maintaining traffic flow and roadways in the study area would conduct field inspections of the operations of the various intersections to determine if the proposed mitigation measures are actually warranted (particularly because traffic from anticipated No Build projects or background growth may be less than analyzed in this report).

Saw Mill River Road (Route 9A) and Ramada Inn/Broadway Plaza

During the PM peak hour, the eastbound through movement would continue to operate at LOS F with a 5.5-second increase in delay. The installation of a traffic signal at this location would fully mitigate this impact such that the eastbound through movement would improve to LOS C with 20.9 seconds of delay. All other movements and approaches at this location would also operate at LOS C or better.

It should be noted that the traffic analyses conducted for this area indicate that conditions at this location are already operating unacceptably during the PM peak hour under existing conditions, and are expected to deteriorate further in the future, even without the additional traffic from the proposed Croton project and Cat/Del UV Facility. Therefore, the installation of a traffic signal at this intersection may be warranted even without the proposed Croton project and Cat/Del UV Facility, to improve the operation of this intersection.

Although an impact was not identified for this location during the AM peak hour, an analysis was conducted to determine the effects of a new traffic signal. As shown in Table 5.21-26, the operation of the eastbound approach would improve from LOS E to LOS C as would the westbound left/through lane group. The northbound approach would improve from LOS B to LOS A and the southbound approach would continue to operate at LOS A. Although there would be an increase in delay for the westbound through/right lane group, this movement would operate at LOS C, which is considered reasonable for this location.

Old Saw Mill River Road and Saw Mill River Road (Route 9A) SB Ramps

During the AM peak hour, the northbound left-turn would continue to operate at LOS F with an increase in delay of 6.5 seconds. During the PM peak hour, the northbound left-turn would continue to operate at LOS F, with delays increased to beyond 150 seconds. This location could be fully mitigated with the installation of a traffic signal. As a result of this mitigation, all movements and intersection approaches would operate at LOS C or better compared to Future Without the Project conditions, in both the AM and PM peak hours.

It should be noted that the traffic analyses conducted for this area indicate that conditions at this location are already operating unacceptably under existing conditions, and are expected to deteriorate further in the future, even without the addition traffic from the proposed Croton project and Cat/Del UV Facility. Therefore, the installation of a traffic signal at this intersection may be warranted even without the proposed Croton project and Cat/Del UV Facility, to improve the operation of this intersection.

Grasslands Road (Route 100C) and Sprain Brook Parkway Northbound Ramp

The northbound left/through movement would deteriorate from LOS E with 75.4 seconds of delay, to LOS F with 89.0 seconds of delay, during the AM peak hour. The transfer of 2 seconds of green time from the east-west signal phase to the northbound phase would fully mitigate this impact. As a result, the northbound left-turn and through movement would improve to LOS E (delay 72.7 seconds) as would the northbound right-turn (delay 69.9 seconds). All of the other movements at this location would continue to operate at LOS C or better.

For locations where the installation of a new traffic signal has been recommended as a mitigation measure, formal Signal Warrant Studies would be performed, if requested by the agency(s) with jurisdiction over the particular intersection roadways involved.

TABLE 5.21-26. 2010 FUTURE WITHOUT THE PROJECT, 2010 COMBINED CONSTRUCTION, & 2010 COMBINED CONSTRUCTION WITH MITIGATION TRAFFIC CONDITIONS

Intersection	Approach	2010 Pure No Build				2010 Combined				2010 Mitigation				Mitigation Measures
		Lane Group	v/c Ratio	Delay (sec)	LOS	v/c Ratio	Delay (sec)		LOS	Lane Group	v/c Ratio	Delay (sec)	LOS	
AM Peak Hour														
Saw Mill River Road (Rt 9A) and Ramada Inn/Broadway Plaza	NB	L	0.10	10.2	B	0.10	10.2		B	L	0.20	4.1	A	Propose to be signalized (no impact)
										TR	0.32	4.3	A	
	SB	LT	0.01	9.0	A	0.01	9.0		A	LTR	0.39	4.6	A	
	EB	L	0.02	36.0	E	0.02	37.1		E	L	0.01	20.9	C	
		T	0.02	42.9	E	0.02	44.6		E	T	0.01	20.9	C	
	WB	LT	0.12	38.9	E	0.12	40.6		E	Def	0.06	21.2	C	
		TR	0.01	10.9	B	0.01	11.0		B	TR	0.03	21.0	C	
	Intersection		Unsignalized			Unsignalized						4.7	A	
Old Saw Mill River Road and Saw Mill River Road (Rt. 9A) SB Ramps	NB	L	1.00	152.7	F	1.02	159.2	+	F	L	0.37	30.4	C	Propose to be signalized
		R	0.24	18.6	C	0.24	18.9		C	R	0.22	29.0	C	
	EB									T	0.77	13.4	B	
										R	0.21	5.9	A	
	WB	L	0.17	12.2	B	0.17	12.2		B	L	0.33	7.1	A	
										T	0.27	6.2	A	
	Intersection		Unsignalized			Unsignalized						12.7	B	
Grassland Rd. (Route 100C) at Sprain Brook Pkwy NB Ramps	EB	L	0.09	14.8	B	0.11	14.9		B	L	0.11	16.0	B	Signal Retiming: Shift 2 seconds of green time from eastbound and westbound phase to northbound phase
		T	0.51	18.2	B	0.51	18.2		B	T	0.53	19.6	B	
	WB	TR	0.48	24.8	C	0.48	24.8		C	TR	0.51	26.4	C	
	NB	LT	1.03	76.4	E	1.07	89.0	+	F	LT	1.03	72.7	E	
		R	1.05	84.7	F	1.05	84.7		F	R	1.01	69.9	E	
	Intersection			48.2	D		51.4		D			45.0	D	
PM Peak Hour														
Saw Mill River Road (Rt 9A) and Ramada Inn/Broadway Plaza	NB	L	0.17	10.8	B	0.17	10.9		B	L	0.36	5.0	A	Propose to be signalized
										TR	0.40	4.7	A	
	SB	LT	0.01	9.6	A	0.01	9.6		A	LTR	0.45	4.9	A	
	EB	L	0.01	59.5	F	0.02	61.2		F	L	0.00	20.9	C	
		T	0.12	102.0	F	0.13	107.5	+	F	T	0.02	20.9	C	
	WB	LT	0.14	69.1	F	0.14	71.4		F	LTR	0.04	21.0	C	
		TR	0.03	18.7	C	0.03	19.1		C					
	Intersection		Unsignalized			Unsignalized						5.0	A	
Old Saw Mill River Road and Saw Mill River Road (Rt. 9A) SB Ramps	NB	L	1.31	**	F	1.35	**	+	F	L	0.35	30.1	C	Propose to be signalized
		R	0.30	16.5	C	0.30	16.6		C	R	0.35	30.1	C	
	EB									T	0.60	9.2	A	
										R	0.20	5.9	A	
	WB	L	0.19	11.6	B	0.19	11.6		B	L	0.37	7.3	A	
										T	0.55	8.5	A	
	Intersection		Unsignalized			Unsignalized						11.2	B	

Notes:

L = Left Turn, T = Through, R = Right Turn, Def = Defacto Left Turn; LOS = Level of Service. "+" indicates significant impacts.

" ** " indicates a calculated delay greater than 240 seconds.

All of the mitigation measures suggested above would serve to eliminate the potential adverse operational impacts of the combined projects. If the mitigation identified is not applied, the predicted adverse operational traffic impacts identified would not be mitigated. In the absence of implementing the mitigation measures proposed above, NYCDEP would consider other traffic management techniques (e.g., the use of traffic control officers, traffic cones, variable message signs, etc.) if approved by the governing roadway entity, to offset these adverse impacts, and ensure the smooth and safe operation of traffic.

5.21.4.1.2. 2008 Combined Construction Impacts and Mitigation

As mentioned previously, four different construction worker parking Options (A, B, C, and D) have been considered. This is because with the Croton project and Cat/Del UV Facility under construction at the Eastview Site concurrently, there would not be enough space on-site for all of the workers for both projects to park, as most of the available land area would either be under construction, or in use as construction lay-down or staging areas. These construction worker parking Options have been selected for analysis purposes, as representative of the types of routings that worker vehicles would use for off-site parking. As described in the traffic analyses (Section 5.9, Traffic and Transportation) each of the four construction worker parking Options also included an additional assignment for shuttle buses that would transport the workers between the Eastview Site and the off-site parking areas. The four construction worker parking Options that were analyzed are described below:

- *Option A:* All of the construction workers for both the Croton project and Cat/Del UV Facility would park at the Landmark property, west of the project site, and would be shuttled to the site in buses or vans.

- *Option B:* All of the construction workers for both the Croton project and Cat/Del UV Facility would park at the Westchester Community College (WCC) Campus, east of the project site, and would be shuttled to the site in buses or vans.

- *Option C:* Parking for all of the construction workers for both the Croton project and Cat/Del UV Facility would be split evenly between the Landmark property and WCC, and would be shuttled to the site in buses or vans.

- *Option D:* All of the construction workers for the Croton project would park at the Landmark property, west of the project site, and all of the construction workers for the Cat/Del UV Facility would park at the new Home Depot off Dana Road, just northwest of the project site. Rather than simply splitting the workers between the two sites, workers from the Cat/Del UV Facility were assigned to the Home Depot site because the property owner indicated that they anticipated that the parking that would be available would be just enough to accommodate the projected number of Cat/Del UV Facility construction worker vehicles, but would not be sufficient to accommodate the projected number of Croton project worker vehicles. All workers for either project would be shuttled to the site from their respective parking areas in buses or vans.

It is important to note that these 2008 Construction (Options A through D) conditions, reflect the maximum number of worker trips that would be expected at the peak of the concurrent construction of the Croton project and Cat/Del UV Facility, expected to occur for approximately 16 months (from the end of 2007 through the beginning of 2009). During other times during the 6-year construction period, the numbers of total workers traveling to and from the Eastview site would be substantially lower than for peak conditions in 2008. During these times with fewer workers, the impacts would be less than those discussed below, and would be likely to occur at locations similar to conditions outlined for Option A, because the workers would be able to park right at the Eastview Site, and the routing of those trips would be very similar to the routing examined for Option A.

2008 Combined Construction Option A Conditions

Under the scenario which compares a "pure" 2008 Future Without the Project condition to a 2008 Construction condition that includes both the Croton project and Cat/Del UV Facility under parking Option A, it was found that traffic from the additional construction vehicle trips would be anticipated to result in 31 potential temporary adverse traffic impacts, 10 during the AM peak hour and 21 during the PM peak hour. These potential adverse impacts could be fully mitigated as shown in Table 5.21-27 and as described below.

The tables showing the results of applying the mitigation measures also indicate the specific measures recommended for each location. For many of the locations, more than one measure was identified that could be implemented that would reduce delays back to or below Future Without the Project conditions. The assessment presented here relies mostly on a combination of new traffic signals, lane stripping changes, and traffic signal retiming or phasing changes as the recommended measures. However, some of the measures that were investigated were more extraordinary, involving additional lane construction or street widening, to give a complete range of potential measures that could eliminate impacts. Once the Croton project and Cat/Del UV Facility are built and operational, the various agencies responsible for maintaining traffic flow and roadways in the study area would conduct field inspections of the operations of the various intersections to determine if the proposed mitigation measures are actually warranted (particularly because traffic from anticipated No Build projects or background growth may be less than analyzed in this report).

Saw Mill River Road (Route 9A) and Saw Mill River Parkway Ramp

During the PM peak hour, the southbound through/right movement would deteriorate from LOS D with 54.3 seconds of delay to LOS E with 58.5 seconds of delay. This impact would be fully mitigated by shifting 1 second of green time from the eastbound signal phase to the north-south phase. As a result of this mitigation, this movement would improve to LOS D compared to Future Without the Project conditions, with 47.6 seconds of delay, and the remaining vehicle movements would operate at their 2008 Future Without the Project condition LOS, with no major changes in average vehicle delay.

TABLE 5.21-27. 2008 FUTURE WITHOUT THE PROJECT, 2008 COMBINED CONSTRUCTION OPTION A, & 2008 COMBINED CONSTRUCTION OPTION A WITH MITIGATION TRAFFIC CONDITIONS

Intersection	Approach	2010 Pure No Build				2010 Combined				2010 Mitigation				Mitigation Measures
		Lane Group	v/c Ratio	Delay (sec)	LOS	v/c Ratio	Delay (sec)		LOS	Lane Group	v/c Ratio	Delay (sec)	LOS	
AM Peak Hour														
Grasslands Road (Route 100C) (E-W) at Bradhurst Avenue	EB	L	0.71	36.6	D	0.75	39.9		D	L	0.66	33.4	C	Restripe westbound approach as 2 12-foot wide lanes, one left-turn shared through and one through shared right-turn.
		T	1.03	75.1	E	1.03	75.5		E	T	1.03	75.5	E	
		R	0.35	16.3	B	0.36	16.5		B	R	0.36	16.5	B	
	WB	L	0.68	56.6	E	0.68	56.6		E	LTR	0.49	26.7	C	
		TR	0.43	25.8	C	0.45	26.2		C					
	NB	L	0.23	23.3	C	0.26	23.9		C	L	0.26	23.9	C	
		TR	0.34	25.9	C	0.34	25.9		C	TR	0.34	25.9	C	
	SB	L	0.50	40.1	D	0.50	40.1		D	L	0.50	40.1	D	
		TR	0.68	49.7	D	0.68	49.7		D	TR	0.68	49.7	D	
	Intersection			45.2	D		45.2		D			44.2	D	
Saw Mill River Rd. (Rt. 9A) at Tarrytown White Plains Rd. (Rt. 119)	EB	L	0.97	66.8	E	1.12	113.5	+	F	L	0.96	58.4	E	New timing plan: Reduce cycle length from 120 to 110 seconds, as of eastbound leading(23s), eastbound/westbound(50s), northbound leading(9s), and northbound/southbound(28s).
		TR	0.38	14.5	B	0.38	14.5		B	TR	0.35	10.4	B	
	WB	L	0.17	22.3	C	0.17	22.3		C	L	0.17	21.1	C	
		TR	0.30	23.5	C	0.31	23.6		C	TR	0.32	22.2	C	
	NB	L	0.38	34.2	C	0.39	34.4		C	L	0.39	31.1	C	
		TR	0.62	40.3	D	0.72	44.9		D	TR	0.70	40.0	D	
	SB	L	0.24	33.9	C	0.29	36.6		D	L	0.43	39.5	D	
		T	0.42	34.9	C	0.44	35.3		D	T	0.62	43.3	D	
		R	0.23	22.1	C	0.24	22.2		C	R	0.25	20.9	C	
	Intersection			31.8	C		42.3		D			30.3	C	
Saw Mill River Road (Rt 9A) and Ramada Inn/Broadway Plaza	NB	L	0.09	10.0	A	0.20	11.0		B	L	0.42	5.4	A	Propose to be signalized
										TR	0.34	4.4	A	
	SB	LT	0.01	8.7	A	0.01	9.1		A	LTR	0.39	4.7	A	
	EB	L	0.01	31.9	D	0.03	54.3	+	F	L	0.01	20.9	C	
		T	0.02	36.9	E	0.03	66.0	+	F	T	0.01	20.9	C	
	WB	LT	0.10	33.1	D	0.19	65.7	+	F	Def	0.06	21.2	C	
		TR	0.01	10.6	B	0.01	11.2		B	TR	0.03	21.0	C	
	Intersection		Unsignalized			Unsignalized						4.9	A	
Old Saw Mill River Road and Saw Mill River Road (Rt. 9A) SB Ramps	NB	L	0.78	85.3	F	*	**	+	F	L	0.60	34.7	C	Propose to be signalized
		R	0.20	16.3	C	0.22	17.9		C	R	0.22	28.9	C	
	EB									T	0.73	12.2	B	
										R	0.22	6.0	A	
	WB	L	0.15	11.3	B	0.16	11.9		B	L	0.31	6.8	A	
										T	0.81	15.3	B	
	Intersection		Unsignalized			Unsignalized						15.0	B	
Grasslands Road (Route 100C) (E-W) and Saw Mill River Road NB Ramps (N-S)	NB	LT	0.06	25.7	D	*	**	+	F	LTR	0.41	44.1	D	Propose to be signalized
		TR	0.07	13.7	B	0.07	14.7		B					
	EB	L	0.21	10.1	B	0.37	16.1		C	L	0.83	33.7	C	
										T	0.68	12.9	B	
	WB									TR	1.01	42.8	D	
	Intersection		Unsignalized			Unsignalized						32.4	C	

TABLE 5.21-27. 2008 FUTURE WITHOUT THE PROJECT, 2008 COMBINED CONSTRUCTION OPTION A, & 2008 COMBINED CONSTRUCTION OPTION A WITH MITIGATION TRAFFIC CONDITIONS

Intersection	Approach	2010 Pure No Build				2010 Combined				2010 Mitigation				Mitigation Measures
		Lane Group	v/c Ratio	Delay (sec)	LOS	v/c Ratio	Delay (sec)		LOS	Lane Group	v/c Ratio	Delay (sec)	LOS	
AM Peak Hour														
Grassland Rd. (Route 100C) at Sprain Brook Pkwy SB Ramps	EB	TR	0.27	7.5	A	0.29	7.6		A	TR	0.29	8.1	A	Signal Retiming: shift 1 second of green time from eastbound/westbound phase to southbound phase
	WB	T	0.32	7.8	A	0.48	9.0		A	T	0.48	9.6	A	
	SB	L	0.55	34.0	C	0.55	34.0		C	L	0.52	32.8	C	
		R	0.32	31.0	C	0.82	48.4	+	D	R	0.79	44.4	D	
	Intersection			13.1	B		16.8		B			16.5	B	
Grassland Rd. (Route 100C) at Sprain Brook Pkwy NB Ramps	EB	L	0.09	14.7	B	0.14	15.2		B	L	0.42	31.4	C	New timing plan: reduce cycle length from 110 to 100 seconds, as of eastbound/westbound(34s) and northbound(66s)
		T	0.50	18.0	B	0.51	18.1		B	T	0.89	43.9	D	
	WB	TR	0.47	24.6	C	0.51	25.1		C	TR	0.70	33.8	C	
	NB	LT	1.00	68.7	E	*	**	+	F	LT	1.07	67.4	E	
		R	1.02	74.8	E	1.02	74.8		E	R	0.66	15.1	B	
	Intersection			44.0	D		132.9		F			44.2	D	
Virginia Road @ Bronx River Pkwy Westbound	EB	LT	1.12	126.9	F	1.13	130.6	+	F	LT	1.08	114.8	F	Signal Retiming: Shift 1 second of green time from northbound and southbound to eastbound and westbound
		R	0.21	19.6	B	0.21	19.6		B	R	0.21	19.0	B	
	WB	LTR	0.40	34.6	C	0.40	34.7		C	LTR	0.38	33.7	C	
	NB	L	0.04	46.3	D	0.06	46.4		D	L	0.06	46.4	D	
		TR	0.26	20.1	C	0.26	20.1		C	TR	0.27	20.7	C	
	SB	L	1.10	141.5	F	1.10	141.5		F	L	1.10	141.5	F	
		T	0.70	27.3	C	0.70	27.3		C	T	0.71	28.3	C	
	Intersection			53.9	D		54.5		D			52.4	D	
Grasslands Road (Route 100C) @ Virginia Road	SB	LT	0.23	8.3	A	0.23	8.4		A	LT	0.23	8.4	A	Restripe westbound approach as 2 lanes
	WB	LR	0.55	16.6	C	0.56	17.1		C	L	0.18	26.9	D	
										R	0.38	11.5	B	
Grasslands Road (Route 100C) @ Legion Drive	SB	L	0.42	29.8	D	0.43	31.0		D	L	0.32	21.1	C	Propose to be signalized
		R	0.20	12.1	B	0.21	12.4		B	R	0.45	22.2	C	
	EB	LT	0.07	8.5	A	0.07	8.6		A	LT	0.51	6.4	A	
	WB									T	0.41	5.7	A	
										R	0.03	0.0	A	
	Intersection		Unsignalized			Unsignalized						8.9	A	
Old Saw Mill River Road @ Landmark East Driveway	NB	LTR	0.07	17.5	C	0.21	19.7		C	LTR	0.50	38.8	D	Formailze the shoulder area of the westbound approach and restripe the approach with a 10-foot shared left and through lane and a 9-foot exclusive right-turn lane; provide the intersection with signalized operation
	SB	LTR	0.01	10.3	B	*	**	+	F	LTR	0.48	39.7	D	
	EB	LTR	0.01	8.1	A	0.02	9.3		A	LTR	0.95	37.2	D	
	WB	LTR	0.02	10.2	B	0.55	16.1		C	LT	0.96	30.8	C	
										R	0.32	2.3	A	
	Intersection		Unsignalized			Unsignalized						29.4	C	

Notes:

L = Left Turn, T = Through, R = Right Turn, Def = Defacto Left Turn; LOS = Level of Service. "+" indicates significant impacts.

" * " indicates a v/c ratio greater than 1.50; " ** " indicates a calculated delay greater than 240 seconds.

TABLE 5.21-27. 2008 FUTURE WITHOUT THE PROJECT, 2008 COMBINED CONSTRUCTION OPTION A, & 2008 COMBINED CONSTRUCTION OPTION A WITH MITIGATION TRAFFIC CONDITIONS

Intersection	Approach	2008 Pure No Build				2008 Combined				2008 Mitigation				Mitigation Measures
		Lane Group	v/c Ratio	Delay (sec)	LOS	v/c Ratio	Delay (sec)		LOS	Lane Group	v/c Ratio	Delay (sec)	LOS	
PM Peak Hour														
Saw Mill River Road (Rt.9A) (N-S) @ Saw Mill River Pkwy Ramp	EB	L	0.52	29.3	C	0.52	29.3		C	L	0.55	30.8	C	Signal Retiming: shift 1 second of green time from eastbound phase to northbound/southbound phase
		LTR	0.14	25.8	C	0.14	25.8		C	LTR	0.15	26.6	C	
	WB	L	0.14	34.1	C	0.14	34.1		C	L	0.14	34.1	C	
		LT	0.09	33.8	C	0.09	33.8		C	LT	0.09	33.8	C	
		R	0.04	33.6	C	0.04	33.6		C	R	0.04	33.6	C	
	NB	L	0.81	31.5	C	0.81	31.6		C	L	0.81	31.1	C	
		TR	0.55	15.4	B	0.61	16.3		B	TR	0.60	15.5	B	
	SB	L	0.13	21.4	C	0.14	21.6		C	L	0.14	20.8	C	
		TR	0.98	54.3	D	1.00	58.5	+	E	TR	0.95	47.6	D	
	Intersection			33.7	C		35.1		D			30.8	C	
Grasslands Road (Route 100C) (E-W) at Bradhurst Avenue	EB	L	*	**	F	*	**		F	L	0.67	31.2	C	Restripe westbound approach as 2 12-foot wide lanes, one left-turn shared through and one through shared right-turn. Shift 1 second of green time from eastbound/westbound phase to northbound lagging phase
		T	0.59	22.3	C	0.61	22.9		C	T	0.63	23.9	C	
		R	0.27	12.1	B	0.30	12.3		B	R	0.30	12.3	B	
	WB	L	0.22	18.0	B	0.23	18.1		B	LTR	0.74	26.6	C	
		TR	0.98	55.5	E	0.98	55.9		E					
	NB	L	0.87	58.7	E	0.90	64.9	+	E	L	0.85	55.0	E	
		TR	0.20	16.3	B	0.20	16.3		B	TR	0.19	15.7	B	
	SB	L	0.30	25.1	C	0.00	25.1		C	L	0.30	25.1	C	
		TR	1.12	109.2	F	1.12	109.2		F	TR	1.12	109.2	F	
	Intersection			70.0	E		70.0		E			44.1		
Knollwood Road (E-W) @ Cross Westchester Expy (I-287) WB Ramp	WB	LT	0.79	39.0	D	0.79	39.0		D	LT	0.82	42.8	D	Signal Retiming: shift 1 second of green time from westbound phase to northbound leading phase
		R	0.45	27.6	C	0.45	27.6		C	R	0.47	28.6	C	
	NB	L	0.95	52.6	D	0.97	58.2	+	E	L	0.93	47.6	D	
		T	0.52	10.5	B	0.53	10.6		B	T	0.52	10.0	A	
	SB	T	0.44	14.8	B	0.46	15.0		B	T	0.46	15.0	B	
		R	0.23	12.8	B	0.23	12.9		B	R	0.23	12.9	B	
	Intersection			26.7	C		27.7		C			26.2	C	
Saw Mill River Rd. (Rt. 9A) at Tarrytown White Plains Rd. (Rt. 119)	EB	L	0.99	76.6	E	1.02	83.3	+	F	L	1.00	76.3	E	Signal Retiming: reduce 2 second of green time of southbound lagging phase, from 9 to 7 seconds.
		TR	0.46	20.2	C	0.46	20.2		C	TR	0.45	19.2	B	
	WB	L	0.42	34.4	C	0.42	34.4		C	L	0.41	33.2	C	
		TR	0.88	48.6	D	0.89	49.7		D	TR	0.87	46.7	D	
	NB	L	0.30	25.0	C	0.34	25.8		C	L	0.33	23.3	C	
		TR	0.82	41.0	D	0.83	42.1		D	TR	0.82	39.5	D	
	SB	L	0.54	35.0	C	0.58	36.5		D	L	0.61	37.8	D	
		T	0.26	22.8	C	0.34	23.8		C	T	0.35	24.2	C	
		R	0.39	11.0	B	0.43	11.3		B	R	0.43	11.6	B	
	Intersection			35.0	C		35.9		D			34.0	C	

TABLE 5.21-27. 2008 FUTURE WITHOUT THE PROJECT, 2008 COMBINED CONSTRUCTION OPTION A, & 2008 COMBINED CONSTRUCTION OPTION A WITH MITIGATION TRAFFIC CONDITIONS

Intersection	Approach	2008 Pure No Build				2008 Combined				2008 Mitigation				Mitigation Measures
		Lane Group	v/c Ratio	Delay (sec)	LOS	v/c Ratio	Delay (sec)		LOS	Lane Group	v/c Ratio	Delay (sec)	LOS	
PM Peak Hour														
Saw Mill River Road (Rt 9A) and Ramada Inn/Broadway Plaza	NB	L	0.15	10.3	B	0.16	10.5		B	L	0.33	4.8	A	Propose to be signalized
										TR	0.39	4.6	A	
	SB	LT	0.01	9.4	A	0.01	9.6		A	LTR	0.41	4.7	A	
	EB	L	0.01	48.4	E	0.01	53.6	+	F	L	0.00	20.9	C	
		T	0.08	79.9	F	0.09	92.7	+	F	T	0.02	20.9	C	
	WB	LT	0.11	56.3	F	0.13	63.9	+	F	LTR	0.04	21.0	C	
		TR	0.03	17.0	C	0.03	18.0		C					
	Intersection		Unsignalized			Unsignalized						4.9	A	
Old Saw Mill River Road and Saw Mill River Road (Rt. 9A) SB Ramps	NB	L	0.99	145.4	F	*	**	+	F	L	0.68	39.4	D	Propose to be signalized
		R	0.28	15.7	C	0.68	57.2	+	F	R	0.66	38.8	D	
	EB									T	1.03	41.3	D	
										R	0.35	3.3	A	
	WB	L	0.17	11.2	B	0.39	23.5		C	L	0.60	9.2	A	
										T	0.45	3.7	A	
	Intersection		Unsignalized			Unsignalized						25.9	C	
Grasslands Road (Route 100C) (E-W) and Saw Mill River Road NB Ramps (N-S)	NB	LT	0.05	25.0	C	0.16	58.5	+	F	LTR	0.20	21.8	C	Propose to be signalized
		TR	0.16	14.2	B	0.35	29.6		D					
	EB	L	0.17	10.5	B	0.29	11.8		B	L	0.72	14.9	B	
										T	0.97	28.9	C	
	WB									TR	0.78	10.7	B	
	Intersection		Unsignalized			Unsignalized						20.5	C	
Old Saw Mill River Road @ Saw Mill River Pkwy SB Off Ramp	EB	LT	1.04	70.0	E	1.09	86.2	+	F	LT	1.02	64.4	E	Signal Retiming: shift 2 seconds of green time from southbound phase to eastbound/westbound phase
	WB	TR	0.42	9.2	A	0.54	10.3		B	TR	0.52	9.1	A	
	SB	L	0.29	23.1	C	0.29	23.1		C	L	0.31	24.8	C	
		LR	0.21	22.6	C	0.21	22.6		C	LR	0.24	24.2	C	
	Intersection			33.9	C		37.1		D			29.4	C	
Grassland Road (Route 100C) @ Clearbrook Road/Walker Road	EB	L	0.04	9.2	A	0.04	9.3		A	L	0.02	5.0	A	New timing plan: create a westbound lagging phase, as of eastbound/westbound(61s), westbound lagging(7s), and northbound/southbound(17s)
		TR	0.73	17.2	B	1.23	133.1	+	F	TR	1.01	42.7	D	
	WB	L	1.40	230.4	F	*	**	+	F	L	0.76	44.6	D	
		TR	0.70	16.7	B	0.73	17.5		B	TR	0.51	3.8	A	
	NB	LT	0.19	19.9	B	0.19	19.9		B	LT	0.64	44.0	D	
	SB	LT	0.23	20.3	C	0.23	20.3		C	LT	0.52	36.6	D	
		R	0.01	18.5	B	0.08	19.0		B	R	0.19	32.6	C	
	Intersection			42.3	D		144.3		F			31.2	C	

TABLE 5.21-27. 2008 FUTURE WITHOUT THE PROJECT, 2008 COMBINED CONSTRUCTION OPTION A, & 2008 COMBINED CONSTRUCTION OPTION A WITH MITIGATION TRAFFIC CONDITIONS

Intersection	Approach	2008 Pure No Build				2008 Combined				2008 Mitigation				Mitigation Measures
		Lane Group	v/c Ratio	Delay (sec)	LOS	v/c Ratio	Delay (sec)		LOS	Lane Group	v/c Ratio	Delay (sec)	LOS	
PM Peak Hour														
Grassland Rd. (Route 100C) at Sprain Brook Pkwy NB Ramps	EB	L	0.50	15.4	B	1.11	104.4	+	F	L	0.85	42.3	D	Switch eastbound leading phae to lagging phase
		T	0.32	9.0	A	0.34	9.1		A	T	0.34	8.6	A	
	WB	TR	1.06	67.9	E	1.07	71.4		E	TR	1.07	71.4	E	
	NB	LT	0.69	29.4	C	0.73	30.8		C	LT	0.73	30.8	C	
		R	0.35	23.1	C	0.35	23.1		C	R	0.35	23.1	C	
	Intersection			42.6	D		53.2		D			45.4	D	
Virginia Road @ Bronx River Pkwy Westbound	EB	LT	1.16	139.6	F	1.17	144.9	+	F	LT	1.13	127.3	F	Signal Retiming: Shift 1 second of green time from northbound and southbound to eastbound and westbound
		R	0.39	34.6	C	0.40	34.7		C	R	0.39	33.8	C	
	WB	LTR	1.26	185.8	F	1.28	193.5	+	F	LTR	1.17	149.5	F	
	NB	L	0.06	10.9	B	0.06	10.9		B	L	0.06	11.4	B	
		TR	0.62	25.3	C	0.62	25.3		C	TR	0.63	26.2	C	
	SB	L	0.13	11.7	B	0.13	11.7		B	L	0.13	12.2	B	
		T	0.59	24.7	C	0.59	24.7		C	T	0.60	25.5	C	
	Intersection			61.7	E		63.5		E			56.0	E	
Grasslands Road (Route 100C) @ Virginia Road	SB	LT	0.36	10.3	B	0.37	10.4		B	LT	0.37	10.4	B	Restripe westbound approach as 2 lanes
	WB	LR	1.23	155.8	F	1.26	166.5	+	F	L	0.65	60.1	F	
										R	0.61	19.6	C	
Grasslands Road (Route 100C) @ Legion Drive	SB	L	1.27	210.8	F	1.31	227.1	+	F	L	0.88	19.8	B	Propose to be signalized
		R	0.47	19.7	C	0.47	19.7		C	R	0.51	6.3	A	
	EB	LT	0.24	10.7	B	0.24	10.7		B	LT	0.18	0.1	A	
	WB									T	0.66	27.1	C	
										R	0.73	31.4	C	
	Intersection		Unsignalized			Unsignalized						15.5	B	
Old Saw Mill River Road @ Landmark West Driveway	EB	LTR	0.57	6.0	A	0.58	6.1		A	LTR	0.61	7.5	A	Shift 2 seconds of green time from EB/WB phase to NB/SB phase
	WB	LTR	0.43	4.9	A	0.43	4.9		A	LTR	0.45	5.9	A	
	NB	LTR	0.08	21.2	C	0.92	63.3	+	E	LTR	0.77	35.2	D	
	SB	LTR	0.03	21.0	C	0.03	21.0		C	LTR	0.02	19.3	B	
	Intersection			5.8	A		13.2		B			10.6	B	
Old Saw Mill River Road @ Landmark East Driveway	NB	LTR	0.11	30.0	D	1.08	103.2	+	F	LTR	0.86	39.4	D	Formailze the shoulder area of the westbound approach and restripe the approach with a 10-foot shared left and through lane and a 9-foot exclusive right-turn lane; provide the intersection with signalized operation
	SB	LTR	0.07	17.4	C	*	**	+	F	LTR	0.93	43.3	D	
	EB	LTR	0.01	8.7	A	0.01	8.8		A	LTR	0.86	27.4	C	
	WB	LTR	0.01	9.2	A	0.06	9.4		A	LT	0.95	43.8	D	
										R	0.06	11.9	B	
	Intersection		Unsignalized			Unsignalized						36.9	D	

Notes:

L = Left Turn, T = Through, R = Right Turn, Def = Defacto Left Turn; LOS = Level of Service. "+" indicates significant impacts.

" * " indicates a v/c ratio greater than 1.50; " ** " indicates a calculated delay greater than 240 seconds.

Knollwood Road (Route 100A) and Cross Westchester Expressway (I-287) Westbound Ramp

During the PM peak hour, the northbound left-turn movement would deteriorate from LOS D with 52.6 seconds of delay to LOS E with 58.2 seconds of delay. This impact would be mitigated with the transfer of 1 second of green time from the westbound signal phase to the northbound, leading phase. As a result of this mitigation, the northbound left-turn would improve to LOS D compared to Future Without the Project conditions, with 47.6 seconds of delay. The other vehicle movements would continue to operate at or better than their 2008 Future Without the Project condition LOS.

Grasslands Road (Route 100C) and Bradhurst Avenue (Route 100)

During the PM peak hour, the northbound left-turn movement would continue to operate at LOS E with a 6.2-second increase in delay. This impact would be mitigated by restriping the westbound approach to two lanes, one shared left/through lane, and one shared through/right lane. The additional capacity on the westbound approach would allow for the transfer of 1 second of green time from the east-west signal phase to the northbound lagging phase. As a result of this mitigation, the northbound left-turn would improve to LOS E compared to Future Without the Project conditions, with 55.0 seconds of delay, during the PM peak hour. The remaining vehicle movements would operate at or near their 2008 Future Without the Project LOS without resulting in any major changes in average vehicle delays.

An analysis was conducted to determine the impact of these geometric improvements (no changes to signal timing/phasing) to operations at this location during the AM peak hour. All of the vehicle movements at this location would operate at the same LOS as for 2008 Future Without the Project conditions, or better without resulting in any major changes in average vehicle delays.

Saw Mill River Road (Route 9A) and Tarrytown/White Plains Road (Route 119)

During the AM peak hour, the eastbound left-turn movement would deteriorate from LOS E to LOS F with a 46.7-second increase in delay. This impact would be mitigated with a new signal timing and phasing plan. The total signal cycle would be reduced by 10 seconds, and new phases would be introduced as shown in Table 5.21-27. As a result of this mitigation, the eastbound left-turn would improve to LOS E compared to Future Without the Project conditions, with 58.4 seconds of delay. This mitigation would result in a deterioration of the LOS at the southbound left-turn and southbound through movements as compared to 2008 Future Without the Project conditions, but these increases in delay would not constitute adverse impacts. The remaining vehicle movements at this location would operate at or better than predicted for the 2008 Future Without the Project conditions.

During the PM peak hour, the eastbound left-turn movement would deteriorate from LOS E with 78.6 seconds of delay to LOS F with 83.3 seconds of delay. This impact would be fully mitigated by transferring 2 seconds of green time from the southbound lagging signal phase to the east-west phase. As a result of this mitigation, the eastbound left-turn would improve to LOS E

compared to Future Without the Project conditions, with 76.3 seconds of delay. The remaining vehicle movements would at or better than their 2008 Future Without the Project LOS.

Saw Mill River Road (Route 9A) and Ramada Inn/Broadway Plaza

Construction period traffic would result in three adverse impacts at this location during both the AM and PM peak hours. During the AM, the eastbound left-turn movement and the westbound left/through movement would deteriorate from LOS D to LOS F, and the eastbound through movement would deteriorate from LOS E to LOS F. During the PM peak hour, the eastbound through movement and the westbound left/through movement would continue to operate at LOS F with 12.8- and 7.6-second increases in delay, respectively; the eastbound left-turn movement would deteriorate from LOS E to LOS F. These peak hour impacts would be fully mitigated with the installation of a traffic signal at this location. As a result of this mitigation, all vehicle movements would operate at LOS C or better compared to Future Without the Project conditions, with a maximum delay of 21.2 seconds, during either of the peak hours.

Saw Mill River Road (Route 9A) and Grasslands Road (Route 100C)

The northbound left-turn movement would continue to operate at LOS F in both the AM and PM peak hours with delay increasing to well beyond 150 seconds. In addition, during the PM peak, the northbound right-turn movement would deteriorate from LOS C to LOS F, with an increase of 41.5 seconds delay. These impacts would be fully mitigated with the installation of a traffic signal at this location. As a result of this mitigation, all of the vehicle movements would operate at LOS C or better compared to Future Without the Project conditions during the AM peak hour, with maximum delays of 34.7 seconds, and at LOS D or better compared to Future Without the Project conditions during the PM peak hour, with maximum delays of 41.3 seconds.

Grasslands Road (Route 100C) and Saw Mill River Road (Route 9A) Northbound Ramp

The northbound left/through movements would deteriorate from LOS D to LOS F during the AM peak hour and from LOS C to LOS F during the PM peak hour. These impacts would be fully mitigated with the installation of a traffic signal. As a result of this mitigation, all of the vehicle movements at this location would operate at LOS D or better during the AM peak hour (maximum delay 44.1 seconds) and at LOS C (maximum delay 28.9 seconds) during the PM peak hour.

Old Saw Mill River Road and Saw Mill River Parkway Southbound Off-Ramp

During the PM peak hour, the eastbound left/through movements would deteriorate from LOS E with 70.0 seconds of delay to LOS F with 86.2 seconds of delay. This impact would be mitigated with the transfer of 2 seconds of green time from the southbound signal phase to the east-west phase. This mitigation would improve the operation of the eastbound left/through movement to LOS E with 64.4 seconds of delay, and the remaining vehicle approaches would operate at LOS C or better.

Grasslands Road (Route 100C) and Clearbrook Road/Walker Road

During the PM peak hour, the eastbound through/right movement would deteriorate from LOS B with 17.2 seconds of delay to LOS F with 133.1 seconds of delay, and the westbound left-turn movement would remain at LOS F with delays of more than 150 seconds. A new signal timing and phasing plan would be implemented at this location to fully mitigate project-generated impacts as described in Table 5.21-27. As a result of this mitigation, all of the vehicle movements at this location would operate at LOS D or better compared to Future Without the Project conditions, with a maximum delay of 44.6 seconds during the PM peak hour.

Grasslands Road (Route 100C) and Sprain Brook Parkway Southbound Ramp

During the AM peak hour, the southbound right-turn movement would deteriorate from LOS C with 31.0 seconds of delay to LOS D with 48.4 seconds of delay. This location would be fully mitigated with a transfer of 1 second of green time from the east-west to the southbound signal phase. As a result of this mitigation, the southbound right-turn would improve to below mid-LOS D, with 44.4 seconds of delay, and the other vehicle movements would operate at LOS C or better compared to Future Without the Project conditions.

Grasslands Road (Route 100C) and Sprain Brook Parkway Northbound Ramp

During the AM peak hour, the northbound left/through movement would deteriorate from LOS E with 68.7 seconds of delay to LOS F with well beyond 150 seconds of delay. This impact would be fully mitigated with a new signal timing plan that reduces the cycle length by 10 seconds as shown in Table 5.21-27. As a result of this mitigation, the northbound left/through movement would improve to LOS E compared to Future Without the Project conditions, with 67.4 seconds of delay. Some other vehicle movements would experience deterioration in LOS compared to 2008 Future Without the Project conditions, but there would be no major changes in average vehicle delay.

During the PM peak hour, the eastbound left-turn movement would deteriorate from LOS B with 15.4 seconds of delay to LOS F with 104.4 seconds of delay. This impact could be mitigated by implementing a new signal phasing plan that results in an eastbound lagging phase rather than an eastbound leading phase. As a result of this mitigation, the eastbound left-turn would improve to LOS D with 42.3 seconds of delay compared to Future Without the Project conditions,. This mitigation would have no effect on the LOS of the remaining traffic movements at this intersection.

Virginia Road and Bronx River Parkway

The eastbound left/through movement would continue to operate at LOS F during the AM and PM peak hours with 3.7- and 5.3-second increases in delay, respectively. In addition, during the PM peak hour, the westbound approach would continue to operate at LOS F with a 7.7-second increase in delay. In both peak hours, these impacts would be mitigated with the transfer of 1 second of green time from the north-south phase to the east-west phase. Although

all of the impacted locations would continue to operate at LOS F, the mitigation would improve delays to better than those under 2008 Future Without the Project conditions.

Grasslands Road (Route 100) and Virginia Road

During the PM peak hour, the westbound approach would continue to operate at LOS F with a 10.7-second increase in delay. This impact could be mitigated by restriping the westbound approach to accommodate an additional travel lane. As a result of this mitigation, the westbound left-turn would improve to LOS F with 60.1 seconds of delay compared to Future Without the Project conditions, and the westbound right-turn would improve to LOS C with 19.6 seconds of delay.

An analysis was conducted to determine the impact of this improvement to operations at this location during the AM peak hour. All of the vehicle movements at this location would operate below mid-LOS D or better, with a maximum delay of 26.9 seconds.

Grasslands Road (Route 100) and Legion Drive

The southbound left-turn movement would remain at LOS F with an increase of 16.3 seconds of delay during the PM peak hour. This location could be fully mitigated with the installation of a traffic signal. As a result of this mitigation compared to Future Without the Project conditions, the southbound left-turn movement would operate at LOS B (19.8 seconds delay), and all of the other movements would operate at LOS C or better during the PM peak hour, with a maximum delay of 31.4 seconds.

Although no impacts were identified at this location during the AM peak hour, an analysis was conducted to test the impact of a traffic signal to vehicle operations. A signal at this location would improve operations for some movements but would increase delays for others. However, all of the vehicle movements would operate at LOS C or better during the AM peak hour, with a maximum delay of 22.2 seconds.

Old Saw Mill River Road and the Landmark at Eastview West Driveway

During the PM peak hour, the northbound approach would deteriorate from LOS C with 21.2 seconds delay, to LOS E with 63.3 seconds delay. These impacts would be mitigated with the transfer of 2 seconds of green time from the east-west phase to the north-south phase. The mitigation would improve the delay at this movement compared to Future Without the Project conditions, to 35.2 seconds (LOS D); the other approaches operating at LOS B or better.

Old Saw Mill River Road and the Landmark at Eastview East Driveway

During the AM peak hour, the southbound approach would deteriorate from LOS B to LOS F. During the PM peak hour, the northbound approach would deteriorate from LOS D to LOS F, and the southbound approach would deteriorate from LOS C to LOS F. These impacts could be mitigated with the installation of a traffic signal, in conjunction with expanding the westbound shoulder and restriping the westbound approach as indicated in Table 5.21-27, to

accommodate an additional travel lane. As a result of this mitigation, all of the vehicle movements would operate below mid-LOS D or better during the AM and PM peak hours compared to Future Without the Project conditions.

2008 Combined Construction Option B Conditions

Under the scenario which compares a "pure" 2008 Future Without the Project condition to a 2008 Construction condition that includes both the Croton project and Cat/Del UV Facility under parking Option B, it was found that traffic from the additional construction vehicle trips would be anticipated to result in 39 potential temporary adverse traffic impacts, 18 during the AM peak hour and 21 during the PM peak hour. These potential temporary adverse impacts could be fully mitigated as shown in Table 5.21-28 and as described below.

The tables showing the results of applying the mitigation measures also indicate the specific measures recommended for each location. For many of the locations, more than one measure was identified that could be implemented that would reduce delays back to or below Future Without the Project conditions. The assessment presented here relies mostly on a combination of new traffic signals, lane stripping changes, and traffic signal retiming or phasing changes as the recommended measures. However, some of the measures that were investigated were more extraordinary, involving additional lane construction or street widening, to give a complete range of potential measures that could eliminate impacts. Once the Croton project and Cat/Del UV Facility are built and operational, the various agencies responsible for maintaining traffic flow and roadways in the study area would conduct field inspections of the operations of the various intersections to determine if the proposed mitigation measures are actually warranted (particularly because traffic from anticipated No Build projects or background growth may be less than analyzed in this report).

Saw Mill River Road (Route 9A) and Stevens Avenue North

During the AM peak hour, the eastbound approach would deteriorate from LOS D to LOS E with a 5.6-second increase in delay. This impact would be fully mitigated with the installation of a traffic signal at this location. As a result of this mitigation, the eastbound approach would improve compared to Future Without the Project conditions, to LOS C with 22.5 seconds of delay, and the remaining approaches would operate at LOS C or better with a maximum delay of 22.7 seconds.

Although there would not be a project-generated impact at this location during the PM peak hour, an analysis was conducted to determine the effect of a traffic signal on vehicle operations. There would be a minimal decline in LOS at the northbound approach, but all vehicle movements would operate at LOS C or better during the AM peak hour with a maximum delay of 23.2 seconds per vehicle.

Saw Mill River Road (Route 9A) and Saw Mill River Parkway Ramp

During the PM peak hour, the southbound through/right movement would deteriorate from LOS D with 54.3 seconds of delay to LOS E with 58.5 seconds of delay. This impact would

TABLE 5.21-28. 2008 FUTURE WITHOUT THE PROJECT, 2008 COMBINED CONSTRUCTION OPTION B, & 2008 COMBINED CONSTRUCTION OPTION B WITH MITIGATION TRAFFIC CONDITIONS

Intersection	Approach	2008 Pure No Build				2008 Combined				2008 Mitigation				Mitigation Measures
		Lane Group	v/c Ratio	Delay (sec)	LOS	v/c Ratio	Delay (sec)		LOS	Lane Group	v/c Ratio	Delay (sec)	LOS	
AM Peak Hour														
Saw Mill River Road (Rt. 9A) and Stevens Avenue North	NB	LT	0.02	10.9	B	0.02	11.3		B	LTR	0.39	8.5	A	Propose to be signalized
	SB	LT	0.03	9.2	A	0.03	9.3		A	LTR	0.65	11.3	B	
	EB	LTR	0.02	35.0	D	0.03	40.6	+	E	LTR	0.01	22.5	C	
	WB	LTR	0.03	16.7	C	0.04	18.1		C	LTR	0.03	22.7	C	
	Intersection		Unsignalized			Unsignalized						10.4	B	
Grasslands Road (Route 100C) (E-W) at Bradhurst Avenue	EB	L	0.71	36.6	D	0.90	64.3	+	E	L	0.51	14.3	B	Remove the existing stripes on the right lane of the EB approach and restripe it with a shared through and right lane; remove the existing stripes on the left lane of the WB approach and restripe it with a shared left and through lane; channelize the SB approach with an exclusive right-turn lane, a through lane, and an exclusive right-turn lane; create a new signal plan as follows
		T	1.03	75.1	E	*	**	+	F	TR	1.01	41.4	D	
		R	0.35	16.3	B	0.36	16.5		B					
	WB	L	0.68	56.6	E	0.68	56.6		E	LTR	0.51	18.5	B	
		TR	0.43	25.8	C	0.55	27.9		C					
	NB	L	0.23	23.3	C	0.25	23.6		C	L	0.49	28.3	C	
		TR	0.34	25.9	C	0.36	26.2		C	TR	0.51	28.2	C	
	SB	L	0.50	40.1	D	0.52	40.8		D	L	0.64	33.9	C	
		TR	0.68	49.7	D	0.68	49.7		D	T	0.30	26.0	C	
										R	0.23	25.3	C	
														EB: G/A/R = 6/5/0
														EB/WB: G/A/R = 40/5/2
														NB/SB: G/A/R = 25/5/2
	Intersection			45.2	D		**		F			33.6	C	C = 90 seconds
Saw Mill River Rd. (Rt. 9A) at Tarrytown White Plains Rd. (Rt. 119)	EB	L	0.97	66.8	E	1.12	113.5	+	F	L	0.99	66.0	E	Provide the intersection with a new signal plan as follows
		TR	0.38	14.5	B	0.38	14.5		B	TR	0.35	10.4	B	
	WB	L	0.17	22.3	C	0.17	22.3		C	L	0.16	19.1	B	
		TR	0.30	23.5	C	0.31	23.6		C	TR	0.30	20.2	C	EB/SB-R: G/A/R = 15/3/2
	NB	L	0.38	34.2	C	0.39	34.4		C	L	0.39	31.1	C	EB/WB: G/A/R = 48/3/2
		TR	0.62	40.3	D	0.72	44.9		D	TR	0.70	40.0	D	NB: G/A/R = 6/3/0
	SB	L	0.24	33.9	C	0.29	36.6		D	L	0.43	39.5	D	NB/SB: G/A/R = 23/3/2
		T	0.42	34.9	C	0.44	35.3		D	T	0.62	43.3	D	C = 110 seconds
		R	0.23	22.1	C	0.24	22.2		C	R	0.26	22.9	C	
	Intersection			31.8	C		42.3		D			31.6	C	

TABLE 5.21-28. 2008 FUTURE WITHOUT THE PROJECT, 2008 COMBINED CONSTRUCTION OPTION B, & 2008 COMBINED CONSTRUCTION OPTION B WITH MITIGATION TRAFFIC CONDITIONS

Intersection	Approach	2008 Pure No Build				2008 Combined				2008 Mitigation				Mitigation Measures
		Lane Group	v/c Ratio	Delay (sec)	LOS	v/c Ratio	Delay (sec)		LOS	Lane Group	v/c Ratio	Delay (sec)	LOS	
AM Peak Hour														
Saw Mill River Road (Rt 9A) and Ramada Inn/Broadway Plaza	NB	L	0.09	10.0	A	0.10	10.3		B	L	0.20	4.1	A	Propose to be signalized
										TR	0.38	4.6	A	
	SB	LT	0.01	8.7	A	0.02	9.4		A	LTR	0.40	4.7	A	
	EB	L	0.01	31.9	D	0.02	41.0	+	E	L	0.01	20.9	C	
		T	0.02	36.9	E	0.03	52.4	+	F	T	0.01	20.9	C	
	WB	LT	0.10	33.1	D	0.15	50.5	+	F	Def	0.06	21.2	C	
		TR	0.01	10.6	B	0.01	11.6		B	TR	0.03	21.0	C	
	Intersection		Unsignalized			Unsignalized						4.8	A	
Old Saw Mill River Road and Saw Mill River Road (Rt. 9A) SB Ramps	NB	L	0.78	85.3	F	1.10	195.5	+	F	L	0.36	30.3	C	Propose to be signalized
		R	0.20	16.3	C	0.26	20.4		C	R	0.22	28.9	C	
	EB									T	0.22	15.9	B	
										R	0.21	5.9	A	
	WB	L	0.15	11.3	B	0.19	12.8		B	L	0.38	7.5	A	
										T	0.25	6.1	A	
	Intersection		Unsignalized			Unsignalized						14.1	B	
Grasslands Road (Route 100C) (E-W) and Saw Mill River Road NB Ramps (N-S)	NB	LT	0.06	25.7	D	0.07	30.5		D	LTR	0.42	21.5	C	Propose to be signalized
		TR	0.07	13.7	B	0.63	32.1	+	D					
	EB	L	0.21	10.1	B	0.21	10.2		B	L	0.53	7.5	A	
										T	0.82	13.5	B	
	WB									TR	0.58	7.1	A	
	Intersection		Unsignalized			Unsignalized						11.8	B	
Grassland Rd. (Route 100 C) and Clearbrook Rd/Walker Road	EB	L	0.01	2.6	A	0.01	2.6		A	L	0.01	2.9	A	Shift 1 second of green time from EB/WB phase to NB/SB phase
		TR	0.37	3.8	A	0.61	5.5		A	TR	0.62	6.0	A	
	WB	L	0.38	4.0	A	0.68	11.1		B	L	0.71	13.6	B	
		TR	0.39	3.9	A	0.44	4.1		A	TR	0.45	4.5	A	
	NB	LT	0.21	33.7	C	0.30	34.8		C	LT	0.25	33.3	C	
	SB	LT	0.21	33.8	C	0.68	48.5	+	D	LT	0.62	42.2	D	
		R	0.00	32.2	C	0.00	32.2		C	R	0.00	31.4	C	
	Intersection			5.3	A		8.4		A			8.7	A	
Grassland Rd. (Route 100C) at Sprain Brook Pkwy SB Ramps	EB	TR	0.27	7.5	A	0.44	8.7		A	TR	0.46	9.7	A	Shift 1 second of green time from EB/WB phase to SB phase
	WB	T	0.32	7.8	A	0.35	8.0		A	T	0.36	9.0	A	
	SB	L	0.55	34.0	C	0.88	53.9	+	D	L	0.81	44.4	D	
		R	0.32	31.0	C	0.32	31.0		C	R	0.30	29.3	C	
	Intersection			13.1	B		17.1		B			16.2	B	

TABLE 5.21-28. 2008 FUTURE WITHOUT THE PROJECT, 2008 COMBINED CONSTRUCTION OPTION B, & 2008 COMBINED CONSTRUCTION OPTION B WITH MITIGATION TRAFFIC CONDITIONS

Intersection	Approach	2008 Pure No Build				2008 Combined				2008 Mitigation				Mitigation Measures	
		Lane Group	v/c Ratio	Delay (sec)	LOS	v/c Ratio	Delay (sec)		LOS	Lane Group	v/c Ratio	Delay (sec)	LOS		
AM Peak Hour															
Grassland Rd. (Route 100C) at Sprain Brook Pkwy NB Ramps	EB	L	0.09	14.7	B	0.10	15.4		B	L	0.08	20.3	C	Formalize the shoulder areas of the EB and WB approaches to provide an additional moving lane for EB through traffic, and an exclusive WB right-turn lane, respectively; restripe each of both receiving sides with 3 lanes; provide a new signal plan as follows	
		T	0.50	18.0	B	0.92	33.4		C	T	0.96	42.4	D		
	WB	TR	0.47	24.6	C	0.56	26.0		C	T	0.56	24.5	C		
										R	0.18	20.8	C		
	NB	LT	1.00	68.7	E	1.00	68.7		E	LT	0.98	55.8	E		
		R	1.02	74.8	E	*	**	+	F	R	1.07	70.5	E		
														WB/NB-L:	G/A/R = 8/4/0
														EB/WB:	G/A/R = 19/4/0
														EB:	G/A/R = 8/4/1
														NB:	G/A/R = 36/4/2
	Intersection			44.0	D		93.1		F			47.5	D		C = 90 seconds
Virginia Road @ Bronx River Pkwy Westbound	EB	LT	1.12	126.9	F	1.17	145.7	+	F	LT	1.08	113.7	F	Shift 2 seconds of green time from NB/SB phase to EB/WB phase; shift another 6 seconds of green time from NB/SB phase to NB-L/SB-L phase	
		R	0.21	19.6	B	0.22	19.8		B	R	0.19	15.2	B		
	WB	LTR	0.40	34.6	C	0.43	35.0		D	LTR	0.39	33.1	C		
	NB	L	0.04	46.3	D	0.70	59.8	+	E	L	0.50	46.0	D		
		TR	0.26	20.1	C	0.26	20.1		C	TR	0.31	25.4	C		
	SB	L	1.10	141.5	F	1.10	141.5		F	L	0.79	59.4	E		
		T	0.70	27.3	C	0.70	27.3		C	T	0.82	36.9	D		
	Intersection			53.9	D		57.0		E			47.6	D		
Grasslands Road (Route 100C) @ Virginia Road	NB									TR	0.25	17.4	B	Provide a barrier for the WB-R traffic to create a free flow; and provide a signal plan as follows	
	SB	LT	0.23	8.3	A	0.24	8.4		A	LT	0.69	14.1	B		
	WB	LR	0.55	16.6	C	0.81	27.3		D	L	0.08	20.9	C		
														WB:	G/A/R = 23/4/1
														NB/SB:	G/A/R = 30/4/0
														SB:	G/A/R = 13/4/1
	Intersection		Unsignalized			Unsignalized						15.1	B		C = 80 seconds
Grasslands Road (Route 100C) @ Legion Drive	SB	L	0.42	29.8	D	0.58	50.3	+	F	L	0.32	21.1	C	Propose to be signalized	
		R	0.20	12.1	B	0.26	15.3		C	R	0.44	22.1	C		
	EB	LT	0.07	8.5	A	0.08	9.3		A	LT	0.54	6.8	A		
	WB									T	0.60	7.5	A		
										R	0.03	0.0	A		
	Intersection		Unsignalized			Unsignalized						9.4	A		
Grassland Road (Route 100C) @ WCC East Gate	EB	T	0.41	7.7	A	0.41	7.7		A	T	0.42	8.6	A	Narrow the concrete barrier on the east side of the NB approach by approximately 7 feet and stripe the approach with two 9-foot exclusive left-turn lanes; shift 2 seconds of green time from EB/WB phase to NB phase	
	WB	L	0.26	5.2	A	0.53	7.7		A	L	0.54	9.1	A		
		T	0.24	3.2	A	0.24	3.2		A	T	0.24	3.7	A		
	NB	L	0.07	45.8	D	0.56	52.0	+	D	L	0.28	45.5	D		
	Intersection			6.3	A		10.4		B			10.7	B		

TABLE 5.21-28. 2008 FUTURE WITHOUT THE PROJECT, 2008 COMBINED CONSTRUCTION OPTION B, & 2008 COMBINED CONSTRUCTION OPTION B WITH MITIGATION TRAFFIC CONDITIONS

Intersection	Approach	2008 Pure No Build				2008 Combined				2008 Mitigation				Mitigation Measures	
		Lane Group	v/c Ratio	Delay (sec)	LOS	v/c Ratio	Delay (sec)		LOS	Lane Group	v/c Ratio	Delay (sec)	LOS		
AM Peak Hour															
Grasslands Road (Route 100C) @ WCC West Gate	NB	L	0.06	20.5	C	0.24	84.1	+	F	L	0.14	36.0	D	Provide barriers for the EB-R and NB-R movements to create free flows; formalize the shoulder area of the WB approach and restripe the approach with an exclusive left-turn lane and a through lane; and provide a signal plan as follows	
		R	0.01	13.7	B	0.04	36.0	+	E						
	EB									T	1.04	43.9	D		
	WB	LT	0.00	9.9	A	0.01	16.3		C	L	0.01	1.4	A		
										T	0.28	1.9	A		
														EB/WB:	G/A/R = 79/4/1
														NB:	G/A/R = 5/4/1
	Intersection		Unsignalized			Unsignalized						34.9	C		C = 94 seconds
Old Saw Mill River Road @ Landmark East Driveway	NB	LTR	0.07	17.5	C	0.09	21.0		C	LTR	0.07	22.0	C	Propose to be signalized (No impact)	
	SB	LTR	0.01	10.3	B	0.01	10.3		B	LTR	0.02	21.7	C		
	EB	LTR	0.01	8.1	A	0.01	8.1		A	LTR	0.86	16.2	B		
	WB	LTR	0.02	10.2	B	0.02	11.0		B	LTR	0.3	5.7	A		
	Intersection		Unsignalized			Unsignalized						13.7	B		

Notes:

L = Left Turn, T = Through, R = Right Turn, Def = Defacto Left Turn; LOS = Level of Service. "+" indicates significant impacts.

" * " indicates a v/c ratio greater than 1.50; " ** " indicates a calculated delay greater than 240 seconds.

TABLE 5.21-28. 2008 FUTURE WITHOUT THE PROJECT, 2008 COMBINED CONSTRUCTION OPTION B, & 2008 COMBINED CONSTRUCTION OPTION B WITH MITIGATION TRAFFIC CONDITIONS

Intersection	Approach	2008 Pure No Build				2008 Combined			2008 Mitigation				Mitigation Measures
		Lane Group	v/c Ratio	Delay (sec)	LOS	v/c Ratio	Delay (sec)	LOS	Lane Group	v/c Ratio	Delay (sec)	LOS	
PM Peak Hour													
Saw Mill River Road (Rt. 9A) and Stevens Avenue North	NB	LT	0.01	9.8	A	0.01	9.8	A	LTR	0.67	11.7	B	Propose to be signalized (No impact)
	SB	LT	0.02	10.5	B	0.02	10.8	B	LTR	0.40	8.5	A	
	EB	LTR	0.13	24.1	C	0.14	25.8	D	LTR	0.10	23.2	C	
	WB	LTR	0.07	15.7	C	0.08	16.6	C	LTR	0.07	23.0	C	
	Intersection		Unsignalized			Unsignalized					10.8	B	
Saw Mill River Road (Rt. 9A) (N-S) at Saw Mill River Pkwy Ramps to Exec Park	EB	L	0.52	29.3	C	0.52	29.3	C	L	0.55	30.8	C	Shift 1 second of green time from EB phase to NB/SB phase
		LTR	0.14	25.8	C	0.14	25.8	C	LTR	0.15	26.6	C	
	WB	L	0.14	34.1	C	0.14	34.1	C	L	0.14	34.1	C	
		LT	0.09	33.8	C	0.09	33.8	C	LT	0.09	33.8	C	
		R	0.04	33.6	C	0.04	33.6	C	R	0.04	33.6	C	
	NB	L	0.81	31.5	C	0.81	31.6	C	L	0.81	31.1	C	
		TR	0.55	15.4	B	0.60	16.1	B	TR	0.58	15.3	B	
	SB	L	0.13	21.4	C	0.14	21.5	C	L	0.13	20.8	C	
		TR	0.98	54.3	D	1.00	58.5 +	E	TR	0.95	47.6	D	
	Intersection			33.7	C		35.2	D			30.9	C	
Grasslands Road (Route 100C) (E-W) at Bradhurst Avenue	EB	L	*	**	F	*	**	F	L	*	**	F	Remove the existing stripes on the right lane of the EB approach and restripe it with a shared through and right lane; remove the existing stripes on the left lane of the WB approach and restripe it with a shared left and through lane; channelize the SB approach with an exclusive right-turn lane, a through lane, and an exclusive right-turn lane; create a new signal plan as follows EB/WB: G/A/R = 46/5/2 NB/SB: G/A/R = 25/5/2 C = 85 seconds
		T	0.59	22.3	C	0.69	25.2	C	TR	0.43	11.8	B	
		R	0.27	12.1	B	0.29	12.2	B					
	WB	L	0.22	18.0	B	0.32	19.4	B	LTR	1.01	43.5	D	
		TR	0.98	55.5	E	*	** +	F					
	NB	L	0.87	58.7	E	0.90	64.9 +	E	L	0.79	38.0	D	
		TR	0.20	16.3	B	0.20	16.3	B	TR	0.29	23.5	C	
	SB	L	0.30	25.1	C	0.30	25.1	C	L	0.32	24.0	C	
		TR	1.12	109.2	F	1.12	109.2	F	T	0.39	24.5	C	
									R	0.85	43.5	D	
	Intersection			70.0	E		**	F			43.2	D	
Knollwood Road (E-W) at Cross Westchester Expwy (I-287) WB ramps	WB	LT	0.79	39.0	D	0.79	39.0	D	LT	0.82	42.8	D	Shift 1 second of green time from WB phase to NB phase
		R	0.45	27.6	C	0.45	27.6	C	R	0.47	28.6	C	
	NB	L	0.95	52.6	D	0.97	58.2 +	E	L	0.93	47.6	D	
		T	0.52	10.5	B	0.53	10.6	B	T	0.52	10.0	A	
	SB	T	0.44	14.8	B	0.46	15.0	B	T	0.46	15.0	B	
		R	0.23	12.8	B	0.23	12.9	B	R	0.23	12.9	B	
	Intersection			26.7	C		27.7	C			26.2	C	

TABLE 5.21-28. 2008 FUTURE WITHOUT THE PROJECT, 2008 COMBINED CONSTRUCTION OPTION B, & 2008 COMBINED CONSTRUCTION OPTION B WITH MITIGATION TRAFFIC CONDITIONS

Intersection	Approach	2008 Pure No Build				2008 Combined			2008 Mitigation				Mitigation Measures
		Lane Group	v/c Ratio	Delay (sec)	LOS	v/c Ratio	Delay (sec)	LOS	Lane Group	v/c Ratio	Delay (sec)	LOS	
PM Peak Hour													
Saw Mill River Rd. (Rt. 9A) at Tarrytown White Plains Rd. (Rt. 119)	EB	L	0.99	76.6	E	1.02	83.3 +	F	L	1.00	76.3	E	Change the cycle length from 107 to 105 seconds by decreasing the green time for SB phase by 2 seconds
		TR	0.46	20.2	C	0.46	20.2	C	TR	0.45	19.2	B	
	WB	L	0.42	34.4	C	0.42	34.4	C	L	0.41	33.2	C	
		TR	0.88	48.6	D	0.89	49.7	D	TR	0.87	46.7	D	
	NB	L	0.30	25.0	C	0.34	25.8	C	L	0.33	23.3	C	
		TR	0.82	41.0	D	0.83	42.1	D	TR	0.82	39.5	D	
	SB	L	0.54	35.0	C	0.57	36.4	D	L	0.61	37.6	D	
		T	0.26	22.8	C	0.34	23.7	C	T	0.35	24.2	C	
		R	0.39	11.0	B	0.43	11.3	B	R	0.43	11.5	B	
	Intersection			35.0	C		35.9	D			34.0	C	
Saw Mill River Road (Rt 9A) and Ramada Inn/Broadway Plaza	NB	L	0.15	10.3	B	0.16	10.5	B	L	0.32	4.7	A	Propose to be signalized
									TR	0.40	4.6	A	
	SB	LT	0.01	9.4	A	0.01	9.6	A	LTR	0.41	4.7	A	
	EB	L	0.01	48.4	E	0.01	53.0 +	F	L	0.00	20.9	C	
		T	0.08	79.9	F	0.09	90.6 +	F	T	0.02	20.9	C	
	WB	LT	0.11	56.3	F	0.13	63.9 +	F	LTR	0.04	21.0	C	
		TR	0.03	17.0	C	0.03	18.0	C					
	Intersection		Unsignalized			Unsignalized					4.9	A	
Old Saw Mill River Road and Saw Mill River Road (Rt. 9A) SB Ramps	NB	L	0.99	145.4	F	*	** +	F	L	0.57	27.8	C	Propose to be signalized
		R	0.28	15.7	C	0.28	15.8	C	R	0.57	28.2	C	
	EB								T	0.54	4.9	A	
									R	0.18	3.2	A	
	WB	L	0.17	11.2	B	0.43	14.0	B	L	0.76	13.9	B	
									T	0.57	5.1	A	
	Intersection		Unsignalized			Unsignalized					8.8	A	
Grasslands Road (Route 100C) (E-W) and Saw Mill River Road NB Ramps (N-S)	NB	LT	0.05	25.0	C	0.08	37.4 +	E	LTR	0.26	23.7	C	Propose to be signalized
		TR	0.16	14.2	B	0.19	14.5	B					
	EB	L	0.17	10.5	B	0.24	13.5	B	L	0.62	10.0	A	
									T	0.50	4.5	A	
	WB								TR	1.02	40.3	D	
	Intersection		Unsignalized			Unsignalized					26.6	C	
Saw Mill River Rd. at Saw Mill River Pkwy SB Off Ramp	EB	LT	1.04	70.0	E	1.08	83.6 +	F	LT	1.01	62.0	E	Shift 2 seconds of green time from SB phase to EB/WB phase
	WB	TR	0.42	9.2	A	0.52	10.1	B	TR	0.50	8.9	A	
	SB	L	0.29	23.1	C	0.29	23.1	C	L	0.31	24.8	C	
		LR	0.21	22.6	C	0.21	22.6	C	LR	0.24	24.2	C	
	Intersection			33.9	C		36.6	D			28.8	C	

TABLE 5.21-28. 2008 FUTURE WITHOUT THE PROJECT, 2008 COMBINED CONSTRUCTION OPTION B, & 2008 COMBINED CONSTRUCTION OPTION B WITH MITIGATION TRAFFIC CONDITIONS

Intersection	Approach	2008 Pure No Build				2008 Combined			2008 Mitigation				Mitigation Measures
		Lane Group	v/c Ratio	Delay (sec)	LOS	v/c Ratio	Delay (sec)	LOS	Lane Group	v/c Ratio	Delay (sec)	LOS	
PM Peak Hour													
Grassland Rd. (Route 100 C) and Clearbrook Rd/Walker Road	EB	L	0.04	9.2	A	0.07	9.7	A	L	0.08	7.9	A	Change the cycle length from 85 to 90 seconds by increasing the green time for EB/WB phase by 8 seconds and decreasing the green time for NB/SB phase by 3 seconds (a net increment of 5 seconds)
		TR	0.73	17.2	B	0.74	17.8	B	TR	0.67	13.5	B	
	WB	L	1.40	230.4	F	*	** +	F	L	1.03	85.9	F	
		TR	0.70	16.7	B	1.1	79.6 +	E	TR	0.99	42.9	D	
	NB	LT	0.19	19.9	B	0.20	20.0	C	LT	0.27	25.1	C	
	SB	LT	0.23	20.3	C	0.34	21.4	C	LT	0.39	26.4	C	
		R	0.01	18.5	B	0.01	18.5	B	R	0.01	22.8	C	
	Intersection			42.3	D		71.9	E			35.2	D	
Grassland Rd. (Route 100C) at Sprain Brook Pkwy NB Ramps	EB	L	0.50	15.4	B	0.50	15.4	B	L	0.62	43.5	D	Formalize the shoulder areas of the EB and WB approaches to provide an additional moving lane for EB through traffic, and an exclusive WB right-turn lane, respectively; restripe each of both receiving sides with 3 lanes; provide a new signal plan as follows WB: G/A/R = 16/4/0 EB/WB: G/A/R = 32/4/0 EB: G/A/R = 8/4/1 NB: G/A/R = 26/4/1 C = 100 seconds
		T	0.32	9.0	A	0.36	9.2	A	T	0.33	18.5	B	
	WB	TR	1.06	67.9	E	*	** +	F	T	0.99	42.6	D	
									R	0.43	15.2	B	
	NB	LT	0.69	29.4	C	0.69	29.4	C	LT	0.77	41.8	D	
		R	0.35	23.1	C	0.38	23.3	C	R	0.42	31.4	C	
	Intersection			42.6	D		206.8	F			34.4	C	
Virginia Road @ Bronx River Pkwy Westbound	EB	LT	1.16	139.6	F	1.47	** +	F	LT	1.16	134.7	F	Shift 7 seconds of green time from NB/SB phase to EB/WB phase
		R	0.39	34.6	C	0.67	41.5	D	R	0.56	32.9	C	
	WB	LTR	1.26	185.8	F	*	** +	F	LTR	0.95	73.0	E	
	NB	L	0.06	10.9	B	0.07	11.0	B	L	0.08	14.4	B	
		TR	0.62	25.3	C	0.62	25.3	C	TR	0.71	31.9	C	
	SB	L	0.13	11.7	B	0.13	11.7	B	L	0.15	15.3	B	
		T	0.59	24.7	C	0.59	24.7	C	T	0.67	30.9	C	
	Intersection			61.7	E		113.1	F			53.4	D	
Grasslands Road (Route 100C) @ Virginia Road	NB								TR	0.81	37.6	D	Provide a barrier for the WB-R traffic to create a free flow; and provide a signal plan as follows WB: G/A/R = 13/4/1 NB/SB: G/A/R = 35/4/0 SB: G/A/R = 38/4/1 C = 100 seconds
	SB	LT	0.36	10.3	B	0.57	12.8	B	LT	0.96	30.0	C	
	WB	LR	1.23	155.8	F	*	** +	F	L	0.46	41.8	D	
	Intersection			Unsignalized			Unsignalized				33.4	C	
Grasslands Road (Route 100C) @ Legion Drive	SB	L	1.27	210.8	F	*	** +	F	L	0.71	36.1	D	Propose to be signalized
		R	0.47	19.7	C	0.47	20.1	C	R	0.78	42.9	D	
	EB	LT	0.24	10.7	B	0.24	10.8	B	LT	0.98	36.6	D	
	WB								T	0.48	6.0	A	
									R	0.18	0.1	A	
	Intersection			Unsignalized			Unsignalized				25.0	C	

TABLE 5.21-28. 2008 FUTURE WITHOUT THE PROJECT, 2008 COMBINED CONSTRUCTION OPTION B, & 2008 COMBINED CONSTRUCTION OPTION B WITH MITIGATION TRAFFIC CONDITIONS

Intersection	Approach	2008 Pure No Build				2008 Combined			2008 Mitigation				Mitigation Measures
		Lane Group	v/c Ratio	Delay (sec)	LOS	v/c Ratio	Delay (sec)	LOS	Lane Group	v/c Ratio	Delay (sec)	LOS	
PM Peak Hour													
Grassland Road (Route 100C) @ WCC East Gate	EB	T	0.72	16.6	B	0.72	16.6	B	T	0.91	42.2	D	Narrow the concrete barrier on the east side of the NB approach by approximately 7 feet and stripe the approach with two 9-foot exclusive left-turn lanes; arrange the signal timings as follows EB/WB: G/A/R = 39/4/1 WB: G/A/R = 5/4/1 NB: G/A/R = 35/5/1 C = 95 seconds
	WB	L	0.21	11.1	B	0.24	11.3	B	L	0.35	27.4	C	
		T	0.58	7.9	A	0.58	7.9	A	T	0.73	20.8	C	
	NB	L	0.62	30.6	C	*	** +	F	L	0.92	41.0	D	
	Intersection			14.5	B		**	F			35.2	D	
Grasslands Road (Route 100C) @ WCC West Gate	NB	L	0.26	50.2	F	1.04	** +	F	L	0.31	44.7	D	Provide barriers for the EB-R and NB-R movements to create free flows; formalize the shoulder area of the WB approach and restripe the approach with an exclusive left-turn lane and a through lane; and provide a signal plan as follows EB/WB: G/A/R = 65/4/1 NB: G/A/R = 5/4/1 C = 80 seconds
		R	0.49	18.4	C	0.56	22.1	C					
	EB								T	0.42	2.1	A	
	WB	LT	0.12	9.1	A	0.13	9.5	A	L	0.20	1.6	A	
									T	1.05	43.8	D	
	Intersection		Unsignalized			Unsignalized					30.4	C	
Old Saw Mill River Road @ Landmark East Driveway	NB	LTR	0.11	30.0	D	0.14	39.2 +	E	LTR	0.05	21.9	C	Propose to be signalized
	SB	LTR	0.07	17.4	C	0.09	21.4	C	LTR	0.07	22.0	C	
	EB	LTR	0.01	8.7	A	0.01	9.2	A	LTR	0.57	7.7	A	
	WB	LTR	0.01	9.2	A	0.01	9.2	A	LTR	0.55	7.4	A	
	Intersection		Unsignalized			Unsignalized					7.9	A	

Notes:

L = Left Turn, T = Through, R = Right Turn, Def = Defacto Left Turn; LOS = Level of Service. "+" indicates significant impacts.
" * " indicates a v/c ratio greater than 1.50; " ** " indicates a calculated delay greater than 240 seconds.

be mitigated with the transfer of 1 second of green time from the eastbound signal phase to the north-south phase. As a result of this mitigation, the southbound through/right movement would improve compared to Future Without the Project conditions, to LOS D with 47.8 seconds of delay, and all of the other vehicle movements would operate at LOS C or better.

Grasslands Road (Route 100C) and Bradhurst Avenue (Route 100)

During the AM peak hour, there would be construction-related impacts on the eastbound left-turn and through movements. The eastbound left-turn would deteriorate from LOS D with 36.6 seconds of delay to LOS E with 64.3 seconds of delay, and the through movement would deteriorate from LOS E with 75.1 seconds of delay to LOS F with well beyond 150 seconds of delay. A number of measures would be implemented at this location to mitigate these potential adverse impacts. The eastbound and westbound approaches would be restriped to accommodate two lanes, one shared left/through lane and one, shared through/right lane. The southbound approach would be channelized to allow for a dedicated, free-flow right turn movement, and a new signal timing and phasing plan would be implemented as described in Table 5.21-28. As a result of this mitigation, operations at this location would improve substantially compared to Future Without the Project conditions, and all vehicle movements would operate at LOS D or better with a maximum delay of 41.4 seconds.

During the PM peak hour, the westbound through/right movement would deteriorate from LOS E to LOS F with delays of over 150 seconds. The northbound left-turn movement, which would continue to operate at LOS E, would experience a 6.2-second increase in delay. As described above for the AM peak hour, a number of measures would be required to fully mitigate the impacts at this location, including lane restriping, channelization, and new signal timing and phasing. With the implementation of these mitigation measures, the operation of this intersection would improve greatly compared to Future Without the Project conditions,, and all vehicle movements would operate reasonably without major changes in LOS or delay, compared with 2008 Future Without the Project conditions.

Knollwood Road (Route 100A) and Cross Westchester Expressway (I-287) Westbound Ramp

The northbound left-turn movement would deteriorate from LOS D to LOS E with a 3.6-second increase in delay. This impact would be mitigated with the transfer of 1 second of green time from the westbound signal phase to the northbound phase such that the northbound left-turn would improve compared to Future Without the Project conditions, to LOS D with 47.6 seconds of delay. The remaining vehicle movements at this location would operate at or better than their 2008 Future Without the Project LOS.

Saw Mill River Road (Route 9A) and Tarrytown/White Plains Road (Route 119)

The eastbound left turn would deteriorate from LOS E to LOS F with 46.7- and 7.7-second increases in delay during the AM and PM peak hours, respectively. During the AM peak hour, a new signal phasing and timing plan would be required to fully mitigate this impact. This mitigation would improve the eastbound left-turn compared to Future Without the Project conditions, to LOS E with 66.0 seconds of delay, and the remaining approaches would operate at

or near their 2008 Future Without the Project LOS. During the PM peak hour, a 2 second reduction in the signal cycle would mitigate the adverse impact at this location. As a result of this mitigation, the eastbound left-turn movement would improve compared to Future Without the Project conditions, to LOS E with 76.3 seconds of delay and the other intersection approaches would operate at LOS D or better with no major changes in delay as compared to the 2008 Future Without the Project conditions.

Saw Mill River Road (Route 9A) and Ramada Inn/Broadway Plaza

In both the AM and PM peak hours, there would be adverse impacts on the eastbound left-turn, eastbound through, and westbound left/through movements. During the AM, the eastbound left-turn would deteriorate from LOS D to LOS E; the eastbound through would deteriorate from LOS E to LOS F; and the westbound left/through movement would deteriorate from LOS D to LOS F. During the PM peak hour, the eastbound left-turn would deteriorate from LOS E to LOS F, and the eastbound through and westbound left/through movements would operate at LOS F with major increases in delay. All of these impacts would be mitigated with the installation of a traffic signal at this location. As a result of this mitigation, all of the vehicle movements at this location would operate at LOS C or better compared to Future Without the Project conditions, with a maximum delay of 21.2 seconds during the AM and PM peak hours.

Grasslands Road (Route 100C) and Saw Mill River Road (Route 9A)

During both the AM and PM peak hours, the northbound left-turn movement would remain at LOS F, with increases in delay of 110.2 seconds during the AM peak, and delays increasing to well beyond 150 seconds during the PM peak. These impacts would be mitigated with the installation of a traffic signal at this location. As a result of this mitigation, all of the vehicle movements would operate at LOS C or better compared to Future Without the Project conditions, with a maximum delay of 30.3 seconds during the AM and PM peak hours.

Grasslands Road (Route 100C) and Saw Mill River Road (Route 9A) Northbound Ramp

During the AM peak hour, the northbound through/right movement would deteriorate from LOS B to LOS D, experiencing an 18.4-second increase in delay. During the PM peak hour, the northbound left/through movement would deteriorate from LOS C with 25.0 seconds of delay to LOS E with 37.4 seconds of delay. These impacts would be mitigated with the installation of a traffic signal at this location. As a result of this mitigation compared to Future Without the Project conditions, all of the vehicle movements would operate at LOS C or better during the AM peak hour, with a maximum delay of 21.5 seconds; during the PM peak hour, all of the vehicle movements would operate at LOS D or better with a maximum delay of 40.3 seconds.

Old Saw Mill River Road and Saw Mill River Parkway Southbound Ramp

The eastbound approach would deteriorate from LOS E to LOS F with a 13.6-second increase in delay during the PM peak hour. This impact would be mitigated by shifting 2 seconds of green time from the southbound signal phase to the east-west phase. As a result of this

mitigation, the eastbound approach would improve compared to Future Without the Project conditions, to LOS E with 62.0 seconds of delay, and the other approaches would operate at their 2008 Future Without the Project LOS, or better.

Grasslands Road (Route 100C) and Clearbrook Road/Walker Road

The southbound left/through movement would deteriorate from LOS C with 33.8 seconds of delay to LOS D with 48.5 seconds of delay during the AM peak hour. This impact would be mitigated by transferring 1 second of green time from the east-west signal phase to the north-south phase. As a result of this mitigation, the southbound left/through movement would operate below mid-LOS D, with 44.4 seconds of delay. The remaining vehicle movements would continue to operate at their 2008 Future Without the Project LOS with no major changes in their average vehicle delays.

During the PM peak hour, construction-related traffic would result in two temporary adverse impacts at this intersection. The westbound left-turn would continue to operate at LOS F, with delays increasing beyond 150 seconds. The westbound through/right movement would deteriorate from LOS B to LOS E with a 62.9-second increase in delay. These impacts would be mitigated with signal timing adjustments. The cycle length would be extended from 85 to 90 seconds, and the north-south phase would be reduced by 3 seconds. These measures would also allow for an 8-second increase in the east-west phase. As a result of this mitigation these movements would improve compared to Future Without the Project conditions, with an LOS F with 85.9 seconds of delay for the northbound left-turn, and an LOS D with 42.9 seconds of delay for the northbound through/right movement. The remaining vehicle movements would operate at LOS C or better with a maximum delay of 26.4 seconds per vehicle.

Grasslands Road (Route 100C) and Sprain Brook Parkway Southbound Ramp

The southbound left-turn movement would deteriorate from LOS C with 34.0 seconds of delay to LOS D with 53.9 seconds of delay during the AM peak hour. A 1-second shift of green signal time from the east-west phase to the southbound phase would fully mitigate this impact. As a result of this mitigation compared to Future Without the Project conditions, the southbound left-turn would operate below mid-LOS D, with 44.4 seconds of delay, and the other vehicle movements would operate at LOS C or better with a maximum of 29.3 seconds delay.

Grasslands Road (Route 100C) and Sprain Brook Parkway Northbound Ramp

During the AM peak hour, the northbound right-turn movement would deteriorate from LOS E with 74.8 seconds of delay to LOS F with greater than 150 seconds of delay. During the PM peak hour, the westbound approach would deteriorate from LOS E to LOS F with delays increasing beyond 150 seconds. A combination of measures would be used to fully mitigate these impacts. New signal timing and phasing plans would be implemented in both the AM and PM peak hours as described in Table 5.21-28. Furthermore, the roadway would be expanded to incorporate the shoulders of the eastbound and westbound approaches, which would allow for an additional travel lane in both directions. On the eastbound approach, this additional lane would

be used for through traffic, and on the westbound approach, this lane would provide for a dedicated right-turn movement.

With these mitigation measures compared to Future Without the Project conditions, the northbound right-turn movement would improve to LOS E with 70.5 seconds of delay during the AM peak hour, and there would also be decreases in delay on the northbound left/through movement. Although other vehicle movements would experiences increases in delay compared to Future Without the Project conditions, during the AM peak hour, all would operate below mid-LOS D or better, without resulting in any adverse impacts to traffic operations.

During the PM peak hour, the proposed mitigation measures would improve the operation of the westbound through movement compared to Future Without the Project conditions, to LOS D with 42.6 seconds of delay and the westbound right-turn movement compared to Future Without the Project conditions, to LOS B with 15.2 seconds of delay. Although other vehicle movements would experiences increases in delay compared to Future Without the Project conditions, all would operate below mid-LOS D or better, without resulting in any adverse impacts to PM peak hour traffic operations at this intersection.

Virginia Road and Bronx River Parkway

During the AM peak hour, the eastbound left/through movement would continue to operate at LOS F with an 18.8-second increase in delay, and the northbound left-turn movement would deteriorate from LOS D to LOS E, with a 13.5-second increase in delay. These impacts would be mitigated with signal timing adjustments. The north-south signal phase would be reduced by 8 seconds, and the east-west phase and the north-south permitted left-turn phases would be extended by 2 and 6 seconds, respectively. As a result of this mitigation, the operation of the eastbound and westbound approaches and northbound and southbound left-turn movements would improve to LOS better than under 2008 Future Without the Project conditions. Although there would be an increase in delay compared to Future Without the Project conditions, for the northbound through/right and the southbound through movements, these movements would continue to operate below mid-LOS D or better with a maximum delay of 36.9 seconds per vehicle.

During the PM peak hour, the eastbound left/through movement and the westbound approach would continue to operate at LOS F with delays increasing to beyond 150 seconds. These impacts would be mitigated by transferring 7 seconds of green time from the north-south signal phase to the east-west phase. As a result of this mitigation, the westbound approach would improve compared to Future Without the Project conditions, to LOS E with 73.0 seconds of delay, and the eastbound left/through movement would improve compared to Future Without the Project conditions, to operate at LOS F with 134.7 seconds of delay. The other vehicle movements would continue to operate at their 2008 Future Without the Project LOS, with only minor changes in their average delays.

Grasslands Road (Route 100) and Virginia Road

During the PM peak hour, the westbound approach would continue to operate at LOS F with delays increasing to well beyond 150 seconds. This impact would be mitigated with the creation of a channelized right-turn lane at the westbound approach, and with the retiming of the traffic signal, as described in Table 5.21-28. With these mitigation measures, all of the vehicle movements at this intersection would operate below mid-LOS D or better compared to Future Without the Project conditions, with a maximum delay of 41.8 seconds.

Although an impact was not identified at this location during the AM peak hour, an analysis was conducted to determine the potential effects of a channelized right-turn, and installation of a new traffic signal. Although the vehicle delays would increase in comparison to 2008 Future Without the Project conditions, all of the traffic movements would operate at LOS C or better with a maximum delay of 20.9 seconds.

Grasslands Road (Route 100) and Legion Drive

Construction-related traffic would result in potential temporary adverse impacts to the southbound left-turn movement in both the AM and PM peak hours. During the AM peak, the southbound left-turn would deteriorate from LOS D with 29.8 seconds of delay to LOS F with 50.3 seconds of delay. During the PM peak hour, the southbound left-turn would continue to operate at LOS F, with delays increasing beyond 150 seconds. These impacts would be fully mitigated with the installation of a traffic signal at this location. As a result of this mitigation compared to Future Without the Project conditions, all of the vehicle movements would operate at LOS C or better during the AM peak, with a maximum delay of 22.1 seconds, and at LOS D or better during the PM peak, with a maximum delay of 42.9 seconds.

Grasslands Road (Route 100) and WCC East Gate

The northbound left-turn movement would experience an adverse impact during both the AM and PM peak hours. During the AM, the northbound left-turn would continue to operate at LOS D, but there would be a 6.2-second increase in delay. During the PM, the operation of this movement would deteriorate from LOS C with 30.6 seconds of delay, to LOS F with delays increasing to well beyond 150 seconds. These impacts would be fully mitigated by expanding the northbound approach by 7 feet to accommodate 2 travel lanes and by implementing a new signal phasing and timing plan as described in Table 5.21-28. During the AM peak hour compared to Future Without the Project conditions, these measures would improve the operation of the northbound left-turn to LOS D, with 45.5 seconds of delay, and all of the other vehicle movements would operate at LOS A. During the PM peak hour, the northbound left-turn would improve compared to Future Without the Project conditions, to LOS D with 41.0 seconds of delay, and all of the other movements would operate below mid-LOS D or better.

Grasslands Road (Route 100) and WCC West Gate

The northbound left-turn and right-turn movements would experience adverse impacts during the AM peak hour. During the PM peak hour, the northbound left-turn would experience

and adverse impact. During the AM, the northbound left-turn would deteriorate from LOS C (20.5 seconds of delay) to LOS F (84.1 seconds of delay) and the northbound right-turn would deteriorate from LOS B (13.7 seconds of delay) to LOS E (36.0 seconds of delay). During the PM peak hour, the northbound left-turn would remain at LOS F, with delays increasing well beyond 150 seconds.

Several measures would be required to fully mitigate these impacts at this intersection. A traffic signal would be installed. Channelized right-turns would be constructed on the eastbound and northbound approaches, and the westbound approach would be expanded onto its shoulder to create two travel lanes. As a result of implementing these measures compared to Future Without the Project conditions, all of the traffic movements would operate below mid-LOS D or better with a maximum vehicle delay of 44.7 and 43.9 seconds during the AM and PM peak hours, respectively.

Old Saw Mill River Road and the Landmark at Eastview East Driveway

During the PM peak hour, the northbound approach would deteriorate from LOS D to LOS E, experiencing a 9.2-second increase in delay. This impact would be mitigated with the installation of a traffic signal at this location. As a result of this mitigation, all of the vehicle movements would operate at LOS C or better compared to Future Without the Project conditions, during the PM peak hour, with a maximum delay of 22.0 seconds.

Although an impact was not identified at this location during the AM peak hour, an analysis was conducted to determine the potential effects of the installation of a new traffic signal. Although the vehicle delays at some movements would increase in comparison to 2008 Future Without the Project conditions, all of the traffic movements would operate at LOS C or better, with a maximum delay of 22.0 seconds, during the AM peak hour.

2008 Combined Construction Option C Conditions.

Under the scenario which compares a "pure" 2008 Future Without the Project condition to a 2008 Construction condition that includes both the Croton project and Cat/Del UV Facility under parking Option C, it was found that traffic from the additional construction vehicle trips would be anticipated to result in 33 potential temporary adverse traffic impacts, 14 during the AM peak hour and 19 during the PM peak hour. These potential temporary adverse impacts could be fully mitigated as shown in Table 5.21-29 and as described below.

The tables showing the results of applying the mitigation measures also indicate the specific measures recommended for each location. For many of the locations, more than one measure was identified that could be implemented that would reduce delays back to or below Future Without the Project conditions. The assessment presented here relies mostly on a combination of new traffic signals, lane stripping changes, and traffic signal retiming or phasing changes as the recommended measures. However, some of the measures that were investigated were more extraordinary, involving additional lane construction or street widening, to give a complete range of potential measures that could eliminate impacts. Once the Croton project and Cat/Del UV Facility are built and operational, the various agencies responsible for maintaining traffic flow

TABLE 5.21-29. 2008 FUTURE WITHOUT THE PROJECT, 2008 COMBINED CONSTRUCTION OPTION C, & 2008 COMBINED CONSTRUCTION OPTION C WITH MITIGATION TRAFFIC CONDITIONS

Intersection	Approach	2008 Pure No Build				2008 Combined			2008 Mitigation				Mitigation Measures
		Lane Group	v/c Ratio	Delay (sec)	LOS	v/c Ratio	Delay (sec)	LOS	Lane Group	v/c Ratio	Delay (sec)	LOS	
AM Peak Hour													
Saw Mill River Road (Rt. 9A) and Stevens Avenue North	NB	LT	0.02	10.9	B	0.02	11.3	B	LTR	0.39	8.5	A	Propose to be signalized
	SB	LT	0.03	9.2	A	0.03	9.3	A	LTR	0.65	11.3	B	
	EB	LTR	0.02	35.0	D	0.03	40.6 +	E	LTR	0.01	22.5	C	
	WB	LTR	0.03	16.7	C	0.04	18.1	C	LTR	0.03	22.7	C	
	Intersection		Unsignalized			Unsignalized					10.4	B	
Grasslands Road (Route 100C) (E-W) at Bradhurst Avenue	EB	L	0.71	36.6	D	0.82	48.0	D	L	0.39	12.0	B	Restripe the westbound approach with a shared left and through lane and a shared through and right lane. Provide a new signal plan as follows
		T	1.03	75.1	E	*	** +	F	T	1.09	72.2	E	
		R	0.35	16.3	B	0.36	16.5	B	R	0.32	9.1	A	
	WB	L	0.68	56.6	E	0.68	56.6	E	LTR	0.45	16.5	B	
		TR	0.43	25.8	C	0.50	26.9	C					
	NB	L	0.23	23.3	C	0.26	23.8	C	L	0.50	31.6	C	EB/WB: G/A/R = 42/5/2
		TR	0.34	25.9	C	0.35	26.1	C	TR	0.69	39.1	D	EB: G/A/R = 5/3/1
	SB	L	0.50	40.1	D	0.51	40.5	D	L	0.52	32.8	C	NB/SB: G/A/R = 18/3/2
		TR	0.68	49.7	D	0.68	49.7	D	TR	0.71	41.1	D	NB-L/SB-L: G/A/R = 5/3/1
													C = 90 seconds
	Intersection			45.2	D		147.5	F			43.8	D	
Saw Mill River Rd. (Rt. 9A) at Tarrytown White Plains Rd. (Rt. 119)	EB	L	0.97	66.8	E	1.12	113.5 +	F	L	0.98	66.4	E	Provide the intersection with a new signal plan as follows
		TR	0.38	14.5	B	0.38	14.5	B	TR	0.36	10.9	B	
	WB	L	0.17	22.3	C	0.17	22.3	C	L	0.17	21.1	C	EB/SB-R: G/A/R = 17/3/2
		TR	0.30	23.5	C	0.31	23.6	C	TR	0.32	22.2	C	EB/WB: G/A/R = 45/3/2
	NB	L	0.38	34.2	C	0.39	34.4	C	L	0.38	30.2	C	NB: G/A/R = 6/3/0
		TR	0.62	40.3	D	0.72	44.9	D	TR	0.68	38.3	D	NB/SB: G/A/R = 24/3/2
	SB	L	0.24	33.9	C	0.29	36.6	D	L	0.41	38.4	D	C = 110 seconds
		T	0.42	34.9	C	0.44	35.3	D	T	0.59	41.5	D	
		R	0.23	22.1	C	0.24	22.2	C	R	0.25	20.9	C	
	Intersection			31.8	C		42.3	D			31.5	C	
Saw Mill River Road (Rt 9A) and Ramada Inn/Broadway Plaza	NB	L	0.09	10.0	A	0.15	10.6	B	L	0.31	4.7	A	Propose to be signalized
									TR	0.36	4.5	A	
	SB	LT	0.01	8.7	A	0.02	9.3	A	LTR	0.40	4.7	A	
	EB	L	0.01	31.9	D	0.02	47.4 +	E	L	0.01	20.9	C	
		T	0.02	36.9	E	0.03	58.7 +	F	T	0.01	20.9	C	
	WB	LT	0.10	33.1	D	0.17	57.7 +	F	Def	0.06	21.2	C	
		TR	0.01	10.6	B	0.01	11.4	B	TR	0.03	21.0	C	
	Intersection		Unsignalized			Unsignalized					4.8	A	
Old Saw Mill River Road and Saw Mill River Road (Rt. 9A) SB Ramps	NB	L	0.78	85.3	F	*	** +	F	L	0.49	31.7	C	Propose to be signalized
		R	0.20	16.3	C	0.24	19.1	C	R	0.22	28.9	C	
	EB								T	0.78	13.8	B	
									R	0.21	5.9	A	
	WB	L	0.15	11.3	B	0.17	12.3	B	L	0.34	7.1	A	
									T	0.53	8.2	A	
	Intersection		Unsignalized			Unsignalized					12.9	B	

TABLE 5.21-29. 2008 FUTURE WITHOUT THE PROJECT, 2008 COMBINED CONSTRUCTION OPTION C, & 2008 COMBINED CONSTRUCTION OPTION C WITH MITIGATION TRAFFIC CONDITIONS

Intersection	Approach	2008 Pure No Build				2008 Combined			2008 Mitigation				Mitigation Measures
		Lane Group	v/c Ratio	Delay (sec)	LOS	v/c Ratio	Delay (sec)	LOS	Lane Group	v/c Ratio	Delay (sec)	LOS	
AM Peak Hour													
AM Peak Hour													
Grasslands Road (Route 100C) (E-W) and Saw Mill River Road NB Ramps (N-S)	NB	LT	0.06	25.7	D	0.51	64.4 +	F	LTR	0.33	20.9	C	Propose to be signalized
		TR	0.07	13.7	B	0.34	19.6	C					
	EB	L	0.21	10.1	B	0.28	12.4	B	L	0.80	25.7	C	
									T	0.76	11.1	B	
	WB								TR	0.85	15.3	B	
	Intersection		Unsignalized			Unsignalized					15.1	B	
Grassland Rd. (Route 100C) at Sprain Brook Pkwy NB Ramps	EB	L	0.09	14.7	B	0.12	15.3	B	L	0.21	19.6	B	Provide the intersection with a new signal plan as follows
		T	0.50	18.0	B	0.72	22.2	C	T	0.96	44.2	D	
	WB	TR	0.47	24.6	C	0.53	25.6	C	TR	0.56	22.7	C	EB/WB: G/A/R = 34/4/1
	NB	LT	1.00	68.7	E	1.32	187.6 +	F	LT	1.03	61.4	E	NB: G/A/R = 45/4/2
		R	1.02	74.8	E	1.27	165.4 +	F	R	0.99	51.4	D	C = 90 seconds
	Intersection			44.0	D		93.0	F			45.5	D	
Virginia Road @ Bronx River Pkwy Westbound	EB	LT	1.12	126.9	F	1.17	148.9 +	F	LT	1.09	116.0	F	Shift 2 seconds of green time from NB/SB phase to EB/WB phase
		R	0.21	19.6	B	0.22	19.7	B	R	0.21	18.5	B	
	WB	LTR	0.40	34.6	C	0.44	35.2	D	LTR	0.40	33.2	C	
	NB	L	0.04	46.3	D	0.36	49.2	D	L	0.36	49.2	D	
		TR	0.26	20.1	C	0.26	20.1	C	TR	0.27	21.4	C	
	SB	L	1.10	141.5	F	1.10	141.5	F	L	1.10	141.5	F	
		T	0.70	27.3	C	0.70	27.3	C	T	0.73	29.4	C	
	Intersection			53.9	D		57.0	E			52.9	D	
Grasslands Road (Route 100C) @ Virginia Road	SB	LT	0.23	8.3	A	0.24	8.4	A	LT	0.24	8.4	A	Restripe the westbound approach as 2 lanes (No impact)
	WB	LR	0.55	16.6	C	0.69	20.6	C	L	0.19	27.5	D	
									R	0.50	13.0	B	
	Intersection		Unsignalized			Unsignalized				Unsignalized			
Grasslands Road (Route 100C) @ Legion Drive	SB	L	0.42	29.8	D	0.50	39.1 +	E	L	0.32	21.1	C	Propose to be signalized
		R	0.20	12.1	B	0.23	13.7	B	R	0.44	22.1	C	
	EB	LT	0.07	8.5	A	0.08	8.9	A	LT	0.53	6.6	A	
	WB								T	0.51	6.4	A	
									R	0.03	0.0	A	
	Intersection		Unsignalized			Unsignalized					9.0	A	

TABLE 5.21-29. 2008 FUTURE WITHOUT THE PROJECT, 2008 COMBINED CONSTRUCTION OPTION C, & 2008 COMBINED CONSTRUCTION OPTION C WITH MITIGATION TRAFFIC CONDITIONS

Intersection	Approach	2008 Pure No Build				2008 Combined			2008 Mitigation				Mitigation Measures
		Lane Group	v/c Ratio	Delay (sec)	LOS	v/c Ratio	Delay (sec)	LOS	Lane Group	v/c Ratio	Delay (sec)	LOS	
AM Peak Hour													
Grasslands Road (Route 100C) @ WCC West Gate	NB	L	0.06	20.5	C	0.12	38.9 +	E	L	0.08	24.7	C	Propose to be signalized
		R	0.01	13.7	B	0.02	21.2	C					
	EB								T	0.80	8.8	A	
	WB	LT	0.00	9.9	A	0.01	12.4	B	LT	0.29	2.8	A	
	Intersection		Unsignalized			Unsignalized							
Old Saw Mill River Road @ Landmark East Driveway	NB	LTR	0.07	17.5	C	0.14	18.5	C	LTR	0.18	26.7	C	Propose to be signalized
	SB	LTR	0.01	10.3	B	0.55	174.1 +	F	LTR	0.12	26.4	C	
	EB	LTR	0.01	8.1	A	0.02	8.6	A	LTR	0.67	6.6	A	
	WB	LTR	0.02	10.2	B	0.28	12.1	B	LTR	0.85	15.4	B	
	Intersection		Unsignalized			Unsignalized					11.0	B	

Notes:

L = Left Turn, T = Through, R = Right Turn, Def = Defacto Left Turn; LOS = Level of Service. "+" indicates significant impacts.

" * " indicates a v/c ratio greater than 1.50; " ** " indicates a calculated delay greater than 240 seconds.

TABLE 5.21-29. 2008 FUTURE WITHOUT THE PROJECT, 2008 COMBINED CONSTRUCTION OPTION C, & 2008 COMBINED CONSTRUCTION OPTION C WITH MITIGATION TRAFFIC CONDITIONS

Intersection	Approach	2008 Pure No Build				2008 Combined			2008 Mitigation				Mitigation Measures
		Lane Group	v/c Ratio	Delay (sec)	LOS	v/c Ratio	Delay (sec)	LOS	Lane Group	v/c Ratio	Delay (sec)	LOS	
PM Peak Hour													
Saw Mill River Road (Rt. 9A) and Stevens Avenue North	NB	LT	0.01	9.8	A	0.01	9.8	A	LTR	0.67	11.8	B	Propose to be signalized (No impact)
	SB	LT	0.02	10.5	B	0.02	10.9	B	LTR	0.40	8.5	A	
	EB	LTR	0.13	24.1	C	0.14	25.9	D	LTR	0.10	23.2	C	
	WB	LTR	0.07	15.7	C	0.08	16.7	C	LTR	0.07	23.0	C	
	Intersection		Unsignalized			Unsignalized					10.8	B	
Saw Mill River Road (Rt. 9A) (N-S) at Saw Mill River Pkwy Ramps to Exec Park	EB	L	0.52	29.3	C	0.52	29.3	C	L	0.55	30.8	C	Shift 1 second of green time from EB phase to NB/SB phase
		LTR	0.14	25.8	C	0.14	25.8	C	LTR	0.15	26.6	C	
	WB	L	0.14	34.1	C	0.14	34.1	C	L	0.14	34.1	C	
		LT	0.09	33.8	C	0.09	33.8	C	LT	0.09	33.8	C	
		R	0.04	33.6	C	0.04	33.6	C	R	0.04	33.6	C	
	NB	L	0.81	31.5	C	0.81	31.6	C	L	0.81	31.1	C	
		TR	0.55	15.4	B	0.61	16.2	B	TR	0.59	15.4	B	
	SB	L	0.13	21.4	C	0.14	21.6	C	L	0.13	20.8	C	
		TR	0.98	54.3	D	1.00	58.5	E	TR	0.95	47.6	D	
	Intersection			33.7	C		35.1	D			30.8	C	
Grasslands Road (Route 100C) (E-W) at Bradhurst Avenue	EB	L	*	**	F	*	**	F	L	1.46	**	F	Restripe the westbound approach with a shared left and through lane and a shared through and right lane. Provide a new signal plan as follows
		T	0.59	22.3	C	0.65	23.9	C	T	0.62	20.6	C	
		R	0.27	12.1	B	0.29	12.3	B	R	0.35	16.8	B	
	WB	L	0.22	18.0	B	0.28	18.7	B	LTR	0.99	47.2	D	
		TR	0.98	55.5	E	1.48	** +	F					
	NB	L	0.87	58.7	E	0.90	64.9	E	L	0.85	53.7	D	EB/WB: G/A/R = 40/3/2
		TR	0.20	16.3	B	0.20	16.3	B	TR	0.27	22.9	C	NB/SB: G/A/R = 29/5/2
	SB	L	0.30	25.1	C	0.30	25.1	C	L	0.20	16.8	B	NB-L/SB-L: G/A/R = 5/3/1
		TR	1.12	109.2	F	1.12	109.2	F	TR	1.10	99.0	F	C = 90 seconds
	Intersection			70.0	E		137.0	F			57.9	E	
Knollwood Road (E-W) at Cross Westchester Expwy (I-287) WB ramps	WB	LT	0.79	39.0	D	0.79	39.0	D	LT	0.82	42.8	D	Shift 1 second of green time from WB phase to NB phase
		R	0.45	27.6	C	0.45	27.6	C	R	0.47	28.6	C	
	NB	L	0.95	52.6	D	0.97	58.2 +	E	L	0.93	47.6	D	
		T	0.52	10.5	B	0.53	10.6	B	T	0.52	10.0	A	
	SB	T	0.44	14.8	B	0.46	15.0	B	T	0.46	15.0	B	
		R	0.23	12.8	B	0.23	12.9	B	R	0.23	12.9	B	
	Intersection			26.7	C		27.7	C			26.2	C	

TABLE 5.21-29. 2008 FUTURE WITHOUT THE PROJECT, 2008 COMBINED CONSTRUCTION OPTION C, & 2008 COMBINED CONSTRUCTION OPTION C WITH MITIGATION TRAFFIC CONDITIONS

Intersection	Approach	2008 Pure No Build				2008 Combined			2008 Mitigation				Mitigation Measures
		Lane Group	v/c Ratio	Delay (sec)	LOS	v/c Ratio	Delay (sec)	LOS	Lane Group	v/c Ratio	Delay (sec)	LOS	
PM Peak Hour													
Saw Mill River Rd. (Rt. 9A) at Tarrytown White Plains Rd. (Rt. 119)	EB	L	0.99	76.6	E	1.02	83.2 +	F	L	0.86	37.6	D	Provide the intersection with a new signal plan as follows EB/SB-R: G/A/R = 19/2/0 EB/WB: G/A/R = 24/3/2 NB: G/A/R = 5/2/0 NB/SB: G/A/R = 33/0/0 C = 90 seconds
		TR	0.46	20.2	C	0.46	20.2	C	TR	0.42	14.5	B	
	WB	L	0.42	34.4	C	0.42	34.4	C	L	0.41	28.7	C	
		TR	0.88	48.6	D	0.89	49.3	D	TR	0.87	41.2	D	
	NB	L	0.30	25.0	C	0.34	25.8	C	L	0.27	15.6	B	
		TR	0.82	41.0	D	0.83	42.1	D	TR	0.68	23.0	C	
	SB	L	0.54	35.0	C	0.57	36.4	D	L	0.78	41.5	D	
		T	0.26	22.8	C	0.34	23.8	C	T	0.36	21.2	C	
		R	0.39	11.0	B	0.43	11.3	B	R	0.45	11.0	B	
	Intersection			35.0	C		35.8	D			25.3	C	
Saw Mill River Road (Rt 9A) and Ramada Inn/Broadway Plaza	NB	L	0.15	10.3	B	0.16	10.5	B	L	0.32	4.7	A	Propose to be signalized
									TR	0.39	4.6	A	
	SB	LT	0.01	9.4	A	0.01	9.6	A	LTR	0.41	4.7	A	
	EB	L	0.01	48.4	E	0.01	53.0 +	F	L	0.00	20.9	C	
		T	0.08	79.9	F	0.09	90.6 +	F	T	0.02	20.9	C	
	WB	LT	0.11	56.3	F	0.13	63.9 +	F	LTR	0.04	21.0	C	
		TR	0.03	17.0	C	0.03	18.0	C					
	Intersection			Unsignalized			Unsignalized				4.9	A	
Old Saw Mill River Road and Saw Mill River Road (Rt. 9A) SB Ramps	NB	L	0.99	145.4	F	*	** +	F	L	0.57	27.9	C	Propose to be signalized
		R	0.28	15.7	C	0.44	26.2	D	R	0.57	28.2	C	
	EB								T	0.82	10.7	B	
									R	0.28	3.5	A	
	WB	L	0.17	11.2	B	0.45	18.7	C	L	0.79	20.8	C	
									T	0.52	4.7	A	
	Intersection			Unsignalized			Unsignalized				10.9	B	
Grasslands Road (Route 100C) (E-W) and Saw Mill River Road NB Ramps (N-S)	NB	LT	0.05	25.0	C	0.11	45.0 +	E	LTR	0.20	21.8	C	Propose to be signalized
		TR	0.16	14.2	B	0.25	19.9	C					
	EB	L	0.17	10.5	B	0.27	12.7	B	L	0.72	16.7	B	
									T	0.75	9.2	A	
	WB								TR	0.93	21.5	C	
	Intersection			Unsignalized			Unsignalized				16.1	B	
Saw Mill River Rd. at Saw Mill River Pkwy SB Off Ramp	EB	LT	1.04	70.0	E	1.08	86.1 +	F	LT	1.02	64.3	E	Shift 2 seconds of green time from SB phase to EB/WB phase
	WB	TR	0.42	9.2	A	0.53	10.2	B	TR	0.51	9.0	A	
	SB	L	0.29	23.1	C	0.29	23.1	C	L	0.31	24.8	C	
		LR	0.21	22.6	C	0.21	22.6	C	LR	0.24	24.2	C	
	Intersection			33.9	C		37.2	D			29.5	C	

TABLE 5.21-29. 2008 FUTURE WITHOUT THE PROJECT, 2008 COMBINED CONSTRUCTION OPTION C, & 2008 COMBINED CONSTRUCTION OPTION C WITH MITIGATION TRAFFIC CONDITIONS

Intersection	Approach	2008 Pure No Build				2008 Combined			2008 Mitigation				Mitigation Measures
		Lane Group	v/c Ratio	Delay (sec)	LOS	v/c Ratio	Delay (sec)	LOS	Lane Group	v/c Ratio	Delay (sec)	LOS	
PM Peak Hour													
Grassland Rd. (Route 100 C) and Clearbrook Rd/Walker Road	EB	L	0.04	9.2	A	0.07	9.7	A	L	0.05	9.3	A	Provide the intersection with a new signal plan as follows
		TR	0.73	17.2	B	0.99	43.7	D	TR	0.96	37.8	D	
	WB	L	1.40	230.4	F	*	**	F	L	0.70	41.5	D	EB/WB: G/A/R = 50/4/1
		TR	0.70	16.7	B	0.92	30.5	C	TR	0.72	10.6	B	WB: G/A/R = 7/3/2
	NB	LT	0.19	19.9	B	0.20	20.0	B	LT	0.45	33.3	C	NB/SB: G/A/R = 18/4/1
	SB	LT	0.23	20.3	C	0.29	20.9	C	LT	0.47	33.2	C	C = 90 seconds
		R	0.01	18.5	B	0.04	18.7	B	R	0.07	29.3	C	
	Intersection			42.3	D		101.5	F			27.5	C	
Grassland Rd. (Route 100C) at Sprain Brook Pkwy NB Ramps	EB	L	0.50	15.4	B	0.80	32.8	C	L	0.80	41.5	D	Provide the intersection with a new signal plan as follows
		T	0.32	9.0	A	0.35	9.2	A	T	0.32	6.6	A	
	WB	TR	1.06	67.9	E	1.38	199.0 +	F	TR	1.07	64.6	E	EB/WB: G/A/R = 36/4/1
	NB	LT	0.69	29.4	C	0.71	30.0	C	LT	0.85	42.2	D	EB: G/A/R = 6/3/1
		R	0.35	23.1	C	0.37	23.2	C	R	0.44	25.0	C	NB: G/A/R = 18/4/2
	Intersection			42.6	D		116.2	F			45.6	D	C = 75 seconds
Virginia Road @ Bronx River Pkwy Westbound	EB	LT	1.16	139.6	F	1.32	205.4 +	F	LT	1.15	132.9	F	Shift 4 seconds of green time from NB/SB phase to EB/WB phase
		R	0.39	34.6	C	0.53	36.9	D	R	0.47	33.1	C	
	WB	LTR	1.26	185.8	F	*	** +	F	LTR	1.07	111.0	F	
	NB	L	0.06	10.9	B	0.06	11.0	B	L	0.07	12.9	B	
		TR	0.62	25.3	C	0.62	25.3	C	TR	0.67	28.9	C	
	SB	L	0.13	11.7	B	0.13	11.7	B	L	0.14	13.7	B	
		T	0.59	24.7	C	0.59	24.7	C	T	0.63	28.1	C	
	Intersection			61.7	E		87.5	F			54.9	D	
Grasslands Road (Route 100C) @ Virginia Road	SB	LT	0.36	10.3	B	0.47	11.4	B	LT	0.47	11.4	B	Restripe the westbound approach as 2 lanes
	WB	LR	1.23	155.8	F	*	** +	F	L	0.95	142.7	F	
									R	0.62	20.0	C	
	Intersection		Unsignalized			Unsignalized				Unsignalized			
Grasslands Road (Route 100C) @ Legion Drive	SB	L	1.27	210.8	F	1.46	** +	F	L	0.66	27.1	C	Propose to be signalized
		R	0.47	19.7	C	0.47	19.9	C	R	0.73	31.4	C	
	EB	LT	0.24	10.7	B	0.24	10.8	B	LT	0.97	34.8	C	
	WB								T	0.51	6.4	A	
									R	0.18	0.1	A	
	Intersection		Unsignalized			Unsignalized					21.6	C	
Grassland Road (Route 100C) @ WCC East Gate	EB	T	0.72	16.6	B	0.73	17.0	B	T	0.79	25.1	C	Provide the intersection with a new signal plan as follows
	WB	L	0.21	11.1	B	0.23	11.3	B	L	0.50	18.0	B	
		T	0.58	7.9	A	0.58	7.9	A	T	0.79	24.6	C	EB/WB: G/A/R = 43/4/1
	NB	L	0.62	30.6	C	*	** +	F	L	0.91	40.8	D	NB: G/A/R = 36/5/1
	Intersection			14.5	B		132.3	F			29.4	C	C = 90 seconds
Grasslands Road (Route 100C) @ WCC West Gate	NB	L	0.26	50.2	F	0.54	136.4 +	F	L	0.22	35.6	D	Propose to be signalized
		R	0.49	18.4	C	0.53	20.5	C					
	EB								T	0.42	2.6	A	
	WB	LT	0.12	9.1	A	0.13	9.3	A	LT	1.00	33.6	C	
	Intersection		Unsignalized			Unsignalized					23.8	C	

TABLE 5.21-29. 2008 FUTURE WITHOUT THE PROJECT, 2008 COMBINED CONSTRUCTION OPTION C, & 2008 COMBINED CONSTRUCTION OPTION C WITH MITIGATION TRAFFIC CONDITIONS

Intersection	Approach	2008 Pure No Build				2008 Combined			2008 Mitigation				Mitigation Measures
		Lane Group	v/c Ratio	Delay (sec)	LOS	v/c Ratio	Delay (sec)	LOS	Lane Group	v/c Ratio	Delay (sec)	LOS	
PM Peak Hour													
Old Saw Mill River Road @ Landmark East Driveway	NB	LTR	0.11	30.0	D	0.59	28.0	D	LTR	0.43	21.0	C	Propose to be signalized
	SB	LTR	0.07	17.4	C	*	** +	F	LTR	0.73	30.9	C	
	EB	LTR	0.01	8.7	A	0.01	8.7	A	LTR	0.64	11.2	B	
	WB	LTR	0.01	9.2	A	0.03	9.3	A	LTR	0.54	9.8	A	
	Intersection		Unsignalized			Unsignalized					14.3	B	

Notes:

L = Left Turn, T = Through, R = Right Turn, Def = Defacto Left Turn; LOS = Level of Service. "+" indicates significant impacts.

" * " indicates a v/c ratio greater than 1.50; " ** " indicates a calculated delay greater than 240 seconds.

and roadways in the study area would conduct field inspections of the operations of the various intersections to determine if the proposed mitigation measures are actually warranted (particularly because traffic from anticipated No Build projects or background growth may be less than analyzed in this report).

Saw Mill River Road (Route 9A) and Stevens Avenue North

The eastbound approach would experience an adverse impact from construction-related traffic during the AM peak hour. Without mitigation, this approach would deteriorate from LOS D with 35.0 seconds of delay to LOS E with 40.6 seconds of delay. This impact would be fully mitigated with the installation of a traffic signal at this location. As a result of this mitigation, all of the vehicle movements would operate at LOS C or better compared to Future Without the Project conditions, with a maximum AM peak hour delay of 22.7 seconds per vehicle.

Although an impact was not identified at this location during the PM peak hour, an analysis was conducted to determine the effect of a new traffic signal on vehicle operations at this location. Although average vehicle delays would increase on some approaches compared to Future Without the Project conditions, the vehicle movements at this location would operate at LOS C or better with a maximum delay of 23.2 seconds during the PM peak hour.

Saw Mill River Road (Route 9A) and Saw Mill River Parkway Ramp

During the PM peak hour, the southbound through/right movement would deteriorate from LOS D to LOS E with a 4.2-second increase in average vehicle delay. This impact would be mitigated with a 1 second shift in signal timing from the eastbound phase to the north-south phase. As a result of this mitigation, the southbound through/right movement would improve compared to Future Without the Project conditions, to LOS D with 47.6 seconds of delay. The remaining vehicle movements at this intersection would continue to operate at LOS C or better.

Grasslands Road (Route 100C) and Bradhurst Avenue (Route 100)

The eastbound through movement would deteriorate from LOS E with 75.1 seconds of delay to LOS F with well beyond 150 seconds of delay during the AM peak hour. This impact would be mitigated by restriping the westbound approach to accommodate 2 travel lanes and with the reprogramming of the traffic signal as shown in Table 5.21-29. As a result of this mitigation, the eastbound through movement would improve compared to Future Without the Project conditions, to LOS E with 72.2 seconds of delay, and the remaining vehicle movements at this intersection would operate at LOS D or better with a maximum delay of 41.1 seconds per vehicle.

During the PM peak hour, the westbound through/right movement would deteriorate from LOS E with 55.5 seconds of delay to LOS F with over 150 seconds of delay. As described above, the westbound approach would be restriped to accommodate two travel lanes, and a new signal timing and phasing plan would be implemented. As a result of these mitigation measures, the westbound approach would improve compared to Future Without the Project conditions, to LOS D with 47.2 seconds of delay.

Knollwood Road (Route 100A) and Cross Westchester Expressway (I-287) Westbound Ramp

The northbound left-turn movement would experience a 5.6-second increase in delay, resulting in a deterioration from LOS D to LOS E during the PM peak hour. This impact would be mitigated by transferring 1 second of green time from the westbound signal phase to the northbound phase. As a result of this mitigation, the northbound left-turn movement would improve compared to Future Without the Project conditions, to LOS D with 47.6 seconds of delay. The remaining vehicle movements would operate at their 2008 Future Without the Project LOS or better with no adverse increases in delay.

Saw Mill River Road (Route 9A) and Tarrytown/White Plains Road (Route 119)

The eastbound left-turn movement would deteriorate from LOS E to LOS F with 46.7-second and 6.6-second increases in delay during the AM and PM peak hours, respectively. As shown in Table 5.21-29, a new signal timing plan is recommended for this location to mitigate these impacts. As a result, the eastbound left-turn would improve to LOS E with 66.4 seconds of delay during the AM peak hour, and to LOS D with 37.6 seconds of delay during the PM peak hour. The remaining vehicle movements would continue to operate below mid-LOS D during the AM and PM peak hours, with a maximum delay of 41.5 seconds.

Saw Mill River Road (Route 9A) and Ramada Inn/Broadway Plaza

Three traffic movements would experience adverse impacts from construction-related traffic during the AM and PM peak hours. The eastbound left-turn movement would deteriorate from LOS D to LOS E during the AM and from LOS E to LOS F during the PM. The eastbound through movement would deteriorate from LOS E to LOS F during the AM and would continue to operate at LOS F during the PM, with an 11.7-second increase in delay. The westbound approach would deteriorate from LOS D to LOS F during the AM and would continue to operate at LOS F during the PM, with a 7.6-second increase in delay. The installation of a new traffic signal is recommended for this intersection in order to mitigate these AM and PM peak hour impacts. As a result of this mitigation, all of the vehicle movements at this location would operate at LOS C or better compared to Future Without the Project conditions, with a maximum delay of 21.2 seconds per vehicle during the AM or PM peak hours.

Saw Mill River Road (Route 9A) and Grasslands Road (Route 100C)

The northbound left-turn movement would continue to operate at LOS F with delays increasing to well beyond 150 seconds during the AM and PM peak hours. The installation of a traffic signal would fully mitigate these impacts. As all result of this mitigation compared to Future Without the Project conditions, all of the vehicle movements would operate at LOS C or better during the AM peak, with a maximum delay of 31.7 seconds, and at LOS C or better during the PM peak, with a maximum delay of 28.2 seconds.

Grasslands Road (Route 100C) and Saw Mill River Road (Route 9A) Northbound Ramp

The northbound left/through movement would deteriorate from LOS D to LOS F during the AM peak hour and from LOS C to LOS E during the PM peak hour. The installation of a traffic signal at this location would mitigate these project-generated impacts. As a result of this mitigation, all movements would operate at LOS C or better during peak hours compared to Future Without the Project conditions, with a maximum average vehicle delay of 25.7 seconds.

Old Saw Mill River Road and Saw Mill River Parkway Southbound Off-Ramp

During the PM peak hour, the eastbound approach would deteriorate from LOS E with 70.0 seconds of delay to LOS F with 86.1 seconds of delay. This impact would be mitigated by transferring 2 seconds of green time from the southbound signal phase to the east-west phase. As a result of this mitigation, the eastbound approach would improve compared to Future Without the Project conditions, to LOS E with 64.3 seconds of delay, and the remaining approaches would continue to operate at LOS C or better, with a maximum of 24.8 seconds delay.

Grasslands Road (Route 100C) and Clearbrook Road/Walker Road

The westbound left-turn movement would continue to operate at LOS F, with an increase in delay well beyond 150 seconds. A new signal timing and phasing plan is recommended at this intersection to mitigate this impact as shown in Table 5.21-29. As a result of this mitigation, the westbound left-turn movement would improve compared to Future Without the Project conditions, to LOS D with 41.5 seconds of delay, and the other vehicle movements would operate below mid-LOS D or better, with maximum delays of 37.8 seconds.

Grasslands Road (Route 100C) and Sprain Brook Parkway Northbound Ramp

The northbound left/through movement and the northbound right-turn movement would be adversely impacted during the AM peak hour. During the PM peak hour, there would be an adverse impact to the operation of the westbound approach. All of these vehicle movements would decline from LOS E to LOS F.

As shown in Table 5.21-29, new signal timing and phasing plans are recommended for this location to fully mitigate the AM and PM peak hour impacts. During the AM peak hour, compared to Future Without the Project conditions, this mitigation measure would improve the operation of the northbound left/through movement to LOS E with 61.4 seconds delay; the northbound right-turn would improve to LOS D with 51.4 seconds delay; and during the PM peak hour, compared to Future Without the Project conditions, the westbound approach would improve to LOS E with 64.6 seconds delay. Although there would be a change in LOS for certain other vehicle movements compared to Future Without the Project conditions during the peak hours, there would be no adverse increases in the average vehicle delays.

Virginia Road and Bronx River Parkway

Construction-related traffic would result in adverse impacts at the eastbound left/through movement during both the AM and PM hours, and at the westbound approach during the PM peak hour. All of these locations would continue to operate at LOS F with major increases in their average vehicle delays.

These impacts would be fully mitigated by transferring 2 seconds of green time during the AM peak hour, and 4 seconds of green time during the PM peak hour, from the north-south phase to the east-west phase. Although the impacted movements would continue to operate at LOS F, the signal timing adjustments would improve delays to better than 2008 Future Without the Project conditions. The other vehicle movements at this intersection would operate at or better than their 2008 Future Without the Project condition LOS.

Grasslands Road (Route 100) and Virginia Road

During the PM peak hour, the westbound approach would continue to operate at LOS F, with an increase in delay to beyond 150 seconds. This impact would be mitigated by restriping the westbound approach to accommodate an additional travel lane. As a result of this mitigation compared to Future Without the Project conditions, the westbound approach would be divided into separate left-turn and right-turn movements, with resulting improved left-turn LOS F (delay 142.7 seconds), and right-turn LOS C (delay 20.0 seconds).

Although an impact was not identified at this location during the AM peak hour, an analysis was conducted to determine if the proposed lane stripping undertaken as mitigation for the PM peak hour impacts would have adverse effects on traffic operations during the AM peak. With the additional westbound travel lane, all of the vehicle movements would operate below mid-LOS D or better, with a maximum delay of 27.5 seconds.

Grasslands Road (Route 100) and Legion Drive

The southbound left-turn movement would be adversely impacted by construction-related traffic during both the AM and PM peak hours. During the AM, the left-run movement would deteriorate from LOS D to LOS E with a 9.3-second increase in delay. During the PM, the left-turn movement would continue to operate at LOS F, with delays increasing beyond 150 seconds. The installation of a traffic signal at this location would fully mitigate these traffic impacts. As a result of this mitigation compared to Future Without the Project conditions, all vehicle movements would operate at LOS C or better during both of the peak hours, with a maximum vehicle delay of 34.8 seconds.

Grasslands Road (Route 100) and WCC East Gate

During the PM peak hour, the northbound left-turn movement would deteriorate from LOS C with 30.6 seconds of delay to LOS F with well beyond 150 seconds of delay. A revised signal timing plan is proposed for this intersection to mitigate this impact. With this mitigation, the northbound left-turn movement would improve compared to Future Without the Project

conditions, to LOS D, with 40.8 seconds delay, and all of the other intersection approaches would operate at LOS C or better during the PM peak hour, with a maximum vehicle delay of 25.1 seconds.

Grasslands Road (Route 100) and WCC West Gate

During both the AM and PM peak hours, construction-related traffic would result in an adverse impact to the northbound left-turn movement. During the AM, the northbound left-turn movement would deteriorate from LOS C to LOS E, with an 18.4-second increase in delay. During the PM peak hour, the northbound left-turn movement would continue to operate at LOS F, with an 86.2-second increase in delay. A traffic signal is recommended for this location to fully mitigate these impacts. As a result of this mitigation compared to Future Without the Project conditions, all of the vehicle movements would operate at LOS C or better during the AM peak, with a maximum vehicle delay of 24.7 seconds, and at LOS D or better during the PM peak, with a maximum delay of 35.6 seconds.

Old Saw Mill River Road and the Landmark at Eastview East Driveway

During both the AM and PM peak hours, construction-related traffic would result in an adverse impact to the southbound approach. During the AM, the southbound approach would deteriorate from LOS B to LOS F, with a 163.8-second increase in delay. During the PM peak hour, this approach movement would deteriorate from LOS C to LOS F, with resulting delays well in excess of 150 seconds. A traffic signal is recommended for this location to fully mitigate these impacts. As a result of this mitigation compared to Future Without the Project conditions, all of the vehicle movements would operate at LOS C or better during the AM peak, with a maximum vehicle delay of 26.7 seconds, and at LOS C or better during the PM peak, with a maximum delay of 30.9 seconds.

2008 Combined Construction Option D Conditions

Under the scenario which compares a "pure" 2008 Future Without the Project condition to a 2008 Construction condition that includes both the Croton project and Cat/Del UV Facility under parking Option D, it was found that traffic from the additional construction vehicle trips would be anticipated to result in 32 potential adverse traffic impacts, 10 during the AM peak hour and 22 during the PM peak hour. These potential adverse impacts could be fully mitigated as shown in Table 5.21-30, and as described below.

The tables showing the results of applying the mitigation measures also indicate the specific measures recommended for each location. For many of the locations, more than one measure was identified that could be implemented that would reduce delays back to or below Future Without the Project conditions. The assessment presented here relies mostly on a combination of new traffic signals, lane stripping changes, and traffic signal retiming or phasing changes as the recommended measures. However, some of the measures that were investigated were more extraordinary, involving additional lane construction or street widening, to give a complete range of potential measures that could eliminate impacts. Once the Croton project and Cat/Del UV Facility are built and operational, the various agencies responsible for maintaining traffic flow

TABLE 5.21-30. 2008 FUTURE WITHOUT THE PROJECT, 2008 COMBINED CONSTRUCTION OPTION D, & 2008 COMBINED CONSTRUCTION OPTION D WITH MITIGATION TRAFFIC CONDITIONS

Intersection	Approach	2008 Pure No Build				2008 Combined				2008 Mitigation				Mitigation Measures
		Lane Group	v/c Ratio	Delay (sec)	LOS	v/c Ratio	Delay (sec)	LOS		Lane Group	v/c Ratio	Delay (sec)	LOS	
AM Peak Hour														
Grasslands Road (Route 100C) (E-W) at Bradhurst Avenue	EB	L	0.71	36.6	D	0.75	39.9	D		L	0.66	33.4	C	Restripe westbound approach as 2 12-foot wide lanes, one left-turn shared through and one through shared right-turn.
		T	1.03	75.1	E	1.03	75.5	E		T	1.03	75.5	E	
		R	0.35	16.3	B	0.36	16.5	B		R	0.36	16.5	B	
	WB	L	0.68	56.6	E	0.68	56.6	E		LTR	0.49	26.7	C	
		TR	0.43	25.8	C	0.45	26.2	C						
	NB	L	0.23	23.3	C	0.26	23.9	C		L	0.26	23.9	C	
		TR	0.34	25.9	C	0.34	25.9	C		TR	0.34	25.9	C	
	SB	L	0.50	40.1	D	0.50	40.1	D		L	0.50	40.1	D	
		TR	0.68	49.7	D	0.68	49.7	D		TR	0.68	49.7	D	
	Intersection			45.2	D		45.2	D				44.2	D	
Saw Mill River Rd. (Rt. 9A) at Tarrytown White Plains Rd. (Rt. 119)	EB	L	0.97	66.8	E	1.12	113.5 +	F		L	0.96	58.4	E	New timing plan: Reduce cycle length from 120 to 110 seconds, as of eastbound leading(23s), eastbound/westbound(50s), northbound leading(9s), and northbound/southbound(28s).
		TR	0.38	14.5	B	0.38	14.5	B		TR	0.35	10.4	B	
	WB	L	0.17	22.3	C	0.17	22.3	C		L	0.17	21.1	C	
		TR	0.30	23.5	C	0.31	23.6	C		TR	0.32	22.2	C	
	NB	L	0.38	34.2	C	0.39	34.4	C		L	0.39	31.1	C	
		TR	0.62	40.3	D	0.72	44.9	D		TR	0.70	40.0	D	
	SB	L	0.24	33.9	C	0.29	36.6	D		L	0.43	39.5	D	
		T	0.42	34.9	C	0.44	35.3	D		T	0.62	43.3	D	
		R	0.23	22.1	C	0.24	22.2	C		R	0.25	20.9	C	
	Intersection			31.8	C		42.3	D				30.3	C	
Saw Mill River Road (Rt 9A) and Ramada Inn/Broadway Plaza	NB	L	0.09	10.0	A	0.16	10.7	B		L	0.34	4.8	A	Propose to be signalized
										TR	0.35	4.5	A	
	SB	LT	0.01	8.7	A	0.02	9.3	A		LTR	0.40	4.7	A	
	EB	L	0.01	31.9	D	0.02	48.4 +	E		L	0.01	20.9	C	
		T	0.02	36.9	E	0.03	60.4 +	F		T	0.01	20.9	C	
	WB	LT	0.10	33.1	D	0.17	59.3 +	F		Def	0.06	21.2	C	
		TR	0.01	10.6	B	0.01	11.3	B		TR	0.03	21.0	C	
	Intersection		Unsignalized			Unsignalized						4.8	A	
Old Saw Mill River Road and Saw Mill River Road (Rt. 9A) SB Ramps	NB	L	0.78	85.3	F	*	** +	F		L	0.51	32.0	C	Propose to be signalized
		R	0.20	16.3	C	0.24	19.0	C		R	0.22	28.9	C	
	EB									T	0.77	13.7	B	
										R	0.21	5.9	A	
	WB	L	0.15	11.3	B	0.16	12.2	B		L	0.33	7.0	A	
										T	0.59	9.0	A	
	Intersection		Unsignalized			Unsignalized						13.0	B	
Grasslands Road (Route 100C) (E-W) and Saw Mill River Road NB Ramps (N-S)	NB	LT	0.06	25.7	D	0.99	202.6 +	F		LTR	0.23	30.2	C	Propose to be signalized
		TR	0.07	13.7	B	0.07	14.3	B						
	EB	L	0.21	10.1	B	0.43	14.8	B		L	0.73	26.7	C	
										T	0.59	6.0	A	
	WB									TR	0.97	36.1	D	
	Intersection		Unsignalized			Unsignalized						24.2	C	

TABLE 5.21-30. 2008 FUTURE WITHOUT THE PROJECT, 2008 COMBINED CONSTRUCTION OPTION D, & 2008 COMBINED CONSTRUCTION OPTION D WITH MITIGATION TRAFFIC CONDITIONS

Intersection	Approach	2008 Pure No Build				2008 Combined			2008 Mitigation				Mitigation Measures
		Lane Group	v/c Ratio	Delay (sec)	LOS	v/c Ratio	Delay (sec)	LOS	Lane Group	v/c Ratio	Delay (sec)	LOS	
AM Peak Hour													
Grassland Rd. (Route 100 C) and Clearbrook Rd/Walker Road	EB	L	0.01	2.6	A	0.19	3.6	A	L	0.21	3.7	A	Restripe eastbound as one exclusive left-turn, one through and one shared through and right-turn lanes(9.2ft each), and southbound as one exclusive left-turn and one shared through and right-turn lanes.
		TR	0.37	3.8	A	0.38	3.8	A	TR	0.25	3.2	A	
	WB	L	0.38	4.0	A	0.38	4.1	A	L	0.36	3.9	A	
		TR	0.39	3.9	A	0.84	11.7	B	TR	0.84	11.7	B	
	NB	LT	0.21	33.7	C	0.22	33.7	C	LT	0.21	33.7	C	
	SB	LT	0.21	33.8	C	0.31	34.8	C	L	0.30	34.7	C	
		R	0.00	32.2	C	0.00	32.2	C	TR	0.02	32.3	C	
	Intersection			5.3	A		9.4	A			9.3	A	
Grassland Rd. (Route 100C) at Sprain Brook Pkwy SB Ramps	EB	TR	0.27	7.5	A	0.29	7.6	A	TR	0.29	8.1	A	Signal Retiming: shift 1 second of green time from eastbound/westbound phase to southbound phase
	WB	T	0.32	7.8	A	0.48	9.0	A	T	0.48	9.6	A	
	SB	L	0.55	34.0	C	0.55	34.0	C	L	0.52	32.8	C	
		R	0.32	31.0	C	0.82	48.4 +	D	R	0.79	44.4	D	
	Intersection			13.1	B		16.8	B			16.5	B	
Grassland Rd. (Route 100C) at Sprain Brook Pkwy NB Ramps	EB	L	0.09	14.7	B	0.14	15.2	B	L	0.42	31.4	C	New timing plan: reduce cycle length from 110 to 100 seconds, as of eastbound/westbound(34s) and northbound(66s)
		T	0.50	18.0	B	0.51	18.1	B	T	0.89	43.9	D	
	WB	TR	0.47	24.6	C	0.51	25.1	C	TR	0.70	33.8	C	
	NB	LT	1.00	68.7	E	*	** +	F	LT	1.07	67.4	E	
		R	1.02	74.8	E	1.02	74.8	E	R	0.66	15.1	B	
	Intersection			44.0	D		132.9	F			44.2	D	
Virginia Road @ Bronx River Pkwy Westbound	EB	LT	1.12	126.9	F	1.13	130.6 +	F	LT	1.08	114.8	F	Signal Retiming: Shift 1 second of green time from northbound and southbound to eastbound and westbound
		R	0.21	19.6	B	0.21	19.6	B	R	0.21	19.0	B	
	WB	LTR	0.40	34.6	C	0.40	34.7	C	LTR	0.38	33.7	C	
	NB	L	0.04	46.3	D	0.06	46.4	D	L	0.06	46.4	D	
		TR	0.26	20.1	C	0.26	20.1	C	TR	0.27	20.7	C	
	SB	L	1.10	141.5	F	1.10	141.5	F	L	1.10	141.5	F	
		T	0.70	27.3	C	0.70	27.3	C	T	0.71	28.3	C	
	Intersection			53.9	D		54.5	D			52.4	D	
Grasslands Road (Route 100C) @ Virginia Road	SB	LT	0.23	8.3	A	0.23	8.4	A	LT	0.23	8.4	A	Restripe westbound approach as 2 lanes
	WB	LR	0.55	16.6	C	0.56	17.1	C	L	0.18	26.9	D	
									R	0.38	11.5	B	
Grasslands Road (Route 100C) @ Legion Drive	SB	L	0.42	29.8	D	0.43	31.0	D	L	0.32	21.1	C	Propose to be signalized
		R	0.20	12.1	B	0.21	12.4	B	R	0.45	22.2	C	
	EB	LT	0.07	8.5	A	0.07	8.6	A	LT	0.51	6.4	A	
	WB								T	0.41	5.7	A	
									R	0.03	0.0	A	
	Intersection		Unsignalized			Unsignalized					8.9	A	
Old Saw Mill River Road @ Landmark East Driveway	NB	LTR	0.07	17.5	C	0.18	20.5	C	LTR	0.23	32.1	C	Propose to be signalized
	SB	LTR	0.01	10.3	B	1.18	** +	F	LTR	0.15	31.6	C	
	EB	LTR	0.01	8.1	A	0.02	8.8	A	LTR	0.69	6.4	A	
	WB	LTR	0.02	10.2	B	0.36	13.5	B	LTR	1.00	42.6	D	
	Intersection		Unsignalized			Unsignalized					22.6	C	

Notes:

L = Left Turn, T = Through, R = Right Turn, Def = Defacto Left Turn; LOS = Level of Service. "+" indicates significant impacts.

" * " indicates a v/c ratio greater than 1.50; " ** " indicates a calculated delay greater than 240 seconds.

TABLE 5.21-30. 2008 FUTURE WITHOUT THE PROJECT, 2008 COMBINED CONSTRUCTION OPTION D, & 2008 COMBINED CONSTRUCTION OPTION D WITH MITIGATION TRAFFIC CONDITIONS

Intersection	Approach	2008 Pure No Build				2008 Combined			2008 Mitigation				Mitigation Measures
		Lane Group	v/c Ratio	Delay (sec)	LOS	v/c Ratio	Delay (sec)	LOS	Lane Group	v/c Ratio	Delay (sec)	LOS	
PM Peak Hour													
Saw Mill River Road (Rt. 9A) (N-S) at Saw Mill River Pkwy Ramps to Exec Park	EB	L	0.52	29.3	C	0.52	29.3	C	L	0.55	30.8	C	Signal Retiming: shift 1 second of green time from eastbound phase to northbound/southbound phase
		LTR	0.14	25.8	C	0.14	25.8	C	LTR	0.15	26.6	C	
	WB	L	0.14	34.1	C	0.14	34.1	C	L	0.14	34.1	C	
		LT	0.09	33.8	C	0.09	33.8	C	LT	0.09	33.8	C	
		R	0.04	33.6	C	0.04	33.6	C	R	0.04	33.6	C	
	NB	L	0.81	31.5	C	0.81	31.6	C	L	0.81	31.1	C	
		TR	0.55	15.4	B	0.61	16.3	B	TR	0.60	15.5	B	
	SB	L	0.13	21.4	C	0.14	21.6	C	L	0.14	20.8	C	
		TR	0.98	54.3	D	1.00	58.5 +	E	TR	0.95	47.6	D	
	Intersection			33.7	C		35.1	D			30.8	C	
Grasslands Road (Route 100C) (E-W) at Bradhurst Avenue	EB	L	*	**	F	*	**	F	L	0.67	31.2	C	Restripe westbound approach as 2 12-foot wide lanes, one left-turn shared through and one through shared right-turn. Shift 1 second of green time from eastbound/westbound phase to northbound lagging phase
		T	0.59	22.3	C	0.61	22.9	C	T	0.63	23.9	C	
		R	0.27	12.1	B	0.30	12.3	B	R	0.30	12.3	B	
	WB	L	0.22	18.0	B	0.23	18.1	B	LTR	0.74	26.6	C	
		TR	0.98	55.5	E	0.98	55.9	E					
	NB	L	0.87	58.7	E	0.90	64.9 +	E	L	0.85	55.0	E	
		TR	0.20	16.3	B	0.20	16.3	B	TR	0.19	15.7	B	
	SB	L	0.30	25.1	C	0.00	25.1	C	L	0.30	25.1	C	
		TR	1.12	109.2	F	1.12	109.2	F	TR	1.12	109.2	F	
	Intersection			70.0	E		70.0	E			44.1		
Knollwood Road (E-W) at Cross Westchester Expwy (I-287) WB ramps	WB	LT	0.79	39.0	D	0.79	39.0	D	LT	0.82	42.8	D	Signal Retiming: shift 1 second of green time from westbound phase to northbound leading phase
		R	0.45	27.6	C	0.45	27.6	C	R	0.47	28.6	C	
	NB	L	0.95	52.6	D	0.97	58.2 +	E	L	0.93	47.6	D	
		T	0.52	10.5	B	0.53	10.6	B	T	0.52	10.0	A	
	SB	T	0.44	14.8	B	0.46	15.0	B	T	0.46	15.0	B	
		R	0.23	12.8	B	0.23	12.9	B	R	0.23	12.9	B	
	Intersection			26.7	C		27.7	C			26.2	C	
Saw Mill River Rd. (Rt. 9A) at Tarrytown White Plains Rd. (Rt. 119)	EB	L	0.99	76.6	E	1.02	83.3 +	F	L	1.00	76.3	E	Signal Retiming: reduce 2 second of green time of southbound lagging phase, from 9 to 7 seconds.
		TR	0.46	20.2	C	0.46	20.2	C	TR	0.45	19.2	B	
	WB	L	0.42	34.4	C	0.42	34.4	C	L	0.41	33.2	C	
		TR	0.88	48.6	D	0.89	49.7	D	TR	0.87	46.7	D	
	NB	L	0.30	25.0	C	0.34	25.8	C	L	0.33	23.3	C	
		TR	0.82	41.0	D	0.83	42.1	D	TR	0.82	39.5	D	
	SB	L	0.54	35.0	C	0.58	36.5	D	L	0.61	37.8	D	
		T	0.26	22.8	C	0.34	23.8	C	T	0.35	24.2	C	
		R	0.39	11.0	B	0.43	11.3	B	R	0.43	11.6	B	
	Intersection			35.0	C		35.9	D			34.0	C	

TABLE 5.21-30. 2008 FUTURE WITHOUT THE PROJECT, 2008 COMBINED CONSTRUCTION OPTION D, & 2008 COMBINED CONSTRUCTION OPTION D WITH MITIGATION TRAFFIC CONDITIONS

Intersection	Approach	2008 Pure No Build				2008 Combined			2008 Mitigation				Mitigation Measures
		Lane Group	v/c Ratio	Delay (sec)	LOS	v/c Ratio	Delay (sec)	LOS	Lane Group	v/c Ratio	Delay (sec)	LOS	
PM Peak Hour													
Saw Mill River Road (Rt 9A) and Ramada Inn/Broadway Plaza	NB	L	0.15	10.3	B	0.17	10.9	B	L	0.36	5.0	A	Propose to be signalized
									TR	0.39	4.6	A	
	SB	LT	0.01	9.4	A	0.01	9.6	A	LTR	0.44	4.9	A	
	EB	L	0.01	48.4	E	0.02	60.4 +	F	L	0.00	20.9	C	
		T	0.08	79.9	F	0.10	102.1 +	F	T	0.02	20.9	C	
	WB	LT	0.11	56.3	F	0.14	69.1 +	F	LTR	0.04	21.0	C	
		TR	0.03	17.0	C	0.03	19.0	C					
	Intersection			Unsignalized			Unsignalized				5.0	A	
Old Saw Mill River Road and Saw Mill River Road (Rt. 9A) SB Ramps	NB	L	0.99	145.4	F	*	** +	F	L	0.58	28.3	C	Propose to be signalized
		R	0.28	15.7	C	0.48	30.1 +	D	R	0.57	28.2	C	
	EB								T	0.87	14.2	B	
									R	0.30	3.6	A	
	WB	L	0.17	11.2	B	0.28	16.6	C	L	0.50	5.8	A	
									T	0.45	4.2	A	
	Intersection			Unsignalized			Unsignalized				11.4	B	
Grasslands Road (Route 100C) (E-W) and Saw Mill River Road NB Ramps (N-S)	NB	LT	0.05	25.0	C	0.10	40.3 +	E	LTR	0.19	21.7	C	Propose to be signalized
		TR	0.16	14.2	B	0.26	21.2	C					
	EB	L	0.17	10.5	B	0.25	11.3	B	L	0.61	9.2	A	
									T	0.79	10.7	B	
	WB								TR	0.76	9.8	A	
	Intersection			Unsignalized			Unsignalized				10.7	B	
Saw Mill River Rd. (Rt. 9A) at Dana Rd.	EB	LT	0.28	27.4	C	0.99	81.2 +	F	LT	0.78	44.8	D	New signal timing plan:
		R	0.24	26.9	C	0.61	32.2	C	R	0.36	23.2	C	G/Y/R
	WB	L	0.44	29.1	C	1.50	** +	F	L	0.52	41.1	D	EB 16/4/1
		TR	0.40	28.4	C	0.48	29.3	C	TR	0.47	38.5	D	EB/WB 20/3/2
	NB	L	0.39	32.7	C	0.41	32.9	C	L	0.45	36.7	D	WB 6/3/2
		TR	0.84	31.9	C	0.91	37.4	D	TR	0.90	43.7	D	NB/SB 47/4/1
	SB	L	0.15	30.7	C	0.18	31.0	C	L	0.26	39.9	D	NB-L/SB-L/EB-R 6/4/1
		TR	0.74	27.7	C	0.74	27.8	C	TR	0.73	33.6	C	Cycle length = 120 secs
	Intersection			29.8	C		53.0	D			38.5	D	
Saw Mill River Rd. at Saw Mill River Pkwy SB Off Ramp	EB	LT	1.04	70.0	E	1.09	86.2 +	F	LT	1.02	64.4	E	Signal Retiming: shift 2 seconds of green time from southbound phase to eastbound/westbound phase
	WB	TR	0.42	9.2	A	0.54	10.3	B	TR	0.52	9.1	A	
	SB	L	0.29	23.1	C	0.29	23.1	C	L	0.31	24.8	C	
		LR	0.21	22.6	C	0.21	22.6	C	LR	0.24	24.2	C	
	Intersection			33.9	C		37.1	D			29.4	C	
Grassland Rd. (Route 100 C) and Clearbrook Rd/Walker Road	EB	L	0.04	9.2	A	0.04	9.3	A	L	0.07	19.6	B	Restripe eastbound as one exclusive left-turn, one through and one shared through and right-turn lanes(9.2ft each), and southbound as one exclusive left-turn and one shared through and right-turn lanes. Apply new signal timing plan.
		TR	0.73	17.2	B	1.03	55.4 +	E	TR	0.82	33.6	C	
	WB	L	1.40	230.4	F	* **	+	F	L	0.65	44.6	D	
		TR	0.70	16.7	B	0.73	17.7	B	TR	0.68	19.0	B	
	NB	LT	0.19	19.9	B	0.30	21.1	C	LT	0.19	28.7	C	
	SB	LT	0.23	20.3	C	0.78	34.5	C	L	0.77	44.7	D	
		R	0.01	18.5	B	0.05	18.8	B	TR	0.06	27.3	C	
	Intersection			42.3	D		102.4	F			31.4	C	

TABLE 5.21-30. 2008 FUTURE WITHOUT THE PROJECT, 2008 COMBINED CONSTRUCTION OPTION D, & 2008 COMBINED CONSTRUCTION OPTION D WITH MITIGATION TRAFFIC CONDITIONS

Intersection	Approach	2008 Pure No Build				2008 Combined				2008 Mitigation				Mitigation Measures
		Lane Group	v/c Ratio	Delay (sec)	LOS	v/c Ratio	Delay (sec)		LOS	Lane Group	v/c Ratio	Delay (sec)	LOS	
PM Peak Hour														
Grassland Rd. (Route 100C) at Sprain Brook Pkwy NB Ramps	EB	L	0.50	15.4	B	1.11	104.4	+	F	L	0.85	42.3	D	Switch eastbound leading phae to lagging phase
		T	0.32	9.0	A	0.34	9.1		A	T	0.34	8.6	A	
	WB	TR	1.06	67.9	E	1.07	71.4		E	TR	1.07	71.4	E	
	NB	LT	0.69	29.4	C	0.73	30.8		C	LT	0.73	30.8	C	
		R	0.35	23.1	C	0.35	23.1		C	R	0.35	23.1	C	
	Intersection			42.6	D		53.2		D			45.4	D	
Virginia Road @ Bronx River Pkwy Westbound	EB	LT	1.16	139.6	F	1.17	144.9	+	F	LT	1.13	127.3	F	Signal Retiming: Shift 1 second of green time from northbound and southbound to eastbound and westbound
		R	0.39	34.6	C	0.40	34.7		C	R	0.39	33.8	C	
	WB	LTR	1.26	185.8	F	1.28	193.5	+	F	LTR	1.17	149.5	F	
	NB	L	0.06	10.9	B	0.06	10.9		B	L	0.06	11.4	B	
		TR	0.62	25.3	C	0.62	25.3		C	TR	0.63	26.2	C	
	SB	L	0.13	11.7	B	0.13	11.7		B	L	0.13	12.2	B	
		T	0.59	24.7	C	0.59	24.7		C	T	0.60	25.5	C	
	Intersection			61.7	E		63.5		E			56.0	E	
Grasslands Road (Route 100C) @ Virginia Road	SB	LT	0.36	10.3	B	0.37	10.4		B	LT	0.37	10.4	B	Restripe westbound approach as 2 lanes
	WB	LR	1.23	155.8	F	1.26	166.5	+	F	L	0.65	60.1	F	
										R	0.61	19.6	C	
Grasslands Road (Route 100C) @ Legion Drive	SB	L	1.27	210.8	F	1.31	227.1	+	F	L	0.88	19.8	B	Propose to be signalized
		R	0.47	19.7	C	0.47	19.7		C	R	0.51	6.3	A	
	EB	LT	0.24	10.7	B	0.24	10.7		B	LT	0.18	0.1	A	
	WB									T	0.66	27.1	C	
										R	0.73	31.4	C	
	Intersection		Unsignalized			Unsignalized						15.5	B	
Old Saw Mill River Road @ Landmark East Driveway	NB	LTR	0.11	30.0	D	0.71	35.9	+	E	LTR	0.40	18.8	B	Propose to be signalized
	SB	LTR	0.07	17.4	C	*	**	+	F	LTR	0.69	26.3	C	
	EB	LTR	0.01	8.7	A	0.01	9.0		A	LTR	0.73	18.5	B	
	WB	LTR	0.01	9.2	A	0.04	9.3		A	LTR	0.70	17.6	B	
	Intersection		Unsignalized			Unsignalized						19.2	B	

Notes:

L = Left Turn, T = Through, R = Right Turn, Def = Defacto Left Turn; LOS = Level of Service. "+" indicates significant impacts.

" * " indicates a v/c ratio greater than 1.50; " ** " indicates a calculated delay greater than 240 seconds.

and roadways in the study area would conduct field inspections of the operations of the various intersections to determine if the proposed mitigation measures are actually warranted (particularly because traffic from anticipated No Build projects or background growth may be less than analyzed in this report).

Saw Mill River Road (Route 9A) and Saw Mill River Parkway Ramp

During the PM peak hour, the southbound through/right-turn movement would deteriorate from LOS D with 54.3 seconds of delay to LOS E with 58.5 seconds of delay. This impact would be fully mitigated by shifting 1 second of green time from the eastbound signal phase to the north-south phase. As a result of this mitigation, the impacted movement would improve compared to Future Without the Project conditions, to LOS D with 47.6 seconds of delay, and the remaining vehicle movements would operate at their 2008 Future Without the Project condition LOS with no major changes in average vehicle delay.

Knollwood Road (Route 100A) and Cross Westchester Expressway (I-287) Westbound Ramp

During the PM peak hour, the northbound left-turn movement would deteriorate from LOS D with 52.6 seconds of delay to LOS E with 58.2 seconds of delay. This impact would be mitigated with the transfer of 1 second of green time from the westbound signal phase to the northbound, leading phase. As a result of this mitigation, the northbound left-turn would improve compared to Future Without the Project conditions, to LOS D with 47.6 seconds of delay. The other vehicle movements would continue to operate at or better than their 2008 Future Without the Project condition LOS.

Grasslands Road (Route 100C) and Bradhurst Avenue (Route 100)

During the PM peak hour, the northbound left-turn movement would continue to operate at LOS E with a 6.2-second increase in delay. This impact would be mitigated by restriping the westbound approach to two lanes, one shared left/through lane, and one shared through/right lane. The additional capacity on the westbound approach would allow for the transfer of 1 second of green time from the east-west signal phase to the northbound lagging phase. As a result of this mitigation, the northbound left-turn would improve compared to Future Without the Project conditions, to LOS E with 55.0 seconds of delay, during the PM peak hour. The remaining vehicle movements would operate at or near their 2008 Future Without the Project LOS without resulting in any significant changes in average vehicle delays.

An analysis was conducted to determine the impact of these geometric improvements (no changes to signal timing/phasing) to operations at this location during the AM peak hour. All of the vehicle movements at this location would operate at the same LOS as for 2008 Future Without the Project conditions, or better without resulting in any significant changes in average vehicle delays.

Saw Mill River Road (Route 9A) and Tarrytown/White Plains Road (Route 119)

During the AM peak hour, the eastbound left-turn movement would deteriorate from LOS E to LOS F with a 46.7-second increase in delay. This impact would be mitigated with a new signal timing and phasing plan. The total signal cycle would be reduced by 10 seconds, and new phases would be introduced as shown in Table 5.21-30. As a result of this mitigation, the eastbound left-turn would improve compared to Future Without the Project conditions, to LOS E with 58.4 seconds of delay. This mitigation would result in a deterioration of the LOS of the southbound left-turn and the southbound through movements as compared to 2008 Future Without the Project conditions, but these increases in delay would not constitute adverse impacts. The remaining vehicle movements at this location would operate at or better than predicted for the 2008 Future Without the Project conditions.

During the PM peak hour, the eastbound left-turn movement would deteriorate from LOS E with 78.6 seconds of delay to LOS F with 83.3 seconds of delay. This impact would be fully mitigated by transferring 2 seconds of green time from the southbound lagging signal phase to the east-west phase. As a result of this mitigation, the eastbound left-turn would improve compared to Future Without the Project conditions, to LOS E with 76.3 seconds of delay. The remaining vehicle movements would at or better than their 2008 Future Without the Project LOS.

Saw Mill River Road (Route 9A) and Ramada Inn/Broadway Plaza

Construction-related traffic would result in three adverse impacts at this location during both the AM and PM peak hours. During the AM, the eastbound left-turn movement would deteriorate from LOS D to LOS E, the westbound left/through movement would deteriorate from LOS D to LOS F, and the eastbound through movement would deteriorate from LOS E to LOS F. During the PM peak hour, the eastbound through movement and the westbound left/through movement would continue to operate at LOS F with 22.2- and 12.8-second increases in delay, respectively; the eastbound left-turn movement would deteriorate from LOS E to LOS F. These peak hour impacts would be fully mitigated with the installation of a traffic signal at this location. As a result of this mitigation compared to Future Without the Project conditions all vehicle movements would operate at LOS C or better with a maximum delay of 21.2 seconds, during either of the peak hours.

Saw Mill River Road (Route 9A) and Grasslands Road (Route 100C)

The northbound left-turn movement would continue to operate at LOS F in both the AM and PM peak hours with delays increasing to well beyond 150.0 seconds. In addition, during the PM peak, the northbound right-turn movement would deteriorate from LOS C to LOS D, with an increase of 14.4 seconds delay. These impacts would be fully mitigated with the installation of a traffic signal at this location. As a result of this mitigation compared to Future Without the Project conditions, all of the vehicle movements would operate at LOS C or better during the AM peak hour (maximum delay 32.0 seconds) and at LOS C or better (maximum delay 28.3 seconds) during the PM peak hour.

Grasslands Road (Route 100C) and Saw Mill River Road (Route 9A) Northbound Ramp

The northbound left/through movements would deteriorate from LOS D to LOS F during the AM peak hour and from LOS C to LOS E during the PM peak hour. These impacts would be fully mitigated with the installation of a traffic signal. As a result of this mitigation compared to Future Without the Project conditions, all of the vehicle movements at this location would operate at LOS D or better during the AM peak hour (maximum delay 36.1 seconds) and at LOS C or better (maximum delay 21.7 seconds) during the PM peak hour.

Saw Mill River Road (Route 9A) and Dana Road

During the PM peak hour, the eastbound left/through movement would deteriorate from LOS C to LOS F, with increases of 53.8 seconds of delay, and the westbound left-turn movement would deteriorate from LOS C to LOS F, delays increasing to well beyond 240.0 seconds. These impacts would be mitigated by implementing a new signal timing and phasing plan, as described in Table 5.21-30. This mitigation would improve the operation of the eastbound left/through movement compared to Future Without the Project conditions, to LOS D with 44.8 seconds of delay, and would improve the westbound left-turn movement compared to Future Without the Project conditions, to LOS D with 44.1 seconds of delay; the remaining vehicle approaches would operate below mid-LOS D or better.

Old Saw Mill River Road and Saw Mill River Parkway Southbound Off-Ramp

During the PM peak hour, the eastbound approach would deteriorate from LOS E with 70.0 seconds delay to LOS F with 86.2 seconds delay. This impact would be mitigated with the transfer of 2 seconds of green time from the southbound signal phase to the east-west phase. This mitigation would improve the operation of the eastbound approach compared to Future Without the Project conditions, to LOS E with 64.4 seconds of delay, and the remaining vehicle approaches would operate at LOS C or better.

Grasslands Road (Route 100C) and Clearbrook Road/Walker Road

During the PM peak hour, the eastbound through/right movement would deteriorate from LOS B with 17.2 seconds delay to LOS E with 55.4 seconds delay, and the westbound left-turn movement would remain at LOS F with delays of more than 150 seconds. A new signal timing and phasing plan would be implemented at this intersection, in conjunction with a number of lane restriping, to fully mitigate these impacts as described in Table 5.21-30. As a result of this mitigation compared to Future Without the Project conditions, all of the vehicle movements at this location would operate below mid-LOS D or better, with a maximum delay of 44.7 seconds during the PM peak hour.

An analysis was conducted to determine the impact of these geometric improvements (no changes to signal timing/phasing) to operations at this location during the AM peak hour. All of the vehicle movements at this location would operate at LOS C or better, without resulting in any majorchanges in average vehicle delays.

Grasslands Road (Route 100C) and Sprain Brook Parkway Southbound Ramp

During the AM peak hour, the southbound right-turn movement would deteriorate from LOS C with 31.0 seconds of delay to LOS D with 48.4 seconds of delay. This location would be fully mitigated with a transfer of 1 second of green time from the east-west to the southbound signal phase. As a result of this mitigation, the southbound right-turn would improve compared to Future Without the Project conditions, to below mid-LOS D, with 44.4 seconds of delay, and the other vehicle movements would operate at LOS C or better.

Grasslands Road (Route 100C) and Sprain Brook Parkway Northbound Ramp

During the AM peak hour, the northbound left/through movement would deteriorate from LOS E with 68.7 seconds of delay to LOS F with well beyond 150 seconds of delay. This impact would be fully mitigated with a new signal-timing plan that reduces the cycle length by 10 seconds as shown in Table 5.21-30. As a result of this mitigation, the northbound left/through movement would improve compared to Future Without the Project conditions, to LOS E, with 67.4 seconds of delay. Some other vehicle movements would experience deterioration in LOS compared to 2008 Future Without the Project conditions, but there would be no major changes in average vehicle delay.

During the PM peak hour, the eastbound left-turn movement would deteriorate from LOS B with 15.4 seconds of delay to LOS F with 104.4 seconds of delay. This impact could be mitigated by implementing a new signal phasing plan that results in an eastbound lagging phase rather than an eastbound leading phase. As a result of this mitigation, the eastbound left-turn would improve compared to Future Without the Project conditions, to LOS D with 42.3 seconds of delay. This mitigation would have no effect on the LOS of the remaining traffic movements at this intersection.

Virginia Road and Bronx River Parkway

The eastbound left/through movement would continue to operate at LOS F during the AM and PM peak hours with 3.7- and 5.3-second increases in delay, respectively. In addition, during the PM peak hour, the westbound approach would continue to operate at LOS F with a 7.7-second increase in delay. In both peak hours, these impacts would be mitigated with the transfer of 1 second of green time from the north-south phase to the east-west phase. Although all of the impacted locations would continue to operate at LOS F, the mitigation would improve delays to better than those under 2008 Future Without the Project conditions.

Grasslands Road (Route 100) and Virginia Road

During the PM peak hour, the westbound approach would continue to operate at LOS F with a 10.7-second increase in delay. This impact could be mitigated by restriping the westbound approach to accommodate an additional travel lane. As a result of this mitigation, the westbound left-turn would improve compared to Future Without the Project conditions, to LOS F with 60.1 seconds of delay and the westbound right-turn would improve to LOS C with 19.6 seconds of delay.

An analysis was conducted to determine the impact of this improvement to operations at this location during the AM peak hour. All of the vehicle movements at this location would operate below mid-LOS D or better, with a maximum delay of 26.9 seconds.

Grasslands Road (Route 100) and Legion Drive

The southbound left-turn movement would remain at LOS F with an increase in delay of 16.3 seconds during the PM peak hour. This location could be fully mitigated with the installation of a traffic signal. As a result of this mitigation compared to Future Without the Project conditions, the southbound left-turn movement would operate at LOS B (19.8 seconds delay), and all of the other movements would operate at LOS C or better during the PM peak hour, with a maximum delay of 31.4 seconds.

Although no impacts were identified at this location during the AM peak hour, an analysis was conducted to determine the effects of a new traffic signal at this intersection. A signal at this location would improve operations for some movements but would increase delays for others. However, all of the vehicle movements would operate at LOS C or better during the AM peak hour, with a maximum delay of 22.2 seconds.

Old Saw Mill River Road and the Landmark at Eastview East Driveway

During the AM peak hour, the southbound approach would deteriorate from LOS B to LOS F. During the PM peak hour, the northbound approach would deteriorate from LOS D to LOS E, and the southbound approach would deteriorate from LOS C to LOS F. These impacts could be mitigated with the installation of a traffic signal. As a result of this mitigation compared to Future Without the Project conditions, all of the vehicle movements would operate below mid-LOS D or better with maximum delays of 42.6 seconds during the AM peak hour, and at LOS C or better with maximum delays of 26.3 seconds during the PM peak hour.

For locations where the installation of a new traffic signal has been recommended as a mitigation measure, formal Signal Warrant Studies would be performed, if requested by the agency(s) with jurisdiction over the particular intersection roadways involved.

All of the mitigation measures suggested above would serve to eliminate the potential temporary adverse operational impacts of the combined projects. If the mitigation identified is not applied, the predicted temporary adverse construction-related traffic impacts identified would not be mitigated. In the absence of implementing the mitigation measures proposed above, NYCDEP would consider other traffic management techniques (e.g., the use of traffic control officers, traffic cones, variable message signs, etc.) if approved by the governing roadway entity, to offset these temporary adverse impacts, and ensure the smooth and safe operation of traffic.

5.21.4.2. Natural Resources

Refer to Section 9.1 Mitigation, which discusses mitigation measures designed for the proposed Croton project if the Cat/Del UV Facility were located on the Eastview Site.

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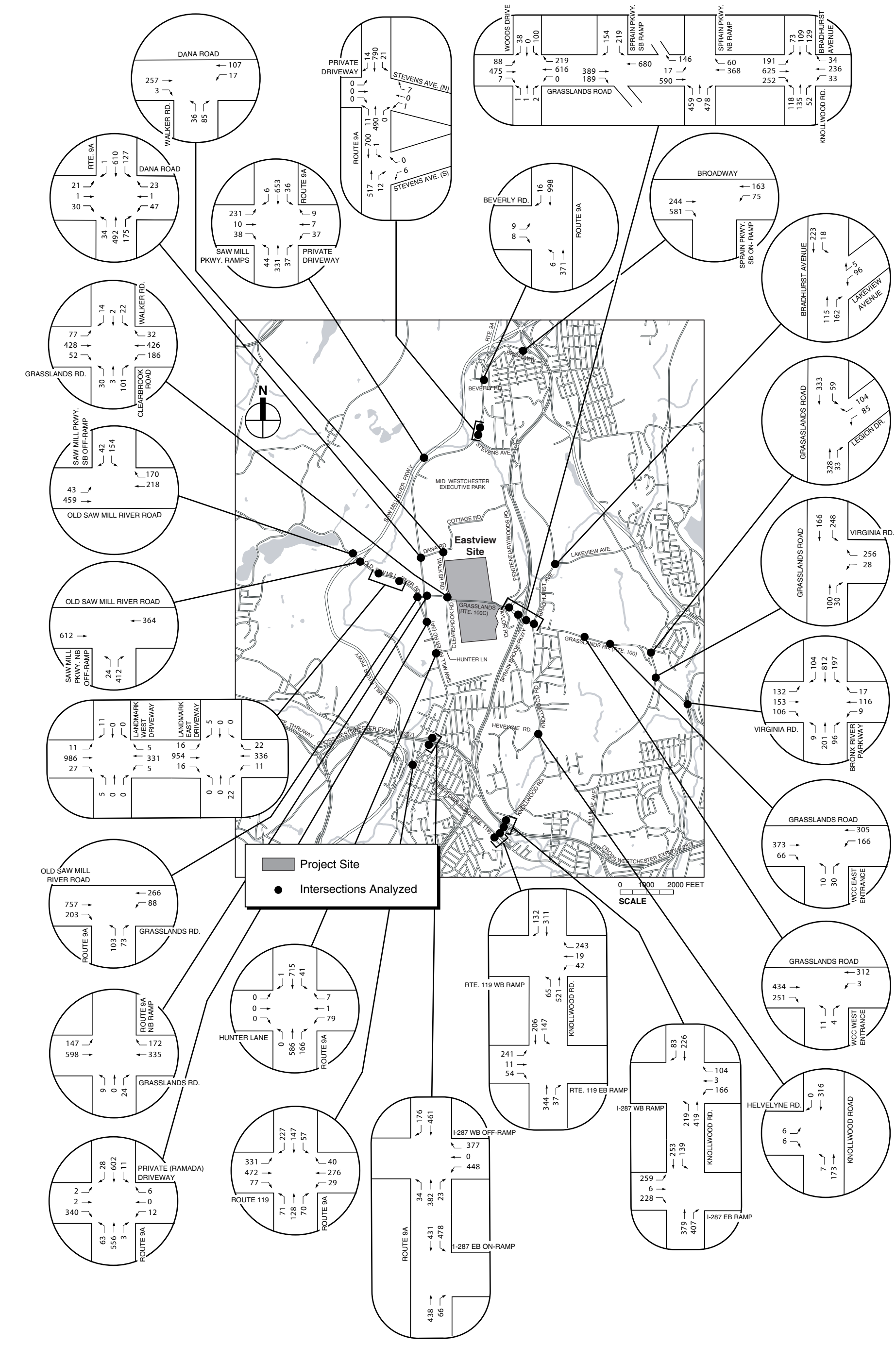
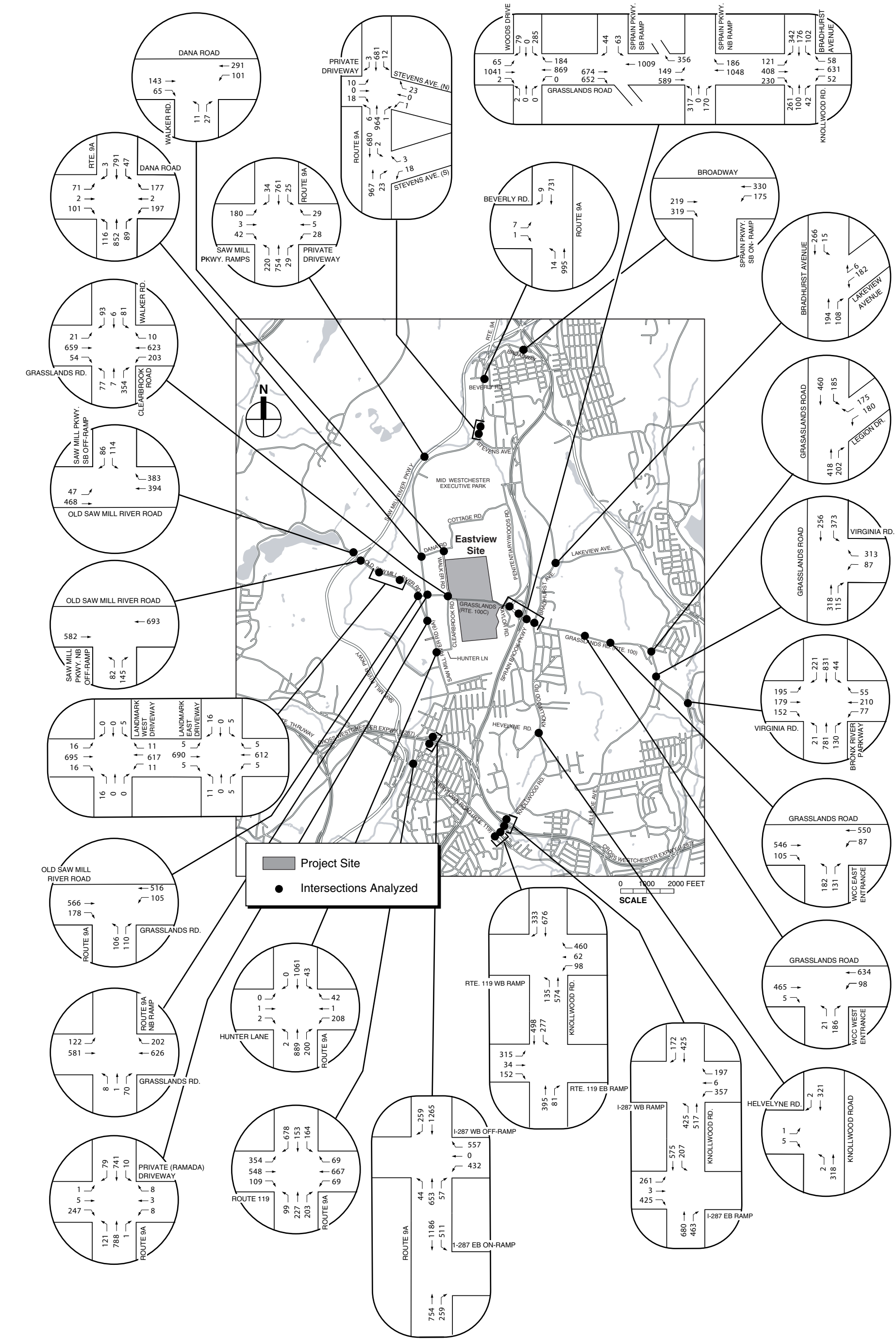


2010 No-Build Traffic Volumes
AM Peak Hour (6:30 - 7:30 AM)

Croton Water Treatment Plant

Figure 5.21-1



2010 No-Build Traffic Volumes PM Peak Hour (3:30-4:30PM)

Croton Water Treatment Plant

Figure 5.21-2

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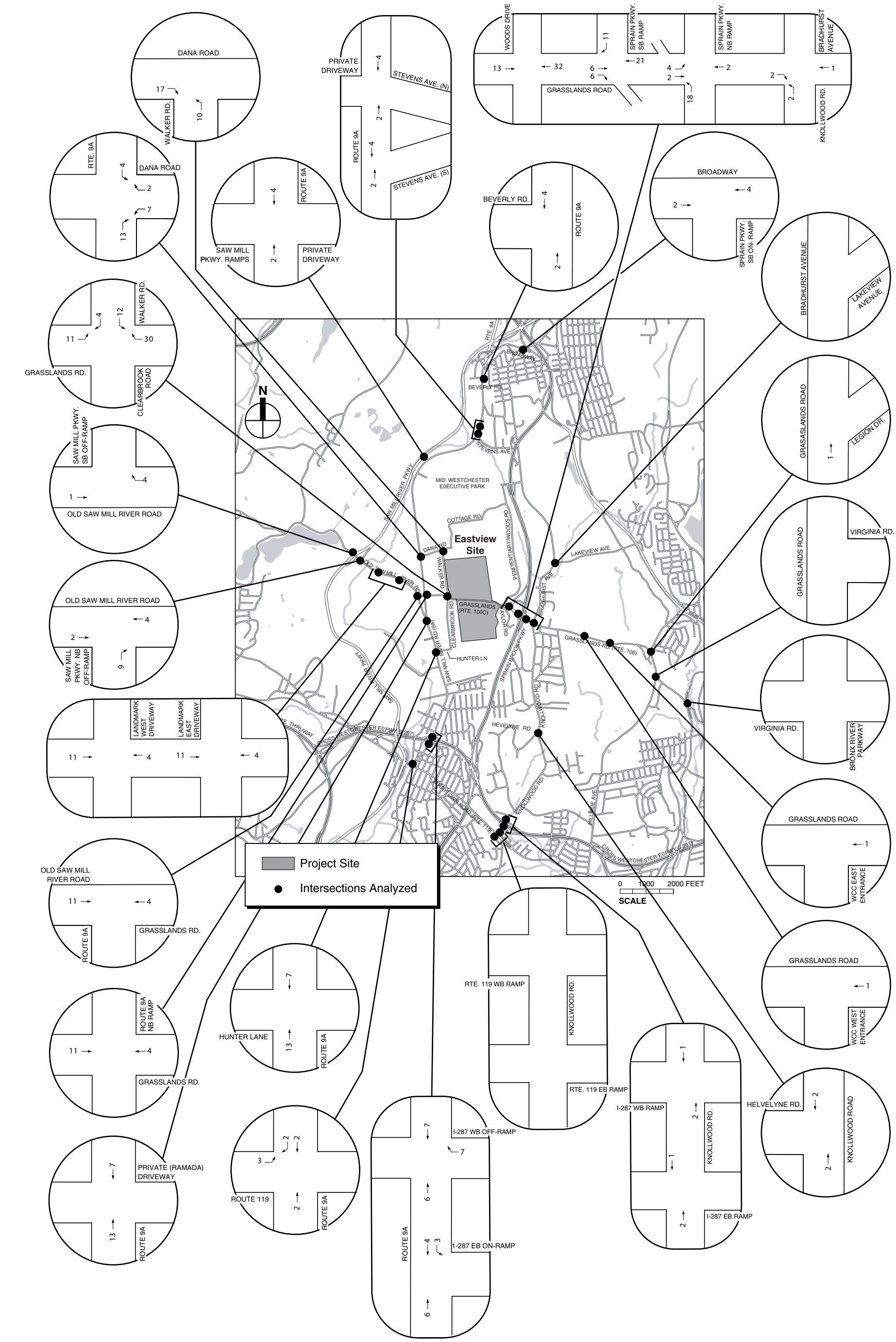

2010 Combined Vehicle Assignment
Cat-Del UV and Croton WTP Traffic Volumes
AM Peak Hour (6:30 - 7:30 AM)

Croton Water Treatment Plant

Figure 5.21-3

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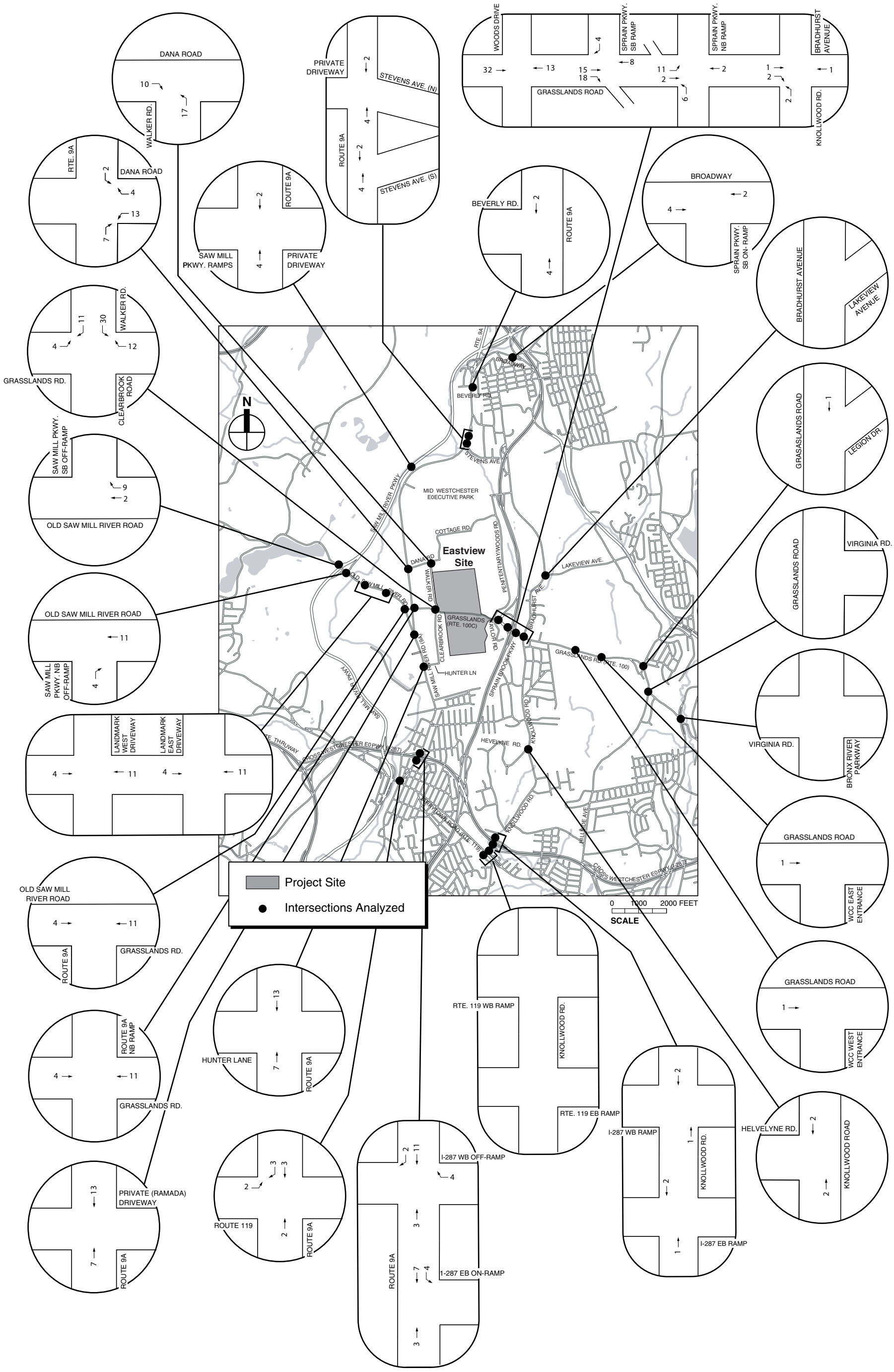

2010 Combined Vehicle Assignment
Cat-Del UV and Croton WTP Traffic Volumes
PM Peak Hour (3:30-4:30PM)

Croton Water Treatment Plant

Figure 5.21-4

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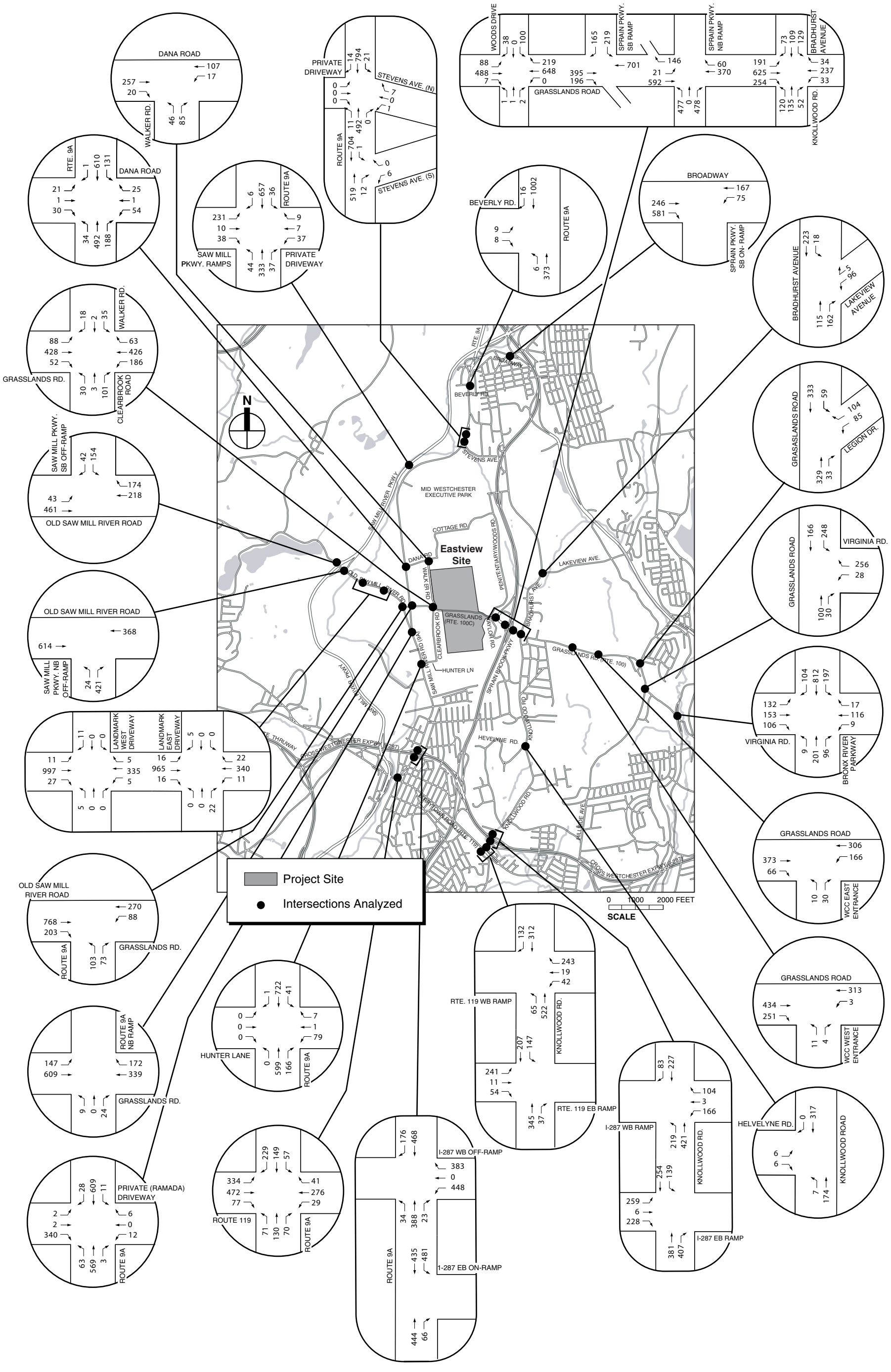
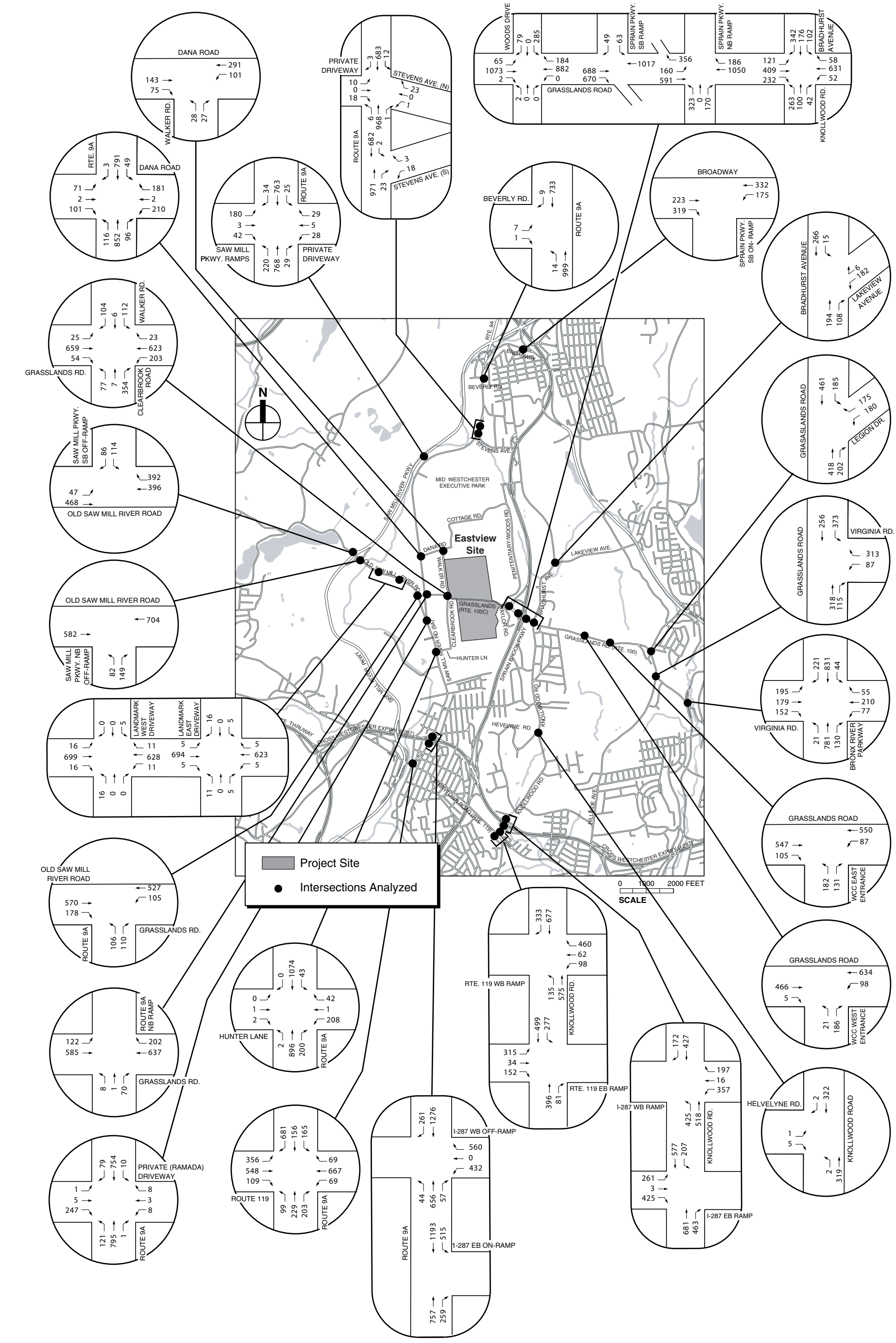


2010 Combined Build Catskill-Delaware UV and Croton WTP Traffic Volumes AM Peak Hour (6:30-7:30AM)

Croton Water Treatment Plant

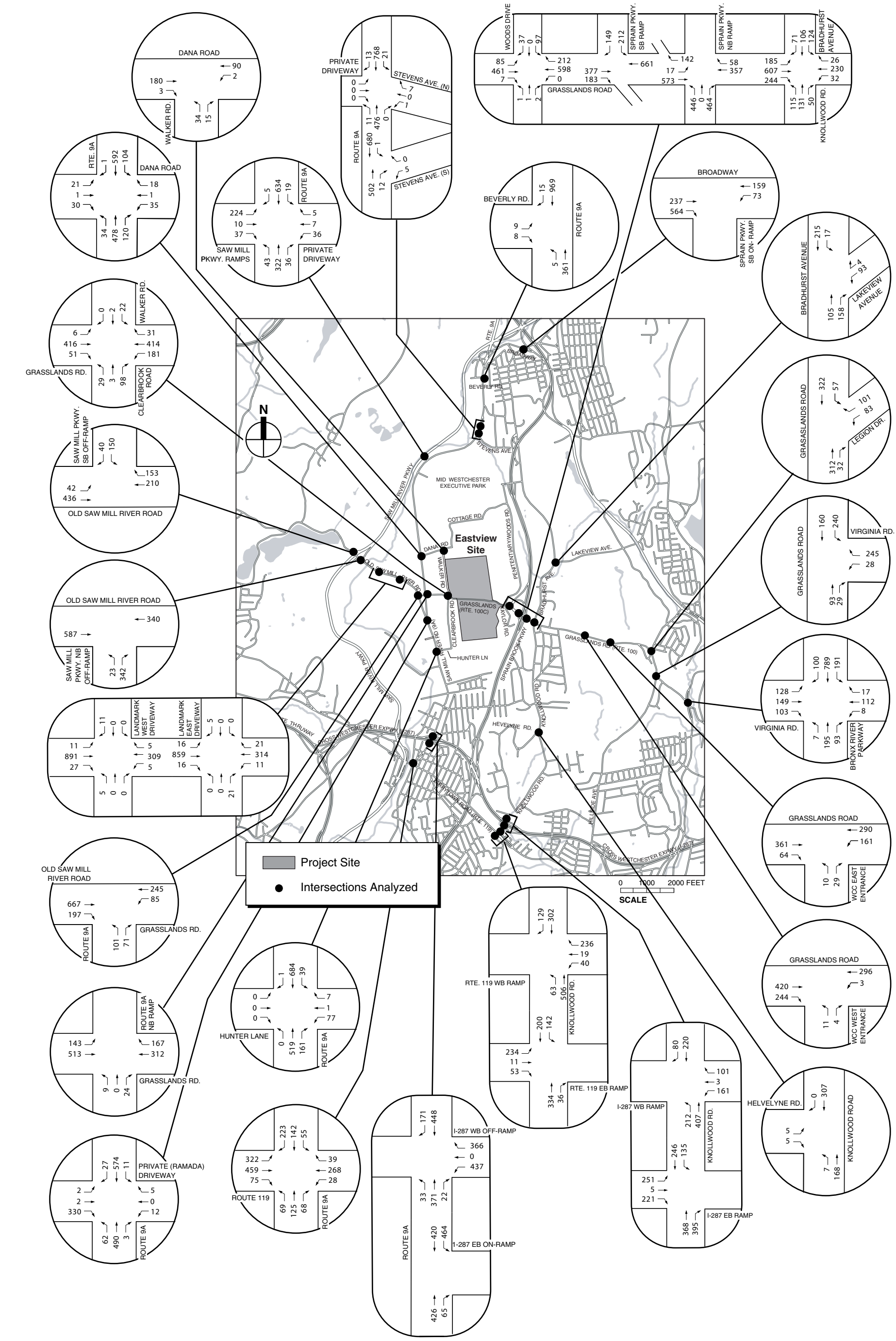
Figure 5.21-5



2010 Combined Build Catskill-Delaware UV and Croton WTP Traffic Volumes PM Peak Hour (3:30-4:30PM)

Croton Water Treatment Plant

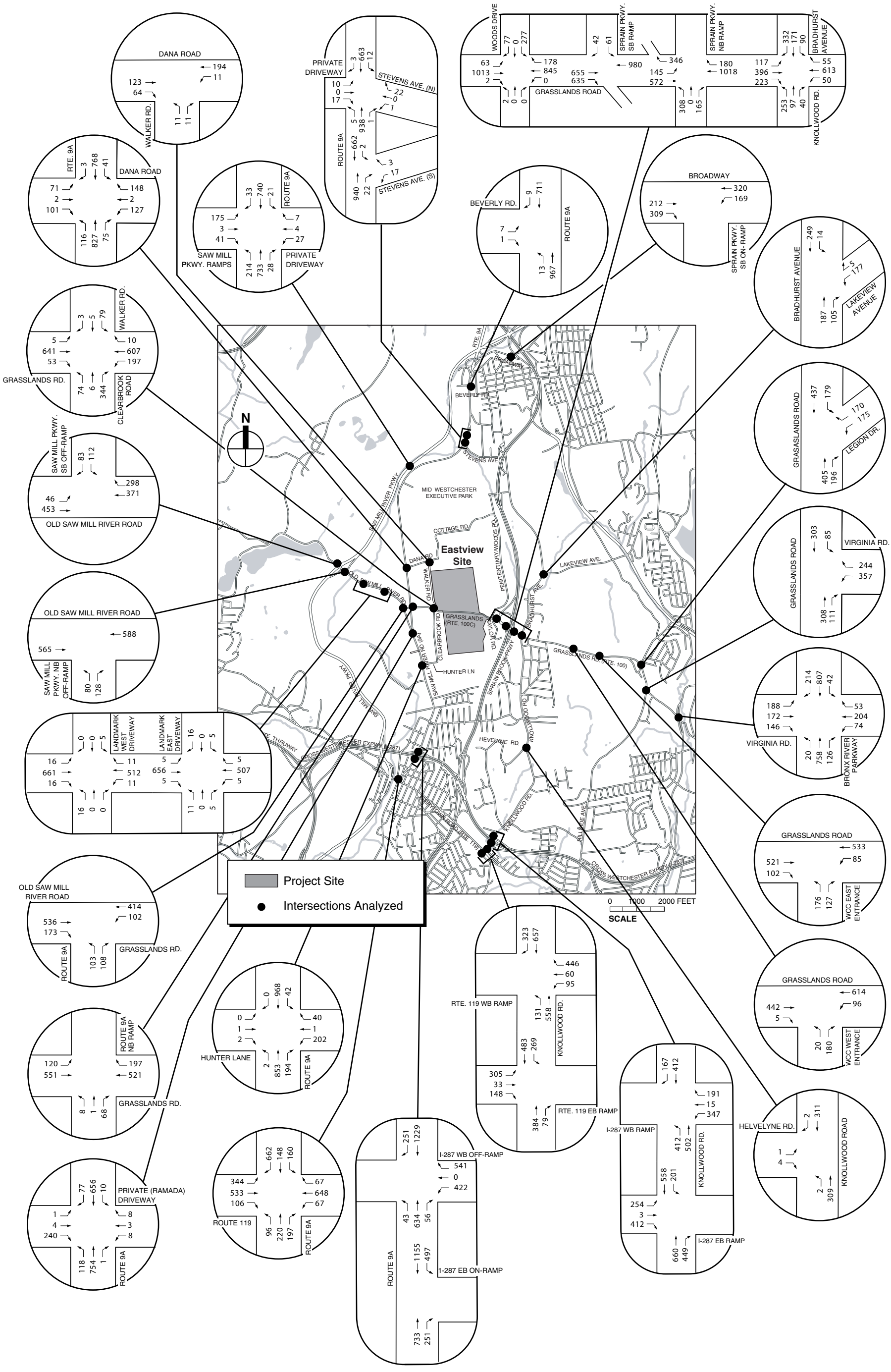
Figure 5.21-6



2008 No-Build Traffic Volumes AM Peak Hour (6:30-7:30AM)

Croton Water Treatment Plant

Figure 5.21-8



2008 No-Build Traffic Volumes
PM Peak Hour (3:30-4:30PM)

Croton Water Treatment Plant

Figure 5.21-9

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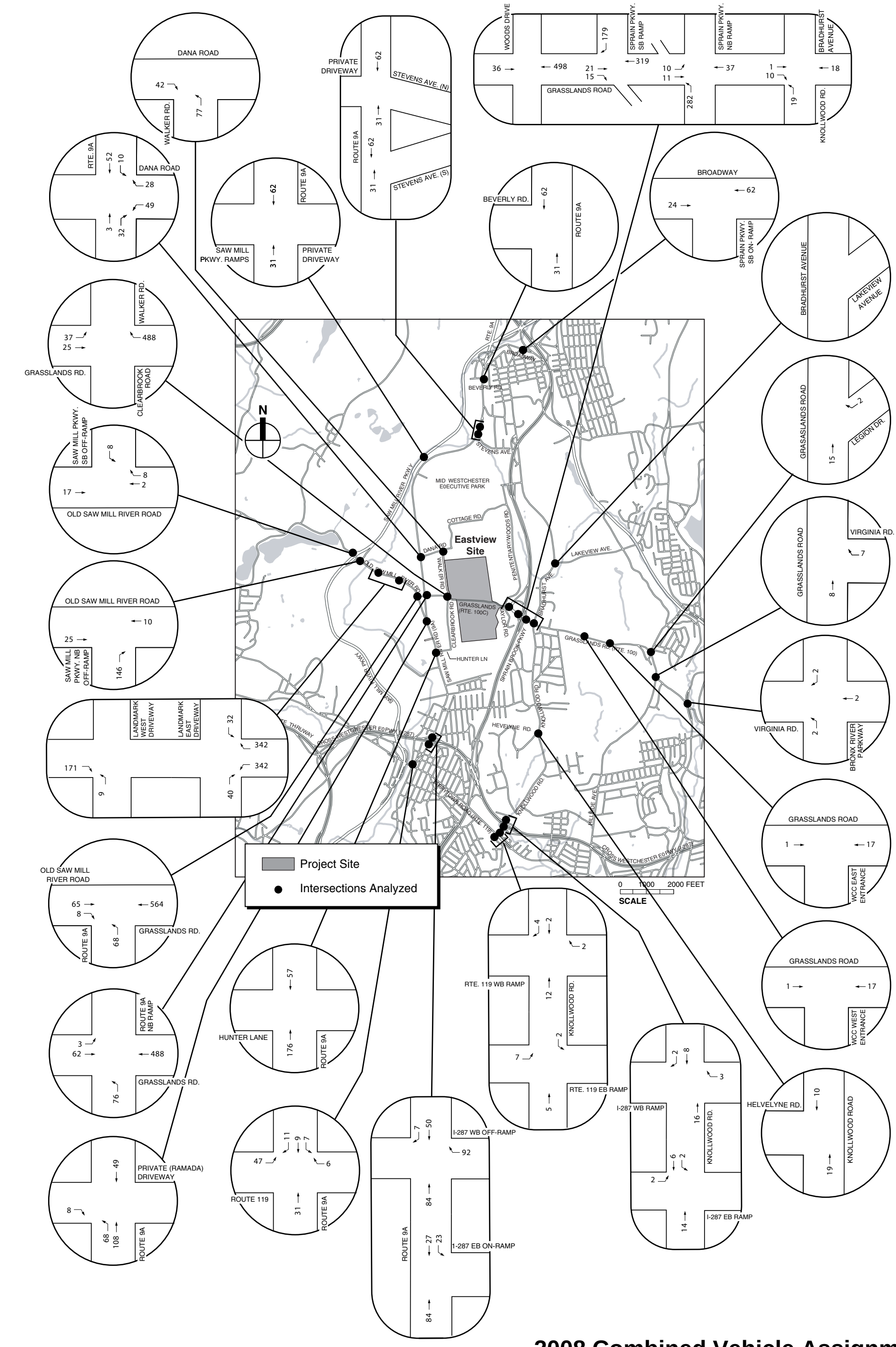

2008 Combined Vehicle Assignment
Cat-Del UV and Croton WTP
Worker Parking Option A Traffic Volumes
AM Peak Hour (6:30 - 7:30 AM)

Croton Water Treatment Plant

Figure 5.21-10

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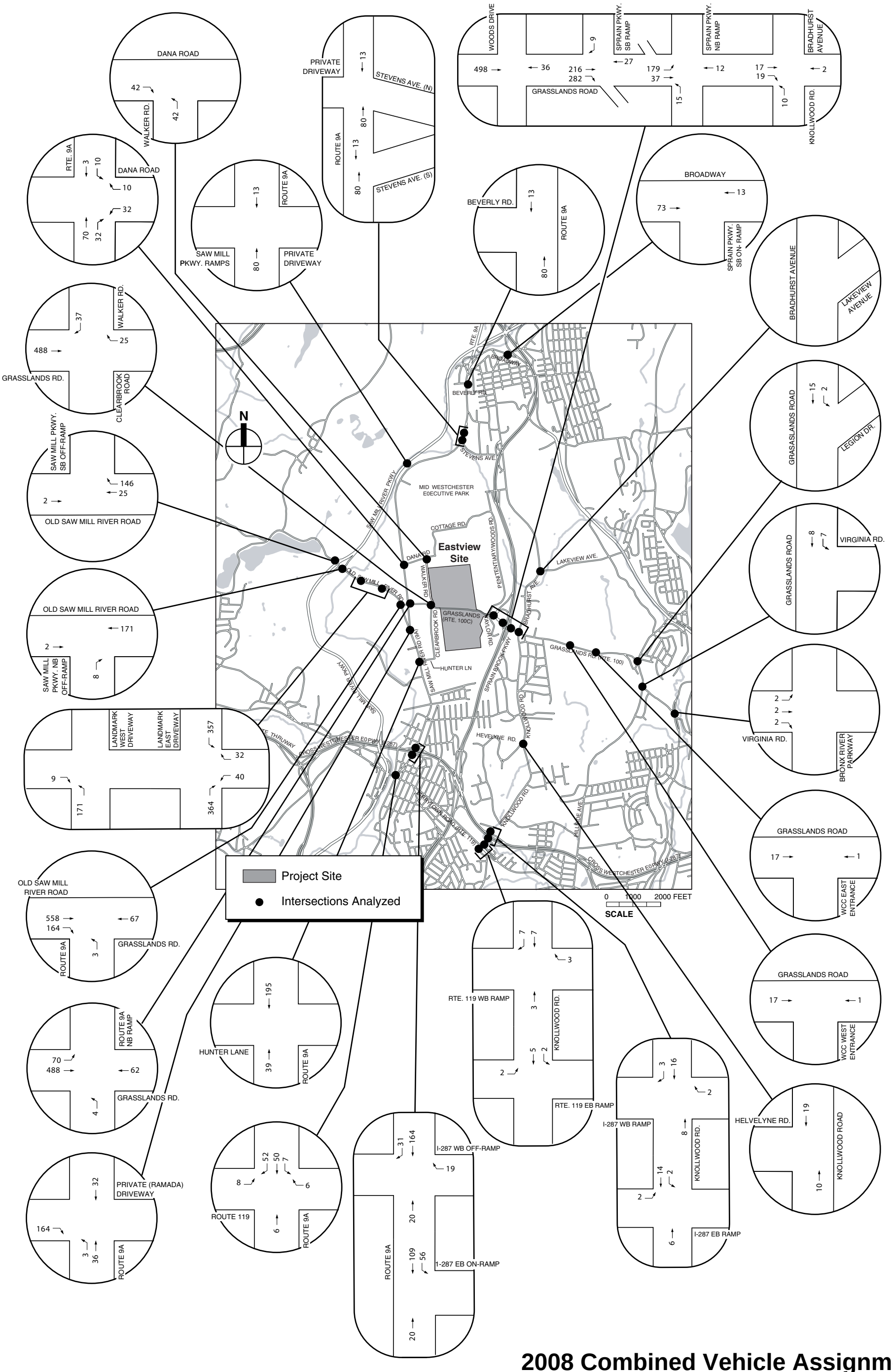
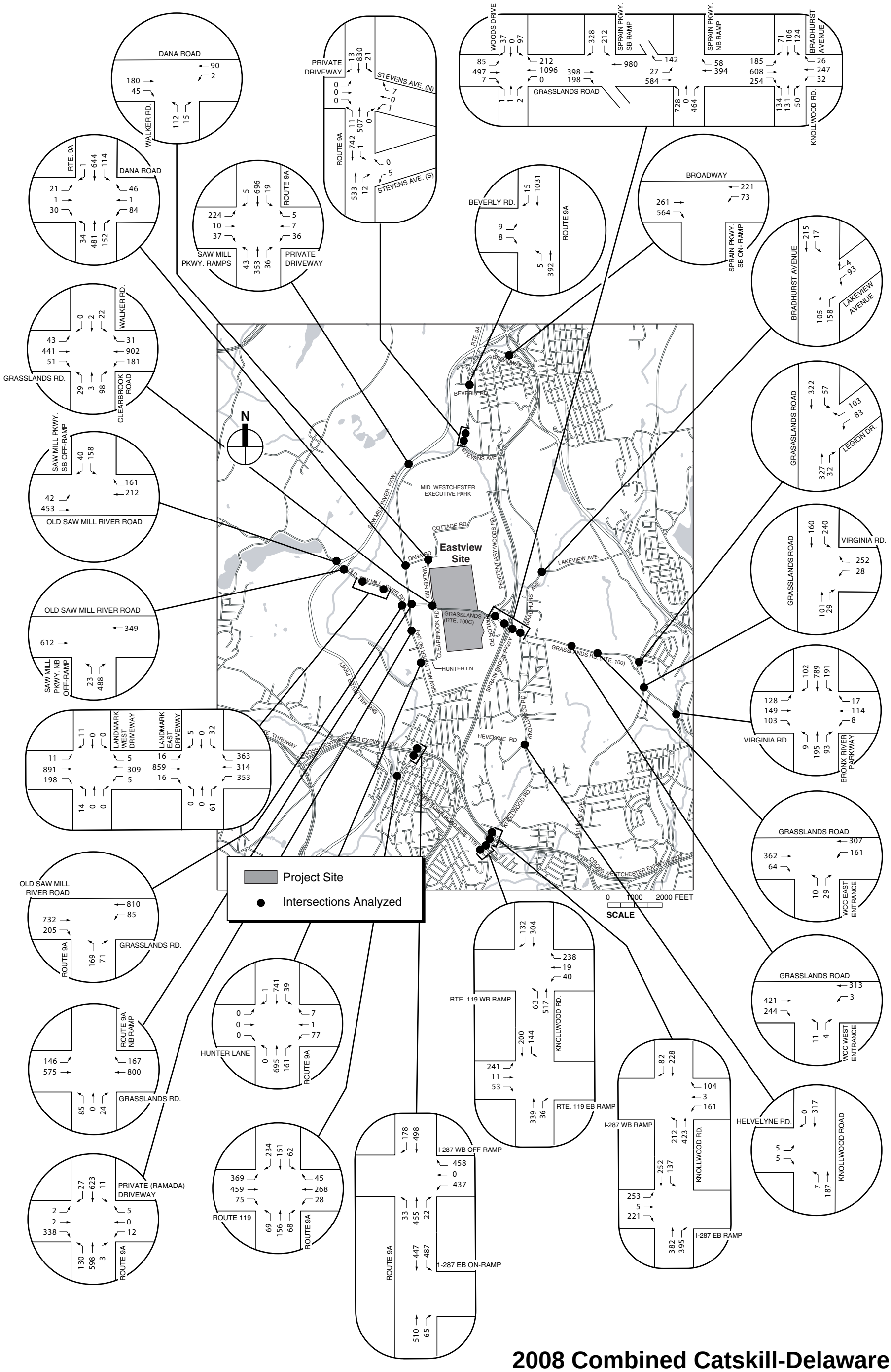


2008 Combined Vehicle Assignment
Cat-Del UV and Croton WTP
Worker Parking Option A Traffic Volumes
PM Peak Hour (3:30 - 4:30 PM)

Croton Water Treatment Plant

Figure 5.21-11



2008 Combined Catskill-Delaware UV and Croton WTP Worker Parking Option A Traffic Volumes AM Peak Hour (6:30 - 7:30 AM)

Croton Water Treatment Plant

Figure 5.21-12

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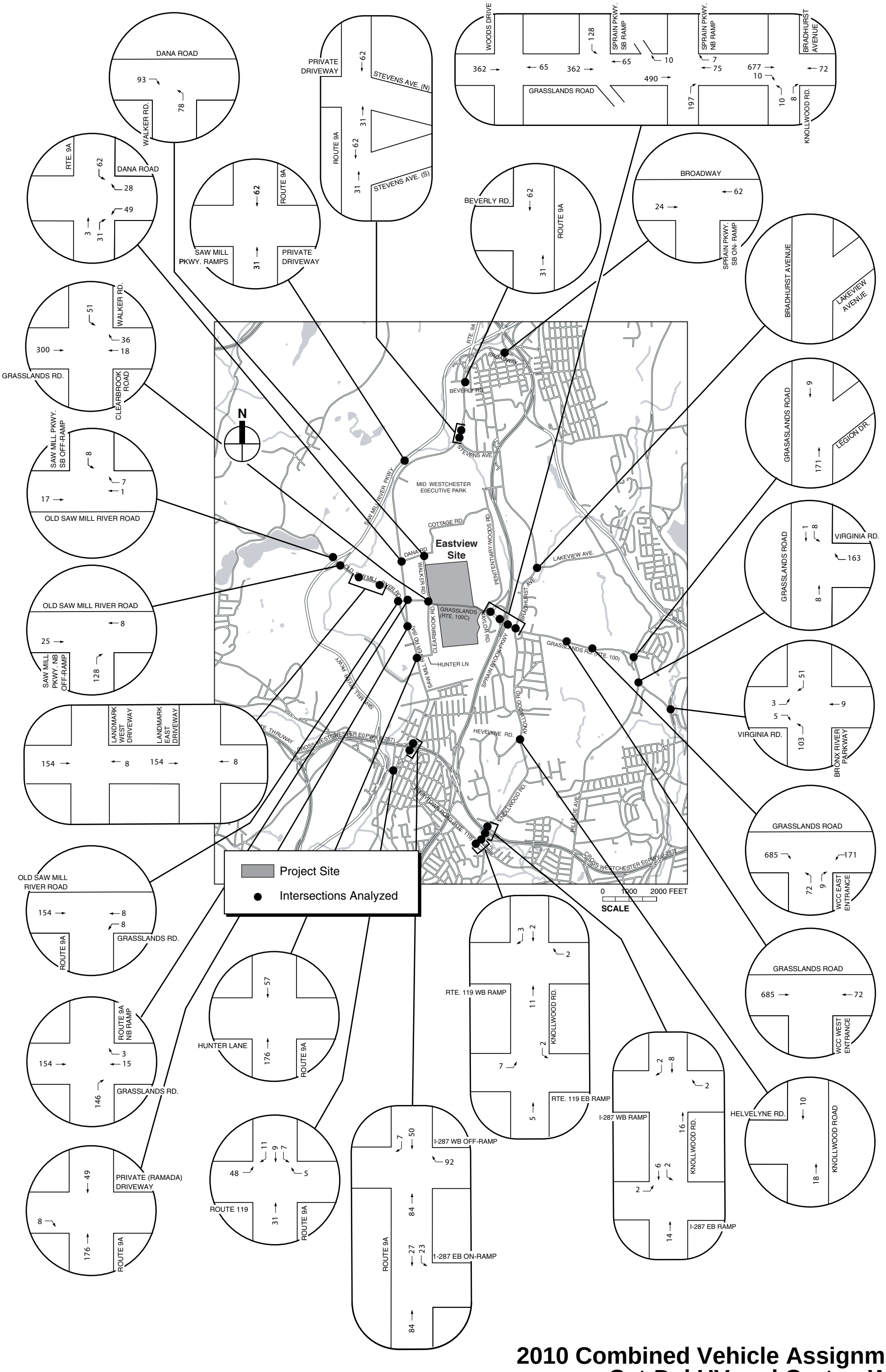
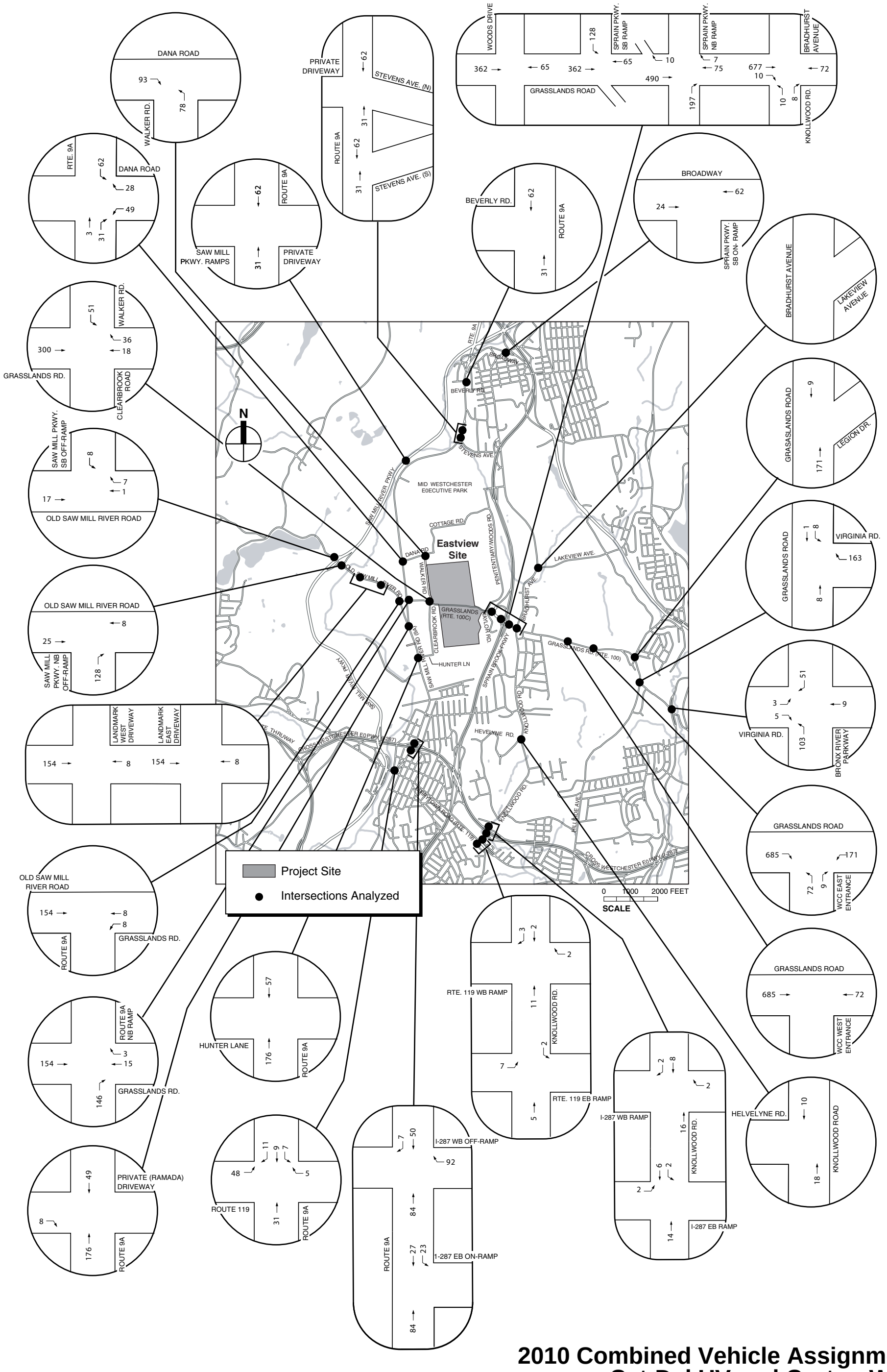


2010 Combined Vehicle Assignment
Cat-Del UV and Croton WTP
Worker Parking Option B Traffic Volumes
AM Peak Hour (6:30 - 7:30 AM)

Croton Water Treatment Plant

Figure 5.21-13



2010 Combined Vehicle Assignment
Cat-Del UV and Croton WTP
Worker Parking Option B Traffic Volumes
AM Peak Hour (6:30 - 7:30 AM)

Croton Water Treatment Plant

Figure 5.21-14

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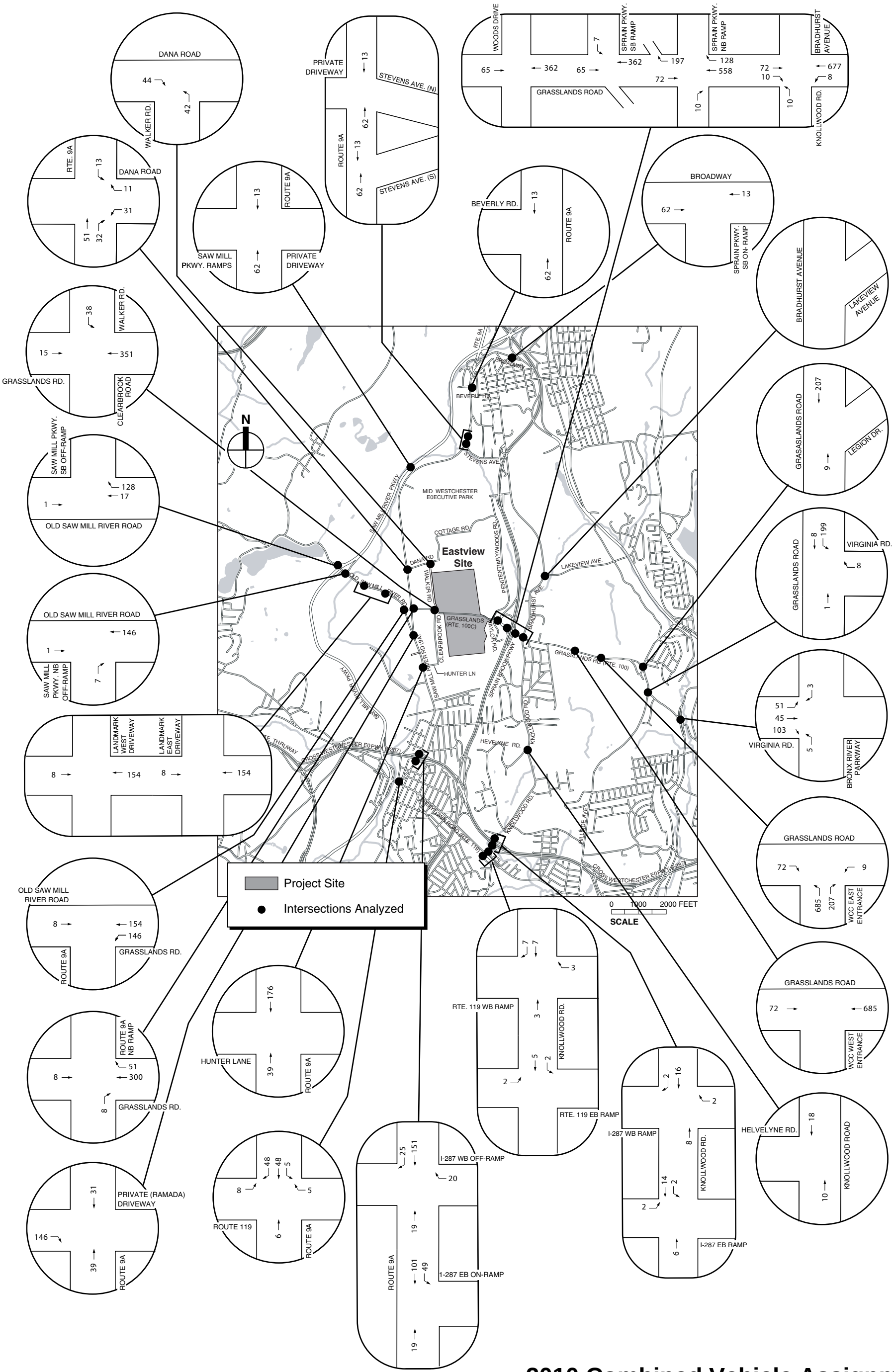
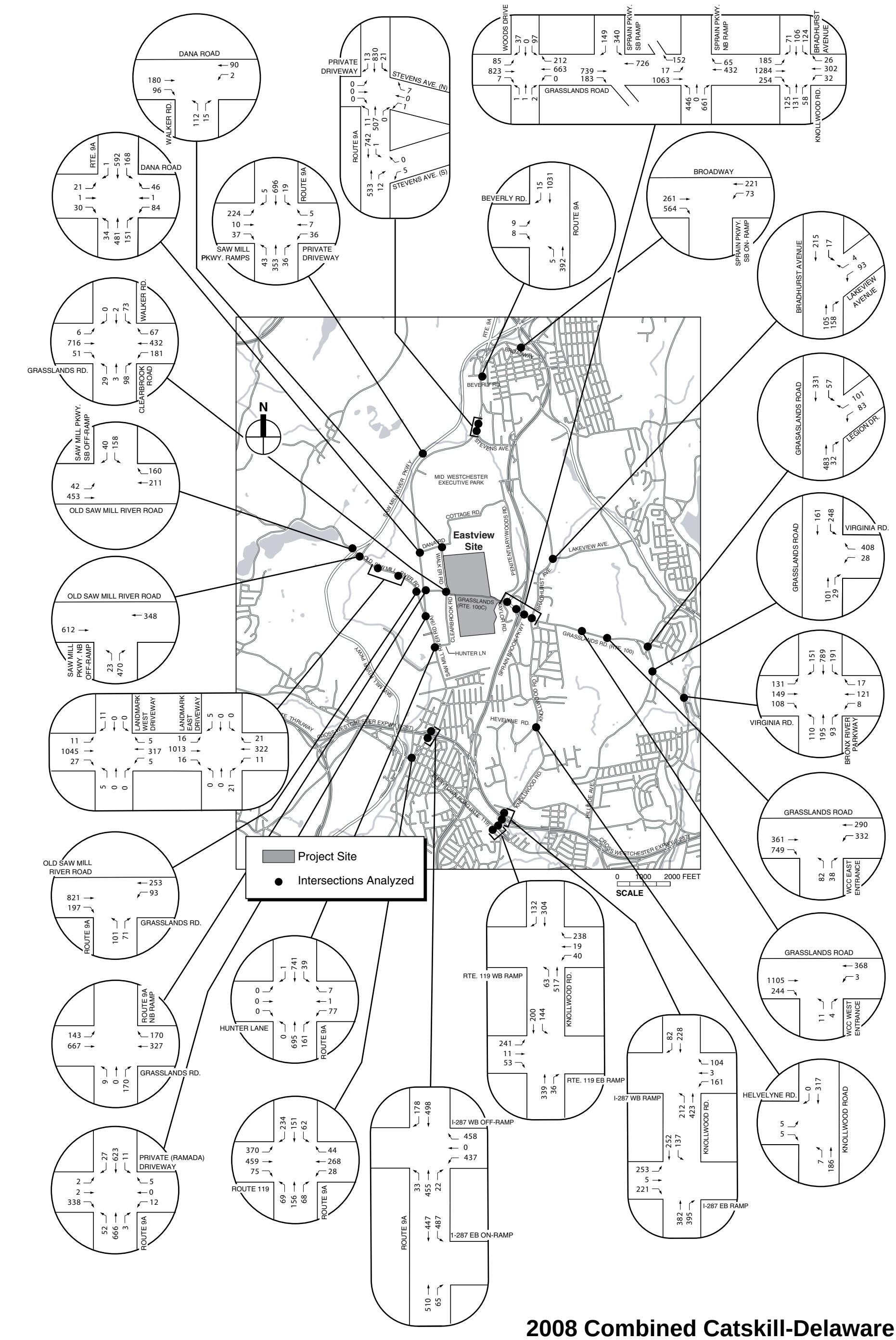


2010 Combined Vehicle Assignment
Cat-Del UV and Croton WTP
Worker Parking Option B Traffic Volumes
PM Peak Hour (3:30 - 4:30 PM)

Croton Water Treatment Plant

Figure 5.21-15



2008 Combined Catskill-Delaware UV and Croton WTP Worker Parking Option B Traffic Volumes AM Peak Hour (6:30 - 7:30 AM)

Croton Water Treatment Plant

Figure 5.21-16

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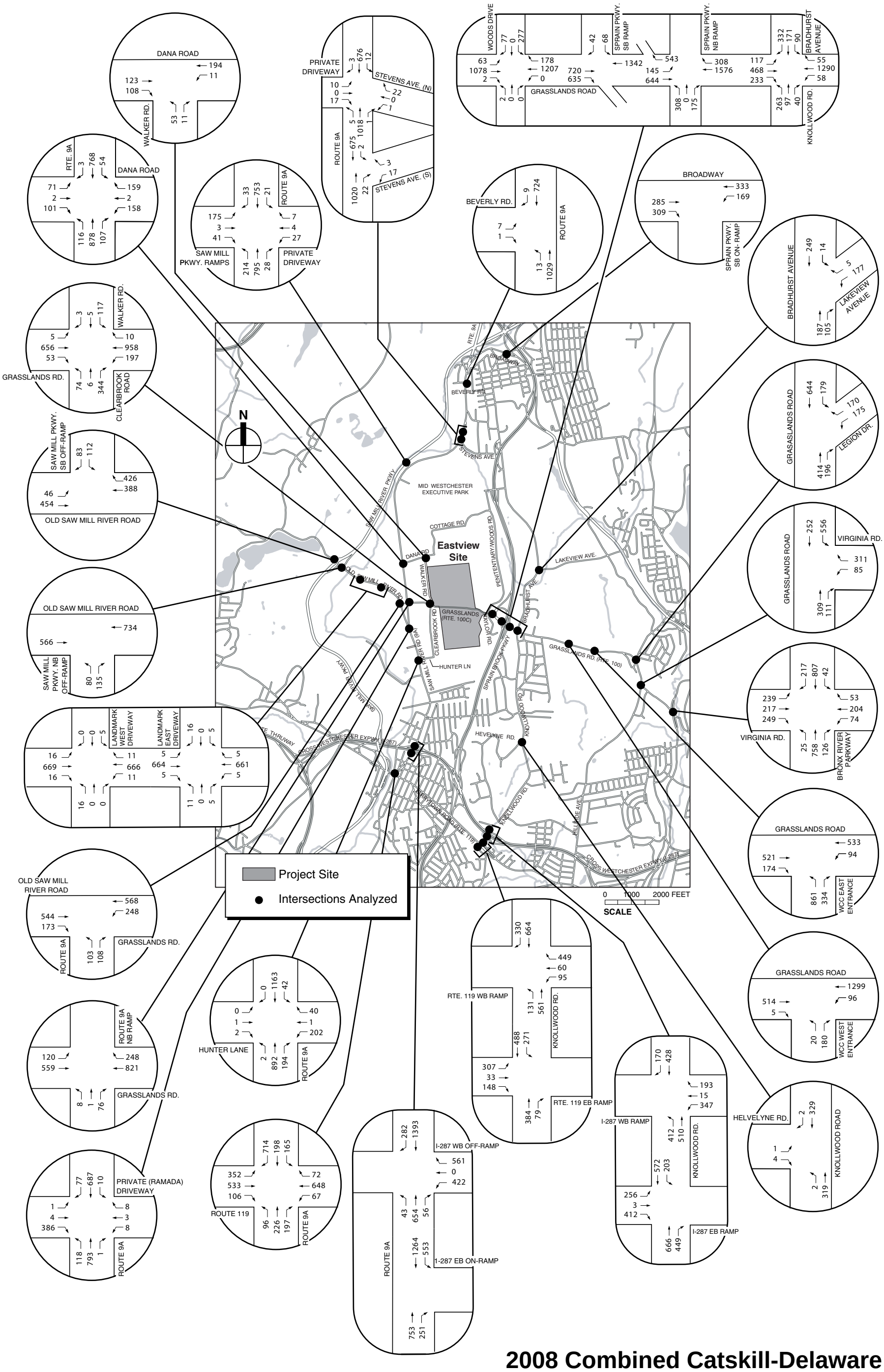

2008 Combined Catskill-Delaware UV and Croton WTP Worker Parking Option B Traffic Volumes PM Peak Hour (3:30 - 4:30 PM)

Croton Water Treatment Plant

Figure 5.21-17

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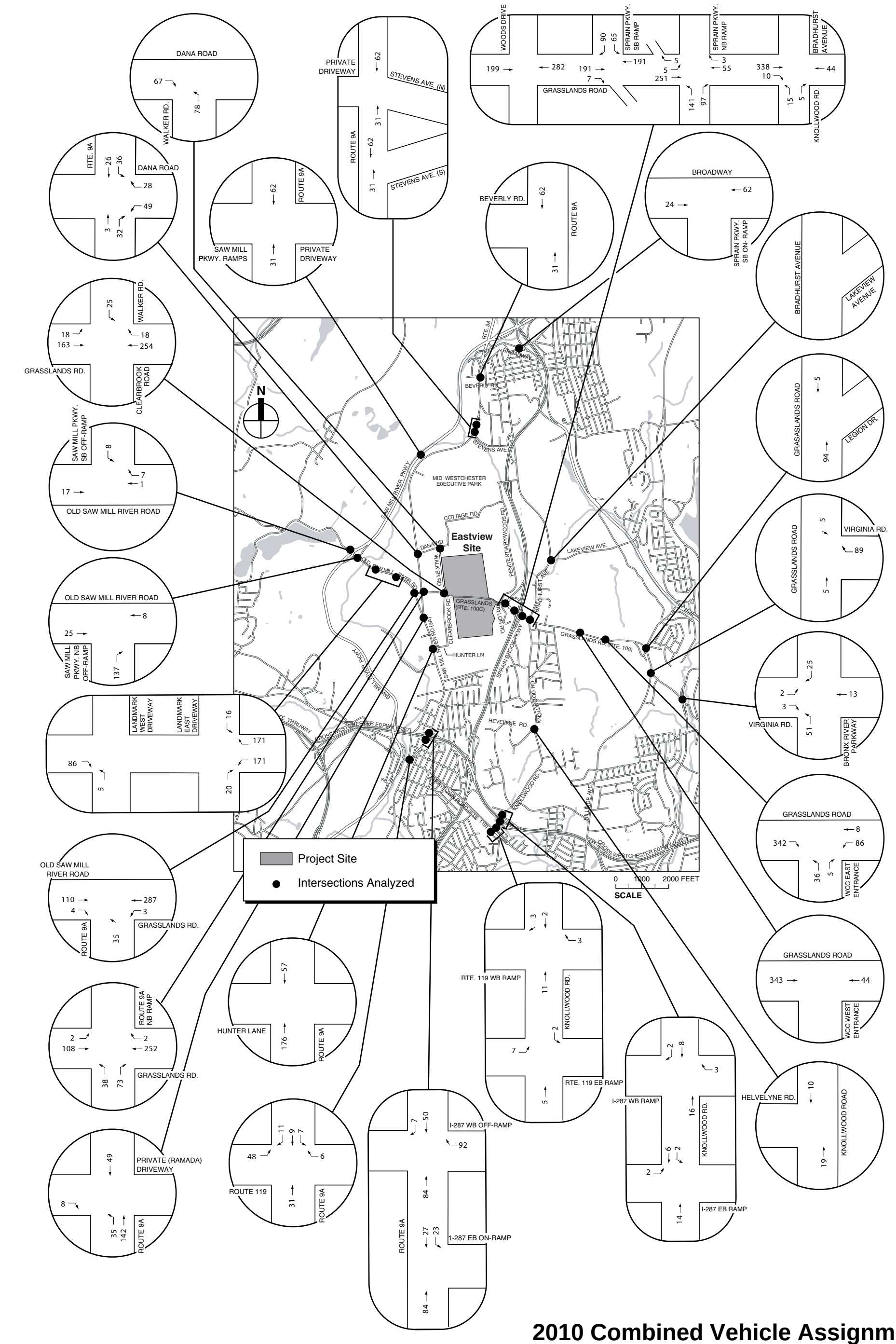

2010 Combined Vehicle Assignment
Cat-Del UV and Croton WTP
Worker Parking Option C Traffic Volumes
AM Peak Hour (6:30 - 7:30 AM)

Croton Water Treatment Plant

Figure 5.21-18

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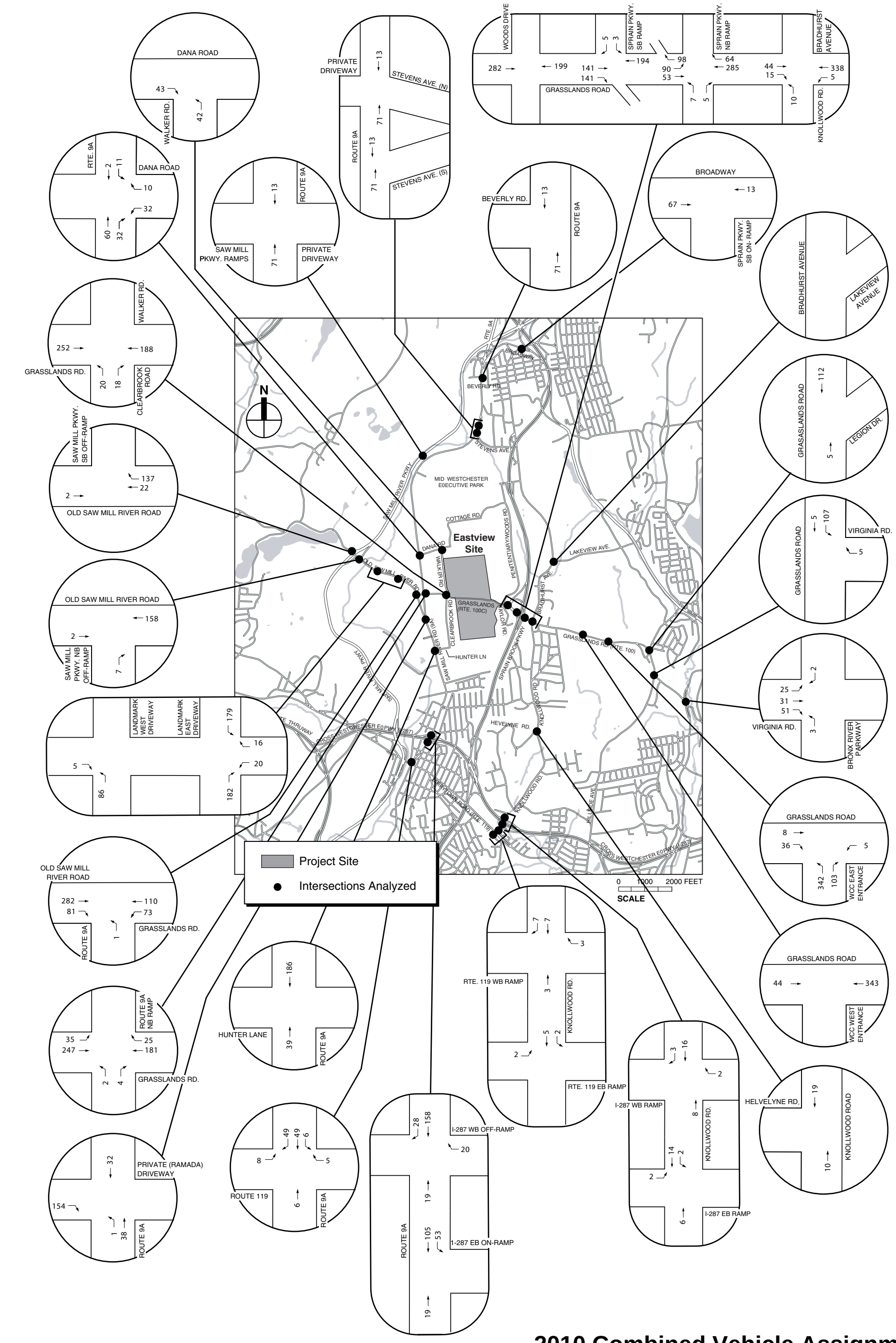

2010 Combined Vehicle Assignment
Cat-Del UV and Croton WTP
Worker Parking Option C Traffic Volumes
PM Peak Hour (3:30 - 4:30 PM)

Croton Water Treatment Plant

Figure 5.21-19

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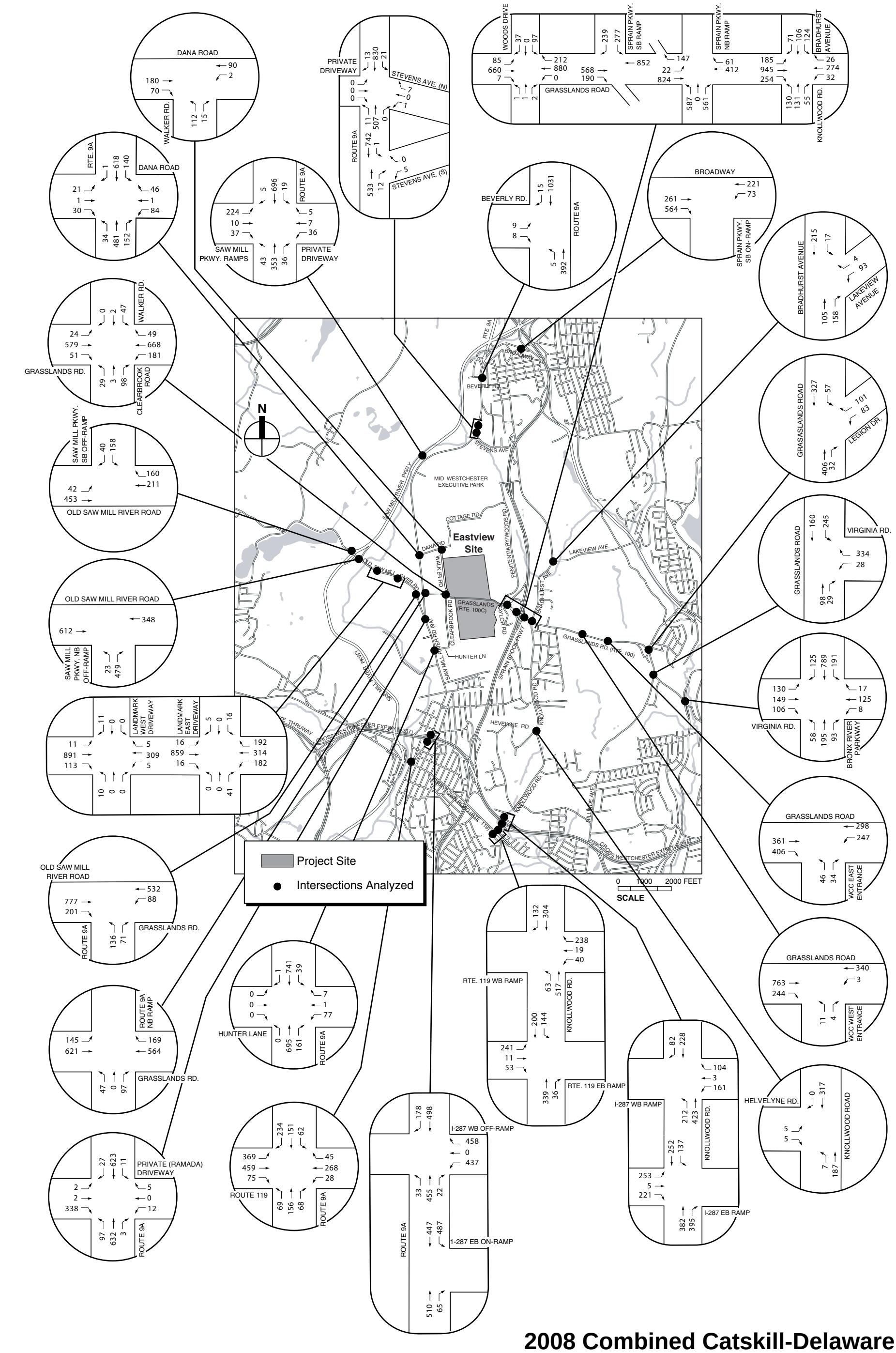
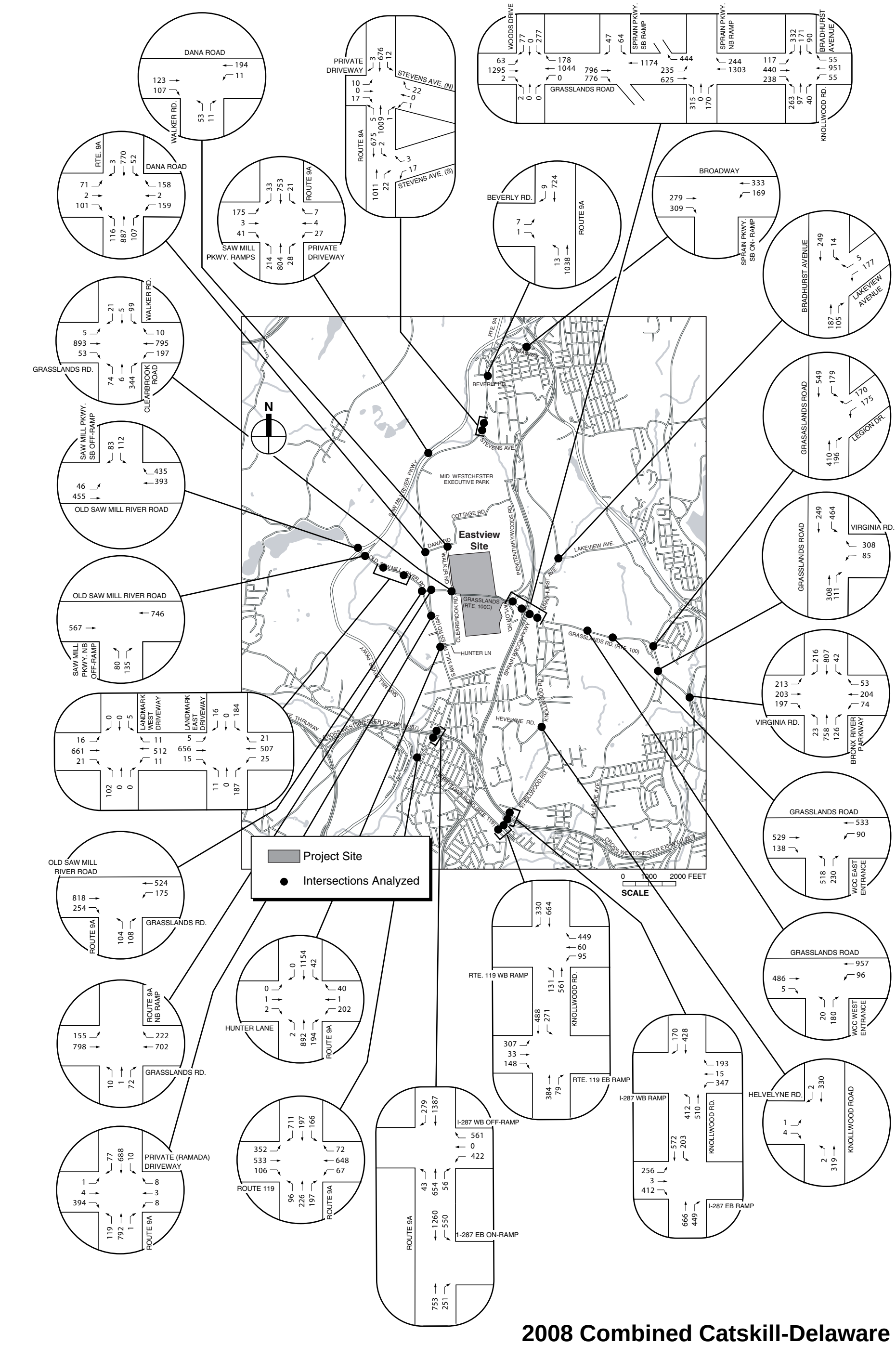


2008 Combined Catskill-Delaware UV and Croton WTP Worker Parking Option C Traffic Volumes AM Peak Hour (6:30 - 7:30 AM)

Croton Water Treatment Plant

Figure 5.21-20



2008 Combined Catskill-Delaware UV and Croton WTP Worker Parking Option C Traffic Volumes PM Peak Hour (3:30 - 4:30 PM)

Croton Water Treatment Plant

Figure 5.21-21

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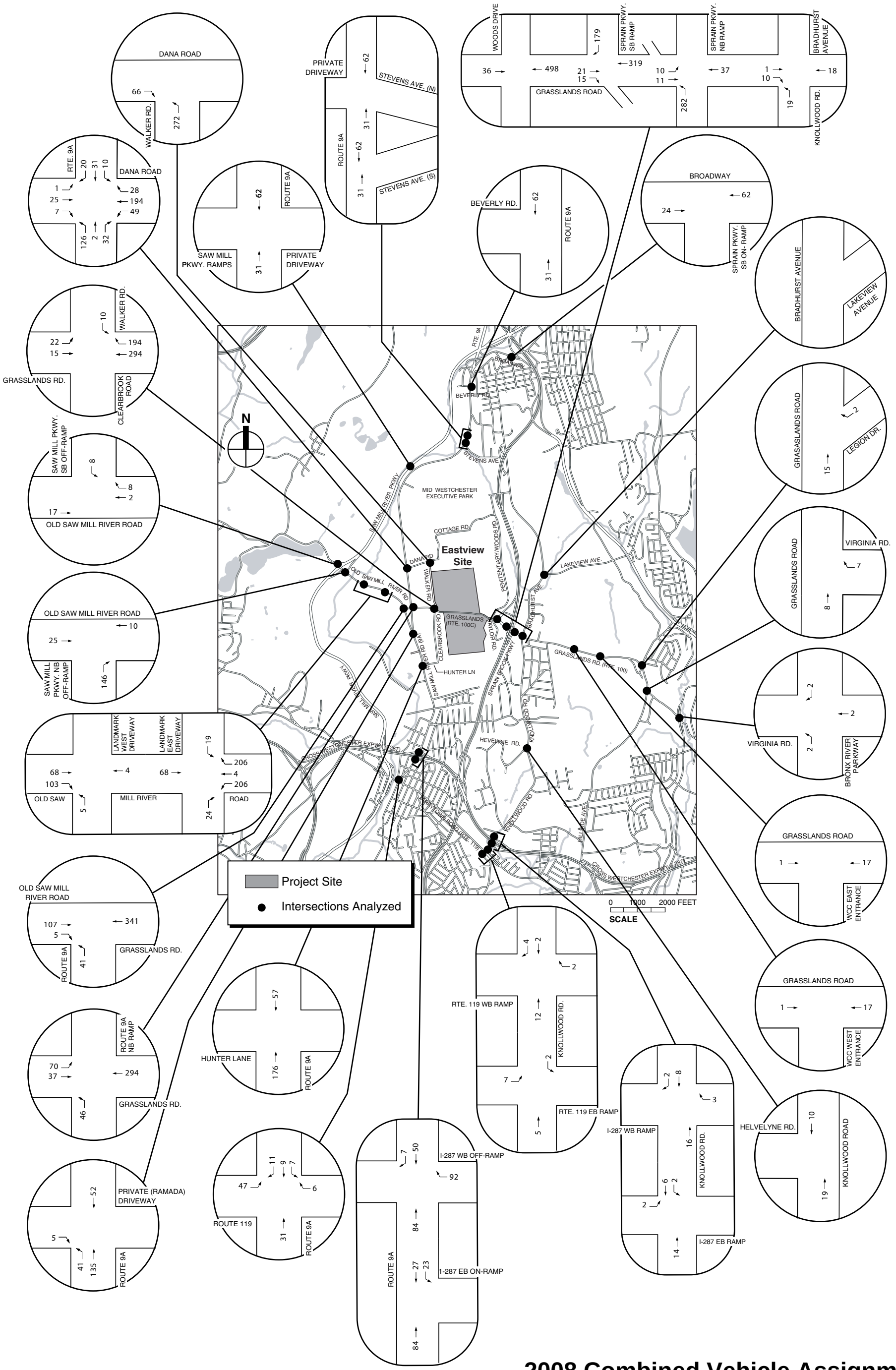
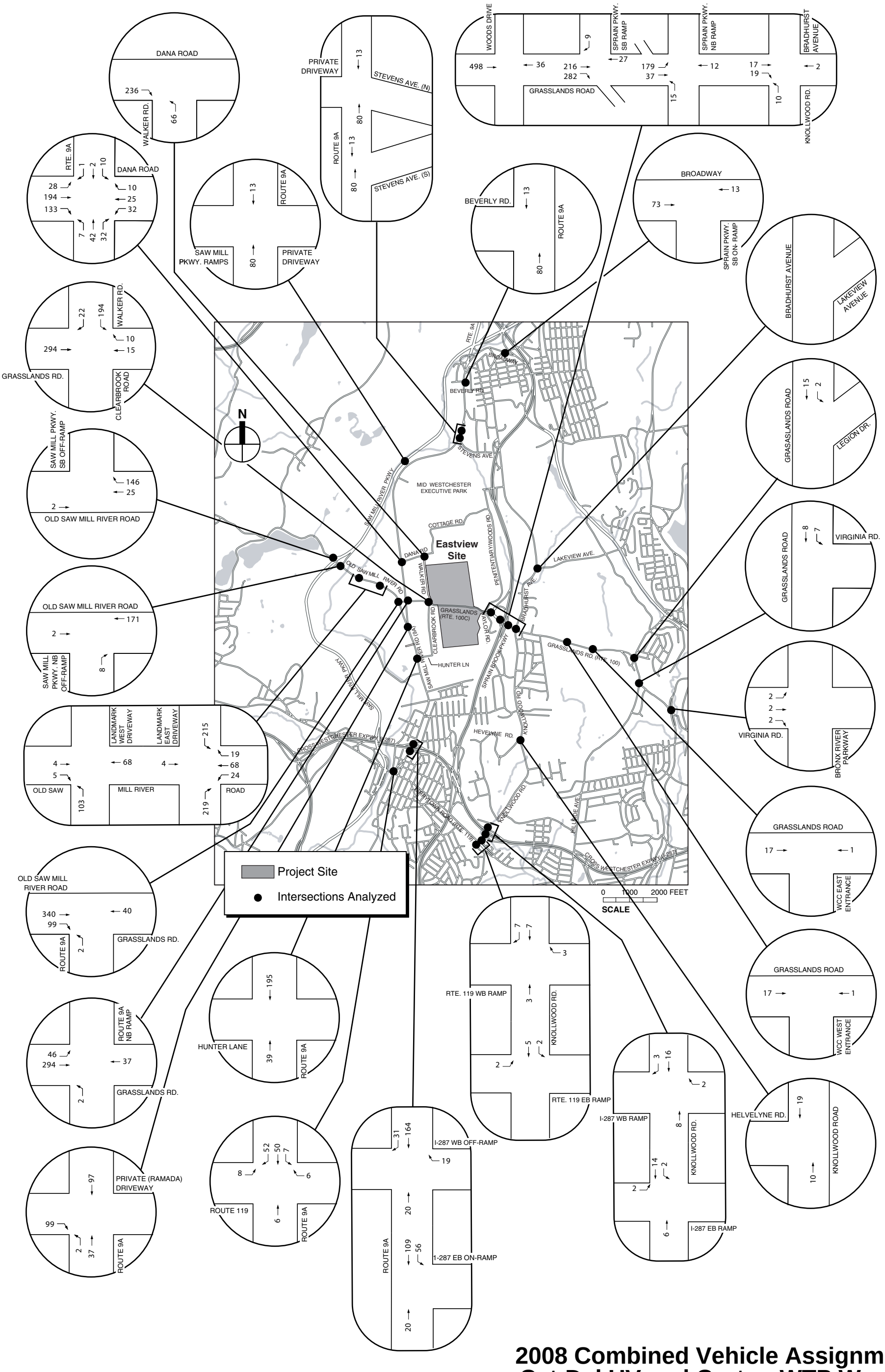


2008 Combined Vehicle Assignment Cat-Del UV and Croton WTP Worker Parking Option D Traffic Volumes AM Peak Hour (6:30 - 7:30 AM)

Croton Water Treatment Plant

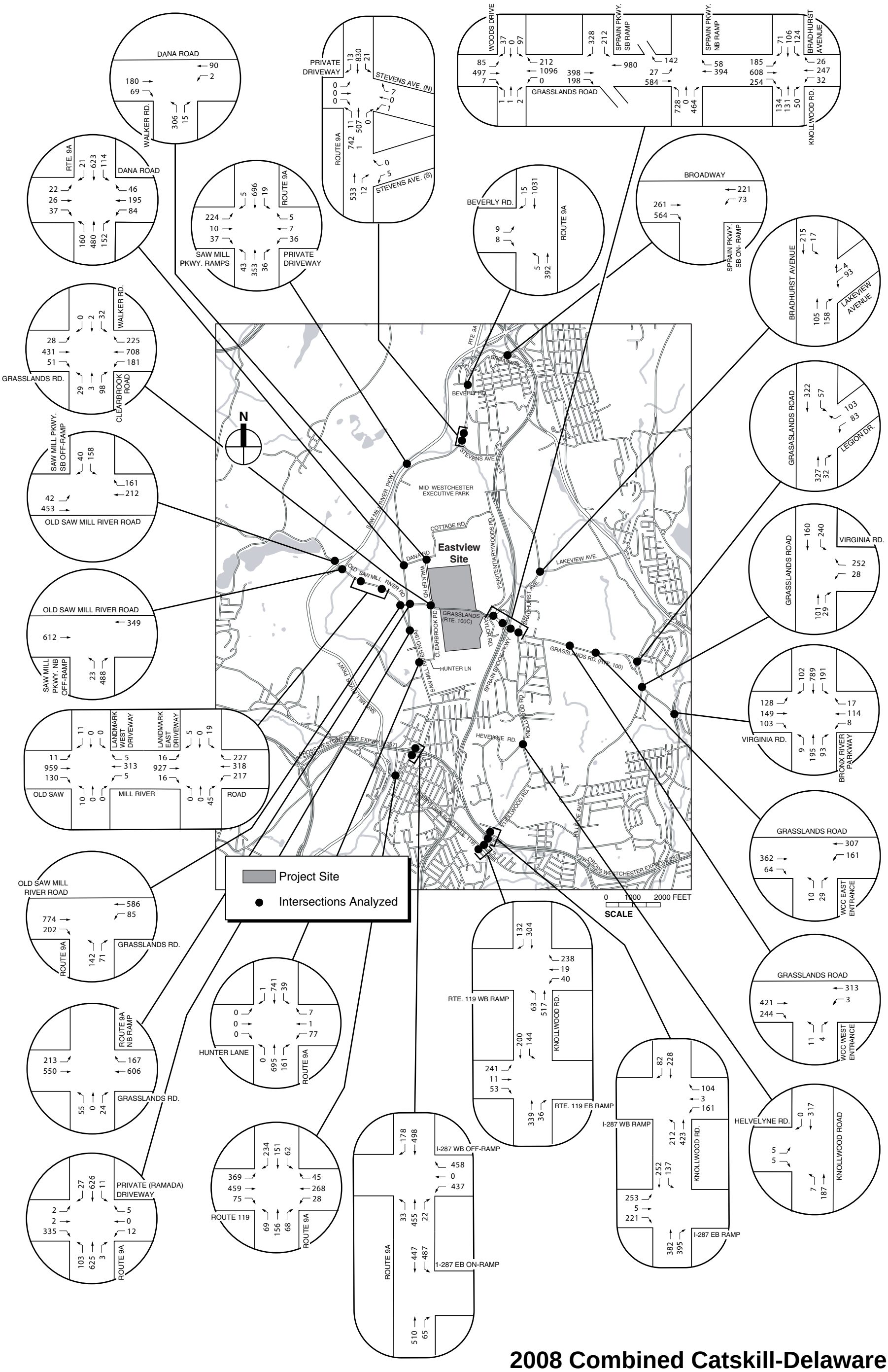
Figure 5.21-22



2008 Combined Vehicle Assignment Cat-Del UV and Croton WTP Worker Parking Option D Traffic Volumes PM Peak Hour (3:30 - 4:30 PM)

Croton Water Treatment Plant

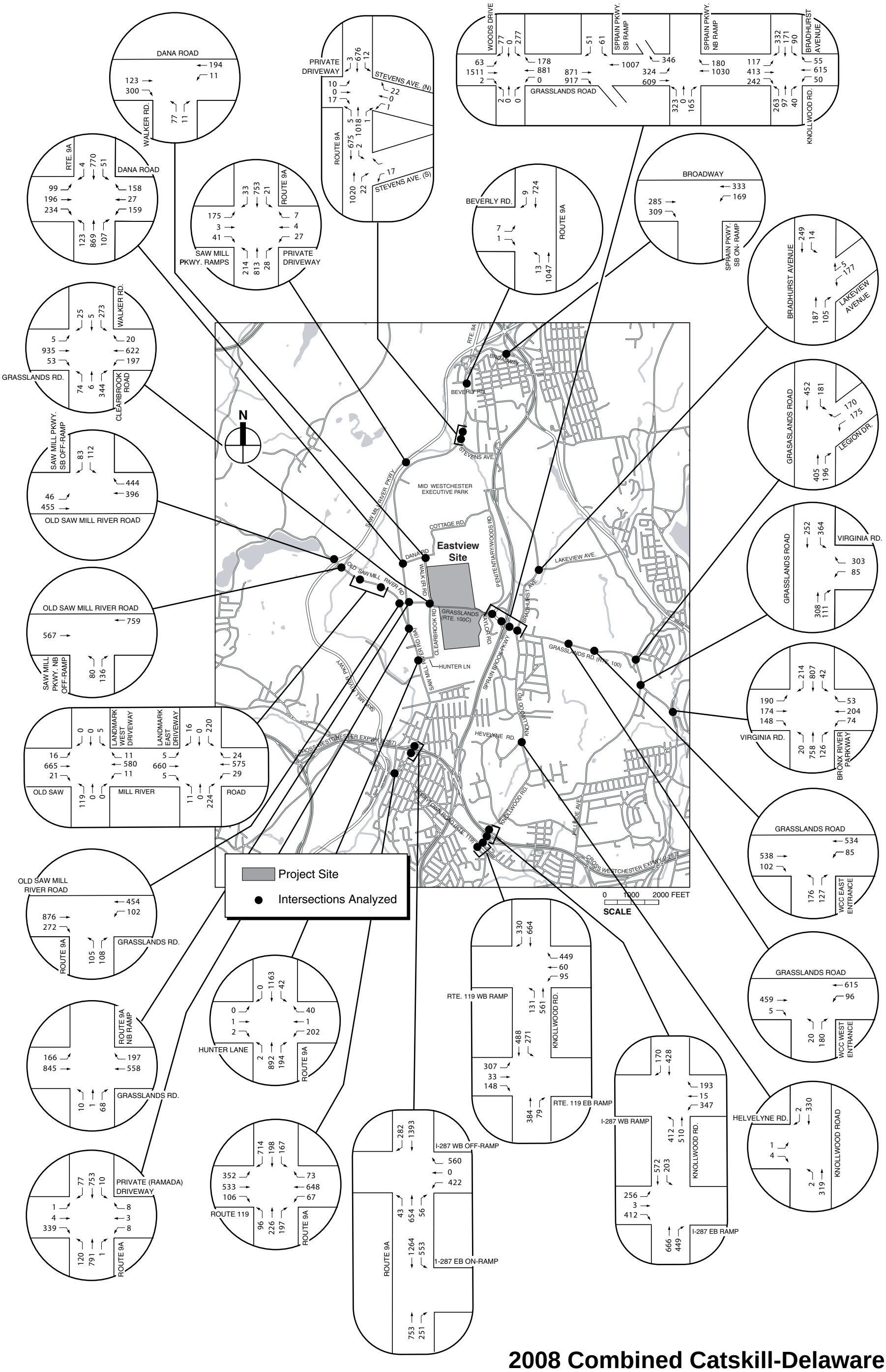
Figure 5.21-23



2008 Combined Catskill-Delaware UV and Croton WTP Worker Parking Option D Traffic Volumes AM Peak Hour (6:30 - 7:30 AM)

Croton Water Treatment Plant

Figure 5.21-24



2008 Combined Catskill-Delaware UV and Croton WTP Worker Parking Option D Traffic Volumes PM Peak Hour (3:30 - 4:30 PM)

Croton Water Treatment Plant

Figure 5.21-25