3.22 MITIGATION

The preceding chapters of this EIS discuss the potential for significant adverse impacts to occur in each of the technical areas. Where significant impacts have been identified, in accordance with the *CEQR Technical Manual*, mitigation measures are examined to minimize or eliminate these impacts. The proposed action would result in mitigatable impacts related to community facilities, traffic and parking, and pedestrians. Changes to signal timing would mitigate potential pedestrian impacts and all but the unmitigatable traffic impacts at five intersections (see Chapter 3.15, "Traffic and Parking," and Chapter 3.23, "Unavoidable Adverse Impacts," for discussion of unmitigatable traffic impacts).

All potential for impacts related to hazardous materials, air quality and noise would be effectively offset through the assignment pursuant to the proposed action of appropriate (E) designations to properties that could potentially be susceptible to such impacts. An (E) is designated on the appropriate Zoning Map (by block and lot) and indicates that on that site no change of use or development requiring a New York City Department of Buildings permit may be issued without approval of the New York City Department of Environmental Protection (NYCDEP).

COMMUNITY FACILITIES

As described in Chapter 3.3, "Community Facilities and Services," the introduction of day care-eligible children associated with the reasonable worst-case development scenario (RWCDS) would cause an 11.3 percent increase in demand over the existing capacity of day care facilities in the study area. Therefore the proposed action would result in a significant adverse impact on publicly funded day care facilities in the study area, warranting consideration of mitigation measures. This potential increase in demand could be offset by a number of factors. Private day care facilities and day care centers outside of the study area (e.g., closer to parent's place of work) are not included in this analysis. Some of the increased day care demand would likely be offset by parents who choose to take their children to day care centers outside of the study area (e.g., closer to work). Some of the Family Day Care Networks serve children residing in the study area and could potentially absorb some of the demand. This new demand would also be considered in future planning for contracted services. Finally, new capacity could potentially be developed as part of the New York City Administration for Children's Services' public-private partnership initiatives. Children's Services will monitor the demand and need for additional capacity and implement change to the extent practicable.

TRAFFIC AND PARKING

As discussed in Chapter 15, "Traffic and Parking," a total of 33 signalized intersections and five unsignalized intersections were analyzed for typical day conditions and seven signalized intersections were analyzed under PM peak hour and Saturday midday New York Yankee pre-game conditions within a focused game day study area. Significant adverse impacts were identified under typical day conditions for the full traffic study area at seven intersections during the AM peak hour, six intersections during the

midday peak hour, 11 intersections during the PM peak hour, and nine intersections during the Saturday midday peak hour. Within the game day focused study area, significant adverse impacts were identified at four intersections during the pre-game PM peak and at three intersections during the pre-game Saturday midday hours. Significant adverse impacts were also identified at these intersections during typical day conditions.

As outlined in the following analysis and detailed in Tables 3.21-1 through 3.21-4, most traffic impacts on the local street network can be mitigated by standard traffic engineering improvements such as signal phasing and timing modifications, parking prohibitions, lane re-striping, and changes in pavement markings. These measures are consistent with the range of traffic capacity improvements that have been proposed and implemented for other projects in the city. The 2018 Build level of service analysis without and with mitigation as well as proposed mitigation measures are presented separately below for typical day and game day conditions. It is noted in Table 3.21-3 where proposed mitigation measures for typical day conditions would be valid as well for game day conditions.

LOCAL STREET NETWORK

East 149th Street and Gerard Avenue

Significant traffic impacts at this intersection were projected for typical day midday, PM, and Saturday midday peak hours and the game day pre-game PM peak hour and Saturday pre-game midday hour. Traffic mitigation would encompass prohibiting parking along the west side of the northbound approach for approximately 200 feet from the intersection and the northbound approach would be restriped to provide an exclusive left-turn lane, 12 feet wide. It is assumed the exclusive left turn lane and parking restrictions would be in effect at all times. It is estimated that nine parking spaces would be lost, which would exacerbate the projected daytime parking shortfall in the study area. Analysis conducted for non-impacted time periods indicates acceptable operations. Additionally, signal timing modifications would be necessary to mitigate impacts for the game day Saturday pre-game midday hour.

East 149th Street and Walton Avenue

Significant traffic impacts at this intersection during typical day PM, and Saturday midday peak hours and the game day PM peak hour and Saturday midday pre-game hour can be mitigated by signal timing modifications.

East 149th Street and Morris Avenue

Significant traffic impacts at this intersection were projected for typical day AM, midday, and PM peak hours and the game day PM peak hour. Signal timing modifications plus provision of an eastbound/westbound protected left turn phase would mitigate the significant traffic impacts at this intersection. It is assumed that the proposed protected left turn phase would be in effect at all times. Analysis conducted for non-impacted time periods indicates acceptable operations. A left turn phase warrant analysis was completed between the Draft and Final EIS to examine the feasibility of implementing the eastbound/westbound protected left turn phase. It was determined that the left turn phase warrant was not satisfied and therefore, the

identified significant adverse traffic impacts to the northbound Morris Avenue approach could not be mitigated without causing a significant adverse impact to East 149th Street traffic operations.

East 144th Street and Grand Concourse

Significant traffic impacts at this intersection were projected for typical day AM, PM, and Saturday midday peak hours. The traffic mitigation would encompass prohibiting parking on East 144th Street for approximately 250 feet from the intersection. The eastbound and westbound approaches would be restriped to provide exclusive left-turn lanes, 10 feet wide. It is assumed the exclusive left turn lanes and parking restrictions would be in effect at all times. It is estimated that 14 parking spaces would be lost, which would exacerbate the projected daytime parking shortfall in the study area. Analysis conducted for non-impacted time periods indicates acceptable operations. In addition, signal timing modifications would also be required to mitigate significant impacts during the PM peak hour.

East 144th Street and Park Avenue

Significant traffic impacts at this intersection during typical day AM peak hour can be mitigated by signal timing modifications.

East 138th Street and Major Deegan Expressway Off-Ramp NB

Significant traffic impacts at this intersection during typical day AM, PM and Saturday midday peak hours can be mitigated by signal timing modifications.

East 138th Street and Exterior Street SB

Significant traffic impacts at this intersection during typical day PM peak hour can be mitigated by signal timing modifications.

East 138th Street and Third Avenue/Morris Avenue

Significant traffic impacts at this intersection were projected for typical day midday, PM, and Saturday midday peak hours. The traffic mitigation would require restriping the northbound approach to provide an exclusive left-turn lane, a through lane, and a shared through and right-turn lane, all 12 feet wide. Additionally, signal timing modifications would be necessary during all peak hours to provide a northbound/southbound protected left turn phase. It is assumed that the proposed lane configuration and traffic signal phasing would be in effect at all times. Analysis conducted for non-impacted time periods indicates acceptable operations. A left turn phase warrant analysis was completed between the Draft and Final EIS to examine the feasibility of implementing the northbound/southbound protected left turn phase. It was determined that the left turn phase warrant was not satisfied and therefore, the identified significant adverse traffic impacts to the northbound Third Avenue de facto left turn lane and eastbound East 138th Street approach could not be mitigated without exacerbating the significant adverse traffic impacts identified on the intersecting approaches.

East 138th Street and Willis Avenue

Significant traffic impacts at this intersection were projected for typical day midday and PM peak hours. The traffic mitigation would encompass prohibiting parking on the eastbound and westbound approaches for approximately 200 feet from the intersection. The eastbound and westbound approaches would be restriped to provide an exclusive left-turn lane and a shared through and right-turn lane, all 12 feet wide. In addition, signal timing modifications would also be required to mitigate significant impacts during the PM peak hour.

West 145th Street and Lenox Avenue

Significant traffic impacts at this intersection during typical day AM, PM and Saturday midday peak hours can be mitigated by signal timing modifications.

East 146th Street and Exterior Street

Significant traffic impacts at this intersection during typical day midday peak hour can be eliminated by removing the stop sign control on Exterior Street and installing stop sign control on East 146th Street. It is assumed that the proposed modification to stop control would be in effect at all times. Analysis indicates that implementation of this modification would not result in significant traffic impacts during other time periods.

Table 3.22-1: Recommended Mitigation Measures – Typical Day

Intersection	AM Peak Hour	MD Peak Hour	PM Peak Hour	SAT Peak Hour
East 149th Street (E-W) @ Exterior Street (N-S) & River Avenue (N-S)	Unmitigated	Unmitigated	Unmitigated	Unmitigated
East 149th Street (E-W) @ Gerard Avenue (N-S)	None Required. Mitigation measure proposed for other time periods assumed to be in effect. (9 Spaces)	Add NB LT only lane. Prohibit parking along west side of Gerard Avenue 200 feet south of intersection. (9 Spaces)	Add NB LT only lane. Prohibit parking along west side of Gerard Avenue 200 feet south of intersection. (9 Spaces)	Add NB LT only lane. Prohibit parking along west side of Gerard Avenue 200 feet south of intersection. (9 Spaces)
East 149th Street (E-W) @ Walton Avenue (N-S)	None Required	None Required	Shift 1 second of green time from E-W phase to N-S phase. Phase G A R E-W 84 3 2 N-S 26 3 2 Cycle Length = 120	Shift 2 seconds of green time from E-W phase to N-S phase. Phase G A R E-W 83 3 2 N-S 27 3 2 Cycle Length = 120
East 149th Street (E-W) @ Morris Avenue (N-S) (See Note A)	Shift 15 seconds of green time from E-W phase to a new E-W LT only phase and 4 seconds to N-S phase. Phase G A R E-W LT 12 3 0 Only 40 3 2 E-W 55 3 2 N-S Cycle Length = 120	Shift 13 seconds of green time from E-W phase to a new E-W LT only phase and 4 seconds to N-S phase. Phase G A R E-W LT Only 10 3 0 E-W 42 3 2 N-S 55 3 2 Cycle Length = 120	Shift 13 seconds of green time from E-W phase to a new E-W LT only phase and 4 seconds to N-S phase. Phase G A R E-W LT Only 10 3 0 E-W 42 3 2 N-S 55 3 2 Cycle Length = 120	None Required. Mitigation measures proposed for MD and PM time periods assumed to be in effect

Note A: A left turn phase warrant analysis was completed between the Draft and Final EIS to examine the feasibility of implementing the eastbound/westbound protected left turn phase. It was determined that the left turn phase warrant was not satisfied and therefore, the identified significant adverse traffic impacts to the northbound Morris Avenue approach could not be mitigated. However, it was also determined that if implemented, this mitigation measure would be effective.

Table 3.22-1: Recommended Mitigation Measures – Typical Day (Con't)

Intersection	AM Peak Hour	MD Peak Hour	PM Peak Hour	SAT Peak Hour
East 144th Street (E-W) @ Grand Concourse (N-S)	Add EB and WB LT only lanes. Prohibit parking on both sides of East 149th Street between Grand Concourse and Walton Avenue approximately 250 feet east of intersection. (14 Spaces	None required. Mitigation measures proposed for AM and SAT time periods assumed to be in effect. (14 Space	Add new EB and WB LT only lanes Prohibit parking. (See AM - 14 Spaces). Shift 3 seconds of green time from N-S phase to SB only phase. Shift 3 seconds of green time from N-S phase to E-W phase. Phase G A R E-W 32 3 3 SB Only 13 3 2 N-S 59 3 2 Cycle Length = 120	Add EB and WB LT only lanes. Prohibit parking on both sides of East 149th Street between Grand Concourse and Walton Avenue approximately 250 feet east of intersection. (14 Spaces)
East 144th Street (E-W) @ Park Avenue (N-S)	Shift 1 second of green time from N-S phase to E-W phase. Phase G A R E-W 42 3 2 N-S 4 3 2 40 4 Cycle Length = 90	None required	None required	None required
East 138th Street (E-W) @ Major Deegan Expwy Off-Ramp NB (N-S)	Shift 2 seconds of green time from EB lead phase to E-W phase. Phase G A R EB Lead 26 0 0 E-W 36 3 2 EB Lag 30 3 2 N-S 28 3 2 Cycle Length = 135	None required	Shift 3 seconds of green time from EB lead phase to N-S phase. Phase G A R EB Lead 12 0 0 E-W 51 3 2 EB Lag 35 3 2 N-S 22 3 2 Cycle Length = 135	Shift 2 seconds of green time from EB lead phase to N-S phase. Phase G A R EB Lead 13 0 0 E-W 41 3 2 EB Lag 30 3 2 N-S 21 3 2 Cycle Length = 120
East 138th Street (E-W) @ Exterior Street SB (N-S)	Unmitigated	None required	None required	Unmitigated

Table 3.22-1: Recommended Mitigation Measures – Typical Day (Con't)

Intersection	AM Peak Hour	MD Peak Hour	PM Peak Hour	SAT Peak Hour
East 138th Street (E-W) @ Park Avenue (N-S)	None required	None required	Shift 1 second of green time from E-W phase to N-S phase. Phase G A R E-W 65 4 2 N-S 43 4 2 Cycle Length = 120	None required
East 138th Street (E-W) @ Third Avenue (N-S) & Morris Avenue (N-S (See Note B)	None required. Lane configuration proposed for other time periods assumed to be in effect Shift 10 seconds of green time from N-S phase to a new LT phase. Phase G A R E-W 40 3 2 N-S LT 7 3 0 Only 30 3 2 N-S Cycle Length = 90	Convert 1 NB lane to a LT only lane. Shift 10 seconds of green time from N-S phase to a new LT phase. Phase G A R E-W 50 3 2 N-S LT 7 3 0 Only 20 3 2 N-S Cycle Length = 90	Convert 1 NB lane to a LT only lane. Shift 10 seconds of green time from N-S phase to a new LT phase. Shift 4 seconds of green time from N-S phase to E-W phase. Phase G A R E-W 44 3 2 N-S LT Only 7 3 0 N-S 26 3 2 Cycle Length = 90	Convert 1 NB lane to a LT only lane. Shift 9 seconds of green time from N-S phase to a new N-S LT phase. Shift 1 seconds of green time from E-W phase to new LT phase. Phase G A R E-W 49 3 2 N-S LT 7 3 0 Only 49 3 2 N-S Cycle Length = 90
East 138th Street (E-W) @ Willis Avenue (N-S)	None required. Add EB and WB left turn only lanes. Prohibit parking on both sides of East 138th Street 200 feet east and west of intersection. (15 Spaces)	None required. Add EB and WB left turn only lanes. Prohibit parking on both sides of East 138th Street 200 feet east and west of intersection. (15 Spaces)	Add EB and WB left turn only lanes. Prohibit parking on both sides of East 138th Street 200 feet east and west of intersection. (15 Spaces)	None required. Add EB and WB left turn only lanes. Prohibit parking on both sides of East 138th Street 200 feet east and west of intersection. (15 Spaces)

Note B: A left turn phase warrant analysis was completed between the Draft and Final EIS to examine the feasibility of implementing the northbound/southbound protected left turn phase. It was determined that the left turn phase warrant was not satisfied and therefore, the identified significant adverse traffic impacts to the northbound Third Avenue de facto left turn lane and eastbound East 138th Street approach could not be mitigated. However, it was also determined that if implemented, this mitigation measure would be effective.

Table 3.22-1: Recommended Mitigation Measures – Typical Day (Con't)

Intersection	AM Peak Hour	MD Peak Hour	PM Peak Hour	SAT Peak Hour
West 145th Street (E-W) @ Lenox Avenue (N-S)	Shift 1 second of green time from N-S phase to WB lead phase. Phase WB Only: G 10, A 3, R 2 Phase E-W: G 35, A 3, R 2 Phase N-S: G 30, A 3, R 2 Cycle Length = 90	None required	Shift 1 second of green time from N-S phase to WB lead phase. Shift 1 second of green time from N-S phase to E-W phase. Phase WB Only: G 10, A 3, R 2 Phase E-W: G 36, A 3, R 2 Phase N-S: G 29, A 3, R 2 Cycle Length = 90	Shift 1 second of green time from N-S phase to WB lead phase. Shift 1 second of green time from N-S phase to E-W phase. Phase WB Only: G 10, A 3, R 2 Phase E-W: G 36, A 3, R 2 Phase N-S: G 29, A 3, R 2 Cycle Length = 90
East 135th Street (E-W) @ Madison Avenue (N-S)	None required	None required	Unmitigated	Unmitigated
East 146th Street (E-W) @ Exterior Street (N-S)	None required. Mitigation measure proposed for MD assumed to be in effect.	Move stop sign from Exterior Street to East 146th Street	None required. Mitigation measure proposed for MD assumed to be in effect.	None required. Mitigation measure proposed for MD assumed to be in effect.

Table 3.22-2: Mitigation Conditions Level of Service Analysis – Typical Day

		AM Peak Hour							MD Peak Hour							PM Peak Hour							SAT Peak Hour						
			BUILD			MITIGATION				BUILD			MITIGATION				BUILD			MITIGATION				BUILD			MITIGATION		
Signalized Intersection	**Approach[1]**	**Lane Group[2]**	**V/C Ratio**	**Delay (sec.)**	**LOS**	**V/C Ratio**	**Delay (sec.)**	**LOS**	**Lane Group[2]**	**V/C Ratio**	**Delay (sec.)**	**LOS**	**V/C Ratio**	**Delay (sec.)**	**LOS**	**Lane Group[2]**	**V/C Ratio**	**Delay (sec.)**	**LOS**	**V/C Ratio**	**Delay (sec.)**	**LOS**	**Lane Group[2]**	**V/C Ratio**	**Delay (sec.)**	**LOS**	**V/C Ratio**	**Delay (sec.)**	**LOS**
East 149th Street (E-W) @ River Avenue (N-S) & Exterior Street (N-S)	EB	L	0.69	42.6	D				L	0.58	36.1	D				L	1.42	243.3	F				L	0.91	63.6	E			
		TR	0.80	42.9	D				TR	0.66	37.5	D				TR	0.79	38.0	D				TR	0.69	36.1	D			
	WB	L	1.10	174.7	F				L	1.02	127.7	F				L	1.54	332.1	F				L	1.40	264.5	F			
		TR	0.85	56.8	E				TR	0.72	49.2	D				TR	0.83	47.2	D				TR	0.83	52.3	D			
	NB (Ext)	DefL	0.94	111.1	F				DefL	0.93	92.7	F				DefL	1.25	211.0	F				DefL	0.48	49.7	D			
		TR	0.44	42.1	D				TR	0.71	52.8	D				TR	0.58	50.8	D				TR	0.40	44.6	D			
	NB (MD)	LTR							LTR	0.73	44.2	D				LTR	0.99	71.2	E				LTR	0.73	42.4	D			
		DefL	0.68	46.7	D																								
		TR	0.59	42.2	D																								
	SB (Ext)	DefL	0.32	35.4	D				DefL	0.50	44.7	D				DefL	1.33	263.4	F				DefL	1.00	116.2	F			
		T	0.01	29.6	C				T	0.08	30.4	C				T	0.14	32.0	C				T	0.18	31.2	C			
		R	0.10	30.7	C				R	0.18	31.9	C				R	0.35	36.0	D				R	0.36	34.5	C			
	SB (River)	LTR	0.89	62.5	E				LTR	0.55	43.6	D				LTR	0.89	68.5	E				LTR						
																							L	0.83	73.5	E			
																							TR	0.77	59.9	E			
	Intersection			55.5	E						50.8	D						88.5	F						62.7	E			
East 149th Street (E-W) @ Gerard Avenue (N-S)	EB	LT	0.55	9.7	A	0.55	9.7	A	LT	0.50	9.3	A	0.50	9.3	A								LT	0.73	13.9	B	0.73	13.9	B
																DefL	0.77	29.7	C	0.77	29.7	C							
																T	0.72	14.5	B	0.72	14.5	B							
	WB	TR	0.36	7.3	A	0.36	7.3	A	TR	0.30	6.8	A	0.30	6.8	A	TR	0.44	8.0	A	0.44	8.0	A	TR	0.37	7.3	A	0.37	7.3	A
	NB	LTR	0.76	59.8	E				LTR	0.73	57.9	E				LTR	0.92	79.6	E				LTR	0.97	89.1	F			
		L				0.20	40.5	D	L				0.33	42.7	D	L				0.37	43.6	D	L				0.39	44.1	D
		TR				0.58	50.5	D	TR				0.40	45.0	D	TR				0.55	49.4	D	TR				0.57	50.5	D
	Intersection			14.9	B		13.4	B			15.2	B		13.2	B			21.0	C		16.9	B			21.9	C		16.0	B
East 149th Street (E-W) @ Walton Avenue (N-S)	EB															TR	0.38	7.5	A	0.39	7.9	A	TR	0.42	7.8	A	0.43	8.7	A
	WB															LT	0.61	10.5	B	0.62	11.1	B	LT	0.48	8.6	A	0.49	9.6	A
	SB															LTR	0.90	76.7	E	0.86	70.0	E	LTR	0.82	66.3	E	0.76	58.1	E
	Intersection																	17.7	B		17.3	B			15.4	B		15.2	B
East 149th Street (E-W) @ Morris Avenue (N-S) (See Note 3)	EB	L	0.33	21.8	C	0.30	21.6	C	L	0.25	19.8	B	0.25	20.7	C	L	0.60	35.0	C	0.53	30.5	C	L	0.31	21.3	C	0.31	21.8	C
		TR	0.46	21.1	C	0.70	39.2	D	TR	0.46	21.3	C	0.65	36.6	D	TR	0.47	21.2	C	0.66	36.4	D	TR	0.42	20.4	C	0.59	34.4	C
	WB	L	0.83	51.2	D	0.78	40.4	D	L	0.64	34.1	C	0.63	30.8	C	L	0.73	41.1	D	0.70	35.5	D	L	0.33	21.5	C	0.32	21.9	C
		TR	0.43	20.6	C	0.63	36.8	D	TR	0.40	20.2	C	0.58	34.3	C	TR	0.58	23.3	C	0.82	43.0	D	TR	0.40	20.2	C	0.57	34.2	C
	NB	LTR	1.22	160.2	F	1.04	91.3	F	LTR	1.19	146.7	F	1.03	87.5	F	LTR	1.20	150.5	F	1.11	111.9	F	LTR	0.70	36.9	D	0.61	29.8	C
	SB	LTR	0.90	44.4	D	0.82	35.1	D	LTR	0.74	34.1	C	0.68	29.2	C	LTR	0.86	40.0	D	0.79	32.8	C	LTR	0.65	30.2	C	0.59	26.2	C
	Intersection			49.2	D		41.4	D			45.2	D		40.9	D			45.5	D		46.4	D			25.6	C		30.4	C
East 144th Street (E-W) @ Grand Concourse (N-S)	EB	LTR	0.67	45.9	D				LTR	0.64	43.4	D				LTR	0.82	60.6	E				LTR	0.48	37.6	D			
		L				0.30	36.7	D	L				0.33	35.6	D	L				0.29	38.0	D	L				0.19	32.5	C
		TR				0.45	38.3	D	TR				0.34	34.5	C	TR				0.53	42.0	D	TR				0.31	34.0	C
	WB	LTR	1.03	95.9	F				LTR	0.85	59.2	E				LTR	1.20	161.3	F				LTR	0.69	46.1	D			
		L				0.66	50.0	D	L				0.44	38.2	D	L				0.86	75.4	E	L				0.42	37.6	D
		TR				0.68	49.3	D	TR				0.59	43.3	D	TR				0.67	50.1	D	TR				0.41	36.9	D
	NB	LTR	0.73	26.0	C	0.73	26.0	C	LTR	0.60	23.9	C	0.60	23.9	C	LTR	0.74	23.4	C	0.82	29.8	C	LTR	0.44	21.1	C	0.44	21.1	C
	SB	DefL	0.95	73.1	E	0.95	73.1	E	DefL	0.56	20.5	C	0.56	20.5	C	DefL	0.78	46.6	D	0.71	43.4	D	DefL	0.29	12.6	B	0.29	12.6	B
		TR	0.39	11.8	B	0.39	11.8	B	TR	0.34	12.1	B	0.34	12.1	B	TR	0.38	9.5	A	0.40	10.9	B	TR	0.35	12.1	B	0.35	12.1	B
	Intersection			36.4	D		29.9	C			27.5	C		24.2	C			41.0	D		30.9	C			23.0	C		21.4	C
East 144th Street (E-W) @ Park Avenue (N-S)	EB	LT	1.09	88.0	F	1.05	71.4	E																					
	WB	TR	0.39	17.2	B	0.38	16.4	B																					
	NB	LTR	0.35	17.0	B	0.36	17.7	B																					
	SB	LR	0.12	14.4	B	0.13	15.0	B																					
	Intersection			53.0	D		44.6	D																					
East 138th Street (E-W) @ Major Deegan Expwy Off-Ramp NB (N-S)	EB	L	0.69	29.1	C	0.71	31.3	C								L	0.79	38.6	D	0.83	43.7	D	L	0.79	32.2	C	0.82	35.5	D
		T	0.27	6.8	A	0.27	6.8	A								T	0.30	4.3	A	0.31	5.2	A	T	0.23	4.4	A	0.24	5.0	A
	WB	TR	1.08	100.5	F	1.02	80.1	F								TR	0.84	43.3	D	0.84	43.3	D	TR	0.71	37.2	D	0.71	37.2	D
	NB	LTR	0.82	62.1	E	0.82	62.1	E								LTR	1.34	225.9	F	1.16	148.2	F	LTR	1.03	97.3	F	0.93	72.7	E
	Intersection			57.1	E		49.2	D										58.6	E		47.9	D			37.3	D		33.9	C
East 138th Street (E-W) @ Exterior Street SB (N-S)	EB	TR	1.00	68.4	E											TR	0.86	35.8	D	0.00	0.0	A	TR	0.80	34.3	C			
	WB	L	0.94	84.5	F											L	0.87	67.3	E	0.00	0.0	A	L	0.95	74.6	E			
		T	0.83	53.1	D											T	0.59	35.0	C	0.00	0.0	A	T	0.47	31.9	C			
	SB	LTR	0.98	55.6	E											LTR	1.28	178.8	F	0.00	0.0	A	LTR	1.12	103.9	F			
		R	0.64	17.0	B											R	0.59	23.7	C	0.00	0.0	A	R	0.51	17.5	B			
	Intersection			55.6	E													73.1	E		0.0	A			55.6	E			

Table 3.22-2: Mitigation Conditions Level of Service Analysis – Typical Day (Con't)

Signalized Intersection	Approach[1]	AM Peak Hour							MD Peak Hour							PM Peak Hour							SAT Peak Hour						
			BUILD			MITIGATION				BUILD			MITIGATION				BUILD			MITIGATION				BUILD			MITIGATION		
		Lane Group[2]	V/C Ratio	Delay (sec.)	LOS	V/C Ratio	Delay (sec.)	LOS	Lane Group[2]	V/C Ratio	Delay (sec.)	LOS	V/C Ratio	Delay (sec.)	LOS	Lane Group[2]	V/C Ratio	Delay (sec.)	LOS	V/C Ratio	Delay (sec.)	LOS	Lane Group[2]	V/C Ratio	Delay (sec.)	LOS	V/C Ratio	Delay (sec.)	LOS
East 138th Street (E-W) @ Park Avenue (N-S)	EB															LT	0.87	33.0	C	0.88	35.2	D							
																DefL													
																T													
	WB															TR	0.61	19.9	B	0.62	20.6	C							
	NB															L	1.01	77.5	E	0.98	70.8	E							
																TR	0.36	30.7	C	0.35	29.8	C							
	Intersection																	37.5	D		36.9	D							
East 138th Street (E-W) @ Third Avenue (N-S) & Morris Avenue (N-S)	EB	LTR	0.80	30.3	C	0.80	30.3	C								LTR	1.01	61.2	E	0.90	35.6	D							
		DefL							DefL	0.61	22.8	C	0.61	22.8	C								DefL	0.82	34.4	C	0.85	37.9	D
		TR							TR	0.46	13.7	B	0.46	13.7	B								TR	0.68	18.4	B	0.69	19.5	B
	WB	LTR	0.92	40.1	D	0.92	40.1	D	LTR	0.58	14.9	B	0.58	14.9	B	LTR	0.93	41.2	D	0.82	27.3	C	LTR				0.48	13.9	B
																							DefL	0.46	13.2	B			
																							TR	0.46	13.2	B			
	NB	DefL/L	0.55	27.7	C	0.46	20.2	C	DefL/L	1.10	129.9	F	0.88	68.8	E	DefL/L	1.01	91.8	F	0.88	54.4	D	DefL/L	1.32	224.5	F	0.72	40.5	D
		TR	0.19	15.5	B	0.26	22.5	C	TR	0.30	22.9	C	0.45	32.3	C	TR	0.20	15.6	B	0.31	25.9	C	TR	0.21	22.0	C	0.31	29.5	C
	SB	L	0.35	18.8	B	0.35	16.5	B	L	0.31	24.9	C	0.31	23.0	C	L	0.20	16.2	B	0.22	17.3	B	L	0.27	23.9	C	0.26	21.0	C
		TR	0.40	17.5	B	0.54	25.8	C	TR	0.50	25.2	C	0.76	38.5	D	TR	0.45	18.0	B	0.69	31.5	C	TR	0.62	27.1	C	0.90	45.0	D
	Intersection			27.3	C		29.9	C			27.2	C		27.6	C			39.2	D		31.9	C			33.1	C		30.7	C
East 138th Street (E-W) @ Willis Avenue (N-S)	EB	LTR	0.93	54.7	D				LTR	0.84	37.1	D				LTR	1.16	123.8	F				LTR	0.88	39.0	D			
		L				0.47	29.9	C	L				0.35	21.2	C	L				0.58	35.0	C	L				0.32	19.1	B
		TR				0.59	27.9	C	TR				0.59	22.8	C	TR				0.62	28.5	C	TR				0.69	26.0	C
	WB	LTR	0.76	34.4	C				LTR	0.95	49.9	D				LTR	0.82	39.0	D				LTR	0.62	23.2	C			
		L				0.08	18.8	B	L				0.09	15.1	B	L				0.16	20.4	C	L				0.10	15.4	B
		TR				0.80	37.8	D	TR				0.87	38.2	D	TR				0.72	32.2	C	TR				0.63	24.0	C
	NB	LTR	0.63	27.2	C	0.63	27.2	C	LTR	0.72	24.1	C	0.72	24.1	C	LTR	0.91	41.5	D	0.91	41.5	D	LTR	0.56	20.6	C	0.56	20.6	C
	SB	LTR	0.56	29.4	C	0.56	29.4	C	LTR	0.43	20.5	C	0.43	20.5	C	LTR	0.64	34.5	C	0.64	34.5	C	LTR	0.71	30.3	C	0.71	30.3	C
	Intersection			36.0	D		30.3	C			33.9	C		27.1	C			60.0	E		35.9	D			28.0	C		24.0	C
West 145th Street (E-W) @ Lenox Avenue (N-S)	EB	LTR	0.75	28.0	C	0.75	28.0	C								LTR	1.04	64.1	E	1.01	54.9	D	LTR	0.91	38.0	D	0.88	34.7	C
	WB	DefL	1.19	145.7	F	1.12	102.8	F								DefL	1.17	135.6	F	1.09	106.3	F	DefL	0.89	52.5	D	0.81	38.5	D
		TR	0.75	21.1	C	0.74	19.8	B								TR	0.89	30.6	C	0.86	25.8	C	TR	0.68	18.6	B	0.65	16.6	B
	NB	L	0.43	26.8	C	0.45	28.1	C								L	0.62	35.3	D	0.67	40.1	D	L	0.59	33.6	C	0.65	39.1	D
		LTR	0.60	27.6	C	0.62	28.9	C								LTR	0.61	27.0	C	0.65	29.2	C	LTR	0.58	27.4	C	0.63	30.0	C
	SB	LTR	0.19	21.2	C	0.20	22.0	C								LTR	0.33	23.1	C				LTR	0.25	21.9	C	0.27	23.5	C
																L				0.43	31.8	C							
																TR				0.34	25.3	C							
	Intersection			41.7	D		35.8	D										50.4	D		44.3	D			31.4	C		29.3	C
East 135th Street (E-W) @ Madison Avenue (N-S)	EB															L	1.13	125.2	F				L	1.07	106.7	F			
																LT	0.92	67.0	E				LT	0.93	69.9	E			
	WB (SR)															TR	0.40	34.0	C				TR	0.13	28.9	C			
	WB (Ramp)															TR	0.94	57.7	E				TR	0.91	52.6	D			
	NB															L	0.45	30.7	C				L	0.48	31.3	C			
																TR	1.12	102.7	F				TR	0.98	58.4	E			
	SB															R	0.33	27.7	C				R	0.40	28.7	C			
	Intersection																	79.2	E						59.0	E			

Unsignalized Intersection	Approach1	AM Peak Hour							MD Peak Hour							PM Peak Hour							SAT Peak Hour						
			BUILD			MITIGATION				BUILD			MITIGATION				BUILD			MITIGATION				BUILD			MITIGATION		
		Lane Group2	V/C Ratio	Delay (sec.)	LOS	V/C Ratio	Delay (sec.)	LOS	Lane Group2	V/C Ratio	Delay (sec.)	LOS	V/C Ratio	Delay (sec.)	LOS	Lane Group2	V/C Ratio	Delay (sec.)	LOS	V/C Ratio	Delay (sec.)	LOS	Lane Group2	V/C Ratio	Delay (sec.)	LOS	V/C Ratio	Delay (sec.)	LOS
East 146th Street (E-W) @ Exterior Street (N-S)	NB	TR	0.20	10.2	B				TR	0.42	13.1	B				TR	0.31	10.8	B				TR	0.16	9.8	A			
	SB	LT	0.78	23.0	C				LT	1.07	82.5	F				LT	0.81	25.3	D				LT	0.79	22.7	C			
	WB	LR				0.06	13.7	B	LR				0.29	26.3	D	LR				0.03	15.0	B	LR				0.03	11.7	B
	Intersection			-	-		-	-			-	-		-	-			-	-		-	-			-	-		-	-

Notes:

1. EB - Eastbound, WB - Westbound, NB - Northbound, SB - Southbound
2. L - Left, T- Through, R - Right, DefL - De Facto Left Turn
3. The mitigation measures at this intersection were based upon implementing a protected left turn phase. It was determined that the warrant for a protected left turn phase was not satisfied. However, for the reader's reference, the effects of this mitigation measure are presented.

Congested intersections are designated by shading.

Table 3.22-3: Recommended Mitigation Measures – Game Day

Intersection	PM Peak Hour	SAT Peak Hour
East 149th Street (E-W) @ Exterior Street (N-S) & River Avenue (N-S)	Unmitigated	Unmitigated
East 149th Street (E-W) @ Gerard Avenue (N-S)	Same as proposed mitigation for typical day.	Same as proposed mitigation for typical day plus shift 2 seconds of green time from E-W phase to N-S phase. Phase G A R E-W 83 3 2 N-S 27 3 2 Cycle Length = 120
East 149th Street (E-W) @ Walton Avenue (N-S)	Same as proposed mitigation for typical day.	Same as proposed mitigation for typical day.
East 149th Street (E-W) @ Morris Avenue (N-S) (See Note A)	Same as proposed mitigation for typical day.	None required. Mitigation measures proposed for PM time period assumed to be in effect

Note A: A left turn phase warrant analysis was completed between the Draft and Final EIS to examine the feasibility of implementing the eastbound/westbound protected left turn phase. It was determined that the left turn phase warrant was not satisfied and therefore, the identified significant adverse traffic impacts to the northbound Morris Avenue approach could not be mitigated. However, it was also determined that if implemented, this mitigation measure would be effective.

Table 3.22-4: Mitigation Conditions Level of Service Analysis – Game Day

Signalized Intersection	Approach[1]	PM Peak Hour							SAT Peak Hour						
			BUILD			MITIGATION				BUILD			MITIGATION		
		Lane Group[2]	V/C Ratio	Delay (sec.)	LOS	V/C Ratio	Delay (sec.)	LOS	Lane Group[2]	V/C Ratio	Delay (sec.)	LOS	V/C Ratio	Delay (sec.)	LOS
East 149th Street (E-W) @ River Avenue (N-S) & Exterior Street (N-S)	EB	L	0.85	54.3	D				L	2.06	534.7	F			
		TR	0.95	51.0	D				TR	0.69	36.1	D			
	WB	L	3.94	1401.0	F				L	1.71	395.8	F			
		TR	0.74	43.3	D				TR	0.72	46.4	D			
	NB (Ext)	DefL	1.46	277.1	F				DefL	1.05	135.9	F			
		TR	1.03	104.0	F				TR	0.44	45.7	D			
	NB (MD)	LTR	1.20	142.8	F				LTR	1.15	123.6	F			
	SB (Ext)	DefL	2.62	815.7	F				DefL	1.46	282.8	F			
		T	0.51	39.2	D				T	0.26	32.4	C			
		R	0.30	34.9	C				R	0.50	37.6	D			
	SB (River)	LTR	0.83	62.8	E				LTR	0.69	51.3	D			
	Intersection			157.0	F						141.8	F			
East 149th Street (E-W) @ Gerard Avenue (N-S)	EB	LT	0.92	26.8	C	0.92	26.8	C	LT	0.62	11.3	B	0.64	12.7	B
	WB	TR	0.38	7.4	A	0.38	7.4	A	TR	0.38	7.5	A	0.39	8.3	A
	NB	LTR	0.94	83.4	F				LTR	0.93	82.7	F			
		L				0.41	45.1	D	L				0.57	48.4	D
		TR				0.60	51.8	D	TR				0.35	42.3	D
	Intersection			26.2	C		22.1	C			20.1	C		15.6	B
East 149th Street (E-W) @ Walton Avenue (N-S)	EB	TR	0.49	8.6	A	0.50	9.1	A	TR	0.33	7.1	A	0.34	7.9	A
	WB	LT	0.54	9.4	A	0.54	10.0	A	LT	0.44	8.2	A	0.45	9.1	A
	SB	LTR	0.82	66.0	E	0.79	61.5	E	LTR	1.08	123.1	F	1.00	95.9	F
	Intersection										27.4	C		23.5	C
East 149th Street (E-W) @ Morris Avenue (N-S) (See Note 3)	EB	L	0.25	20.3	C	0.23	21.6	C	L	0.22	19.3	B	0.22	20.3	C
		TR	0.34	19.2	B	0.48	32.1	C	TR	0.33	19.2	B	0.47	31.9	C
	WB	L	0.45	24.4	C	0.46	24.1	C	L	0.35	21.5	C	0.35	21.7	C
		TR	0.51	21.9	C	0.72	38.3	D	TR	0.41	20.3	C	0.59	34.5	C
	NB	LTR	1.19	142.7	F	1.10	104.4	F	LTR	0.77	40.5	D	0.68	32.1	C
	SB	LTR	0.76	34.3	C	0.69	29.2	C	LTR	0.55	27.9	C	0.50	24.4	C
	Intersection			47.8	D		45.8	D			25.6	C		29.7	C

Notes:

1. EB - Eastbound, WB - Westbound, NB - Northbound, SB - Southbound
2. L - Left, T- Through, R - Right, DefL - De Facto Left Turn
3. The mitigation measures at this intersection were based upon implementing a protected left turn phase. It was determined that the warrant for a protected left turn phase was not satisfied. However, for the reader's reference, the effects of this mitigation measure are presented.

Congested intersections are designated by shading.

As discussed in Chapter 3.21, "Alternatives to the Proposed Action," the CPC is actively considering the Canal/Rider Retention Alternative. Therefore, the mitigation for the Canal/Rider Retention Alternative is as follows:

Mitigation or other protective measures applicable under the Canal/Rider Retention Alternative would be similar to those that would be implemented with the proposed action for potential impacts associated with community facilities, traffic and parking, and pedestrians. Changes to signal timing would mitigate all but the unmitigatable traffic impacts (see the Traffic section above and Chapter 3.23, "Unavoidable Adverse Impacts," for discussion of unmitigatable traffic impacts).

As with the proposed action, the Canal/Rider Retention Alternative would result in a significant adverse impact on publicly funded day care facilities in the study area, warranting consideration of mitigation measures. This potential increase in demand could be offset by a number of factors, including private day care facilities and day care centers outside of the study area; absorption of students by some of the Family Day Care Networks; and, development of new capacity as part of the New York City Administration for Children's Services' public-private partnership initiatives.

All potential for impacts related to hazardous materials, air quality and noise would be effectively offset through the assignment of appropriate (E) designations to properties that could potentially be susceptible to such impacts (see Chapter 3.21 and Appendix O). An (E) is designated on the appropriate Zoning Map (by block and lot) and indicates that on that site no change of use or development requiring a New York City Department of Buildings permit may be issued without approval of the New York City Department of Environmental Protection.