

A. INTRODUCTION

The analyses presented in this environmental impact statement (EIS) examine the potential for significant adverse impacts to result from the proposed actions. This chapter discusses the mitigation measures proposed to minimize or avoid the potential significant adverse impacts that have been identified in the areas of historic resources, traffic and parking, transit and pedestrians, and air quality. Significant adverse impacts that cannot be fully mitigated through reasonably practicable measures are identified and discussed in Chapter 24, “Unavoidable Adverse Impacts.”

B. HISTORIC RESOURCES

As described in Chapter 7, “Historic Resources,” Lots 10, 11, 37, and 50 of Block 2367 possess archaeological sensitivity and OPRHP has indicated that Phase 1B archaeological testing of these areas is warranted. Therefore, a Phase 1B archaeological field testing plan has been developed and was accepted by OPRHP on March 19, 2007. Prior to any project related subsurface activities occurring on the site, the field testing would be implemented and appropriate measures would be undertaken in consultation with OPRHP if archaeological resources are found. The results of the field testing would be submitted to OPRHP for review and approval. With these measures, there would be no significant adverse impacts to potential archaeological historic resources on these lots. The proposed Boricua Village project would require the demolition of the Bronx Municipal Court – Second District building to allow for the development of a new campus for Boricua College. As described in Chapter 7, “Historic Resources,” this building is in a state of advanced disrepair. In addition, with 57,600 gross square feet, it does not contain enough space to accommodate the proposed college campus. In consultation with LPC, HPD determined that the demolition of this structure would constitute a significant adverse impact on historic resources. Therefore, the feasibility of reusing and incorporating this historic building into the proposed project rather than demolishing it was evaluated. It was concluded that the adaptive reuse of the Bronx Municipal Court – Second District building as part of Boricua College is not feasible and could not be accomplished without significant adverse impacts on this historic resource (see Chapter 21, “Alternatives”). LPC concurred with this conclusion and requested that Historic American Buildings Survey (HABS) level archival documentation be prepared as partial mitigation. This documentation has been prepared and was accepted by LPC on March 30, 2007.

To avoid any inadvertent construction-related damage to historic resources, historic structures located within 90 feet of project construction would be included in a construction protection plan to be developed in consultation with OPRHP and LPC.

C. TRAFFIC AND PARKING

As discussed in Chapter 14, “Traffic and Parking,” a total of 20 signalized intersections were analyzed. Significant adverse impacts were identified at seven intersections during the AM peak hour, five intersections during the midday peak hour, and ten intersections during the PM peak hour. As outlined in the following analysis, 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.

LOCAL STREET NETWORK

East 165th Street and Brook/Melrose/Park/Webster Avenues:

Significant traffic impacts at this intersection during the AM, midday and PM peak hours can be mitigated by signal modifications and by moving the center line two feet west, restricting parking and standing and restriping the northbound approach of Brook Avenue for approximately 250 feet to provide one 10-foot-wide shared left-turn and through lane and one 12-foot-wide shared through and right-turn lane. There would be no significant adverse impact at this intersection in the future with the proposed Boricua Village project only and therefore mitigation would not be required.

East 163rd Street and Washington Avenue:

Significant traffic impacts at this intersection during the PM peak hour can be mitigated by signal timing modifications. There would be no significant adverse impact at this intersection in the future with the proposed Boricua Village project only and therefore mitigation would not be required.

East 163rd Street and Third Avenue:

Significant traffic impacts at this intersection were projected for all peak analysis hours. The traffic mitigation would encompass prohibiting parking and standing for approximately 235 and 175 feet from the intersection on the northbound and westbound approaches respectively. Additionally, the eastbound curb lane, currently a bus stop, would also be used as a shared through and right-turn lane. With these modifications, center lines would be shifted 5 feet and each approach to this intersection would be restriped to provide 10-foot-wide exclusive left-turn and through lanes, and either a 15- or 16-foot wide through-right lane. The proposed mitigation also calls for revising the signal phasing to include northbound/southbound and eastbound/westbound protected left turn phases. Although this intersection was not classified as a high pedestrian accident location, high visibility crosswalks would be provided as an added safety measure across all approaches.

Grand Concourse and East 161st Street, northern intersection:

While this intersection has no significant traffic impacts during the AM peak hour, signal timing modifications are necessary to coordinate timing with the changes required for the southern intersection. Significant impacts during the PM peak hour can be mitigated by signal timing modifications.

Grand Concourse and 161st Street, southern intersection:

Significant traffic impacts at this intersection during the AM and PM peak hour can be mitigated by signal timing modifications.

East 161st Street and Concourse Village East:

Significant traffic impacts at this intersection can be mitigated by moving the centerline 6 feet east, and re-striping the southbound approach to provide 10-foot-wide exclusive left turn, through and right turn lanes. To facilitate turns from the westbound approach, the southbound stop line can be moved 30 feet back. Signal phasing modifications would be necessary during all peak hours to provide an eastbound/westbound protected left turn phase and an eastbound leading phase.

East 161st Street and Melrose Avenue:

Significant traffic impacts at this intersection can be mitigated by signal timing modifications, and by shifting the center line 5 feet on the eastbound and westbound approaches and restriping these approaches to provide 10-foot-wide exclusive left turn and through lanes, and a 15-foot-wide shared through and right-turn lane. This measure would require prohibiting parking and standing for approximately 155 feet from the intersection.

East 156th Street and Third Avenue:

Significant traffic impacts at this intersection during all peak hours can be mitigated by signal timing modifications.

East 156th Street and St. Ann's Avenue:

Significant traffic impacts at this intersection during the PM peak hour can be mitigated by signal timing modifications. There would be no significant adverse impact at this intersection in the future with the proposed Boricua Village project only and therefore mitigation would not be required.

East 149th Street and Melrose/Willis/Third Avenues:

Significant traffic impacts at this intersection can be mitigated by re-striping the southbound approach of Third Avenue, currently unstriped and operating as a single lane, to provide two 12.5-foot-wide through lanes. In addition to re-striping, signal timing modifications would also be required to mitigate significant impacts during the AM and PM peak hours. There would be no significant adverse impact at this intersection in the future with the proposed Boricua Village project only and therefore mitigation would not be required.

East 149th Street and St. Ann's Avenue:

Significant traffic impacts at this intersection during all peak hours can be mitigated by signal timing modifications.

The mitigation measures, including specific recommended signal timing adjustments are described in Table 20-1. Table 20-2 shows capacity analysis results for the No-Build, Build and Build with mitigation conditions for all intersections where mitigation would be required. These mitigation measures would reduce the parking supply in the study area by approximately 8 spaces; this reduction would not cause a significant adverse impact on the area's parking supply.

With the exception of the impacts noted above, the locations requiring mitigation for conditions with the proposed and future actions would also require mitigation with the buildout of the proposed Boricua Village project only.

D. TRANSIT AND PEDESTRIANS

NYCT BUS LINE HAUL

As discussed in Chapter 15, “Transit and Pedestrians,” the proposed and future actions would result in significant adverse impacts to the operations of the Bx6, Bx15, and Bx21 bus routes, which would operate above the guideline capacity of 65 passengers for a standard bus, and the Bx2, Bx41, and Bx55 bus routes, which would operate above the guideline capacity of 93 passengers for an articulated bus, as follows:

- Bx2 – northbound route increasing in average passengers per bus from 87 to 106 in the PM peak period; southbound route increasing from 111 to 129 in the AM peak period. This route would not have a significant adverse impact in the future with the proposed Boricua Village project only.
- Bx15 – southbound route increasing in average passengers per bus from 62 to 70 in the AM peak period.
- Bx21 – northbound route increasing in average passengers per bus from 49 to 66 in the PM peak period.
- Bx41 – southbound route increasing in average passengers per bus from 89 to 104 in the AM peak period. This route would not have a significant adverse impact in the future with the proposed Boricua Village project only.
- Bx55 – northbound route increasing in average passengers per bus from 89 to 142 in the PM peak period; southbound route increasing from 76 to 106 in the AM peak period and from 84 to 113 in the PM peak period.
- Bx6 – northbound route increasing in average passengers per bus from 69 to 71 in the AM peak period and from 63 to 72 in the PM peak period. This route would not have a significant adverse impact in the future with the proposed Boricua Village project only.

To mitigate these impacts, it is recommended that NYCT schedule additional buses for the impacted routes, as follows:

- Two additional buses on the southbound Bx2 route in the AM peak period and one additional bus on the northbound Bx2 route in the PM peak period.
- One additional bus on the southbound Bx15 route in the AM peak period. This mitigation would be required with the buildout of the proposed Boricua Village.
- One additional bus on the northbound Bx21 route in the PM peak period. This mitigation would be required with the buildout of the proposed Boricua Village.
- Two additional bus on the southbound Bx41 route in the AM peak period.
- Three additional buses on the southbound Bx55 route in the AM peak period, two additional buses on the southbound Bx55 route in the PM peak period, and six additional buses on the northbound Bx55 route in the PM peak period. This mitigation would be required with the buildout of the proposed Boricua Village.
- One additional bus on the eastbound Bx6 route in both the AM and PM peak periods.

With these improvements, the study area bus routes would have adequate capacity to accommodate the projected increase in bus ridership. With the exception of the impacts noted above, the bus routes requiring mitigation for conditions with the proposed and future actions would also require mitigation with the buildout of the proposed Boricua Village project only.

E. AIR QUALITY

MOBILE SOURCES

Chapter 16, “Air Quality,” showed that under the 2009 Build year, impacts on carbon monoxide (CO) would be well below ambient air quality standards and the City's *de minimis* criteria. The proposed traffic mitigation measures, which include new roadway configurations and signal timing adjustments, were evaluated to determine the potential effects on air quality in the study area.

Table 20-3 illustrates the effect that the proposed traffic mitigation measures developed as part of the project's traffic analysis (see Chapter 14, “Traffic and Parking,”) would have on maximum predicted CO concentrations with the proposed project. The analysis was performed for each of the two analyzed intersections (Melrose Avenue and East 161st Street and Third Avenue and East 163rd Street). The values shown are the highest predicted concentrations for these intersections for the time periods analyzed. Table 20-3 shows that the maximum predicted 8-hour CO concentrations for the analyzed sites with the proposed traffic mitigation measures would be below the NAAQS and would not result in any significant adverse air quality impacts.

STATIONARY SOURCES

The following development sites could result in potential significant adverse air quality impacts due to emissions from stationary source heating, ventilation and air conditioning (HVAC) systems:

- Boricua Village
- Courtlandt Corners
- URA Parcel 52
- URA Parcel 62

A discussion of the proposed mitigation measures for each site is presented below.

BORICUA VILLAGE

Since Buildings E North and E South are directly adjacent to the taller proposed buildings, D and F, potential air quality impacts could occur. Potential stationary source impacts for the pollutant of concern (NO_x for natural gas) from the HVAC systems of the proposed development site were analyzed using the ISCST3 refined dispersion model. The results of the analysis determined that to ensure no significant impacts would occur, HVAC exhaust stack(s) must utilize natural gas and be a minimum of 25 feet from Building F, and a minimum of 10 feet from Building D.

Table 20-1
Recommended Mitigation Measures

Intersection	Mitigation Measures																																																														
	AM Peak Hour	MD Peak Hour	PM Peak Hour																																																												
East 165th Street & Park Avenue Southbound	Shift 4 seconds of green time from the NB/SB Melrose phase to the EB/WB phase and shift 6 seconds of green time from the NB/SB Melrose phase to the SB Park Avenue phase.	Shift 3 seconds of green time from the NB/SB Melrose phase to the EB/WB phase and shift 1 second of green time from the NB/SB Melrose phase to the NB Park Avenue phase.	Shift 1 second of green time from the NB/SB Melrose phase to the EB/WB phase and shift 5 seconds of green time from the NB/SB Melrose phase to the NB Park Avenue phase.																																																												
East 165th Street & Melrose/Webster Avenues	Shift 4 seconds of green time from the NB/SB Melrose phase to the EB/WB phase and shift 6 seconds of green time from the NB/SB Melrose phase to the SB Melrose Avenue phase.	Shift 3 seconds of green time from the NB/SB Melrose phase to the EB/WB phase and shift 1 second of green time from the NB/SB Melrose phase to the SB Melrose Avenue phase.	Shift 1 second of green time from the NB/SB Melrose phase to the EB/WB phase and shift 5 seconds of green time from the NB/SB Melrose phase to the SB Melrose Avenue phase.																																																												
East 165th Street & Brook Avenue	Restrict parking/standing on the northbound approach. Offset the center line 2' and restripe the northbound approach of Brook Avenue to provide a 10.0' shared left-turn and through lane and a 12.0' shared through and right-turn lane. Shift 4 seconds of green time from the NB/SB Melrose phase to the EB/WB phase and shift 6 seconds of green time from the NB/SB Melrose phase to the NB Brook Avenue phase.	Restrict parking/standing on the northbound approach. Offset the center line 2' and restripe the northbound approach of Brook Avenue to provide a 10.0' shared left-turn and through lane and a 12.0' shared through and right-turn lane. Shift 3 seconds of green time from the NB/SB Melrose phase to the EB/WB phase and shift 1 second of green time from the NB/SB Melrose phase to the NB Brook Avenue phase.	Restrict parking/standing on the northbound approach. Offset the center line 2' and restripe the northbound approach of Brook Avenue to provide a 10.0' shared left-turn and through lane and a 12.0' shared through and right-turn lane. Shift 1 second of green time from the NB/SB Melrose phase to the EB/WB phase and shift 5 seconds of green time from the NB/SB Melrose phase to the NB Brook Avenue phase.																																																												
East 163rd Street & Washington Avenue	None required.	None required.	Shift 1 second from the SB phase to the EB/WB phase.																																																												
East 163rd Street & 3rd Avenue	Restrict parking/standing on the westbound and northbound approaches. <u>Shift the center lines 5' and</u> restripe all approaches with 10' <u>exclusive</u> left-turn <u>and through</u> lanes and <u>one 15 or 16 foot</u> shared through and right-turn lane. Modify the signal timing as follows: <table> <tr> <th>Phase</th><th>G</th><th>A</th><th>R</th></tr> <tr> <td>East 163rd EB/WB Left</td><td>8</td><td>3</td><td>2</td></tr> <tr> <td>East 163rd Street EB/WB</td><td>39</td><td>3</td><td>2</td></tr> <tr> <td>3rd Avenue NB/SB Left</td><td>9</td><td>3</td><td>2</td></tr> <tr> <td>3rd Avenue NB/SB</td><td>44</td><td>3</td><td>2</td></tr> </table> Cycle Length = 120 seconds	Phase	G	A	R	East 163rd EB/WB Left	8	3	2	East 163rd Street EB/WB	39	3	2	3rd Avenue NB/SB Left	9	3	2	3rd Avenue NB/SB	44	3	2	Restrict parking/standing on the westbound and northbound approaches. <u>Shift the center lines 5' and</u> restripe all approaches with 10' <u>exclusive</u> left-turn <u>and through</u> lanes and <u>one 15 or 16 foot</u> shared through and right-turn lane. Modify the signal timing as follows: <table> <tr> <th>Phase</th><th>G</th><th>A</th><th>R</th></tr> <tr> <td>East 163rd EB/WB Left</td><td>12</td><td>3</td><td>2</td></tr> <tr> <td>East 163rd Street EB/WB</td><td>38</td><td>3</td><td>2</td></tr> <tr> <td>3rd Avenue NB/SB Left</td><td>8</td><td>3</td><td>2</td></tr> <tr> <td>3rd Avenue NB/SB</td><td>42</td><td>3</td><td>2</td></tr> </table> Cycle Length = 120 seconds	Phase	G	A	R	East 163rd EB/WB Left	12	3	2	East 163rd Street EB/WB	38	3	2	3rd Avenue NB/SB Left	8	3	2	3rd Avenue NB/SB	42	3	2	Restrict parking/standing on the westbound and northbound approaches. <u>Shift the center lines 5' and</u> restripe all approaches with 10' <u>exclusive</u> left-turn <u>and through</u> lanes and <u>one 15 or 16 foot</u> shared through and right-turn lane. Modify the signal timing as follows: <table> <tr> <th>Phase</th><th>G</th><th>A</th><th>R</th></tr> <tr> <td>East 163rd EB/WB Left</td><td>12</td><td>3</td><td>2</td></tr> <tr> <td>East 163rd Street EB/WB</td><td>35</td><td>3</td><td>2</td></tr> <tr> <td>3rd Avenue NB/SB Left</td><td>14</td><td>3</td><td>2</td></tr> <tr> <td>3rd Avenue NB/SB</td><td>39</td><td>3</td><td>2</td></tr> </table> Cycle Length = 120 seconds	Phase	G	A	R	East 163rd EB/WB Left	12	3	2	East 163rd Street EB/WB	35	3	2	3rd Avenue NB/SB Left	14	3	2	3rd Avenue NB/SB	39	3	2
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East 161st Street & Grand Concourse Northern Intersection	Shift 2 seconds of green time from the NB/SB phase to the NB phase.	None required.	Shift 2 seconds from the NB/SB phase to the NB phase.																																																												
East 161st Street & Grand Concourse Southern Intersection	Shift 2 seconds of green time from the NB/SB phase to the SB phase.	None required.	Shift 2 seconds from the NB/SB phase to the SB phase.																																																												
East 161st Street & Concourse Village East	<u>Shift the center line 6' east and</u> modify the striping on the southbound approach to provide one 10' exclusive left-turn lane, one 10' through lane, and one 10' exclusive right-turn lane. Modify the signal timing as follows: <table> <tr> <th>Phase</th><th>G</th><th>A</th><th>R</th></tr> <tr> <td>E. 161st St. EB/WB Left</td><td>10</td><td>3</td><td>2</td></tr> <tr> <td>E. 161st St. EB</td><td>21</td><td>3</td><td>0</td></tr> <tr> <td>E. 161st St. EB/WB</td><td>23</td><td>3</td><td>2</td></tr> <tr> <td>Conc. Vill. E. NB/SB</td><td>18</td><td>3</td><td>2</td></tr> </table> Cycle Length = 90 seconds	Phase	G	A	R	E. 161st St. EB/WB Left	10	3	2	E. 161st St. EB	21	3	0	E. 161st St. EB/WB	23	3	2	Conc. Vill. E. NB/SB	18	3	2	<u>Shift the center line 6' east and</u> modify the striping on the southbound approach to provide one 10' exclusive left-turn lane, one 10' through lane, and one 10' exclusive right-turn lane. Modify the signal timing as follows: <table> <tr> <th>Phase</th><th>G</th><th>A</th><th>R</th></tr> <tr> <td>E. 161st St. EB/WB Left</td><td>8</td><td>3</td><td>2</td></tr> <tr> <td>E. 161st St. EB</td><td>8</td><td>3</td><td>0</td></tr> <tr> <td>E. 161st St. EB/WB</td><td>29</td><td>3</td><td>2</td></tr> <tr> <td>Conc. Vill. E. NB/SB</td><td>27</td><td>3</td><td>2</td></tr> </table> Cycle Length = 90 seconds	Phase	G	A	R	E. 161st St. EB/WB Left	8	3	2	E. 161st St. EB	8	3	0	E. 161st St. EB/WB	29	3	2	Conc. Vill. E. NB/SB	27	3	2	<u>Shift the center line 6' east and</u> modify the striping on the southbound approach to provide one 10' exclusive left-turn lane, one 10' through lane, and one 10' exclusive right-turn lane. Modify the signal timing as follows: <table> <tr> <th>Phase</th><th>G</th><th>A</th><th>R</th></tr> <tr> <td>E. 161st St. EB/WB Left</td><td>8</td><td>3</td><td>2</td></tr> <tr> <td>E. 161st St. EB</td><td>8</td><td>3</td><td>0</td></tr> <tr> <td>E. 161st St. EB/WB</td><td>31</td><td>3</td><td>2</td></tr> <tr> <td>Conc. Vill. E. NB/SB</td><td>25</td><td>3</td><td>2</td></tr> </table> Cycle Length = 90 seconds	Phase	G	A	R	E. 161st St. EB/WB Left	8	3	2	E. 161st St. EB	8	3	0	E. 161st St. EB/WB	31	3	2	Conc. Vill. E. NB/SB	25	3	2
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East 149th Street & Melrose/Willis/Third Avenues	Restripe the southbound approach of 3rd Avenue to provided two 12.5' through lanes. Shift 2 seconds of green time from the SB 3rd Avenue phase to the SB Melrose Avenue phase.	Restripe the southbound approach of 3rd Avenue to provided two 12.5' through lanes.	Restripe the southbound approach of 3rd Avenue to provided two 12.5' through lanes. Shift 1 second of green time from the SB 3rd Avenue phase to the SB Melrose Avenue phase.																																																												
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Chapter 20: Mitigation

Table 20-2
2009 No Build, Build, and Build with Mitigation Level of Service Analyses

Intersection	2009 No Build				2009 Build				2009 Build with Mitigation			
	Lane Group	v/c Ratio	Delay (seconds)	LOS	Lane Group	v/c Ratio	Delay (seconds)	LOS	Lane Group	v/c Ratio	Delay (seconds)	LOS
AM Peak Hour												
East 165th Street & Park Avenue Southbound	TR	0.86	63.3	E	TR	0.86	63.3	E	TR	0.76	50.2	D
Eastbound	L	0.12	34.4	C	L	0.12	34.4	C	L	0.09	30.6	C
Westbound	T	0.39	37.9	D	T	0.39	37.9	D	T	0.35	34.1	C
Southbound	TR	0.56	50.2	D	TR	0.56	50.2	D	TR	0.44	41.5	D
	Intersection		52.7	D	Intersection		52.7	D	Intersection		43.3	D
East 165th Street & Melrose/Webster Avenues	L	0.05	32.4	C	L	0.05	32.4	C	L	0.04	29.4	C
Eastbound	TR	0.68	47.2	D	TR	0.68	47.2	D	TR	0.60	40.8	D
Westbound	L	0.03	32.2	C	L	0.03	32.2	C	L	0.03	29.2	C
	TR	0.43	38.8	D	TR	0.43	38.8	D	TR	0.38	34.7	C
Northbound	T	0.18	25.4	C	T	0.17	25.3	C	T	0.21	32.6	C
Southbound	L	0.40	45.3	D	L	0.53	49.0	D	L	0.42	41.0	D
	T	0.15	9.8	A	T	0.13	9.7	A	T	0.14	11.5	B
	Intersection		31.6	C	Intersection		33.2	C	Intersection		31.4	C
East 165th Street & Brook Avenue	LT	0.78	57.2	E	LT	0.78	57.2	E	LT	0.66	44.9	D
Eastbound	R	0.35	37.2	D	R	0.47	40.0	D	TR	0.42	35.6	D
Westbound	LTR	0.42	38.1	D	LTR	0.42	38.1	D	LTR	0.37	34.2	C
Northbound (Melrose)	TR	0.49	31.2	C	TR	0.43	30.0	C	TR	0.55	40.1	D
Northbound (Brook)	LTR	0.93	84.5	F	LTR	1.10	129.9	F	LTR	0.45	40.0	D
	Intersection		50.9	D	Intersection		64.9	E	Intersection		39.3	D
East 163rd Street & 3rd Avenue	-	-	-	-	-	-	-	-	L	0.47	30.2	C
Eastbound	LTR	0.87	43.2	D	LTR	1.05	80.3	E	TR	0.76	41.8	D
Westbound	-	-	-	-	-	-	-	-	L	0.41	28.7	C
	LTR	0.79	53.6	D	LTR	0.93	69.6	E	TR	0.35	31.7	C
Northbound	-	-	-	-	-	-	-	-	L	0.61	32.4	C
Southbound	LTR	0.67	26.2	C	LTR	0.79	32.2	C	TR	0.44	29.8	C
	-	-	-	-	-	-	-	-	L	0.24	19.6	B
	LTR	0.70	26.1	C	LTR	0.72	26.9	C	TR	0.68	35.1	D
	Intersection		35.1	D	Intersection		51.0	D	Intersection		34.4	D
East 161st Street & Grand Concourse Northern Intersection	L	0.36	33.0	C	L	0.36	33.0	C	L	0.36	33.0	C
Westbound	TR	0.41	34.5	C	TR	0.42	34.8	C	TR	0.42	34.8	C
Northbound Main	L	0.97	82.9	F	L	0.97	83.0	F	L	0.86	58.5	E
	T	0.47	8.8	A	T	0.47	8.8	A	T	0.47	8.8	A
Southbound Main	T	0.67	18.1	B	T	0.67	18.2	B	T	0.69	20.1	C
Southbound Service	R	0.31	14.5	B	R	0.31	14.5	B	R	0.32	16.0	B
	Intersection		20.8	C	Intersection		20.8	C	Intersection		20.7	C
East 161st Street & Grand Concourse Southern Intersection	L	0.47	36.2	D	L	0.47	36.2	D	L	0.47	36.2	D
Eastbound	TR	0.58	37.3	D	TR	0.58	37.3	D	TR	0.58	37.3	D
Northbound	TR	0.50	15.9	B	TR	0.50	15.9	B	TR	0.52	17.5	B
Southbound	L	1.38	218.9	F	L	1.41	236.5	F	L	1.34	203.4	F
	T	0.70	11.5	B	T	0.70	11.5	B	T	0.70	11.5	B
	Intersection		40.4	D	Intersection		43.0	D	Intersection		39.6	D
East 161st Street & Concourse Village East	L	0.98	53.2	D	L	0.98	52.4	D	L	0.93	41.9	D
Eastbound	TR	0.47	19.9	B	TR	0.50	20.5	C	TR	0.40	13.7	B
Westbound	L	0.68	39.7	D	L	0.69	40.1	D	L	0.56	27.5	C
	TR	1.35	205.7	F	TR	1.44	245.3	F	TR	0.98	62.5	E
Northbound	L	0.48	41.0	D	L	0.48	41.0	D	L	0.46	41.5	D
Southbound	TR	0.43	28.0	C	TR	0.43	28.0	C	TR	0.65	42.6	D
	L	0.16	28.1	C	L	0.17	28.3	C	L	0.30	36.5	D
	TR	0.81	48.8	D	TR	0.81	48.8	D	T	0.62	41.2	D
	-	-	-	-	-	-	-	-	R	0.48	39.0	D
	Intersection		80.4	F	Intersection		91.9	F	Intersection		39.9	D
East 161st Street & Melrose Avenue	-	-	-	-	-	-	-	-	L	0.20	13.5	B
Eastbound	LTR	0.66	28.1	C	LTR	0.75	31.5	C	TR	0.50	24.1	C
Westbound	-	-	-	-	-	-	-	-	L	0.35	16.7	B
	LTR	0.51	24.9	C	LTR	0.73	32.3	C	TR	0.32	21.1	C
Northbound	-	-	-	-	DefL	0.35	23.7	C	DefL	0.56	40.9	D
Southbound	LTR	0.27	20.7	C	TR	0.32	21.6	C	TR	0.41	31.7	C
	LTR	0.47	24.5	C	LTR	0.52	25.8	C	LTR	0.69	40.1	D
	Intersection		25.3	C	Intersection		29.0	C	Intersection		27.4	C
East 156th Street & 3rd Avenue	LTR	1.28	186.9	F	LTR	1.36	222.4	F	LTR	1.28	185.2	F
Eastbound	LR	1.35	240.7	F	LR	1.35	239.6	F	LR	1.27	203.5	F
Westbound	TR	0.50	12.1	B	TR	0.55	13.0	B	TR	0.57	14.3	B
Northbound	LT	0.62	14.4	B	LT	0.64	14.9	B	LT	0.66	16.3	B
Southbound	Intersection		83.5	F	Intersection		92.7	F	Intersection		79.8	E
East 149th Street & Melrose Avenue/3rd Avenue/Willis Avenue	T	0.59	41.6	D	T	0.59	41.7	D	T	0.59	41.7	D
Eastbound	T	0.77	47.7	D	T	0.78	48.1	D	T	0.78	48.1	D
Westbound	L	0.03	11.2	B	L	0.03	11.5	B	L	0.03	8.9	A
Northbound	T	0.35	10.0	A	T	0.38	10.3	B	T	0.38	10.3	B
Southbound (Melrose)	T	0.87	69.8	E	T	0.95	82.2	F	T	0.88	68.2	E
Southbound (3rd Avenue)	R	0.47	48.0	D	R	0.49	48.8	D	R	0.44	45.1	D
	T	0.81	41.6	D	T	0.85	44.9	D	T	0.52	30.7	C
	Intersection		38.9	D	Intersection		41.0	D	Intersection		36.0	D
East 149th Street & St Anns Avenue	-	-	-	-	-	-	-	-	DefL	0.38	15.0	B
Eastbound	LTR	0.40	11.4	B	LTR	0.41	11.5	B	TR	0.39	13.5	B
Westbound	LTR	0.43	11.6	B	LTR	0.44	11.6	B	LTR	0.44	13.6	B
Northbound	LTR	1.13	131.5	F	LTR	1.22	165.7	F	LTR	1.02	93.8	F
Southbound	LTR	1.24	174.9	F	LTR	1.44	259.8	F	LTR	1.23	166.5	F
	Intersection		69.8	E	Intersection		99.6	F	Intersection		65.0	E

Melrose Commons

Table 20-2
2009 No Build, Build, and Build with Mitigation Level of Service Analyses

Intersection	2009 No Build				2009 Build				2009 Build with Mitigation			
	Lane Group	v/c Ratio	Delay (seconds)	LOS	Lane Group	v/c Ratio	Delay (seconds)	LOS	Lane Group	v/c Ratio	Delay (seconds)	LOS
MD Peak Hour												
East 165th Street & Park Avenue Southbound	TR	1.17	138.8	F	TR	1.17	138.8	F	TR	0.97	73.1	E
Eastbound	L	0.13	35.1	D	L	0.13	35.1	D	L	0.13	32.7	C
Westbound	T	0.55	42.1	D	T	0.55	42.1	D	T	0.46	36.2	D
Southbound	TR	0.45	33.4	C	TR	0.45	33.4	C	TR	0.43	32.0	C
	Intersection		94.9	F	Intersection		94.9	F	Intersection		56.1	E
East 165th Street & Melrose/Webster Avenues	L	0.08	32.8	C	L	0.08	32.8	C	L	0.07	29.9	C
Eastbound	TR	1.18	145.1	F	TR	1.18	142.4	F	TR	0.98	74.8	E
Westbound	L	0.09	33.9	C	L	0.09	33.9	C	L	0.09	31.5	C
	TR	0.58	43.5	D	TR	0.58	43.5	D	TR	0.49	37.0	D
Northbound	T	0.22	18.2	B	T	0.21	18.1	B	T	0.24	20.9	C
Southbound	L	0.34	31.1	C	L	0.46	33.5	C	L	0.44	32.2	C
	T	0.09	4.7	A	T	0.07	4.7	A	T	0.08	5.7	A
	Intersection		64.1	E	Intersection		64.5	E	Intersection		41.1	D
East 165th Street & Brook Avenue	LT	1.26	178.6	F	LT	1.26	178.6	F	L	1.05	96.2	F
Eastbound	R	0.52	41.7	D	R	0.75	54.5	D	TR	0.62	42.1	D
Westbound	LTR	1.10	132.1	F	LTR	1.10	132.1	F	LTR	0.92	76.6	E
Northbound (Melrose)	TR	0.40	20.9	C	TR	0.37	20.4	C	TR	0.41	23.8	C
Northbound (Brook)	LTR	0.76	47.1	D	LTR	0.90	62.9	E	LTR	0.41	30.2	C
	Intersection		90.1	F	Intersection		93.4	F	Intersection		54.6	D
East 163rd Street & 3rd Avenue	-	-	-	-	-	-	-	-	L	0.56	27.2	C
Eastbound	LTR	0.93	51.8	D	LTR	1.04	77.6	E	TR	0.67	39.3	D
Westbound	-	-	-	-	-	-	-	-	L	0.44	25.8	C
	LTR	0.96	77.0	E	LTR	1.06	101.2	F	TR	0.36	32.6	C
Northbound	-	-	-	-	-	-	-	-	L	0.51	26.6	C
	LTR	0.66	25.7	C	LTR	0.72	27.8	C	TR	0.47	31.7	C
Southbound	-	-	-	-	-	-	-	-	L	0.30	22.4	C
	LTR	0.52	21.9	C	LTR	0.53	22.2	C	TR	0.44	31.2	C
	Intersection		42.2	D	Intersection		56.1	E	Intersection		32.3	C
East 161st Street & Concourse Village East	L	0.75	23.9	C	L	0.76	24.8	C	L	0.72	20.6	C
Eastbound	TR	0.46	18.7	B	TR	0.49	19.1	B	TR	0.49	19.0	B
Westbound	L	0.58	34.9	C	L	0.59	35.5	D	L	0.44	21.7	C
	TR	0.66	33.0	C	TR	0.70	34.2	C	TR	0.60	28.5	C
Northbound	L	0.58	40.0	D	L	0.58	40.0	D	L	0.40	29.0	C
	TR	0.40	25.2	C	TR	0.40	25.2	C	TR	0.45	28.3	C
Southbound	L	0.21	27.6	C	L	0.22	27.7	C	L	0.24	26.2	C
	TR	0.70	39.6	D	TR	0.70	39.6	D	T	0.27	25.3	C
	-	-	-	-	-	-	-	-	R	0.41	28.7	C
	Intersection		28.2	C	Intersection		28.7	C	Intersection		24.1	C
East 161st Street & Melrose Avenue	LTR	0.75	31.5	C	LTR	0.77	32.5	C	L	0.27	14.0	B
Eastbound	-	-	-	-	-	-	-	-	TR	0.51	24.2	C
Westbound	-	-	-	-	DefL	0.73	48.9	D	L	0.41	17.8	B
	LTR	0.50	25.0	C	TR	0.59	27.9	C	TR	0.25	20.3	C
Northbound	LTR	0.25	20.4	C	LTR	0.28	20.7	C	LTR	0.38	30.3	C
Southbound	LTR	0.34	22.0	C	LTR	0.34	22.1	C	LTR	0.45	32.7	C
	Intersection		26.6	C	Intersection		29.2	C	Intersection		24.6	C
East 156th Street & 3rd Avenue	LTR	0.59	45.1	D	LTR	0.62	46.3	D	LTR	0.60	44.6	D
Eastbound	LR	0.78	69.4	E	LR	0.81	74.7	E	LR	0.77	66.9	E
Westbound	TR	0.52	12.4	B	TR	0.56	13.2	B	TR	0.57	13.8	B
Northbound	LT	0.33	9.7	A	LT	0.33	9.8	A	LT	0.34	10.2	B
Southbound												
	Intersection		23.6	C	Intersection		24.5	C	Intersection		23.9	C
East 149th Street & Melrose Avenue/3rd Avenue/Willis Avenue	T	0.60	41.8	D	T	0.60	41.9	D	T	0.60	41.9	D
Eastbound	T	0.52	39.9	D	T	0.52	40.0	D	T	0.52	40.0	D
Westbound	L	0.04	9.3	A	L	0.04	9.5	A	L	0.03	8.0	A
Northbound	T	0.30	9.6	A	T	0.33	9.9	A	T	0.33	9.9	A
	T	0.63	50.4	D	T	0.65	51.7	D	T	0.65	51.7	D
Southbound (Melrose)	R	0.50	49.5	D	R	0.51	49.6	D	R	0.51	49.6	D
Southbound (3rd Avenue)	T	0.50	29.9	C	T	0.52	30.5	C	T	0.31	25.8	C
	Intersection		32.0	C	Intersection		32.0	C	Intersection		31.2	C
East 149th Street & St Anns Avenue	LTR	0.32	10.3	B	LTR	0.32	10.3	B	LTR	0.34	11.8	B
Eastbound	LTR	0.30	10.0	B	LTR	0.30	10.0	B	LTR	0.31	11.5	B
Westbound	LTR	0.98	84.6	F	LTR	1.02	96.5	F	LTR	0.91	68.1	E
Northbound	LTR	0.88	71.4	E	LTR	0.99	92.4	F	LTR	0.87	64.7	E
Southbound												
	Intersection		37.9	D	Intersection		45.4	D	Intersection		34.6	C

Chapter 20: Mitigation

Table 20-2
2009 No Build, Build, and Build with Mitigation Level of Service Analyses

Intersection	2009 No Build				2009 Build				2009 Build with Mitigation			
	Lane Group	v/c Ratio	Delay (seconds)	LOS	Lane Group	v/c Ratio	Delay (seconds)	LOS	Lane Group	v/c Ratio	Delay (seconds)	LOS
PM Peak Hour												
East 165th Street & Park Avenue Southbound	TR	0.77	48.1	D	TR	0.77	48.1	D	TR	0.74	47.0	D
Eastbound	L	0.15	37.0	D	L	0.15	37.0	D	L	0.14	35.3	D
Westbound	T	0.36	37.3	D	T	0.36	37.3	D	T	0.35	36.3	D
Southbound	TR	0.59	51.4	D	TR	0.59	51.4	D	TR	0.49	43.5	D
	Intersection		47.1	D	Intersection		47.1	D	Intersection		43.9	D
East 165th Street & Melrose/Webster Avenues	L	0.05	32.5	C	L	0.05	32.5	C	L	0.05	31.7	C
Eastbound	TR	0.77	49.6	D	TR	0.77	49.4	D	TR	0.74	47.3	D
Westbound	L	0.07	33.9	C	L	0.07	33.9	C	L	0.07	32.8	C
	TR	0.39	37.8	D	TR	0.39	37.8	D	TR	0.38	36.8	D
Northbound	T	0.29	27.0	C	T	0.28	26.8	C	T	0.33	31.4	C
Southbound	L	0.52	48.7	D	L	0.75	59.5	E +	L	0.62	47.6	D
	T	0.15	9.8	A	T	0.13	9.7	A	T	0.13	10.1	B
	Intersection		34.3	C	Intersection		37.5	D	Intersection		35.9	D
East 165th Street & Brook Avenue	LT	0.95	77.6	E	LT	0.95	77.6	E	LT	0.92	69.5	E
Eastbound	R	0.38	37.9	D	R	0.57	42.9	D	R	0.55	41.5	D
Westbound	LTR	0.68	49.8	D	LTR	0.68	49.8	D	LTR	0.66	47.7	D
Northbound (Melrose)	TR	0.73	39.0	D	TR	0.65	35.9	D	TR	0.76	44.9	D
Northbound (Brook)	LTR	1.14	139.1	F	LTR	1.34	220.6	F +	LTR	0.60	43.8	D
	Intersection		75.5	E	Intersection		101.3	F	Intersection		49.7	D
East 163rd Street & Washington Avenue	T	0.11	18.7	B	TR	0.09	18.4	B	TR	0.08	17.9	B
Eastbound	L	0.65	32.0	C	L	0.85	45.5	D +	L	0.83	42.8	D
Westbound	LT	0.47	24.6	C	LT	0.61	28.4	C	LT	0.59	27.4	C
Southbound	LTR	0.27	20.6	C	LTR	0.27	20.5	C	LTR	0.27	21.2	C
	Intersection		24.5	C	Intersection		31.0	C	Intersection		29.9	C
East 163rd Street & 3rd Avenue	-	-	-	-	DefL	0.95	72.4	E +	L	0.81	55.0	E
Eastbound	LTR	1.24	154.6	F	TR	1.47	253.3	F +	TR	0.99	71.3	F
Westbound	-	-	-	-	-	-	-	-	L	0.65	39.9	D
	LTR	1.34	214.2	F	LTR	1.35	213.7	F	TR	0.55	38.2	D
Northbound	-	-	-	-	DefL	1.16	138.8	F +	L	0.85	47.7	D
Southbound	LTR	1.01	62.7	E	TR	1.02	68.0	E +	TR	0.70	39.1	D
	-	-	-	-	-	-	-	-	L	0.37	23.7	C
	LTR	0.81	32.1	C	LTR	0.74	28.3	C	TR	0.66	37.8	D
	Intersection		109.5	F	Intersection		136.0	F	Intersection		47.7	D
East 161st Street & Grand Concourse Northern Intersection	L	0.69	42.3	D	L	0.69	42.3	D	L	0.69	42.3	D
Westbound	TR	0.81	51.7	D	TR	0.83	53.8	D	TR	0.83	53.8	D
Northbound Main	L	1.01	72.7	E	L	1.03	77.3	E +	L	0.98	64.5	E
Southbound Main	T	0.92	21.7	C	T	0.92	21.7	C	T	0.92	21.7	C
Southbound Service	T	0.35	14.0	B	T	0.36	14.0	B	T	0.37	15.5	B
	R	0.29	14.4	B	R	0.29	14.4	B	R	0.31	15.9	B
	Intersection		28.3	C	Intersection		28.9	C	Intersection		28.2	C
East 161st Street & Grand Concourse Southern Intersection	L	0.62	41.2	D	L	0.62	41.2	D	L	0.62	41.2	D
Eastbound	TR	0.44	33.8	C	TR	0.44	33.8	C	TR	0.44	33.8	C
Northbound	TR	0.93	30.0	C	TR	0.93	30.0	C	TR	0.96	36.2	D
Southbound	L	0.83	58.6	E	L	0.93	74.5	E +	L	0.82	53.8	D
	T	0.51	9.0	A	T	0.51	9.0	A	T	0.51	9.0	A
	Intersection		25.6	C	Intersection		26.5	C	Intersection		28.6	C
East 161st Street & Concourse Village East	L	0.81	35.1	D	L	0.80	36.0	D	L	0.73	22.6	C
Eastbound	TR	0.61	22.5	C	TR	0.67	23.7	C	TR	0.60	19.7	B
Westbound	L	0.87	65.0	E	L	0.90	72.3	E +	L	0.63	25.8	C
	TR	0.87	44.2	D	TR	0.93	51.6	D +	TR	0.71	29.9	C
Northbound	L	0.82	61.9	E	L	0.82	61.9	E	L	0.63	41.4	D
Southbound	TR	0.47	25.0	C	TR	0.47	25.0	C	TR	0.60	33.6	C
	L	0.28	28.9	C	L	0.30	29.4	C	L	0.44	34.8	C
	TR	1.02	81.7	F	TR	1.02	81.7	F	T	0.51	31.4	C
	-	-	-	-	-	-	-	-	R	0.55	34.3	C
	Intersection		42.6	D	Intersection		44.8	D	Intersection		27.3	C
East 161st Street & Melrose Avenue	LTR	1.22	139.3	F	LTR	1.29	169.4	F +	L	0.47	17.6	B
Eastbound	-	-	-	-	DefL	2.13	592.1	F +	TR	0.78	31.9	C
Westbound	-	-	-	-	IB	0.83	39.8	D	L	0.65	33.6	C
Northbound	TR	0.70	31.5	C	TR	0.83	39.8	D	TR	0.36	21.7	C
Southbound	LTR	0.33	21.5	C	LTR	0.38	22.1	C	LTR	0.52	33.0	C
	LTR	0.43	23.6	C	LTR	0.43	23.7	C	LTR	0.57	35.6	D
	Intersection		80.9	F	Intersection		121.0	F	Intersection		29.7	C
East 156th Street & 3rd Avenue	LTR	0.81	57.1	E	LTR	0.86	62.3	E +	LTR	0.80	54.8	D
Eastbound	LR	1.45	284.0	F	LR	1.58	337.6	F +	LR	1.39	257.0	F
Westbound	TR	0.81	21.7	C	TR	0.92	30.9	C	TR	0.94	35.8	D
Northbound	LT	0.42	10.9	B	LT	0.43	11.1	B	LT	0.44	12.1	B
Southbound	Intersection		53.3	D	Intersection		62.8	E	Intersection		56.1	E
East 156th Street & St Anns Avenue	LTR	1.00	61.6	E	LTR	1.06	76.0	E +	LTR	1.01	61.3	E
Eastbound	LTR	0.53	18.5	B	LTR	0.54	18.8	B	LTR	0.51	17.4	B
Westbound	L	0.49	12.1	B	L	0.52	12.5	B	L	0.54	13.5	B
Northbound	LTR	0.31	10.2	B	LTR	0.35	10.6	B	LTR	0.36	11.4	B
Southbound	Intersection		30.2	C	Intersection		35.2	D	Intersection		30.3	C
East 149th Street & Melrose Avenue/3rd Avenue/Willis Avenue	T	0.72	45.7	D	T	0.73	46.1	D	T	0.73	46.1	D
Eastbound	T	0.74	46.6	D	T	0.75	46.9	D	T	0.75	46.9	D
Westbound	L	0.09	10.9	B	L	0.09	11.2	B	L	0.08	8.8	A
Northbound	T	0.54	12.5	B	T	0.61	13.8	B	T	0.61	13.8	B
Southbound (Melrose)	R	0.93	79.4	E	R	0.97	86.4	F +	R	0.93	78.0	E
Southbound (3rd Avenue)	R	0.38	45.5	D	R	0.40	46.0	D	R	0.38	44.5	D
	T	0.67	34.7	C	T	0.71	36.3	D	T	0.43	28.3	C
	Intersection		36.7	D	Intersection		37.5	D	Intersection		35.2	D
East 149th Street & St Anns Avenue	LTR	0.55	13.7	B	LTR	0.56	13.9	B	LTR	0.59	16.1	B
Eastbound	LTR	0.44	11.7	B	LTR	0.44	11.7	B	LTR	0.46	13.4	B
Westbound	LTR	1.09	107.8	F	LTR	1.11	115.7	F +	LTR	1.01	82.5	F
Northbound	LTR	1.66	359.0	F	LTR	1.90	466.3	F +	LTR	1.59	322.7	F
Southbound	Intersection		96.3	F	Intersection		123.2	F	Intersection		89.2	F

Notes: L = Left Turn, T = Through, R = Right Turn, DefL = Defacto Left Turn; LOS = Level of Service.
+ Significant traffic impact.

Table 20-3

**Future (2009) Maximum Predicted 8-Hour Average
Carbon Monoxide Concentrations: Build and Build with Traffic Mitigation
(parts per million)**

Site	Location	Time Period	No Build	Build	Build with Traffic Mitigation
1	Melrose Avenue & East 161st Street	PM	<u>3.3</u>	3.3	3.3
2	Third Avenue & East 163rd Street	PM	<u>3.5</u>	<u>3.5</u>	<u>3.7</u>
Notes: 8-hour CO standard is 9 ppm. An adjusted ambient background concentration of 2.0 ppm is included in the project Build values presented above.					

COURTLANDT CORNERS

If individual HVAC systems are utilized for each building, potential significant air quality impacts could occur since the six-story portion of the proposed development at Courtlandt Corners North (Building C) is directly adjacent to the taller portion of the development (Building A). Therefore, to avoid potential significant impacts from the proposed HVAC systems, any HVAC stack(s) located on Building C must not be located on the portion of the building fronting Courtlandt Avenue.

URA PARCEL 52

Since the proposed development site is directly adjacent to URA Parcel 53, potential significant air quality impacts could occur using either No. 4 oil or natural gas. Potential stationary source impacts for the pollutants of concern (SO₂ and PM_{2.5} for fuel oil and NO_x for natural gas) from the HVAC systems of the proposed development site were analyzed using the ISCST3 refined dispersion model. The results of the analysis determined that to ensure no significant impacts would occur, HVAC exhaust stack(s) must be a minimum of 40 feet from the lot line facing URA Parcel 53 if burning fuel oil, or a minimum of 10 feet from the lot line facing URA Parcel 53 if burning natural gas. In addition, to avoid potentially exceeding the New York City Department of Environmental Protection (DEP) PM_{2.5} interim guidance criteria, HVAC systems must utilize either No. 2 and/or natural gas (instead of No. 4 oil).

URA PARCEL 62

Potential stationary source impacts from the HVAC systems of the proposed development site were analyzed using the ISCST3 refined dispersion model to assess impacts when burning fuel oil. The results of the analysis determined that to ensure no significant impacts would occur from HVAC systems if burning fuel oil, HVAC exhaust stack(s) must be a minimum of 15 feet from the lot line facing URA Parcel 64.

With these mitigation measures in place, no significant adverse air quality impacts are predicted.

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