A. INTRODUCTION

This chapter considers mitigation measures to address significant adverse impacts generated by the proposed actions—the rezoning of the eastern end of Block 675 from M2-3 to C4-6X, zoning text amendments to the Special Hudson River Park District, and additional land use actions necessary for the development of two new mixed-use buildings. In the With Action condition, it is assumed that the Project Area (including project site A, project site B, and Lot 38[1]) would contain up to 1,242 dwelling units, up to 40,028 gsf of commercial, up to 252 parking spaces, and 18,500 gsf of public facility (anticipated as a New York City Fire Department-Emergency Medical Services [FDNY-EMS] Station). ~~The building on project site A would contain up to 990 residential units, up to 15,000 gross square feet (gsf) of retail, up to 198 parking spaces, and potentially an approximately 12,500 gsf Fire Department New York Emergency Medical Service (FDNY-EMS) station. The building on project site B would contain up to 219 residential units, up to 22,458 gsf of retail space, and up to 47 parking spaces. Assuming development of Lot 38 (including 33 residential units, approximately 2,570 gsf of commercial space, and seven parking spaces), compared~~ Therefore, compared to the No Action condition, the proposed actions would result in an incremental increase of 1,242 residential units, ~~12,500~~ 18,500 gsf of potential public facility (a FDNY-EMS Station), and 252 accessory parking spaces as well as a decrease in industrial and commercial uses.

As presented in the previous chapters of this FEIS, ~~T~~the proposed actions have the potential to result in significant adverse impacts to child care facilities, open space, shadows, traffic and pedestrians, noise, and construction-period transportation and noise.[2] Potential mitigation measures for each of these technical areas are identified below.

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[1] If development on project site B proceeds without Lot 38, any future development on Lot 38 under the special district regulations would require its own special permit subject to environmental review. In that event, for any impacts identified in the EIS, the project site A and project site B applicants would not be responsible for the performance of the share of mitigations attributable to Lot 38. ~~Because development on Lot 38 under the special district regulations may or may not take place and would require its own special permit subject to environmental review, for any impacts identified in the EIS, the project site A and project site B applicants shall not be responsible for the performance of the share of mitigations attributable to Lot 38.~~

[2] ~~The indirect effects analysis on public elementary and intermediate schools may need to be revised if new data is released following certification and, should that occur, there is a possibility that a schools impact may be identified in the Final Environmental Impact Statement (FEIS). In that event, the FEIS will consider potential mitigation measures.~~

B. PRINCIPAL CONCLUSIONS

COMMUNITY FACILITIES – PUBLICLY FUNDED CHILD CARE FACILITIES

Existing child care facilities have a total capacity of 213 slots and an enrollment of 178 children (83.6 percent utilization). The proposed actions are anticipated to increase the demand for child care facilities in the 2-mile study area by 29 children to 395 children. Compared to a capacity of 213 slots, this would create a deficit of 182 slots. Assuming this demand is accommodated at existing child care facilities, the facilities would operate at 185.4 percent, which represents an increase in the utilization rate of 13.6 percent over the No Action condition. Child care facilities in the study area would operate over capacity, and the increase in the utilization rate would be over five percentage points. In that event, the proposed projects would result in a significant adverse impact on child care facilities.

The estimated 29 eligible children generated by the proposed projects would require 19 more child care slots than the number of slots associated with an increase in utilization in the study area of less than five percent—which would avoid the significant adverse impact. Therefore, with the total number of proposed units (1,242) the proposed projects would require mitigation of 19 child care slots.

To reduce the increase in child care utilization in the study area to less than the five percent threshold, the number of affordable units for families at or below 80 percent AMI generated by the proposed actions would need to be reduced by 157 units from 248 to 91. This is not considered an acceptable measure as it would reduce the number of affordable and market rate units such that the proposed projects would not be feasible.

~~The impact may be reduced before the two proposed buildings have been completed.~~ Several factors may reduce the need ~~It is noted that the demand~~ for publicly funded child care slots in Administration of Children's Services (ACS)-contracted child care facilities. ~~depends on the number of children of low-income families who meet the eligibility criteria.~~ Families could ~~also~~ use alternatives to publicly funded child care facilities. ~~Parents may~~or enroll their children in public child care centers outside of the study area~~,~~ (such as near their place of work) or~~.~~ ~~Families could also~~ use ACS vouchers at private child care centers. Further, the analysis is conservatively based on the existing inventory of ACS-contracted child care facilities and their capacities and does not account for shifts in demand leading to the creation of new child care capacity. Accordingly, the impact may be less than ~~as~~ described above ~~due to a number of factors~~.

Possible mitigation measures for this potential significant adverse impact ~~will be~~have been developed in consultation with ACS. As per ~~Under~~ the *CEQR Technical Manual*, mitigation measures for ~~a~~ this significant child care impact may include ~~provision of suitable space on site for a child care facility, provision of a suitable location off site and within a reasonable distance (at a rate affordable to ACS providers), or~~ funding for a specified number of publicly provided childcare slots based on the number of low-income units (for families at or below 80 percent of Area Median Income [AMI]) in the proposed buildings in excess of 91.~~or making program or physical improvements to support additional capacity.~~ As described in Chapter 1, "Project Description," the Restrictive Declaration for each of the proposed projects will specify the mitigation measures and the process of their implementation. ~~Absent the implementation of such mitigation measures, the proposed actions could have an unmitigated significant adverse impact on publicly funded child care facilities.~~ Because it may be administratively infeasible for ACS to

distribute funds within the study area, the significant adverse impact on child care would not be considered fully mitigated, the proposed actions would result in an unavoidable adverse impact on child care.

OPEN SPACE

The proposed actions would result in a significant adverse open space impact due to the increased user population.

With the proposed actions, there would be a significant adverse open space impact due to indirect effects. Potential mitigation measures have beenare currently being explored by the private applicants in consultation with the lead agency, DCP, and the New York City Department of Parks and Recreation (NYC Parks) and will be refined between the Draft Environmental Impact Statement (DEIS) and the Final Environmental Impact Statement (FEIS). The mitigation measures will reflect the nature and scope of the open space impacts, taking into account the quantitative and qualitative assessments in Chapter 6, "Open Space." The *CEQR Technical Manual* lists potential mitigation measures for open space impacts. These measures may include, but are not limited to, creating new open space within the study area; funding for improvements, renovation, or maintenance at existing local parks and/or playgrounds; or improving open spaces to increase their utility or capacity to meet identified open space needs in the area, such as through the provision of additional active open space facilities. One of the mitigation measures being considered is With respect to the proposed actions, funding for improvements to Penn South Playground or Chelsea Park has been identified as appropriate mitigation.Clement Clark Moore playground located close to the southern edge of the open space study area. If feasible mitigation consistent with the nature and extent of the impact is identified, the impacts would be considered partially mitigated. As described in Chapter 1, "Project Description," the Restrictive Declaration for each of the proposed projects will specify the mitigation measures and the process of their implementation. As the significant adverse impact on open space would not be considered fully mitigated, the proposed actions would result in an unavoidable adverse impact on open space.

SHADOWS

In the spring and fall, the proposed actions would result in significant adverse shadow impacts to vegetation on two portions of the High Line north of the Project Area. Certain species located in these areas are not shade tolerant. In consultation with NYC Parks, Friends of the High Line, and DCP, Potential mitigation measures would include redesign of affected planting beds and replacement of sunlight sensitive vegetation with shade tolerant vegetation have been determined to be appropriate mitigation for the identified impact. As described in Chapter 1, "Project Description," the Restrictive Declaration for each of the proposed projects will specify the mitigation measures and the process of their implementation. There is currently a construction bridge for the Eastern Rail Yards development over the portion of the High Line east of Eleventh Avenue. Since this bridge already appears to have affected the vegetation, it is anticipated that the vegetation under the construction bridge will need to be replaced when the bridge is removed. The replacement vegetation could include shade tolerant species appropriate to this urban location. Replacement with shade tolerant species would avoid the potential shadows impact in this area. For the portion of the High Line west of Eleventh Avenue that is likely to be affected by shadows due to the proposed actions, mitigation measures would include regular inspection and replanting with more shade tolerant species if necessary due to shadow

~~impacts of the proposed projects. Potential mitigation will be explored between DEIS and FEIS in consultation with NYC Parks, Friends of the High Line, and DCP.~~

TRANSPORTATION

The proposed actions would result in potential significant adverse impacts to traffic and pedestrians, as detailed below. No significant adverse impacts were identified for parking, transit, and vehicular and pedestrian safety.

TRAFFIC

Traffic conditions were evaluated at four intersections for the weekday AM, midday, and PM peak hours. In the With Action condition, there would be the potential for significant adverse traffic impacts at two intersections during the weekday AM peak hour, two intersections during the weekday midday peak hour, and one intersection during the weekday PM peak hour, as summarized in **Table 21-1**.

Table 21-1
Summary of Significant Adverse Traffic Impacts

Intersection		Weekday AM Peak Hour	Weekday Midday Peak Hour	Weekday PM Peak Hour
EB/WB Street	NB/SB Street			
West 30th Street	Route 9A/Twelfth Avenue	SB-L	SB-L	SB-L
West 29th Street	Route 9A/Twelfth Avenue	WB-L WB-R	WB-R	
Total Impacted Intersections/Total Impacted Lane Groups		2/3	2/2	1/1

Notes: L = Left Turn, T = Through, R = Right Turn, DefL = Defacto Left Turn, EB = Eastbound, WB = Westbound, NB = Northbound, SB = Southbound.

The locations where significant adverse traffic impacts are predicted to occur could be fully mitigated with the implementation of standard traffic mitigation measures. With the implementation of a number of signal timing changes, which are subject to review and approval by the New York City Department of Transportation (DOT), the significant adverse traffic impacts identified above could be fully mitigated.

PEDESTRIANS

Pedestrian conditions were evaluated at 8 sidewalks, 16 corner reservoirs, and 11 crosswalks for the weekday AM, midday, and PM peak hours. In the With Action condition, the proposed actions would result in significant adverse pedestrian impacts at one crosswalk during the weekday AM, midday, and PM peak hours, and another crosswalk only during the weekday midday peak hour, as summarized in **Table 21-2**.

Table 21-2
Summary of Significant Adverse Pedestrian Impacts

Pedestrian Elements	Weekday AM Peak Hour	Weekday Midday Peak Hour	Weekday PM Peak Hour
South Crosswalk of 33rd Street and Eleventh Avenue	Impacted	Impacted	Impacted
East Crosswalk of 33rd Street and Eleventh Avenue		Impacted	

Widening the south and east crosswalks of West 33rd Street and Eleventh Avenue to increase pedestrian space would adequately mitigate the projected crosswalk impacts. The proposed pedestrian mitigation measures would be subject to review and approval by DOT.

NOISE

Based on the conceptual construction schedule presented in the Hudson Tunnel DEIS, the loudest period of construction (i.e., 12 months of pile driving) would occur before the proposed projects would be completed and occupied. Therefore, the Hudson Tunnel DEIS concludes that there would be no significant adverse construction noise impact on the proposed projects as per the *CEQR Technical Manual* construction noise criteria.

In the event the proposed projects are completed and occupied during Hudson Tunnel construction when pile driving is still occurring, construction of the Hudson Tunnel Project would be producing noise levels of 97 dBA $L_{eq(8)}$ at the proposed projects' façades. The Hudson Tunnel DEIS assumed there would be no variation in construction noise levels throughout the work day. Therefore, 97 dBA is also assumed to be the worst-case peak hour construction noise levels in terms of $L_{eq(1)}$. However, the proposed projects will be designed to provide window/wall attenuation such that if pile driving for the Hudson Tunnel Project occurs when the units are occupied, interior noise levels would be in the mid-to-high 60s dBA. This would be up to approximately ~~20~~ 24 dBA higher than the 45 dBA threshold recommended for residential use according to CEQR noise exposure guidelines. If this occurs, there would be a significant adverse noise impact for up to approximately 12 months. This significant adverse noise impact would be temporary as it is due to construction of the Hudson Tunnel Project.

For this temporary condition, no noise mitigation measures are proposed beyond the proposed attenuation because it is uncertain that the Hudson Tunnel construction schedule would occur while the project buildings are occupied and, if they are occupied, once construction of the Hudson Tunnel Project is complete, the interior noise levels would be expected to be below the 45 dBA threshold recommended for residential use according to CEQR noise exposure guidelines.

CONSTRUCTION

Construction of the proposed buildings—as is the case with any construction project—would result in some temporary disruptions in the surrounding area. Construction activities would result in temporary significant adverse impacts in the areas of transportation and noise. Potential measures to mitigate these temporary significant adverse impacts are described below.

TRAFFIC

The construction traffic analysis of the weekday 6:00 AM to 7:00 AM construction peak hour for peak construction during the third quarter of 2019 identified the potential for a significant adverse traffic impact at the intersection of Route 9A/Twelfth Avenue and West 30th Street. The recommended mitigation measure (i.e., shifting 3 seconds of green time from the northbound/southbound phase to the southbound left-turn phase), which is comparable to the operational mitigation measures described under "Transportation," would address the identified impact during construction.

PEDESTRIANS

The potential pedestrian trips that may occur during peak construction would be equal to or less than the corresponding operational impacts. Accordingly, measures required to mitigate these impacts (i.e., restriping wider crosswalks), which can be advanced at DOT's discretion prior to the completion of the proposed projects, would be equal to or less than those described above under "Transportation."

NOISE

The detailed noise modeling analysis concluded that construction of the proposed projects has the potential to result in construction noise levels that exceed the *CEQR Technical Manual* noise impact criteria for an extended period of time at 534 West 30th Street, residences near Eleventh Avenue and West 29th Street, and portions of the High Line directly across West 30th Street from the construction work area. There are no feasible and practical measures to mitigate the construction noise impacts predicted to occur. The residences identified already have insulated glass windows and alternate means of ventilation allowing for the maintenance of a closed-window condition (i.e., air conditioning). Therefore, further receptor controls at these residences would not be effective in substantially reducing noise levels at the residences. There would also be no feasible or practicable mitigation options at the High Line that would be effective in reducing the construction noise level increments to below the *CEQR Technical Manual* impact criteria or that would reduce the duration of those exceedances to less than two years. Construction noise mitigation options for the proposed actions, including quieter equipment and noise barriers, would not significantly lower the cumulative construction noise levels at these receptors during times that construction of the proposed actions would overlap with construction of these other nearby projects. Therefore, no construction noise mitigation measures are proposed beyond those already identified in the "Noise Reduction Measures" section in Chapter 20, "Construction."

C. COMMUNITY FACILITIES – PUBLICLY FUNDED CHILD CARE FACILITIES

As discussed in Chapter 5, "Community Facilities," existing child care facilities have a total capacity of 213 slots and an enrollment of 178 children (83.6 percent utilization). Based on the *CEQR Technical Manual* guidance, the proposed actions are estimated to introduce an increment of up to 248 affordable housing units at or below 80 percent AMI which would result in approximately 29 children under the age of six who would be eligible for publicly funded child care programs. This would increase the demand for child care facilities in the 2-mile study area to 395 slots. This would represent a deficit of 182 slots because there is only capacity of 213 slots. Child care facilities would be at 185.4 percent utilization, which represents an increase in the utilization rate of 13.6 percentage points over the No Action condition. Child care facilities in the study area would operate over capacity, and the increase in the utilization rate would be over five percentage points. In that event, the proposed projects would result in a significant adverse impact on child care facilities.

The estimated 29 eligible children generated by the proposed projects would require 19 more child care slots than the number of slots associated with an increase in utilization in the study area of less than five percent—which would avoid the significant adverse impact. To reduce the increase in child care utilization in the study area to less than five percent, the number of affordable units for families at or below 80 percent AMI would need to be reduced by 157 from

248 to 91. This number of affordable units would generate 10 children eligible for public child care services. However, such a reduction is not considered a reasonable mitigation measure as the development of affordable housing is part of the purpose and need of the proposed actions and the goal of Mandatory Inclusionary Housing.

Several factors may reduce the number of children in need of publicly funded child care slots in ACS-contracted child care facilities. Families in the study area could make use of alternatives to publicly funded child care facilities. Parents of eligible children are not restricted to enrolling their children in child care facilities in a specific geographical area and could use public child care centers outside of the study area, such as a child care center near their place of work. Families could also use ACS vouchers to finance care at private child care centers in the study area or outside the study area.

Further, the analysis is conservatively based on the existing inventory of ACS-contracted child care facilities and their capacities and does not account for shifts in demand leading to the creation of new child care capacity.

~~Under~~ As per the *CEQR Technical Manual*, mitigation measures for ~~a~~ this significant adverse child care impact may include ~~provision of suitable space on-site for a child care facility, provision of a suitable location off-site and within a reasonable distance (at a rate affordable to ACS providers), or~~ funding for a specified number of publicly-provided child care slots based on the number of low-income units (for families at or below 80 percent of AMI) in the proposed buildings in excess of 91. A schedule of child care slots that will be funded corresponding to the number of low-income units that may be constructed is shown in **Table 21-3**. Prior to requesting a temporary or permanent certificate of occupancy from the Department of Buildings for more than 91 low-income residential units, the applicant will notify DCP and ACS and request a day care needs assessment. A temporary or permanent certificate of occupancy for more than 91 low-income residential units will not be applied for or accepted until funding has been received or suitable space provided at acceptable terms (if determined feasible). This requirement will be included in the Restrictive Declaration to be recorded for the proposed projects. In the event that based upon the review of subsequent availability of publicly funded day care slots, utilization and demand, DCP and ACS determine that the child care funding obligations should not apply or could be reduced, the terms of the Restrictive Declaration may be modified to be consistent with such DCP and ACS determinations. ~~or making program or physical improvements to support additional capacity.~~

Because it may be administratively infeasible for ACS to distribute funds within the study area, the significant adverse impact on child care would not be considered fully mitigated, the proposed actions would result in an unavoidable adverse impact on child care. ~~Absent the implementation of mitigation measures, the proposed actions could have an unmitigated significant adverse impact on publicly funded child care facilities.~~

Table 21-3
Child Care Slots to be Funded

Number of Low-Income Units Provided	Number of Child Care Slots in Excess of Impact Threshold to be Funded
0–91	0
92–99	1
100–108	2
109–117	3
118–126	4
127–134	5
135–143	6
144–152	7
153–160	8
161–169	9
170–178	10
179–186	11
187–195	12
196–204	13
205–213	14
214–221	15
222–230	16
230–239	17
240–247	18
248–256	19
Note: This table is new for the FEIS.	

D. OPEN SPACE

The proposed actions would result in a significant adverse open space impact due to the increased user population.

As described in Chapter 6, "Open Space," with the proposed actions, the decreases in total, active, and passive open space ratios would be less than 5.5 percent. With respect to the reductions in open space within the residential study area, the total and active open space ratios would remain below the City's guideline ratios of 2.5 acres and 2.0 acres per 1,000 residents, respectively, in the With Action condition. The total residential study area open space ratio would decrease by ~~5.41~~5.36 percent to ~~1.206~~1.201 acres per 1,000 residents; the active residential study area open space ratio would decline by ~~5.47~~5.26 percent to ~~0.259~~0.270 acres per 1,000 residents; and the passive residential study area open space ratio would decline by 5.39 percent to ~~0.947~~0.931 acres per 1,000 residents—less than half of a percentage point above the CEQR threshold. According to the *CEQR Technical Manual*, an action may result in a significant adverse impact if it would reduce the open space ratio by more than 5 percent in areas currently below the City's median community district open space ratio of 1.5 acres per 1,000 residents. Qualitative factors that may be taken into consideration include new improvements to Hudson River Park enabled by the proposed actions, new recreational amenities in the proposed buildings, and existing large, linear open spaces that connect to the north and the south of the study area. Nonetheless, the proposed actions would result in a significant adverse open space impact due the increased user population.

Potential mitigation measures for the identified significant adverse open space impact ~~are currently being~~have been explored by the private applicants in consultation with the lead agency, DCP, and NYC Parks~~ and will be refined between the DEIS and the FEIS~~. The mitigation measures ~~will~~ reflect the nature and scope of the open space impacts, taking into account the

quantitative and qualitative assessments in Chapter 6, "Open Space." The *CEQR Technical Manual* lists potential mitigation measures for open space impacts. These measures may include, but are not limited to, creating new open space within the study area; funding for improvements, renovation, or maintenance at existing local parks and/or playgrounds; or improving open spaces to increase their utility or capacity to meet identified open space needs in the area, such as through the provision of additional active open space facilities. With respect to the proposed actions, funding for ~~One of the mitigation measures being considered is~~ improvements to ~~Clement Clark Moore playground located close to the southern edge of the open space study area~~Penn South Playground or Chelsea Park has been identified as appropriate mitigation. ~~If feasible mitigation consistent with the nature and extent of the impact is identified, the impacts would be considered partially mitigated.~~ As described in Chapter 1, "Project Description," the Restrictive Declaration for each of the proposed projects will specify the mitigation measures and the process of their implementation. As the significant adverse impact on open space would not be considered fully mitigated, the proposed actions would result in an unavoidable adverse impact on open space.

E. SHADOWS

Chapter 7, "Shadows," shows that the proposed actions would result in significant adverse shadow impacts to vegetation on portions of the High Line on the March 21/ September 21 analysis day. At these times, project-generated shadow would fall on two portions of the High Line north of the Project Area. These areas would receive less than four to six hours of direct sunlight in part due to the proposed buildings' shadows. This could potentially affect the health of sunlight-sensitive vegetation in the affected areas that are not shade tolerant and require a minimum of four to six hours of sunlight.

In consultation with NYC Parks, Friends of the High Line, and DCP, ~~Potential mitigation measures for shadow impacts to vegetation would generally include~~ redesign of affected planting beds and replacement of sunlight sensitive vegetation with shade tolerant vegetation have been determined to be appropriate mitigation for the identified impact. As described in Chapter 1, "Project Description," the Restrictive Declaration for each of the proposed projects will specify the mitigation measures and the process of their implementation. There is currently a construction bridge for the Eastern Rail Yards development over the portion of the High Line east of Eleventh Avenue. Since this bridge already appears to have affected the vegetation, it is anticipated that the vegetation under the construction bridge will need to be replaced when the bridge is removed. The replacement vegetation could include shade tolerant species appropriate to this urban location. Replacement with shade tolerant species would avoid the potential shadows impact in this area. ~~For the portion of the High Line west of Eleventh Avenue that is likely to be affected by shadows due to the proposed actions, mitigation measures would include regular inspection and replanting with more shade tolerant species if necessary due to shadow impacts of the proposed projects. Potential mitigation will be explored between DEIS and FEIS in consultation with NYC Parks, Friends of the High Line, and DCP~~.

F. TRANSPORTATION

TRAFFIC

As discussed in Chapter 14, "Transportation," traffic conditions were evaluated at four intersections for the weekday AM, midday and PM peak hours. In the With Action condition,

there would be the potential for significant adverse traffic impacts at two intersections during the weekday AM peak hour, two intersections during the weekday midday peak hour, and one intersection during the weekday PM peak hour. The potential significant adverse traffic impacts and recommended mitigation measures are discussed below.

Tables ~~21-3~~21-4 through ~~21-5~~21-6 itemize the recommended mitigation measures that would address the identified impacts. With the implementation of a number of signal timing changes, which are subject to review and approval by DOT, the significant adverse traffic impacts identified above could be fully mitigated. A discussion of the recommended mitigation measures is provided below. **Tables ~~21-6~~21-7 through ~~21-8~~21-9** compare the levels of service (LOS) and lane group delays for the impacted intersections under the No Action, With Action, and Mitigation conditions for the three analysis peak hours.

Table ~~21-3~~21-4
Recommended Mitigation Measures
Weekday AM Peak Hour

Intersection	No Action Signal Timing	Recommended Mitigation Measures	Recommended Signal Timing
Route 9A/Twelfth Avenue and West 30th Street	EB: Green = 14 s NB/SB: Green = 100 s SB-L: Green = 19 s	Shift 1 second of green time from the NB/SB phase to the SB left-turn phase.	EB: Green = 14 s NB/SB: Green = 99 s SB-L: Green = 20 s
Route 9A/Twelfth Avenue and West 29th Street	WB: Green = 26 s NB/SB: Green = 112 s	Shift 3 seconds of green time from the NB/SB phase to the WB phase.	WB: Green = 29 s NB/SB: Green = 109 s
Notes: L = Left Turn, T = Through, R = Right Turn, DefL = Defacto Left Turn, EB = Eastbound, WB = Westbound, NB = Northbound, SB = Southbound.			

Table ~~21-4~~21-5
Recommended Mitigation Measures
Weekday Midday Peak Hour

Intersection	No Action Signal Timing	Recommended Mitigation Measures	Recommended Signal Timing
Route 9A/Twelfth Avenue and West 30th Street	EB: Green = 14 s NB/SB: Green = 72 s SB-L: Green = 17 s	Shift 1 second of green time from the NB/SB phase to the SB left-turn phase.	EB: Green = 14 s NB/SB: Green = 71 s SB-L: Green = 18 s
Route 9A/Twelfth Avenue and West 29th Street	WB: Green = 26 s NB/SB: Green = 82 s	Shift 1 second of green time from the NB/SB phase to the WB phase.	WB: Green = 27 s NB/SB: Green = 81 s
Notes: L = Left Turn, T = Through, R = Right Turn, DefL = Defacto Left Turn, EB = Eastbound, WB = Westbound, NB = Northbound, SB = Southbound.			

Table ~~21-5~~21-6
Recommended Mitigation Measures
Weekday PM Peak Hour

Intersection	No Action Signal Timing	Recommended Mitigation Measures	Recommended Signal Timing
Route 9A/Twelfth Avenue and West 30th Street	EB: Green = 14 s NB/SB: Green = 100 s SB-L: Green = 19 s	Shift 2 seconds of green time from the NB/SB phase to the SB left-turn phase.	EB: Green = 14 s NB/SB: Green = 98 s SB-L: Green = 21 s
Notes: L = Left Turn, T = Through, R = Right Turn, DefL = Defacto Left Turn, EB = Eastbound, WB = Westbound, NB = Northbound, SB = Southbound.			

Table ~~21-6~~21-7
No Action, With Action, and Mitigation Conditions Level of Service Analysis
Weekday AM Peak Hour

	Weekday AM											
	No Action				With Action					Mitigation			
Intersection	Lane Group	v/c Ratio	Delay (sec)	LOS	Lane Group	v/c Ratio	Delay (sec)	LOS		Lane Group	v/c Ratio	Delay (sec)	LOS
Route 9A/Twelfth Avenue and West 30th Street													
Northbound	TR	0.67	16.2	B	TR	0.69	16.7	B		TR	0.70	17.4	B
Southbound	L	0.80	92.4	F	L	0.85	99.8	F	+	L	0.81	91.9	F
	T	0.86	23.4	C	T	0.86	23.4	C		T	0.87	24.5	C
Route 9A/Twelfth Avenue and West 29th Street													
Westbound	L	0.35	58.7	E	L	0.51	64.0	E	+	L	0.46	59.3	E
	R	0.48	62.7	E	R	0.69	73.3	E	+	R	0.62	65.8	E
Northbound	T	0.57	9.0	A	T	0.57	9.0	A		T	0.59	10.5	B
Southbound	T	0.77	13.2	B	T	0.77	13.2	B		T	0.79	15.4	B

Notes:
L = Left Turn, T = Through, R = Right Turn, DefL = Defacto Left Turn, LOS = Level of Service
+ Denotes a significant adverse traffic impact

Table ~~21-7~~21-8
No Action, With Action, and Mitigation Conditions Level of Service Analysis
Weekday Midday Peak Hour

	Weekday Midday											
	No Action				With Action					Mitigation			
Intersection	Lane Group	v/c Ratio	Delay (sec)	LOS	Lane Group	v/c Ratio	Delay (sec)	LOS		Lane Group	v/c Ratio	Delay (sec)	LOS
Route 9A/Twelfth Avenue and West 30th Street													
Northbound	TR	0.67	17.2	B	TR	0.69	17.5	B		TR	0.70	18.3	B
Southbound	L	0.83	81.3	F	L	0.87	87.4	F	+	L	0.82	78.7	E
	T	0.91	27.5	C	T	0.91	27.5	C		T	0.92	29.4	C
Route 9A/Twelfth Avenue and West 29th Street													
Westbound	L	0.17	39.5	D	L	0.22	40.3	D		L	0.21	39.4	D
	R	0.66	54.3	D	R	0.77	61.6	E	+	R	0.74	58.0	E
Northbound	T	0.56	10.4	B	T	0.57	10.5	B		T	0.57	11.0	B
Southbound	T	0.74	13.9	B	T	0.74	13.9	B		T	0.75	14.7	B

Notes:
L = Left Turn, T = Through, R = Right Turn, DefL = Defacto Left Turn, LOS = Level of Service
+ Denotes a significant adverse traffic impact

Table ~~21-8~~21-9
2022 No Action and With Action Conditions Level of Service Analysis
Weekday PM Peak Hour

	Weekday PM											
	No Action				With Action					Mitigation			
Intersection	Lane Group	v/c Ratio	Delay (sec)	LOS	Lane Group	v/c Ratio	Delay (sec)	LOS		Lane Group	v/c Ratio	Delay (sec)	LOS
Route 9A/Twelfth Avenue and West 30th Street													
Northbound	TR	0.76	18.3	B	TR	0.78	18.9	B		TR	0.79	20.5	C
Southbound	L	1.06	141.1	F	L	1.14	166.3	F	+	L	1.04	132.4	F
	T	0.95	30.9	C	T	0.95	30.9	C		T	0.97	35.1	D

Notes:
L = Left Turn, T = Through, R = Right Turn, DefL = Defacto Left Turn, LOS = Level of Service
+ Denotes a significant adverse traffic impact

ROUTE 9A/TWELFTH AVENUE AND WEST 30TH STREET

The significant adverse impacts at the southbound left-turn lane group of this intersection during the weekday AM, midday, and PM peak hours could be fully mitigated by shifting one, one, and

two seconds of green time, respectively, from the northbound/southbound phase to the southbound left-turn phase.

ROUTE 9A/TWELFTH AVENUE AND WEST 29TH STREET

The significant adverse impacts at the westbound left-turn and right-turn lane groups of this intersection during the weekday AM peak hour could be fully mitigated by shifting three seconds of green time from the northbound/southbound phase to the westbound phase.

The significant adverse impact at the westbound right-turn lane group of this intersection during the weekday midday peak hour could be fully mitigated by shifting one second of green time from the northbound/southbound phase to the westbound phase.

EFFECTS OF TRAFFIC MITIGATION ON PEDESTRIAN OPERATIONS

As described above, intersection operations would improve overall with the implementation of the recommended traffic mitigation measures, which are limited to only changes to existing signal timings. A review of the effects of these changes on pedestrian circulation and service levels at intersection corners and crosswalks showed that they would not alter the conclusions made for the pedestrian impact analyses, nor would they result in the potential for any additional significant adverse pedestrian impacts.

MITIGATION IMPLEMENTATION

Subject to the approvals of DOT, the above recommended mitigation measures could be implemented to mitigate the projected significant adverse traffic impacts at or prior to the completion of the proposed projects in 2022.

PEDESTRIANS

As discussed in Chapter 14, "Transportation," the proposed actions would result in significant adverse impacts at one crosswalk during the weekday AM, midday, and PM peak hours, and another crosswalk only during the weekday midday peak hour. Potential measures to mitigate these significant adverse impacts are described below, and mitigated conditions are summarized in **Table ~~21-9~~21-10**. Similar to traffic, implementation of these measures would be subject to approval by DOT.

Table ~~21-9~~21-10
No Action, With Action, and Mitigation Conditions
Pedestrian Level of Service Analysis

Location	Mitigation Measures	2022 No Action		2022 With Action		2022 Mitigation	
		SFP	LOS	SFP	LOS	SFP	LOS
Weekday AM Peak Hour							
South Crosswalk of Eleventh Avenue and 33rd Street	Widen the crosswalk by 4 feet (14 ft)	18.5	D	13.3	E	19.0	D
Weekday Midday Peak Hour							
East Crosswalk of Eleventh Avenue and 33rd Street	Widen by 1 foot (16 feet)	16.1	D	14.6	E	15.8	D
South Crosswalk of Eleventh Avenue and 33rd Street	Widen the crosswalk by 4 feet (14 ft)	24.8	C	14.1	E	20.0	D
Weekday PM Peak Hour							
South Crosswalk of Eleventh Avenue and 33rd Street	Widen the crosswalk by 4 feet (14 ft)	2.5	F	1.7	F	2.4	F

CROSSWALKS

- The significant adverse impacts at the south crosswalk of Eleventh Avenue and West 33rd Street during the weekday AM, midday, and PM peak hours could be fully mitigated by widening the crosswalk by four feet, from 10 to 14 feet; and
- The significant adverse impact at the east crosswalk of Eleventh Avenue and West 33rd Street during the weekday midday peak hour could be fully mitigated by widening the crosswalk by half a foot. However, in accordance with standard DOT practice, the minimum crosswalk widening is one foot. Hence, this crosswalk is proposed to be widened from 15 to 16 feet.

G. NOISE

As described in Chapter 17, "Noise," construction activities for the Hudson Tunnel Project would take place on the western portion of the project block immediately west of the Project Area between 2019 and 2026. In addition, a portion of Lot 12 on project site A may be used for construction staging. The Hudson Tunnel DEIS identifies construction $L_{eq(8)}$ noise levels of 97 dBA at project sites A and B during the loudest period of construction (i.e., 12 months of pile driving). However, based on the conceptual construction schedule presented in the Hudson Tunnel DEIS, these activities would occur before the proposed projects would be completed and occupied. Therefore, the Hudson Tunnel DEIS concludes that there would be no significant adverse construction noise impact on the proposed projects as per the *CEQR Technical Manual* construction noise criteria.

In the event the proposed projects are completed and occupied during Hudson Tunnel construction when pile driving is still occurring, construction of the Hudson Tunnel Project would be producing noise levels of 97 dBA $L_{eq(8)}$ at the proposed projects' façades. The Hudson Tunnel DEIS assumed there would be no variation in construction noise levels throughout the work day. Therefore, 97 dBA is also assumed to be the worst-case peak hour construction noise levels in terms of $L_{eq(1)}$. However, the proposed projects will be designed to provide window/wall attenuation such that if pile driving for the Hudson Tunnel Project occurs when the units are occupied, interior noise levels would be in the mid-to-high 60s dBA. This would be up to approximately ~~20~~ 24 dBA higher than the 45 dBA threshold recommended for residential use according to CEQR noise exposure guidelines. If this occurs, there would be a significant adverse noise impact for up to approximately 12 months. This significant adverse noise impact would be temporary as it is due to construction of the Hudson Tunnel Project.

For this temporary condition, no practicable noise mitigation measures have been identified beyond the proposed attenuation because it is uncertain that the Hudson Tunnel construction schedule would occur while the project buildings are occupied and, if they are occupied, once construction of the Hudson Tunnel Project is complete, the interior noise levels would be expected to be below the 45 dBA threshold recommended for residential use according to CEQR noise exposure guidelines.

H. CONSTRUCTION

Construction of the proposed actions—as is the case with any construction project—would result in some temporary disruptions in the surrounding area. As discussed in Chapter 20, "Construction," construction activities associated with the proposed actions would result in

temporary significant adverse impacts in the areas of transportation and noise. Potential measures to mitigate these temporary significant adverse impacts are described below.

TRANSPORTATION

TRAFFIC

As discussed in Chapter 20, "Construction," the analysis of the weekday 6:00 AM to 7:00 AM construction peak hour for peak construction during the third quarter of 2019 identified the potential for a significant adverse traffic impact at the intersection of Route 9A/Twelfth Avenue and West 30th Street. **Table ~~21-10~~21-11** details the recommended mitigation measure (i.e., shifting 3 seconds of green time from the northbound/southbound phase to the southbound left-turn phase) that would address the identified impact.

Table ~~21-10~~21-11
Recommended Mitigation Measures
Weekday Construction AM Peak Hour

Intersection	No Action Signal Timing	Recommended Mitigation Measures	Recommended Signal Timing
Route 9A/Twelfth Avenue and West 30th Street	EB: Green = 14 s NB/SB: Green = 100 s SB-L: Green = 19 s	Shift 3 second of green time from the NB/SB phase to the SB left-turn phase.	EB: Green = 14 s NB/SB: Green = 97 s SB-L: Green = 22 s

Notes:
L = Left Turn, T = Through, R = Right Turn, DefL = Defacto Left Turn, EB = Eastbound, WB = Westbound, NB = Northbound, SB = Southbound.

PEDESTRIANS

For pedestrians, even though the projected construction worker pedestrian trips during peak construction would be substantially lower than the projected operational pedestrian trips, there could still be a potential for significant adverse pedestrian impacts. However, these impacts, if they do occur, would be equal to or less than the corresponding operational impacts (east and south crosswalks of Eleventh Avenue and West 33rd Street) described in Chapter 14, "Transportation." Accordingly, measures required to mitigate these impacts (i.e., restriping wider crosswalks), which can be advanced at DOT's discretion prior to the completion of the proposed projects, would be equal to or less than those described above in Section G, Transportation.

NOISE

There are no feasible and practical measures to mitigate the construction noise impacts predicted to occur at 534 West 30th Street, residences near Eleventh Avenue and West 29th Street and portions of the High Line directly across West 30th Street from the construction work areas. The residences identified already have insulated glass windows and alternate means of ventilation allowing for the maintenance of a closed-window condition (i.e., air conditioning). Therefore, further receptor controls at these residences would not be effective in substantially reducing noise levels at the residences. There would also be no feasible or practicable mitigation options at the High Line that would be effective in reducing the construction noise level increments to below the *CEQR Technical Manual* impact criteria or that would reduce the duration of those exceedances to less than two years. Construction noise mitigation options for the proposed actions, including quieter equipment and noise barriers, would not significantly lower the

cumulative construction noise levels at these receptors during times that construction of the proposed actions would overlap with construction of these other nearby projects. Therefore, no construction noise mitigation measures are proposed beyond those already identified in the "Noise Reduction Measures" section in Chapter 20, "Construction." ✷