Chapter 22: Project Permutations

A. INTRODUCTION

Because the proposed actions being examined in this EIS would affect two independent development sites on Block 675 East, project site A and project site B, Chapters 3 through 21 have considered the combined or cumulative impacts of the two projects as the Reasonable Worst Case Development Scenario.[1] However, the two proposed projects are independent of each other. Either project may be delayed or ultimately not pursued. This chapter considers how the impacts of the proposed actions might change in the case of one or the other of the proposed projects not being developed at the same time or not being developed at all. The analysis is limited to evaluating specific locations or facilities for which impacts and mitigation needs have been identified under the cumulative impact analysis of the two projects.[2] Since the impacts of the projects individually would be less than they are if considered together, if the cumulative analyses identified no impacts, then there would be no impacts from an individual project. Therefore, the following technical areas were not considered in this chapter:

- Land use, zoning, and public policy
- Socioeconomics
- Community facilities—other than child care
- Historic and cultural resources
- Urban design and visual resources
- Hazardous materials
- Water and sewer
- Solid waste and sanitation
- Energy
- Air quality
- Climate change
- Public health
- Neighborhood character

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[1] As described in Chapter 2, "Analytical Framework," and consistent with the other analyses in this EIS, floor area from Lot 38 is being studied as part of the project site B development.

[2] 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.

The cumulative impact analyses, presented in Chapters 3 through 21, have identified the potential for significant adverse impacts in the following technical areas[3]: publicly funded child care centers; open space; shadows; traffic; pedestrians; noise; and construction. In these technical areas, the potential impacts of the individual projects are described below, and the expected changes from the cumulative impacts are considered. Therefore, the following project permutations consider whether the significant adverse impacts identified in these technical areas would occur with either permutation.

PRINCIPAL CONCLUSIONS

Table 22-1 presents the anticipated impacts of the two projects individually. The technical areas in which there would be changes from the conclusions of the cumulative analyses for the two proposed projects are described below the table.

Table 22-1
Summary of Anticipated Impacts

Area of Environmental Concern	Future with only Project on Site A	Future with only Project on Site B[1]
Publicly funded child care	Impact on publicly funded child care	No Impact on child care
Open Space	No Impact	No Impact
Shadows—High Line	Impact only east of Eleventh Avenue	No Impact
Traffic	Impact at two intersections	No Impact
Pedestrians	Impact at one location	Impact at one location
Noise	Potential impact from Hudson Tunnel Construction	Potential impact from Hudson Tunnel Construction
Construction—Transportation	Impact	No Impact
Construction—Noise	Impact at High Line and Residences at 534 West 30th Street and near Eleventh Avenue and West 29th Street	No Impact

Note: [1] As described in Chapter 2, "Analytical Framework," and consistent with the other analyses in this EIS, floor area from Lot 38 is being studied as part of the project site B development

If only project site A is developed, there would be a significant adverse impact on child care, but it would be less than the cumulative impact. If only project site B is developed, there would not be a significant adverse impact on child care facilities.

If only project site A is developed, there would be no significant adverse impact on open space; similarly, if only project site B is developed, there would be no significant adverse impact on open space.

If only project site A is developed, there would be a significant adverse shadows impact, but it would be less than the cumulative impact because it would only occur east of Eleventh Avenue. If only project site B is developed, there would not be a significant adverse shadows impact.

[3] 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 FEIS. In that event, the FEIS will consider potential mitigation measures.

If only project site A is developed, there would be a significant adverse traffic impact at the same two intersections identified in the cumulative analysis. If only project site B is developed, there would not be a significant adverse traffic impact.

If only project site A is developed, there would be a significant adverse pedestrian impact at one of the two locations identified in the cumulative analysis. Similarly, if only project site B is developed, there would be a significant adverse pedestrian impact at one of the two locations identified in the cumulative analysis.

There is the potential for construction of the Hudson Tunnel Project to result in temporary significant adverse noise impacts to residents in both project buildings, if certain Hudson Tunnel construction activities, such as pile driving, take place after the proposed buildings are completed and occupied. If this occurs, there would be a temporary significant adverse noise impact for up to approximately 12 months for either building, regardless of whether the other building is constructed.

If only project site A is built, there would likely be fewer transportation impacts during construction, and/or the impacts would be of lesser magnitude. If only project site B is built, construction trips associated with only project site B would not result in an exceedance of the CEQR analysis threshold. Therefore, construction of project site B would not result in any significant adverse construction transportation impacts.

If only project site A is built, construction noise impacts are anticipated for both the High Line and the residences at 534 West 30th Street and near Eleventh Avenue and West 29th Street. Construction of project site B is expected to last 23 months. Therefore, based on CEQR guidance, noise level increases at any nearby receptors would not be considered significant adverse impacts.

B. POTENTIAL FOR CHANGES TO IDENTIFIED IMPACTS IF A PROJECT IS NOT PURSUED

PUBLICLY FUNDED CHILD CARE CENTERS

As described in Chapter 5, "Community Facilities," in existing conditions, publicly funded child care facilities in the study area will operate at 83.6 percent utilization. In the future without the proposed actions, planned or proposed development projects in the study area will increase utilization to 171.8 percent. In the future with the proposed actions, child care facilities in the study area would operate over capacity (185.4 percent utilization), and the increase in the utilization rate with the proposed actions would be over five percentage points (13.6 percentage points). In that event, the proposed actions would result in a significant adverse impact on child care facilities.

As noted above, the *CEQR Technical Manual* guidelines indicate a significant adverse impact on publicly funded child care services could result when both of the following criteria are met: (1) a demand for slots greater than the remaining capacity of child care facilities; and (2) an increase in demand of five percentage points of the study area capacity. As shown in **Table 22-2**, if neither of the two proposed projects moves forward (No Action Condition), child care facilities in the study area would operate over capacity.

Table 22-2
Estimated Child Care Facility Enrollment, Capacity, and Utilization with Project Permutations

	Enrollment	Capacity	Available Slots	Utilization Rate	Change in Utilization	Significant Adverse Impact
Future without Proposed Actions	366	213	-153	171.8%	N/A	N/A
Future with Project Site A Development Only	389	213	-176	182.6%	10.8%	Yes
Future with Project Site B Development Only	372	213	-159	174.6%	2.8%	No

Sources: ACS, June 2017; AKRF, Inc.

If the project site B development is delayed indefinitely or ultimately not pursued, it is assumed that development would take place only on project site A. In this case, the number of affordable dwelling units would be reduced by up to 50 and the number of project-generated children eligible for publicly funded child care programs would be reduced by approximately 6, based on the *CEQR Technical Manual* child care multipliers. As shown in **Table 22-2**, utilization would be over 100 percent and the change in utilization between the No Action and With Action conditions would be above 5 percentage points (10.8 percentage points). Therefore, if only the project site A development is built, there would still be a significant adverse impact on child care facilities.

If the project site A development is delayed indefinitely or ultimately not pursued, it is assumed that development would take place only on project site B. In this case, the number of affordable dwelling units would be reduced by up to 198 and the number of project-generated children eligible for publicly funded child care programs would be reduced by approximately 23. As shown in **Table 22-2**, utilization would be over 100 percent, but the change in utilization between the No Action and With Action conditions would be below 5 percentage points (2.8 percentage points). Therefore, if only the project site B development is built, it would not have a significant adverse impact on child care facilities.

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. The total residential study area open space ratio would decrease by 5.41 percent to 1.206 acres per 1,000 residents; the active residential study area open space ratio would decline by 5.47 percent to 0.259 acres per 1,000 residents; and the passive residential study area open space ratio would decline by 5.39 percent to 0.947 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. As noted in the *CEQR Technical Manual*, the determination of what constitutes a significant adverse open space impact is not based solely on the results of the quantitative assessment and may also take into account qualitative factors. 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 to the increased user population.

Table 22-3
Open Space Ratios Summary
with Project Permutations

	Total Open Space	Percent Change	Active Open Space	Percent Change	Passive Open Space	Percent Change	Significant Adverse Impact
No Action Condition	1.275	N/A	0.274	N/A	1.00	N/A	N/A
Future with Project Site A Development Only	1.220	-4.31%	0.262	-4.38%	0.957	-4.40%	No
Future with Project Site B Development Only	1.260	-1.18%	0.271	-1.09%	0.989	-1.20%	No

If the project site B development is delayed indefinitely or ultimately not pursued, it is assumed that development would take place only on project site A. In this case, the number of units would be reduced to 990. As shown in **Table 22-3**, decreases in open space ratios would not exceed 5 percent between the No Action and With Action conditions. Therefore, if only the project site A development is built, there would not be a significant adverse impact on open space.

If the project site A development is delayed indefinitely or ultimately not pursued, it is assumed that development would take place only on project site B. In this case, the number of units would be reduced to 252. As shown in **Table 22-3**, decreases in open space ratios would not exceed 5 percent between the No Action and With Action conditions. Therefore, if only the project site B development is built, there would not be a significant adverse impact on open space.

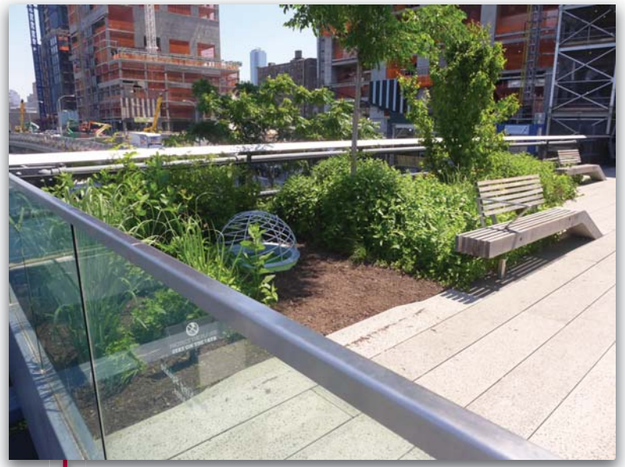
SHADOWS

As described in Chapter 7, "Shadows," the proposed buildings on project site A and project site B would cast new shadows on the High Line. On the spring and fall analysis days (March 21/September 21), the shadows would potentially have a significant adverse impact on vegetation on two portions of the High Line: an area to the east of Eleventh Avenue and an area to the west of Eleventh Avenue. These two areas would receive fewer than four hours of direct sunlight with the proposed actions, whereas without the proposed actions they would receive more than four hours of direct sunlight. Vegetation generally requires a minimum of four to six hours of direct sunlight during the growing season, which in New York City comprises March through October. Consequently there may be a significant adverse impact to the vegetation from the proposed buildings' shadows in the spring and fall.

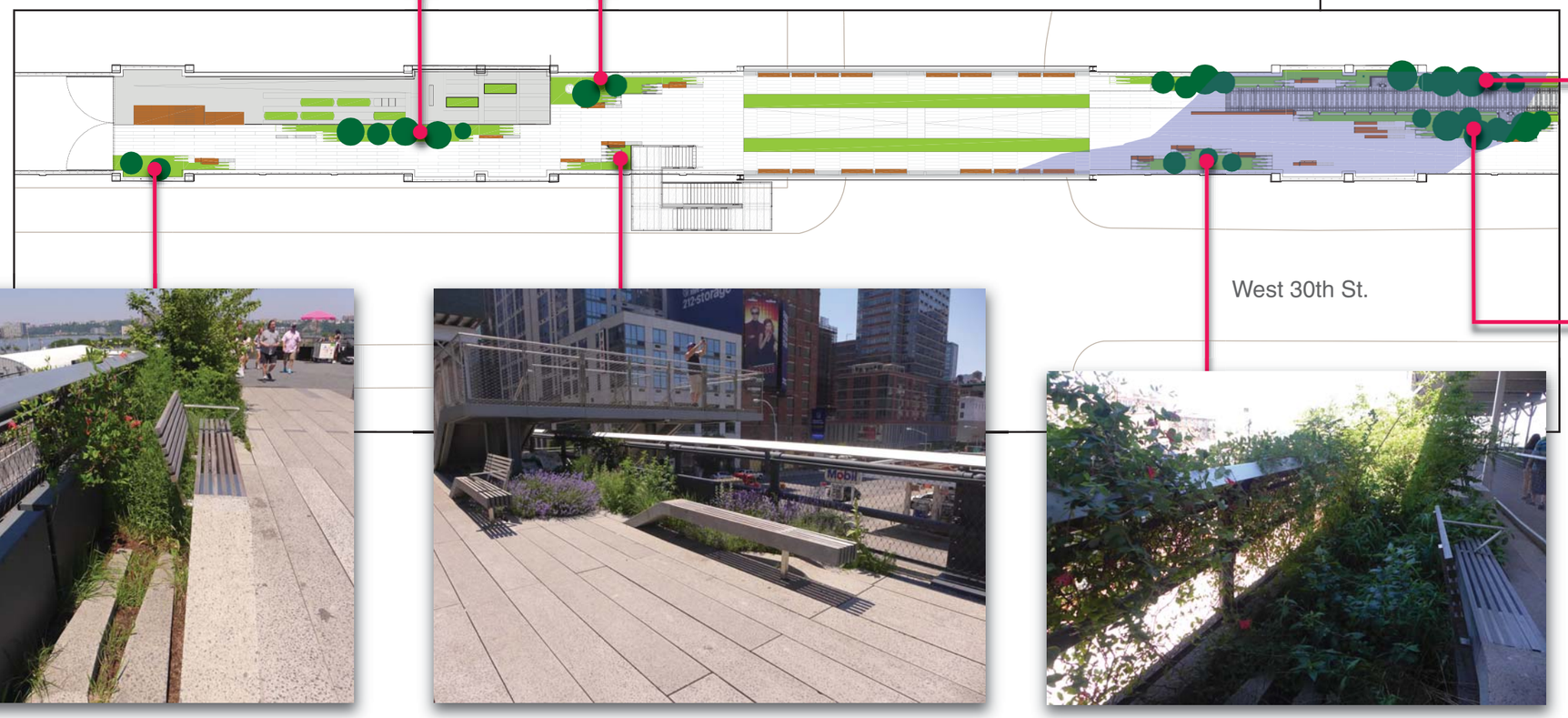
The project site A building alone would cast shadows on the High Line on March 21/September 21. As a consequence of these new shadows, a portion of the High Line east of Eleventh Avenue would receive fewer than four hours of direct sunlight, potentially causing a significant adverse impact on the vegetation at that location (see **Figure 22-1**). The extent of the area affected would be approximately the same as the area east of Eleventh Avenue affected by the two projects together as described in Chapter 7, "Shadows" (see Figure 7-17). However, as noted in the shadows analysis, there is currently a construction bridge over this portion of the High Line that 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. With a building only on project site A and no building on project site B, all areas of the High Line west of Eleventh Avenue would continue to receive more than four hours of direct sunlight.

Area of Location













Area on the High Line receiving less than four hours of direct sunlight with tthe proposed site A building alone that would receive more than four hours in the No Action condition, on the March 21 / September 21 analysis day.

The High Line - Detail
Proposed Site A Building Alone
Figure 22-1

With the project site B building alone, new shadows would be cast on the High Line on March 21/September 21, but at no location would the new shadow reduce direct sunlight to under four hours, and therefore there would not be a significant adverse shadow impact to any vegetation on the High Line.

TRANSPORTATION

As detailed in Chapter 14, "Transportation," the proposed actions and development of project sites A and B, analyzed cumulatively, would be expected to result in significant adverse traffic and pedestrian impacts. As described in Chapter 21, "Mitigation," measures have been recommended to address these impacts to the extent practicable. If one of the two proposed projects is delayed indefinitely or not pursued, the impacts of the remaining project would be less intensive than those projected for the projects together, and in some cases certain impacts may not materialize at all. Correspondingly, some of the mitigation measures identified may not be warranted or they may be reduced to address impacts of smaller magnitudes. Since transportation-related impacts are largely driven by how conditions are expected to deteriorate due to incremental trips, this assessment of potential impacts and mitigation needs considers the relative trip-making of each individual project. **Table 22-4** provides a comparison of the vehicular and overall person trips estimated for the various scenarios. Generally, project site A is anticipated to contribute to 70 to 80 percent of the total vehicle-trip generation for Block 675 East, versus 20 to 30 percent contributed by project site B. Person-trip generation for the two project sites is distributed similarly during the weekday AM peak period but more evenly split during the weekday and PM peak periods.

Table 22-4
Comparison of Trip Generation with Project Permutations

Analysis Scenarios		Total Vehicle Trips			Total Person Trips		
		AM	Midday	PM	AM	Midday	PM
Future with Proposed Actions (Project Sites A & B)	Trips	153	98	162	1,192	1,672	1,726
Future with Project Site A Development Only	Trips	122	68	123	871	838	1,118
	% Total	*80%*	*69%*	*76%*	*73%*	*50%*	*65%*
Future with Project Site B Development Only	Trips	31	30	39	321	834	608
	% Total	*20%*	*31%*	*24%*	*27%*	*50%*	*35%*

TRAFFIC

With the proposed actions and assuming both proposed projects are built, there would be the potential for significant adverse traffic impacts at two study area intersections. As described in Chapter 21, "Mitigation," signal timing changes are proposed that would fully mitigate the projected impacts at these intersections. **Table 22-5** presents a summary of the locations where traffic impacts are anticipated and indicates whether measures were identified to mitigate the projected impacts.

Table 22-5
Summary of Significant Adverse Traffic Impacts and Mitigation Findings for Project Sites A and B

Intersection		Weekday AM Peak Hour	Weekday Midday Peak Hour	Weekday PM Peak Hour	Mitigated
EB/WB Street	NB/SB Street				
West 30th Street	Route 9A/Twelfth Avenue	SB-L	SB-L	SB-L	Yes
West 29th Street	Route 9A/Twelfth Avenue	WB-L WB-R	WB-R		Yes
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.

Conditions with Project Site A Only

With approximately 70 to 80 percent of the cumulative vehicle trips projected for the project site A development alone, this scenario is expected to yield the same impact and mitigation findings as those described in Chapters 14 and 21.

Conditions with Project Site B Only

With approximately 20 to 30 percent of the cumulative vehicle trips projected for project site B development alone, this scenario is expected to yield fewer than 50 peak hour vehicle trips. In accordance with *CEQR Technical Manual* guidelines, a detailed traffic analysis would not have been required; therefore, this scenario would not result in any significant adverse traffic impacts.

PEDESTRIANS

With the proposed actions and assuming both proposed projects are built, there would be the potential for significant adverse pedestrian impacts at two crosswalks near the project sites. As described in Chapter 21, "Mitigation," crosswalk widenings are proposed to mitigate the projected impacts. **Table 22-6** presents a summary of the impacted locations and whether measures were identified to mitigate the projected impacts.

Table 22-6
Summary of Significant Adverse Pedestrian Impacts for Project Sites A and B

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

Conditions with Project Site A Only

With approximately 50 to 70 percent of the cumulative pedestrian trips projected for the project site A development alone, this scenario is expected to yield impacts at only the south crosswalk of West 33rd Street and Eleventh Avenue. The impact identified for the east crosswalk of West 33rd Street and Eleventh Avenue for the weekday midday peak hour is not expected to occur with this scenario. Accordingly, the proposed crosswalk widening at this location would not be necessary.

Conditions with Project Site B Only

With approximately 25 to 50 percent of the cumulative pedestrian trips projected for project site B development alone, this permutation scenario is expected to yield impacts at only the south crosswalk of West 33rd Street and Eleventh Avenue. The impact identified for the east crosswalk of West 33rd Street and Eleventh Avenue for the midday peak hour is not expected to occur with this scenario. Accordingly, the proposed crosswalk widening at this location would not be necessary.

NOISE

As described in Chapter 17, "Noise," cumulatively the proposed projects would not result in traffic or activities that would generate noise and result in a significant adverse noise impact. Therefore, individually, they would not generate a significant adverse noise impact.

There is the potential for construction of the Hudson Tunnel Project to result in temporary significant adverse noise impacts to residents in both project buildings, if certain Hudson Tunnel construction activities, such as pile driving, take place after the proposed buildings are completed and occupied. Hudson Tunnel construction activities would produce noise levels of 97 dBA $L_{eq(8)}$ at the proposed projects' façades. This is assumed to be the worst-case peak hour construction noise levels in terms of $L_{eq(1)}$. As both proposed projects are designed to provide window/wall attenuation such that interior noise levels would be in the mid-60s dBA. This would be up to approximately 20 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 for either building, regardless of whether the other building is constructed. This significant adverse noise impact would be temporary as it is due to construction of the Hudson Tunnel Project.

CONSTRUCTION

As detailed in Chapter 20, "Construction," the proposed projects, analyzed cumulatively, would be expected to result in significant adverse traffic and noise impacts during construction. Where practicable and feasible, mitigation measures have been recommended to address these impacts. If one or the other of the two proposed projects is delayed indefinitely or not pursued, the construction impacts of the project that goes ahead will be less intensive than those projected in the cumulative analysis, and in some cases certain impacts may not materialize at all. Correspondingly, some of the mitigation measures identified may not be warranted or they may be reduced to address impacts of smaller magnitudes. The potential for changes in the cumulative construction traffic and noise impacts are summarized below.

TRAFFIC

Chapter 20, "Construction," concludes that since construction-related trip-making would be comparable to the operational trip-making with both proposed projects, any potential traffic impacts during peak construction would be similar to the significant adverse impacts identified for the future With Action condition. The detailed analysis presented in that chapter showed that there could be the potential for a significant adverse traffic impact at the intersection of Route 9A/Twelfth Avenue and West 30th Street during the weekday 6:00 AM to 7:00 AM construction peak hour. This projected impact could be fully mitigated with a signal retiming of 3 seconds.

If only one project is built, trip-making during peak construction would be less than that for the two projects together. If only project site A is built (see **Table 20-3**), there would be an average of 292 daily workers and 11 daily truck trips. For peak construction there would be 463 workers

per day and 23 truck trips per day. As a result, while a significant adverse construction traffic may still occur, it would be of a lesser magnitude and could be mitigated with the same or less mitigation measure identified for the simultaneous construction of both projects. If only project site B is built (see **Table 20-4**), there would be an average of 79 workers and 10 truck trips per day. For peak construction there would be 133 workers per day and 16 truck trips per day. Based on the construction trip assignments presented for project sites A and B combined, construction trips associated with only project site B would not result in an exceedance of the CEQR analysis threshold at any intersection. Therefore, construction of project site B would not result in any significant adverse traffic impacts. As shown in Chapter 20, "Construction," taken together the two projects would result in a total of 596 daily workers and 39 daily truck trips during the peak construction quarter. **Table 22-7** provides a comparison of the construction worker and truck projections described above.

Table 22-7
Comparison of Construction Worker and Truck Projections with Project Permutations

Analysis Scenarios		Peak	Average
Future with Proposed Actions (Project Sites A & B)	Workers	596	--
	Trucks	39	--
Future with Project Site A Development Only	Workers	463	292
	Trucks	23	11
Future with Project Site B Development Only	Workers	133	79
	Trucks	16	10

Note: Construction durations for the two project sites vary. While peak activities at the two sites may take place during different points in time, the overall peak construction activities assessed in this EIS conservatively assumed the simultaneous overlap of peak construction activities at the two sites.

PEDESTRIANS

Chapter 20, "Construction," concludes that even though the projected construction worker pedestrian trips would be less than the corresponding operational pedestrian trips, there could still be a potential for significant adverse pedestrian impacts during construction. Nonetheless, these impacts would be equal to or less than those under operational conditions and required mitigation would similarly be equal or less. With 463 daily workers projected for peak construction of project site A, these conclusions would still apply. However, if only construction of project site B is to take place, with a peak of 133 daily workers, there would not be a potential for any significant adverse pedestrian impacts during construction.

NOISE

As described in Chapter 20, "Construction," the proposed projects are anticipated to result in construction-period noise impacts at several locations surrounding the project sites, including the High Line north of the Project Area and at residences at 534 West 30th Street and near Eleventh Avenue and West 29th Street. Impacts on the residences to the east are attributable primarily to the construction of each individual project, rather than to the cumulative noise levels of the proposed projects at certain periods of construction. However, the impacts on the High Line would be a result of construction of both buildings.

If only project site A is built, construction noise impacts are anticipated for both the High Line and the residences at 534 West 30th Street and near Eleventh Avenue and West 29th Street.

As shown in Chapter 20, "Construction," construction of project site B is expected to last 23 months (see Table 20-2). Therefore, based on CEQR guidance, noise level increases at any nearby receptors would not be considered significant adverse impacts. ✷