Chapter 23: Alternatives

A. INTRODUCTION

In accordance with the State Environmental Quality Review Act (SEQRA) and the City Environmental Quality Review (CEQR), this chapter presents and analyzes alternatives to the Proposed Project. Alternatives selected for consideration in an EIS are generally those which are feasible and have the potential to reduce, eliminate, or avoid adverse impacts of a proposed action while meeting some or all of the goals and objectives of the action.

This chapter considers in detail the following four alternatives to the Proposed Project:

- A No Action Alternative, which assumes that the original 1992 Riverside South Final Environmental Impact Statement (FEIS) approved program for Parcels L and M would be completed, but Parcel N would remain in its current parking use (subsequent to the completion of the 1992 FEIS, the City Council modified the project approvals to provide that future development on Parcel N would require the submission of revised plans and supplementary environmental analysis). The technical chapters of this FSEIS have described the No Action Alternative (referred to in preceding chapters as "the Future Without the Proposed Project," and specifically as "No Build Scenario 2") and have used it as the basis to assess the potential impacts and associated mitigation for the Proposed Project;
- A Lesser Density Alternative, which considers a project based on the size of the approved 1992 Riverside South development on Parcels L, M and N, with similar uses as the Proposed Project;
- A No Unmitigated Significant Adverse Impact Alternative, which considers development that would not result in any identified significant, unmitigated adverse impacts; and
- A Cogeneration Energy Supply Alternative to improve energy efficiency and reliability while reducing greenhouse gas emissions from the project site.

PRINCIPAL CONCLUSIONS

For each alternative, the principal conclusions of the analysis in this chapter are as follows:

NO ACTION ALTERNATIVE

Consideration of the No Action Alternative is mandated by both SEQRA and CEQR and is intended to provide the lead and involved agencies with an assessment of the expected environmental impacts of no action on their part. The No Action Alternative assumes that the Proposed Project would not be implemented (i.e., none of the discretionary approvals proposed as part of the Proposed Project would be adopted), and that Parcels L and M would be developed as already approved as part of the 1992 Riverside South project. The technical chapters of this Final Supplemental EIS (FSEIS) have described the No Action Alternative as "the Future Without the Proposed Project," and specifically as "No Build Scenario 2." Parcels L and M were

planned for primarily residential development with approximately 301,980 gross square feet (gsf) on Parcel L and approximately 316,680 gsf on Parcel M. Parcel L also was to include a public parking garage of 149 spaces, and Parcel M was to include a public parking garage of 152 spaces. Parcel N would remain in its current parking use (subsequent to the completion of the 1992 FEIS, the City Council modified the project approvals to provide that future development on Parcel N would require the submission of revised plans and supplementary environmental analysis). Unlike the Proposed Project, the No Action Alternative would not include a public school, retail and hotel uses, automotive showroom and service uses, or publicly accessible open space. Since the affordable housing requirements under the 1992 approvals are expected to be satisfied with the construction of buildings on other parcels within the Riverside South General Large Scale Development (GLSD), no affordable housing units would be required on parcels L, M, and N under the No Action Alternative.

The significant adverse impacts anticipated for the Proposed Project would not occur with the No Action Alternative with one exception (construction noise). Specifically, the child care, open space, traffic, transit and pedestrian, and construction traffic impacts identified for the Proposed Project would not occur under the No Action Alternative. The unmitigated impact identified with the Proposed Project is likely to occur with respect to construction noise at some or all of the same off-site terrace locations with the No Action Alternative. Because of the more limited construction program for the No Action Alternative, impacts due to this alternative would be expected to be of shorter duration than those predicted to occur with the Proposed Project.

Construction of this alternative would not include the use of equipment with the extensive emission controls, noise abatement measures, and traffic mitigation measures that would be provided with the Proposed Project.

The No Action Alternative would not meet the design goals and objectives of the Proposed Project. Specifically, the No Action Alternative would not result in the architecturally distinctive master planning and building designs that are fundamental to the Proposed Project. Also, the No Action Alternative would not allow for continuation of the Manhattan street grid across the project site. The view corridors along West 60th Street and Freedom Place South would not be created under the No Action Alternative. Under the No Action Alternative the extension of Freedom Place South to West 59th Street would not occur, and therefore the project site would not be as accessible to the public as it would be with the Proposed Project. The No Action Alternative would not meet the Proposed Project's goal to provide an attractive connection to Riverside Park South and the Hudson River waterfront while creating an inviting and functional center for the surrounding residential neighborhood. The No Action Alternative would not result in any additional open space and would not provide an attractive streetscape between the surrounding neighborhood and the expansive open space west of the project site.

The No Action Alternative would not meet other goals and objectives of the Proposed Project. It would not integrate commercial and retail development serving project residents and the general population in the nearby neighborhoods. The No Action Alternative would include less market rate residential units (577 units, compared with the approximately 2,500 residential units of the Proposed Project) and would not include any affordable housing units. Therefore, the No Action Alternative would be less effective in meeting the Proposed Project's housing goal, and in contributing to the achievement of the city's overall housing goals, including contributing to the supply of affordable housing.

LESSER DENSITY ALTERNATIVE

The Lesser Density Alternative would allow all of the same uses as the Proposed Project, but with a lesser amount of total development—2.4 million zoning square feet (zsf), as compared with approximately 3.0 million zsf with the Proposed Project (a difference of approximately 600,000 zsf). The reduction in density would be achieved by a combination of reduction in the number of floors in buildings, and a reduction in the size of some building elements. On the project site, the Lesser Density Alternative would include the same overall site plan layout, including numbers and locations of buildings, open space (including type and size), and internal roadways as those currently contemplated for the Proposed Project. The below-grade uses (including parking and auto service uses) and the school would be the same type and size as the Proposed Project.

The Lesser Density Alternative would generally result in the same significant adverse impacts as the Proposed Project, including the same unmitigated impacts. Like the Proposed Project, the Lesser Density Alternative would not result in significant adverse impacts with respect to: land use, zoning, and public policy; socioeconomic conditions; public schools; police and fire services; library services; shadows; historic resources; urban design and visual resources; neighborhood character; natural resources; hazardous materials; consistency with the city's Waterfront Revitalization Program; infrastructure; solid waste and sanitation services; energy; parking; subway service; pedestrians; air quality; noise; and public health.

In areas where the Proposed Project is anticipated to result in significant adverse impacts, the Lesser Density Alternative would lessen, but not eliminate those impacts. Like the Proposed Project, the Lesser Density Alternative would result in significant adverse impacts related to: publicly funded child care space, open space, traffic, transit, pedestrian crosswalks, construction traffic, and construction noise. Overall, the total number of intersections with significant adverse traffic impacts under the Lesser Density Alternative would be nearly the same as the Proposed Project.

The Lesser Density Alternative, like the Proposed Project, could result in unmitigated significant adverse impacts in the areas of open space, traffic, and construction noise. In these areas, the impacts would be of lesser intensity but would nevertheless remain unmitigated. Unmitigated significant adverse traffic impacts would occur at the same three intersections: Twelfth Avenue at West 56th Street; Twelfth Avenue at West 54th Street; and Twelfth Avenue at West 52nd Street. (As noted in the Chapter 22, "Mitigation," the mitigation proposed for Twelfth Avenue and West 56th Street intersection is currently being reviewed by NYSDOT. However, if NYSDOT decides to not implement the mitigation measure proposed for this intersection, then the significant impacts at this intersection would remain unmitigated). In addition, as with the Proposed Project, unmitigated construction-related noise impacts would occur at terrace locations at several nearby residential buildings.

The Lesser Density Alternative would meet all of the goals and objectives of the Proposed Project; however, it would not meet the Proposed Project's housing goals to the same extent. The Lesser Density Alternative would provide between 300 and 500 fewer total dwelling units than the Proposed Project, and between 36 and 108 fewer affordable units. Therefore, the Lesser Density Alternative would be less effective in meeting the Proposed Project's housing goals and in contributing to the achievement of the city's overall housing goals.

NO UNMITIGATED SIGNIFICANT ADVERSE IMPACT ALTERNATIVE

This alternative considers development that would not result in any identified significant, unmitigated adverse impacts. The impact analyses provided in the previous chapters of this FSEIS identified a number of significant adverse impacts for which no practicable mitigation has been identified. Unmitigated impacts were identified in the areas of open space, traffic, and construction noise. Modifications to the Proposed Project that would eliminate these unmitigated significant impacts are as follows:

- The Proposed Project would have the potential to result in unmitigated significant adverse impacts on active open space. The overall density of the project would have to be reduced to approximately 1,225 residential units in order to result in no change in the active open space ratio as an increment over the Future Without the Proposed Project (or the No Action Alternative). Limiting development to this level would substantially reduce the opportunity to provide housing (including affordable housing), and would substantially compromise the project's stated goals and overall economic viability. Conversely, the Proposed Project would have to include an additional 0.88 acres of active open space on the project site or in the ½-mile residential study area in 2018 so that the active open space ratio would remain unchanged. As discussed in Chapter 28, "Modifications to the Proposed Project," a publicly accessible children's play area has been proposed to partially mitigate the Project's significant open space impact. No other practicable opportunities for on-site or off-site mitigation have been identified as of the date of this FSEIS.
- With the Proposed Project, unmitigated significant adverse traffic impacts would occur at three intersections. In order to avoid the unmitigated significant adverse impacts at these three intersections, the Proposed Project's overall density would need to be reduced from approximately 3.1 million gsf to no more than approximately one million gsf. Limiting development to this level would substantially reduce the opportunity to provide housing (including affordable housing). Consequently, no reasonable alternative could be developed to completely avoid such impacts without substantially compromising the project's stated goals.
- Construction of the Proposed Project would result in unmitigated significant adverse construction-related noise impacts at terrace locations at several nearby residential buildings. These impacts reflect increased ambient noise levels at the affected buildings as a result of noise emanating primarily from on-site construction activities. The analysis of construction-related noise impacts for the Proposed Project assumed that all practicable noise reduction measures would be implemented throughout the course of construction. Despite the inclusion of these measures, construction of the Proposed Project would nonetheless result in unmitigated significant impacts at the affected outdoor terrace locations. Measures taken to mitigate indoor locations, i.e., window treatments and alternative ventilation, would not be effective for outdoor locations. Any multiple building development on the project site would require more than two years of continuous construction activities and would have the potential to result in unmitigated significant adverse construction noise impacts at the terrace locations mentioned above. Consequently there is no reasonable development alternative that would avoid the unmitigated adverse construction noise impacts resulting from the Proposed Project.

Based on the above, to eliminate all unmitigated significant adverse impacts, the Proposed Project would have to be reduced in size or modified to a point where it would not realize the principal goals of the Proposed Project.

COGENERATION ENERGY SUPPLY ALTERNATIVE

This alternative considers how energy efficiency and reliability may be improved while reducing greenhouse gas emissions from the project site. Consistent with the greenhouse gas (GHG) reduction goals of PlaNYC, a detailed study was performed for the Proposed Project which examined the technical and economic feasibility of providing combined heat and power, or cogeneration, for all or part of energy needs for the Proposed Project. The study concluded that large-scale cogeneration options including cogeneration facilities to serve individual project buildings, a combined system to serve the entire Proposed Project, or a combined system to serve the entire Proposed Project and the nearby Durst development, would not be economically feasible. A supplemental study was conducted to examine the technical and economic feasibility of implementing cogeneration under circumstances where most of the project is served by Con Edison steam, which focused on on-site small-scale cogeneration options to provide domestic hot water and a portion of the electrical needs of the individual buildings. Two cogeneration options were considered in the supplemental study. The first option considered the use of steam microturbines (turbines powered by the Con Edison steam that the buildings would use for heat and domestic hot water) to generate a portion of the building's electricity load through steam pressure reduction. The second option considered the use of gas-fired microturbines to generate electricity while utilizing the waste heat to heat domestic hot water for an individual building. The feasibility study concluded that using gas-fired microturbines would be a technically feasible option, while the use of steam microturbines would only be technically feasible during the winter months for Buildings 1, 2, 3, and 4. Neither option was found to be economically feasible.

B. NO ACTION ALTERNATIVE

DESCRIPTION

Consideration of the No Action Alternative is mandated by both SEQRA and CEQR and is intended to provide the lead and involved agencies with an assessment of the expected environmental impacts of no action on their part. The technical chapters of this FSEIS have described the No Action Alternative (referred to in preceding chapters as "the Future Without the Proposed Project," and specifically as "No Build Scenario 2") and have used it as the basis to assess the potential impacts and associated mitigation for the Proposed Project.

DEVELOPMENT PROGRAM

The No Action Alternative assumes that the Proposed Project would not be implemented (i.e., none of the discretionary approvals proposed as part of the Proposed Project would be adopted). The project site (Parcels L, M, and N), however, was approved for development as part of the 1992 Riverside South project. Parcels L and M were planned for primarily residential development with approximately 301,980 gsf on Parcel L and approximately 316,680 gsf on Parcel M. Parcel L also was to include a public parking garage of 149 spaces, and Parcel M was to include a public parking garage of 152 spaces. Parcel N was to include approximately 1.96 million gsf of entertainment studio production uses, 412,065 gsf of retail and office space, as well as a 1,800-seat, 37,000-gsf cinema and a 442-space public parking garage below grade. An FEIS was prepared for the Riverside South project, which was accepted by the City Planning Commission (CPC), and State Environmental Quality Review Act (SEQRA) findings were issued on October 11, 1992.

Subsequent to the completion of the 1992 FEIS, the City Council modified the project approvals to provide that future development on Parcel N would require the submission of revised plans and supplemental environmental analysis, and that such a revision would be deemed a major modification requiring new review under the city's Uniform Land Use Review Procedure (ULURP). Therefore, the No Action Alternative assumes that the original 1992 FEIS approved program for Parcels L and M would be completed, but Parcel N would remain in its current parking use. The Amtrak rail line would also continue its operations.

Table 23-1 summarizes the development program for the No Action Alternative and the Proposed Project.

Table 23-1
Summary of No Action Alternative and Proposed Program*

	No Action Alternative	Proposed Project
Retail (gsf)	0	140,168
Office (gsf)	20,370	104,432
Residential (gsf)	598,290	2,471,590
Units	*577*	*2,500*
Public School (gsf)	0	151,598
Hotel (gsf)	0	249,240
Automotive Showroom/Service (gsf)	0	181,677
Parking (spaces)	301	1,800
Total gsf	**618,660**	**3,298,705**
Note: * All gross square feet (gsf) estimates are approximate.		

SITE PLANNING, BULK, AND MASSING

Development under the No Action Alternative would be governed by the project site's existing GLSD Special Permit approvals, which regulate building footprints, bulk, streetwalls, tower shape, height, setbacks, and allowable uses. Two residential buildings with towers up to 18 and 23 stories in height would be constructed along the western portion of the project site at grade with the surrounding neighborhood, extending the existing urban streetscape onto this portion of the site. The buildings in the No Action Alternative would be fewer and shorter than those envisioned in the Proposed Project, and would have rectilinear, rather than faceted massings. The No Action Alternative's buildings also would be built to the property line along Riverside Boulevard, West 59th Street and West 61st Street on Parcels L and M. Since Parcel N would remain in its current parking use, no new streetwalls would be formed on this portion of the site. The existing superblock would remain, and the street grid would not be reestablished.

CIRCULATION AND PARKING

As described above, the No Action Alternative would maintain the project site's existing superblock form. Therefore, it would not include the same proposed layout for roadways on the project site as compared with the Proposed Project, which would provide an extension of West 60th Street through the eastern portion of the project site, and would extend Freedom Place South through the project site to 59th Street.

The No Action Alternative would include 301 public parking spaces located below-grade, 1,499 fewer parking spaces than the Proposed Project. The No Action Alternative would retain the

1,850-space outdoor lot located on Parcel N. This differs from the Proposed Project, which would displace all existing parking on the project site; the Proposed Project's parking would be below-grade, with separate garage entrance for each project building (depending on the location of the building, these entrances would be accessed from either Freedom Place South or West 59th Street).

NO ACTION ALTERNATIVE COMPARED WITH THE PROPOSED PROJECT

The effects of the No Action Alternative in comparison to those of the Proposed Project are summarized below.

LAND USE, ZONING, AND PUBLIC POLICY

The No Action Alternative would result in changes to the land use on Parcels L and M on the project site. The original 1992 FEIS program would be completed for Parcels L and M, but Parcel N would remain in its current parking use. As described above, the 1992 FEIS program envisions Parcels L and M developed with primarily residential buildings with some office space and accessory parking garages. This alternative would result in the construction of 577 market-rate residential units, 20,370 square feet devoted to office uses, and 301 parking spaces. The existing parking uses on Parcel N, as well as the Amtrak passenger rail line that passes beneath the site, would continue operations. Unlike the Proposed Project, the No Action Alternative would not include a public school, retail and hotel uses, automotive showroom and service uses, or publicly accessible open space.

Like the Proposed Project, the No Action Alternative would not result in any significant adverse impacts to land use, zoning, or public policy. Development on Parcels L and M would be consistent with the existing and anticipated land use patterns in the surrounding study area, including the residential development on the other Riverside South parcels and throughout the Lincoln Square area, and the commercial and mixed-use Clinton neighborhood south of the project site. However, this alternative would not meet the Proposed Project's goal of integrating commercial and retail development to serve project residents and the general population in the nearby neighborhoods. In addition, as mentioned above, under the No Action Alternative the approximately 2.75 acres of publicly accessible open space would not be developed on the site, which under the Proposed Project, would function as an integral part of the project site and would provide a varied environment that would compliment and serve the surrounding neighborhoods.

The No Action Alternative would include fewer market rate housing units (577 compared with the approximately 2,500 residential units of the Proposed Project). Therefore, the No Action Alternative would be less effective in meeting the Proposed Project's housing goal, and in contributing to the achievement of the city's overall housing goals, including contributing to the supply of affordable housing. The No Action Alternative would not include any affordable housing units. With the Proposed Project approximately 12 percent of the total residential units would be set aside for affordable housing. With the proposed program for the Proposed Project, which assumes approximately 2,500 units, 300 affordable units could be developed on the project site (under Reasonable Worst-Case Development Scenario [RWCDS] 1, which maximizes residential units on the project site, approximately 360 affordable units could be developed). The No Action Alternative would not provide these tangible benefits for low-, moderate-, and middle-income residents.

SOCIOECONOMIC CONDITIONS

Like the Proposed Project, the No Action Alternative would not result in significant adverse impacts to socioeconomic conditions. The following compares the effects of the No Action Alternative to those of the Proposed Project with respect to the five CEQR socioeconomic issues of concern.

Direct Residential Displacement

None of the project sites contain a residential population; therefore, neither the No Action Alternative nor the Proposed Project would directly displace any residents.

Indirect Residential Displacement

Neither the No Action alternative nor the Proposed Project would result in significant adverse impacts due to indirect residential displacement. The No Action Alternative would introduce 577 market-rate residential units to the project site, which is up to 2,423 fewer units than the maximum number of units that would be introduced by the Proposed Project. While the residential population introduced by the No Action Alternative would be substantially less than the Proposed Project, neither the No Action Alternative nor the Proposed Project would introduce a population with different socioeconomic characteristics compared with the existing population. The study areas already contain a high-income population, and the number of unprotected units and the size of the at-risk population are small, based on the fact that several unprotected buildings have undergone substantial renovation or are renting for rates that indicate the presence of a high-income population. In total, there are no more than an estimated 40 to 50 unprotected units within the study areas, some of which may be owner-occupied and thus not subject to rent increases.

The No Action Alternative would not introduce any affordable housing units to the project site. With the Proposed Project, approximately 12 percent of the residential units would be affordable to low- and moderate-income households. So while neither the No Action Alternative nor the Proposed Project would result in significant adverse indirect displacement impacts, the No Action Alternative would be less effective in meeting the Proposed Project's housing goal, and in contributing to the achievement of the city's overall housing goals, including contributing to the supply of affordable housing.

Direct Business and Institutional Displacement

Neither the No Action Alternative nor the Proposed Project would result in significant adverse impacts due to direct business and institutional displacement. The No Action Alternative would directly displace the MTP Parking garage and a portion of the Central Parking facility located on the project site (i.e., the portion of the parking lot located on Parcels L and M); if needed, the loss of capacity at the Central Parking facility could be accommodated through the use of stackers. This would differ from the Proposed Project, which would displace existing parking uses from the entire project site. However, neither the No Action Alternative nor the Proposed Project's displacement of parking uses would result in significant adverse socioeconomic impacts because the uses are not of substantial economic value to the city or region; they are not the subject of regulations or publicly adopted plans to preserve, enhance, or otherwise protect them; and they do not substantially contribute to a defining element of the neighborhood character.

Indirect Business and Institutional Displacement

Neither this alternative nor the Proposed Project would result in significant adverse impacts due to indirect business and institutional displacement. The No Action Alternative would introduce to the project site 577 market-rate residential units, 20,370 square feet devoted to office uses,

and 301 parking spaces. As compared with the Proposed Project, the No Action Alternative would introduce less residential and commercial office uses, and the No Action Alternative would not introduce the public school, retail and hotel uses, automotive showroom and service uses, or publicly accessible open space envisioned by the Proposed Project. By introducing less and fewer types of uses to the project site, the No Action Alternative would have less influence on market conditions (which in turn can result in the indirect displacement of businesses and institutions through increased rent). However, the uses introduced by both the No Action Alternative and the Proposed Project would not be new types of economic activities in the study area, nor would they be expected to alter or accelerate an ongoing trend to alter existing economic patterns. Although not to the extent of the Proposed Project, the No Action Alternative would bring a substantial number of residents and daytime workers and visitors, thereby providing significant numbers of new customers for the existing and proposed business uses.

Adverse Effects on Specific Industries

Like the Proposed Project, the No Action Alternative would not result in significant adverse impacts on any industry or any category of business within or outside the study areas. Neither this alternative nor the Proposed Project would introduce any regulations or policies that would restrict any business or process from continuing to function within or outside the project sites' study areas. Similarly, neither this alternative nor the Proposed Project would directly or indirectly displace a substantial amount of employment or impair the economic viability in any one industry sector or category of business.

COMMUNITY FACILITIES AND SERVICES

With regard to public schools, the No Action Alternative and the Proposed Project would introduce students to an area that would be experiencing a shortfall of elementary and intermediate school seats. The No Action Alternative would result in a project-generated demand for elementary, intermediate, and high school seats of 69, 23, and 35, respectively, compared with the project-generated demand of 360, 120, and 180 seats, respectively, for the Proposed Project. Unlike the Proposed Project, the No Action Alternative would not provide a public school to meet its demand, and therefore would exacerbate the overcrowded conditions in the area's public elementary and intermediate schools.

With regard to publicly funded child care facilities, the No Action Alternative would develop only market rate units, which do not affect child care utilization rates based on *CEQR Technical Manual* methodology. This differs from the Proposed Project, whose users would generate 41 children under the age of 6 who would be eligible for publicly funded child care programs. Within 1½ miles of the project site, such programs may be operating above capacity by 2018, and the demand generated by the Proposed Project could result in significant adverse impacts on child care facilities in the area. Therefore, unlike the Proposed Project, the No Action Alternative would not result in any significant adverse impacts with regard to publicly funded child care facilities.

As with the Proposed Project, the No Action Alternative would not result in any significant adverse impacts with regard to library services, police services, fire protection, and emergency medical services.

OPEN SPACE

The No Action Alternative would not create any new publicly accessible open space, while the Proposed Project would create approximately 2.75 acres of new privately owned, publicly accessible open space.

In terms of open space ratios, as shown in **Table 23-2**, the open space ratios for the commercial (1/4-mile) study area for the No Action Alternative—similar to the Proposed Project—would exceed the recommended DCP open space guideline values. With regard to the open space ratios for the residential (1/2-mile) study area, the No Action Alternative would have slightly higher ratios with respect to overall open space as well as active open space, although both the No Action Alternative and Proposed Project's ratios would be below DCP open space guidelines. The passive open space ratios for both the No Action Alternative and the Proposed Project would be above or close to DCP open space guidelines.

Table 23-2
Comparison of 2018 No Action Alternative and Proposed Project Open Space Ratios

Ratio	DCP Open Space Guideline	Open Space Ratios		Percent Change
		No Action Alternative	Future With the Proposed Project	No Action Alternative to Future With the Proposed Project
Commercial (1/4-Mile) Study Area				
Passive/Workers	0.15	1.51	1.48	-1.7%
Passive/Total Population	Weighted 0.35 / 0.35* No Build/Build	0.63	0.62	-1.3%
Residential (1/2-Mile) Study Area				
Total/Residents	2.5	0.88	0.86	-1.8%
Passive/Residents	0.5	0.60	0.60	0.1%
Passive/Total Population	Weighted: 0.34 / 0.35* No Build/Build	0.33	0.34	2.5%
Active/Residents	2.0	0.27	0.26	-6.1%

Notes: Ratios in acres per 1,000 people.
* Weighted average combining 0.15 acres per 1,000 non-residents and 0.50 acres per 1,000 residents. Because this guideline depends on the proportion of non-residents and residents in the study area's population, it is different for No Build, and Build conditions. Each of these ratios is listed in this table.

These quantitative analyses do not consider the extensive open space resources beyond the study area boundaries, particularly the numerous active and passive recreational amenities in Riverside Park South and Central Park. Though these areas are not included in the quantified analysis, they would contribute to meeting the open space needs in the study area. The potential significant adverse impact identified for the Proposed Project would not occur under the No Action Alternative. Although the Proposed Project would add a greater demand for open space resources compared with the No Action Alternative, it would also identify potential measures to address project-generated open space demand. The No Action Alternative would not have to consider measures to address the deficiency of open space resources in the study area.

SHADOWS

The No Action Alternative, similar to the Proposed Project, would not result in significant adverse shadow impacts. The No Action Alternative would develop fewer buildings than the Proposed Project, and those buildings would be wider and shorter. The relatively wider buildings could result in more shadow being cast on some areas of Riverside Park South and the Hudson River, while their lower heights could reduce or eliminate project-generated shadows cast on the Parcel "O" open space at Riverside South and the Amsterdam Houses Playground as compared with the taller, more slender buildings of the Proposed Project.

HISTORIC RESOURCES

The No Action Alternative assumes development on Parcels L and M, and that no development would occur on Parcel N. In terms of archeological resources, no areas of potential precontact sensitivity were identified on Parcels L and M; however, Parcel N was identified as containing two areas of potential precontact sensitivity. Therefore, the No Action Alternative would have no potential for significant adverse impacts with regard to archeological resources. The Proposed Project would develop Parcel N, requiring Phase 1B archaeological testing in the archaeologically sensitive areas, and potentially mitigation in the form of data recovery if resources of potential significance were encountered.

With regard to architectural resources, the No Action Alternative, similar to the Proposed Project, would result in construction within 90 feet of the Con Edison Power House, which has been calendared for consideration of designation as a New York City Landmark (NYCL), and is eligible for listing on the State or National Register of Historic Places (S/NR). Both the No Action Alternative and the Proposed Project would comply with New York City Landmarks Preservation Commission (LPC) *Guidelines for Construction Adjacent to a Historic Landmarks* as well as the guidelines set forth in section 523 of the *CEQR Technical Manual* and the procedures set forth in New York City Department of Buildings (NYCDOB) *Technical Policy and Procedure Notice* (TPPN) #10/88. Consequently, the Con Edison Power House would not be expected to be adversely affected by the No Action Alternative or the Proposed Project's construction-related activities. In addition neither the No Action Alternative nor the Proposed Project would result in any significant contextual impacts to architectural resources.

URBAN DESIGN AND VISUAL RESOURCES

Like the Proposed Project, the No Action Alternative would not result in significant adverse impacts to the urban design and visual resources of the study areas.

Urban Design

Like the Proposed Project, the No Action Alternative would transform the project site from an underutilized site containing parking facilities to a higher density, mixed-use development. However, the No Action Alternative would have substantially less overall density than the Proposed Project—the density of development would be less than the Proposed Project by approximately 2,774,379 gsf. The buildings in the No Action Alternative would be fewer and shorter than those envisioned in the Proposed Project, and would have rectilinear, rather than faceted massings. The No Action Alternative's buildings would also be built to the property line along Riverside Boulevard, West 59th Street and West 61st Street on Parcels L and M. Parcel N would remain as a surface parking lot and would maintain the current superblock street form. This differs from the Proposed Project, which at several locations would be set back behind

landscaped areas and would create new block forms, splitting the project site into three smaller blocks. Like the Proposed Project, the No Action Alternative's building uses, bulk, and arrangements would not have a significant adverse impact on the project site's urban design, nor would it have significant adverse impacts on the urban design characteristics of the study areas. However, the No Action Alternative would not meet the design goals and objectives of the Proposed Project. Specifically, the No Action Alternative would not result in the architecturally distinctive master planning and building designs that are fundamental to the Proposed Project. Also, the No Action Alternative would not allow for continuation of the Manhattan street grid across the project site. The view corridors along West 60th Street and Freedom Place South would not be created under the No Action Alternative. Under the No Action Alternative the extension of Freedom Place South to West 59th Street would not occur, and therefore the project site would not be as accessible to the public as it would be with the Proposed Project. The No Action Alternative would not meet the Proposed Project's goal to provide an attractive connection to Riverside Park South and the Hudson River waterfront while creating an inviting and functional center for the surrounding residential neighborhood. The No Action Alternative would not result in any additional open space and would not provide an attractive streetscape between the surrounding neighborhood and the expansive open space west of the project site.

Wind

Without the incorporation of extensive landscaping features, the No Action Alternative also would result in an increase (as compared with the Proposed Project) in the number of locations and frequency of on- and off-site pedestrian wind conditions that exceed the safety criteria used for the Proposed Project. However, wind conditions on site in the No Action Alternative would be similar to existing wind conditions, and would be comparable to conditions in much of the city near the shoreline.

Visual Resources

Neither the No Action Alternative nor the Proposed Project would have significant adverse impacts on visual resources visible from the project site and study areas. Similar to the Proposed Project, the No Action Alternative's development of new structures on the project site would eliminate some existing views from the project site to the Hudson River and the New Jersey Palisades; however, these views would still be maintained from adjacent sidewalks. Without new development on Parcel N, the No Action Alternative would maintain existing views corridors south through the project site to the Consolidated Edison Power House. The Proposed Project also would maintain similar existing views of the Consolidated Edison Power House by extended Freedom Place South through the project site, although views from the north along West End Avenue and from Riverside Park South would be more limited with the Proposed Project. The No Action Alternative, like the Proposed Project, would maintain existing views along West 60th Street to the waterfront, and would contribute to the modern visual character of the view corridors along West End Avenue and Riverside Boulevard.

NEIGHBORHOOD CHARACTER

Like the Proposed Project, the No Action Alternative would not result in significant adverse impacts to the character of the neighborhoods in the study areas. The No Action Alternative would be part of the study area's shift toward a denser, more mixed-use area, but unlike the Proposed Project, the No Action Alternative would not create affordable housing units or enhance publicly accessible open space in order to meet the growing demands of the surrounding neighborhoods. In these respects the No Action Alternative would not meet the Proposed

Project's goals and objectives of creating an inviting and functional center for the surrounding residential neighborhood, including the integration of commercial and retail development throughout the project site for residents, neighbors, and visitors. With a lesser overall density than the Proposed Project, the No Action Alternative would have fewer significant adverse pedestrian and traffic impacts. However, the Proposed Project would fully mitigate those impacts with the exception of traffic impacts at Twelfth Avenue at West 52nd, West 54th and possibly West 56th Streets, for which no feasible mitigation measures have been identified.

NATURAL RESOURCES

The No Action Alternative, similar to the Proposed Project, would not result in significant adverse impacts on natural resources. The No Action Alternative, similar to the Proposed Project, would not involve construction activities in or immediately adjacent to the Hudson River, and would not result in any significant adverse impacts on terrestrial plant communities or wildlife, or on floodplains, wetlands, water quality or aquatic biota in the Hudson River. The design of the structures contemplated for both the No Action Alternative and the Proposed Project would minimize the potential for public and private losses due to flood damage under current and projected flood conditions. The excavation, grading, land clearing, and platform construction under both the No Action Alternative and the Proposed Project would adversely affect the limited plant and wildlife resources currently existing on the project site, but the loss of these plants and wildlife individuals would not result in a significant adverse impact on terrestrial resources of the New York City metropolitan region. The No Action Alternative would not provide the extensive landscaping contemplated by the Proposed Project; the Proposed Project's native and ornamental trees, shrubs, grasses, and herbaceous perennials would benefit wildlife resources by providing improved habitat for urban wildlife, including migratory songbirds, small mammals, and butterflies.

The No Action Alternative would generate less discharge of sanitary sewage than the Proposed Project, but neither this alternative nor the Proposed Project would cause the North River Water Pollution Control Plant (WPCP) to be above its permitted daily flow limit or adversely affect compliance of the North River WPCP effluent with the State Pollutant Discharge Elimination System (SPDES) permit limits. Like the Proposed Project, new sanitary sewers would be extended to the project site and there would be no significant adverse impacts on the sanitary sewer system. The discharge of stormwater from the project site would not result in significant adverse impacts on the aquatic resources of the Hudson River. Both with this alternative and with the Proposed Project, new storm sewers would be constructed to serve the development on the project site, and these storm sewers would connect to the separate stormwater system that is currently in place.

With fewer and shorter buildings, the No Action Alternative would have less potential for bird collisions. However, the buildings for both the No Action Alternative and the Proposed Project are comparable to buildings elsewhere in Manhattan, and would not be expected to result in significant adverse impacts on migratory bird populations due to nighttime bird strikes. In addition, the uses contemplated for the No Action Alternative would produce less sanitary sewage and less water demand than the Proposed Project. However, these differences would not be expected to significantly affect natural resources.

HAZARDOUS MATERIALS

Because the No Action Alternative would not redevelop Parcel N, the overall potential for disturbance of hazardous materials (i.e., contaminated soil, soil vapor, groundwater, or building materials) would be less than that under the Proposed Project. However, the Proposed Project is not anticipated to result in any significant adverse impacts with respect to hazardous materials because of the implementation of the measures described in Chapter 12, "Hazardous Materials."

WATERFRONT REVITALIZATION PROGRAM

Both the No Action Alternative and the Proposed Project would be consistent with the city's 10 Waterfront Revitalization Program policies. However, as compared to the Proposed Project, the No Action Alternative would be less consistent, particularly with those policies that aim to encourage public access to waterfront resources. Unlike the Proposed Project, the No Action Alternative would not provide approximately 2.75 acres of publicly accessible open space within the coastal zone with new views of the Hudson River waterfront and that promotes public access to the waterfront. In addition, the No Action Alternative would not include any retail uses and would include limited commercial office uses (approximately 20,370 gsf of commercial office space, as compared to 140,168 gsf of retail and 104,432 gsf of commercial office space with the Proposed Project). Consequently, the No Action Alternative would do less to advance the goal of encouraging commercial redevelopment in appropriate portions of the coastal zone where public facilities and infrastructure are adequate.

INFRASTRUCTURE

The No Action Alternative, like the Proposed Project, would not result in any significant adverse impacts related to infrastructure in terms of water supply, sanitary sewage, or stormwater runoff. Water demands of the No Action Alternative would be substantially less than the demand generated by the Proposed Project, but neither the No Action Alternative nor the Proposed Project would adversely affect the capacity of the city's water supply system to provide water to the project site, nor would they impact water pressure for local users. Similarly, the No Action Alternative would generate less sanitary sewage than the Proposed Project, but neither program would adversely affect the North River WPCP's ability to remain within its SPDES permit limit and meet the pollutant removal parameters of its SPDES permit.

Currently, runoff from the project site is discharged into the combined sewer. Similar to the Proposed Project, with the No Action Alternative all of the stormwater runoff would be discharged into a new separate stormwater system, which would discharge into the existing New York City Department of Environmental Protection (DEP) outfall at the street end of West 66th street. The No Action Alternative would have a smaller on-site population, and therefore the volume of sanitary sewage discharged into the combined sewer system from the project site would be less than the Proposed Project. However, neither the No Action Alternative nor the Proposed Project would result in significant adverse impacts to water quality in the Hudson River.

SOLID WASTE AND SANITATION SERVICES

Like the Proposed Project, the No Action Alternative would generate increased demands on New York City's solid waste services. Overall, the demand generated by the No Action Alternative would be approximately 90 percent less than with the Proposed Project: the quantity of solid waste would decrease from a maximum of 125.2 tons per week under the Proposed Project to

approximately 12.4 tons per week for the No Action Alternative. Like the Proposed Project, this alternative would not result in significant adverse impacts based on the generation of solid waste or the provision of sanitation services.

ENERGY

Like the Proposed Project, the No Action Alternative would generate increased demands on New York City's energy services. Overall, the demand generated by the No Action Alternative would be approximately 83 percent less than the Proposed Project. Neither this alternative nor the Proposed Project would result in significant adverse impacts related to energy demand.

TRAFFIC AND PARKING

Traffic

With smaller residential and worker populations, the No Action Alternative would generate correspondingly lower vehicular traffic than the Proposed Project throughout the weekday and during the Saturday midday peak hour. A comparison of the volume of vehicular traffic that would be generated under the Proposed Project and the No Action Alternative is presented in **Table 23-3**.

Table 23-3
Vehicle Trip Generation Comparison
No Action Alternative and the Proposed Project, 2018

Analysis Hour	Direction	No Action Alternative	Proposed Project
Weekday AM	In	26	367
	Out	42	358
	Total	68	725
Weekday Midday	In	18	387
	Out	19	377
	Total	37	764
Weekday PM	In	38	440
	Out	30	439
	Total	68	879
Saturday Midday	In	22	487
	Out	21	455
	Total	43	942

Note: For purposes of a conservative analysis, the Proposed Project assumes RWCDS 3d for the AM peak period, and RWCDS 3b for all other peak periods.

The No Action Alternative would not require traffic mitigation measures beyond those identified as part of the 1992 FEIS, nor would this alternative result in the unmitigated significant adverse traffic impacts that would be generated by the Proposed Project (specifically, Twelfth Avenue at West 52nd Street, Twelfth Avenue at West 54th Street, and possibly Twelfth Avenue at West 56th Street). However, the No Action Alternative would contribute to the congested traffic conditions that are projected at many locations by 2018 in the future without the Proposed Project. With the No Action Alternative in 2018, 27 of the 55 analysis intersections would be expected to experience congestion (level of service [LOS] E or F, or V/C ratio greater than or equal to 0.90) in one or more of the peak hours, as compared to 28 analysis intersections with the Proposed Project. With the No Action Alternative, there would be 23, 17, 21, and 16 intersections experiencing congestion on one or more approaches in the weekday AM, midday, PM, and Saturday midday peak hours, respectively. The affected intersections would be more congested with the Proposed Project;

however, with the exception of the unmitigated impacts along Twelfth Avenue identified above, all significant impacts would be mitigated with the Proposed Project.

Parking

With the No Action Alternative the existing 1,850-space outdoor lot located on Parcel N would remain on-site. The two on-site parking facilities (i.e., the 1,850-space outdoor lot and the 301-space below-grade garage on Parcels L and M) would be able to accommodate all of the demand from the two parking facilities that currently operate on-site, as well as the new parking demand from the residential buildings that would be located on Parcels L and M. Similar to the Proposed Project, with the No Action Alternative there would be sufficient capacity available at public parking facilities within ¼-mile of the project site to accommodate all project-generated parking demand, and no significant adverse parking impacts would occur. To meet project-generated parking demand, the No Action Alternative would require—and would provide—less off-street parking than the Proposed Project.

TRANSIT AND PEDESTRIANS

Subway Stations and Line Haul

The No Action Alternative, like the Proposed Project, would contribute to a projected increase in subway passenger volumes, but with planned station improvements all analyzed subway stairways and fare arrays would continue to operate with available capacity, and no significant impacts would result. In terms of subway line haul, similar to the Proposed Project, with the No Action Alternative all routes would continue to operate with available peak direction capacity at their maximum load points, and no significant adverse impacts would result.

Buses

The No Action Alternative would contribute to the projected growth in local bus demand by 2018, but unlike the Proposed Project, there would be no identified significant adverse impacts that require mitigation. With the No Action Alternative the M11 bus route would continue to operate with available capacity in the peak direction during the weekday AM peak hour. However, the M11 bus route would operate over capacity during the PM peak hour and both the M31 and M57 bus routes would operate over capacity in the peak direction during both peak periods. The M11 would be over capacity by 47 passengers in the peak northbound direction during the weekday PM peak hour. The M31 would be over capacity by 119 passengers in the peak eastbound direction during the weekday AM peak hour and 261 passengers in the peak westbound direction during the weekday PM peak hour. The M57 would be over capacity by 155 passengers in the peak eastbound direction during the weekday AM peak hour and 236 passengers in the peak westbound direction during the weekday PM peak hour.

With the Proposed Project, during the weekday AM peak hour, eastbound M31 and M57 buses would experience capacity shortfalls equivalent to 11 passengers and 143 passengers, respectively. During the weekday PM peak hour, northbound M11 and westbound M31 and M57 buses would experience capacity shortfalls equivalent to 36, 95, and 207 passengers, respectively.

As discussed in Chapter 22, "Mitigation," as standard practice, New York City Transit (NYCT) routinely conducts ridership counts and adjusts bus service frequency to meet its service criteria, within fiscal and operational constraints. Therefore, no project-initiated mitigation would be

required for the shortfalls identified in under both the No Action Alternative and the Proposed Project.

Pedestrians

Neither the No Action Alternative nor the Proposed Project would result in significant adverse impacts at any analyzed sidewalks or corner areas. The No Action Alternative, unlike the Proposed Project, would not result in significant adverse impacts at five crosswalks. The crosswalk impacts of the Proposed Project, however, would be mitigated. The No Action Alternative would contribute to deteriorating crosswalk conditions projected by 2018. With the No Action Alternative, by 2018 the north and south crosswalks on Amsterdam Avenue at West 60th Street would deteriorate from LOS A to LOS C during the weekday AM and PM peak hours. Conditions on the north crosswalk on Columbus Avenue at West 60th Street would deteriorate from LOS A to LOS D during the weekday AM peak hour and from LOS B to LOS E during the weekday PM peak hour, conditions on the west crosswalk would deteriorate from LOS C to LOS D during the weekday PM peak hour and conditions on the south crosswalk would deteriorate from LOS D to LOS E during the AM peak hour and would deteriorate from LOS C to LOS E during the weekday PM peak hour. (This will be due, in part, to demand from the development of new residential and academic space as part of the nearby Fordham Center project by 2018.) At Broadway and West 60th Street, the west crosswalk would continue to operate at LOS D during the weekday midday and Saturday midday peak hours and at LOS E during the weekday PM peak hour. By contrast, conditions on the south crosswalk on Broadway would improve from LOS D to LOS C during the weekday AM and PM peak hours due to the diversion of subway trips from the 59th Street-Columbus Circle subway station entrance on the Broadway median to the new entrance stairs at the northwest corner of Broadway and West 60th Street. All other analyzed crosswalks would continue to operate at an acceptable LOS C or better during all peak hours for 2018 future without the Proposed Project conditions.

AIR QUALITY AND GREENHOUSE GAS EMISSIONS

The No Action Alternative, like the Proposed Project, would not result in significant adverse mobile source air quality impacts on sensitive uses in the surrounding community, and would not result in new sources of air emissions in the project area that would cause significant adverse impacts on the project site's new uses.

Mobile Sources

The No Action Alternative would generate less vehicle trips than the Proposed Project. Consequently, the No Action Alternative would have less vehicular emissions and would produce lower concentrations of vehicular pollutants than the Proposed Project. Specifically, the No Action Alternative would result in lower carbon monoxide (CO), and particulate matter (PM) emissions and concentrations than the Proposed Project. For both the No Action Alternative and the Proposed Project, maximum predicted eight-hour CO and annual PM_{10} concentrations would be well below the applicable National Ambient Air Quality Standards (NAAQSs), and maximum predicted 24-hour and annual average $PM_{2.5}$ incremental values would be well below the CEQR interim $PM_{2.5}$ guideline values. Both for the No Action Alternative and the Proposed Project the maximum predicted 8-hour average CO concentrations from the proposed parking facilities would be below the NAAQS. Consequently, the No Action Alternative, similar to the Proposed Project, would not result in any significant adverse mobile source air quality impacts.

Stationary Sources

Neither the No Action Alternative nor the Proposed Project would result in significant adverse air quality impacts from stationary sources.

HVAC Sources

The No Action Alternative would result in higher heating, ventilation, and air condition (HVAC) emissions as compared to the Proposed Project, since the 1992 FEIS assumed that building systems on Parcels L and M would be served by fossil fuel fired boilers, compared to the Proposed Project's use of Con Edison steam.

Industrial Sources

With regard to manufacturing and industrial uses within the 400-foot study area, pollutant concentrations with the No Action Alternative, similar to the Proposed Project, would be expected to be below applicable Short-Term Guideline Concentrations (SGC) and Annual Guideline Concentrations (AGC) levels for each toxic air pollutant. Consequently in terms of nearby industrial sources both the No Action Alternative and the Proposed Project would not result in any significant adverse air quality impacts.

Con Edison West 59th Street Station

With regard to emissions from the Con Edison West 59th Street Station, the No Action Alternative would result in buildings that are shorter in height than the buildings with the Proposed Project. For the No Action Alternative, similar to the Proposed Project, emissions from the Con Edison West 59th Street Station boilers would not result in any exceedances of applicable NAAQS, or an incremental PM2.5 concentrations which would exceed the CEQR PM2.5 interim guidance values. However, unlike the Proposed Project, with the No Action Alternative, the implementation of the proposals under consideration to re-duct or reduce emissions from the combustion turbine would not occur.

Greenhouse Gases

The No Action Alternative would result in fewer vehicle trips, less energy use for HVAC and electricity, and less project-generated waste from the project site. The amount of concrete and other materials required to construct the No Action Alternative would be less than the Proposed Project. As the No Action Alternative would serve fewer people, the per capita GHG emissions associated with this alternative would be comparable, if not higher than the per capita GHG emissions associated with the Proposed Project. Furthermore, since the No Action Alternative would serve fewer residents and other uses, the GHG emissions associated with additional uses which could be served by the Proposed Project would occur elsewhere, potentially without the benefit of transit oriented development in a mixed-use setting, resulting in higher per-capita GHG emissions.

NOISE

Similar to the Proposed Project, the traffic generated by the No Action Alternative would not result in significant increases in noise levels. The building attenuation requirements for the No Action Alternative would be the same as those of the Proposed Project, i.e., between 15 and 30 dBA of building attenuation for project buildings. Unlike the Proposed Project, the No Action Alternative would not introduce any new open spaces that would experience noise levels greater than the 55 dBA $L_{10(1)}$ prescribed by CEQR criteria (such noise levels are comparable to other parks around New York City).

CONSTRUCTION

The No Action Alternative would result in new residential and commercial development on the project site. Because the total amount of development with the No Action Alternative would be less than with the Proposed Project, construction activities associated with this alternative would be substantially smaller in scale and shorter in duration. Unlike the construction period for the Proposed Project, which is expected to take approximately eight years, the construction period for the No Action Alternative is expected to take approximately three to four years. Construction of this alternative could result in impacts, such as increased traffic, noise and dust that are typical of construction projects throughout the city. Construction of this alternative would not include the use of equipment with the extensive emission controls, noise abatement measures, and traffic mitigation measures that would be provided with the Proposed Project. Because of the more limited construction program for the No Action Alternative, impacts due to this alternative would be expected to be of shorter duration than those predicted to occur with the Proposed Project. However, the potential unmitigated impacts identified with the Proposed Project with respect to construction noise at some or all of the off-site terrace locations[1] are likely to occur with the No Action Alternative. Like the Proposed Project, this alternative would result in construction activities that would occur for over a two-year period and construction noise would affect the same terrace locations. Without construction activities, noise levels at these terraces would exceed the CEQR acceptable range (55 dBA $L_{10(1)}$) for an outdoor area requiring serenity and quiet. During the weekday daytime time periods when construction activities are predicted to significantly increase noise levels, construction activities under both the No Action Alternative and the Proposed Project would exacerbate these exceedances and result in significant adverse noise impacts. There are no feasible mitigation measures that could be implemented to eliminate the significant noise impacts at these outdoor locations.

PUBLIC HEALTH

The No Action Alternative, like the Proposed Project, would not result in any significant adverse public health impacts associated with construction or operation of the new development on the project site.

C. LESSER DENSITY ALTERNATIVE

DESCRIPTION

DEVELOPMENT PROGRAM

The Lesser Density Alternative assumes redevelopment of the project site with a total of approximately 2.4 million zsf of residential, commercial, and retail uses, while excluding the studio use approved as part of the 1992 FEIS, plus approximately 132,000 zsf of public school uses. This alternative reflects the level of development approved in the 1992 Restrictive Declaration limits, and adds a public school which was not part of the 1992 Proposed Development, but has been included as part of the Proposed Project.

[1] Potentially impacted terrace locations include receptors A1, A2, D, F, H1, N1, and N2 as described in Chapter 20, "Construction."

The Lesser Density Alternative would be expected to allow all of the same uses on the project site as the Proposed Project (i.e., residential, hotel, retail, office, school, parking, and auto service uses); however, while the below grade uses (including parking and the auto service uses) and the school would be the same size as the Proposed Project, the above-grade uses would be reduced in size. In terms of total above-grade space, the Lesser Density Alternative would be approximately 2,719,600 gsf, as compared to approximately 3,240,500 gsf for the Proposed Project (see Table 1-2).

Similar to the Proposed Project, a variety of potential development scenarios could be achieved with the Lesser Density Alternative. **Table 23-4** shows three RWCDS that could result with the Lesser Density Alternative. Each of these RWCDS has been formulated to represent a scenario that could result in the maximum potential impacts from the Lesser Density Alternative in a particular technical area. The total development for each RWCDS would be limited to the total permitted by the proposed zoning approvals. The total above-grade development for the various RWCDSs for the Lesser Density Alternative would result in a total of approximately 2,719,600 gsf of above grade space (compared with approximately 3,240,500 gsf with the Proposed Project) and approximately 276,000 gsf of below grade space (which is the same number for the below grade space with the RWCDS of the Proposed Project). The RWCDSs for the Proposed Project are presented in Table 1-5.

Table 23-4
Lesser Density Alternative Reasonable Worst Case Development Scenarios

Use	LDA 1 Maximize Residential (gsf)	LDA 2a Maximize Retail/Office (gsf)	LDA 2b Maximize Retail/Office (gsf)
Residential	2,436,378 (2,500 units)	1,793,579 (1,800 units)	1,793,579 (1,800 units)
Hotel	0	397,190 (500 rooms)	397,190 (500 rooms)
Community Facility	151,598	151,598	151,598
Retail	131,622	325,022	165,938
Office	0	52,209	211,293
Auto Service	276,011	276,011	276,011
Total Above Grade	2,719,598	2,719,598	2,719,598
Total Below Grade	276,011	276,011	276,011

Notes: The Lesser Density Alternative includes approximately 1,800 below grade parking spaces and at least 2.75 acres of publicly accessible open space.

The Lesser Density Alternative, similar to the Proposed Project, would encourage a mix of housing types on the project site, including market-rate and affordable housing. Like the Proposed Project, the Lesser Density Alternative assumes that approximately 12 percent of all units on the project site would be affordable housing units.

SITE PLANNING, BULK, AND MASSING

Like the Proposed Project, under the Lesser Density Alternative there would be five buildings organized around and within the approximately 2.75 acres of publicly accessible open space on the project site. It is assumed that the Lesser Density Alternative would include the same overall site plan layout for the project site, including location of buildings, open space, and internal roadways as those currently contemplated for the Proposed Project. The reduction in density is achieved by a combination of reduction in the number of floors in buildings, and a reduction in the size of some building elements. Floor-to-ceiling heights in the Lesser Density Alternative

would be greater (compared to the Proposed Project) in certain sections of the buildings, which would be comparable to other similar high-end developments in the project area For example, a portion of Building 1 (i.e., 23 of the residential floors) which had floor-to-ceiling heights of 9 feet, 8 inches for the Proposed Project, would be designed with floor-to-ceiling heights of 10 feet, 8 inches for the Lesser Density Alternative. The upper-most section of seven residential floors in Building 1 for the Lesser Density Alternative would be designed with floor-to-ceiling heights of 11 feet, 8 inches, as compared to 10 feet with the Proposed Project. Similar adjustments to floor-to-ceiling heights would be made within all of the Lesser Density Alternative buildings. As a result, the percentage reduction in density of any given building (as compared to the Proposed Project) does not have an equivalent reduction in building height. The floor-to-ceiling heights with the Lesser Density Alternative are similar to other high-end developments in the city. For example, the Trump International Tower Condominiums at 1 Central Park West have floor-to-ceiling heights to 10 to 17 feet, 15 Central Park West has floor-to-ceiling heights of 10 to 14 feet, the Centurion at 33 West 56th Street has floor-to-ceiling heights of 10 to 18 feet, the Adagio at 243 West 60th Street has ceiling heights of 11 feet 4 inches, 10 West End Avenue has ceiling heights to 10 to 11 feet, and the Condominiums at Time Warner Center have ceiling heights of 10 to 14 feet.

Table 23-5 shows the differences in the numbers of stories and height of the Lesser Density Alternative's buildings as compared to those of the Proposed Project.[1] **Figures 23-1 and 23-2** illustrate a possible massing for the Lesser Density Alternative.

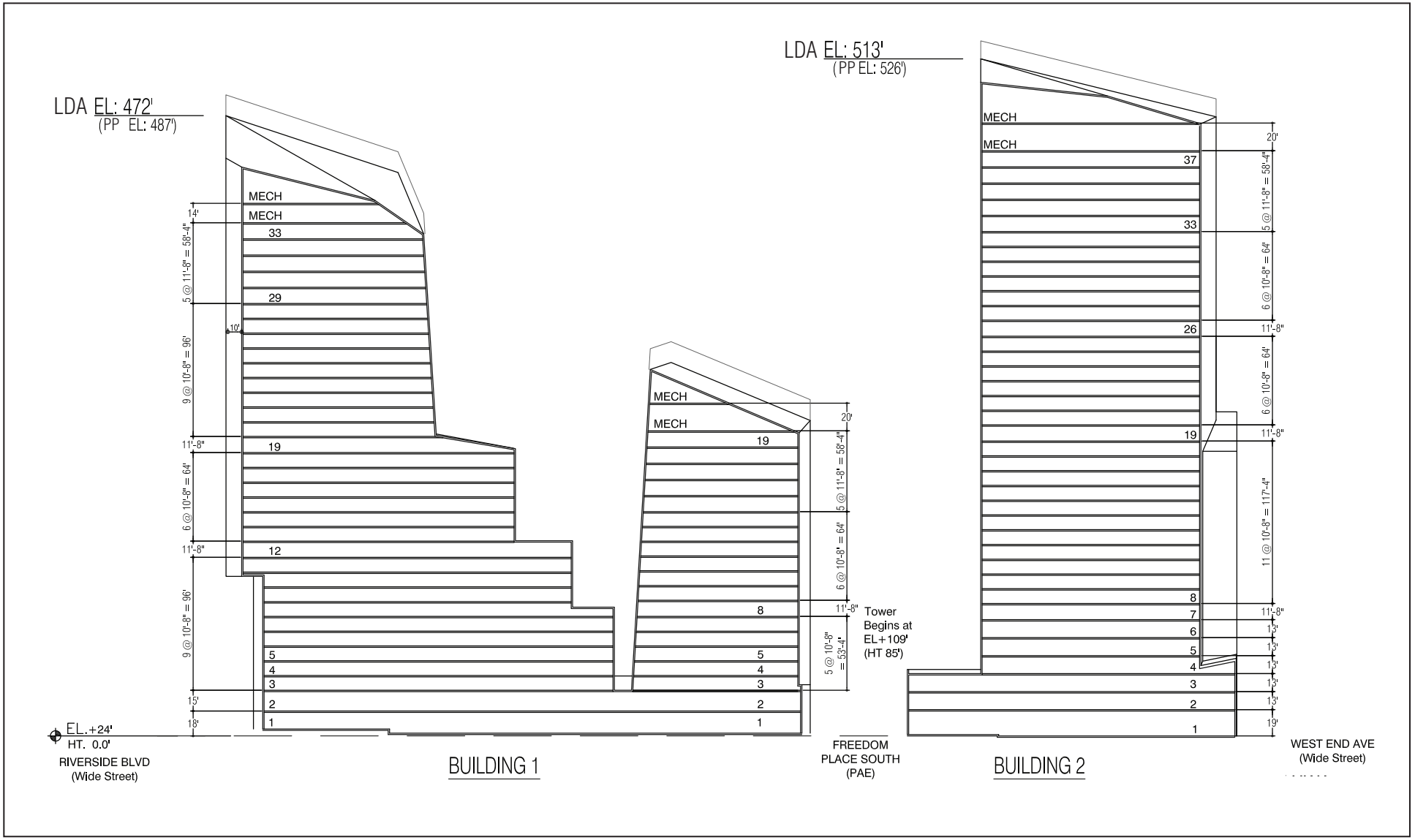
Table 23-5
Project Site Approximate Building Floors and Heights: Comparison of the Lesser Density Alternative and the Proposed Project

Building	Floors/Height with Lesser Density Alternative	Floors/Height With Proposed Project
1	33/472'	38/487'
2	37/513'	43/526'
3	30/446'-10"	34/456'-6"
4	27/378'-8"	31/392'-8"
5	39/522'-6"	44/535'

CIRCULATION AND PARKING

The Lesser Density Alternative would have the same proposed layout for the roadways on the project site as the Proposed Project. Both this alternative and the Proposed Project would provide 1,800 public parking spaces below-grade, with separate garage entrance for each project building (depending on the location of the building, these entrances would be accessed from either Freedom Place South or West 59th Street).

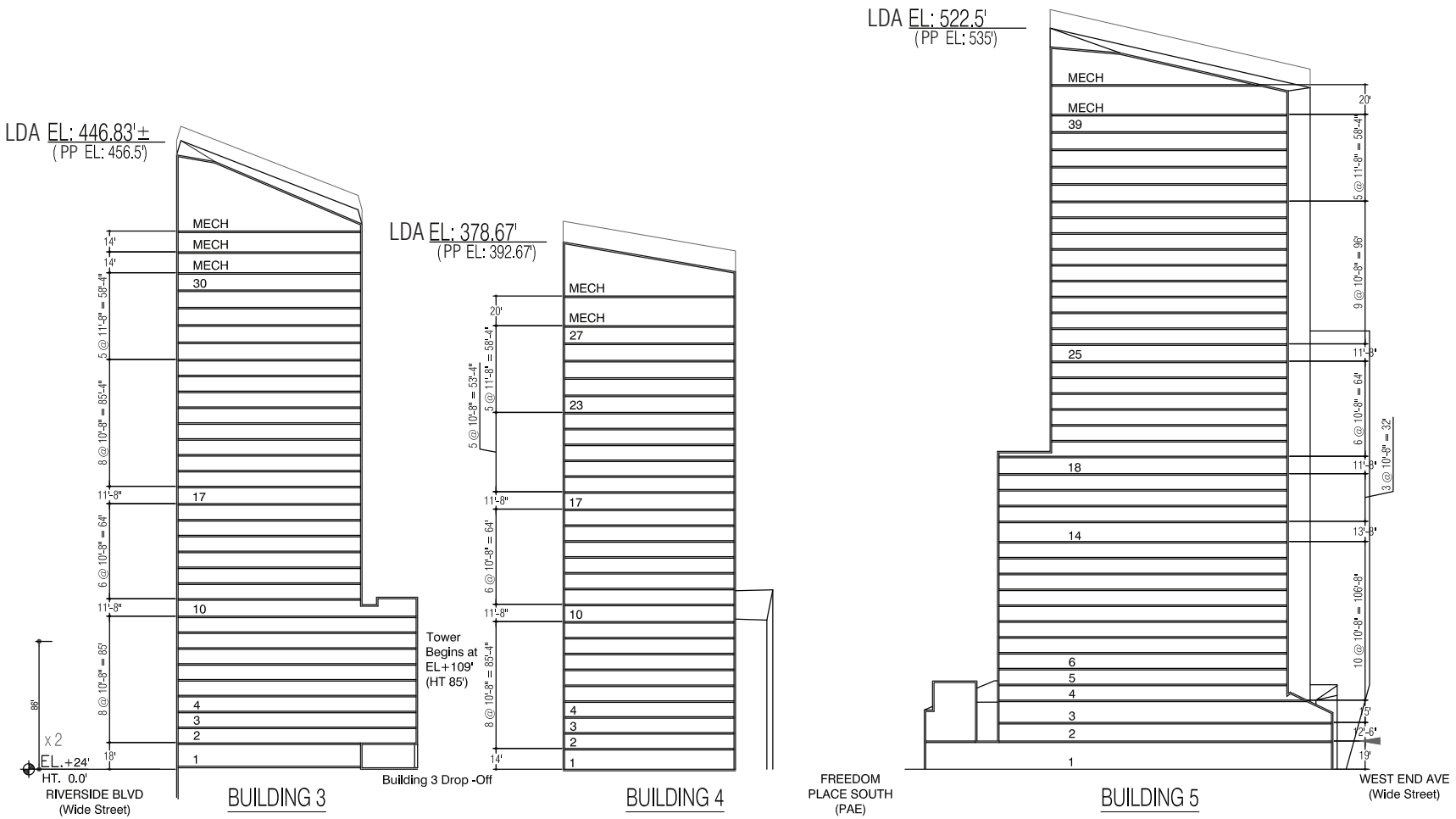
[1] If the floor-to-ceiling heights for the Lesser Density Alternative were kept similar to those of the Proposed Project, then the heights of the buildings shown in Table 23-5 for the Lesser Density Alternative would be reduced by approximately 28 to 36 feet.



PP = *Proposed Project*
LDA = *Lesser Density Alternative*

Illustrative Lesser Density Alternative Buildings 1 and 2

Figure 23-1



PP = *Proposed Project*
LDA = *Lesser Density Alternative*

Illustrative Lesser Density Alternative Buildings 3, 4, and 5

Figure 23-2

LESSER DENSITY ALTERNATIVE COMPARED WITH THE PROPOSED PROJECT

As detailed below, the Lesser Density Alternative would result in most of the significant adverse environmental impacts of the Proposed Project.

LAND USE, ZONING, AND PUBLIC POLICY

Neither the Lesser Density Alternative nor the Proposed Project would result in any significant adverse impacts to land use, zoning, or public policy. Like the Proposed Project, the Lesser Density Alternative would transform an underutilized area containing mainly parking uses to a higher-density mixed use development that would be consistent with the existing and anticipated land use patterns in the surrounding area. Similar to the Proposed Project, the Lesser Density Alternative would not change the zoning on the project site. Both the Proposed Project and the Lesser Density Alternative would require a zoning text amendment modification of the General Large Scale Development Special Permit, and the granting of several new special permits. These discretionary actions would affect the site design, bulk, and allowable uses, but would not be incompatible with surrounding zoning. Similar to the Proposed Project, this alternative would be consistent with the affordable housing, waterfront revitalization, and open space goals of other public policy initiatives governing land use in the study area.

However, certain benefits of the Proposed Project would not be fully realized from this alternative. The Lesser Density Alternative would provide between 300 and 500 fewer housing units than the Proposed Project and would therefore be less effective in meeting the Proposed Project's housing goals and in contributing to the achievement of the city's overall housing goals. Scenario LDA 1, which maximizes residential use, would provide 60 fewer affordable units than the Proposed Project's RWCDS 1. Scenarios LDA 2a and 2b, which maximize retail and office uses, would provide 36 fewer units compared to the Proposed Project's RWCDS 3b or 3d, or 108 fewer units than RWCDS 3a or 3c. Although this alternative would increase the supply of affordable housing available in New York City, the number of dwelling units would be less than under the Proposed Project.

SOCIOECONOMIC CONDITIONS

Like the Proposed Project, the Lesser Density Alternative would not result in significant adverse impacts related to socioeconomic conditions. Neither this alternative nor the Proposed Project would, either directly or indirectly, result in significant adverse impacts due to residential or business displacement, and neither would adversely affect a specific industry. However, the Lesser Density Alternative would not provide the same level of economic benefit to the city in terms of the numbers of jobs generated by commercial uses, or in tax revenues from commercial and residential uses.

The following compares the effects of the Lesser Density Alternative to those of the Proposed Project with respect to the five CEQR socioeconomic issues of concern.

Direct Residential Displacement

The project site does not currently contain any residential uses; therefore, neither the Lesser Density Alternative nor the Proposed Project would directly displace any residents.

Indirect Residential Displacement

As detailed above, the Lesser Density Alternative assumes redevelopment of the Project Site with the same mix of uses as presented by the Proposed Project, but with approximately 15 percent less overall development. The Lesser Density Alternative would not result in indirect residential displacement pressures within the study area that are substantially different from those generated by the Proposed Project. The Lesser Density Alternative would result in the development of fewer residential dwelling units on the Project Site. This alternative's Maximum Residential Scenario would result in 2,500 units (of which 300 would be affordable units) as compared to the Proposed Project (3,000 units, of which 360 would be affordable). Similar to the Proposed Project, while the new population would be substantial, their demographic characteristics would not differ substantially from the study area population in the Future with the Proposed Project.

By 2018, housing prices, rents, and median incomes are expected to rise in the study area such that this alternative would not significantly alter or substantially accelerate the study area's long-term trend toward increasing residential development, affluence, and residential desirability. Like the Proposed Project, the Lesser Density Alternative would not introduce any type of land use that would diminish the residential desirability of the area, offset positive trends in the study area, impede efforts to attract investment to the area, or create a climate for disinvestment. For these reasons, no significant adverse impacts from indirect residential displacement would be expected to result from either the Lesser Density Alternative or the Proposed Project.

Direct Business and Institutional Displacement

Like the Proposed Project, the Lesser Density Alternative would result in the direct displacement of one business—the Central Parking lot. As detailed in the socioeconomic assessment for the Proposed Project, this potential displacement would not constitute a significant adverse impact as defined by CEQR. Therefore, neither the Lesser Density Alternative nor the Proposed Project would result in significant adverse impacts due to direct business and institutional displacement.

Indirect Business Displacement

Like the Proposed Project, the Lesser Density Alternative would not result in significant adverse impacts due to indirect business and institutional displacement. The Lesser Density Alternative would introduce the same mix of uses as the Proposed Project; uses that are currently present and well-established in the study areas and that are projected to be in place in the Future without the Proposed Project. Therefore, as with the Proposed Project, this alternative would not be expected to alter or accelerate an ongoing to trend to alter existing economic patterns.

Like the Proposed Project, the Lesser Density Alternative would not result in significant adverse impacts due to indirect business and institutional displacement. The Maximum Retail/Office Scenario of this alternative (LDA 2a) would provide the same amount of office and retail space as RWCDS 3a and 3b, but would provide 512 fewer hotel rooms compared with the Maximum Retail/Office Scenario of the Proposed Project (RWCDS 3b). The Lesser Density Alternative, with its lesser amount of hotel space as compared to the Proposed Project, would bring fewer people to the area to form a customer base for local businesses. However, under both the Lesser Density Alternative and the Proposed Project, the net effect would be a substantial increase in the number of residents and daytime workers and visitors, thereby providing significant numbers of new customers for the existing and proposed business uses.

Adverse Effects on Specific Industries

Like the Proposed Project, the Lesser Density Alternative would not result in significant adverse impacts on any industry or any category of business within or outside the study areas. Both the alternative and the Proposed Project would directly displace one business with nine employees, representing a small fraction of the total employment in the study area. Similar to the Proposed Project, while the Lesser Density Alternative is not expected to cause indirect displacement, any indirect displacement that may occur would not be concentrated in a particular industry.

COMMUNITY FACILITIES AND SERVICES

With a smaller population, the Lesser Density Alternative would place proportionately less demand on community services than the Proposed Project. Neither the Lesser Density Alternative nor the Proposed Project would have significant adverse impacts on police protection, fire protection, health care, or library services.

Public Schools

In both the Lesser Density Alternative and the Proposed Project, it is assumed that the school will contain a minimum of approximately 360 elementary and 120 intermediate seats on the project site. The Lesser Density Alternative would introduce fewer new school-age children at the elementary, middle, and high school student levels. As shown in **Table 23-6**, the Lesser Density Alternative would, therefore, result in slightly lower utilization rates for elementary and intermediate schools within the study area and within Subdistrict 1 of CSD 3 than in the Future without or with the Proposed Project. The utilization rate for high schools in Manhattan would be the same as with the Proposed Project. Neither the Lesser Density Alternative nor the Proposed Project would result in significant adverse impacts in 2018 upon completion of the anticipated development.

Similar to the future with the Proposed Project, Manhattan high schools would operate with excess capacity under the Lesser Density Alternative.

Table 23-6
Comparison of Estimated Public Elementary, Intermediate, and High School Utilization, 2018 Lesser Density Alternative and Proposed Project

	2018 Future without the Proposed Project		2018 Future with the Proposed Project		2018 Future with the Lesser Density Alternative	
Analysis Area	**Available Seats**	**Utilization**	**Available Seats**	**Utilization**	**Available Seats**	**Utilization**
Elementary Schools						
½-Mile Study Area	-469	142%	-400	127%	-340	123%
CSD 3, Subdistrict 1	-623	108%	-554	107%	-494	106%
Intermediate Schools						
½-Mile Study Area	-117	148%	-94	126%	-74	120%
CSD 3, Subdistrict 1	497	87%	520	87%	540	86%
High Schools						
Manhattan Total	19,652	70%	19,507	70%	19,537	70%

Sources: DOE *Enrollment Projections 2008-2017 by the Grier Partnership*; DOE, *Utilization Profiles: Enrollment/ Capacity/ Utilization, 2009-2010.*

Child Care Centers

For publicly funded child care, both the Lesser Density Alternative and the Proposed Project would result in a significant adverse child care impact. The low- to moderate-income affordable residential units included in the Lesser Density Alternative would result in 35 children eligible for child care, compared with 41 child-care-eligible children with the Proposed Project. The addition of 35 children would still exacerbate the predicted shortage in child care slots and would constitute eight percent of the collective capacity of child care facilities in the study area. Like the Proposed Project, this increase would result in a significant adverse impact on child care facilities in 2018.

OPEN SPACE

As noted above, it is assumed that the Lesser Density Alternative would include the same amount (2.75 acres), landscaping plan, and amenities as the Proposed Project (see description under "Future With the Proposed Project" in Chapter 5, "Open Space."). However, fewer residents and workers would be introduced to the Project Site and, therefore, the demands on those open spaces and other open spaces in the surrounding area would be smaller.

Neither the Lesser Density Alternative nor the Proposed Project would result in significant adverse open space impacts in the commercial study area, and neither would result in significant adverse impacts on passive open space in the residential study area. Similar to the Proposed Project, the passive open space ratios for the commercial study area would continue to exceed the recommended city guidelines (see **Table 23-7**). Therefore, similar to the Proposed Project, it is not expected that the Lower Density Alternative would result in significant adverse open space impacts in the commercial study area.

Table 23-7
Comparison of Adequacy of Open Space Resources
Lesser Density Alternative Compared with the Proposed Project, 2018

Ratio	City Guideline Open Space Ratios	Future Without Proposed Project Ratios	Lesser Density Alternative Open Space Ratios**	Proposed Project Open Space Ratios	Percent Change, Lesser Density Alternative	Percent Change, Proposed Project
Commercial Study Area						
Passive/Workers	0.15	1.51	1.50	1.48	-0.6	-1.7
Passive/Total Population	0.35/0.35/0.35*	0.63	0.63	0.62	0.4	-1.3
Residential Study Area						
Total/Residents	2.50	0.88	0.88	0.87	-0.1	-1.8
Passive/Residents	0.50	0.60	0.61	0.60	1.4	0.1
Passive/Total Population	0.34/0.34/0.35*	0.33	0.34	0.34	3.3	2.5
Active/Residents	2.00	0.27	0.27	0.26	-5.2	-6.1

Notes: Ratios in acres per 1,000 people.
* Weighted Average: No Action/Lesser Density/Proposed Project
** For purposes of a conservative analysis, the commercial (1/4-mile) study area analysis assumes Scenario LDA 2b for the Lesser Density Alternative and RWCDS 3d for the Proposed Project. The residential (1/2-mile) study area analysis assumes Scenario LDA 1 for the Lesser Density Alternative and RWCDS 1 for the Proposed Project.

In the residential study area, the total open space ratio under the Lesser Density Alternative would be 0.88 acres per 1,000 residents, which is slightly higher than the ratio under the

Proposed Project (0.86 acres per 1,000 residents). In addition, the active open space ratio under this alternative would be 0.27 acres per 1,000 residents, which is slightly higher than the ratio under the Proposed Project (0.26 acres per 1,000 residents). With the Proposed Project, the decrease in the active open space ratio would be 6.1 percent; with the Lesser Density Alternative, the decrease would be 5.2 percent. The decrease under the Lesser Density Alternative would be less than that of the Proposed Project, but would still be sizable. Like the Proposed Project, the Lesser Density Alternative would have the potential to result in a significant adverse impact to active open space. In addition, both the Proposed Project and the Lesser Density Alternative could provide a publicly accessible children's play area to provide partial mitigation for the active open space impact, as described in Chapter 28, "Modifications to the Proposed Project."

SHADOWS

Similar to the Proposed Project, new shadows cast on sun-sensitive resources by the Lesser Density Alternative would not be substantial and would not result in significant adverse shadow impacts. The Lesser Density Alternative would have a similar overall site plan layout as the Proposed Project, including the location of buildings, open space, and internal roadways. However, under the Lesser Density Alternative each of the five buildings would be between 15 feet and 25 feet shorter, or approximately 5 percent shorter than the buildings contemplated for the Proposed Project. Nearby sun-sensitive resources that would experience incremental shadows from the top 15 to 25 feet of the buildings associated with the Proposed Project would consequently experience a smaller extent and duration of new shadows with the Lesser Density Alternative. However, as detailed in Chapter 6, "Shadows," most of the incremental shadows generated by the Proposed Project would come from the lower 95 percent of the buildings and, therefore, the incremental shadows from the Lesser Density Alternative would be very similar in extent and duration.

With the Lesser Density Alternative, Building 3 would be five feet narrower in the north-to-south dimension as compared to Building 3 in the Proposed Project, and Building 4 in the Lesser Density Alternative would be seven feet four inches narrower in the east-to-west dimension. Consequently, Building 3's shadows would be five feet narrower in the Lesser Density Alternative than in the Proposed Project when falling directly west, and less than five feet narrower when falling in other directions. Building 4's shadow would be about seven feet narrower in the Lesser Density Alternative than it would in the Proposed Project when falling to the north (onto the on-site open space), and less than seven feet narrower when falling in other directions.

Similar to the Proposed Project, the Lesser Density Alternative would cast new shadows on the Hudson River, the Route 9A Bikeway, and Riverside Park South in mornings throughout the year; on the Parcel "O" Plaza in the afternoons on three of the four analysis days; and on the Amsterdam Houses Playground in the late afternoons on three of the four analysis days. As with the Proposed Project, the buildings of the Lesser Density Alternative would cast new shadows on other open spaces on only one or two analysis days, lasting less than an hour in each instance.

HISTORIC RESOURCES

The Lesser Density Alternative, similar to the Proposed Project, would have no significant adverse impacts on historic resources. Like the Proposed Project, the Lesser Density Alternative

would redevelop Parcel N, which was identified as containing two areas of potential precontact sensitivity. Both the Lesser Density Alternative and the Proposed Project would therefore require Phase 1B archaeological testing in the archaeologically sensitive areas, and potentially mitigation in the form of data recovery if resources of potential significance were encountered.

With regard to architectural resources, the Lesser Density Alternative, similar to the Proposed Project, would result in construction within 90 feet of the Con Edison Power House, which is eligible for designation as an NYCL, and for listing on the S/NR. Both the Lesser Density Alternative and the Proposed Project would comply with LPC *Guidelines for Construction Adjacent to a Historic Landmarks* as well as the guidelines set forth in section 523 of the *CEQR Technical Manual* and the procedures set forth in NYCDOB TPPN #10/88. Consequently the Con Edison Power House would not be expected to be adversely affected by the Lesser Density Alternative or the Proposed Project's construction-related activities. In addition neither the Lesser Density Alternative nor the Proposed Project would result in any significant contextual impacts to architectural resources.

URBAN DESIGN AND VISUAL RESOURCES

Like the Proposed Project, the Lesser Density Alternative would not result in significant adverse impacts to the urban design and visual resources of the project site or study areas.

Urban Design

Both the Lesser Density Alternative and the Proposed Project would transform the project site from an underutilized site containing parking facilities to a higher density, mixed-use development. However, the density of development would be less under the Lesser Density Alternative than under the Proposed Project. Overall, the buildings of the Lesser Density Alternative would be between approximately 15 and 25 feet shorter than the buildings that would be developed under the Proposed Project. Specifically, as compared to the Proposed Project, under the Lesser Density Alternative, Building 1 would be approximately 3.1 percent (15 feet) shorter; Building 2 would be 4.6 percent (23 feet-8 inches) shorter; Building 3 would be 4.7 percent (21 feet-4 inches) shorter; Building 4 would be 6.3 percent (24 feet-8 inches) shorter; and Building 5 would be 4.4 percent (23 feet-2 inches) shorter. In addition, Buildings 3 and 4's footprints would maintain the same shape as the buildings in the Proposed Project, but would be reduced slightly. As compared with the Proposed Project, a five-foot section running east-west through Building 3 would be removed from all floors in the Lesser Density Alternative, and a seven-foot-four-inch section running north-south through Building 4 would be removed from all floors. With the Lesser Density Alternative, floor area would be removed from the third floor down through the second floor to form an open-air court. Similar to the Proposed Project, the buildings of the Lesser Density Alternative would be taller than most of the buildings in the primary study area; however, they would be in keeping with the scale of many of the development projects planned for completion in the study area by the 2018 analysis year.

While the Lesser Density Alternative would result in a lesser density and slightly shorter buildings on the project site, this alternative would be the same as the Proposed Project in terms of uses (i.e. residential, hotel, retail, office, school, parking, and auto service uses); building arrangements, and building locations; streetscape elements; and open space plan. Therefore, the Lesser Density Alternative would have the same effects on street pattern, block shape, building arrangement, building use, and streetscape as the Proposed Project. Both the Proposed Project and the Lesser Density Alternative would not have a significant adverse impact on the urban design characteristics of the study area.

Wind

The Lesser Density Alternative would have the same building arrangements, virtually the same footprints, and building heights would not differ substantially from those of the Proposed Project. Therefore, like the Proposed Project, pedestrian wind conditions under the Lesser Density Alternative would be similar, and would infrequently exceed the safety criteria at similar locations during the winter season. However, these conditions would be similar to those at comparable sites in Manhattan near the Hudson River, and like the Proposed Project, would not result in a significant adverse urban design impact. Elements of the proposed open space design under both the Proposed Project and the Lesser Density Alternative would minimize elevated pedestrian wind conditions.

Visual Resources

Like the Proposed Project, it is not expected that the Lesser Density Alternative would result in significant adverse impacts on visual resources. Similar to the Proposed Project, the buildings that would be developed under the Lesser Density Alternative would eliminate some existing views from the project site to the Hudson River and the New Jersey Palisades; however, these views would still be maintained from adjacent sidewalks. Similar to the Proposed Project, the Lesser Density Alternative would preserve the westward view corridor along West 60th Street, and would therefore maintain existing views along this corridor to the waterfront. In addition, both the Lesser Density Alternative and the Proposed Project would extend Freedom Place South through the project site, and would therefore maintain existing views south along that corridor through the project site to the Consolidated Edison Power House.

NEIGHBORHOOD CHARACTER

The Lesser Density Alternative, like the Proposed Project, would not result in significant adverse impacts to neighborhood character. Both the Lesser Density Alternative and the Proposed Project would continue the study area's trend toward a mixed-use neighborhood with high-density residential uses and ground floor retail. Both the Proposed Project and the Lesser Density Alternative would provide approximately 2.75 acres of publicly accessible open space on the project site and would help link the study area neighborhoods to Riverside Park South. Like the Proposed Project, the Lesser Density Alternative would provide market-rate and affordable housing units; however, the Lesser Density Alternative would provide fewer market-rate and fewer affordable housing units.

The site plan for the Lesser Density Alternative would be similar to the Proposed Project, using the same configuration of building footprints, open spaces, roadway layout and circulation. As discussed above, pedestrian wind conditions would be similar to those of the Proposed Project and those of comparable locations in the city.

As with the Proposed Project, the Lesser Density Alternative would add a substantial new population to the project site, but the demographic characteristics of the resulting residential population would not differ substantially from that of the study area population in the future without this alternative or the Proposed Project. Like the Proposed Project, the Lesser Density Alternative would result in the direct displacement of one business—the Central Parking lot. The direct displacement of this business would not result in significant adverse impacts on neighborhood character.

The Lesser Density Alternative would have traffic impacts that would be similar to those of the Proposed Project. With the exception of the traffic impacts at Twelfth Avenue at West 52nd,

54th, and possibly 56th Streets, mitigation measures could be implemented for both the Lesser Density Alternative and the Proposed Project, which would fully mitigate significant adverse traffic impacts. (Mitigation for the Twelfth Avenue and West 56th Street intersection has been proposed and is currently being reviewed by NYSDOT. However, if NYSDOT decides to not implement the mitigation measure proposed for this intersection, then the significant impacts at this intersection would remain unmitigated.)

As with the Proposed Project, in the Lesser Density Alternative the noise levels within the new open spaces on the project site would be comparable to noise levels in other New York City public open spaces, and the users of the project site would not experience any noise-related impacts to neighborhood character. Increases in subway and bus usage, as well as pedestrian usage of sidewalks in the study area, would still occur with this alternative, but to a lesser degree than with the Proposed Project. Similarly, the projected increases in congestion at various traffic intersections would be somewhat less in this alternative than with the Proposed Project. However, these increases with the Proposed Project would not have significant adverse impacts on neighborhood character.

Neither the Lesser Density Alternative nor the Proposed Project would result in any significant contextual impacts to architectural resources in the study area. In general, in the Lesser Density Alternative as with the Proposed Project, the proposed development on the Project Site would be consistent with the character of the surrounding areas as they would be developed by 2018.

NATURAL RESOURCES

The Lesser Density Alternative, like the Proposed Project, would not result in significant adverse impacts to natural resources. The site development plans for this alternative would be similar to the Proposed Project, using the same configuration of building footprints, open spaces, and pavements. Therefore, generally the environmental effects on natural resources would be the same as those of the Proposed Project. The one exception would be that the Lesser Density Alternative could develop shorter buildings than the Proposed Project, which would reduce the potential for bird collisions. However, the buildings of the Proposed Project and the Lesser Density Alternative are comparable to buildings elsewhere in Manhattan and neither this alternative nor the Proposed Project would be expected to result in significant adverse impacts on migratory bird populations due to nighttime bird strikes. Overall, neither the Lesser Density Alternative nor the Proposed Project would cause any significant adverse impacts on terrestrial plant communities or wildlife, or on floodplains, wetlands, water quality, or aquatic biota in the Hudson River. Like the Proposed Project, the Lesser Density Alternative would have the potential to benefit terrestrial wildlife and plant resources through the creation of approximately 2.75 acres of open space.

HAZARDOUS MATERIALS

Like the Proposed Project, the Lesser Density Alternative would not result in significant adverse impacts to the general public, construction workers or future occupants of the project site. With the implementation of precautionary measures and environmental controls that are described in a new DEP-approved Remedial Action Plan (RAP) and an updated Construction Health and Safety Plan (CHASP), there would be only insignificant risk of exposure to hazardous materials (i.e., contaminated soil, soil vapor, groundwater, or building materials) during the construction and operational phases of either the Lesser Density Alternative or the Proposed Project.

WATERFRONT REVITALIZATION PROGRAM

Both the Lesser Density Alternative and the Proposed Project would be consistent with the city's applicable WRP policies, particularly those that aim to encourage public access to the water's edge. Both would be consistent with citywide goals for supporting and facilitating residential and commercial development in appropriate areas, protecting ecological systems; protecting and improving water quality; providing public access in the coastal zone; and protecting scenic resources. Like the Proposed Project, the Lesser Density Alternative would result in the development of approximately 2.75 acres of publicly accessible open space within the coastal zone and would result in new views of the Hudson River waterfront that are accessible to the public.

INFRASTRUCTURE

Like the Proposed Project, the Lesser Density Alternative would generate increased demands on New York City's water supply and sanitary sewage treatment systems. The demand generated by the Lesser Density Alternative would be approximately 17 percent less than under the Proposed Project: water supply demand would be approximately 1.11 million gallons per day (mgd) under the Lesser Density Alternative, compared to approximately 1.34 mgd with the Proposed Project, and the sanitary sewage generation would be 0.62 mgd for the Lesser Density Alternative, compared to 0.81 mgd for the Proposed Project. Overall, both the Proposed Project and the Lesser Density Alternatives would not result in significant impacts on the regional capacity or ability to provide water and sewer service to the project sites.

The project site discharges into a combined sanitary and stormwater sewer system that conveys sanitary and stormwater flows to the North River WPCP. Similar to the Proposed Project, the Lesser Density Alternative's contribution to the North River WPCP would be negligible, and the average flow to the North River WPCP would remain well within its SPDES permit limit of 170 mgd. In addition, under this alternative and the Proposed Project the North River WPCP would continue to be able to meet the pollutant removal parameters of its SPDES permit.

The site development plans for the Lesser Density Alternative and Proposed Project would be similar and would use the same configuration of building footprints, open spaces, and pavements. For this reason, the site runoff coefficients would be equivalent, and site stormwater runoff characteristics would be similar for both alternatives. It is assumed that the same best management practices for the management and control of stormwater would be implemented for either the Proposed Project or the Lesser Density Alternative.

Like the Proposed Project, the Lesser Density Alternative would result in an increase in the volume of sanitary sewage generated and discharged into the combined sewer system, which may exacerbate the combined sewer overflows (CSOs) at affected outfalls by displacing other wastewater volumes from other sources. Nevertheless, because of the available assimilative capacity of the Hudson River, those increases from either the Lesser Density Alterative or the Proposed Project would not have a significant adverse impact on water quality.

SOLID WASTE AND SANITATION SERVICES

Like the Proposed Project, the Lesser Density Alternative would generate increased demands on New York City's solid waste services. Overall, the demand generated by the Lesser Density Alternative would be approximately 20 percent less than with the Proposed Project: the quantity of solid waste would decrease from a maximum of 125.4 tons per week under the Proposed Project to 100.0 tons per week for the Lesser Density Alternative (for the LDA 2a RWCDS),

respectively. Like the Proposed Project, the Lesser Density Alternative would not result in significant adverse impacts based on the generation of solid waste or the provision of sanitation services.

ENERGY

Like the Proposed Project, the Lesser Density Alternative would generate increased demands on New York City's energy services. Overall, the demand generated by the Reduced Density Alternative would be approximately eight percent less than the Proposed Project. Neither the Reduced Density Alternative nor the Proposed Project would result in significant adverse impacts related to energy demand.

TRAFFIC AND PARKING

Traffic

With less floor area and a reduced population, the Lesser Density Alternative would generate correspondingly lower vehicular traffic than the Proposed Project throughout the weekday and during the Saturday midday peak hour. A comparison of the volume of vehicular traffic that would be generated under the Lesser Density Alternative and the Proposed Project is presented in **Table 23-8**.

Table 23-8
Vehicle Trip Generation Comparison—
Lesser Density Alternative vs. Proposed Project

Analysis Hour	Direction	Lesser Density Alternative	Proposed Project
Weekday AM	In	210	367
	Out	247	358
	Total	457	725
Weekday Midday	In	284	387
	Out	274	377
	Total	558	764
Weekday PM	In	314	440
	Out	309	439
	Total	623	879
Saturday Midday	In	385	487
	Out	357	455
	Total	742	942

Table 23-9 presents a comparison of the number of significant traffic impacts during each peak period for the Lesser Density Alternative and the Proposed Project. Overall, the total number of intersections with significant adverse impacts under the Lesser Density Alternative would be nearly the same as the Proposed Project under weekday conditions and during the Saturday midday peak hour. During weekday conditions, the Lesser Density Alternative would result in significant adverse impacts at 19 intersections, while the Proposed Project would result in significant adverse impacts at 24 intersections. During the Saturday midday peak hour, the Lesser Density Alternative would result in significant adverse impacts at 12 intersections, while the Proposed Project would result in significant adverse impacts at 13 intersections. The nature of the mitigation for the Lesser Density Alternative would be the same as that described for the Proposed Project in Chapter 22, "Mitigation." With the exception of the traffic impacts at Twelfth Avenue at West 52nd, 54th, and possibly 56th Streets, mitigation measures could be

implemented for both the Lesser Density Alternative and the Proposed Project, which would fully mitigate significant adverse traffic impacts. (Mitigation for the Twelfth Avenue and West 56th Street intersection has been proposed and is currently being reviewed by NYSDOT. However, if NYSDOT decides to not implement the mitigation measures proposed for this intersection, then the significant impacts at this intersection would remain unmitigated.)

Parking

Neither the Lesser Density Alternative nor the Proposed Project would result in significant adverse parking impacts. Like the Proposed Project, the Lesser Density Alternative would include 1,800 below-grade public parking spaces. However, with less floor area and a reduced population as compared to the Proposed Project, the Lesser Density Alternative would generate correspondingly lower parking demand. Therefore, along with this demand, more of the displaced parkers currently using the project site would be accommodated within the 1,800-space garage. Like the Proposed Project, the remainder of displaced parkers would be accommodated in nearby parking facilities.

Table 23-9
Summary of Significantly Impacted Intersections

SIGNIFICANTLY IMPACTED INTERSECTIONS	BUILD CONDITION: IMPACTED MOVEMENTS				LOWER DENSITY ALTERNATIVE: IMPACTED MOVEMENTS			
	WKDY AM	WKDY MD	WKDY PM	SAT MD	WKDY AM	WKDY MD	WKDY PM	SAT MD
12th Avenue (NB) at W. 59th Street	NB-LTR	NB-LTR	NB-LTR	NB-LTR	NB-LTR	--	NB-LTR	--
12th Avenue at W. 57th Street	NB-T (Service)	--	--	--	--	--	--	--
12th Avenue at W. 56th Street	NB-T, SB-L	SB-L	NB-T, SB-L	SB-L	NB-T, SB-L	SB-L	NB-T, SB-L	SB-L
12th Avenue at W. 54th Street	--	--	NB-TR	--	--	--	NB-TR	--
12th Avenue at W. 52nd Street	NB-TR	NB-TR	NB-TR	NB-TR	NB-TR, SB-T	NB-TR	NB-TR	NB-TR
12th Avenue at W. 42nd Street	NB-T	NB-T	--	NB-T	NB-T	NB-T	--	NB-T
12th Avenue at W. 41st Street	NB-T, SB-T	NB-T	--	NB-T, SB-T	NB-T, SB-T	NB-T	--	NB-T, SB-T
12th Avenue at W. 37th Street	SB-TR	SB-TR	--	SB-TR	SB-TR	SB-TR	--	SB-TR
Riverside Dr. at W. 79th Street	SB-LTR	--	--	--	--	--	--	--
Riverside Dr. at W. 72nd Street	--	--	--	SB-LR	--	--	--	SB-LR
Riverside Blvd at W. 70th Street	--	--	NB-TR	--	--	--	--	--
West End Avenue at W. 79th Street	--	--	NB-LTR	--	--	--	NB-LTR	--
West End Avenue at W. 72nd Street	WB-LTR	WB-LTR	--	--	WB-LTR	WB-LTR	--	--
West End Avenue at W. 70th Street	--	--	SB-LTR	SB-LTR	--	--	SB-LTR	SB-LTR
West End Avenue at W. 66th Street	NB-L	--	--	--	NB-L	--	--	--
West End Avenue at W. 59th Street	WB-LTR	WB-LTR	WB-LTR	WB-LTR	WB-LTR	WB-LTR	WB-LTR	WB-LTR
11th Avenue at W. 57th Street	SB-L	--	--	--	SB-L	--	--	--
Amsterdam Avenue at W. 59th Street	EB-L	--	--	--	--	--	--	--
10th Avenue at W. 57th Street	EB-LT	--	--	--	EB-LT	--	--	--
Columbus Ave at W. 66th Street	--	SB-TR	SB-TR	SB-TR	--	SB-TR	SB-TR	SB-TR
Columbus Ave at W. 60th Street	EB-R	EB-R	EB-R	EB-R	EB-R	EB-R	EB-R	EB-R
Central Park West at W. 72nd Street	--	NB-LT	--	--	NB-LTR, NB-DefL	NB-LT	--	--
Central Park West at W. 66th Street	WB-T	WB-T	WB-T, SB-TR	WB-T	WB-T	WB-T	WB-T, SB-TR	WB-T
9th Avenue at W. 57th Street	EB-TR, WB-DefL	EB-TR, WB-T	EB-TR, WB-T	WB-T	EB-TR	EB-TR, WB-T	EB-TR, WB-T	WB-T

TRANSIT AND PEDESTRIANS

Subway Service

The Lesser Density Alternative would generate a net total of 757 new subway trips in the weekday AM peak hour and 1,044 in the weekday PM peak hour at the 59th Street-Columbus Circle subway station. This compares to 937 and 1,299 new subway trips during these periods, respectively, with the Proposed Project. The lower level of new demand under this alternative would result in fewer additional trips at the station's stairways and fare arrays. Like the Proposed Project, all stairways and fare arrays would operate at an acceptable LOS C or better during the AM and PM peak hours under the Lesser Density Alternative.

Bus Service

The Lesser Density Alternative would generate a net total of 460 new bus trips in the AM peak hour and 807 new bus trips in the PM peak hour, which includes the 20 percent of passengers who are anticipated to travel to and from the 59th Street-Columbus Circle subway station via local bus. This compares to 540 and 916 new bus trips during these periods, respectively, with the Proposed Project. The lower level of demand under this alternative would result in fewer additional trips on the analyzed M11, M31 and M57 bus routes. During the AM peak period, the Lesser Density Alternative, like the Proposed Project, would result in a significant adverse impact on the M57 bus route. During the PM peak period this alternative, like the Proposed Project would result in significant adverse impacts on the northbound M11 bus route and the westbound M31 and M57 bus routes. As standard practice, NYCT routinely conducts ridership counts and adjusts bus service frequency to meet its service criteria, within fiscal and operational constraints. Therefore, no project-initiated mitigation is required for this alternative or for the Proposed Project.

Pedestrian Conditions

In addition to the pedestrian demand associated with trips to and from area transit facilities, the Lesser Density Alternative would generate an estimated 1,748 walk-only trips during the weekday AM peak hour; 1,321 walk-only trips during midday peak hour; 1,368 walk-only trips during the PM peak hour; and 1,591 walk-only trips during the Saturday midday peak hour. This compares to 1,978, 1,777, 1,727 and 1,805 walk-only trips during the AM, midday, PM and Saturday midday peak hours, respectively, with the Proposed Project. With the Proposed Project there would be no significant adverse impacts to analyzed sidewalks or corner areas in any peak hour, and no new impacts are anticipated at these locations as a result of the lower pedestrian demand under the Lesser Density Alternative. With the Lesser Density Alternative a total of four crosswalk locations would be impacted during at least one peak hour; under the Proposed Project five crosswalks would be impacted during at least one peak hour. One of the crosswalks would be impacted in one fewer peak hour under the Lesser Density Alternative as compared to the Proposed Project. As shown in **Table 23-10**, the Proposed Project's Saturday midday peak hour impact to the north crosswalk on Columbus Avenue and West 60th Street would not occur under the Lesser Density Alternative. As with conditions under the Proposed Project, this alternative's crosswalk widening and adjusted signal timing would fully mitigate impacts at the five crosswalks: the north and south crosswalks at West 60th Street and Columbus Avenue, the north crosswalk at West 59th Street and West End Avenue, and West 60th Street and Amsterdam Avenue during all impacted peak hours. The same types of mitigation measures that would mitigate the crosswalk impacts of the Proposed Project would also mitigate the crosswalk impacts of the Lesser Density Alternative.

Table 23-10
Comparison of Significant Adverse Crosswalk Impacts for the Proposed Project and the Lower Density Alternative

Location		Proposed Project				Lower Density Alterative			
		AM	MD	PM	Sat MD	AM	MD	PM	Sat MD
West 60th Street and Amsterdam Ave.	North	X		X		X		X	
	South	X		X	X	X		X	X
West 60th Street and Columbus Ave.	North	X		X	X	X		X	
	South	X	X	X	X	X	X	X	X
West 59th Street and West End Ave.	North	X		X	X				

Note: "X" denotes a significant adverse impact based on *CEQR Technical Manual* criteria.
This table has been revised for the FSEIS.

AIR QUALITY AND GREENHOUSE GAS EMISSIONS

The Lesser Density Alternative, like the Proposed Project, would not result in significant adverse air quality impacts on sensitive uses in the surrounding community, and the new or existing sources of air emissions in the project area would not cause significant adverse impacts on the project site's new uses.

Mobile Sources

The Lesser Density Alternative would generate fewer vehicular trips than the Proposed Project. Consequently, the Lesser Density Alternative would result in lower carbon monoxide (CO), and particulate matter (PM) emissions and concentrations than the Proposed Project. For both the Lesser Density Alternative and the Proposed Project, maximum predicted eight-hour CO and annual PM_{10} concentrations would be well below the applicable NAAQSs, and maximum predicted 24-hour and annual average $PM_{2.5}$ incremental values would be well below the CEQR interim $PM_{2.5}$ guideline values. Both for the Lesser Density Alternative and the Proposed Project the maximum predicted 8-hour average CO concentrations from the proposed parking facilities would be below the NAAQS. Consequently, the Lesser Density Alternative, like the Proposed Project, would not result in any significant adverse mobile source air quality impacts.

Stationary Sources

Because the buildings with the Lesser Density Alternative would be either the same size or slightly smaller than the buildings with the Proposed Project, the Lesser Density Alternative would have the potential for similar impacts as the Proposed Project. However, as detailed below, neither the Lesser Density Alternative nor the Proposed Project would result in significant adverse air quality impacts from stationary sources.

HVAC Sources

Like the Proposed Project, the Lesser Density Alternative would utilize Con Edison-supplied steam to provide heat and domestic hot water to buildings 1, 2, 3, and 4. Building 5 would use Con Edison steam for heating and gas-fired boilers for domestic hot water. HVAC emissions from the Lesser Density Alternative, similar to those from the Proposed Project, would result in maximum predicted NO_2, SO_2, and PM_{10} concentrations which would be well below the applicable NAAQS, and would result in daily maximum 24-hour and annual $PM_{2.5}$ increments well below the interim CEQR guidance criteria. Therefore, with regard to HVAC sources, the

Lesser Density Alternative, similar to the Proposed Project, would not result in any significant adverse air quality impacts.

Industrial Sources

With regard to industrial sources with the study area, the Lesser Density Alternative, similar to the Proposed Project, would result in maximum predicted short-term and annual pollutant concentrations that are below guideline levels. Therefore, with regard to industrial sources, the Lesser Density Alternative, similar to the Proposed Project, would not result in any significant adverse air quality impacts.

Additional Sources

Con Edison West 59th Street Station. With regard to the Con Edison West 59th Street Station, the Lesser Density Alternative is very similar to the Proposed Project in terms of the physical bulk and location of sensitive receptors with regard to the Con Edison stacks. Consequently it would be expected that the Lesser Density Alternative, similar to the Proposed Project, would result in maximum predicted NO_2, SO_2, and PM_{10} concentrations which would be below the applicable NAAQS, and would result in daily maximum 24-hour and annual $PM_{2.5}$ increments that would be below the interim CEQR guidance criteria. Therefore, with regard to Con Edison emission sources, the Lesser Density Alternative, similar to the Proposed Project, would not be expected to result in any significant adverse air quality impacts.

Other Sources

With regard to potential stationary sources in the nearby study area, the Lesser Density Alternative, similar to the Proposed Project, would be expected to result in maximum predicted NO_2, SO_2, and PM_{10} concentrations which would be below the applicable NAAQS, and would be expected to result in daily maximum 24-hour and annual $PM_{2.5}$ increments that would be below the interim CEQR guidance criteria. Therefore, with regard to other potential stationary sources, the Lesser Density Alternative, similar to the Proposed Project, would not be expected to result in any significant adverse air quality impacts.

Potential Cumulative Impacts from the Con Edison West 59th Street Station and Other Sources

With regard to other potential cumulative impacts from the Con Edison West 59th Street Station and other sources in the nearby study area, the Lesser Density Alternative, similar to the Proposed Project, would be expected to result in maximum predicted NO_2, SO_2, and PM_{10} concentrations which would be below the applicable NAAQS, and would be expected to result in daily maximum 24-hour and annual $PM_{2.5}$ increments would be below the interim CEQR guidance criteria. Therefore, with regard to the cumulative impacts from these sources, the Lesser Density Alternative, similar to the Proposed Project, would not be expected to result in any significant adverse air quality impacts.

Effects on Plume Dispersion from the Con Edison West 59th Street Station

With regard to the effect of the Less Density Alternative on plume dispersion from the Con Edison West 59th Street Station, the Lesser Density Alternative, similar to the Proposed Project, would not be expected to result in any significant adverse air quality impacts.

Greenhouse Gases

The Lesser Density Alternative would result in fewer vehicle trips, less energy use for HVAC and electricity, and less project-generated waste from the project site. The amount of concrete and other materials required to construct the Lesser Density Alternative would be less than the Proposed Project. As the Lesser Density Alternative would serve fewer people, the per capita

GHG emissions associated with the Lesser Density Alternative would be comparable, if not higher than the per capita GHG emissions associated with the Proposed Project. Furthermore, since the Lesser Density Alternative would serve fewer residents and other uses, the GHG emissions associated with additional uses which could be served by the Proposed Project would occur elsewhere, potentially without the benefit of transit oriented development in a mixed-use setting, resulting in higher per-capita GHG emissions. Therefore, as compared to the Proposed Project, the No Action Alternative would not be as supportive of PlaNYC's underlying strategy of reducing the city's contribution to greenhouse gas emissions while accommodating additional growth and development.

NOISE

The Lesser Density Alternative would generate slightly less vehicle trips than the Proposed Project, and consequently would result in slightly smaller noise impacts. At all locations and during all time periods, by 2018 both the Lesser Density Alternative and the Proposed Project would result in increases in $L_{eq(1)}$ noise levels of less than 1.0 dBA as compared to the No Build scenario. Increases of this magnitude would be imperceptible, and insignificant based upon CEQR criteria. For both the Lesser Density Alternative and the Proposed Project, noise levels in the newly-created open spaces would be greater than the 55 dBA $L_{10(1)}$ prescribed by CEQR criteria.

CONSTRUCTION

While the Lesser Density Alternative is somewhat smaller in the overall density and size of new buildings, it is essentially the same construction process and phasing as the Proposed Project. Since the buildings are smaller over the same construction schedule, there could be a modest reduction in the amount of materials and construction workers associated with building the Lesser Density Alternative. This could slightly reduce the duration and total level activity. Like the Proposed Project, the Lesser Density Alternative would result in significant adverse traffic impacts during construction. The air quality impacts of the Lower Density Alternative and the Proposed Project would be similar. Like the Proposed Project, this alternative would result in significant adverse noise impacts that require mitigation for two sensitive receptor locations (receptors B2 and L2 as described in Chapter 20, "Construction Impacts"). With the identified measures, under both alternatives these impacts would be mitigated. However, the potential unmitigated impacts identified with the Proposed Project with respect to construction noise at some or all of the off-site terrace locations[1] are likely to occur with the Lesser Density Alternative. Like the Proposed Project, this alternative would result in construction activities that would occur for over a two-year period and construction noise would affect the same terrace locations. Without construction activities, noise levels at these terraces would exceed the CEQR acceptable range (55 dBA $L_{10(1)}$) for an outdoor area requiring serenity and quiet. During the weekday daytime time periods when construction activities are predicted to significantly increase noise levels, construction activities under both the Lesser Density Alternative and the Proposed Project would exacerbate these exceedances and result in significant adverse noise impacts. There are no feasible mitigation measures that could be implemented to eliminate the significant noise impacts at these outdoor locations.

[1] Potentially impacted terrace locations include receptors A1, A2, D, F, H1, N1, and N2 as described in Chapter 20, "Construction."

PUBLIC HEALTH

Neither the Lesser Density Alternative nor the Proposed Project would result in significant adverse impacts on public health associated with construction or operation of the new development on the project sites.

D. NO UNMITIGATED SIGNIFICANT ADVERSE IMPACT ALTERNATIVE

DESCRIPTION

This alternative considers development that would not result in any identified significant, unmitigated adverse impacts. The impact analyses provided in the previous chapters of this FSEIS identified a number of significant adverse impacts for which no practicable mitigation has been identified. Unmitigated impacts were identified in the areas of open space, traffic, and construction noise. Modifications to the Proposed Project that would eliminate these unmitigated significant impacts are examined below.

The assessment focuses only on those technical analyses for which unmitigated impacts have been identified. There are no summary comparative assessments for technical analyses where there were no significant adverse impacts or where such impacts were fully mitigated for the Proposed Project.

NO UNMITIGATED SIGNIFICANT ADVERSE IMPACT ALTERNATIVE COMPARED WITH THE PROPOSED PROJECT

OPEN SPACE

The Proposed Project would have the potential to result in unmitigated significant adverse impacts on active open space.

Between the DSEIS and FSEIS mitigation measures were explored by the lead agency in consultation with the New York City Department of Parks and Recreation (DPR). No practicable opportunities for off-site mitigation have been identified as of the date of this FSEIS. The inclusion of a children's play area as part of the Proposed Project's publicly accessible open space was identified as the most appropriate mitigation for the identified significant adverse active open space impact. This use was deemed compatible with the adjacent passive open space and the overall objectives of the site plan. As described in Chapter 28, "Modifications to the Proposed Project," the project sponsor expects to file a revised application with various design changes. Among the modifications is the addition of a play area between Buildings 3 and 4 in the southern portion of the site. Absent the implementation of the mitigation measure through the proposed design change described above, the Proposed Project would have an unmitigated significant adverse impact on active open space. With the implementation of the mitigation measure through the proposed design change described above, the Proposed Project's impacts on active open space would be partially mitigated.

The overall density of the project would have to be reduced to approximately 1,225 residential units in order to result in no change in the active open space ratio as an increment over the Future Without the Proposed Project (or the No Action Alternative). Limiting development to this level would substantially reduce the opportunity to provide housing (including affordable

housing), and would substantially compromise the project's stated goals and overall economic viability.

Conversely, the Proposed Project would have to include an additional 0.88 acres of active open space on the project site or in the ½-mile residential study area in 2018 so that the active open space ratio would remain unchanged.

No other practicable opportunities for on-site or off-site mitigation have been identified as of the date of this FSEIS.

OPERATIONAL TRAFFIC

As described in Chapter 16, "Traffic and Parking," the Proposed Project would result in significant adverse traffic impacts at 24 intersections within the study area. Of these, no feasible mitigation measures have been identified that would mitigate the significant adverse traffic impacts at three intersections along Route 9A (Twelfth Avenue at West 56th Street, at West 54th Street and at West 52nd Street). Mitigation for the Twelfth Avenue and West 56th Street intersection has been proposed and is currently being reviewed by NYSDOT. However, if NYSDOT decides to not implement the mitigation measure proposed for this intersection, then the significant impacts at this intersection would remain unmitigated. The three intersections cited above have substantial east/west movements and would be congested under No Build conditions. Development on the project site of more than approximately one million gsf would be expected to result in unmitigated traffic impacts at one or more of these three intersections. Limiting development to this level would substantially reduce the opportunity to provide housing (including affordable housing), and due to reductions in density would potentially eliminate the feasibility of certain uses such as the automotive showroom and service space and hotel use. Consequently, no reasonable alternative could be developed to completely avoid such impacts without substantially compromising the project's stated goals and overall economic viability.

CONSTRUCTION NOISE

With the Proposed Project, noise levels at some nearby terraces would exceed the CEQR acceptable range (55 dBA L_{10}) for an outdoor area requiring serenity and quiet. There are no feasible mitigation measures that could be implemented to eliminate the significant noise impacts at these locations and, therefore, a significant noise impact is identified in this FSEIS as an unmitigated adverse impact. Any development on the project site of a size requiring more than two years of construction activities would have the potential to result in unmitigated significant adverse impacts at the terrace locations mentioned above. This limitation would result in a development of a very limited size, which would not meet the goals of the Proposed Project.

E. COGENERATION ENERGY SUPPLY ALTERNATIVE

DESCRIPTION

This alternative considers how energy efficiency and reliability may be improved while reducing greenhouse gas emissions from the project site. Consistent with the GHG reduction goals of PlaNYC (see also Chapter 18, "Air Quality and Greenhouse Gas Emissions"), a detailed study was performed for the Proposed Project which examined the technical and economic feasibility of providing combined heat and power, or cogeneration, for all or part of energy needs for the

Proposed Project (see Appendix H-2). The first phase of that study examined the feasibility of utilizing on-site, large-scale or full-size cogeneration facilities to serve the Proposed Project's energy needs (based on the five project buildings using gas-fired boilers). That portion of the study concluded that large-scale cogeneration options including cogeneration facilities to serve individual project buildings, a combined system to serve the entire Proposed Project, or a combined system to serve the entire Proposed Project and the nearby Durst development, would not be economically feasible. In part, this was due to limited duration of peak demand for residential buildings and the fact that the peak electrical energy demand for residential buildings occurs on Saturday and Sunday, when electric demand costs are less than half of peak rates.

Subsequent to that study, the sponsor of the Proposed Project has indicated that it intends to use Con Edison supplied steam to provide heating and domestic hot water to Buildings 1, 2, 3, and 4. For Building 5, Con Edison steam would be used to provide heating, with a natural gas-fired boiler to provide domestic hot water.[1] Based on these assumptions, a supplemental study was conducted to examine the technical and economic feasibility of implementing on-site small-scale cogeneration options to provide domestic hot water and a portion of the electrical needs of the individual buildings. Two cogeneration options were considered. The first option considered the use of steam microturbines (turbines powered by the Con Edison steam that the buildings would use for heat and domestic hot water) to generate a portion of the building's electricity load through steam pressure reduction. (The pressure at which Con Edison steam is received must be reduced to a pressure at which it is used. The steam microturbines would be used to reduce this pressure in place of a conventional valve system). The second option considered the use of gas-fired microturbines to generate electricity while utilizing the waste heat to heat domestic hot water for an individual building.

FEASIBILITY STUDY SUMMARY

The feasibility study concluded that using gas-fired microturbines would be a technically feasible option, while the use of steam microturbines would only be technically feasible during the winter months. Neither option was found to be economically feasible.

As mentioned above, the Proposed Project would use Con-Edison-supplied steam for heating needs during the winter months, and domestic hot water needs throughout the year in Buildings 1, 2, 3 and 4. For these buildings during the summer months, Con-Edison-supplied steam would only be used for heating domestic hot water (the Proposed Project would have heat pumps or individual air conditioning units rather than a central cooling system, and therefore its summer cooling needs would not require Con Edison steam). Steam microturbines would be feasible when the amount of steam supplied is sufficient to spin the turbines, which would only be during the winter months for Buildings 1, 2, 3 and 4, when steam would be required for both heating and domestic hot water needs. During the summer months, when steam would only be used for heating domestic hot water, the flow of steam would not be sufficient to spin the turbines, and

[1] The Con Edison steam system is facilitated by a number of plants in New York City, some of which are CHP plants which combine steam production, delivered to consumers for heat and hot water, with electricity production. Although the nearby 59th Street steam generation plant, which would provide much of the steam for the Proposed Project, is not a CHP plant (i.e., producing both steam and electricity), the Con Edison steam system as a whole does operate in part using steam generated from CHP plants. The use of Con Edison steam, as compared with the use of on-site boilers, results in significant energy savings, and is consistent with the GHG reduction goals of PlaNYC.

therefore this option would not be technically feasible for Buildings 1, 2, 3 and 4 during the summer months. For Building 5, because of the proposed hotel use at this site, steam microturbines would be technically feasible year round. In terms of economic feasibility, cogeneration using steam microturbines was found to be feasible only in buildings that would have high steam use throughout the year. For all of the buildings, steam use would be highest in the winter months when the cost of steam (to run the steam microturbines) would be highest, but the value of the electricity produced from the steam microturbine would be lowest. The payback period for this option would be more than 10 years, and therefore this cogeneration option was found to be economically infeasible.

While technically feasible, cogeneration using gas-fired microturbines was found to be economically infeasible, when compared to the cost of generating domestic hot water using Con Edison-supplied steam in Buildings 1, 2, 3 and 4, and gas-fired boilers in Building 5. Buildings 1, 2, 3 and 4 would have payback periods of over 14 years, while Building 5 would have a payback period of almost 10 years. Therefore, this cogeneration option was found to be economically infeasible. ✷