## A. INTRODUCTION

Consistent with State Environmental Quality Review Act (SEQRA) and City Environmental Quality Review (CEQR) requirements, this chapter of the Environmental Impact Statement (EIS) examines alternatives to the proposed project.

SEQRA and CEQR require the examination of a No Action Alternative, in which a proposed project would not be undertaken. The technical chapters of this EIS have described the No Action Alternative (referred to as "The Future without the Proposed Project") and have used it as the basis to assess the potential impacts and associated mitigation for the proposed project. CEQR also recommends the examination of alternatives that would have no significant adverse impacts; therefore, a No Unmitigated Impact Alternative has also been developed and examined.

In addition to the No Action Alternative, and the No Unmitigated Impact Alternative, this chapter of the EIS examined four other alternatives: As-of-Right Alternative; Unity Plan Alternative; Reduced Density—No Arena Alternative; and Reduced Density—Arena Alternative. The As-of-Right Alternative is similar to the No Action Alternative except that it reflects the potential for new as-of-right, high-rise development on the portion of the site (Block 1118) that is zoned C6-1. The three other alternatives were proposed by community and business groups. Two of these alternatives (Unity Plan and Reduced Density—No Arena) reflect lower densities as compared with the proposed project and do not include an arena. The third alternative (Reduced Density—Arena) also has reduced density as compared with the proposed project, but it would include an arena on the project site.

### PRINCIPAL CONCLUSIONS

The No Action Alternative, the As-of-Right Alternative, and the Unmitigated Impact Alternative would avoid some of the adverse environmental impacts of the proposed project. However, these alternatives would neither allow for transit-oriented development that would accommodate anticipated growth efficiently nor provide for the substantial economic and civic benefits resulting from new jobs, new infrastructure, and a major new entertainment venue. None of these alternatives would not address the blighted conditions on the project site and would substantially fail to meet the project's goals.

The Reduced Density—No Arena Alternative would not require the displacement of existing residents or businesses nor would it require the demolition of existing structures on the project site because development would take place solely over the rail yard. However, by failing to redevelop portions of Blocks 1119, 1120, and 1121 and the remainder of the project site, this alternative would allow the blighted conditions to remain on the project site that currently separate the neighborhoods of Fort Greene, Prospect Heights, and Boerum Hill. The buildings above the rail yard would create a physical and visual barrier between these neighborhoods since its 22 foot elevation above the rail yard would create a wall along Atlantic Avenue and would

not provide for new north-south pathways through the project site. This alternative would provide for much less affordable and market-rate housing on the project site and would generate far fewer jobs than the proposed project; therefore, its economic benefits for the City and State would be substantially reduced. Not only would this alternative result in less development on a site that supports high-density, transit-oriented uses, but it would also reduce the capacity of the LIRR rail yard. The Reduced Density—No Arena Alternative would not provide the economic, entertainment, and cultural benefits of an arena.Therefore, the Reduced Density—No Arena Alternative would fail to meet many of the project's goals.

The Reduced Density—Arena Alternative would result in a mix of uses on the project site that are comparable to the proposed project, but it would provide for about half of the housing units and less than a third of the open space. In order to maintain existing streets, this alternative would forego infrastructure and transit improvements that would be realized with the proposed project. Not only would this alternative not provide for the same level of benefits as the proposed project, but it would result in nearly the same significant adverse environmental impacts. Therefore, it would not meet the project's goals to the extent of the proposed project.

## B. NO ACTION ALTERNATIVE

### DESCRIPTION

Under the No Action Alternative, the MTA would not dispose of the air rights for the rail yard and, therefore, the rail yard (Blocks 1119, 1120, and 1121) would remain essentially in its current configuration. Blocks 927, 1118, 1127, 1128, and 1129 would keep their current ownership. (This alternative is presented in the EIS chapters as 'The Future Without the Proposed Project.")

### NO ACTION ALTERNATIVE COMPARED WITH THE PROPOSED PROJECT

*LAND USE, ZONING, AND PUBLIC POLICY*

The No Action Alternative would not result in a change in the land use or zoning of the project site. Individual parcels could be reoccupied or could be redeveloped subject to a separate discretionary action and environmental review, but significant new development is considered unlikely given the blighting influence of the rail yard and the predominance of low-density manufacturing zoning on the project site.

The No Action Alternative would maintain the existing transportation use on the project site. It would not platform over the open cut to allow for new residential uses, retail, community facilities, and publicly accessible open space, which would help link the surrounding communities. The No Action Alternative would also not provide for new affordable housing on the project site. Thus, the No Action Alternative would maintain low-density transportation, manufacturing, and commercial uses in an area that is well-suited for a mixed-use development that would serve local residents, the borough of Brooklyn, and the city, as a whole. The redevelopment of the rail yard with active residential, commercial, entertainment, and open space uses reflects the revitalization goals of longstanding public policy for this area and addresses community needs for employment and housing.

The project site is mapped with several zoning districts: C6-2 (Block 927); R7A with a C1-4 overlay (Block 1127 along Flatbush Avenue and Block 1129 along Vanderbilt Avenue); C4-4A

(Block 1127 and 1128 along Pacific Street); C6-1 (Block 1118); M1-1 (Block 1119, 1120, 1121, and portions of 1129); and R6B (Block 1128 along Dean Street). The No Action Alternative would not override the existing zoning of the project site, which limits the development potential of the project site. The existing M1-1 zoning of large tracts of the project site would continue to bear a relationship on its use as an open air transportation facility rather than uses that are typical along a principal arterial in a central location and would not permit residential use. The commercial and residential zoning applies to small portions of the project site, and the fractured nature of the existing zoning limits the ability to assemble a site that would be appropriate for new commercial or residential development.

The proposed project includes an arena, which is not permitted under existing zoning or is permitted only with a New York City Planning Commission (CPC) special permit. The CPC can permit arenas, auditoriums, or stadiums with capacities greater than 2,500 seats only in C4, C6, C7, or C8 districts, or any manufacturing district provided that such use is not located within 200 feet of a residential district. Because the No Action Alternative does not include an arena, an override of this zoning regulation would not be required.

As described in Chapter 3, "Land Use, Zoning, and Public Policy," Blocks 927, 1118, 1119, 1120, and 1121 are located within the Atlantic Terminal Urban Renewal Area (ATURA). ATURA was established in 1968 to help revitalize the Atlantic Terminal area and was intended to encourage development and employment opportunities, to create new housing of high quality and/or rehabilitated housing of up-graded quality, and to provide community facilities, parks, retail shopping, and parking. The No Action Alternative would not result in new development above the rail yard nor would it revitalize other underutilized parcels within the project site; therefore, it would be inconsistent with the ATURA plan.

This alternative would forego the opportunity to create a transit-oriented development on a site that is well-situated for high-density uses. It would also not provide for the substantial enhancements to subway service that would be included as part of the proposed project. The transit-oriented development of the proposed project would efficiently accommodate the growth anticipated to occur in Brooklyn in a relatively small land area that is well-served by necessary infrastructure.

The No Action Alternative would not provide for affordable housing on the project site and would not help meet the City's goal of adding to the overall supply of affordable housing. The project site is well-suited for mixed-income housing and the provision of affordable units at this location has major benefits for low-, moderate-, and middle-income residents. The project site's proximity to LIRR, subway, and bus services provides ample subway access for residents, and the combination of existing and future employment opportunities on and near the project site would provide numerous employment opportunities for future residents. Thus, the No Action Alternative would forego the benefit to low-, moderate-, and middle-income families that would be realized with development of the proposed project.

The No Action Alternative would maintain the blighting influence of the rail yard; would not eliminate the blight throughout the project area; and would not revitalize the Atlantic Terminal area with substantial new residential, commercial, and entertainment uses. Therefore, it would be inconsistent with public policy plans and other goals and initiatives for the area and the city as a whole.

*SOCIOECONOMIC CONDITIONS*

The No Action Alternative would not result in direct or indirect residential or business displacement but would not generate substantial new residents or employees in the borough of Brooklyn. The No Action Alternative would not require either the voluntary or involuntary direct displacement of approximately 171 residential units, 27 businesses, and two institutional uses on the project site. Nonetheless, the proposed project's direct displacement of these residential units and businesses would not significantly alter the socioeconomic characteristics of the study area; thus, like the proposed project, the No Action Alternative would not result in significant adverse impacts on socioeconomic conditions.

The No Action Alternative would not contribute to the revitalization of the Atlantic Terminal area. New office, retail, and residential space would not be developed on the project site, and the No Action Alternative would not increase the supply of affordable housing in the study area nor would it provide a venue for professional basketball or other arena events. Therefore, the No Action Alternative would not result in the economic benefits derived from new jobs and new consumers on the project site. While the No Action Alternative would not involve the same expenditure of public funds as the proposed project, it would not result in the substantial economic benefits that would be realized with the proposed project.

*COMMUNITY FACILITIES*

Like the proposed project, the No Action Alternative would not directly displace police, public education, public day care, or healthcare facilities, but the No Action Alternative would not provide for community facilities on the project site.

The No Action Alternative would not require the relocation of the Fire Department of New York's (FDNY's) Special Operations Facility at 648 Pacific Street. The facility does not provide any direct fire protection in the study area. Thus, although the Special Operations Facility could remain at its current location under the No Action Alternative, this would not substantially benefit FDNY operations compared with the proposed project.

Under the No Action Alternative, background growth and new development in the vicinity of the project site would generate new demand for public schools, libraries, day care centers, and healthcare facilities. Although there would be adequate capacity at public elementary and intermediate schools, public day care facilities, libraries, and healthcare facilities to support this growth, there would continue to be a capacity shortfall at public high schools.

Unlike the No Action Alternative, the proposed project would result in a projected shortfall in elementary and intermediate school seats for public schools located within ½ mile of the project site; although there would be available capacity within the larger CSDs. These shortfalls within the ½-mile area could be remedied by one of, or a combination of, the following mitigation measures, which are under consideration by the New York City Department of Education (DOE): 1) shifting the boundaries of school catchment areas within the CSDs to move students to schools with available capacity; 2) creating new satellite facilities in less crowded schools; 3) leasing school space to be constructed on the project site; and 4) constructing a new school off-site. There has been no commitment by DOE to adopt any of these mitigation measures.

The proposed project would include facilities to serve the community, including an arena, an "Urban Room," a health care facility, and an intergenerational facility that includes a day care center. In addition to serving as a venue for professional basketball, the arena may be used for high school and collegiate sporting events, large community functions such as graduation

ceremonies, and other special events. These facilities, which would benefit the community at-large, would not be realized under the No Action Alternative.

In the No Action Alternative, traffic would increase in the vicinity of the project site from general background growth and other new development independent of the proposed project. However, local street alignments and directions would not change. Like the proposed project, the No Action Alternative would not result in adverse effects on the provision of emergency response services due to the geographic distribution of New York City Police Department (NYPD) and FDNY facilities in the vicinity of the project site and their respective coverage areas.

*OPEN SPACE AND RECREATIONAL FACILITIES*

Under the No Action Alternative, the population of the study area would increase, but no new open space would be provided. Therefore, the availability of open space per capita would decrease. The proposed project, however, would increase the available open space in the ½-mile study area, by providing at least seven acres of publicly accessible open space. The new open space that would be created by the proposed project would not only benefit its residents and workers but would also provide for additional resources for the community at large. Thus, the No Action Alternative would not result in the open space benefits that would be realized with the proposed project.

*CULTURAL RESOURCES*

Because the No Action Alternative would not result in the subsurface disturbance of the rail yard or Block 1127, potential archaeological resources, if present, would remain *in situ*. Under the No Action Alternative, it is assumed that the former Long Island Rail Road (LIRR) Stables and the Ward Bread Bakery complex, which have been determined to be historically noteworthy and eligible for listing on the State Register, would likely continue to deteriorate. Because these structures are privately owned and are not landmarked, they could be substantially altered or demolished without documentation of their historic qualities. Although these structures would be demolished with the proposed project, appropriate measures would be developed in consultation with New York State Office of Parks, Recreation, and Historic Preservation (OPRHP) to partially mitigate the impact of their demolition on cultural resources.

Like the proposed project, the No Action Alternative would not alter distinguishing elements at the Atlantic Avenue subway station. However, because new construction would not be undertaken to create the new subway entrance, the two plain sign panels in the existing non-publicly accessible subpassage would not be removed.

Unlike the proposed project, the No Action Alternative would not obscure or diminish views of the Williamsburgh Savings Bank Building from the Flatbush Avenue corridor. The No Action Alternative would also not cast shadows on the stained-glass windows of the east façade of the Church of the Redeemer.

As with the proposed project, the No Action Alternative would not diminish the context of other historic resources in the study area. The No Action Alternative would not result in the isolation of a historic resource from its setting or its visual relationship with the streetscape; it would not cast significant new shadows or lengthen existing shadows significantly on sun-sensitive historic resources; and it would not introduce an incompatible visual, audible, or atmospheric element that would diminish the qualities of a historic resource that make it significant.

*URBAN DESIGN AND VISUAL RESOURCES*

Under the No Action Alternative, the project site would not be substantially altered and thus would continue to be a blighted area; therefore, its streetscape, street grid, bulk, density, and streets would not change as compared with today. The rail yard would remain an open cut and would continue to physically divide the residential neighborhoods to its north and south. The No Action Alternative would not activate the streetscape with lively ground-level uses, and would maintain the blighting influence of the rail yard. Therefore, the No Action Alternative would perpetuate conditions that detract from the overall visual character and urban design of the surrounding area.

New high-rise structures would not be constructed in most areas of the project site under the No Action Alternative unless a separate environmental review was undertaken. Therefore, under the No Action Alternative, new buildings would not obstruct views of the Williamsburgh Savings Bank Building from the Flatbush Avenue corridor south of the project site. However, unlike the proposed project, the No Action Alternative would not introduce new visual resources to the proposed project site.

*SHADOWS*

The No Action Alternative would not result in new shadows on sun sensitive receptors. Therefore, the No Action Alternative would not cast new shadows on the southern portion of the open space of the Atlantic Terminal Houses and the stained-glass windows on the east façade of the Church of the Redeemer; whereas, the proposed project would result in significant adverse impacts on these sun sensitive receptors. The project sponsors are developing measures to offset the potential effects of the project's shadows on these sensitive resources.

*HAZARDOUS MATERIALS*

A number of parcels within the project site have the potential for subsurface contamination or hazardous materials, including Block 1127, Lots 1, 22, 27, 29, and 30; Block 1128, Lot 4; and Block 1129, Lots 46 and 50, which have E-designations for hazardous materials. An E-designation for hazardous materials is a City mechanism that allows the New York City Department of Environmental Protection (DEP) to control the issuance of building permits where contamination is known or suspected. Therefore, any development of these sites under the No Action Alternative would likely require their prior remediation.

Samples taken from other parcels within the project site also revealed the presence of contaminants in standing structures, soils, and groundwater. Under the No Action Alternative, residual contamination on the project site may be disturbed if development were undertaken by others; however, it is anticipated that remediation measures would be implemented prior to construction activities. If new construction does not occur, remediation would not be undertaken and contaminants would remain within existing buildings and subsurface areas.

The environmental investigation found two active spill sites (Block 1127, Lot 1 and Block 1119, Lots 1 and 64). The remediation of Block 1127, Lot 1 is already underway. Under the No Action Alternative, the New York State Department of Environmental Conservation (NYSDEC) would also require the remediation of Block 1119, Lots 1 and 64. However, the extent of remediation under the No Action Alternative might be less than with the proposed project, since the soil underneath roadways and adjacent properties would probably remain in place.

Overall, the No Action Alternative would not meet the project's goal of site remediation to the extent of the proposed project.

*INFRASTRUCTURE*

The No Action Alternative may result in increased demand for potable water, wastewater treatment, sanitation services, and energy from the reoccupation of existing structures or development of new uses on the project site, but this demand would be substantially lower than that projected for the proposed project. However, unlike the proposed project, the No Action Alternative could not provide a comprehensive stormwater management plan that includes on-site detention and retention of stormwater. As described in Chapter 11, "Infrastructure," the stormwater management measures to be included as part of the proposed project would reduce combined sewer flow volumes and events attributable to the project site in the Gowanus Canal and East River. The proposed stormwater management plan reduces the quantity of untreated combined sever overflow that would be discharged to the Gowanus Canal and East River. Therefore, although the No Action Alternative would generate less sanitary wastewater than the proposed project, it would not benefit the City's wastewater treatment system by reducing annual stormwater discharges into the combined sewer system.

*TRAFFIC AND PARKING*

*Traffic*

Background growth and trips associated with new development outside the project site, which would be independent of the proposed project, would generate new vehicles on the roadways surrounding the project site. These new vehicles in combination with existing traffic volumes would congest a number of area intersections (see Table 20-1). Although the proposed project would result in significant adverse impacts at a number of these intersections, many of these impacts could be fully mitigated, and delays at the fully mitigated locations would be comparable for the No Action Alternative and the proposed project. However, at locations where the proposed project's impacts would not be fully mitigated, traffic operations would be better in the No Action Alternative as compared with the proposed project,

As part of the proposed project, 5th Avenue would be closed between Flatbush and Atlantic Avenues, and Pacific Street would be closed between Flatbush and 6th Avenues and between Carlton and Vanderbilt Avenues. Furthermore, 6th Avenue between Flatbush and Atlantic Avenues; Carlton Avenue between Pacific Street and Atlantic Avenue; and Pacific Street between 4th Avenue and Flatbush Avenue would not be converted from one-way to two-way streets. These street closures and changes to the operation of area streets would not be implemented under the No Action Alternative, and associated traffic diversions would not occur.

*Parking*

In the No Action Alternative, new parking demand would be generated by background growth and new development independent of the proposed project. However, adequate off-street capacity would be available to absorb this demand. Therefore, like the proposed project, there would not be a shortfall of off-street parking in the study area.

**Table 20-1**
**Congested Intersections for the No Action Alternative (2016)**

| Intersection | | No Action Alternative | | | | | | |
|---|---|---|---|---|---|---|---|---|
| | | Weekday | | | | | Saturday | |
| | | 8-9 AM | 12-1 PM | 5-6 PM | 7-8 PM | 10-11 PM | 1-2 PM | 4-5 PM |
| **Signalized Intersections** | | | | | | | | |
| Flatbush Ave at | Tillary Street | ● | ● | ● | ● | ○ | ● | ○ |
| | Myrtle Ave | ● | ● | ● | ● | ● | ● | ● |
| | Willoughby Street | ○ | | ○ | | | | |
| | DeKalb Ave | ○ | ○ | ○ | | | ○ | |
| | Fulton Street | ○ | ● | ● | ● | ○ | ○ | ● |
| | Livingston Street | ● | ○ | ○ | | | | |
| | Lafayette Street | ● | ○ | ● | ○ | ○ | ○ | ○ |
| | 4th Ave | ● | ○ | ● | ○ | | ○ | ● |
| | Atlantic Ave | ● | ○ | ● | ○ | | ○ | ● |
| | 5th Ave | ● | ○ | | ● | ● | ● | ○ |
| | Dean Street | | | | ● | | ● | ● |
| | Bergen Street | | ● | ● | ○ | | ● | ● |
| | 6th Ave | ○ | | | ○ | | ○ | |
| | St. Marks Place | | | | | | ○ | |
| | Prospect Place | | | | ● | | ○ | |
| | 7th Avenue | | ○ | | ● | | ○ | |
| | Sterling Place | | | | ○ | | ● | |
| Atlantic Ave at | Hicks Street | ● | ● | ○ | | | | ○ |
| | Henry Street | | ● | | ○ | | ● | ● |
| | Clinton Street | ● | ○ | ○ | | | ● | ● |
| | Court Street | | ○ | ● | | | ○ | ○ |
| | Boerum Place | ● | ○ | | | | ● | ● |
| | Smith Street | ● | ● | ● | ○ | | ● | ● |
| | Hoyt Street | ○ | ○ | ● | | | ● | ● |
| | Bond Street | ● | ● | ● | ○ | | ● | ● |
| | Nevins Street | ● | ● | ● | | | ● | ● |
| | 3rd Ave | ● | ○ | ● | | | ○ | ● |
| | 4th Ave | ● | ● | ● | ● | | ● | ● |
| | 5th Ave/Ft. Greene Place | ○ | | ● | ● | | ● | ● |
| | S. Portland Ave | ○ | | ● | ● | | ● | ● |
| | Cumberland Street | ○ | | | | | | |
| | Carlton Ave | ○ | | | | | | |
| | Clermont Ave | ● | | ● | | | | |
| | Vanderbilt Ave | ● | ○ | ● | ● | | ● | ● |
| | Clinton Ave | ● | ● | | | | | |
| | Washington/Underhill Aves | ● | ● | ● | ● | | ● | ● |
| | Grand Ave | ○ | | ○ | | | | ○ |
| 3rd Ave at | Pacific Street | ● | | | | | | |
| | Dean Street | ● | | ● | ○ | | | ○ |
| 4th Ave at | Pacific Street | ● | | | | | | |
| | Dean Street | ● | | | ● | | ● | ● |
| | Bergen Street | ● | ○ | ● | ● | | ● | ● |
| | St. Marks Place | ● | | | | | ○ | ● |
| | Union Street | ● | | ● | ● | | ● | ● |
| 5th Ave at | Dean Street | ● | ● | ● | ○ | | ● | ● |
| | Bergen Street | ○ | ○ | ● | | | ○ | ○ |
| | Union Street | | | | | | | |
| 6th Ave at | Dean Street | | | | | | | |
| S. Portland Street at | Fulton Street | ● | | | | | | ○ |

**Table 20-1 (cont'd)**
**Congested Intersections for the No Action Alternative (2016)**

| Intersection | | No Action Alternative | | | | | | |
|---|---|---|---|---|---|---|---|---|
| | | Weekday | | | | | Saturday | |
| | | 8-9 AM | 12-1 PM | 5-6 PM | 7-8 PM | 10-11 PM | 1-2 PM | 4-5 PM |
| **Signalized Intersections** | | | | | | | | |
| Carlton Ave at | Park Ave | | | | | | | |
| | Myrtle Ave | | | | | | | |
| | Fulton Street | ● | | ○ | | | ○ | ● |
| | Pacific Street | | | | | | | |
| | Dean Street | | | | | | | ● |
| | Bergen Street | | | | | | | |
| Vanderbilt Ave at | Park Ave | | | | | | | |
| | Myrtle Ave | ● | ○ | ● | | | | |
| | DeKalb Ave | ● | | ● | | | | |
| | Fulton Street | ● | | | | | ○ | ● |
| | Pacific Street | ○ | | | | | | |
| | Dean Street | | | ○ | | | ○ | ● |
| | Bergen Street | ● | | ● | | | | |
| | St. Marks Place | ● | | ● | | | | |
| | Prospect Place | ● | | ● | | | | |
| | Park Place | ● | | ● | | | ● | ● |
| | Sterling Place | | | | | | ● | |
| Underhill Ave at | Dean Street | ○ | ○ | ● | ○ | | ○ | ● |
| Washington Ave at | Pacific Street | ○ | ○ | ● | ○ | | ○ | ● |
| | Dean Street | ● | | ● | ● | | | |
| | Eastern Parkway | ● | ● | ● | ● | ● | ● | ● |
| Adams Street at | Tillary Street | | | | | | | |
| Boerum Place at | Livingston Street | | | | | | | |
| | Schermerhorn Street | | | | | | | ● |
| Smith Street at | Dean Street | ○ | ○ | ● | ○ | | ○ | ● |
| **Unsignalized Intersection** | | | | | | | | |
| Atlantic Ave at | Waverly Place | ○ | | | | | | |

**Notes:**
○ Intersection with one or more congested movements in the peak hour (LOS E or F, or v/c > 0.9).
● Intersection with one or more congested movements in the peak hour (LOS E or F, or v/c > 0.9) and at least one movement operating at capacity (v/c > 1.0).

*TRANSIT AND PEDESTRIANS*

*Long Island Rail Road (LIRR)*

Under the No Action Alternative, there would be an increase in LIRR ridership from general background growth and trips associated with new development that is independent of the proposed project. Although ridership would increase at Atlantic Terminal, improvements that are planned as part of LIRR's capital program would provide for adequate circulation to support ridership under the No Action Alternative.

The No Action Alternative would not alter the existing configuration of the rail yard and would not renovate the rail yard in a manner allowing it to better accommodate ADA-compliant trains. The proposed project includes a new design for the rail yard that would replace the open rail yard with an enclosed, state-of-the-art LIRR storage, service, and inspection facility; expand rail yard capacity; provide direct rail access to the rail yard from Atlantic Terminal through a new West Portal; build a new drill track to allow for the switching of eight- and 10-car trains; install new toilet manifolds for unrestricted servicing; and add signal, interlocking, and switching

systems. None of these benefits to LIRR operations would be achieved under the No Action Alternative.

*Subways*

In the No Action Alternative, ridership would increase on the subway routes and at the subway station entrances and control areas that serve the project site, and station capacity would be adequate to serve these new riders, particularly during the weekday and Saturday post-game peak periods when the proposed project may result in platform crowding. Therefore, it would not be necessary to run additional trains on the routes that serve the Atlantic Avenue/Pacific Street station, which may be needed to alleviate the crowding of platforms that could occur with completion of the proposed project.

The No Action Alternative would not create a new subway station entrance on the southeast corner of Flatbush and Atlantic Avenues. The new entrance, which would be provided as part of the proposed project, would serve more than 300 current riders during each AM (8AM – 9AM), PM (5PM – 6PM), and pre-game (7PM – 8PM) peak period that would not be associated with the proposed project. These riders would divert from existing station entrances to the new location because it would be more convenient for their origins and destinations, and would not require them to cross the Flatbush and Atlantic Avenue intersection. Therefore, the No Action Alternative would not provide the transit improvements that would be realized with the proposed project.

*Buses*

New York City Transit (NYCT) routinely conducts ridership counts and increases service where operationally warranted and fiscally feasible. Therefore, it is anticipated that additional service would be provided under the No Action Alternative such that bus routes would not operate above capacity. The impact on the B38 bus that would occur with the proposed project would not occur with the No Action Alternative; however, this impact could be mitigated by the addition of one bus along the line during the AM peak hour. Because 5th Avenue would remain open, the B63 bus would not be rerouted as would be required with completion of the proposed project.

*Pedestrians*

In the No Action Alternative, there would be minimal increases in pedestrian trips in the vicinity of the project site. It is expected that sidewalks and crosswalks would not be improved, particularly along the south side of Atlantic Avenue on Blocks 1119, 1120, 1121. Regardless, there would be adequate capacity to accommodate pedestrian traffic such that these facilities within the study area would operate at LOS A or B in the No Action Alternative. Unlike the proposed project, the No Action Alternative would not impact the north crosswalks at Dean Street and 6th Avenue and Dean Street and Carlton Street. However, these crosswalks could be widened, which would fully mitigate the impacts of the proposed project.

*AIR QUALITY*

In the No Action Alternative, traffic volumes would increase in the vicinity of the project site from general background growth and trips associated with new development that would be independent of the proposed project. However, as with the proposed project, no exceedances of the National Ambient Air Quality Standards (NAAQS) are predicted from local mobile source emissions of CO, $PM_{10}$, and $PM_{2.5}$ in the study area. In the No Action Alternative, as with the

proposed project, the borough would be designated a moderate non-attainment area for ozone and a non-attainment area for $PM_{2.5}$.

The No Action Alternative would maintain the M1-1 zoning classification for large portions of the project site. Although new uses would not be developed within the existing open air rail yard, it is possible that industrial uses could be developed on other parcels within the project site, which would have the potential to result in new stationary source emissions. Heating, ventilation, and air conditioning (HVAC) emissions would be lower in the No Action Alternative compared with the proposed project, but any industrial source emissions would be expected to be similar to existing conditions.

*NOISE*

In the No Action Alternative, traffic volumes would increase in the vicinity of the project site from general background growth and trips associated with new development that would be independent of the proposed project. These increases in traffic at intersections in the vicinity of the project site would result in changes in noise levels but, at most locations and during most time periods, the increase in $L_{eq(1)}$ noise levels would be less than 1.0—an imperceptible change. The maximum increase in $L_{eq(1)}$ noise levels, as compared with existing noise levels, would be 2.8 dBA at Receptor Site 5 (Dean Street between Vanderbilt and Carlton Avenues) during the weekday midday time period; however, a change of this magnitude would be barely perceptible.

Because the No Action Alternative would not result in a substantial increase in traffic in the vicinity of the project site, it would not result in adverse noise effects on some residences along Dean Street and at the Dean Playground; whereas, the proposed project would result in significant adverse impacts at these locations.

In terms of *CEQR Technical Manual* noise exposure guidelines, future (2016) noise levels for the No Action Alternative and the proposed project would be in the "Marginally Unacceptable" category for Receptors 2 (Flatbush Avenue at Dean Street), 5 (Dean Street between Vanderbilt and Carlton Avenues), 6 (Vanderbilt Avenue between Pacific and Dean Streets), 7 (Atlantic Avenue between Clermont and Carlton Avenues), and 8 (4th Avenue between Atlantic Avenue and Pacific Street), and would be in the "Marginally Acceptable" category for Receptors 1 (Pacific Street between Flatbush and 4th Avenues), 9 (Dean Street between 5th and 6th Avenues), and 11 (Bergen Street between Carlton and 6th Avenues). Because the No Action Alternative would have lower traffic volumes than the proposed project, noise exposure levels for Receptors 3 (Dean Street between Flatbush and 6th Avenues), 10 (6th Avenue between Pacific and Dean Streets), and 12 (Carlton Avenue between Pacific and Dean Streets) would remain in the "Marginally Acceptable" category, whereas these receptors would be in the "Marginally Unacceptable" category with the proposed project. However, because Pacific Street would remain open to traffic under the No Action Alternative, noise exposure levels at Receptor 4 (Pacific Street between Carlton and 6th Avenues) would remain in the "Marginally Unacceptable" category; whereas, the proposed project would improve conditions at this location to result in its being in the "Marginally Acceptable" category.

Overall, like the proposed project, noise levels in the No Action Alternative would be characteristic of busy commercial areas with high traffic volumes.

*NEIGHBORHOOD CHARACTER*

The No Action Alternative would not result in substantial changes in traffic or noise in the vicinity of the project site; but it would maintain the blighting influence of the rail yard and underutilized parcels on surrounding blocks. The open cut rail yard would remain a barrier between residential neighborhoods, and the low-density commercial and industrial uses on the project site would continue to separate the surrounding residential neighborhoods. The No Action Alternative would not introduce new commercial, retail, and entertainment uses that would extend the commercial character of Downtown Brooklyn to the Atlantic Avenue area, and it would not provide for new housing, community facilities, and publicly accessible open space on the project site that complement the residential neighborhoods of Boerum Hill, Fort Greene, Prospect Heights, and Park Slope. Therefore, while avoiding the localized impacts to neighborhood character, the No Action Alternative would not result in the benefits to neighborhood character that would be achieved with the proposed project.

*CONSTRUCTION IMPACTS*

Under the No Action Alternative, there could be new construction if parcels within the project site are redeveloped

independent of the proposed project. It is anticipated that this construction, if it would occur, would be smaller in scale and of a shorter duration than what would be undertaken for the proposed project. Therefore, there would not be construction noise impacts at locations in close proximity to the project site:

- along Flatbush Avenue from approximately south of Atlantic Avenue to Bergen Street (including the site of the Brooklyn Bear's Community Garden);
- Dean Street from approximately 4th Avenue to Vanderbilt Avenue (including the location of the Dean Playground);
- Pacific Street between 4th Avenue and Flatbush Avenue (including the portion of the Pacific Street Branch of the Brooklyn Public Library [BPL] facing Site 5);
- From 6th Avenue to Carlton Avenue;
- Carlton Avenue from approximately Pacific Street to Bergen Street, 6th Avenue from approximately Dean Street to Bergen Street;
- Atlantic Commons Street between South Oxford Street and Cumberland Street (including the South Oxford Street Park);
- on the upper floors of buildings on South Portland Avenue from Atlantic Avenue north approximately 200 feet, on the upper floors of buildings on South Oxford and Cumberland Streets from approximately Atlantic Avenue to Atlantic Commons Street;
- on the upper floors of buildings on Carlton Avenue from Atlantic Avenue north approximately 200 feet, and on the upper floors of buildings on Atlantic Avenue between approximately South Oxford Street and Clermont Avenue.

There would also be no relocation of bus stops, street closures, or traffic diversions in the vicinity of the project site. The No Action Alternative would also not result in temporary increases in dust from construction on the project site.

*PUBLIC HEALTH*

Like the proposed project, the No Action Alternative would not adversely affect public health.

### CONCLUSION

In the No Action Alternative, there would be little change in physical conditions on the project site. There would not be direct displacement of residential units, businesses, and institutional uses on the project site; there would not be new shadows cast on the Church of the Redeemer or the open space on the southern portion of the Atlantic Terminal Houses; and views of the Williamsburgh Savings Bank Building from the Flatbush Avenue corridor would not be obstructed. However, the No Action Alternative would not benefit the project site and study area by providing for more than 2,000 units of affordable housing, an intergenerational and healthcare facility, a minimum of seven acres of publicly accessible open space, a comprehensive stormwater management program to reduce combined sewer flows, major enhancements to the rail yard, and a new subway station entrance.

With implementation of mitigation measures, the proposed project would reduce or eliminate its adverse impacts on cultural resources, community facilities, traffic and transit operations, pedestrian circulation, and sensitive noise receptors. While these impacts would not occur under the No Action Alternative, the benefits of a high-density, mixed-use development on the project site would not be realized. By maintaining the open air rail yard and underutilized parcels on surrounding blocks, the No Action Alternative would forego the opportunity to enhance the vitality of the Atlantic Terminal area and realize substantial economic benefits to the local community, the borough of Brooklyn, and the City and State. The No Action Alternative would maintain the use of a large tract of land as low-density transportation, manufacturing, and commercial when this site is appropriate for high density, mixed-use development given its location and proximity to major arterial roadways, public infrastructure, mass transit, and community goods and services. By failing to introduce new jobs, new residents, and major new attractions in this area, the No Action Alternative would maintain the blighted conditions of the project site in the heart of Brooklyn.

## C. AS-OF-RIGHT ALTERNATIVE

### DESCRIPTION

The As-of-Right Alternative consists of development that may occur at the site without any discretionary decision making by a public agency such as the MTA or the City of New York. As described above, the project site is mapped with several zoning districts: C6-2 (Block 927); R7A with a C1-4 overlay (Block 1127 along Flatbush Avenue and Block 1129 along Vanderbilt Avenue); C4-4A (Block 1127 and 1128 along Pacific Street); C6-1 (Block 1118); M1-1 (Block 1119, 1120, 1121, and portions of 1129); and R6B (Block 1128 along Dean Street). Absent the proposed project, privately owned parcels within the project site could be redeveloped as-of-right consistent with their underlying zoning. The following sites are publicly owned and development could not occur without discretionary approvals: Block 1118, Lot 6; Block 1119, Lot 7; Block 1120, Lot 1; Block 1121, Lot 1; Block 1127, Lots 18 and 33.

Block 927 contains two active businesses in two separate one-story structures. Although higher density development could be achieved given its C6-2 zoning, the City of New York owns the

air rights on this site. Therefore, higher-density development could not occur on Block 927 without City approval.

The majority of Block 1118 is privately owned and is currently occupied with vacant lots and two low-rise commercial buildings. This block is zoned C6-1 and is within the Special Downtown Brooklyn District, which would permit mid- to high-density residential, commercial, or community facility uses. Because this block has a high-profile location and is currently underdeveloped, it is a likely location for an as-of-right development.

Blocks 1119, 1120, and 1121 are zoned M1-1, and the open air rail yard occupies the majority of these blocks. Block 1119, Lots 1 and 64; Block 1120, Lots 19 and 28; and Block 1121. Lots 42 and 47 are currently occupied with active uses, and only Block 1120, Lot 35 is currently vacant. Given the current uses and zoning of Blocks 1119, 1120, and 1121, new as-of-right development is not anticipated at this location.

Blocks 1127 and 1129 have a mix of existing uses, land owners, and zoning classifications. Given the fractured nature of zoning on these blocks and the presence of existing, active uses, it would be difficult to assemble a site that would be reasonable for as-of-right development.

The portion of Block 1128, included as part of the proposed project, contains residential and commercial buildings and vacant lots with different owners, which would make it difficult to assemble a site for as-of-right redevelopment. Furthermore, these lots provide for a density that is consistent with, or in excess of, the underlying zoning; therefore, redevelopment of these parcels as-of-right would not provide for substantial new floor area.

## AS-OF-RIGHT ALTERNATIVE COMPARED WITH THE PROPOSED PROJECT

As described above, there is limited development potential on the majority of the project site under the As-of-Right Alternative given the amount of land held in public ownership, the fractured nature of its zoning, and the number of existing, occupied buildings. Therefore, generally, the environmental effects of the As-of-Right Alternative would be the same as those of the No Action Alternative described above. However, a potential new development on Block 1118 would alter the conclusions for the No Action Alternative with respect to shadows, urban design and visual resources as described below.

Block 1118, which is located on the southeast corner of Flatbush and Atlantic Avenues, currently contains low-rise buildings that allow views of the Williamsburgh Savings Bank Building from south of the project site along the Flatbush Avenue corridor. The Williamsburgh Savings Bank Building is a prominent feature in this area of Brooklyn's skyline. The proposed project includes a 620-foot tall building on Block 1118, which would obstruct views of the 510-foot tall Williamsburgh Savings Bank Building from south of the project site along the Flatbush Avenue corridor. The As-of-Right Alternative would allow for development per zoning of a building that is up to 495 feet tall at this location, which would also obstruct views of the Williamsburgh Savings Bank Building from south of the project site along the Flatbush Avenue corridor. Therefore, like the proposed project, the .As-of-Right Alternative would result in a significant adverse impact with respect to this visual resource but to a lesser extent than the proposed project.

A new building on Block 1118 would cast new shadows on the stained-glass windows of the east façade of the Church of the Redeemer during the March analysis period. However, these shadows would exit the façade before 9:00 AM; therefore, an as-of-right building on this site would not impact this sun-sensitive receptor.

Given current congestion at intersections in the vicinity of Block 1118, it is likely that an as-of-right development would result in significant adverse traffic impacts. The extent of these impacts and resultant mitigation would depend on the proposed use of this building, but its overall effects on traffic would be substantially less than the proposed project.

It is expected that an as-of-right building would require more than two years to construct, which could result in temporary adverse traffic and noise impacts. However, the extent of these impacts would be substantially reduced as compared with the proposed project. With respect to the proposed project, the project sponsors have committed to a comprehensive program of emission reduction measures. These include electrification of equipment where practicable, the use of ultra low sulfur fuel and extensive use of particulate filters. It is unknown whether such measures would be used to construct the As-of-Right Alternative, and therefore, there could be temporary adverse increases in mobile and stationary source emissions from construction of this alternative.

## D. NO UNMITIGATED SIGNIFICANT IMPACTS ALTERNATIVE

### DESCRIPTION

The proposed project would result in unmitigated impacts with respect to cultural resources, urban design and visual resources, shadows, traffic, and noise. Therefore, alternatives were developed to explore modifications to the proposed project that would allow for the mitigation of these impacts.

*CULTURAL RESOURCES*

The proposed project would result in the demolition of the former LIRR Stables and the Ward Bread Bakery complex. Although documentation of these resources would be undertaken in consultation with OPRHP, the demolition of these structures is a significant adverse impact that cannot be fully mitigated.

While OPRHP has identified the former LIRR Stables and the Ward Bread Bakery complex as being eligible for listing on the State Register, they have not been designated as landmarks. In order to ensure that these buildings would not be adversely affected, they would need to be designated as a New York City Landmark or be excluded from the project. The exclusion of these sites from the project without historic designation would not preclude their alteration or demolition independent of the project.

The No Unmitigated Significant Impacts Alternative would avoid demolition of these historic resources. Under this alternative, any new development at the project site would be designed so as to leave these structures in place. This would reduce the footprint of any new development, which would result in greater density, fewer housing units, less open space, or some combination of these possibilities.

The preservation of these resources would also significantly constrain the design of the proposed project in ways that could make future development at the project site more difficult. The proposed project demolishes the former LIRR Stables in connection with the construction of a new rail yard for LIRR. If the LIRR Stables are maintained, it would constrain the design of the new rail yard in ways that would adversely affect the new rail yard. Further information about this issue is presented in the discussion of the Reduced Density—No Arena Alternative. If the Ward Bread Bakery building were maintained, in addition to reducing the number of residential

units that could be provided and substantially compromise the functionality of the proposed project's open space, it would also reduce the area available for below-grade storm water management basins, which cannot be built over the rail yard area of the project site.

*URBAN DESIGN AND VISUAL RESOURCES*

As described in Chapter 8, "Urban Design and Visual Resources," the Williamsburgh Savings Bank Building is an iconic structure within Brooklyn and is clearly visible from the Flatbush Avenue corridor south of the project site. However, new structures associated with the proposed project would obstruct views of the Williamsburgh Savings Bank Building from this vantage point. The adverse impact on the visual character of the Williamsburgh Savings Bank Building is considered significant and cannot be mitigated under the current proposal for the proposed project.

As described in the As-of-Right Alternative above, a portion of Block 1118 could be developed as-of-right with a tall structure; up to 495-foot under zoning, which would significantly obstruct views of the Williamsburgh Savings Bank Building; therefore, with respect to the No Unmitigated Significant Impacts Alternative, the only mitigation for the potential effects on its visual character would be a down-zoning of this property. A down-zoning of Block 1118 would be inconsistent with the ATURA, the Special Downtown Brooklyn District, and recent trends by the City to provide for high density zoning along arterial streets as a buffer for low-density zoning on residential streets. Therefore, a down-zoning of Block 1118 would be inconsistent with approved public policy and other public initiatives that are intended to guide development on the project site.

*SHADOWS*

The proposed project would result in significant adverse impacts from new shadows cast on the southern portion of the open space of the Atlantic Terminal Houses and on the stained-glass windows of the eastern façade of the Church of the Redeemer. The project's impacts on the open space of the Atlantic Terminal Houses would be partially mitigated with measures to ameliorate the shadow that focus on improving the attractiveness and usability of the open space. Measures to partially mitigate new shadows on the stained-glass windows of the eastern façade of the Church of the Redeemer could include replacement of the semi-opaque screen currently protecting the existing stained-glass windows, improved lighting, or the implementation of some other mutually agreed measures.

In order to fully mitigate the proposed project's significant adverse impacts on the open space of the Atlantic Terminal Houses, new structures on the eastern portion of Block 1120 and on the western portion of Block 1121 would be reduced to a maximum height of 110 feet, and to fully mitigate the impact on the Church of the Redeemer, the building on Site 5 would be reduced to a maximum height of 200 feet.

A reduction in the height of these buildings would require either 1) a substantial reduction in the proposed density on the project site or 2) a reduction in the project's proposed open space to allow for shorter buildings with comparable floor area. Reducing the height of these structures would be inconsistent with the goal to establish a high-density, mixed-use project in an area that is well served by necessary infrastructure, particularly transportation. Increasing the footprint of these buildings to maintain their floor area would reduce visual and pedestrian access through the site in the form of open spaces that extend the trajectory of the north-south streets that dead-end or intersect with Atlantic Avenue. Therefore, measures to fully mitigate the project's

impacts from new shadows cast on the Church of the Redeemer and the the open space of the Atlantic Terminal Houses would substantially compromise the project's goals.

*TRAFFIC*

The proposed project would result in significant adverse traffic impacts at intersections within the study area that cannot be fully alleviated with practical mitigation measures. Because of exiting congestion at a number of intersections, even a minimal increase in traffic would result in unmitigated impacts at some locations. Based on a sensitivity analysis of intersections within the study area, it was determined that the addition of five cars during the AM peak period would trigger an impact that cannot be fully mitigated. Thus, almost any new development on the project site, including that which would be allowed as-of-right, would result in unmitigated traffic impacts, and no reasonable alternative could be developed to completely avoid such impacts without substantially compromising the project's stated goals.

*NOISE*

The proposed project would result in significant adverse impacts on the users of open space areas adjacent to Pacific Street and on the interior of the block bounded by Carlton and Vanderbilt Avenues. Due to safety and aesthetic concerns, there are no feasible measures to mitigate these impacts to open space.

*CONSTRUCTION IMPACTS*

The proposed project would result in significant adverse traffic and noise impacts during its construction. Because of the complexity of constructing a deck and the subsequent time required to erect a building, any proposal to redevelop the project site would likely require more than two years to construct and would likely result in significant adverse noise impacts on sensitive receptors along Dean Street.

The project's localized impacts on receptors along Dean Street and near Block 927 could be avoided if new construction were not undertaken on Site 5 or Block 1127. Avoiding development on Site 5 would be inconsistent with the public policy goals of the ATURA, which call for its redevelopment with high-density uses. The project's construction on Block 1127 is required to provide for an adequate footprint to site an arena. By avoiding new construction on this block, this alternative would fail to meet the project's goals and would preclude a professional sports venue that would generate substantial economic and civic benefit for the City and the State.

## E. UNITY PLAN ALTERNATIVE

Local political leaders, residents, and business owners held a workshop to develop a community-based proposal for the Atlantic Yards. The general principles discussed during the workshop for a development over the Vanderbilt Yards were presented in February 2005. Known as the Unity Plan, this proposal would result in new construction above the rail yard (Blocks 1119, 1120, and 1121) with residential, retail, and open space, and would retain existing development on Blocks 927, 1118, 1127, 1128, and 1129 (see Figure 20-1). The Unity Plan would extend South Elliott Street, South Oxford Street, Cumberland Street, Adelphi Street, and Clermont Avenue through the rail yard; develop 600,000 square feet of commercial space, 2,300 units of housing, a school, and a community recreation center; and provide a linear, midblock park system through the site.

The materials submitted for the Unity Plan are preliminary and do not provide a sufficient level of detail to prepare a quantified analysis of its potential environmental effects. However, the major principles of the Unity Plan, including lower density development, limited property acquisition, and no arena have been incorporated into the Reduced Density—No Arena Alternative, which is analyzed in Section F. Nevertheless, the Unity Plan is described here as background to a subsequent proposal prepared by the Extell Development Company.

The Unity Plan proposed the full redevelopment of Blocks 1119 and 1120 and partial redevelopment of Block 1121. This proposal would require acquisition of five privately owned parcels (Block 1119, Lots 1 and 64; and Block 1120, Lots 19, 28, and 35). Block 1121, Lots 42 and 47 are not included in the Unity Plan. The Unity Plan would result in new construction on Block 1119, Lots 1 and 64 and Block 1120, Lot 35. The existing buildings on Block 1120, Lots 19 and 28 would be renovated. The proposal would not require acquisition of properties on Blocks 927, 1118, 1127, 1128, and 1129 (see Figure 20-1).

The Unity Plan proposed mid-rise buildings organized in an east-west orientation along Atlantic Avenue and Pacific Street. The bases of these buildings would have retail and community facility uses, and apartment buildings would rise above them. A linear park would be located midblock between Atlantic Avenue and Pacific Street. The Unity Plan Alternative indicates the total programming of space, but does not provide details on a block-by-block basis.

When the MTA issued its Request for Proposals (RFP) for the Vanderbilt Yard, the proponents of the Unity Plan submitted their blueprint to at least one developer to encourage a formal bid for the site. The Extell Development Company (Extell) reviewed the Unity Plan and adopted its major concepts into its proposal for the redevelopment of the rail yard.

## F. REDUCED DENSITY—NO ARENA ALTERNATIVE

### DESCRIPTION

The Extell Development Company (Extell) prepared a formal response to the MTA's RFP for Vanderbilt Yard, which was reviewed, but not selected, by the MTA. As described above, Extell's proposal built upon the Unity Plan. The proposal, as submitted to the MTA, forms the basis for "Reduced Density—No Arena Alternative." A complete description of the program package submitted by Extell is contained in Appendix G, "Alternatives."

As shown in Figure 20-2, the Reduced Density—No Arena Alternative calls for the mixed-use development of the portions of Blocks 1119, 1120, and 1121 that are currently owned by the MTA. Blocks 927, 1118, 1127, 1128, and 1129, privately owned lots within Blocks 1119, 1120, and 1121, and portions of the existing right-of-way of Pacific Street and 5th Avenue would not be included in the plan. These parcels and streets would remain under their current ownership.

Like the proposed project, the Reduced Density—No Arena Alternative would include residential, retail, and open space (see Figure 20-3), but there would be no arena, no office space, and no opportunity for a hotel. The number of residential units, the square footage of retail, and the acreage of open space under the Reduced Density—No Arena Alternative would be substantially lower than with the proposed project; however, because this alternative would be developed on a smaller footprint, the overall density would be only slightly less than the proposed project. Table 20-2 compares development programs for the proposed project and the Reduced Density—No Arena Alternative.

**Table 20-2**
**Comparison of Development Programs for the Proposed Project and the Reduced Density—No Arena Alternative**

| Use | Proposed Project (Residential Mixed-Use Variation) | Proposed Project (Commercial Mixed-Use Variation) | Reduced Density—No Arena Alternative |
|---|---|---|---|
| Residential | 6,860 units | 5,790 units | 1,946 units |
| Office | 606,000 sf | 1,829,000 sf | — |
| Arena | 850,000 sf | 850,000 sf | — |
| Hotel | 180 rooms | 0 rooms | — |
| Retail | 247,000 sf | 247,000 sf | 116,000 sf |
| Community Facility | A portion of the retail and residential space would be used for community facilities | | 75,515 sf |
| Open Space | ≥ 7 acres | ≥ 7 acres | 3.84 acres |
| Parking | 3,800 spaces | 3,800 spaces | 1,000 spaces |

**Source:** Vanderbilt Yard (Proposal to the Metropolitan Transportation Authority by Extell Development Company, July 6, 2005)

The Reduced Density—No Arena Alternative would provide for a concrete deck over the rail yard; however, the plan does not call for the excavation of the yard to allow the deck to be built at street level. Therefore, in most locations, the deck would have 22 feet of clearance between the tracks and the slab to comply with LIRR's operating requirements but would not provide adequate clearance under the Carlton Avenue Bridge. The plan calls for the reconfiguration of the rail yard within Block 1120 to provide for developable area within all of the MTA's property on Block 1119 and the southern portion of the MTA's property on Block 1121. Preliminary plans for the new rail yard show a storage capacity for 30 train cars as compared with the existing capacity of 72 cars. The rail yard would be built on a curve, and a new West Portal, and a drill track would not be provided. Therefore, the Reduced Density—No Arena Alternative would not provide the benefits to LIRR that would result from the proposed project, and its reduced storage capacity would adversely impact LIRR operations.

As shown in Figure 20-4, the Reduced Density—No Arena Alternative would result in the construction of 11 buildings on top of an above-grade platform spanning the rail yard. Buildings would range from four to 28 stories with a maximum height of 287 feet. The proposed design would result in eight high-rise structures in a curving footprint along Atlantic Avenue, which is reflected in the schematic drawing shown in Figure 20-5. Two additional low-rise buildings would be constructed on Pacific Street.

Block 1119 would contain three buildings—two 28-story buildings and one six-story building. These buildings would include a one-story retail base well above street level. Parking would be provided on two subgrade levels, and there would be one level of subgrade retail. Open space would be located at the corners of Atlantic and 6th Avenues, and Pacific Street and 6th Avenue. Open space would also be provided on the eastern portion of the block on top of the one-story base. This second-level open space would be flanked to its north by the 28-story buildings, and to its south by the six-story building. The two parcels (Lots 1 and 64) at the westernmost portion of this block would not be developed as part of the Reduced Density—No Arena Alternative.

Block 1120 would contain four buildings—three 17-story buildings and one four-story building. The 17-story buildings would be residential while the four-story building would contain a school.

Open space would be provided along Pacific Street near its intersection with 6th Avenue and with Carlton Avenue. Second-level open space would be constructed above a portion of the school and along the Atlantic Avenue frontage of the residential buildings. The Reduced Density—No Arena Alternative would not provide parking on this block, and the existing structures on Block 1120, Lots 19 and 28, would remain. Block 1120, Lot 35 would remain vacant or could be redeveloped under the current zoning or subject to a separate discretionary action.

Block 1121 would contain four buildings—three 28-story buildings and one six-story building. Like the proposal for Block 1119, the buildings on this block would be connected with a one-story base. The base would contain retail along Carlton Avenue, residential uses along Pacific Street, and enclosed parking along Atlantic Avenue. Three additional levels of parking would be below grade. Open space would be provided near the intersection of Carlton Avenue and Pacific Street as well as above the one-story base. Block 1121, Lots 42 and 47 would not be included as part of the Reduced Density—No Arena Alternative.

As shown in Table 20-1, the Reduced Density—No Arena Alternative would result in a total of 1,946 residential units, 1,373 of which would be market-rate condominiums. The remaining 573 apartments would be affordable rental units. It is not certain how the affordable units would be distributed within the complex of buildings.

The Reduced Density—No Arena Alternative would require six years to construct, including design. The deck over the rail yard would be constructed in a single phase, and then construction would begin on the individual structures above the deck. It is likely that the buildings would have phased openings.

Like the proposed project, the implementation of the Reduced Density—No Arena Alternative would require a number of discretionary approvals. However, certain actions that would be required for the proposed project would not be necessary for the Reduced Density—No Arena Alternative as shown in Table 20-3.

**Table 20-3**
**Discretionary Approvals for the Proposed Project and Reduced Density—No Arena Alternative**

| Discretionary Approval | Proposed Project | Reduced Density—No Arena Alternative |
|---|---|---|
| Adoption of General Project Plan by ESDC | Required | Required |
| Override by ESDC of certain aspects of the New York City Zoning Resolution | Required | Required |
| Override by ESDC of ATURA plan for Sites 5 and 6A | Required | Not Required |
| Override of the City Map for Pacific Street between Flatbush and 6th Avenues; 5th Avenue between Flatbush and Atlantic Avenues; and Pacific Street between Vanderbilt and Carlton Avenues | Required | Not Required |
| Acquisition of property by ESDC through negotiation or condemnation and subsequent disposition of property, including city-owned property | Required | Required |
| Approval of Public Authorities Control Board | Required | Required |
| Disposition by MTA of a property interest in the rail yard and other transit improvements, and any related real property acquisitions by LIRR or MTA | Required | Required |
| Provision of State and City funding for affordable housing and other elements of the proposed project and tax exempt financing | Required | Required |

## REDUCED DENSITY—NO ARENA ALTERNATIVE COMPARED WITH THE PROPOSED PROJECT

### *LAND USE, ZONING, AND PUBLIC POLICY*

Like the proposed project, the Reduced Density—No Arena Alternative would represent a change in land use on the project site. It would span the open, below-grade rail yard with residential, retail, and community facilities. Because the Reduced Density—No Arena Alternative would require a 22-foot clearance above the rail yard, buildings would be elevated above street level, which would create a physical barrier between the blocks north and south of the project site and would not link the communities of Boerum Hill, Fort Greene, Prospect Heights, and Park Slope. Furthermore, because the Reduced Density—No Arena Alternative would not redevelop Blocks 1119, Lots 1 and 64; Block 1120, Lots 19, 28, and 35; and Block 1121, Lots 42 and 47, existing industrial buildings and underutilized parcels would remain on the project site. Therefore, the Reduced Density—No Arena Alternative would result in the juxtaposition of manufacturing and residential uses. Although not a significant adverse impact with respect to land use, the continued operation of industrial uses on the project site would not benefit the residential uses proposed under the Reduced Density—No Arena Alternative.

Unlike the proposed project, Blocks 927, 1118, 1127, 1128, and 1129 would not be redeveloped in the Reduced Density—No Arena Alternative, and Pacific Street and 5th Avenue would remain in their current configurations. However, it is possible that the redevelopment of Blocks 1119, 1120, and 1121 would spur new projects on adjacent blocks; but, given the limitations of their current zoning, any subsequent development of Blocks 927, 1118, 1127, 1128, and 1129 would require a rezoning and subsequent environmental review process.

The Reduced Density—No Arena Alternative would be implemented as part of a General Project Plan (GPP); therefore, like the proposed project, it would override the existing zoning of the project site. However, the Reduced Density—No Arena Alternative would not override the zoning of Blocks 1127 and 1129; therefore, the existing zoning of these blocks would allow for the future development of low-density industrial uses, which would be out of context with the surrounding residential uses. By maintaining the existing low-density zoning of the majority of the project site, the Reduced Density—No Arena Alternative would forego the opportunity for transit-oriented development. However, because the Reduced Density—No Arena Alternative would not include an arena, its implementation would not require an override of the provision of the zoning resolution that restricts the siting of an arena within 200 feet of a mapped residential district, and there would be no localized impacts on the existing residences located within 200 feet of Blocks 1119 and 1127.

The transit-oriented development of the proposed project and the Reduced Density—No Arena Alternative would accommodate anticipated growth efficiently, in a relatively small land area that is well-served by necessary infrastructure, particularly transportation. However, the proposed project would result in a larger development with a greater mix of uses (8.53 FAR as compared with 7.43 FAR) and would take better advantage of the transit-oriented location of the project site.

The Reduced Density—No Arena Alternative would provide for 573 affordable housing units on the project site as compared with 2,250 units with the proposed project. While the affordable units proposed with the Reduced Density—No Arena Alternative would help meet the City's goal of adding to the overall supply of low- and moderate-income housing, it would not take full advantage of the potential for such housing on the project site. The project site is well-suited for

mixed-income housing and the provision of affordable units at this location has major benefits for low- and moderate-income residents. The project site's proximity to LIRR, subway, and bus services provides ample transit access for low- and moderate-income families, and the combination of existing and future employment opportunities on and near the project site would provide numerous employment opportunities for future residents. Thus, the proposed project would provide for a greater benefit to low- and moderate-income families than the Reduced Density—No Arena Alternative by providing for more affordable units on the project site.

The Reduced Density—No Arena Alternative would partly meet the goals of the ATURA plan by providing new residential and commercial uses on the majority of Blocks 1119, 1120, and 1121. However, new development would not occur on Blocks 927 and 1118 and on Block 1119, Lots 1 and 64; Block 1120, Lots 19, 28, and 35; and Block 1121, Lots 42 and 47. Therefore, sites within the ATURA would remain undeveloped upon completion of the Reduced Density—No Arena Alternative and the blighted conditions on the project site would remain.

Unlike the proposed project, all of the parcels proposed for development under the Reduced Density—No Arena Alternative are owned by the MTA; therefore, condemnation would not be required for the Reduced Density—No Arena Alternative. The development of the proposed project would require action by ESDC to condemn and acquire parcels comprising the project site. The proposed project also requires acquisition of City-owned property, including the right-of-ways of portions of Pacific Street and 5th Avenue.

As described in Chapter 1, "Project Description," one goal of the project is to enhance the vitality of the Atlantic Terminal area. Although the Reduced Density—No Arena Alternative would partly achieve this goal by replacing underutilized land with residential, retail, and community facility uses, it would not include major commercial and entertainment uses that would attract new populations to the area for work and pleasure. These uses not only provide jobs for the borough, but they also strengthen its economic role in the New York Metropolitan area. The Reduced Density—No Arena Alternative would support Brooklyn's need for market-rate and affordable housing but it would provide only one quarter of that contemplated for the proposed project. Therefore, the Reduced Density—No Arena Alternative would not meet the public policy goals for redevelopment as effectively as the proposed project.

*SOCIOECONOMIC CONDITIONS*

As shown in Table 20-4, the Reduced Density—No Arena Alternative would generate fewer residents and employees than the proposed project since it would have fewer dwelling units and no office or arena uses; but like the proposed project, the Reduced Density—No Arena Alternative would not result in any significant adverse socioeconomic impacts. However, the socioeconomic effects of the proposed project and Reduced Density—No Arena Alternative would differ for some of the five areas of socioeconomic analysis. In addition, the economic and fiscal benefits of the Reduced Density—No Arena Alternative would be less than those of the proposed project, which substantially reduces the incentive for public investment in the redevelopment of the project site.

**Table 20-4**
**Comparison of Worker and Residential Populations for the Proposed Project and the Reduced Density—No Arena Alternative**

| Land Use | Proposed Project (Residential Mixed-Use Variation) | | Proposed Project (Commercial Mixed-Use Variation) | | Reduced Density—No Arena Alternative | |
|---|---|---|---|---|---|---|
| | Workers | Residents | Workers | Residents | Workers | Residents |
| Residential | 270 | 14,410 | 230 | 12,160 | 78 | 4,074 |
| Hotel | 70 | 0 | 0 | 0 | 0 | 0 |
| Retail and Community Facility | 740 | 0 | 740 | 0 | 575 | 0 |
| Office | 2,420 | 0 | 7,320 | 0 | 0 | 0 |
| Arena | 1,120 | 0 | 1,120 | 0 | 0 | 0 |
| Parking | 80 | 0 | 80 | 0 | 20 | 0 |
| Total | 4,700 | 14,410 | 9,490 | 12,160 | 673 | 4,074 |

**Notes:**
Arena employment for the proposed project is based on employment data provided by FCRC in March, 2006. (See Chapter 4, "Socioeconomics" for further detail.) Other employment assumptions include: 4 employees per 1,000 square feet of office space; 3 employees per 1,000 square feet of retail/community facility space; 1 employee per 25 residential units; and 1 employee per 50 parking spaces.
Population estimates assume an average household size of 2.1 persons per household, the average household size for the ½-mile study area. Numbers have been rounded.
**Source:**
U.S. Department of Commerce, Bureau of the Census, 2000 Census; AKRF, Inc.

*Direct Residential Displacement*

Figure 20-5 compares direct displacement under the proposed project and the Reduced Density—No Arena Alternative. As shown in the figure, development under the Reduced Density—No Arena Alternative would be confined to the rail yard parcels, which do not contain any residential uses. Therefore, while the proposed project would directly displace 171 households (conservatively including all housing units on the project site, regardless of their current occupancy status or the terms upon which they were vacated) the alternative would not result in any direct residential displacement. Neither the proposed project nor the Reduced Density—No Arena Alternative would result in a significant adverse direct residential displacement impact.

*Direct Business Displacement*

Figure 20-5 compares direct displacement under the proposed project and the Reduced Density—No Arena Alternative. As shown in the figure, development under the Reduced Density—No Arena Alternative would be confined to the rail yard, and the rail yard does not contain any commercial or institutional uses other than the MTA/LIRR operations. Therefore, while the proposed project would directly displace 27 businesses and two institutions, the Reduced Density—No Arena Alternative would not result in any direct business or institutional displacement. Neither the proposed project nor the Reduced Density—No Arena Alternative would result in a significant adverse impact.

*Indirect Residential Displacement*

Like the proposed project, the Reduced Density—No Arena Alternative would not result in a significant indirect residential displacement impact. The analysis of the proposed project identified 10 Census tracts that contain households that might be at risk of indirect displacement if rental rates were to increase. The number and location of potentially vulnerable households would be the same under the proposed project and the Reduced Density—No Arena Alternative. As described in

Chapter 4, "Socioeconomic Conditions," these 10 Census tracts are located at a substantial distance from the project site and are separated from the site by well-established residential neighborhoods and commercial corridors. This limits the potential for development under either the proposed project or the Reduced Density—No Arena Alternative to affect property values in the areas containing the at-risk population. Furthermore, upward trends in property values and household incomes are leading to decreases in the study area's at-risk population and will probably continue to do so with or without the proposed project or the Reduced Density—No Arena Alternative.

Like the proposed project, the Reduced Density—No Arena Alternative would introduce a mix of market-rate and affordable housing units. The distribution of renter versus owner units would be different under the proposed project (between 65 and 77 percent rental) and the Reduced Density—No Arena Alternative (30 percent rental), and the characteristics of the rental units (e.g., number of bedrooms) under the Reduced Density—No Arena Alternative are not known. However, the mix of renter and owner, and affordable and market-rate units introduced by the Reduced Density—No Arena Alternative indicates that, as with the proposed project, the Reduced Density—No Arena Alternative would introduce a population that would have socioeconomic characteristics that would not be markedly different from the existing population in the broader ¾-mile study area.

Finally, although the Reduced Density—No Arena Alternative would introduce substantially fewer residential units than the proposed project (1,946 versus 5,790—6,860 units) it could, to some extent, serve to alleviate the current trend that places upward pressure on rental rates in the study area by increasing housing supply. Overall, like the proposed project, the Reduced Density—No Arena Alternative has limited potential to affect real estate values in the 10 Census tracts identified as containing at-risk population. Like the proposed project, the alternative is not expected to lead to indirect residential displacement in these tracts, and would not have a significant adverse indirect residential displacement impact.

*Indirect Business and Institutional Displacement*

The new residential and worker population introduced by the Reduced Density—No Arena Alternative would be considerably smaller than the population introduced by the proposed project, and visitation to the site under the Reduced Density—No Arena Alternative would be much lower since the plan does not include an arena. Therefore, the new customer base introduced by the Reduced Density—No Arena Alternative would be substantially smaller than the customer base introduced by the proposed project, and the potential benefits to existing businesses would be smaller.

The analysis of indirect business and institutional displacement presented in Chapter 4, "Socioeconomic Conditions," concluded that the proposed project could result in the indirect displacement of a small number of businesses and institutions located along Vanderbilt Avenue, Flatbush Avenue, and 4th Avenue, within ¼ mile of the proposed project site. Under the Reduced Density—No Arena Alternative, indirect business and institutional displacement along 4th Avenue and Flatbush Avenue would be less, since the new uses introduced to the western portion of the project site would not include office and arena uses, which could alter economic patterns in the immediate vicinity of the site. Indirect business displacement along Vanderbilt Avenue would be the same under both alternatives since they would introduce a substantial new residential population that would increase demand for neighborhood goods and services along Vanderbilt Avenue, thereby increasing land values and rent.

Overall, any differences in indirect business displacement under the proposed project and Reduced Density—No Arena Alternative would be small, and neither would result in a significant adverse indirect business displacement impact.

*Adverse Effects on a Specific Industry*

The analysis of effects on specific industries concludes that the proposed project would not result in a significant adverse impact on any specific industry or any category of business within or outside of the study area. Because the Reduced Density—No Arena Alternative would not result in any direct business displacement or any substantial amount of indirect business displacement it would not have the potential to adversely affect any specific industry.

*Economic and Fiscal Benefits*

The construction cost for the Reduced Density—No Arena Alternative, excluding land acquisition and financing, is estimated at approximately $1.08 billion (in 2005 dollars), or $1.11 billion in 2006 dollars. This is about 30 percent of that for either variation of the proposed project. Based on this cost and the RIMS II (Regional Input-Output Modeling System) model from the U.S. Department of Commerce, construction of the Reduced Density—No Arena Alternative would create about 8,250 direct and indirect jobs in New York City and about 10,240 direct and indirect jobs in New York State. Direct and indirect wages and salaries from constructing the alternative would total approximately $504 million in New York City and $615 million in New York State—all figures are approximately 30 percent of those for the proposed project. The total effect on the local economy, measured as economic output or demand, is projected at $1.6 billion in New York City, compared with $5.1 billion for the commercial mixed-use variation and $5.2 billion for the residential mixed-use variation. The total effect on the New York State economy is estimated at $2.1 billion, compared with $6.7 billion for the commercial mixed-use variation and $6.8 billion for the residential mixed-use variation.

Including the estimated mortgage recording fees from the 1,367 condominium owners (based on the selling assumptions in the Reduced Density—No Arena Alternative and an assumed 70 percent financed), total public sector revenues for New York City, MTA, and New York State from constructing the Reduced Density—No Arena Alternative would equal $97 million, compared with $265 million for the commercial mixed-use variation and $279 million for the residential mixed-use variation.

As noted above, once constructed, the annual operation of the Reduced Density—No Arena Alternative would support 673 full-time equivalent jobs, as opposed to 4,700 for the residential mixed-use variation and 9,490 for the commercial mixed-use variation. Total direct and indirect permanent employment would equal 872 jobs in New York City, as opposed to approximately 8,400 for the residential mixed-use variation and 18,200 for the commercial mixed-use variation. Total direct and indirect permanent employment in New York State would equal 975, as opposed to 10,200 for the residential mixed-use variation and 22,100 for the commercial mixed-use variation.

Direct and indirect wages and salaries are projected at approximately $33 million in New York City and $39 million in New York State. The overall effect on the local economy from operating the completed development from the Reduced Density—No Arena Alternative is projected at $107 million annually in New York City and $125 million annually in New York State, as opposed to $1.3 and $1.5 billion for the residential mixed-use variation and $2.9 and $3.4 billion annually for the commercial mixed-use variation. In addition to annual property taxes, public sector revenues for New York City, MTA, and New York State are projected at approximately $4.8 million annually, as opposed to $86 million annually from the residential mixed-use variation and $154 million annually from the commercial mixed-use variation. Because the Reduced Density—No Arena Alternative would have substantially less long-term economic benefits for the region, there is less incentive for public investment in its development.

*COMMUNITY FACILITIES*

As described in Chapter 5, "Community Facilities," the quantified analysis of potential impacts on community facilities considered the residential mixed-use variation for the proposed project. The residential mixed-use variation would generate more residents than the commercial mixed-use variation; therefore, it provides for a more conservative estimate of potential effects. The comparison that follows also shows the quantified analysis of the residential mixed-use variation relative to anticipated conditions under the Reduced Density—No Arena Alternative.

*Police Protection*

Neither the proposed project nor the Reduced Density—No Arena Alternative would directly displace any NYPD facilities. Furthermore, it is anticipated that NYPD would continue to evaluate its staffing needs and assign personnel based on population growth, area coverage, crime levels, and other local factors that may result with completion of the Reduced Density—No Arena Alternative. Therefore, like the proposed project, the Reduced Density—No Arena Alternative would not result in significant adverse impacts on police protection.

The Reduced Density—No Arena Alternative would result in increased vehicular traffic in the vicinity of the project site, but the current street operations would not change. Like the proposed project, the Reduced Density—No Arena Alternative would not result in significant adverse impacts on police response times due to the geographic distribution of the precinct headquarters and their respective coverage areas, and with continued adjustments in deployment of personnel and equipment by NYPD, both the proposed project and this alternative would not result in significant adverse impacts on NYPD operations from increased area population.

*Fire Protection*

The FDNY has a Special Operations Facility at 648 Pacific Street. This parcel is included in the project site for the proposed project but would not be included for the Reduced Density—No Arena Alternative.

The proposed project would result in closures of portions of 5th Avenue and Pacific Street and would add new population to the area that would demand fire protection. The Reduced Density—No Arena Alternative would also add new population to the area, but it would not result in street closures. FDNY would continue to evaluate its staffing needs and, like the proposed project, the Reduced Density—No Arena Alternative would not result in significant adverse impacts on the provision of fire response services since there are a number of full-service fire companies geographically distributed throughout the proposed project's study area.

*Public Schools*

Table 20-5 compares future enrollment in public schools for the proposed project and the Reduced Density—No Arena Alternative. The full build-out of the proposed project would result in a significant adverse impact on elementary and intermediate school seats for public schools located within ½ mile of the project site although there would be available capacity within the two CSDs in which the project site is located and, thus, a significant adverse impact would not result within the larger CSDs. The proposed project would also provide space for a school to mitigate its potential impact within the ½-mile area.

**Table 20-5**
**Comparison of Public School Enrollment for the Proposed Project and the Reduced Density—No Arena Alternative**

| School | Program Capacity | No Build | | Proposed Project (Residential Mixed-Use Variation) | | Reduced Density—No Arena Alternative | |
|---|---|---|---|---|---|---|---|
| | | Students | Program Utilization | Students | Program Utilization | Students | Program Utilization |
| Elementary | 4,263 | 3,762 | 88% | 5,635 | 132% | 4,328 | 102% |
| Intermediate | 2,457 | 1,821 | 74% | 2,531 | 103% | 2,033 | 83% |
| High School | 62,768 | 74,648 | 119% | 75,085 | 120% | 74,782 | 119% |

**Notes:**
The affordable housing units for the Reduced Density—No Arena Alternative were assumed to be low- to moderate-income for purposes of estimating school enrollment.
Capacity and enrollment numbers for elementary and intermediate schools reflect projected conditions for a ½-mile study area. High school capacities and enrollment are borough-wide.
**Sources:**
Enrollment and capacity for individual schools: DOE, *Utilization Profiles: Enrollment/Capacity/Utilization, 2004-2005*. These figures include Pre-K enrollment in these buildings.
Totals for CSDs 13 and 15 enrollments: DOE and DCP Enrollment Projections for Community School Districts (Actual 2004, Projected 2005 to 2014). DCP's actual enrollment does not include Pre-K enrollment as Pre-K programs are discretionary.
Capacity numbers for CSDs 13 and 15: DOE, *Utilization Profiles: Enrollment/Capacity/Utilization, 2004-2005*.
*Student generation rates are based on the* CEQR Technical Manual's *Table 3C-2: "Projected Public School Pupil Ratios in New Housing Units of All Sizes."*

Under the Reduced Density—No Arena Alternative, the projected enrollment in public intermediate schools would not exceed capacity; therefore, a significant adverse impact within the ½-mile area would not occur and mitigation would not be necessary. However, elementary school enrollment would exceed capacity. The Reduced Density—No Arena Alternative includes community facility space for a school. Although that program for this school has not been defined, it is anticipated that seats would be provided to accommodate the overflow generated by the Reduced Density—No Arena Alternative.

Both the Reduced Density—No Arena Alternative and the proposed project would result in continued shortfalls in the number of public high school seats in the borough of Brooklyn. However, since the increase in students under both the Reduced Density—No Arena Alternative and the proposed project would not result in an increase of five percent of available seats in the region, the projected shortfall would not be considered a significant adverse impact.

*Libraries*

Table 20-6 compares the ratio of library volumes per resident for the proposed project and the Reduced Density—No Arena Alternative. The proposed project would result in a ratio of 8.1 volumes per resident, which would represent a decrease as compared with No Build conditions, but would exceed the Brooklyn wide average of 1.8 volumes per resident. Therefore, the proposed project would not result in significant adverse impacts on library resources. Similarly, the Reduced Density—No Arena Alternative would decrease the volume per resident ratio as compared with No Build conditions, but the study area would continue to provide for a higher ratio than occurs Brooklyn-wide. Therefore, neither the proposed project nor the Reduced Density—No Arena Alternative would result in significant adverse impacts on library resources.

**Table 20-6**
**Comparison of Library Service for the Proposed Project and the Reduced Density—No Arena Alternative**

| | Study Area | | | Brooklyn Total (Existing) |
|---|---|---|---|---|
| | No Build | Proposed Project (Residential Mixed-Use Variation) | Reduced Density—No Arena Alternative | |
| Library Volumes | 1,269,194 | 1,269,194 | 1,269,194 | 4,420,614 |
| Residents | 143,491 | 157,901 | 145, | 2,465,326 |
| Volumes per Resident | 8.8 | 8.0 | 8.7 | 1.8 |

**Source:** Brooklyn Public Library

*Hospitals and Healthcare Centers*

The Reduced Density—No Arena Alternative would construct up to 573 additional new low- to moderate-income housing units and introduce approximately 1,203 new low- to moderate-income residents to the study area. Based on the national average of 390 annual emergency room visits per 1,000 low-income persons, these additional residents could generate 469 annual visits to study area emergency rooms. This would be a negligible increase (less than 1 percent) over existing emergency room visits and, therefore, like the proposed project, the Reduced Density—No Arena Alternative would not result in significant adverse impacts on hospitals and healthcare facilities.

*Day Care Centers*

Table 20-7 compares future enrollment in public day care facilities for the proposed project and the Reduced Density—No Arena Alternative. The proposed project would include a new public day care facility with at least 100 seats, which would increase the capacity of the study area and would fully accommodate demand generated by the proposed project. Under the Reduced Density—No Arena Alternative, the projected enrollment in public day care centers would also not exceed capacity; therefore, both the Reduced Density—No Arena Alternative and the proposed project would not result in a significant adverse impact on public day care centers.

**Table 20-7**
**Comparison of Public Day Care Enrollment for the Proposed Project and the Reduced Density—No Arena Alternative**

| | No Build | Proposed Project (Residential Mixed-Use Variation) | Reduced Density—No Arena Alternative |
|---|---|---|---|
| Capacity | 5,141 | 5,241 | 5,141 |
| Enrollment | 4,732 | 5,218 | 4,927 |
| Program Utilization | 92% | 100% | 96% |

**Source:** New York City Administration for Children's Services.

*Community Amenities*

The proposed project includes programmed space for an intergenerational facility, offering child care, youth, and senior center services as well as a health care facility and could accommodate a school on-site. The Reduced Density—No Arena Alternative includes approximately 75,000 square feet of community facility space, which would accommodate a school and other community facility uses. However, the Reduced Density—No Arena Alternative would not include an arena or an Urban Room and could not provide for major, interior public space to accommodate large community events such as high school and college sports and graduation ceremonies. Therefore, the Reduced Density—No Arena Alternative does not provide for the substantial benefits to community facilities that would be realized with the proposed project.

*OPEN SPACE AND RECREATIONAL FACILITIES*

*Methodology*

The assessment of potential impacts on open space resources considers both the quantitative and qualitative effects of the proposed project and the Reduced Density—No Arena Alternative. The quantitative analysis considers the full build-out of the project site and reflects both new open space resources and new population to be added to the ½-mile study area. Because a breakdown of active and passive recreational space could not be determined for the Reduced Density—No Arena Alternative, the quantitative comparison is based on total (active and passive) open space. The qualitative assessment considers the site plans for the proposed project and the Reduced Density—No Arena Alternative, and compares the general characteristics of planned open space.

*Quantitative Assessment*

The Reduced Density—No Arena Alternative would provide for a total of 3.84 acres of new public open space as compared with the minimum of seven acres that would be provided by the proposed project (which does not include the one acre of private open space that would be provided on the roof of the arena). However, because the Reduced Density—No Arena Alternative would generate fewer residents and workers, the future open space ratios would be comparable to those of the proposed project, and both the proposed project and the Reduced Density—No Arena Alternative would increase the ratio of open space as compared with the No Build condition (see Table 20-8). Therefore, the proposed project and the Reduced Density—No Arena Alternative would not result in significant adverse impacts on the provision of open space.

*Qualitative Assessment*

As described above, the Reduced Density—No Arena Alternative provides for 3.84 acres of open space. The open space is composed of a number of fragmented spaces with some along Atlantic Avenue, some along Pacific Street, and some in the midblock. In order to provide proper clearance for the rail yard and for parking on site, most of this open space would be situated well above street level. Public access to the open space is provided at limited spots, which include the eastern portion of Block 1119, at the southeast and southwest corners of Block 1120, and at the southeast corner of Block 1121. A combination of ramps and stairs would be used to provide vertical circulation between the street-level and the second-level open space. The programming of open space under the Reduced Density—No Arena Alternative is not known; however, it is assumed that a combination of active and passive recreation areas would be provided.

**Table 20-8**
**Comparison of Adequacy of Open Space for the Proposed Project and the Reduced Density—No Arena Alternative**

| Factor | No Action Alternative | Proposed Project (Residential Mixed-Use Variation) | Proposed Project (Commercial Mixed-Use Variation) | Reduced Density—No Arena Alternative |
|---|---|---|---|---|
| Study Area Population | | | | |
| Residents | 73,065 | 87,475 | 85,225 | 77,139 |
| Workers | 47,766 | 52,466 | 57,256 | 48,439 |
| Total | 120,831 | 139,941 | 142,281 | 125,578 |
| Open Space Acreage within the ½-mile study area | 23.95 | 30.95 | 30.95 | 27.79 |
| Open Space Ratio (Acres / 1,000 Residents) | 0.33 | 0.35 | 0.36 | 0.36 |
| Open Space Ratio (Acres / 1,000 Residents and Workers) | 0.20 | 0.22 | 0.22 | 0.22 |

**Notes:** Ratios include the combined total of active and passive open space.
**Source:** New York City Department of Parks and Recreation (DPR); New York City Department of Education (DOE); New York City Housing Authority (NYCHA); Police Athletic League (PAL); Trust for Public Land (TPL); Forest City Ratner Companies (FCRC); AKRF, Inc. field surveys (April 2004 and summer 2005).

The proposed project would introduce a connected system of a minimum of seven acres of open space at street level that would serve residents, workers, and visitors. This open space would also create north-south connections and improve access between the residential neighborhoods of Prospect Heights, Fort Greene, and Clinton Hill, furthering one of the planning objectives of the Atlantic Yards General Project Plan (GPP). The open space is designed to take advantage of the site's unique location at the convergence of several street grids and draw together the surrounding neighborhoods. All entrances to this open space would be designed as gateways at least 60 feet wide (comparable to the width of a neighborhood street) with an axis leading to a visible interior focal destination and/or through the block to the opposite street.

The proposed project's open space would include a water feature surrounded by plantings, paths, benches, and café terraces; and an active play area with volleyball, bocce, and benches for viewing. The water features would serve dual purposes as detention and retention basins, which are fundamental elements of a comprehensive stormwater management system. A bicycle path would also be included as another open space amenity that would further link the project site to the surrounding area.

In addition to the project's publicly accessible open space component, the proposed project would include the Urban Room, approximately one acre of private open space on the roof of the arena, at-grade private open space for residents of the townhouse-style residences in the buildings along Dean Street, and possibly private rooftop open space on some of the buildings. Although it would not be publicly-accessible, this additional open space would meet a portion of the demand generated by the new population introduced by the proposed project.

The open space provided under the Reduced Density—No Arena Alternative would be much less desirable than plans developed for the proposed project. The linear organization of second-

level open space between the residential buildings of the Reduced Density—No Arena Alternative would not provide an inviting environment for public use. It would have little visibility from the street; would require additional infrastructure to comply with Americans with Disabilities Act (ADA) guidelines; and would be separated from the surrounding neighborhood since it would be at second level. The open space would be narrow (from 20 to 60 feet), would have limited, if any, north to south access, and would be in shadow most of the time. The maximum width of this open space represents the minimum width of the proposed project's open space entrances.

The plan for the proposed project provides for more open and inviting space. The wide street entrances and walkways would create a pedestrian street grid that would extend public sidewalks and would provide for view corridors through the project site. The organization of site buildings in combination with the view corridors would allow for areas of the interior to receive sunlight, and the pedestrian pathways would make the open space visible from street level.

*HISTORIC RESOURCES*

As described in Chapter 7, "Cultural Resources," there are no known historic, architectural resources on Blocks 1119 or 1121. Therefore, like the proposed project, the Reduced Density—No Arena Alternative would not result in significant adverse impacts from the demolition or alteration of architectural resources on these blocks. However, because the Reduced Density—No Arena Alternative would not result in new development on Blocks 1120, Lot 19 and Block 1129, Lot 25 it would not result in the significant adverse impacts on the former LIRR Stables and the Ward Bread Bakery complex that would occur with the proposed project.

Because the Reduced Density—No Arena Alternative would not develop Block 927, it would not cast new shadows on the stained-glass windows of the east façade of the Church of the Redeemer. Furthermore, while the Reduced Density—No Arena Alternative may obscure views of the Williamsburgh Savings Bank Building from interior blocks of Prospect Heights, it would not obstruct views from the south along the Flatbush Avenue corridor. Therefore, the Reduced Density—No Arena Alternative would not result in the significant adverse impacts on the Church of the Redeemer and the Williamsburgh Savings Bank Building that would occur with implementation of the proposed project.

The development of Blocks 1119, 1120, and 1121 as proposed in the Reduced Density—No Arena Alternative would transform an area that is primarily characterized by transportation and industrial uses and that has historically separated residential areas north and south of the project site. While the redevelopment of these blocks would support adjacent historic districts by complementing their use, the proposed design under the Reduced Density—No Arena Alternative would not create connections through the project site. Instead, it would create a wall along Atlantic Avenue, well above street level, without active streetscape amenities such as retail frontages.. This would serve to perpetuate a barrier between the Fort Greene and Prospect Heights historic districts. However, neither the proposed project nor the Reduced Density—No Arena Alternative would result in significant adverse impacts from contextual effects on these historic districts.

As described in Chapter 7, "Cultural Resources," potential archaeological resources may remain on Block 1119, Lot 1 and Block 1127, Lots 48, 50, 55, and 56. Since Block 1119, Lot 1 would be developed as part of the proposed project and as part of the Reduced Density—No Arena Alternative, the potential impacts on these archaeological resources and the associated

mitigation would be the same for both alternatives. However, the Reduced Density—No Arena Alternative would not impact potential archaeological resources on Block 1127.

*URBAN DESIGN AND VISUAL RESOURCES*

Like the proposed project, the Reduced Density—No Arena Alternative would result in changes in the bulk and density of the project site. However, because the proposed project includes street closures that would not occur with the Reduced Density—No Arena Alternative, the latter would not result in any changes to street patterns or block shapes as compared with existing conditions.

The Reduced Density—No Arena Alternative would not fully redevelop Blocks 1119, 1120, and 1121. As such, existing uses such as a truck rental company, a warehouse, and a gas station would remain and would continue to be at odds with surrounding residential uses. The remainder of these blocks would be developed with modern residential buildings, community facilities, open space, and retail. The juxtaposition of industrial and non-industrial uses on the same block can be characteristic of communities undergoing transition but is unusual for large-scale, new development.

Although the Reduced Density—No Arena Alternative would provide for the continued operation of 6th and Carlton Avenues through the rail yards, it would have limited ground-level frontage along Atlantic Avenue because building bases would need to provide 22 feet of clearance above the rail yard. As a result, portions of the block frontages would be walls at street level. These expansive stretches of walls would detract from the urban character of this area, would not address the blighted conditions on the remainder of the site, and would permanently eliminate the opportunity for local retail and active streetscape along the Atlantic Avenue frontage.

Because the Reduced Density—No Arena Alternative would not result in a new high-rise building on Block 1118, it would not block views of the Williamsburgh Savings Bank Building from south of the project site along the Flatbush Avenue corridor and would not result in the significant adverse impact on its visual character that would occur with the proposed project. However, the introduction of new 28-story buildings on Block 1119, as proposed under the Reduced Density—No Arena Alternative, would block existing views of the Bank Building from Pacific Street.

The Reduced Density—No Arena Alternative would maintain the current alignments of 5th Avenue, 6th Avenue, Carlton Avenue, and Pacific Street through the project site, but it would not create new north-south linkages in keeping with the Fort Greene Street grid. Furthermore, the Reduced Density—No Arena Alternative would allow existing blighted conditions to remain. As such, the Reduced Density—No Arena Alternative would continue to detract from the visual character of surrounding residential communities.

The Reduced Density—No Arena Alternative would result in new commercial uses with retail signage along Atlantic Avenue between 5th and Vanderbilt Avenues. This new signage on the project site would alter certain view corridors, but, like the proposed project, this signage not result in significant adverse impacts on visual character.

*SHADOWS*

Figures 20-6 and 20-7 show potential shadows from development on the project site under the Reduced Density—No Arena Alternative for representative analysis periods. Like the proposed project, the Reduced Density—No Arena Alternative would cast shadows on the open space of

the Atlantic Terminal Houses for most of the day during the March 21 analysis period and for approximately six hours of the December 21 analysis period (see Table 20-9), but the Reduced Density—No Arena Alternative would not cast shadows on this open space in May and June. Given the duration and extent of shadows that would be cast during the cooler analysis days, both the proposed project and the Reduced Density—No Arena Alternative would have a significant adverse impact on this open space since they would diminish the attraction to its use. As with the proposed project, impacts on the open space of the Atlantic Terminal Houses could be partially mitigated with measures to ameliorate the shadow that focus on improving the attractiveness and usability of the open space.

Unlike the proposed project, this alternative would not result in any significant adverse impacts on the Church of the Redeemer.

*HAZARDOUS MATERIALS*

Chapter 10, "Hazardous Materials," identified potential contamination on Blocks 927, 1118, 1119, 1120, 1121, 1127, 1128, and 1129 which may be disturbed during construction of the proposed project. However, the project sponsors would implement remediation measures; therefore, the project's construction would not result in significant adverse impacts with respect to hazardous materials.

Like the proposed project, construction of the Reduced Density—No Arena Alternative would require the use of Block 1119, Lot 7; Block 1120, Lot 1; and Block 1121, Lot 1. These sites contain a variety of media with potential for contamination. Therefore, the sponsors of the Reduced Density—No Arena Alternative would need to implement environmental remediation measures for these sites.

**Table 20-9**
**Duration of Shadows on Sun Sensitive Receptors for the Proposed Project and the Reduced Density—No Arena Alternative**

| Sun Sensitive Resource | Analysis Period | Proposed Project | Reduced Density—No Arena Alternative |
|---|---|---|---|
| Atlantic Terminal Houses- Carlton Avenue Side | March 21 (Analysis Period: 7:36 AM - 4:29 PM) | 1:00 PM - 4:29 PM | - |
| | May 6 (Analysis Period: 7:27 AM-6:18 PM DST) | 6:00 PM - 6:18 PM | - |
| | June 21 (Analysis Period: 6:57 AM - 7:01 PM DST) | - | - |
| | December 21 (Analysis Period: 8:51 AM - 2:53 PM) | **8:51 AM - 2:53 PM** | **8:51 AM - 2:53 PM** |
| Atlantic Terminal Houses- Atlantic Avenue Side | March 21 (Analysis Period: 7:36 AM - 4:29 PM) | **9:00 AM - 4:29 PM** | **9:30 AM - 4:29 PM** |
| | May 6 (Analysis Period: 7:27 AM-6:18 PM DST) | 2:00 PM - 6:18 PM | - |
| | June 21 (Analysis Period: 6:57 AM - 7:01 PM DST) | 2:15 PM - 4:45 PM | - |
| | December 21 (Analysis Period: 8:51 AM - 2:53 PM) | **8:51 AM - 2:53 PM** | **8:51 AM - 2:53 PM** |
| Church of the Redeemer | March 21 (Analysis Period: 7:36 AM - 4:29 PM) | **7:36 AM - 9:45 AM** | **7:36 AM - 7:45 AM** |
| | May 6 (Analysis Period: 7:27 AM-6:18 PM DST) | 7:27 AM - 11:15 AM | - |
| | June 21 (Analysis Period: 6:57 AM - 7:01 PM DST) | 7:30 AM - 11:15 AM | - |
| | December 21 (Analysis Period: 8:51 AM - 2:53 PM) | 8:51 AM - 9:15 AM | - |

**Note:** Bolded text indicates a significant adverse impact.

The Reduced Density—No Arena Alternative would not result in the redevelopment of other parcels within the project site that are known to have contaminants in standing structures, soils, and groundwater. On Block 1119, Lots 1 and 64; and Block 1127, Lot 1, two spill locations have been identified. Block 1127, Lots 1, 22, 27, 29, and 30; Block 1128, Lot 4; and Block 1129, Lots 46 and 50 have E-designations that indicate known contamination, and samples from other parcels within the project site also revealed the presence of hazardous materials. While the spill sites would likely be remediated independent of the Reduced Density—No Arena Alternative, other contaminants would remain within these buildings and subsurface areas and potentially elsewhere on the site unless environmental remediation was undertaken by others.

Remediation would be required for construction of the proposed project and the Reduced Density—No Arena Alternative. However, with the implementation of a variety of remediation measures, no significant adverse impacts related to hazardous materials would be expected to occur as a result of construction of either the proposed project or the Reduced Density—No Arena Alternative and, following construction, there would be no further potential for significant adverse impacts.

*INFRASTRUCTURE*

As described in Chapter 11, "Infrastructure," the residential mixed-use variation for the proposed project would generate greater demand for infrastructure than the commercial mixed-use variation; therefore, the residential mixed-use variation was used as the basis to assess potential project-generated impacts on infrastructure and energy. The analysis that follows compares the infrastructure and energy requirements of the Reduced Density—No Arena Alternative to those of the residential mixed-use variation for the proposed project.

*Water Supply*

Table 20-10 compares water demand for the proposed project and the Reduced Density—No Arena Alternative. Although the Reduced Density - No Arena Alternative would demand less water than would the proposed project, neither would result in significant adverse impacts on the city's water supply system. While both alternatives would implement the City's water conservation requirements, it is unclear whether the Reduced Density - No Arena Alternative would incorporate the voluntary water conservation systems that have been included as part of the proposed project.

**Table 20-10**
**Comparison of Water Consumption for the Proposed Project and the Reduced Density—No Arena Alternative (Gallons per day)**

| Use | Proposed Project (Residential Mixed-Use Variation) | Reduced Density—No Arena Alternative |
|---|---|---|
| Residential | 2,767,220 | 620,116 |
| Hotel | 46,305 | 0 |
| Retail and Community Facilities | 83,980 | 65,115 |
| Office | 121,200 | 0 |
| Arena | 275,000 | 0 |
| Total | 3,294,605 | 652,673 |

**Source:** New York City Mayor's Office of Environmental Coordination, *City Environmental Quality Review Technical Manual* (December 2001).

*Sanitary Sewage and Stormwater*

Table 20-11 compares the amount of sanitary sewage generated by the proposed project and the Reduced Density—No Arena Alternative. The Reduced Density—No Arena Alternative would generate a demand for approximately 0.5 million gallons per day of sanitary sewage treatment. Given the remaining capacity of the Red Hook Water Pollution Control Plant, this demand would not adversely impact its operation during dry weather.

**Table 20-11**
**Comparison of Sanitary Sewage Flows Generated by the Proposed Project and the Reduced Density—No Arena Alternative (Gallons per day)**

| Use | Proposed Project (Residential Mixed-Use Variation) | Reduced Density—No Arena Alternative |
|---|---|---|
| Residential | 1,613,470 | 456,288 |
| Hotel | 29,805 | 0 |
| Retail and Community Facilities | 41,990 | 32,558 |
| Office | 60,600 | 0 |
| Arena | 130,500 | 0 |
| Total | 1,876,365 | 488,846 |

**Sources:** New York City Mayor's Office of Environmental Coordination, *City Environmental Quality Review Technical Manual* (December 2001).

The Reduced Density—No Arena Alternative would provide for about half of the open space of the proposed project, and its constrained footprint would not likely allow for a comprehensive stormwater management plan comparable to the plan that would be implemented with the proposed project. The proposed project's stormwater management measures, which include on-site retention and detention of stormwater, would reduce combined sewer flows from the project site by 10.3 million gallons per year. Thus, the proposed project's stormwater management plan, as compared to this alternative, would reduce the quantity of untreated combined sewer overflow discharge to the Gowanus Canal and East River.

Therefore, although the Reduced Density—No Arena Alternative would generate less sanitary sewer demand than the proposed project, it is likely to have greater combined sewer flow volumes and events in the Gowanus Canal and East River. Furthermore, stormwater that would be retained on-site as part of the proposed project would be used for landscaping and as make-up water for cooling towers, which would reduce the proposed project's need for potable water.

*Solid Waste*

Table 20-12 compares the solid waste that would be generated by the proposed project and the Reduced Density—No Arena Alternative. Like the proposed project, the Reduced Density—No Arena Alternative would increase the volumes of solid waste and recyclables, but would not affect the delivery of these services, nor would it place a significant burden on the city's solid waste management (both public and private). In addition, the Reduced Density—No Arena Alternative would not conflict with, or require amendments to, the city's Solid Waste Management Plan.

**Table 20-12**
**Comparison of Solid Waste Generated by the Proposed Project and the Reduced Density—No Arena Alternative (Pounds per week)**

| Use | Proposed Project (Residential Mixed-Use Variation) | Reduced Density—No Arena Alternative |
|---|---|---|
| Residential | 244,900 | 69,258 |
| Hotel | 5,250 | 0 |
| Retail and Community Facilities | 58,460 | 45,425 |
| Office | 31,510 | 0 |
| Arena | 20,710 | 0 |
| Total | 360,830 | 114,683 |

**Source:** New York City Mayor's Office of Environmental Coordination, *City Environmental Quality Review Technical Manual* (December 2001).

*Energy*

Like the proposed project, the Reduced Density—No Arena Alternative would increase demands on electricity and gas. However, relative to the capacity of these systems and the current levels of service within New York City and the surrounding area, these increases would be insignificant. Furthermore, electrical and gas connections are readily available in the local streets. Therefore, neither the proposed project nor the Reduced Density—No Arena Alternative would result in significant adverse impacts on energy systems.

*TRAFFIC AND PARKING*

*Methodology*

An analysis has been prepared to compare the potential impacts of the proposed project with those of the Reduced Density—No Arena Alternative.

A trip generation analysis was conducted for the Reduced Density—No Arena Alternative using the factors developed for the proposed project (see Chapter 12, "Traffic and Parking"). Average vehicle delays were developed for this alternative based on the relative difference in trips as compared with the proposed project. These delays were then used to project a level-of-service for the study area intersections. Although the resultant delays are approximate, they provide for a basis to compare the operation of area intersections under the Reduced Density—No Arena Alternative to conditions with completion of the proposed project.

*Trip Generation*

Table 20-13 compares the person trips generated by the proposed project and the Reduced Density—No Arena Alternative. As shown, the Reduced Density—No Arena Alternative would generate substantially fewer person trips by all modes of travel during peak periods than either the residential mixed-use variation or commercial mixed-use variation for the proposed project.

Table 20-14 compares the vehicle trips generated by the proposed project and the Reduced Density—No Arena Alternative. The highest projected volume of vehicle trips for the Reduced Density—No Arena Alternative would be 294 vehicles during the PM peak hour. This volume would be 78 percent lower than the residential mixed-use variation for the proposed project and 81 percent lower than the commercial mixed-use variation. In other peak periods, the Reduced Density—No Arena Alternative would generate less than half of the vehicles that would be anticipated for both variations of the proposed project.

*Traffic*

The Reduced Density—No Arena Alternative would not result in changes to the current street network, but it would include new driveways for site access. Plans submitted to the MTA do not provide details on site access. DOT does not typically allow for off-street loading from arterial streets such as Atlantic Avenue. Therefore, loading areas for Block 1119 would likely be accessed from 6th Avenue or Pacific Street; loading areas for Block 1120 would be accessed from 6th Avenue, Carlton Avenue, or Pacific Street; and loading areas for Block 1121 would be located along Carlton Avenue or Pacific Street. Because the Reduced Density—No Arena Alternative would not redevelop Block 1119, Lots 1 and 64; and Block 1121, Lots 42 and 47, loading areas could not be provided on 5th or Vanderbilt Avenues.

The Reduced Density—No Arena Alternative would provide parking on Blocks 1119 and 1121. As described above, since Block 1119, Lots 1 and 64 and Block 1121, Lots 42 and 47 would not be redeveloped, parking would be accessed from 6th Avenue, Carlton Avenue, Atlantic Avenue, Pacific Street, or a combination thereof. The Reduced Density—No Arena Alternative would not provide for parking on Block 1120; therefore, residents of Block 1120 would use the parking facilities provided on Block 1119 or 1121.

Under the Reduced Density—No Arena Alternative, 5th Avenue between Flatbush and Atlantic Avenues; and Pacific Street between Flatbush and 6th Avenues, and between Carlton and Vanderbilt Avenues would remain open to traffic. Therefore, unlike the proposed project, existing traffic would not be diverted to other area roadways as a result of these street closures. The Reduced Density—No Arena Alternative would also not result in the street direction changes on 6th Avenue, Carlton Avenue, and Pacific Street that would be included as part of the proposed project. Furthermore, given the smaller footprint of the Reduced Density—No Arena Alternative, compared to the proposed project, it is unlikely that roadway improvements would be implemented along Flatbush Avenue between Dean Street and Atlantic Avenue and along Atlantic Avenue between 4th and Vanderbilt Avenues.

Table 20-15 compares the projected traffic impacts of the Reduced Density—No Arena Alternative to those of the proposed project. Although the Reduced Density—No Arena Alternative would generate substantially fewer vehicles than the proposed project, particularly in the evening and weekend peak hours, it would result in impacts at a number of intersections. However, generally, these impacts affect fewer traffic movements and average vehicle delays would be lower than with implementation of the proposed project.

Like the proposed project, most of the significant adverse impacts that would occur under the Reduced Density—No Arena Alternative could be mitigated. It is also likely that measures could be implemented for the Reduced Density—No Arena Alternative that would mitigate its impacts at locations where feasible improvements would not fully mitigate the effects of the proposed project, particularly during the post-game and Saturday peak periods. However, given current congestion at certain intersections, it is anticipated that the Reduced Density—No Arena Alternative, like the proposed project, would result in significant adverse impacts that could not be fully mitigated.

**Table 20-13**

**Comparison of Person Trips Generated by the Proposed Project and the Reduced Density—No Arena Alternative**

| Peak Hour | Scenarios | Mode | | | | | | |
|---|---|---|---|---|---|---|---|---|
| | | Auto | Taxi | Subway | LIRR | Bus | Walk | Total |
| AM (8A-9A) | Proposed Project (Residential) | 1,026 | 111 | 4,845 | 232 | 285 | 1199 | 7,698 |
| | Proposed Project (Commercial) | 1,208 | 120 | 5,954 | 537 | 413 | 1210 | 9,442 |
| | Reduced Density—No Arena | 217 | 36 | 1,181 | 14 | 79 | 639 | 2,166 |
| Midday (12P-1P) | Proposed Project (Residential) | 666 | 236 | 3,329 | 60 | 492 | 5628 | 10,411 |
| | Proposed Project (Commercial) | 645 | 253 | 3,244 | 54 | 699 | 8210 | 13,105 |
| | Reduced Density—No Arena | 194 | 142 | 1,427 | 8 | 246 | 3201 | 5,218 |
| PM (5P-6P) | Proposed Project (Residential) | 1,721 | 226 | 6,723 | 383 | 458 | 2710 | 12,221 |
| | Proposed Project (Commercial) | 1,930 | 238 | 8,002 | 735 | 605 | 2720 | 14,230 |
| | Reduced Density—No Arena | 282 | 84 | 1,668 | 18 | 163 | 1735 | 3,950 |
| Pre-Game (7P-8P) | Proposed Project (Residential) | 5,433 | 491 | 10,493 | 1,141 | 497 | 1456 | 19,511 |
| | Proposed Project (Commercial) | 5,419 | 485 | 10,536 | 1,240 | 525 | 1403 | 19,608 |
| | Reduced Density—No Arena | 199 | 33 | 1,085 | 13 | 75 | 614 | 2,019 |
| Post-Game (10P-11P) | Proposed Project (Residential) | 5,769 | 489 | 8,568 | 1,491 | 393 | 799 | 17,509 |
| | Proposed Project (Commercial) | 5,735 | 485 | 8,429 | 1,501 | 391 | 772 | 17,313 |
| | Reduced Density—No Arena | 78 | 10 | 421 | 4 | 26 | 213 | 752 |
| Saturday (12P-1P) | Proposed Project (Residential) | 6,231 | 545 | 8,203 | 1,120 | 537 | 3637 | 20,273 |
| | Proposed Project (Commercial) | 6,084 | 525 | 7,934 | 1,112 | 523 | 3563 | 19,741 |
| | Reduced Density—No Arena | 255 | 78 | 919 | 10 | 13 | 1,883 | 3,288 |
| Saturday (4P-5P) | Proposed Project (Residential) | 6,983 | 599 | 9,068 | 1,270 | 571 | 3,690 | 22,181 |
| | Proposed Project (Commercial) | 6,846 | 581 | 8,908 | 1,287 | 560 | 3,452 | 21,634 |
| | Reduced Density—No Arena | 259 | 78 | 931 | 10 | 143 | 1,891 | 3,312 |

**Notes:** "Residential" = Proposed Project Residential Mixed-Use Variation
"Commercial" = Proposed Project Commercial Mixed-Use Variation

**Source:** Philip Habib & Associates

**Table 20-14**
**Comparison of Vehicle Trips Generated by the Proposed Project and the Reduced Density—No Arena Alternative**

| Peak Hour | Scenarios | Mode | | | |
|---|---|---|---|---|---|
| | | Auto | Taxi | Truck | Total |
| AM (8A-9A) | Proposed Project (Residential) | 782 | 106 | 84 | 972 |
| | Proposed Project (Commercial) | 895 | 120 | 84 | 1,099 |
| | Reduced Density—No Arena | 177 | 38 | 20 | 235 |
| Midday (12P-1P) | Proposed Project (Residential) | 458 | 192 | 68 | 718 |
| | Proposed Project (Commercial) | 438 | 216 | 74 | 728 |
| | Reduced Density—No Arena | 132 | 108 | 20 | 260 |
| PM (5P-6P) | Proposed Project (Residential) | 1,139 | 178 | 14 | 1,331 |
| | Proposed Project (Commercial) | 1,271 | 200 | 18 | 1,489 |
| | Reduced Density—No Arena | 222 | 70 | 2 | 294 |
| Pre-Game (7P-8P) | Proposed Project (Residential) | 2,604 | 412 | 4 | 3,020 |
| | Proposed Project (Commercial) | 2,581 | 402 | 6 | 2,989 |
| | Reduced Density—No Arena | 162 | 32 | 0 | 194 |
| Post-Game (10P-11P) | Proposed Project (Residential) | 2,563 | 416 | 2 | 2,981 |
| | Proposed Project (Commercial) | 2,534 | 412 | 6 | 2,952 |
| | Reduced Density—No Arena | 63 | 12 | 0 | 75 |
| Saturday (12P-1P) | Proposed Project (Residential) | 2,638 | 402 | 10 | 3,050 |
| | Proposed Project (Commercial) | 2,521 | 386 | 12 | 2,919 |
| | Reduced Density—No Arena | 198 | 62 | 0 | 260 |
| Saturday (4P-5P) | Proposed Project (Residential) | 2,922 | 458 | 0 | 3,380 |
| | Proposed Project (Commercial) | 2,813 | 438 | 0 | 3,251 |
| | Reduced Density—No Arena | 204 | 66 | 0 | 270 |

**Notes:** "Residential" = Proposed Project Residential Mixed-Use Variation
"Commercial" = Proposed Project Commercial Mixed-Use Variation
**Source:** Philip Habib & Associates

**Table 20-15**

**Comparison of Signifciant Adverse Traffic Impacts for the Proposed Project and the Reduced Density—No Arena Alternative**

| Intersection | | Proposed Project | | | | | | | Reduced Density—No Arena Alternative | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Weekday | | | | | Saturday | | Weekday | | | | | Saturday | |
| Major Street | Minor Street | 8–9 AM | 12–1 PM | 5–6 PM | 7–8 PM | 10–11 PM | 1–2 PM | 4–5 PM | 8–9 AM | 12–1 PM | 5–6 PM | 7–8 PM | 10–11 PM | 1–2 PM | 4–5 PM |
| Signalized Intersections | | | | | | | | | | | | | | | |
| Flatbush Ave | Tillary Street | ① | ① | ❶① | ❶① | ① | ❶① | ❶② | | ❶ | ❶ | ❶ | | ❶ | ❶ |
| | Myrtle Ave | ❷ | ❶ | ❷ | ❶ | ❶ | ❶ | | ② | ① | ① | ② | | ① | |
| | Willoughby Street | ❶ | ① | ❶ | ❶ | | | | | | | | | | |
| | DeKalb Ave | | ② | ① | ❶ | | ① | ① | | ① | ❶① | ❶ | | ❶ | ❶① |
| | Fulton Street | ❶ | ❷ | ❶ | ❷① | ❷ | ❸ | ❸ | | | | | | | |
| | Lafayette Street | ❷ | | ❷ | ❶ | ❷ | ❷ | ❷ | ① | | | | | | |
| | 4th Ave | | ❶ | ❶① | ❶ | | ❶ | ❷ | | | | | | | |
| | Atlantic Ave | ① | | ① | ③ | | ① | ② | | | | | | | |
| | 5th Ave | | | | ❶ | ❶ | ❶ | | | | | | | ❶ | |
| | Dean Street | ① | ① | ① | ❶① | ❶ | ❷① | ❶① | ❶ | ❶ | | | | | |
| | Bergen Street | | ① | | ① | | ❶ | ❶ | | ❶ | | | | | ❶ |
| | 6th Ave | ① | | ① | | | | ① | ❶ | | | | | | |
| | 7th Ave | | | | ❶ | | | | | | | | | | |
| | St. Marks Place | ① | ① | | | | ① | | ❶ | | | | | ❶ | ❶ |
| | Sterling Place | | | | | | ❶ | | ❷ | ❷ | ① | | | ❶ | ❶ |
| Atlantic Ave | Hicks Street | ❶ | ❶ | | | | | ❶ | | ❶ | ❶ | ❶ | | ❶ | ❶ |
| | Henry Street | | ❶ | | ❶ | | | ❶ | ② | ① | ① | ② | | ① | · |
| | Clinton Street | ❶ | | ❶ | ❶ | | ❶ | ❷ | | | | | | | |
| | Court Street | | | | | ❶ | | | | ① | ❶① | ❶ | | ❶ | ❶① |
| | Boerum Place | ❶ | ❷ | ❷ | | ❶ | ❶ | ❷ | | | | | | | |
| | Smith Street | ❷ | ❷ | ① | ❶ | | ❶① | ❷① | ① | | | | | | |

**Table 20-15 (Continued)**
**Comparison of Signifciant Adverse Traffic Impacts for the Proposed Project and the Reduced Density—No Arena Alternative**

| Intersection | | Proposed Project | | | | | | | Reduced Density—No Arena Alternative | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Weekday | | | | | Saturday | | Weekday | | | | | Saturday | |
| Major Street | Minor Street | 8–9 AM | 12–1 PM | 5–6 PM | 7–8 PM | 10–11 PM | 1–2 PM | 4–5 PM | 8–9 AM | 12–1 PM | 5–6 PM | 7–8 PM | 10–11 PM | 1–2 PM | 4–5 PM |
| Signalized Intersections | | | | | | | | | | | | | | | |
| Atlantic Ave | Hoyt Street | ❶ | | ❶ | ❷ | | ❷ | ❷ | ❶ | | ❶ | | | ❶ | ❶ |
| | Bond Street | ❸ | ① | | ❶ | | ❷ | ❷ | ❷ | ① | | ❶ | | ❶ | ❷ |
| | Nevins Street | ❶ | | ❶① | ❶① | | ❶ | ❶① | ❶ | | ❶ | | | ❶ | ❶ |
| | 3rd Ave | ❶ | | ❶ | | | ❶ | ❶ | ❶ | | ❶ | | | | ❶ |
| | 4th Ave | ① | ❶① | ❶① | ❶① | ❶① | ❶① | ❶② | ① | ❶① | ❶① | ❶ | | ❶① | ❶① |
| | 5th Ave/Fort Greene Place | ❶ | | ❶ | ❶ | | ❶ | ❶ | ❶ | | | | | | |
| | S. Portland Ave | ❷② | ❶① | ❶① | ❶① | | ❷② | ❷① | ① | ❶① | ❶① | ❶① | | ❷① | ❷ |
| | Cumberland Street | ❶ | | | | | | ❶ | | | | | | | |
| | Carlton Ave | ❶① | | ❶ | ❶ | | ❷ | ❷① | ① | | ❶ | | | | |
| | Clermont Ave | ❶ | | ❶ | | | | ❶ | ❶ | | | | | | |
| | Clinton Ave | ❶ | | | | | ❶ | ❶ | | | | | | | |
| | Vanderbilt Ave | ❸② | ❹ | ❷② | ❷① | | ❸② | ❸② | ❶① | ❶ | ❷① | ❶ | | ❶ | ❶ |
| | Washington/Underhill Aves | ① | ① | ❶① | ① | | ② | ❶① | ① | ① | ❶① | | | ① | ① |
| | Grand Ave | | | | | | | ❶ | | | | | | | ❶ |
| 3rd Ave | Dean Street | | ① | ① | ① | | ① | ① | | | ① | ① | | | |
| 4th Ave | Pacific Street | ① | | | ① | | ❷ | ① | ❶ | | ① | | | | ① |
| | Dean Street | ❶ | | ① | ① | | ① | ① | ❶ | | | ① | | ① | ① |
| | Bergen Street | ① | ① | ① | ① | | ① | ① | ❶ | ① | ① | ① | | ① | ① |
| | St. Marks Place | ❶ | | | | | ❶ | ❶① | ❶ | | | | | | |
| | Union Street | | | ❶ | ② | | | | | | ① | | | | |
| 5th Ave | Dean Street | ① | ❶① | ① | ❶① | ① | ❶① | ❶① | ① | ❶① | ① | ❶① | | ① | ❶① |
| | Bergen Street | ① | ① | ① | ① | ① | ① | ① | ① | ① | ① | | | ① | ① |
| | Union Street | | | | | | ❶ | | | | | | | | |

**Table 20-15 (Continued)**

**Comparison of Signifciant Adverse Traffic Impacts for the Proposed Project and the Reduced Density—No Arena Alternative**

| Intersection | | Proposed Project | | | | | | | Reduced Density—No Arena Alternative | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Weekday | | | | | Saturday | | Weekday | | | | | Saturday | |
| Major Street | Minor Street | 8–9 AM | 12–1 PM | 5–6 PM | 7–8 PM | 10–11 PM | 1–2 PM | 4–5 PM | 8–9 AM | 12–1 PM | 5–6 PM | 7–8 PM | 10–11 PM | 1–2 PM | 4–5 PM |
| Signalized Intersections | | | | | | | | | | | | | | | |
| 6th Ave | Dean Street | | | | ② | ① | ② | ② | | | | | | | |
| S. Portland Ave | Fulton Street | ❶ | | | | | ❶ | ❶ | | | | | | | |
| Carlton Ave | Park Ave | | | | | ❶ | | | | | | | | | |
| | Myrtle Ave | | | | | ❶ | | | | | | | | | |
| | Fulton Street | ❶ | | ❶ | ❶ | | ❶ | ❶ | ① | | ① | | | | ❶ |
| | Pacific Street | | | | | | | ❶ | | | | | | | |
| | Dean Street | ① | ① | ① | ① | | ① | ① | | | ① | | | ① | ① |
| | Bergen Street | ① | | | | | | ① | ① | | | | | | |
| Vanderbilt Ave | Park Ave | | | | | | | ❶ | | | | | | | |
| | Myrtle Ave | ❷① | ❶ | ❷ | ❷ | ❶ | | ❶ | | ❶ | ❷ | ❷ | | | ❶ |
| | DeKalb Ave | ❶ | | ❷ | ❶ | | | | | | ❷ | | | | |
| | Fulton Street | ❶ | | | ❶ | | ❶ | ❷ | | | | | | ❶ | ❶ |
| | Pacific Street | ① | | ① | | | | | | | | | | | |
| | Dean Street | ① | ① | ① | ① | ① | ① | ① | ① | ① | ① | ① | | ① | ① |
| | St. Marks Place | | | | | | | | | | ❶ | | | | |
| | Bergen Street | ❶① | | ① | ① | | ① | ❶ | ❶① | | ❶ | | | | |
| | Prospect Place | | | | | | | | | | ❶ | | | | |
| Underhill Ave | Dean Street | | | ① | | | | ① | | | | | | | |
| Washington Ave | Dean Street | ① | ① | ① | ① | ① | ① | ① | ① | ① | ① | ① | | ① | ① |
| | Eastern Parkway | ❶ | | ❶① | ❶ | | ❶ | ❶ | ① | | ① | | | | |
| Adams Street | Tillary Street | ❶ | ❶ | ❷ | ❶① | ❶ | ❷① | ❷① | ❶ | ❶ | ❷ | | | ❶ | ❶ |

**Table 20-15 (Continued)**
**Comparison of Signifciant Adverse Traffic Impacts for the Proposed Project and the Reduced Density—No Arena Alternative**

| Intersection | | Proposed Project | | | | | | | Reduced Density—No Arena Alternative | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Weekday | | | | | Saturday | | Weekday | | | | | Saturday | |
| **Major Street** | **Minor Street** | **8–9 AM** | **12–1 PM** | **5–6 PM** | **7–8 PM** | **10–11 PM** | **1–2 PM** | **4–5 PM** | **8–9 AM** | **12–1 PM** | **5–6 PM** | **7–8 PM** | **10–11 PM** | **1–2 PM** | **4–5 PM** |
| Signalized Intersections | | | | | | | | | | | | | | | |
| Boerum Place | Livingston Street | | | ❶ | ❶ | | ❷ | ① | | | | | | | |
| | Schermerhorn Street | | | ❶ | ① | | | ① | | | | | | | |
| Smith Street | Dean Street | | | | ① | | | ① | | | | | | | |
| Unsignalized Intersections | | | | | | | | | | | | | | | |
| Washington Ave. | Eastern Pkwy. (service rd) | | | ① | | | | | | | | | | | |
| Boerum Place | Dean Street | | | | | | | ❶ | | | | | | | |

**Notes:** ❷ number of movements on the major street approaches with significant adverse impacts in the peak hour.
② number of movements on the minor street approaches with significant adverse impacts in the peak hour.

*PARKING*

The Reduced Density—No Arena Alternative would provide for 1,000 off-street parking spaces on the project site and would generate a peak weekday demand for 781 parking spaces. Therefore, the Reduced Density—No Arena Alternative would fully accommodate its parking demand on-site, and like the proposed project, it would not result in a significant adverse shortfall of off-street parking in the study area.

*TRANSIT AND PEDESTRIANS*

*Long Island Rail Road (LIRR)*

Like the proposed project, the Reduced Density—No Arena Alternative would generate new demand for LIRR commuter rail, and adequate capacity would be available to support this growth. The Reduced Density—No Arena Alternative would also result in a new configuration for the rail yard. The new rail yard would be contained within Block 1120. The MTA's property within Block 1119 and all of the MTA property, except for the lead tracks within Block 1121, would be programmed for subgrade parking garages. Preliminary plans for the Reduced Density—No Arena Alternative include a rail yard with a storage capacity for 30 train cars as compared with the existing capacity of 72 cars.

Under the Reduced Density—No Arena Alternative, the rail yard would be built on a curve; a new West Portal and drill track would likely not be constructed, which would result in a cumbersome system of switching trains between the lead track and the rail yard. The proposed project's new rail yard would have a straight track in Block 1121., A straight track, which would be substantially better for LIRR operations, could not be accommodated under the Reduced Density—No Arena Alternative since Block 1120, Lots 19, 28, and 35 would remain under private ownership.

Therefore, the Reduced Density—No Arena Alternative would not provide the benefits to LIRR that would result from the proposed project, and its rail yard's reduced storage capacity would adversely impact LIRR operations.

*Subways*

In the Reduced Density—No Arena Alternative, ridership would increase on the subway routes and at the existing subway station entrances and control areas that serve the project site, and like the proposed project, station capacity would be adequate to serve these new riders. Because the Reduced Density—No Arena Alternative would not include an arena on the project site, the potential crowding on subway platforms that may result from the proposed project during the post-game peak periods would not occur, and it would not be necessary to run additional trains to alleviate this crowding. However, the Reduced Density—No Arena Alternative would not construct a new subway station entrance on the southeast corner of Flatbush and Atlantic Avenues. The new entrance, which would be provided as part of the proposed project, would allow future residents, employees, and visitors of the project site to access the Atlantic Avenue station without crossing Atlantic Avenue at-grade and would divert some trips from existing control areas and stairways. Thus, the proposed project provides for greater benefits to subway operations than the Reduced Density—No Arena Alternative.

*Buses*

Under the Reduced Density—No Arena Alternative, 5th Avenue would remain open. Therefore, the B63 bus would not be rerouted as would be required with completion of the proposed project. Like the proposed project, the Reduced Density—No Arena Alternative would result in new demand for bus service in the study area; but given the comparative difference in bus trips (see Table 20-13), it is projected that the Reduced Density—No Arena Alternative would not result in the overcrowding of the B38 bus route, which is an impact of the proposed project that can be fully mitigated. Other bus routes that serve the project site would have adequate capacity to support future trips generated by both the Reduced Density—No Arena Alternative and the proposed project.

*Pedestrians*

The Reduced Density—No Arena Alternative would result in substantially fewer pedestrian trips than the proposed project since it would have fewer residents and workers and would not result in an arena on the project site. The proposed project's two significant adverse impacts on crosswalks would occur in the PM and pre-game peak periods, an impact that could be fully mitigated. Since the Reduced Density—No Arena Alternative would generate substantially less pedestrian activity at these locations, it is expected that these impacts would not occur. Since this alternative would not provide for a subway entrance on the south side of Atlantic Avenue, all pedestrians would be required to cross Atlantic Avenue or Flatbush Avenue at-grade to enter the Atlantic Avenue subway station.

Since the Reduced Density—No Arena Alternative would not fully redevelop the project site, some of the existing deteriorated sidewalks surrounding the project site would not be replaced. furthermore, unlike the proposed project, the Reduced Density—No Arena Alternative would not provide for a new subway station entrance south of Atlantic Avenue and would not provide for north-south, street-level pedestrian linkages through the project site. Thus, although the Reduced Density—No Arena Alternative would not result in significant adverse pedestrian impacts, it would not provide for the benefits to pedestrian circulation that would be achieved with the proposed project.

*AIR QUALITY*

Detailed modeling was not conducted for the Reduced Density—No Arena Alternative; but, like the proposed project, no exceedances of the National Ambient Air Quality Standards (NAAQS) are predicted from local mobile source emissions of CO, $PM_{10}$, and $PM_{2.5}$ in the study area. However, the borough would continue to be designated a moderate non-attainment area for ozone and a non-attainment area for $PM_{2.5}$.

Like the proposed project, the Reduced Density—No Arena Alternative would generate new stationary source emissions from parking garages and HVAC systems on the project site. However, because the Reduced Density—No Arena Alternative would not redevelop Block 1120, Lot 19, it would not remove the one existing industrial source emission from the project site. Nonetheless, like the proposed project, the Reduced Density—No Arena Alternative is not expected to result in exceedances of NAAQS or significant impact criteria from stationary source emissions on the project site.

*NOISE*

Traffic associated with the proposed project would result in significant adverse impacts at Receptor 2 (on Flatbush Avenue at Dean Street), Site 3 (on Dean Street between Flatbush and 6th Avenues), Site 5 (on Dean Street between Carlton and Vanderbilt Avenues), Site 10 (on 6th Avenue between Pacific and Dean Streets), and Site 12 (on Carlton Avenue between Pacific and Dean Streets) during certain peak periods since these locations would abut the principal feeder streets to and from the proposed parking facilities. Since the Reduced Density – No Arena Alternative would result in substantially less traffic in the vicinity of the project site, particularly during the pre-game, post-game and Saturday peak hours, it is unlikely to result in significant adverse impacts from increases in ambient noise.

Like the proposed project, noise levels for the Reduced Density—No Arena Alternative would be in the "Marginally Unacceptable" category for Receptors 2 (Flatbush Avenue at Dean Street), 5 (Dean Street between Vanderbilt and Carlton Avenues), 6 (Vanderbilt Avenue between Pacific and Dean Streets), 7 (Atlantic Avenue between Clermont and Carlton Avenues), and 8 (4th Avenue between Atlantic Avenue and Pacific Street), and would be in the "Marginally Acceptable" category for Receptors 1 (Pacific Street between Flatbush and 4th Avenues), 9 (Dean Street between 5th and 6th Avenues), and 11 (Bergen Street between Carlton and 6th Avenues). Because the Reduced Density—No Arena Alternative would have lower traffic volumes than the proposed project, noise exposure levels for Receptors 3 (Dean Street between Flatbush and 6th Avenues), 10 (6th Avenue between Pacific and Dean Streets), and 12 (Carlton Avenue between Pacific and Dean Streets) would remain in the "Marginally Acceptable" category, whereas these receptors would be in the "Marginally Unacceptable" category with implementation of the proposed project. However, because Pacific Street would remain open to traffic under the Reduced Density—No Arena Alternative, noise exposure levels at Receptor 4 (Pacific Street between Carlton and 6th Avenues) would remain in the "Marginally Unacceptable" category; whereas, the proposed project would improve conditions at this location to result in its ranking as "Marginally Acceptable."

Like the proposed project, residential buildings for the Reduced Density—No Arena Alternative would require both double-glazed windows and alternative ventilation to provide a minimum of 35 dBA attenuation to ensure that interior levels would be below 45 dBA $L_{10}$.

*NEIGHBORHOOD CHARACTER*

The Reduced Density—No Arena alternative would alter neighborhood character on the three blocks that would be redeveloped (Atlantic Avenue to Pacific Street between 5th and Vanderbilt Avenues). The blighted character of the area would be partially improved by development over the depressed rail yard but would remain in other areas. Since there would be no arena, the evening and weekend traffic and noise impacts associated with the proposed project would not occur and there would be no related localized adverse impact on neighborhood character in adjacent areas. Like the proposed project, this alternative would not have a significant adverse impact on the neighborhood character of adjacent neighborhoods.

This alternative would not have certain neighborhood character benefits of the proposed project. It would not substantially eliminate the barrier that now exists on the south side of Atlantic Avenue, preventing any connection between the Prospect Heights neighborhood to the south and Downtown Brooklyn and Fort Greene to the north. The orientation of the buildings (generally east-west) would themselves form a type of wall, and because of the constraints of the rail yard below, they would have to be elevated above grade. This would create a barrier along Atlantic

Avenue between Carlton and Vanderbilt Avenues. In addition, this alternative would offer only 3.84 acres of publicly accessible open space, and it would be sited in between buildings above the rail yards, so that it would be less visible and inviting from the street, and could leave the impression that it was not publicly accessible. The orientation of the buildings and the open space would leave no option for people to walk north-south through the site—a feature that the proposed project would provide to allow a connection among neighborhoods.

*CONSTRUCTION IMPACTS*

Like the proposed project, the Reduced Density—No Arena Alternative would involve high levels of construction activity over the course of several years. However, as discussed earlier, the alternative would erect fewer buildings (11 buildings compared with 16 buildings plus the arena), would be built on fewer blocks (3 blocks compared with 8 blocks) and would not involve the construction of an arena. Therefore, the construction period for the alternative would be 6 years as compared with 10 years for the proposed project.

The types of activities necessary for construction of the proposed project and the alternative would be similar. Both would require decking over the rail yard, and although the buildings included in the Reduced Density—No Arena Alternative are generally shorter than many of those included in the proposed project, their construction would require the same types of activities and equipment. Similar to the proposed project, construction of the alternative would require some work to be performed after typical construction work hours in order to complete tasks such as drilling of piles and finishing concrete pours for floor decks. Reconfiguration of the rail yard under the Reduced Density—No Arena Alternative would require some nighttime work, similar to the nighttime work described for the proposed project, in order to avoid interference with LIRR operations. In addition, it is assumed that the alternative would provide upgraded water and sewer lines to support the buildings being constructed and this, too, would require nighttime work in certain street beds surrounding the project site. However, because the alternative would not provide a new West Portal for the rail yard or involve transit improvements near the intersection of Flatbush and Atlantic Avenues, the amount of nighttime work involved in construction of the alternative may be less than the amount required for the proposed project.

Construction of the Reduced Density—No Arena Alternative would, like the proposed project, require temporary sidewalk closures and temporary bus stop relocations along streets surrounding the project site. The construction of the proposed project would also require the relocation of the B63 bus route, which current travels northbound along 5th Avenue. This permanent diversion would not be required for construction of the Reduced Density—No Arena Alternative.

Construction of the proposed project would result in significant adverse construction noise impacts on the Brooklyn Bear's Pacific Street Community Garden and the Dean Playground. The Reduced Density—No Arena Alternative would be confined to the rail yard parcels, which are not directly adjacent to any of these facilities, and would not cause significant adverse impacts to these open spaces.

Like the proposed project, the Reduced Density—No Arena Alternative would result in significant adverse construction traffic impacts. Construction traffic impacts associated with the proposed project would be primarily due to road disruptions from utility work, rail yard reconfiguration, and bridge demolition and reconstruction. These activities would all occur under the Reduced Density—No Arena Alternative. Unlike the proposed project, the alternative

would not involve the permanent closure of any streets. Although this would lessen the traffic impacts during construction (as well as operation), road disruptions from the activities mentioned above would still lead to a significant adverse impact on traffic during the construction period.

With respect to the proposed project, the project sponsors have committed to a comprehensive program of emission reduction measures. These include electrification of equipment where practicable, the use of ultra low sulfur fuel and extensive use of particulate filters. It is unknown whether such measures would be used to construct the Reduced Density—No Arena Alternative. If they were not used, the construction-related particulate matter concentrations from construction of the alternative would be much higher than the concentrations from construction of the proposed project.

*PUBLIC HEALTH*

So long as the Reduced Density—No Arena Alternative was to utilize the same emission reduction measures as the proposed project, it would not, like the proposed project, have any significant adverse impacts on public health.

### CONCLUSION

Generally, there would be fewer environmental impacts associated with the Reduced Density—No Arena Alternative than with the proposed project. However, there would also be fewer benefits to the local community and the City as a whole. Although the Reduced Density—No Arena Alternative would not require property acquisition beyond the limits of the existing rail yard, the modified rail yard would not meet the stated LIRR requirements. This area would remain blighted and continue to permit low-density industrial uses. The Reduced Density—No Arena Alternative would result in far fewer employees, residents, and visitors on the project site and would, therefore, result in reduced economic benefits to the City and State. The Reduced Density—No Arena Alternative would provide for new community facilities and open space on the project site, but it would not include an on-site detention/retention system for stormwater management; it would not provide for a new subway entrance south of Atlantic Avenue; it would not increase pedestrian linkages through the project site; and it would actually reduce rather than enhance LIRR's rail yard operations. Significantly, this alternative would also not provide the benefits of an arena, substantial amount of housing including affordable units, or a minimum of seven acres of street-level publicly accessible open space.

## G. REDUCED DENSITY—ARENA ALTERNATIVE

### DESCRIPTION

The Reduced Density—Arena Alternative was derived from the "Pacific Plan," an alternative proposal that was submitted during the proposed project's scoping process. A complete description of the program package for the Reduced Density—Arena Alternative is contained in Appendix G, "Alternatives." Like the proposed project, the Reduced Density—Arena Alternative includes arena, hotel, retail, office, residential, and community facility uses. The Reduced Density—Arena Alternative also calls for the development of a cinema and light-manufacturing space. Table 20-16 compares the development programs for the proposed project and the Reduced Density—Arena Alternative.

**Table 20-16**
**Comparison of Development Programs for the Proposed Project and the Reduced Density—Arena Alternative**

| Use | Proposed Project (Residential Mixed-Use Variation) | Proposed Project (Commercial Mixed-Use Variation) | Reduced Density—Arena Alternative |
|---|---|---|---|
| Residential | 6,860 units | 5,790 units | 3,649 units |
| Office | 606,000 sf | 1,829,000 sf | 638,170 sf |
| Arena | 850,000 sf | 850,000 sf | 671,250 sf |
| Hotel | 180 rooms | 0 rooms | 176 rooms |
| Retail | 247,000 sf | 247,000 sf | 236,850 sf |
| Cinema | — | — | 60,800 sf |
| Light Industrial | — | — | 46,500 sf |
| Community Facility | A portion of the retail and residential space would be used for community facilities | | 46,120 sf |
| Open Space | ≥ 7 acres | ≥ 7 acres | 1.84 acres |
| Parking | 3,800 spaces | 3,800 spaces | 4,262 spaces |

**Source:** The Pacific Plan for the Brooklyn Atlantic Yards (comments submitted at the October 18, 2005 public scoping meeting). Additional materials were provided by Douglas Hamilton on May 1, 2006.

Like the proposed project, the Reduced Density—Arena Alternative would redevelop all of Blocks 927, 1118, 1119, 1120, 1121, and 1127, and Block 1128, Lot 4 (see Figure 20-8) but would not fully redevelop Block 1129 nor would it result in new construction on Block 1128, Lots 1, 2, 85, 86, 87, 88, and 89. Also, like the proposed project, the Reduced Density—Arena Alternative would incorporate the right-of-way of Pacific Street between 5th and 6th Avenues, but the block of 5th Avenue between Flatbush and Atlantic Avenues, as well as Pacific Street between Carlton and Vanderbilt Avenues, would remain open to vehicular traffic.

As with the proposed project, the Reduced Density—Arena Alternative would result in the demolition of structures on Blocks 927, 1118, 1119, 1120, 1121, and 1127, as well as certain buildings on Block 1128 and 1129. Although no plans were provided, it was assumed that this alternative would deck over the rail yard and the current alignments of 6th Avenue, Carlton Avenue, and Vanderbilt Avenue would be maintained. The Reduced Density—Arena Alternative calls for the extension of South Oxford Street, Cumberland Street, and Clermont Avenue through the rail yard from Atlantic Avenue to Pacific Street—essentially dividing Blocks 1120 and 1121 into five parcels. The boundaries of Block 1118 would not be changed under this alternative, but the closing of Pacific Street between 5th and 6th Avenues would create a contiguous site that includes Blocks 1119 and 1127, and the right-of-way of Pacific Street between 5th and 6th Avenues.

As shown in Figure 20-9, Blocks 927 and 1118 would be developed with office uses and ground-level retail. Blocks 1119 and 1127 would contain the arena, a cinema, residential buildings, and ground-level retail. Access to the arena's subgrade parking would be from a new structure on the southeast corner of 6th Avenue and Pacific Street (Block 1128). Restaurant and entertainment space would occupy the ground level of this site, and residential apartments would be constructed above.

A public square would occupy the new block bounded by 6th Avenue, Atlantic Avenue, South Oxford Street, and Pacific Street (Block 1120.1). The block to its east (Block 1120.2) would contain a hotel and a residential building. The remaining sites would contain a mix of residential buildings, some with ground-level retail. The Reduced Density—Arena Alternative also calls for a school on the block bounded by Clermont Avenue, Atlantic Avenue, Vanderbilt Avenue, and Pacific Street (Block 1121.2) as well as community facility space on Block 1129. The residential blocks would also contain a mix of public and private open space, including a square and a playground.

Block 1129 would include both new construction and rehabilitation of existing structures. As with the proposed project, the Reduced Density—Arena Alternative envisions that replacement housing would be provided for residents who would be displaced by the project. The Reduced Density—Arena Alternative would also provide for light manufacturing space within an existing building on Dean Street.

The tallest structure within the Reduced Density—Arena Alternative would be 320 feet and would be located at the intersection of Flatbush and Atlantic Avenues (see Figures 20-10 and 20-11. The remaining buildings would range in height. Generally, Pacific Street would be lined with shorter buildings (35 to 110 feet) while the taller buildings (115 to 220 feet) would be along Atlantic Avenue.

The Reduced Density—Arena Alternative includes a total of 3,649 residential units with 1,165 affordable housing units. However, the submitted materials neither provide details on the percentage of condominium and rental units, nor do they specify the manner in which affordable units would be distributed within the project site.

The Reduced Density—Arena Alternative would provide for 4,262 off-street parking spaces, which would be located beneath the office towers, the arena, and three of the four residential blocks. However, the provision of parking beneath the arena would be problematic due to security reasons and operational and constructability considerations. Therefore, some of these spaces may need to be located elsewhere on the project site, if feasible, or at an off-site location.

Materials submitted for the Reduced Density—Arena Alternative do not specify the transit improvements that would be provided on the project site. It has been assumed that a new subway entrance could be constructed on Block 1118. However, because 5th Avenue would remain open to traffic, there would probably not be an indoor connection between the subway and the arena. Furthermore, given the constrained footprint of Block 1118 and the proposed office building at this location, this alternative could not provide for a subway entrance of the same configuration as the proposed project. Any new subway entrance would be smaller with fewer and narrower stairways and fewer turnstiles. Therefore, this new entrance may not reasonably accommodate the crowds that would use it before and after arena events.

With respect to the rail yard, it has been assumed that this alternative would provide for the same benefits to LIRR operations as the proposed project with the exception of a drill track. Given the north-south orientation of the arena under this alternative and the subgrade infrastructure that would be required to support the arena, there would not be sufficient room on the project site to provide for a drill track.

The Reduced Density—Arena Alternative also does not describe its construction activities. However, it is assumed, based on the scale and scope of the Reduced Density—Arena Alternative, that its construction would be undertaken in a similar fashion to the proposed project under a comparable timeframe.

Like the proposed project, the implementation of the Reduced Density—Arena Alternative would require discretionary approvals as shown in Table 20-17.

**Table 20-17**
**Discretionary Approvals for the Proposed Project and Reduced Density—Arena Alternative**

| Discretionary Approval | Proposed Project | Reduced Density—Arena Alternative |
|---|---|---|
| Adoption of General Project Plan by ESDC | Required | Required |
| Override by ESDC of certain aspects of the New York City Zoning Resolution | Required | Required |
| Override by ESDC of ATURA plan for Sites 5 and 6A | Required | Required |
| Override of the City Map for Pacific Street between Flatbush and 6th Avenues; 5th Avenue between Flatbush and Atlantic Avenues; and Pacific Street between Vanderbilt and Carlton Avenues | Required | Required |
| Acquisition of property by ESDC through negotiation or condemnation and subsequent disposition of property, including city-owned property | Required | Required |
| Approval of Public Authorities Control Board | Required | Required |
| Disposition by MTA of a property interest in the rail yard and other transit improvements, and any related real property acquisitions by LIRR or MTA | Required | Required |
| Provision of State and City funding for affordable housing and other elements of the proposed project and tax exempt financing | Required | Required |

## REDUCED DENSITY—ARENA ALTERNATIVE COMPARED WITH THE PROPOSED PROJECT

### *LAND USE, ZONING, AND PUBLIC POLICY*

Like the proposed project, the Reduced Density—Arena Alternative would represent a change in land use on the project site. It would build over the open, below-grade rail yard and in the surrounding area with residential buildings, commercial office, retail uses, a hotel, public open space, and community facilities that would help link the immediate neighborhoods of Fort Greene, Prospect Heights, and Boerum Hill Whereas, the proposed project would create new pedestrian pathways through the project site, the Reduced Density—Arena Alternative would establish linkages with the new streets.

Unlike the proposed project, this alternative would include light manufacturing space on the project site. Although not a significant adverse impact with respect to land use, the operation of light manufacturing uses under this plan would continue the juxtaposition of industrial and non-industrial uses on the same block that is characteristic of communities undergoing transition but is unusual for large-scale, new development.

Like the proposed project, the Reduced Density—Arena Alternative would be implemented by a GPP. As described above, the plan for the Reduced Density—Arena Alternative would maintain the current alignment of 5th Avenue between Flatbush and Atlantic Avenues and would merge Block 1119 and 1127 to provide a site for an arena. However, the development of an arena under

this plan may not be practical. Under the Reduced Density—Arena Alternative, the physical size of the arena would be 671,000 square feet as compared with 850,000 square feet for the proposed project. While the proposed number of seats is the same for both plans, the Reduced Density—Arena Alternative would sacrifice space for luxury suites, back-of-house operations, and other support space. As described in Chapter 1, "Project Description," only one National Basketball Association (NBA) arena is smaller than 700,000 square feet, and every facility that has been constructed since 2000 has been larger than 750,000 square feet. The larger footprints of new arenas have been required to meet the logistical considerations of modern, professional sports venues.

In order to accommodate the footprint of the arena proposed under the Reduced Density—Arena Alternative, the bowl of the arena would need to be oriented north-south. Therefore, it may be necessary to extend the arena's footprint beyond the lot lines of Blocks 1119 and 1127, which would require the acquisition of city-owned streets and subsequent realignment of these streets and would result in limited sidewalk space to accommodate the people coming to the arena and to the project site as a whole. Because the bowl of the arena would be immediately adjacent to city streets, there would be limited space for loading operations. As a result, loading docks would likely be co-located with public parking beneath the bowl of the arena, which would be problematic due to security reasons and operational and constructability considerations. The proposed project would close 5th Avenue and Pacific Street to merge Blocks 1118, 1119, and 1127, and would orient the arena east-west. The combination of these measures would allow for adequate space to provide sub-grade loading and parking for the arena without using space beneath the arena bowl and allows for sufficient room to provide a drill track for the rail yard.

Like the proposed project, implementation of the Reduced Density—Arena Alternative would require an override of the provision of the zoning resolution that restricts the siting of an arena within 200 feet of a mapped residential district, Therefore, there would be localized impacts on the existing residences within 200-feet of Blocks 1119 and 1127, but unlike the proposed project, the arena use under the Reduced Density—Arena Alternative would not be screened from these existing residences by intervening residential buildings and the presence of the arena to residential uses to the south would be more pronounced. Nonetheless, this arena would be a new use on the project site that is typically compatible with commercial, retail, entertainment, and cultural event-oriented uses and, therefore, this use would be compatible with its surroundings, particularly with Downtown Brooklyn and the Brooklyn Academy of Music (BAM) Cultural District to the north.

Like the proposed project, the Reduced Density—Arena Alternative would meet the goals of the ATURA Plan by providing for new residential and commercial uses on the project parcels, but the proposed project would result in a higher-density development (8.53 FAR as compared with 7.06 FAR) and would take better advantage of the transit-oriented location of the project site. While the Reduced Density—Arena Alternative may result in a subway connection, it would not provide for an Urban Room that would have interior connections between the subway and the major uses on the project site, including the arena, and tany connection under the Reduced Density—Arena Alternative would have a smaller subway entrance on Block 1118 that may not accommodate ridership associated with its arena. Regardless, the transit-oriented development of the Reduced Density—Arena Alternative, like the proposed project, would be consistent with public policy since they both accommodate anticipated growth efficiently, in a relatively small land area that is well-served by necessary infrastructure.

Like the proposed project, the development of the Reduced Density—Arena Alternative would require action by the State of New York to condemn and acquire project parcels; however, unlike the proposed project, this plan would not require the acquisition of the entire Block 1129.

The Reduced Density—Arena Alternative would provide for 1,186 affordable housing units on the project site as compared with 2,250 units with the proposed project. While the affordable units proposed with the Reduced Density—Arena Alternative would add to the overall supply of low- and moderate-income housing in New York City, it would not maximize the potential for such housing on the project site. The project site is well-suited for mixed-income housing and the provision of affordable units. Thus, the proposed project would provide for a greater benefit to low- and moderate-income families than the Reduced Density—Arena Alternative by providing for more affordable units on the project site.

*SOCIOECONOMIC CONDITIONS*

As shown in Table 20-18, the Reduced Density—Arena Alternative would generate substantially fewer residents than would the residential or commercial mixed-use variations of the proposed project since it would have fewer dwelling units. The Reduced Density—Arena Alternative would generate approximately the same number of employees as the residential mixed-use variation of the proposed project, but it would generate approximately half the employees of the commercial mixed-use variation.

**Table 20-18**
**Comparison of Worker and Residential Populations for the Proposed Project and the Reduced Density—Arena Alternative**

| Land Use | Proposed Project (Residential Mixed-Use Variation) | | Proposed Project (Commercial Mixed-Use Variation) | | Reduced Density—Arena Alternative | |
|---|---|---|---|---|---|---|
| | Workers | Residents | Workers | Residents | Workers | Residents |
| Residential | 270 | 14,410 | 230 | 12,160 | 150 | 7,660 |
| Hotel | 70 | 0 | 0 | 0 | 70 | 0 |
| Retail and Community Facility | 740 | 0 | 740 | 0 | 840 | 0 |
| Office | 2,420 | 0 | 7,320 | 0 | 2,550 | 0 |
| Arena | 1,120 | 0 | 1,120 | 0 | 1,120 | 0 |
| Light Industrial | 0 | 0 | 0 | 0 | 90 | 0 |
| Cinema | 0 | 0 | 0 | 0 | 80 | 0 |
| Parking | 80 | 14,410 | 80 | 12,160 | 90 | 0 |
| Total | 4,700 | 14,410 | 9,490 | 12,160 | 4,990 | 7,660 |

**Notes:**
Arena employment for the proposed project is based on employment data provided by FCRC in March, 2006. (See Chapter 4, "Socioeconomics" for further detail.) Employment at the arena under the Reduced Density—Arena Alternative was estimated by applying the square foot per employee ratio from the proposed project arena to the 671,250 square foot arena proposed under the alternative. Other employment assumptions include: 4 employees per 1,000 square feet of office space; 3 employees per 1,000 square feet of retail/community facility space; 1 employee per 25 residential units; 1 employee per 50 parking spaces; 2 employees per 1,000 sf of industrial space; and 0.8 employees per 1,000 square feet of cinema.
Population estimates assume an average household size of 2.1 persons per household, the average household size for the ½-mile study area. Numbers have been rounded. Population estimates assume an average household size of 2.1 persons per household, the average household size for the ½-mile study area. Numbers have been rounded.
**Source:**
U.S. Department of Commerce, Bureau of the Census, 2000 Census; AKRF, Inc.

Like the proposed project, the Reduced Density—Arena Alternative would not result in any significant adverse socioeconomic impacts. However, the socioeconomic effects of the proposed project and Reduced Density—Arena Alternative would differ for some of the five areas of socioeconomic analysis. In addition, the economic and fiscal benefits associated with the Reduced Density—Arena Alternative would be less than those associated with the proposed project. These differences are described below.

*Direct Residential Displacement*

Figure 20-12 compares direct displacement under the proposed project and the Reduced Density—Arena Alternative. As described earlier, the proposed project would directly displace 171 housing units on 24 parcels located on Blocks 1127, 1128, and 1129. The project sponsors have extended relocation offers to the on-site rental tenants either through compensation or offers for comparable off-site housing with the opportunity to move back into the proposed development at rent levels comparable to their current rents. The Reduced Density—Arena Alternative would affect 17 of these same parcels, directly displacing a total of 146 housing units, which is approximately 15 percent fewer than the number of directly displaced units under the proposed project. Like the proposed project direct residential displacement under the alternative would not significantly alter the socioeconomic characteristics of the study area and, thus, would not result in significant adverse impacts on socioeconomic conditions.

*Direct Business Displacement*

Figure 20-12 compares direct displacement under the proposed project and the Reduced Density—Arena Alternative. As described earlier, the proposed project would directly displace 27 businesses and two institutions located on 24 parcels across the project site. As shown in Figure 20-12, the Reduced Density—Arena Alternative would affect 20 of these same parcels, directly displacing 24 businesses and one institution. The three businesses and single institution that would be displaced under the proposed project but would not be displaced under the Reduced Density—Arena Alternative are all located on Block 1129, at the eastern end of the project site. Total employment at these businesses is estimated to be 73 jobs. As described in Chapter 4, "Socioeconomic Conditions," one of these businesses (Frederick Furniture Warehouse on Block 1129, Lot 81), is no longer active. As with the proposed project, direct business and institutional displacement under the Reduced Density—Arena Alternative would not result in a significant adverse impact on socioeconomic conditions.

*Indirect Residential Displacement*

Like the proposed project, the Reduced Density—Arena Alternative would not result in a significant indirect residential displacement impact. The analysis of the proposed project identified 10 Census tracts that contain households that might be at risk of indirect displacement if rental rates were to increase. The number and location of potentially vulnerable households would be the same under the proposed project and the Reduced Density—Arena Alternative. As described in Chapter 4, "Socioeconomic Conditions," these 10 Census tracts are located at a substantial distance from the project site and are separated from the site by well-established residential neighborhoods and commercial corridors. This limits the potential for development under either the proposed project or the Reduced Density—Arena Alternative to affect property values in the areas containing at-risk population. Furthermore, upward trends in property values and household incomes are leading to decreases in the study area's at-risk population and will probably continue to do so with or without the proposed project or the Reduced Density—Arena Alternative.

As described above, the Reduced Density—Arena Alternative includes 3,649 residential units with half of the units allocated between market-rate and affordable housing apartments. However, the submitted materials do not provide details on the percentage of condominium and rental units, making it difficult to determine whether the mix of housing provided would, like the proposed project, be similar to the existing mix in the ¾-mile study area. Although the Reduced Density—Arena Alternative would introduce fewer residential units than the proposed project (3,649 compared with 5,790 to 6,860 units) it could, like the proposed project, serve to alleviate upward pressure on rental rates in the study area.

Overall, as with the proposed project, the Reduced Density—Arena Alternative has limited potential to affect real estate values in the 10 Census tracts identified as containing at-risk population. Like the proposed project, the Reduced Density—Arena Alternative is not expected to lead to indirect residential displacement in these tracts, and would not have a significant adverse indirect residential displacement impact.

*Indirect Business and Institutional Displacement*

The potential new customer base for existing businesses would be smaller under the Reduced Density—Arena Alternative than under the proposed project because the residential and worker population introduced by the alternative would be smaller than the population introduced by the proposed project. However, visitation to the site would be similar under either scenario, since both plans include an arena. Overall, potential benefits to existing businesses would be smaller, but still substantial, under the Reduced Density—Arena Alternative.

The analysis of indirect business and institutional displacement presented in Chapter 4, "Socioeconomic Conditions," concluded that the proposed project could result in the indirect displacement of a small number of businesses and institutions located along Vanderbilt Avenue, Flatbush Avenue, and 4th Avenue, within ¼ mile of the proposed project site. Because the Reduced Density—Arena Alternative and the proposed project include the same core uses (arena, office, residential, retail) the potential for indirect business and institutional displacement would be approximately the same. Neither the proposed project nor the Reduced Density—Arena Alternative would result in a significant adverse indirect business or institutional displacement impact.

*Adverse Effects on a Specific Industry*

The analysis of effects on specific industries concludes that the proposed project would not result in a significant adverse impact on any specific industry or any category of businesses within or outside of the study area. Direct and indirect business and institutional displacement would be similar under the Reduced Density—Arena Alternative and the proposed project, and neither would adversely affect any specific industry.

*Economic and Fiscal Benefits*

The construction cost for the Reduced Density—Arena Alternative, excluding land acquisition and the value of the mortgage recording fee and arena sales tax exemption, is estimated at approximately $2.87 billion in 2006 dollars. This is about 80 percent of that for either variation of the proposed project. Based on this cost and the RIMS II (Regional Input-Output Modeling System) model from the U.S. Department of Commerce, construction of the alternative would create about 21,370 direct and indirect jobs in New York City and about 26,490 direct and indirect jobs in New York State. Direct and indirect wages and salaries from constructing the alternative would total approximately $1.32 billion in New York City and $1.60 billion in New

York State – all figures approximately 80 percent of those for the proposed project. The total effect on the local economy, measured as economic output or demand, is projected at $4.14 billion in New York City, compared with $5.1 billion for the commercial mixed-use variation and $5.2 billion for the residential mixed-use variation. The total effect on the New York State economy is estimated at $5.40 billion, compared with $6.7 billion for the commercial mixed-use variation and $6.8 billion for the residential mixed-use variation.

Total public sector revenues for New York City, MTA, and New York State from constructing the alternative would equal $216 million, compared with $265 million for the commercial mixed-use variation and $279 million for the residential mixed-use variation. .

As noted above, once constructed the annual operation of the alternative would support 4,990 full-time equivalent jobs, as compared with 4,700 for the residential mixed-use variation and 9,490 for the commercial mixed-use variation. Total direct and indirect permanent employment would equal 8,950 in New York City, as compared with approximately 8,400 for the residential mixed-use variation and 18,200 for the commercial mixed-use variation. Total direct and indirect permanent employment in New York State would equal 10,800, as compared with 10,200 for the residential mixed-use variation and 22,100 for the commercial mixed-use variation.

Direct and indirect wages and salaries are projected at approximately $471 million in New York City and $539 million in New York State. The overall effect on the local economy from operating the completed development from the alternative is projected at $1.3 billion annually in New York City and $1.5 billion annually in New York State, approximately the same as the residential mixed-use variation and compared with $2.9 and $3.4 billion annually for the commercial mixed-use variation. In addition to annual property taxes, public sector revenues for New York City, MTA, and New York State are projected at approximately $84 million annually, as compared with $86 million annually from the residential mixed-use variation and $154 million annually from the commercial mixed-use variation.

It should be noted that the public funding for this alternative is not considered in this analysis.

*COMMUNITY FACILITIES*

As described in Chapter 5, “Community Facilities,” the quantified analysis of potential impacts on community facilities considered the residential mixed-use variation for the proposed project. The residential mixed-use variation would generate more residents than the commercial mixed-use variation; therefore, it provides for a more conservative estimate of potential effects. The comparison that follows shows the quantified analysis of the residential mixed-use variation relative to anticipated conditions under the Reduced Density—Arena Alternative.

*Police Protection*

The Reduced Density—Arena Alternative would not directly displace an NYPD facility, and NYPD would continue to evaluate its staffing needs and to assign personnel based on population growth, area coverage, crime levels, and other local factors that may result with completion of the Reduced Density—Arena Alternative. Furthermore, the Reduced Density—Arena Alternative includes programmed space for a precinct office.

The Reduced Density—Arena Alternative would result in increased vehicular traffic in the vicinity of the project site. It would also close Pacific Street between Flatbush and 6th Avenues and would create new streets through the rail yard. Like the proposed project, the Reduced

Density—Arena Alternative would not result in significant adverse impacts on police response times due to the geographic distribution of the precinct headquarters and their respective coverage areas, and with continued adjustments in deployment of personnel and equipment by NYPD, both the proposed project and the Reduced Density—Arena Alternative would not result in significant adverse impacts on NYPD operations from increased area population or the introduction of the proposed arena.

*Fire Protection*

FDNY has a Special Operations Facility at 648 Pacific Street. This parcel would be included in the project site for both the proposed project and the Reduced Density—Arena Alternative. Therefore, like the proposed project, implementation of the Reduced Density—Arena Alternative would require FDNY to relocate this facility to Long Island City. However, this move would not be considered significant since its location is not essential to the provision of fire protection.

The proposed project would result in closures of portions of 5th Avenue and Pacific Street and would add new population to the area that would demand fire protection. FDNY would monitor its operations to determine appropriate measures to provide for fire protection on and near the project site; therefore, the proposed project would not result in significant adverse impacts on the provision of fire protection. The Reduced Density—Arena Alternative would eliminate one block of Pacific Street, but other streets in the area would remain open and new streets would be added. FDNY would continue to evaluate its staffing needs, and like the proposed project, the Reduced Density—Arena Alternative would not result in significant adverse impacts on the provision of fire response services since there are a number of full-service fire companies geographically distributed throughout the proposed project's study area

*Public Schools*

Table 20-19 compares future enrollment in public schools for the proposed project and the Reduced Density—Arena Alternative. The full build-out of the proposed project would result in significant adverse impacts on elementary and intermediate school seats for public schools located within ½ mile of the project site but there would be available capacity within the two CSDs, in which the project site is located. The Reduced Density—Arena Alternative would result in enrollment in excess of capacity for elementary schools but, unlike the proposed project, it would not impact intermediate schools capacity. The Reduced Density—Arena Alternative includes programmed space for a new public school, which could mitigate its potential impacts on existing facilities. The proposed project could also mitigate its potential impact within the ½-mile area.

Both the Reduced Density—Arena Alternative and the proposed project would result in continued shortfalls in the number of public high school seats in the borough of Brooklyn. However, since the increase in students under both alternatives would not result in an increase of five percent or more deficiency of available seats in the region, the projected shortfall would not be considered a significant adverse impact.

*Libraries*

Table 20-20 compares the ratio of library volumes per resident for the proposed project and the Reduced Density—Arena Alternative. Both the proposed project and the Reduced Density—Arena Alternative would result in a decrease in the ratio of volumes per resident as compared with the No Build condition, the resultant ratios would continue to exceed the Brooklyn-wide average of 1.8 volumes per resident. Therefore, the proposed project and the Reduced Density—Arena Alternative would not result in significant adverse impacts on libraries.

**Table 20-19**
**Comparison of Public School Enrollment for the Proposed Project and the Reduced Density—Arena Alternative**

| School | Program Capacity | No Build | | Proposed Project (Residential Mixed-Use Variation) | | Reduced Density—Arena Alternative | |
|---|---|---|---|---|---|---|---|
| | | Students | Program Utilization | Students | Program Utilization | Students | Program Utilization |
| Elementary | 4,263 | 3,762 | 88% | 5,635 | 132% | 4,157 | 98% |
| Intermediate | 2,457 | 1,821 | 74% | 2,531 | 103% | 1,977 | 80% |
| High School | 62,768 | 74,648 | 119% | 75,085 | 120% | 74,748 | 119% |

**Notes:**

The affordable housing units for the Reduced Density—Arena Alternative were assumed to be 40 percent low-income; 20 percent low- to moderate-income; and 40 percent moderate- to high-income for purposes of estimating new students. This is consistent with assumptions used for the proposed project.

Capacity and enrollment numbers for elementary and intermediate schools reflect projected conditions for a ½-mile study area. High school capacities and enrollment are borough-wide.

**Sources:**

Enrollment and capacity for individual schools: DOE, *Utilization Profiles: Enrollment/Capacity/Utilization, 2004-2005*. These figures include Pre-K enrollment in these buildings.

Totals for CSDs 13 and 15 enrollments: DOE and DCP Enrollment Projections for Community School Districts (Actual 2004, Projected 2005 to 2014). DCP's actual enrollment does not include Pre-K enrollment as Pre-K programs are discretionary.

Capacity numbers for CSDs 13 and 15: DOE, *Utilization Profiles: Enrollment/Capacity/Utilization, 2004-2005*.

*Student generation rates are based on the* CEQR Technical Manual's *Table 3C-2: "Projected Public School Pupil Ratios in New Housing Units of All Sizes."*

**Table 20-20**
**Comparison of Library Service for the Proposed Project and the Reduced Density—Arena Alternative**

| | Study Area | | | Brooklyn Total (Existing) |
|---|---|---|---|---|
| | No Build | Proposed Project (Residential Mixed-Use Variation) | Reduced Density—Arena Alternative | |
| Library Volumes | 1,269,194 | 1,269,194 | 1,269,194 | 4,420,614 |
| Residents | 143,491 | 157,901 | 151151 | 2,465,326 |
| Volumes per Resident | 8.8 | 8.0 | 8.5 | 1.8 |

**Source:** Brooklyn Public Library

*Hospitals and Healthcare Centers*

The Reduced Density—Arena Alternative would construct up to 1,168 additional new low- to moderate-income housing units and introduce approximately 3,000 new low- to moderate-income residents to the study area. Based on the national average of 390 annual emergency room visits per 1,000 low-income persons, these additional residents could generate 1,170 annual visits to study area emergency rooms. This would be a negligible increase (less than 1 percent) over existing emergency room visits and, therefore, like the proposed project, the Reduced Density—Arena Alternative would not result in significant adverse impacts on hospitals and healthcare facilities.

The proposed project would include a new healthcare facility on the project site. Although preliminary plans for the Reduced Density—Arena Alternative do not include a healthcare facility, one could be provided as part of its programmed area for community facilities.

*Day Care Centers*

Table 20-21 compares future enrollment in public day care facilities for the proposed project and the Reduced Density—Arena Alternative. Both the proposed project and the Reduced Density —Arena Alternative would not result in a shortfall of public day care seats. It should be noted that the proposed project includes the creation of an intergenerational facility, offering child care, youth, and senior center services.

**Table 20-21**
**Comparison of Public Day Care Enrollment for the Proposed Project and the Reduced Density—Arena Alternative**

| | No Build | Proposed Project (Residential Mixed-Use Variation) | Reduced Density—Arena Alternative |
|---|---|---|---|
| Capacity | 5,141 | 5,241 | 5,141 |
| Enrollment | 4,732 | 5,218 | 4,983 |
| Program Utilization | 92% | 100% | 97% |

**Source:** New York City Administration of Children's Services

*Community Amenities*

The proposed project includes programmed space for an intergenerational facility, offering child care, youth, and senior center services as well as a health care facility. The Reduced Density—Arena Alternative includes approximately 46,000 square feet of community facility space, which would accommodate a school, a police substation, and other community facility uses. The Reduced Density—Arena Alternative would also include an arena, which could host large public events. Although the Reduced Density—Arena Alternative would not create an "Urban Room," the proposed plaza at the intersection of Atlantic and 6th Avenues could host outdoor, public events. Thus, both the proposed project and the Reduced Density—Arena Alternative would provide for new community amenities that would benefit the public.

*OPEN SPACE AND RECREATIONAL FACILITIES*

*Methodology*

The assessment of potential impacts on open space resources considers both the quantitative and qualitative effects of the proposed project and the Reduced Density—Arena Alternative. The Reduced Density—No Arena Alternative would provide for a total of 2.69 acres of open space. A total of 1.84 acres would be publicly-accessible while 0.84 acres would be private yards. While the total of 2.69 acres is described qualitatively below, the quantitative assessment includes only the 1.84 acres that would be publicly-accessible. Because a breakdown of active and passive recreational space could not be fully determined for the Reduced Density—Arena Alternative, the quantitative comparison is based on the total publicly-accessible (active and passive) open space. The qualitative assessment considers the site plans for the proposed project and the Reduced Density—Arena Alternative, and compares the general characteristics of planned open space.

*Quantitative Assessment*

The Reduced Density—Arena Alternative would provide for 1.84 acres of publicly accessible open space and would add a total of 12,450 workers and residents to the study area. As shown in

Table 20-22, the Reduced Density—Arena Alternative would result in a lower open space ratio than the proposed project. Whereas the proposed project would increase the ratio of open space per capita as compared with the no build condition, the Reduced Density—Arena Alternative would either maintain or slightly reduce this ratio. Therefore, the proposed project has greater benefits to the residential and employee population of the study area since it improves the availability of active and passive open space.

**Table 20-22**
**Comparison of Adequency of Open Space for the Proposed Project and the Reduced Density—Arena Alternative**

| Factor | No Action Alternative | Proposed Project (Residential Mixed-Use Variation) | Proposed Project (Commercial Mixed-Use Variation) | Reduced Density—Arena Alternative |
|---|---|---|---|---|
| Study Area Population | | | | |
| Residents | 73,065 | 87,475 | 85,225 | 80,725 |
| Workers | 47,766 | 52,466 | 57,256 | 52,756 |
| Total | 120,831 | 139,941 | 142,281 | 133,481 |
| Open Space Acreage within the ½-mile study area | 23.95 | 30.95 | 30.95 | 25.79 |
| Open Space Ratio (Acres / 1,000 Residents) | 0.33 | 0.35 | 0.36 | 0.32 |
| Open Space Ratio (Acres / 1,000 Residents and Workers) | 0.19 | 0.22 | 0.22 | 0.19 |

**Note:** Ratios include the combined total of active and passive open space.
**Source:** New York City Department of Parks and Recreation (DPR); New York City Department of Education (DOE); New York City Housing Authority (NYCHA); Police Athletic League (PAL); Trust for Public Land (TPL); Forest City Ratner Companies (FCRC); AKRF, Inc. field surveys (April 2004 and summer 2005).

*Qualitative Assessment*

The proposed project would create a minimum of seven acres of publicly accessible open space and additional areas of private open space. The Reduced Density—Arena Alternative includes 1.84 acres of public open space and 0.85 acres of private open space as follows:

- A 0.09-acre plaza on the southeast corner of Atlantic and Flatbush Avenues;
- Two public plazas, comprising a total of 0.42 acres, adjacent to the proposed arena on the block bounded by Atlantic Avenue, 6th Avenue, Dean Street, Flatbush Avenue, and 5th Avenue;
- A 0.85-acre public square and park on the block bounded by Atlantic Avenue, South Oxford Street, Pacific Street, and 6th Avenue;
- A 0.26-acre, landscaped courtyard on Pacific Street between Carlton and Clermont Avenues;
- A 0.22-acre playground on Pacific Street between Clermont Avenue and Vanderbilt Avenue; and
- A total of 0.85-acres in front and rear yards located on Blocks 1120, 1121, and 1129.

Both the proposed project and the Reduced Density—Arena Alternative call for public plazas on Block 1118 and the arena block. Under the Reduced Density—Arena Alternative, the views from the adjoining residential buildings would not be enhanced.

The Reduced Density—Arena Alternative calls for a park on the block bounded by Atlantic Avenue, South Oxford Street, Pacific Street, and 6th Avenue, which would be the largest public open space within the development. This location is not ideal for a park. It would be bordered on all sides by city streets, including Atlantic Avenue, which carry heavy traffic volumes. Thus, its users would be subjected to traffic noise, and pedestrian safety may be an issue since parks attract children. Furthermore, the location of the park between an arena, a hotel, and an arterial street would isolate the open space from the residential neighborhood.

The other open spaces that would be provided by the Reduced Density—Arena Alternative would be discontinuous pocket parks and rear yards on Blocks 1120, 1121, and 1129. The rear yards would not be publicly accessible. The pocket parks would be surrounded on three sides by new residential buildings; therefore, they may not be perceived as public parks by other residents of the community.

The proposed project includes at least seven acres of public open space and additional areas of private open space. The open space plan for the proposed project includes wide public walkways aligned with the street grid, public walkways through the open space, landscaped at-grade courtyards, water features, lawn areas, and spaces for active recreation. The proposed water feature would be surrounded by plantings, paths, benches, and café terraces; and an active play area. The water features would serve dual purposes as aesthetic elements and functional detention/retention basins, which are fundamental elements of a comprehensive stormwater management system. A bicycle path would also be included as another open space amenity that would further link the project site to the surrounding area. The open space plan for the proposed project provides numerous, inviting pedestrian linkages through the project site to provide visual and physical access to its open space and to promote its use by the surrounding community.

Overall, the Reduced Density—Arena Alternative would provide for substantially less open space than the proposed project. Furthermore, it is anticipated that the open spaces that would be provided under the Reduced Density—Arena Alternative would be less appealing for general public use than those included within the proposed project.

*CULTURAL RESOURCES*

The proposed project would result in significant adverse impacts from the demolition of the former LIRR Stables (Block 1120, Lots 19 and 28) and the Ward Bread Bakery complex (Block 1129, Lot 25). The former LIRR Stables would also be razed under the Reduced Density—Arena Alternative, which would result in a significant adverse impact. The Reduced Density—Arena Alternative also calls for development of the Ward Bread Bakery complex; however, presentation documents for the Reduced Density—Arena Alternative call for the adaptive reuse of this structure rather than demolition. It would need to be determined whether (1) the building could feasibly accommodate adaptive reuse and (2) whether any changes to the interior or the façades of this building would constitute a significant adverse impact with respect to its historic integrity. The latter of these determinations would be made by the New York State Department of Parks, Recreation, and Historic Preservation and the New York City Landmarks Preservation Commission.

The Reduced Density—Arena Alternative would introduce a new 32-story building on the southeast corner of Flatbush and Atlantic Avenues. Because this new structure would replace existing low-rise uses, it would cast new shadows and would obstruct views of the

Williamsburgh Savings Bank Building from south of the project site along Flatbush Avenue corridor as compared with today, which would adversely impact this historic resource. However, the extent of these impacts would be less than with the proposed project.

Like the proposed project, the Reduced Density—Arena Alternative would cast shadows on the stained-glass windows on the east façade of the Church of the Redeemer. However, shadows cast by the Reduced Density—Arena Alternative would be of a shorter duration and would exit the façade by 9:15 AM throughout the year. Therefore, while the Reduced Density—Arena Alternative would result in a significant adverse impact on the Church by casting new shadows on its façade, this impact would be substantially reduced as compared with the proposed project.

The development of the project site as proposed in the Reduced Density—Arena Alternative would transform an area that is primarily characterized by transportation and industrial uses and that has historically separated residential areas north and south of the project site. The redevelopment of these blocks would support adjacent historic districts by complementing their use. Therefore, like the proposed project, the Reduced Density—Arena Alternative would not result in significant adverse impacts from contextual effects on these historic districts.

As described in Chapter 7, "Cultural Resources," potential archaeological resources may remain on Block 1119, Lot 1; and Block 1127, Lots 48, 50, 55 and 56. Since these parcels would also be developed under the Reduced Density—Arena Alternative, the potential impacts on these archaeological resources, and the associated mitigation, would be the same as for the proposed project.

*URBAN DESIGN AND VISUAL RESOURCES*

Like the proposed project, the Reduced Density—Arena Alternative would result in changes to urban design and visual resources. As with the proposed project, the Reduced Density—Arena Alternative would also close Pacific Street between 5th and 6th Avenues to accommodate a larger block form for an arena and tall, mixed-used buildings but this alternative would also create new north-south streets through Blocks 1120 and 1121. The Reduced Density—Arena Alternative, like the proposed project, would change street patterns and block forms on the project site as compared with existing conditions.

The Reduced Density—Arena Alternative proposes to continue the grid pattern of Fort Greene south across Atlantic Avenue into Prospect Heights by extending South Oxford and Cumberland Streets, and Clermont Avenue through the rail yard on Blocks 1120 and 1121 of the project site. The extensions of these three streets would terminate at Pacific Street, creating midblock T-intersections and five smaller blocks, and would serve mostly project-generated vehicles. Atlantic Avenue is a primary roadway that currently separates Fort Greene to the north from Prospect Heights to the south and also divides two different street grid patterns. The Fort Greene street grid has a skewed alignment that reflects the angles of both Flatbush Avenue to the west and Fulton Street to the north. The blocks in Fort Greene immediately north of Atlantic Avenue are long and narrow with irregularly shaped ends, with the narrow ends of the blocks abutting Atlantic Avenue. The grid pattern in Prospect Heights, the neighborhood south of Atlantic Avenue, and east of Flatbush Avenue is laid out in a north-south grid pattern with typical, rectilinear blocks. The proposed project would not alter the role of Atlantic Avenue as a neighborhood boundary whereas the Reduced Density—Arena Alternative proposes to shift the boundary between neighborhoods and street grids south to Pacific Street, a narrow, local traffic corridor in Prospect Heights. This would be inconsistent with the existing street grids and would not improve accessibility to this area of the project site as Atlantic Avenue is a heavily trafficked roadway, and would be at odds with the urban design of the area.

Unlike the proposed project, the Reduced Density—Arena Alternative would not close the portion of 5th Avenue between Pacific Street and Atlantic Avenue. This is a relatively short segment of roadway that results in an awkward shape for Block 1118 and contributes to the number of intersections in this congested area of Brooklyn. Maintaining this portion of 5th Avenue would not have advantages with respect to urban design. With the proposed project, Blocks 1118, 1119, and 1127 would be merged, allowing four mixed-use buildings, an arena, and enhancements to the transportation hub to be located close to the intersection of Flatbush and Atlantic Avenues improving accessibility. Furthermore, as described below, with the proposed project, the closure of 5th Avenue would improve the circulation of street and pedestrian traffic along Flatbush and Atlantic Avenues since it would eliminate intersections that are near one another.

The proposed project would also close Pacific Street between Carlton and Vanderbilt Avenues in order to merge Blocks 1121 and 1129. All of the existing structures on these blocks would be razed. Although the proposed project would change the shapes of Blocks 1121 and 1129, the open space plan would provide pedestrian and visual links through the large residential block by providing an east-west pedestrian path along the right-of-way of Pacific Street and north-south pedestrian paths aligned with the streets to the north of Atlantic Avenue. As discussed in Chapters 12 and 13, ("Traffic and Parking" and "Transit and Pedestrians"), Pacific Street currently carries little pedestrian or vehicular traffic, and is often desolate. Closing Pacific Street to vehicular traffic and providing pedestrian paths through the proposed open space would greatly enhance pedestrian activity and create visual links to the residential neighborhoods to the north, south, east, and west, thus reinforcing the existing urban design. The replacement of the open rail yard and existing buildings on these blocks, along with the removal of Pacific Street, would also allow the development of wide expanses of publicly accessible open space, including water features that would serve as stormwater detention basins. The Reduced Density—Arena Alternative would maintain the current alignment of Pacific Street and would not fully redevelop Block 1129 as many of the buildings on this block would be retained. Thus, although the shape of Block 1129 would remain consistent with the prevailing block forms in Prospect Heights, and Pacific Streets' role as a vehicular pedestrian thoroughfare would improve, the retention of Pacific Street and structures on Block 1129 would greatly reduce the potential for developing adequate public open space for this area.

The proposed project includes a 620-foot-tall building (Building 1) at the intersection of Flatbush Avenue and Atlantic Avenue, while the Reduced Density—Arena Alternative would result in a 320-foot-tall building at this location. The introduction of a new tall building at this location, as well as other tall buildings on the project site, would alter the visual character of the Williamsburgh Savings Bank Building, one of the most prominent and recognizable features of the Brooklyn skyline. With the proposed project, Buildings 1 and 2 would obstruct views of the Williamsburgh Savings Bank Building from along Flatbush Avenue south of the project site except from vantage points on Flatbush Avenue immediately adjacent to the project site and would obstruct views from areas of Pacific Street between 4th and Flatbush Avenues and points along 5th Avenue, views from Bergen Street between 6th and Carlton Avenues, from the Dean Playground, and Vanderbilt Avenue east of the project site. The loss of these views would constitute a significant adverse impact on visual resources. The proposed project would alter the context of this visual resource that serves as a wayfinder for this area of Brooklyn. The proposed project would create new wayfinders for this area that would frame the bank building on the skyline and would create new visual resources with the introduction of an arena and 16 new tall buildings to the project site.

Like the proposed project, the Reduced Density—Arena Alternative would result in new tall buildings on the project site that would obstruct views of the Williamsburgh Savings Bank Building from south of the project site along the Flatbush Avenue corridor. It would also obscure

views from side streets such as Bergen Street and the Dean Street Playground. Therefore, like the proposed project, this alternative would result in significant adverse impacts to visual resources.

Like the proposed project, the arena and new buildings of the Reduced Density—Arena Alternative would have lighting that would meet the New York City Department of Transportation's (DOT) lighting standards and would include street and sidewalk lighting, building lighting, and illuminated signage on the arena. Some lighting may also emanate through transparent building materials into other areas of the project site and surrounding area, adding ambient lighting in an area that does not meet the minimum street and sidewalk lighting required by DOT, and.the arena use would be expected to have larger brightly lit signage that may be visible to residential districts. Like the proposed project, the presumed lighting for the Reduced Density—Arena Alternative would be an improvement over current lighting conditions. The Reduced Density—Arena Alternative would also add new buildings with ground-floor retail and an arena and cinema on the project site. These uses would require signage, some of which would be illuminated, along Atlantic Avenue and Flatbush Avenue and which would be visible at residential units and residential districts. Similar to the proposed project, the lighting and signage of the Reduced Density—Arena Alternative would be an improvement to the urban design of this portion of Atlantic Avenue over existing conditions.

Similar to the proposed project the Reduced Density—Arena Alternative would redevelop a blighted area of Brooklyn and would create new visual resources in the Brooklyn skyline. However, the proposed project would redevelop the project site with buildings of varying heights and unique shapes, whose architecture would differ substantially from the buildings in the surrounding area. The Reduced Density—Arena Alternative would develop the project site with buildings that would be more similar to the heights and forms of buildings in Brooklyn.

*SHADOWS*

Figures 20-13 and 20-14 compare potential shadows from development on the project site with the proposed project and the Reduced Density—No Arena Alternative for representative analysis periods. The following paragraphs compare the proposed project's significant adverse impacts from new shadows cast on the southern portion of the open space of the Atlantic Terminal Houses and on the eastern façade of the Church of the Redeemer with the potential effects of the Reduced Density—Arena Alternative.

Like the proposed project, the Reduced Density—Arena Alternative would cast shadows on the open space of the Atlantic Terminal houses for two to three hours of the day during the May 21 analysis period, for most of the day during the March 21 analysis period, and for approximately six hours of the December 21 analysis period (see Table 20-23), but the Reduced Density—No Arena Alternative would not cast shadows on this open space during the June analysis period. The duration and extent of the shadows cast by the proposed project and the Reduced Density—Arena Alternative would have a significant adverse impact on the open space on the cooler analysis days when shadows are longer (March/September and December), since they might diminish the attraction to use this open space resource.

The Reduced Density—Arena Alternative would cast new shadows on the stained-glass windows of the east façade of the Church of the Redeemer during the morning hours throughout the year (see Table 20-23), but shadows from the proposed project would have a longer duration. As described in Chapter 9, "Shadows," the proposed project's shadows on the Church of the Redeemer were considered significant since its stained-glass windows would be in shadow at the beginning of Sunday services, which currently commence at 11 AM. This impact would not occur with the Reduced Density—No Arena Alternative since shadows would exit the Church's east façade by approximately 9:15 AM.

**Table 20-23**
**Duration of Shadows on Sun Sensitive Receptors for the Proposed Project and the Reduced Density—Arena Alternative**

| Sun Sensitive Resource | Analysis Period | Proposed Project - Phase II | Reduced Density—No Arena Alternative |
|---|---|---|---|
| Atlantic Terminal Houses- Carlton Avenue Side | March 21 (Analysis Period: 7:36 AM - 4:29 PM) | 1:00 PM - 4:29 PM | - |
| | May 6 (Analysis Period: 7:27 AM-6:18 PM DST) | 6:00 PM - 6:18 PM | - |
| | June 21 (Analysis Period: 6:57 AM - 7:01 PM DST) | - | - |
| | December 21 (Analysis Period: 8:51 AM - 2:53 PM) | **8:51 AM - 2:53 PM** | **8:51 AM - 2:53 PM** |
| Atlantic Terminal Houses- Atlantic Avenue Side | March 21 (Analysis Period: 7:36 AM - 4:29 PM) | **9:00 AM - 4:29 PM** | **9:00 AM - 4:29 PM** |
| | May 6 (Analysis Period: 7:27 AM-6:18 PM DST) | 2:00 PM - 6:18 PM | 2:00 PM - 4:30 PM |
| | June 21 (Analysis Period: 6:57 AM - 7:01 PM DST) | 2:15 PM - 4:45 PM | - |
| | December 21 (Analysis Period: 8:51 AM - 2:53 PM) | **8:51 AM - 2:53 PM** | **8:51 AM - 2:53 PM** |
| Church of the Redeemer | March 21 (Analysis Period: 7:36 AM - 4:29 PM) | 7:36 AM - 9:45 AM | 7:36 AM - 9:15 AM |
| | May 6 (Analysis Period: 7:27 AM-6:18 PM DST) | **7:27 AM - 11:15 AM** | 7:27 AM – 9:00 AM |
| | June 21 (Analysis Period: 6:57 AM - 7:01 PM DST) | **7:30 AM - 11:15 AM** | 7:27 AM – 9:00 AM |
| | December 21 (Analysis Period: 8:51 AM - 2:53 PM) | 8:51 AM - 9:15 AM | 8:51 AM - 9:15 AM |

**Note:** Bolded text indicates a significant adverse impact.

*HAZARDOUS MATERIALS*

As with the proposed project, development of the Reduced Density—Arena Alternative would require remediation for contaminated parcels within Blocks 1118, 1119, 1120, 1121, 1127, Block 1128, Lot 4, and Block 1129, Lots 1, 3, 4, 5, 6, 25, 45, 46, 50, and 54. However, with the implementation of a variety of remediation measures, no significant adverse impacts related to hazardous materials would be expected to occur as a result of construction of either the proposed project or the Reduced Density—Arena Alternative. Following construction, there would be no further potential for significant adverse impacts.

*INFRASTRUCTURE*

The analysis that follows compares the infrastructure and energy requirements of the Reduced Density—Arena Alternative to those of the Residential Mixed-Use Variation for the proposed project.

*Water Supply*

Table 20-24 compares water demand for the proposed project and the Reduced Density—Arena Alternative. Although the Reduced Density—Arena Alternative would demand less water than would the proposed project, neither would result in significant adverse impacts on the city's water supply system. While both alternatives would implement the City's water conservation requirements, it is unclear whether the Reduced Density—Arena Alternative would incorporate the voluntary water conservation systems that have been included as part of the proposed project.

**Table 20-24**
**Comparison of Water Consumption for the Proposed Project and the Reduced Density—Arena Alternative (Gallons per day)**

| Use | Proposed Project (Residential Mixed-Use Variation) | Reduced Density—Arena Alternative |
|---|---|---|
| Residential | 2,767,770 | 1,478,036 |
| Hotel | 46,305 | 52,980 |
| Retail and Community Facilities | 83,980 | 117,011 |
| Office | 121,200 | 127,567 |
| Arena | 275,000 | 231,363 |
| Light Industrial | 0 | 15,810 |
| Total | 3,294,605 | 2,022,166 |

**Source:** New York City Mayor's Office of Environmental Coordination, *City Environmental Quality Review Technical Manual* (December 2001).

*Sanitary Sewage and Stormwater*

Table 20-25 compares the sanitary sewage generated by the proposed project and the Reduced Density—Arena Alternative. The Reduced Density—Arena Alternative would generate a demand for approximately 1.4 million gallons per day of sanitary sewage treatment. Given the remaining capacity of the Red Hook Water Pollution Control Plant, this demand would not adversely impact its operation during dry weather.

**Table 20-25**
**Comparison of Sanitary Sewage Flows Generated by the Proposed Project and the Reduced Density—Arena Alternative (Gallons per day)**

| Use | Proposed Project (Residential Mixed-Use Variation) | Reduced Density—Arena Alternative |
|---|---|---|
| Residential | 1,613,470 | 857,920 |
| Hotel | 29,805 | 32,225 |
| Retail and Community Facilities | 41,990 | 58,506 |
| Office | 60,600 | 63,750 |
| Arena | 130,500 | 117,250 |
| Light Industrial | 0 | 7,905 |
| Total | 1,876,365 | 1,137,556 |

**Source:** New York City Mayor's Office of Environmental Coordination, *City Environmental Quality Review Technical Manual* (December 2001).

The Reduced Density—Arena Alternative would provide for approximately one-third of the open space of the proposed project, and its arrangement of buildings on the project site would not likely allow for a comprehensive stormwater management plan comparable to the proposed project. The proposed project's stormwater management measures, which include on-site retention and detention of stormwater, would reduce combined sewer flows from the project site by 10.3 million gallons per year. Thus, the proposed project's stormwater management plan, as compared to this alternative, would reduce the quantity of untreated combined sewer overflow discharge to the Gowanus Canal and East River.

Therefore, although the Reduced Density—No Arena Alternative would generate less sanitary sewer demand than the proposed project, it is likely to have greater combined sewer flow volumes and events in the Gowanus Canal and East River. Furthermore, stormwater that would be retained on-site as part of the proposed project would be used for landscaping and as make-up water for cooling towers, which would reduce the proposed project's need for potable water.

*Solid Waste*

Table 20-26 compares the solid waste that would be generated by the proposed project and the Reduced Density—Arena Alternative. Like the proposed project, the Reduced Density—Arena Alternative would increase the volumes of solid waste and recyclables, but would not affect the delivery of these services, nor would it place a significant burden on the city's solid waste management (both public and private). In addition, the Reduced Density—Arena Alternative would not conflict with, or require amendments to, the city's Solid Waste Management Plan.

**Table 20-26**
**Comparison of Solid Waste Generated by the Proposed Project and the Reduced Density—Arena Alternative (Pounds per week)**

| Use | Proposed Project (Residential Mixed-Use Variation) | Reduced Density—Arena Alternative |
|---|---|---|
| Residential | 244,900 | 130,220 |
| Hotel | 5,250 | 7,500 |
| Retail and Community Facilities | 58,460 | 72,680 |
| Office | 31,510 | 33,150 |
| Arena | 20,710 | 17,270 |
| Light Industrial | 0 | 11,250 |
| Total | 360,830 | 272,070 |

**Source:** New York City Mayor's Office of Environmental Coordination, *City Environmental Quality Review Technical Manual* (December 2001).

*Energy*

Like the proposed project, the Reduced Density—Arena Alternative would increase demands on electricity and gas. However, relative to the capacity of these systems and the current levels of service within New York City and the surrounding area, these increases would be insignificant. Furthermore, electrical and gas connections are readily available in the local streets. Therefore, neither the proposed project nor the Reduced Density—Arena Alternative would result in significant adverse impacts on energy systems.

*TRAFFIC AND PARKING*

*Methodology*

An analysis has been prepared to compare the potential impacts of the proposed project with those of the Reduced Density—Arena Alternative.

A trip generation analysis was conducted for the Reduced Density—Arena Alternative using the factors developed for the proposed project (see Chapter 12, "Traffic and Parking"). Average vehicle delays were developed for this alternative based on the relative difference in trips as compared with the proposed project. These delays were then used to project a level-of-service

for the study area intersections. Although the resultant delays are approximate, they provide for a basis to compare the operation of area intersections under the Reduced Density—Arena Alternative to conditions with completion of the proposed project.

*Trip Generation*

Table 20-27 compares the person trips generated by the proposed project and the Reduced Density—Arena Alternative. In the AM, midday, PM, and Saturday pre-game peak periods, the Reduced Density—Arena Alternative would generate substantially fewer person trips than the commercial mixed-use variation and somewhat less for the mixed-use residential variation of the proposed project. However, because the Reduced Density—Arena Alternative includes a cinema, in combination with an arena, it would generate more person trips during the weekday post-game peak period than both the residential and commercial mixed use variations for the proposed project. During the Saturday post-game peak period, the Reduced Density—Arena Alternative would generate more person trips than the commercial mixed-use variation for the proposed project but fewer trips than the residential mixed-use variation.

Table 20-28 compares the vehicle trips generated by the proposed project and the Reduced Density—Arena Alternative. The highest project volume of vehicle trips under the Reduced Density—Arena Alternative would be 3,049 vehicles during the post-game peak hour, which would be higher than the projected post-game peak hour volume for the residential mixed-use variation (2,981 vehicles) and the commercial mixed-use variation (2,952 vehicles) for the proposed project. However, generally, the Reduced Density—Arena Alternative generates a similar volume of vehicular traffic in the weekday pre-game, weekday post-game, Saturday pre-game, and Saturday post-game peak periods as both the residential mixed-use and commercial mixed-use variations for the proposed project. In the AM, midday, and PM peak periods, the volume of traffic generated by the Reduced Density—Arena Alternative is lower than would occur for the residential and commercial mixed-use variations for the proposed project.

*Traffic*

The Reduced Density—Arena Alternative would result in changes in the current street network, It would close Pacific Street between Flatbush and 6th Avenues and would create new streets through the project site between Atlantic Avenue and Pacific Street. The plans that were submitted do not provide details on site access, except that the main entrance for the arena parking would be located on Block 1128, Lot 4. It is assumed that access to the site's other parking facilities would be from existing or new streets between Atlantic Avenue and Pacific Street. The location of loading areas is also not known, but it is assumed that loading for the arena would be from either 5th Avenue, 6th Avenue, or Pacific Street; loading for the office use would be from 5th Avenue; and loading for project elements east of 6th Avenue would be from the new and existing north-south streets between Atlantic and Pacific Streets or from Pacific Street itself.

Under the Reduced Density—Arena Alternative, 5th Avenue between Flatbush and Atlantic Avenues and Pacific Street between Carlton and Vanderbilt Avenues would remain open to traffic. Therefore, unlike the proposed project, existing traffic would not be diverted to other area roadways as a result of these street closures. Although retaining these streets would provide for additional points of access to the project site, traffic circulation would not be substantially improved as compared to the proposed project since traffic volumes would be high throughout the study area.

Table 20-29 compares the projected traffic impacts of the Reduced Density—Arena Alternative to those of the proposed project. The Reduced Density—Arena Alternative would generate less traffic

than the proposed project in the AM, midday, and PM peak periods. Although the resultant average vehicle delays would generally be lower than the proposed project, the decrease in volumes with this alternative would not substantially reduce the number of traffic impacts. In the other peak periods, the Reduced Density—Arena Alternative would generally result in same traffic impacts and average vehicle delays as the proposed project since it would also include an arena on the project site.

Like the proposed project, most of the significant adverse impacts that would occur under the Reduced Density—Arena Alternative could be mitigated. However, given current congestion at certain intersections and the comparable volume of vehicle trips, it is anticipated that the Reduced Density—Arena Alternative, like the proposed project, would result in significant adverse impacts that could not be fully mitigated.

*Parking*

The Reduced Density—Arena Alternative would provide for 4,262 off-street parking spaces on the project site and would generate a peak weekday demand for 3,194 parking spaces. Therefore, the Reduced Density—Arena Alternative would fully accommodate its parking demand on-site, and like the proposed project, it would not result in a significant adverse shortfall of off-street parking in the study area.

The provision of parking beneath the arena would be problematic due to security reasons and operational and constructability considerations. Therefore, some of these spaces may need to be located elsewhere on the project site, if feasible, or at an off-site location. In the event that adequate replacement parking could not be provided as part of this alternative, it could result in a shortfall of spaces in the study area during arena events.

*TRANSIT AND PEDESTRIANS*

*Long Island Rail Road (LIRR)*

Like the proposed project, the Reduced Density—Arena Alternative would generate new demand for LIRR commuter rail service, but adequate capacity would be available to support this growth.

Although no plans were provided, the DEIS assumes that this alternative would include most of the proposed project's improvements to the rail yard with one major exception noted below. The Reduced Density—Arena Alternative would provide for a new rail yard that, like the proposed project, would support LIRR's conversion to a multi-unit electric train fleet; would provide for operational flexibility by creating a new West Portal; would install new toilet manifolds for unrestricted servicing, and would add signal, interlocking, and switching systems. However, due to the proposed north-south orientation of the arena under the Reduced Density—Arena Alternative, it would not be possible to construct a drill track on the project site. Absent a drill track, LIRR would maintain its current system of backing up trains onto the main line to move them between the Atlantic Terminal and the rail yard. This operation requires additional train movements and takes longer to complete than continuous forward operation of train sets and like the current rail yard operations, would block the mainline for periods of time each weekday. Therefore, although the Reduced Density—Arena Alternative would not result in significant adverse impacts on commuter rail service, it would not provide benefits to the LIRR comparable to those of the proposed project.

**Table 20-27**
**Comparison of Person Trips Generated by the Proposed Project and the Reduced Density—Arena Alternative**

| Peak Hour | Scenarios | Mode | | | | | | |
|---|---|---|---|---|---|---|---|---|
| | | Auto | Taxi | Subway | LIRR | Bus | Walk | Total |
| AM (8A-9A) | Proposed Project (Residential) | 1,026 | 111 | 4,845 | 232 | 285 | 1,199 | 7,698 |
| | Proposed Project (Commercial) | 1,208 | 120 | 5,954 | 537 | 413 | 1,210 | 9,442 |
| | Reduced Density—Arena | 739 | 93 | 3,287 | 219 | 247 | 1,092 | 5,677 |
| Midday (12P-1P) | Proposed Project (Residential) | 666 | 236 | 3,329 | 60 | 492 | 5,628 | 10,411 |
| | Proposed Project (Commercial) | 645 | 253 | 3,244 | 54 | 699 | 8,210 | 13,105 |
| | Reduced Density—Arena | 587 | 257 | 2,664 | 46 | 550 | 6,211 | 10,315 |
| PM (5P-6P) | Proposed Project (Residential) | 1,721 | 226 | 6,723 | 383 | 458 | 2,710 | 12,221 |
| | Proposed Project (Commercial) | 1,930 | 238 | 8,002 | 735 | 605 | 2,720 | 14,230 |
| | Reduced Density—Arena | 1,561 | 234 | 5,050 | 363 | 534 | 2,869 | 10,611 |
| Pre-Game (7P-8P) | Proposed Project (Residential) | 5,433 | 491 | 10,493 | 1,141 | 497 | 1,456 | 19,511 |
| | Proposed Project (Commercial) | 5,419 | 485 | 10,536 | 1,240 | 525 | 1,403 | 19,608 |
| | Reduced Density—Arena | 5,461 | 513 | 9,212 | 1,121 | 657 | 1,564 | 18,528 |
| Post-Game (10P-11P) | Proposed Project (Residential) | 5,769 | 489 | 8,568 | 1,491 | 393 | 799 | 17,509 |
| | Proposed Project (Commercial) | 5,735 | 485 | 8,429 | 1,501 | 391 | 772 | 17,313 |
| | Reduced Density—Arena | 5,975 | 524 | 8,186 | 1,483 | 586 | 967 | 17,721 |
| Saturday (12P-1P) | Proposed Project (Residential) | 6,231 | 545 | 8,203 | 1,120 | 537 | 3,637 | 20,273 |
| | Proposed Project (Commercial) | 6,084 | 525 | 7,934 | 1,112 | 523 | 3,563 | 19,741 |
| | Reduced Density—Arena | 6,136 | 575 | 7,671 | 1,100 | 655 | 3,552 | 19,689 |
| Saturday (4P-5P) | Proposed Project (Residential) | 6,983 | 599 | 9,068 | 1,270 | 571 | 3,690 | 22,181 |
| | Proposed Project (Commercial) | 6,846 | 581 | 8,908 | 1,287 | 560 | 3,452 | 21,634 |
| | Reduced Density—Arena | 7,022 | 653 | 8,638 | 1,253 | 784 | 3,653 | 22,003 |

**Notes:** "Residential" = Proposed Project Residential Mixed-Use Variation; "Commercial" = Proposed Project Commercial Mixed-Use Variation
**Source:** Philip Habib & Associates

**Table 20-28**
**Comparison of Vehicle Trips Generated by the Proposed Project and the Reduced Density—Arena Alternative**

| Peak Hour | Scenarios | Mode | | | |
|---|---|---|---|---|---|
| | | Auto | Taxi | Truck | Total |
| AM (8A-9A) | Proposed Project (Residential) | 782 | 106 | 84 | 972 |
| | Proposed Project (Commercial) | 895 | 120 | 84 | 1,099 |
| | Reduced Density—Arena | 529 | 94 | 60 | 683 |
| Midday (12P-1P) | Proposed Project (Residential) | 458 | 192 | 68 | 718 |
| | Proposed Project (Commercial) | 438 | 216 | 74 | 728 |
| | Reduced Density—Arena | 361 | 206 | 48 | 615 |
| PM (5P-6P) | Proposed Project (Residential) | 1,139 | 178 | 14 | 1,331 |
| | Proposed Project (Commercial) | 1,271 | 200 | 18 | 1,489 |
| | Reduced Density—Arena | 919 | 196 | 10 | 1,125 |
| Pre-Game (7P-8P) | Proposed Project (Residential) | 2,604 | 412 | 4 | 3,020 |
| | Proposed Project (Commercial) | 2,581 | 402 | 6 | 2,989 |
| | Reduced Density—Arena | 2,497 | 428 | 2 | 2,927 |
| Post-Game (10P-11P) | Proposed Project (Residential) | 2,563 | 416 | 2 | 2,981 |
| | Proposed Project (Commercial) | 2,534 | 412 | 6 | 2,952 |
| | Reduced Density—Arena | 2,607 | 440 | 2 | 3,049 |
| Saturday (12P-1P) | Proposed Project (Residential) | 2,638 | 402 | 10 | 3,050 |
| | Proposed Project (Commercial) | 2,521 | 386 | 12 | 2,919 |
| | Reduced Density—Arena | 2,401 | 410 | 4 | 2,815 |
| Saturday (4P-5P) | Proposed Project (Residential) | 2,922 | 458 | 0 | 3,380 |
| | Proposed Project (Commercial) | 2,813 | 438 | 0 | 3,251 |
| | Reduced Density—Arena | 2,782 | 484 | 0 | 3,266 |

**Notes:** "Residential" = Proposed Project Residential Mixed-Use Variation; "Commercial" = Proposed Project Commercial Mixed-Use Variation
**Source:** Philip Habib & Associates

**Table 20-29**

**Comparison of Signifciant Adverse Traffic Impacts for the Proposed Project and the Reduced Density—Arena Alternative**

| Intersection | | Proposed Project | | | | | | | Reduced Density—Arena Alternative | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Weekday | | | | | Saturday | | Weekday | | | | | Saturday | |
| Major Street | Minor Street | 8–9 AM | 12–1 PM | 5–6 PM | 7–8 PM | 10–11 PM | 1–2 PM | 4–5 PM | 8–9 AM | 12–1 PM | 5–6 PM | 7–8 PM | 10–11 PM | 1–2 PM | 4–5 PM |
| Signalized Intersections | | | | | | | | | | | | | | | |
| Flatbush Ave | Tillary Street | ① | ① | ❶① | ❶① | ① | ❶① | ❶② | | ① | ❶① | ❶① | | ❷① | ❶② |
| | Myrtle Ave | ❷ | ❶ | ❷ | ❶ | ❶ | ❶ | | ❷ | ❶ | ❶ | ❶ | ❶ | ❶ | |
| | Willoughby Street | ❶ | ① | ❶ | ❶ | | | | | | ❶ | ❶ | | | |
| | DeKalb Ave | | ② | ① | ❶ | | ① | ① | | | ① | ❶ | | | |
| | Fulton Street | ❶ | ❷ | ❶ | ❷① | ❷ | ❸ | ❸ | ❷ | ❶ | ❶ | ❷① | ❷ | ❷① | ❷① |
| | Lafayette Street | ❷ | | ❷ | ❶ | ❷ | ❷ | ❷ | ❶ | ❷ | ❷ | ❶ | ❷ | ❷ | ❷ |
| | 4th Ave | | ❶ | ❶① | ❶ | | ❶ | ❷ | | ❶ | ❶ | ❶ | | ❷ | ❷ |
| | Atlantic Ave | ① | | ① | ③ | | ① | ② | ③ | ① | ④ | ❸ | ① | ② | ② |
| | 5th Ave | | | | ❶ | ❶ | ❶ | | | | | ❶ | ❶ | ❶ | |
| | Dean Street | ① | ① | ① | ❶① | ❶ | ❷① | ❶① | ① | ① | ① | ❶① | ❶ | ❶① | ❶① |
| | Bergen Street | | ① | | ① | | ❶ | ❶ | | | | | | | |
| | 6th Ave | ① | | ① | | | | ① | ① | | | | | | ② |
| | 7th Ave | | | | ❶ | | | | | | | ❶ | | | |
| | St. Marks Place | ① | ① | | | | ① | | ① | | | | | ① | |
| | Sterling Place | | | | | | ❶ | | | | | | | ❶ | |
| Atlantic Ave | Hicks Street | ❶ | ❶ | | | | | ❶ | ❶ | ❶ | | | | | ❶ |
| | Henry Street | | ❶ | | ❶ | | | ❶ | | ❶ | | | | | ❶ |
| | Clinton Street | ❶ | | ❶ | ❶ | | ❶ | ❷ | ❶ | | ❶ | ❶ | | | ❷ |
| | Court Street | | | | | ❶ | | | | | | | | | |
| | Boerum Place | ❶ | ❷ | ❷ | | ❶ | ❶ | ❷ | ❶ | ❶ | | | ❶ | ❶ | ❷ |
| | Smith Street | ❷ | ❷ | ① | ❶ | | ❶① | ❷① | ❷ | ❷ | ① | ❶ | | ❶① | ❷① |

**Table 20-29 (Continued)**
**Comparison of Signifciant Adverse Traffic Impacts for the Proposed Project and the Reduced Density—Arena Alternative**

| Intersection | | Proposed Project | | | | | | | Reduced Density—Arena Alternative | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Weekday | | | | | Saturday | | Weekday | | | | | Saturday | |
| Major Street | Minor Street | 8–9 AM | 12–1 PM | 5–6 PM | 7–8 PM | 10–11 PM | 1–2 PM | 4–5 PM | 8–9 AM | 12–1 PM | 5–6 PM | 7–8 PM | 10–11 PM | 1–2 PM | 4–5 PM |
| Signalized Intersections | | | | | | | | | | | | | | | |
| Atlantic Ave | Hoyt Street | ❶ | | ❶ | ❷ | | ❷ | ❷ | ❶ | | ❶ | ❷ | | ❷ | ❷ |
| | Bond Street | ❸ | ① | | ❶ | | ❷ | ❷ | ❸ | ① | | ❶ | | ❷ | ❷ |
| | Nevins Street | ❶ | | ❶① | ❶① | | ❶ | ❶① | ❶ | ❶① | ❶① | | | ❶ | ❶① |
| | 3rd Ave | ❶ | | ❶ | | | ❶ | ❶ | ❶ | | ❶ | | | ❶ | ❶ |
| | 4th Ave | ① | ❶① | ❶① | ❶① | ❶① | ❶① | ❶② | ❶ | ❷ | ❷ | ❶① | ❶ | ❶① | ❶② |
| | 5th Ave/Fort Greene Place | ❶ | | ❶ | ❶ | | ❶ | ❶ | ❶ | | ❶ | ❶ | | ❶ | ❶ |
| | S. Portland Ave | ❷② | ❶① | ❶① | ❶① | | ❷② | ❷① | ❶① | ❶① | ❶① | ❶① | | ❷① | ❷① |
| | Cumberland Street | ❶ | | | | | | ❶ | · | | | | | | |
| | Carlton Ave | ❶① | | ❶ | ❶ | | ❷ | ❷① | ❶① | | ❶ | ❶ | | ❶ | ① |
| | Clermont Ave | ❶ | | ❶ | | | | ❶ | ❶ | | ❶ | | | | ❶ |
| | Clinton Ave | ❶ | | | | | ❶ | ❶ | ❶ | | | | | | |
| | Vanderbilt Ave | ❸② | ❹ | ❷② | ❷① | | ❸② | ❸② | ❸① | ❸ | ❷② | ❷ | | ❸① | ❸② |
| | Washington/Underhill Aves | ① | ① | ❶① | ① | | ② | ❶① | ① | ① | ❶① | ① | | ② | ❶① |
| | Grand Ave | | | | | | | ❶ | | | | | | | ❶ |
| 3rd Ave | Dean Street | | ① | ① | ① | | ① | ① | | ❶ | ❶ | | ① | ① | ① |
| 4th Ave | Pacific Street | ① | | | ① | | ❷ | ① | ❶ | | ① | ① | | ① | ① |
| | Dean Street | ❶ | | ① | ① | | ① | ① | ❶ | | ① | ① | | ① | ① |
| | Bergen Street | ① | ① | ① | ① | | ① | ① | ❶ | ① | ① | ① | | ① | ① |
| | St. Marks Place | ❶ | | | | | ❶ | ❶① | ❶ | | | | | ❶ | ❶① |
| | Union Street | | | ❶ | ② | | | | | | ❶ | | | | |
| 5th Ave | Dean Street | ① | ❶① | ① | ❶① | ① | ❶① | ❶① | ① | ❶① | ① | ❶① | ① | ❶① | ❶① |
| | Bergen Street | ① | ① | ① | ① | ① | ① | ① | ① | ① | ① | ① | | ① | ① |
| | Union Street | | | | | | ❶ | | | | | | | ❶ | |

**Table 20-29 (Continued)**
**Comparison of Signifciant Adverse Traffic Impacts for the Proposed Project and the Reduced Density—Arena Alternative**

| Intersection | | Proposed Project | | | | | | | Reduced Density—Arena Alternative | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Weekday | | | | | Saturday | | Weekday | | | | | Saturday | |
| Major Street | Minor Street | 8–9 AM | 12–1 PM | 5–6 PM | 7–8 PM | 10–11 PM | 1–2 PM | 4–5 PM | 8–9 AM | 12–1 PM | 5–6 PM | 7–8 PM | 10–11 PM | 1–2 PM | 4–5 PM |
| Signalized Intersections | | | | | | | | | | | | | | | |
| 6th Ave | Dean Street | | | | ② | ① | ② | ② | | | | ② | ① | ① | ① |
| S. Portland Ave | Fulton Street | ❶ | | | | | ❶ | ❶ | ❶ | | | | | ❶ | ❶ |
| Carlton Ave | Park Ave | | | | | ❶ | | | | | | | ❶ | | |
| | Myrtle Ave | | | | | ❶ | | | | | | | ❶ | | |
| | Fulton Street | ❶ | | ❶ | ❶ | | ❶ | ❶ | ❶ | | ❶ | ❶ | | ❶ | ❶ |
| | Pacific Street | | | | | | | ❶ | | | | | | | ❶ |
| | Dean Street | ① | ① | ① | ① | | ① | ① | · | ① | ① | | | ① | ① |
| | Bergen Street | ① | | | | | | ① | ① | | | | | | ① |
| Vanderbilt Ave | Park Ave | | | | | | | ❶ | ❶ | | ❶ | | | | ❶ |
| | Myrtle Ave | ❷① | ❶ | ❷ | ❷ | ❶ | | ❶ | · | ❶ | ❷ | ❷ | ❶ | | ❶ |
| | DeKalb Ave | ❶ | | ❷ | ❶ | | | | ❶ | | ❷ | ❶ | | | |
| | Fulton Street | ❶ | | | ❶ | | ❶ | ❷ | ❶ | | | ❶ | | ❶ | ❷ |
| | Pacific Street | ① | | ① | | | | | | | | | | | |
| | Dean Street | ① | ① | ① | ① | ① | ① | ① | ① | ① | ① | | ① | ① | ① |
| | St. Marks Place | | | | | | | | ❶ | | ❶ | | | | |
| | Bergen Street | ❶① | | ① | ① | | ① | ❶ | ❶① | | ❶① | ① | | ① | ❶ |
| | Prospect Place | | | | | | | | | | ❶ | | | | |
| Underhill Ave | Dean Street | | | ① | | | | ① | | | | ① | ① | | ① |
| Washington Ave | Dean Street | ① | ① | ① | ① | ① | ① | ① | ① | ① | ① | | | ① | ① |
| | Eastern Parkway | ❶ | | ❶① | ❶ | | ❶ | ❶ | ① | | ❷ | ❶ | | ❶ | ❶ |
| Adams Street | Tillary Street | ❶ | ❶ | ❷ | ❶① | ❶ | ❷① | ❷① | ❶ | ❶ | ❷ | ❶ | ❶ | ❷① | ❷① |

**Table 20-29 (Continued)**
**Comparison of Signifciant Adverse Traffic Impacts for the Proposed Project and the Reduced Density—Arena Alternative**

| Intersection | | Proposed Project | | | | | | | Reduced Density—Arena Alternative | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Weekday | | | | | Saturday | | Weekday | | | | | Saturday | |
| **Major Street** | **Minor Street** | **8–9 AM** | **12–1 PM** | **5–6 PM** | **7–8 PM** | **10–11 PM** | **1–2 PM** | **4–5 PM** | **8–9 AM** | **12–1 PM** | **5–6 PM** | **7–8 PM** | **10–11 PM** | **1–2 PM** | **4–5 PM** |
| Signalized Intersections | | | | | | | | | | | | | | | |
| Boerum Place | Livingston Street | | | ❶ | ❶ | | ❷ | ① | | | ❶ | ❶ | | ❷ | ① |
| | Schermerhorn Street | | | ❶ | ① | | | ① | | | ❶ | | | | |
| Unsignalized Intersections | | | | | | | | | | | | | | | |
| Smith Street | Dean Street | | | | ① | | | ① | | | | | | | |
| Washington Ave. | Eastern Pkwy. (service rd) | | | ① | | | | | | | | | | | |
| Boerum Place | Dean Street | | | | | | | ❶ | | | | | | | |

**Notes:** ❷ number of movements on the major street approaches with significant adverse impacts in the peak hour.
② number of movements on the minor street approaches with significant adverse impacts in the peak hour.

*Subways*

The Reduced Density—Arena Alternative and the proposed project would have an arena on the project site and would generate a comparable number of subway trips. Therefore, both alternatives could result in the crowding of subway platforms following arena events, which would require the operation of additional train service at the Atlantic Avenue/Pacific Street station during these periods.

The proposed project includes a new subway entrance with all-weather connections, via the Urban Room to the proposed office buildings, hotel, and arena on the project site. This plan is achievable since Blocks 1118, 1119, and 1127 would be merged as part of the proposed project. The Reduced Density—Arena Alternative may also provide for a new subway station entrance on Block 1118. However, it is unlikely that this entrance could provide for all-weather connections to the proposed arena and hotel. The hotel would be more than two blocks from the new station entrance and the arena would be across 5th Avenue, which would remain open to traffic. Subgrade connections would be difficult to achieve since the areas below street level would be needed for the rail yard, parking, and infrastructure to support site uses. Lacking substantial subgrade real estate to provide for an all-weather connection between the subway and the arena and hotel would force pedestrians to the street level, which would be less convenient late at night and during inclement weather and would severely congest sidewalks before and after arena events.

Given the constrained footprint of Block 1118 and the proposed office building at this location, this alternative could not provide for a subway entrance of the same configuration as the proposed project. Any new subway entrance would be smaller with fewer and narrower stairways and less turnstiles. Therefore, this new entrance may not reasonably accommodate the crowds that would use it before and after arena events, and arena patrons would need to use existing stairways across Atlantic Avenue or on Pacific Street. Therefore, unlike the proposed project, the Reduced Density—Arena Alternative could result in significant adverse impacts on subway operations before and after arena events.

*Buses*

Under the Reduced Density—Arena Alternative, 5th Avenue would remain open. Therefore, the B63 bus would not be rerouted as would be required with completion of the proposed project.

Like the proposed project, the Reduced Density—Arena Alternative would result in new demand for bus service in the study area. However, given the comparative difference in bus trips (see Table 20-27) in the AM peak hour, the Reduced Density—Arena Alternative is not expected to result in the overcrowding of the B38 bus route, which is an impact of the proposed project that can be fully mitigated. Other bus routes that serve the project site would have adequate capacity to support future trips generated by both the Reduced Density—Arena Alternative and the proposed project.

*Pedestrians*

The analysis of potential pedestrian circulation considers trips by multiple modes of travel since most trips require a walk component. Therefore, the comparative discussion that follows considers the total person trips for the proposed project and the Reduced Density—Arena Alternatives as presented in Table 20-27.

In the weekday, pre-game; weekday post-game, and Saturday peak periods, the total person trips generated by the Reduced Density—Arena Alternative would be nearly the same as those predicted for the proposed project. However, in the AM, midday, and PM peak periods, the Reduced Density—Arena Alternative would generate fewer pedestrian trips than the proposed project.

As described in Chapter 13, "Transit and Pedestrians," the proposed project would not result in significant adverse impacts on sidewalks or corner reservoirs. However, it would crosswalks at two locations (north crosswalk at Dean Street and 6th Avenue and north crosswalk at Dean Street and Carlton Avenue). The impacts on these crosswalks, which would be fully mitigated, would occur during the pre-game and Saturday midday peak periods.

Like the proposed project, the Reduced Density—Arena Alternative would not result in significant adverse impacts on sidewalks or corner reservoirs. Because the Reduced Density—Arena Alternative and the proposed project would generate a similar volume of pedestrian trips during the pre-game and Saturday midday peak periods, it is expected that the Reduced Density —Arena alternative would impact the north crosswalks at Dean Street and 6th Avenue and Dean Street and Carlton Avenue. However, like the proposed project, the impacts at these locations could be mitigated.

As described above, the Reduced Density—Arena Alternative does not include an interior connection between the arena and the Atlantic Avenue subway station. If subway patrons would need to travel outside between the station and the arena, it is likely that additional pedestrian impacts would occur at crosswalks on 5th Avenue, since it would remain open to traffic as part of this alternative. Furthermore, the Reduced Density—Arena Alternative would create new crosswalks where its new streets would intersect with Pacific Street and Atlantic Avenue. However, these new crosswalks could be designed to accommodate the projected volume of pedestrians.

The Reduced Density—Arena Alternative would introduce new streets through the project site and would not eliminate portions of 5th Avenue and Pacific Street. Therefore, the Reduced Density—Arena Alternative would have additional points of potential pedestrian-vehicle conflicts as compared with the proposed project.

*AIR QUALITY*

Detailed modeling was not conducted for the Reduced Density—Arena Alternative, but like the proposed project, no exceedances of the National Ambient Air Quality Standards (NAAQS) are predicted from local mobile source emissions of CO, $PM_{10}$, and $PM_{2.5}$ or from new stationary source emissions on the project site. However, the borough would continue to be designated a moderate non-attainment area for ozone and a non-attainment area for $PM_{2.5}$.

*NOISE*

Traffic associated with the proposed project would result in significant adverse impacts at Receptor 2 (on Flatbush Avenue at Dean Street), Receptor 3 (on Dean Street between Flatbush and 6th Avenues), Receptor 5 (on Dean Street between Carlton and Vanderbilt Avenues), Receptor 10 (on 6th Avenue between Pacific and Dean Streets), and Receptor 12 (on Carlton Avenue between Pacific and Dean Streets) since these locations would abut the principal feeder streets to and from the proposed parking facilities. Because the Reduced Density—Arena Alternative would result in a comparable number of vehicle trips during the pre-game, post-game, and Saturday peak hours, it would also result in significant adverse impacts at these locations. However, the proposed project's predicted noise levels at Receptors 3 and 10 would be lowered under the Reduced Density—No Arena Alternative during the AM, midday, and PM peak hours since its traffic volumes would be substantially lower during these periods.

Like the proposed project, noise levels for the Reduced Density—Arena Alternative would be in the "Marginally Unacceptable" category for Receptors 2 (Flatbush Avenue at Dean Street), 3 (Dean Street between Flatbush and 6th Avenues), 5 Dean Street between Vanderbilt and Carlton

Avenues), 6 (Vanderbilt Avenue between Pacific and Dean Streets), 7 (Atlantic Avenue between Clermont and Carlton Avenues), 8 (4th Avenue between Atlantic Avenue and Pacific Street), 10 (6th Avenue between Pacific and Dean Streets), and 12 (Carlton Avenue between Pacific and Dean Streets) and would be in the "Marginally Acceptable" category for Receptors 1 (Pacific Street between Flatbush and 4th Avenues), 9 (Dean Street between 5th and 6th Avenues), and 11 (Bergen Street between Carlton and 6th Avenues). However, because Pacific Street would remain open to traffic under the Reduced Density—Arena Alternative, noise exposure levels at Receptor 4 (Pacific Street between Carlton and 6th Avenues) would remain in the "Marginally Unacceptable" level; whereas, the proposed project would improve conditions at this location to result in its ranking as "Marginally Acceptable."

Like the proposed project, residential buildings for the Reduced Density—Arena Alternative would require both double-glazed windows and central air-conditioning (e.g., alternative ventilation) to provide a minimum of 35 dBA attenuation to ensure that interior levels would be below 45 dBA $L_{10}$.

*NEIGHBORHOOD CHARACTER*

The Reduced Density—Arena Alternative would improve neighborhood character on a project site that includes the same blocks as the proposed project. Like proposed project, the western portion of the project site would contain an arena surrounded by dense mix of residential and commercial and entertainment uses. The density would be less than the proposed project, but the general character, particularly at street level, would be similar. This would be a change that would support the character of Downtown Brooklyn south of Atlantic Avenue. The alternative would differ from the proposed project in its impact on pedestrian activity. Because 5th Avenue would remain open, the analysis assumes that connections provided by the proposed project's Urban Room would not be available, and that all pedestrian movements would be forced onto the street. This would create a very crowded atmosphere before and after arena events, which would be inferior in character to the proposed project.

Because this alternative would contain the arena, it would have visual, traffic, and noise effects similar to those of the proposed project, causing localized adverse impacts on neighborhood character on Dean, Bergen, and Pacific Streets. This alternative would have an arena entrance and associated signage across from existing residences and would not buffer its arena with new residential buildings on the north side of Dean Street. Therefore, future land uses on the north side of Dean Street under this alternative would not complement the residential uses immediately south of the project site.

On the eastern portion of the project site, the uses would be similar to those of the proposed project, but the design would be substantially different. The alternative would create lot-line buildings in a continuous street wall, with retail at street level; new development would be reserved for the blocks along Atlantic Avenue only, and Pacific Street would remain open east of 6th Avenue. Four new north-south streets, each one block long, and a pedestrian street would break through the Atlantic Avenue barrier to Pacific Street, with both pedestrian and vehicular traffic. Block 1129 of the project site (Dean to Pacific Street, Carlton to Vanderbilt Avenue) would not be entirely redeveloped, but the alternative proposes to renovate certain buildings for residential and community facility use. Since Pacific Street between 6th and Carlton Avenues would remain open to traffic, a reduction in noise levels from the proposed project would not occur.

This alternative's proposed arrangement of blocks and buildings would create considerably less publicly accessible open space than the proposed project, less than 1.84 acres of open space compared with at least seven acres, and it would not be contiguous. There would be a one-block park, a small square, and a school yard. Although the alternative, like the proposed project, would

improve neighborhood character around the eastern end of the project site, it would not offer similar large open spaces for movement and activity. Like the proposed project, this alternative would not have a significant adverse impact on the neighborhood character of the adjacent neighborhood: Boerum Hill, Prospect Heights, and Park Slope.

*CONSTRUCTION IMPACTS*

In general, construction activities and conditions associated with the Reduced Density—Arena Alternative would be very similar to those associated with the proposed project. Construction would occur on the same eight blocks under either the proposed project or the Reduced Density—Arena Alternative. In addition, both the proposed project and the alternative would involve the construction of an arena, which would take approximately three years and involve high levels of construction activity. Based on the scale and scope of the Reduced Density—Arena Alternative, it is assumed that its construction would be undertaken in a similar fashion to the proposed project under a comparable timeframe.

Similar to the proposed project, construction of the Reduced Density—Arena Alternative would require some work to be performed after typical construction work hours in order to complete tasks such as drilling of piles and finishing concrete pours for floor decks. Construction of a platform over the rail yard and demolition and reconstruction of the Carlton Avenue Bridge and 6th Avenue Bridge under the Reduced Density—Arena Alternative would require some nighttime work, similar to the nighttime work described for the proposed project, in order to avoid interference with LIRR operations. In addition, it is assumed that the alternative would provide upgraded water and sewer lines to support the buildings being constructed and this, too, would require nighttime work in certain street beds surrounding the project site. Because the alternative would provide a new West Portal for the rail yard or involve transit improvements near the intersection of Flatbush and Atlantic Avenues, the amount of nighttime work involved in construction of the alternative may be less than the amount required for the proposed project.

Both the Reduced Density—Arena Alternative and the proposed project would require certain disruptions to pedestrian and transit activities, including temporary sidewalk closures, temporary bus stop relocations along streets surrounding the project site, and temporary nighttime and weekend service disruptions at the Atlantic Avenue subway station to facilitate the construction of new connections to existing station elements.

Like the proposed project, the Reduced Density—Arena Alternative would result in significant adverse noise impacts on the Brooklyn Bear's Pacific Street Community Garden, the Dean Playground, and the Pacific Street Branch of the New York Public Library. It would also result in significant adverse construction traffic impacts similar to those expected under the proposed project. Construction traffic impacts associated with the proposed project would be primarily due to road disruptions from utility work, work within the rail yard, and bridge demolition and reconstruction. These activities would all occur under the Reduced Density—No Arena Alternative. Unlike the proposed project, the alternative would not involve the permanent closure of 5th Avenue between Pacific Street and Atlantic Avenue. Although this would lessen the traffic impacts during construction (as well as operation), road disruptions from the activities mentioned above would still lead to a significant adverse impact on traffic during the construction period.

With respect to the proposed project, the project sponsors have committed to a comprehensive program of emission reduction measures. These include electrification of equipment where practicable, the use of ultra low sulfur fuel and extensive use of particulate filters. It is unknown whether such measures would be used to construct the Reduced Density—Arena Alternative. If they

were not used, the construction-related particulate matter concentrations from construction of the alternative would be much higher than the concentrations from construction of the proposed project.

*PUBLIC HEALTH*

So long as the Reduced Density—Arena Alternative would use the same emission reduction measures as the proposed project, it would not, like the proposed project, have any significant adverse impacts on public health.

## CONCLUSION

The Reduced Density—Arena Alternative would result in adverse environmental impacts that are comparable to the proposed project with fewer public benefits, for the following reasons:

- It would provide for about half of the affordable housing of the proposed project;
- It would include substantially less open space but would generate new residents and would reduce the ratio of open space per capita in the study area;
- Its building on Block 1118 would result in significant adverse impacts on the visual character of the Williamsburgh Savings Bank Building;
- It would not offer a comprehensive stormwater management program and would be likely to have greater combined sewer flow volumes and events in the Gowanus Canal and East River.
- It would have an arena on the project site, which would result in comparable significant adverse traffic and noise impacts during the weekday and Saturday pre-game and post-game peak periods; and
- It would not provide for intervening residential buildings along Dean Street to screen the arena from existing residences;
- Given constraints of its proposed site plan, it would not include an Urban Room, any subway entrance would be smaller, and it would not provide for a drill track for LIRR; therefore, it would not substantially benefit subway service and LIRR operations.

Therefore, this alternative would not meet the goals for the project as well as the proposed project. ✷