A. INTRODUCTION

The Empire State Development Corporation (ESDC) and the City of New York (the City), in cooperation with affiliates of the Forest City Ratner Companies, including Atlantic Yards Development Company, LLC and Brooklyn Arena, LLC (the project sponsors), and the Metropolitan Transportation Authority (MTA), propose a master plan to develop a major transit-oriented development in the Atlantic Terminal area of Brooklyn.

The overarching goal of the proposed project is to transform a blighted area into a vibrant mixed-use community, incorporating principles of environmental sustainability. The proposed project aims to provide a state-of-the-art arena, affordable and market-rate housing, first-class office space, publicly accessible open space, local retail and community services, a hotel (under one variation of the project program), a new subway entrance, and an improved Long Island Rail Road (LIRR) rail yard. The proposed project's buildings would contribute to the Brooklyn skyline and the open space would connect the surrounding neighborhoods, which are currently separated by the open rail yard and a major avenue (Atlantic Avenue).

The proposed project has been designed to achieve significant near- and long-term benefits to the State and City. However, these social and economic benefits cannot be achieved without some adverse environmental impacts. There would be significant adverse impacts as a result of the operations of the proposed project in areas such as schools, cultural resources, shadows, traffic, transit and pedestrians, and noise, as well as construction impacts. While the proposed project has incorporated numerous measures to avoid or mitigate adverse impacts, there would remain some unmitigated impacts. Notwithstanding these impacts, the proposed project is expected to achieve the long-term State and City goals of 1) enhancing the vitality of the Atlantic Terminal area; 2) providing substantial new housing, including much needed affordable housing; and 3) improving railroad facilities and pedestrian access to Brooklyn's largest transit hub.

B. PROJECT DESCRIPTION

IDENTIFICATION OF THE PROPOSED PROJECT

The proposed project would occupy an approximately 22-acre area, roughly bounded by Flatbush and 4th Avenues to the west, Vanderbilt Avenue to the east, Atlantic Avenue to the north, and Dean and Pacific Streets to the south (see Figure S-1). The proposed project would introduce a mix of uses arranged to concentrate the greatest activity closest to Brooklyn's major transportation hub, which is adjacent to the western end of the site. This end of the project site would contain a new arena for the New Jersey Nets National Basketball Association Team (the Nets), along with commercial office and retail, hotel, and residential uses. Farther east, the proposed project would be primarily residential and provide at least seven acres of publicly accessible open space along with a number of local retail and community services. The project would also expand, platform over, and improve the MTA/Long Island Rail Road (MTA/LIRR)

Vanderbilt Yard, which, together with a New York City Transit (NYCT) yard for retired buses, occupy approximately nine acres of the project site in an open cut (rail yard). As part of this improvement, the project would rebuild the Carlton and 6th Avenue Bridges between Atlantic and Pacific Streets.

The arena would host a variety of events; at its largest capacity, the arena would seat 18,000 for basketball games and up to 20,500 for large concerts and other events. As contemplated, the Nets would relocate from its current home in New Jersey to Brooklyn, New York. At full build-out, the proposed project would comprise, in addition to the 150-foot-tall arena, 16 buildings with maximum heights ranging from approximately 184 feet to approximately 620 feet. Two variations of the project program are under consideration to allow for flexibility in the program of three of the proposed project's 17 buildings: (1) a residential mixed-use variation containing approximately 606,000 gross square feet (gsf) of commercial office space, 165,000 gsf of hotel use (approximately 180 rooms), 247,000 gsf of retail space, and up to 6.8 million gsf of residential use (approximately 6,860 residential units); and (2) a commercial mixed-use variation, which would permit more commercial office use in three buildings closest to Downtown Brooklyn and would contain approximately 1.8 million gsf of commercial office space, 247,000 gsf of retail space, and up to approximately 5.7 million gsf of residential use (approximately 5,790 units). Both variations would provide at least seven acres of publicly accessible open space and approximately 3 acres of green space on the arena roof, with up to one acre of private open space surrounding this sustainable feature. Both variations would also provide community facility uses occupying portions of the retail and residential space, and approximately 3,800 parking spaces (see Table S-1 and Figures S-2 and S-3). Both variations would also open a new subway entrance at the corner of Atlantic and Flatbush Avenues, which would provide direct pedestrian access at the western end of the project site between the proposed project and the Atlantic Terminal subway station.

Table S-1
Comparison of Residential and Commercial Mixed-Use Variation Programs for 2010 and 2016

Proposed Uses	Residential Mixed-Use Variation	Commercial Mixed-Use Variation
Analysis Year: 2010 (Phase I: Development of Arena Block and Site 5)		
Residential	2,320,000 gsf (2,350 units)	1,260,000 gsf (1,275 units)
Hotel (180 rooms)	165,000 gsf	0 gsf
Retail	91,000 gsf	91,000 gsf
Commercial	606,000 gsf	1,829,000 gsf
Arena	850,000 gsf	850,000 gsf
Parking (spaces)	2,346 spaces	2,346 spaces
Private Open Space	±1 acres	±1 acres
Publicly Accessible Open Space	0 acres	0 acres
Analysis Year: 2016 (Phase I and Phase II: Full Build-Out)		
Residential	6,790,000 gsf (6,860 units)	5,730,000 gsf (5,790 units)
Hotel (180 rooms)	165,000 gsf	0 gsf
Retail[1]	247,000 gsf	247,000 gsf
Commercial	606,000 gsf	1,829,000 gsf
Arena	850,000 gsf	850,000 gsf
Parking (spaces)	3,800 spaces	3,800 spaces
Private Open Space	±1 acres	±1 acres
Publicly Accessible Open Space	≥7 acres	≥7 acres

Note: [1] A portion of the retail and residential space is expected to house community facilities.

The site is occupied by generally low-rise buildings, between one and six stories, along with vacant land and the rail yard. Many of the buildings are partially or completely vacant. MTA owns the rail yard; the remaining properties are owned by the City of New York and by private entities, including the project sponsors. The new development would require the demolition of all site structures with the exception of the rail yard, and it would close 5th Avenue between Atlantic and Flatbush Avenues, Pacific Street from Flatbush to 6th Avenues, and Pacific Street from Carlton to Vanderbilt Avenues, to create development areas suitable for the proposed project.

If approved, construction of the proposed project would begin on the western end of the project site and move eastward over time. The arena would open for the 2009 basketball season. However, the several buildings surrounding the arena would not be completed until 2010, so the EIS considers for analytical purposes a first phase in 2010 containing the entire program slated for the project site west of 6th Avenue. The buildings at the eastern end of the project site are anticipated to be developed and occupied by 2016, which is the second analysis year in this EIS.

All Phase I (2010) buildings—including the arena, Buildings 1 through 4 and the building on Site 5—except the rail yard and any interim parking would be on the western end of the project site on Blocks 927 (Site 5), 1118, 1119, and 1127. Rail yard improvements/construction staging and interim parking would be on the eastern portion of the site in Phase I. The rail yard would be covered by a platform and the remaining 11 buildings would be built on the eastern portion of the project site (Blocks 1120, 1121, 1128, and 1129) during Phase II (2016).

The proposed project is subject to environmental review under the State Environmental Quality Review Act (SEQRA) and the City Environmental Quality Review (CEQR). ESDC is the lead agency for this proposal. The proposed project would be implemented pursuant to a General Project Plan (GPP) adopted by the New York State Urban Development Corporation (UDC), a public benefit corporation of New York State, doing business as the Empire State Development Corporation (ESDC). In accordance with the GPP, ESDC would, as necessary, acquire portions of the project site through condemnation (a substantial portion of the project site is already controlled by the project sponsors), dispose of the assembled parcels, and override certain local laws and regulations, including aspects of the City's *Zoning Resolution*, and certain zoning-related portions of the Atlantic Terminal Urban Renewal Area (ATURA) Plan. ESDC would also acquire portions of the City streets to be closed and City-owned properties through exercise of eminent domain and, with the consent of the City, would override the City Map to permit development on these streets. The proposed project is both a land use improvement and civic project as defined by the UDC Act. The project site is located in significant part on property owned by the MTA, a public benefit corporation of New York State. Accordingly, ESDC has determined that the project approvals will follow the procedures set forth in the UDC Act, rather than the City's Uniform Land Use Review Procedure (ULURP), for consideration and approval of a UDC project.

MTA/LIRR, MTA/NYCT and the City—through the Mayor's Office of Economic Development and Rebuilding—are involved agencies in a coordinated SEQRA review. In addition, MTA must approve the relocation and upgrading of the rail yard and other property dispositions. The City must approve funding for the project and may approve the disposition of City property.

PROJECT PURPOSE AND NEED

The overarching goal of the proposed project is to transform a blighted area into a vibrant mixed-use community. The proposed project aims to provide a state-of-the-art arena, affordable and market-rate housing, first-class office space, publicly accessible open space, local retail and community services, a hotel (under one variation of the project program), a new subway entrance, and an improved rail yard. The proposed project's buildings would contribute to the

Brooklyn skyline, and the open space would connect the surrounding neighborhoods, which are currently separated by the open rail yard and a major avenue (Atlantic Avenue). More specifically, the proposed project is intended to:

1. **Enhance the vitality of the Atlantic Terminal area** by providing new residential, retail, office, and hotel space that will capitalize on the project's proximity to one of the major subway hubs in New York City; removing the physical and visual barrier created by the existing below-grade rail yard that separates the neighborhoods of Boerum Hill, Downtown Brooklyn, Fort Greene, Clinton Hill, Prospect Heights, and Park Slope; eliminating blighted conditions on the project site, including dilapidated and structurally unsound buildings, debris-filled vacant lots, and underutilized properties; remediating environmental conditions; contributing to the Brooklyn skyline and streetscape with distinctive buildings and a cohesively designed open space; fostering and supporting growth through job creation and economic activity during construction and operation of this mixed-use development.
2. **Provide for new development to support the current and future residents of the Atlantic Terminal area and the borough** as a whole by contributing to the City's effort to meet the demand for affordable and market-rate housing by providing approximately 6,860 housing units, including 4,500 rental units, 50 percent of such rentals being affordable to low-, moderate- and middle-income families; creating a first-class arena for a professional sports team and an entertainment venue to meet the needs and demands of the New York City area—primarily Brooklyn; creating publicly accessible active and passive open space with amenities encouraging year-round use; providing community facility spaces, including a health care center and an intergenerational facility, offering child care, youth, and senior center services.
3. **Improve railroad and subway facilities** by expanding rail yard capacity, providing direct rail access to the rail yard from Atlantic Terminal through a new West Portal, building a new drill track to allow for the switching of 10-car trains, installing new toilet manifolds for unrestricted servicing, and adding signal, interlocking, and switching systems; platforming over the new rail yard to increase pedestrian connections between neighborhoods; and improving subway and pedestrian safety by opening a subway station entrance on the south side of Atlantic Avenue at Flatbush Avenue.

PROPOSED PROJECT COMPONENTS

RESIDENTIAL USES

The proposed residential uses would help meet the expected housing demand for Brooklyn and the city as a whole, and the density of the proposed project would allow for a substantial number of affordable units to be included as part of the development program. Residential use is planned for each building in the residential mixed-use variation, totaling an estimated 4,500 rental units and 2,360 condominium units. The project sponsors have committed that 50 percent of the rental units would be administered under an affordable housing program. Based upon the square footage of the residential rental program, it is estimated that there would be a total of approximately 4,500 rental units, of which 2,250 would be affordable units. Affordable units would be reserved for households making between 30 percent and 160 percent of citywide AMI (area median income) and 50 percent of these units (on a square foot basis) would be two- and three-bedroom units. Rent for the units administered under this affordable housing program

would be targeted at 30 percent of household income. Ten (10) percent (450) of the total rental units would be reserved for senior residents.

The commercial mixed-use variation would have the same number of rental and affordable units; the total number of condominiums would be 1,290 units. Under this variation, there would be no residential uses in Buildings 1 or 2 or on Site 5.

Hotel Use

The residential mixed-use variation would include a full-service 180-room hotel (approximately 165,000 gsf) in Building 1. The commercial mixed-use variation would not include a hotel.

Commercial (Office and Retail) Uses

The residential mixed-use variation would include approximately 606,000 gsf of Class A commercial office space in Building 1 and on Site 5. The commercial mixed-use variation would include approximately 1.83 million gsf of commercial office space in Buildings 1 and 2 and on Site 5. Both variations would include an approximately 247,000-gsf retail component consisting of retail and eating establishments primarily serving the local population and tenants on the project site. A component of this retail space would also be for use as a community facility. These retail uses, which are expected to be the same for both variations, would be located on the ground floor, possibly extending to the second floor, in a number of the proposed buildings. The retail spaces would not house "big box" retail.

Nets Arena and the Urban Room

The approximately 850,000-sf arena would be approximately 150 feet tall, have 18,000 to 20,500 seats (depending on the event), and include approximately 1 acre of private open space on its roof. The roof would also contain approximately 3 acres of green space, a sustainable design feature that reduces stormwater runoff. The arena is expected to be open in time for the 2009 NBA season.

The arena would be located on the block bounded by Dean Street and Atlantic, Flatbush, and 6th Avenues. The Urban Room, a publicly accessible atrium with at least 10,000 sf at the southeast corner of Flatbush Avenue and Atlantic Avenue, would be at the base of Building 1 (see Figure S-4). This glass-enclosed space would be a pedestrian pass-through, as well as a new access point to the underground subway connection. It would have a sitting area with café kiosks and include arena ticket booths. The arena's loading functions would be entered from Dean Street, with all security screening, loading dock activities, truck maneuvering, and vehicle queuing taking place internally within this enclosed, below-grade area. No arena functions other than parking are planned east of 6th Avenue.

Open Space and Community Facilities

At least seven acres of publicly accessible open space would be provided on the project site (see Figure S-5). On Block 1120, the space between Pacific Street and the project's buildings would have active uses, water features, walking paths, seating areas, and extensive landscaping. Designed to promote public access to and use of the open space, it would continue along Pacific Street eastward on Blocks 1121 and 1129 with a walking path, preserving this corridor as a pedestrian thoroughfare east of the arena block. In the north-south direction, the open space would extend to Atlantic Avenue across from the terminus of existing streets, linking the site to neighborhood streets to the north with landscaped corridors and walking paths into the project's open space.

A southbound bicycle path would enter the project site along Atlantic Avenue at Cumberland Street and continue between Buildings 6 and 7. The path would eventually connect with the larger city bicycle network at Vanderbilt Avenue (see "Proposed Design" below for details).

An intergenerational community center would be in the base of one of the buildings on Block 1120. The facility would include a child care center offering space for at least 100 children, and youth and senior centers. The proposed project would also include an up to 20,000-square-foot health care facility, which would occupy a portion of the residential space and would be built during Phase I.

Parking

By the end of Phase I, about 2,346 parking spaces would be provided, including 750 permanent and 1,596 temporary spaces. By completion of Phase II, the proposed project would provide up to 3,800 below-grade attended parking spaces on the project site.

LIRR Rail Yard Improvements

To allow at-grade development on the project site, the proposed project would include a relocated and covered modernized rail yard, improving train movement between the rail yard and the LIRR Atlantic Terminal and adding to the rail yard's capacity. A reconfigured and upgraded rail yard would be built below street grade on the eastern end of the existing rail yard to allow for both the continuance of LIRR rail yard operations and the operation of the arena. Parking for 30 cars and 5 trucks would be provided and would be located within Block 1120 or another location satisfactory to the LIRR and usable storage would be provided on Blocks 1120 and 1121, consistent with the needs of the LIRR. The west end of the improved rail yard would provide a direct route to and from the terminal to the storage yard and an emergency detour route for passenger trains leaving the terminal (the West Portal). The project sponsors would be responsible for the entire cost of the upgraded rail yard, although a portion of the state and City contributions to the project could be used for this purpose.

Access and Circulation Reconfigurations

The proposed project would include several roadway and pedestrian circulation changes near the project site: (1) Pacific Street between Flatbush Avenue and 6th Avenue and 5th Avenue between Flatbush and Atlantic Avenues would be closed to vehicular traffic to accommodate the arena, the Urban Room, and a direct below-grade connection from the arena block to the Atlantic Terminal subway station; (2) Pacific Street between Vanderbilt and Carlton Avenues would be closed to vehicular traffic to create the project's publicly accessible open space and water features that are major sustainable design elements; (3) sidewalks along Flatbush Avenue between Atlantic Avenue and Dean Street would be set back to provide a lay-by lane to decrease the intersection's congestion; (4) sidewalks along Atlantic Avenue between Flatbush Avenue and 6th Avenue would be set back to provide an additional eastbound travel lane and a lay-by lane; (5) 6th Avenue between Atlantic Avenue and Flatbush Avenue would be converted to two-way, the segment between Pacific Street and Flatbush Avenue would be widened, and a lay-by lane between Atlantic Avenue and Dean Street would be provided; (6) Pacific Street between 6th Avenue and Carlton Avenue would be widened; and (7) wide sidewalks would be provided along the south side of Atlantic Avenue from Flatbush Avenue to Vanderbilt Avenue and the east side of Flatbush Avenue between Atlantic Avenue and Dean Street by setting the proposed buildings back from the street line.

The proposed project would also improve subway station access and circulation with new entrances and connections from the south side of Atlantic Avenue. At the southeast corner of the intersection of Atlantic Avenue and Flatbush Avenue, the Urban Room would serve as the main subway entrance from the arena block development.

PROPOSED DESIGN

The creation of the arena block on the western portion of the project site by joining Blocks 1118, 1119, and 1127 and closing portions of Pacific Street and 5th Avenue would allow for the footprint space needed to house the arena and the Urban Room. The closure of these streets would also allow the higher-density commercial and residential uses of the proposed project to surround the arena with a buffer of active street uses and to facilitate the concentration of development adjacent to Brooklyn's largest transit hub. This portion of the project site is characterized by blocks of irregular shapes and sizes (see Figure S-6). On the eastern end of the project site, Blocks 1121 and 1129 would be combined by closing Pacific Street between Carlton and Vanderbilt Avenues to vehicular traffic. This larger block allows for greater flexibility in the placement of buildings on the project site and a greater amount of usable open space than would otherwise be possible. It would also accommodate water features that serve as detention and retention basins, which are part of the project's comprehensive stormwater management system. The proposed design would also promote pedestrian connections, as discussed below.

Design Guideline Elements

The proposed project would follow urban design goals and principles as outlined in a set of Design Guidelines, establishing an overall framework for creating a cohesive development with a variety of scales, programmatic uses, and architectural elements.[1] These design goals and principles are grouped into:

- Building Organization, which addresses the placement of the buildings on the project site by concentrating density near the Atlantic/Flatbush subway hub; creating an undulating skyline along Atlantic Avenue; stepping down in scale as the project meets Dean Street; and creating a visual relationship between Building 1, the Site 5 Building and the Williamsburgh Savings Bank Building.
- Building Articulation, which addresses the building form by creating development envelopes that establish a street wall presence and physical separation between the buildings; breaking down the building scale through the introduction of required setbacks and horizontal and vertical architectural breaks; achieving additional articulation through variation in materials and window detailing; and giving identified buildings within the master plan particular prominence through requirements for distinctive design.
- Open Space, which addresses the open space planning by creating a cohesive, continuous and inviting open space with a range of uses and activities throughout; using the open space to connect the surrounding neighborhoods from north to south by continuing the existing street grid system into the open space as pedestrian corridors; and balancing the desire to create an open space protected from Atlantic Avenue with promoting access and use by the neighborhood's residents and workers.

[1] The Design Guidelines are attached as an Exhibit to the GPP.

- Streetscape, which addresses the design elements along the project's street frontages by creating an active, transparent streetscape through the introduction of local retail and significant glazing requirements throughout the project, with a focus on the Atlantic Avenue corridor; and enlivening the Atlantic Avenue and Flatbush Avenue intersection with public amenities and a comprehensive graphic and signage scheme.

Arena Block and Site 5

The taller, denser, and more intense uses would be concentrated on the arena block and Site 5 (see Figures S-7 and S-8 for elevations of the residential mixed-use variation and the commercial mixed-use variation, respectively). Buildings 1 through 4 would surround the arena. Building 1, with the Urban Room in its base, would be the tallest building in Brooklyn at 620 feet tall and designed to be a focal point. The other three buildings on the arena block would have heights of 428 feet (Building 3 at Dean Street and 6th Avenue), 322 feet (Building 2 at Flatbush Avenue and Dean Street), and 511 feet (Building 4 at Atlantic and 6th Avenues). The building on Site 5, facing Building 1 and the Willamsburgh Savings Bank Building from across Flatbush Avenue, would be 350 feet tall. The proposed building heights are the same for the residential mixed-use and commercial mixed-use variations. However, Buildings 1 and 2 and the building on Site 5 of the commercial mixed-use variation would contain larger floor plates typical of office development.

The western end of the arena block would form the gateway to the project site at the intersection of Flatbush and Atlantic Avenues. The streetscape here would include widened sidewalks, decorative paving, and landscaping. The ground floors of the buildings are expected to be highly transparent and lined with local retail, including potential restaurant uses, continuing the strong Atlantic Avenue and Flatbush Avenue retail corridors to the west and south, respectively, of the project site. The arena is designed to allow passersby to see into the bowl to the scoreboard from the Urban Room and Flatbush Avenue. The arena's signage and lighting would be concentrated at the Urban Room and along Atlantic and Flatbush Avenues, across the street from existing commercial uses, enlivening the streets along the project site blocks. Most of the project lighting would be in keeping with lighting in recently developed areas of Brooklyn and would be consistent with the active uses and sports events that would take place in the arena. Signage would be visible to the east and west on Atlantic Avenue, to the north and south on Flatbush Avenue, and on small portions of Pacific and Dean Streets south of Flatbush Avenue. Other residential areas would not have direct views of the signage. While the signage would be illuminated and highly visible at certain times, most residential areas other than those along Pacific Street and 5th Avenue would not have direct views of the signage.

Residential Community (Project Site East of 6th Avenue)

The Atlantic Avenue corridor would be significantly changed. The existing low-rise buildings and open rail yard on the south side of Atlantic Avenue would be replaced by undulating towers ranging in height from 283 feet (Building 8) to 460 feet (Building 7) (see Figure S-6). Higher buildings would generally be toward the west and lower buildings to the east. The tallest portion of the buildings on Block 1120 would be located along Atlantic Avenue. The main footprint of these buildings would be within the northern half of the block more than 100 feet from Pacific Street, and no portion of the buildings would be closer than 25 feet to Pacific Street, except for Building 5, which could be closer. The four residential buildings (Buildings 11 to 14) fronting on Dean Street between Carlton and Vanderbilt Avenues would be designed at a lower scale than those along Atlantic Avenue, and are intended to acknowledge the existing townhouses

along Dean Street. The buildings would range in height from 184 feet (Building 14) to 287 feet (Building 12) and meet the Dean Street frontage at heights ranging from 30 to 105 feet. Similarly, the height of Building 15 would decrease from Pacific Street to Dean Street.

Publicly Accessible Open Space. The proposed project's minimum of seven acres of publicly accessible open space, which may include plazas with planting beds, seating, a fountain, a children's playground, a lawn area, and a half basketball court, or other recreational amenities, would be located on Blocks 1120, 1121, and 1129. On Block 1120, much of the open space would be adjacent to and along Pacific Street, with wide landscaped openings/passageways between Buildings 5, 6, and 7. The north side of Pacific Street on this block would be designed with border plantings or other landscaping features that would maintain the wide views into and out of the publicly accessible open space. Blocks 1121 and 1129 would be combined to create a unified publicly accessible open space.

The project's dedicated southbound bicycle path would be part of the City's Bicycle Network Development Program, the larger citywide network of bicycle lanes and paths. The bike path would enter the project site along Atlantic Avenue at Cumberland Street, continue southbound between Buildings 6 and 7, and turn east along Pacific Street. The path would then reenter the project site at a pedestrian pathway at Carlton Avenue and continue southeast around Building 14 to Dean Street. The bike path would then continue eastward along Dean Street toward Vanderbilt Avenue, where it would connect with the larger network.

The open space would be available for public use from 7:00 AM to 10:30 PM from May through September, and from 7:00 AM to the later of 8:00 PM and sunset in other months, seven days a week. This open space would be maintained and operated by a not-for-profit entity. Security for the open space would be provided by the project sponsors.

Streetscape. Despite closing certain streets to vehicular traffic, the proposed project would increase connections between the neighborhoods surrounding the project site by creating inviting open space, walkways, and a bike path connection. The proposed project would increase street-level activity on the project site by creating the open space (see discussion above) and providing complementary active uses (including local retail and community facility uses) on the ground floors of most of the residential buildings. The street-level uses of the buildings lining Atlantic, Vanderbilt, and 6th Avenues would be predominantly local retail to strengthen and continue the Atlantic Avenue retail corridor to the west and promote street-level activity. These retail spaces are expected to contain restaurants, delis, boutiques, and local services. As described above, the lower-scale residential buildings fronting on Dean Street between Carlton and Vanderbilt Avenues would be designed to complement the existing townhouses along Dean Street.

Public Safety

The proposed project would implement its own site security plan, which includes measures such as the deployment of security staff and monitoring and screening procedures. Private security staff and security systems would be provided for the project: additional security personnel at arena events, screening of office tenants and visitors, and private security for the residential and open space components of the proposed project.

Sustainable Design Measures

The proposed project would incorporate a number of sustainable design measures, including:

- Landscaping design with a focus on storm water management;

- Use of high albedo materials for roofs and sidewalks, where possible, and incorporation of an approximately 3-acre green roof on the arena;
- Additional storm water management tanks to limit runoff into the City's combined sewer system and to provide possible irrigation source for open spaces;
- Rainwater use for irrigation and cooling tower make-up; and
- Use of high efficiency water fixtures such as sensing flow restrictors, low-flow toilets, faucets and showers, drip irrigation, and, in the arena, waterless urinals.

PROPOSED PROJECT'S BENEFITS AND IMPACTS

The proposed project has been designed to achieve significant benefits to the State and City. Among these many benefits would be: 1) the removal of blighted conditions on the project site with the development of a state-of-the-art arena to accommodate the return of a professional sports franchise to Brooklyn that would also provide a venue for local academic institutions, which currently lack adequate athletic facilities, and a new venue for a variety of musical, entertainment, educational, social and civic events; 2) creation of thousands of critically needed rental housing units for low-, moderate- and middle-income New Yorkers, as well as market-rate rental and condominium units; 3) construction of first-class office space and sustainable, transit-oriented development; 4) at least seven acres of well-designed publicly accessible street-level open space that connects the surrounding neighborhoods; 5) introduction of new ground-level retail spaces to activate the project site's existing desolate street frontages; 6) creation of community facility spaces including a health care center and an intergenerational facility, offering child care as well as youth and senior center services; 7) reconfiguration and improvement to the LIRR's Vanderbilt Yard rail storage, cleaning, repair and inspection facility; 8) a direct subway connection on the south side of Atlantic Avenue at the intersection of Atlantic and Flatbush Avenues, with sufficient capacity to accommodate arena patrons, that would eliminate the need for pedestrians approaching the subway from the south to cross Atlantic Avenue to enter the subway, enhancing pedestrian safety; 9) the incorporation into a large-scale development of sustainability and green designs through the application of comprehensive sustainable design measures that make efficient use of energy, building materials and water; and 10) environmental remediation of the project site. The State and City would realize significant employment and fiscal benefits during the construction and operation of the proposed project, well in excess of the project's total public contributions.

These social and economic benefits cannot be achieved without some adverse environmental impacts. There would be significant adverse impacts as a result of the operations of the proposed project in areas such as schools, cultural resources, shadows, traffic, transit and pedestrians, and noise, as well as construction impacts. While the proposed project has incorporated numerous measures to avoid or mitigate adverse impacts, there would remain some unmitigated impacts. Notwithstanding these impacts, the proposed project is expected to achieve the long-term State and City goals of enhancing the vitality of the Atlantic Terminal area; providing substantial new housing, including much needed affordable housing; and improving railroad facilities and pedestrian access to Brooklyn's largest transit hub.

CONSTRUCTION SCHEDULE

If approved, the proposed arena is expected to be completed by fall 2009 for opening day of the Nets 2009 season. Construction of the other buildings on the arena block and Site 5, as well as

the improved rail yard, is expected to be completed by 2010. The entire proposed development is expected to be completed by 2016. The proposed project's likely construction activities and schedule are described below in section Q, "Construction Impacts."

ALTERNATIVES ANALYSIS

As discussed in more detail in section T "Alternatives," this EIS examines a range of alternatives to the proposed project, including a No Action Alternative, a No Unmitigated Impact Alternative, an As-of-Right Alternative, and three alternatives derived from proposals received from community and business groups—two with lower densities than the proposed project and no arena, and one alternative with reduced density and an arena. While 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, these alternatives would not realize the substantial economic and civic benefits resulting from new jobs, new infrastructure, new arena and other mixed-use development on a site located over a major transit hub that is well-suited for high-density transit oriented development. The Reduced Density—No Arena Alternative would be developed only on the footprint of the LIRR rail yard and would not result in the displacement of existing residents or businesses. However, it would not eradicate the blighted conditions of the project area and would realize substantially reduced economic benefits. Moreover, this alternative would restrict rather than enhance the operational efficiency of the LIRR rail yard. The Reduced Density—Arena Alternative would have mixed-uses comparable to the proposed project but with substantially less housing and publicly usable open space. This alternative would have nearly the same significant adverse impacts as the proposed project but would have substantially fewer benefits in terms of affordable housing, and publicly accessible open space, and would not provide a drill track for the LIRR rail yard improvement. None of these alternatives would fully realize the benefits of the proposed project, including the major public amenities of a new subway entrance, a cohesively designed at-grade publicly accessible open space, pedestrian connections through and among the surrounding neighborhoods, much needed affordable housing, sustainability, improved LIRR rail yard operations, and remediation of environmental conditions.

C. PROCEDURAL AND ANALYTICAL FRAMEWORK

REQUIRED CITY AND STATE APPROVALS

The proposed project will require a number of City and State approvals, including several discretionary actions requiring review under SEQRA:

1. Adoption of a GPP by the UDC, doing business as the ESDC, and the making of related findings under the UDC Act, SEQRA, and the Eminent Domain Procedure Law (EDPL) to the extent condemnation is necessary to effectuate any portion of the proposed project. As part of the GPP, ESDC would override certain aspects of the New York City Zoning Resolution, including, but not limited to, use and bulk (including height and setback, and floor area), signage, and parking requirements and allowances; the land use regulations of the Atlantic Terminal Urban Renewal Area (ATURA) Plan, as they relate to Site 5 and Site 6A to the extent the ATURA Plan requires compliance with zoning; and the City Map as it relates to the closure of portions of City streets, which would be done with the consent of the City.

   Since the project is being implemented pursuant to a GPP, ESDC has determined that the project approvals will follow the procedures set forth in the UDC Act, rather than the City's

Uniform Land Use Review Procedure (ULURP), for consideration and approval of a UDC project.

2. Condemnation by ESDC of the City's interest in City-owned properties within the project site, including portions of the City streets to be closed.
3. Acquisition by ESDC of private property located within the project site through negotiation or condemnation.
4. Disposition by ESDC of the project site properties to the project sponsors.
5. Disposition by MTA or LIRR of a property interest in the Vanderbilt Yard to ESDC or the project sponsors.
6. Approval by MTA or LIRR of the relocated and upgraded rail yard and other transit improvements, and any related real property acquisitions by MTA or LIRR.
7. Approval by the Public Authorities Control Board of the proposed project.
8. State and City funding of certain infrastructure improvements and land acquisition costs.
9. Provision of State and City funding for affordable housing bond financing.

In addition, the proposed project would also require approvals from, but not limited to, the New York City Department of Transportation (DOT), the New York City Department of Environmental Protection (DEP), the New York City Department of Buildings (DOB), and the Art Commission of the City of New York. Air permits from the New York State Department of Environmental Conservation (NYSDEC) may also be required.

ENVIRONMENTAL REVIEW PROCESS

This EIS has been prepared in accordance with SEQRA and the New York City *Environmental Quality Review* (*CEQR) Technical Manual*, where applicable. The review process allows decision-makers to evaluate the proposed project's environmental effects, evaluate reasonable alternatives, and identify measures to mitigate significant adverse effects. The process also facilitates public involvement by providing the opportunity to comment on the draft EIS.

Two key public processes are required to implement the proposed project: (1) GPP review and approval, and (2) property acquisition under the EDPL. The GPP approval process is generally as follows: ESDC adopts a GPP and makes it available for public review and comment, including a public hearing. After the hearing, the ESDC Board may affirm, reject, or modify the GPP. As lead agency, ESDC must make its SEQRA findings before it can affirm the GPP. As part of the GPP, ESDC is expected to acquire property through the use of eminent domain. As set forth in the EDPL and pursuant to its authorization under the UDC Act, property can be acquired by ESDC for an ESDC project. As part of this EDPL process, a public hearing must be held on the proposed condemnation. Following this hearing, ESDC must publish findings related to its determination to pursue condemnation.

FRAMEWORK FOR ENVIRONMENTAL ANALYSIS

ANALYSIS SCOPE, ANALYSIS YEARS, AND STUDY AREAS

An EIS analyzes the effects of a proposed project on its environmental setting. For each technical chapter, a description of existing conditions, an assessment of conditions in the future without the proposed project for the year that the project would be completed, and an assessment of conditions for the same year with the completion of the proposed project are included. The prediction of a

proposed project's effects is made for the "analysis year" or the "Build year," which is the year when the project would be substantially operational. Since the proposed project has several elements that would be developed or implemented over time, two analysis years, 2010 and 2016, are analyzed in this EIS. That is, conditions in the future without the proposed project are evaluated against conditions in the future with the proposed project for each analysis year.

For the purposes of this EIS, the proposed project is analyzed in two phases: (1) Phase I completion by 2010 of the renovated rail yard, and development west of 6th Avenue, including the arena and Site 5, and sewer and utility work, and (2) Phase II completion by 2016 of the project site's eastern portions. In addition, reasonable worst-case impacts from construction were determined for each of the technical areas to ensure that the most conservative analysis was used in the EIS. Where appropriate, the potential combined impact of Phase I operation and the construction of Phase II in later years is specifically addressed as part of the construction analysis.

For each technical analysis, primary and secondary study areas were delineated to define the locations most likely to be potentially affected, either directly or indirectly, by the proposed project.

DEFINING BASELINE CONDITIONS AND PROJECT FOR ENVIRONMENTAL ANALYSIS

This EIS describes "existing conditions" for 2006 and assessments of future conditions without the proposed project ("future without the proposed project") and with the proposed project ("probable impacts of the proposed project") in 2010 and 2016. The existing conditions assessment establishes a baseline to predict future conditions. The future without the proposed project condition uses existing conditions as a baseline and adds changes expected at various times in the future. For many technical areas, the future without the proposed project condition incorporates known development projects that are likely to be built by the two analysis years independent of the proposed project. For some technical areas, a background growth factor is added to reflect a general increase in activity unrelated to known projects in addition to anticipated future projects. Other future changes that will affect the environmental setting are considered as well. In examining the project's potential environmental impacts, the EIS analyzes the program as summarized above in "Project Description."

ANALYSIS FRAMEWORK FOR THE ENVIRONMENTAL REVIEW

Each section of the EIS presents a full analysis of the program variation (residential mixed-use or commercial mixed-use) with the greater potential to cause significant adverse environmental impacts for that particular technical area (i.e., the Reasonable Worst Case Scenario) and a less-detailed analysis for the other program variation, when relevant. Each EIS section also describes relevant differences between the impacts expected for the respective development variations, and describes how the effects of the two differ. This conservative methodology fully discloses any impacts associated with either variation. For certain technical areas (i.e., hazardous materials, cultural resources, urban design and visual resources, and construction impacts), the potential effects are the same under both program variations.

D. LAND USE, ZONING, AND PUBLIC POLICY

LAND USE

The proposed project would result in land uses currently not present on the project site at an overall density comparable only to the Special Downtown Brooklyn District, which is adjacent

and north of the project site. The proposed project would have no significant adverse land use impacts, as discussed below.

Although the project site sits at a major crossroads, adjacent to a major transportation hub, close to Downtown Brooklyn, and at the junction of several thriving neighborhoods, it contains virtually none of the land use patterns or vitality of its neighbors. Its depressed rail yard and dilapidated, vacant, and underutilized properties have perpetuated the current visual and physical barrier between the redeveloped areas to the north of Atlantic Avenue and the neighborhoods to the south. That barrier would be removed with the proposed project. Components of the resulting development would be built above the relocated rail yard, which would be reconstructed at the eastern end of the existing below-grade portion on the project site. This would introduce a mix of uses, including a new arena bordered by retail, hotel, office, and residential development (including new underground access to 10 subway lines), plus a residential community offering substantial open space, a health center, an intergenerational center, and new pedestrian and bicycle access through the site. The rehabilitation of the rail yard would facilitate the modernization of LIRR operations, and the new subway entrance would improve access to and flow within the station. Except for the arena, which is a singular use, the predominantly residential, commercial, and open space land uses associated with the proposed project would be similar to, and compatible with, those in the surrounding primary and secondary study areas.

The location of the project site, with a new connection to Brooklyn's largest transportation hub, makes it suitable for high-density development. This transit-oriented development is a distinctly beneficial aspect of the proposed project, in that the project site would be able to accommodate the region's anticipated growth efficiently. The presence of dense development on the project site would help to meet the demand of economic and population growth expected over the next two decades. The arena would be a new use, but arenas are 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. The siting of the arena at this location also takes advantage of the excellent mass transit services provided by the adjacent Atlantic Terminal transportation hub.

The *New York City Zoning Resolution* prohibits arenas within 200 feet of residential districts as some of the operations could be incompatible with districts limited primarily to residential use. (Arenas are permitted in most commercial districts allowing for residential use.) The arena block is adjacent to a residential district to the south, and accordingly, the arena has been designed to minimize its presence and effect on the residential uses on these blocks. Primary entrances and signage would be oriented toward the crossroads of two major commercial thoroughfares and away from these residences. Two primarily residential buildings (Buildings 2 and 3) on the arena block would occupy most of the Dean Street frontage, serving as a buffer between uses. However, the preferred seating entry and entry to the loading area would be located on Dean Street and, while security screening and loading functions would take place entirely within the building, the residences along this street would experience some localized adverse impacts. The Dean Street corridor between Flatbush and Vanderbilt Avenues is lined with and zoned for both residential and industrial uses. The Dean Street corridor has also historically functioned as a transition between the more commercial and industrial uses to the north and the residential uses to the south. The localized adverse land use impacts attributable to the arena activities interspersed with new, compatible residential uses would not be considered a significant adverse impact on land use.

ZONING AND PUBLIC POLICY

The proposed project would introduce land uses at a density substantially greater than nearly all of the surrounding area. However, land use patterns in these areas are expected to remain relatively stable due to existing zoning regulations (including recent rezoning actions) and historic district designations throughout the study area. The presence of greater density on the project site is not expected to spur changes in density elsewhere in the study area. The density of the proposed commercial office and residential buildings would generally be compatible with the buildings to the north of the project site in Downtown Brooklyn, while the scale of the street-level retail proposed throughout the project site would be consistent with that of the ground-floor retail throughout the study area. The project's overall density would be more concentrated on the western end of the project site (the arena block and Site 5), where the overall density would equate to a floor area ratio (FAR) of just under 10 (slightly less than 12 FAR not including the area of the former streetbeds); the FAR on the project site east of 6th Avenue and would be 7.7 (8.5 without the former streetbeds). The total FAR of the proposed project would be 8.5 (9.8 without the former streetbeds).

The development on the project site would be subject to the provisions of the GPP, which would serve in lieu of zoning (current manufacturing zoning on the project site does not permit residential use and the *New York City Zoning Resolution* prohibits arenas within 200 feet of residential districts). Thus, the policy permitting the development would be focused on the project site only—there would be no precedents set by a rezoning. The proposed project would also require an override of ATURA as it relates to zoning conformance. However, the proposed project would promote a number of ATURA objectives, including—but not limited to—the removal of structurally substandard buildings and the elimination of negative environmental conditions. This change, too, would apply only to the project site and would not affect any other area. In addition, the project would complement the goals of the Special Downtown Brooklyn District, first approved in 2001, to encourage medium- to high-density commercial development and strengthen the business core of Downtown Brooklyn, north of and including portions of the project site. The City has been involved in the planning/site design process of this proposed project.

While the zoning overrides would permit uses and densities that do not comply with underlying zoning, this non-conformance is not considered a significant adverse impact because these uses relate rationally to uses and densities allowed under the existing zoning in the area. In fact, the proposed project would support the City policies for housing and commercial development in Brooklyn by supplying substantial new commercial space and both affordable and market-rate housing and by not conflicting with the City's industrial retention policy. The proposed project would also support City policy to promote transit-oriented development by locating high-density commercial, residential, entertainment, and cultural uses adjacent to the Atlantic Terminal transportation hub. Therefore, the proposed project would not result in any significant adverse impacts on zoning or public policy.

E. SOCIOECONOMIC CONDITIONS

The proposed project would generate substantial economic benefits for New York City and State and would not cause any significant adverse impacts related to direct residential displacement, direct business displacement, indirect residential displacement, indirect business displacement, or effects on specific industries. The results of the proposed project's socioeconomic analysis are summarized below.

DIRECT RESIDENTIAL DISPLACEMENT

The proposed project would directly displace 171 residential units of housing with an estimated 410 residents, all during Phase I. Although the *CEQR Technical Manual* defines direct residential displacement as the *involuntary* displacement of residents, the project's analysis considers direct displacement to include owner-occupied units sold to the project sponsors, rental units for which the renters voluntarily agreed to vacate their apartments, and housing units that were vacant upon acquisition by the project sponsors. Based on the *CEQR Technical Manual*, the direct displacement of these residents would not result in a significant adverse impact because they do not represent a significant proportion of the study area population and they are not likely to have socioeconomic characteristics that differ markedly from the study area population as a whole.

DIRECT BUSINESS AND INSTITUTIONAL DISPLACEMENT

During Phase I, the proposed project would directly displace 27 businesses involved in a variety of industries and two institutions, a privately operated facility that provides temporary housing for homeless families and an FDNY Special Operations Facility used for equipment cleaning and storage. The proposed project would not cause a significant adverse direct business and institutional displacement impact because the displaced businesses and institutions do not have substantial economic value to the City or region; are not subject to publicly adopted plans to preserve, enhance, or protect them; do not individually or collectively contribute substantially to neighborhood character; and can be relocated elsewhere in the city, since their operation is not tied to their current location.

INDIRECT RESIDENTIAL DISPLACEMENT

At-risk households in the study area have been decreasing and will probably continue to do so without the proposed project. By 2010 and 2016, the proposed project's analysis concludes that the at-risk population in the study area would likely be much smaller than in 2000. In addition, the proposed project would not substantially affect residential property values in areas with at-risk population for several reasons. First, the housing introduced would be similar in tenure (owner vs. renter), size, and affordability to the housing mix in the study area. Second, the substantial number of housing units to be added could alleviate upward pressure on rental rates. Third, most at-risk households identified are more than ½ mile from the project site, and there are intervening established residential communities with upward trends in property values and incomes and active commercial corridors separating the project site from the areas with at-risk population.

INDIRECT BUSINESS AND INSTITUTIONAL DISPLACEMENT

Existing businesses would generally benefit from the larger customer base that would be created by the proposed project's residents, workers, and visitors because increases in sales from the new population would allow them to afford any potential increases in rental rates. In addition, rents in some of the study area's commercial corridors have already substantially increased in recent years, and so businesses or institutions vulnerable to indirect displacement pressures will have already relocated by 2010 and 2016 in the future without the proposed project. Further, most of the institutional uses in the study area are owner-occupied or government-owned and therefore would not be vulnerable to indirect displacement pressures.

The potential for indirect displacement would be limited to a small number of businesses and institutions mainly along Vanderbilt Avenue, Flatbush Avenue, and 4th Avenue, within ¼ mile of the project site. These businesses and institutions are not unique to the study area, do not have substantial economic value to the City, and do not have locational needs that would preclude them from relocating elsewhere in the study area or city. Their displacement would not substantially affect neighborhood character and would not represent a significant adverse impact.

ADVERSE EFFECTS ON A SPECIFIC INDUSTRY

The proposed project would not directly affect business conditions in any industry or category of business within or outside of the study area, nor would it indirectly substantially reduce employment or impair the economic viability of any industry or category of business.

ECONOMIC BENEFITS OF AND PUBLIC FINANCING FOR PROPOSED PROJECT

The construction and operation of the proposed project would generate substantial economic benefits for New York City and State. The construction cost of either the residential mixed-use variation or the commercial mixed-use variation would entail the investment of approximately $3.6 billion (all dollar amounts in 2006 dollars). Overall, economic and fiscal benefits from construction would be greater during Phase I, while benefits from annual operation would be greater after the completion of the Phase II.

Benefits from construction of Phase I would be similar for both variations. Phase I construction would create between 14,300 and 14,900 direct and indirect jobs in New York City and between 17,600 and 18,400 direct and indirect jobs overall in New York State, with the residential mixed-use variation generating the higher number of jobs. Taxes paid during construction of either variation would also be similar, i.e., between $138 million and $141 million, including about $45 million for New York City.

Economic and fiscal benefits associated with the annual operation of the Phase I development would be different for the two variations. In general, the commercial mixed-use variation would generate more than twice the number of jobs and taxes as the residential mixed-use variation. For example, Phase I of the commercial mixed-use variation would support approximately 17,200 direct and indirect jobs in New York City, compared with about 7,500 jobs with the residential mixed-use variation. In addition to property taxes, non-property related tax revenues generated during the operation of the Phase I development would amount to approximately $144 million annually for the commercial mixed-use variation, compared with about $76 million annually under the residential mixed-use variation.

Phase II economic and fiscal benefits would be the same under either variation. Construction of Phase II would generate approximately 12,300 direct and indirect jobs in New York City and a total of approximately 15,300 jobs in New York State. Tax revenues generated during the Phase II construction period would be approximately $115 million, with approximately $37 million going to New York City. The annual operation of the incremental Phase II development program would support between 1,070 direct and indirect jobs in New York State, of which approximately 940 would be in New York City. In addition to property taxes, non-property tax revenues from the operation of the Phase II development would add about $9 million annually to those from the Phase I development.

The cumulative effect from constructing the entire development program (Phase I and II) of either variation would be substantial. Construction would create between 26,600 and 27,200 direct and indirect jobs in New York City and between 33,000 and 33,700 direct and indirect jobs overall in New York State, with the residential mixed-use variation generating the higher number. Direct and indirect wages and salaries from constructing the proposed project would total approximately $1.6 billion in New York City and approximately $2.0 billion in New York State (with, again, the residential mixed-use variation creating a marginally higher number). The total effect on the local economy, measured as economy output or demand, is projected at between $5.1 and $5.2 billion in New York City and between $6.7 and $6.8 billion overall in New York State. Including the projected mortgage recording fees from the condominium owners, total public sector revenues for New York City, MTA, and New York State from constructing the project would equal $265 million for the commercial mixed-use variation and $279 million for the residential mixed-use variation.

Once constructed, the annual operation of the completed project would support approximately 8,400 to 18,200 direct and indirect permanent jobs in New York City, and approximately 10,200 to 22,100 direct and indirect permanent jobs overall in New York State—with the first number in each case being that of the residential mixed-use variation and the second the commercial mixed-use variation. Direct and indirect wages and salaries are projected at $453 to $959 million annually in New York City and $519 million to $1.09 billion annually in New York State. The overall effect on the local economy from operating the completed development is projected at $1.3 to $2.9 billion annually in New York City and $1.5 to $3.4 billion annually in New York State. In addition to annual property taxes, public sector revenues for New York City, MTA, and New York State are projected at approximately $86 million annually from the residential mixed-use variation and $154 million annually from the commercial mixed-use variation.

The City and the State would each provide $100 million in funding to the proposed project. State funding would be used for infrastructure improvements necessary to construct the arena and for the redevelopment of the rail yard. City funding would also be used for necessary infrastructure and rail yard improvements. The City's contribution could also be used for acquisition costs related to the arena site (other than for the acquisition of properties owned by the MTA/LIRR).

In addition to the public capital investment, the arena would receive an exemption from sales taxes on materials used in the initial construction and fit-out and on capital repairs and replacements. It is expected that the project sponsors would also receive exemptions from State and City mortgage recording taxes, as is customary for affordable housing developments.

The costs of constructing and fitting-out the arena and its ancillary facilities would be financed through one or more series of tax-exempt and taxable bonds issued by a local development corporation. ESDC would retain ownership of the arena and the land under the arena for the term of the bonds. As a result, the arena and the land under the arena would be exempt from real estate taxes. The repayment of the tax exempt bonds would be accomplished through a payment in lieu of tax (PILOT) that would be the sole responsibility of the arena's lessee. The State and the City would have no liability for repaying the bonds or for the PILOT. The issuance of tax-exempt bonds would be of no cost to the State or City since the repayment would be solely the responsibility of the arena's lessee.

As noted above, the public benefits generated by the operation of the proposed project would be substantial, including thousands of direct and indirect jobs as well as substantial tax revenues over and above real estate tax revenues. The proposed project would generate substantial

revenues for the City and State exceeding their combined $200 million capital investment after the second year of operations.

F. COMMUNITY FACILITIES

This section summarizes the potential effects of the proposed project's demand in 2010 and 2016 on police and fire protection, public schools, libraries, hospitals and healthcare facilities, and day care centers in the study area.

POLICE PROTECTION

The assessments for both 2010 and 2016 conclude that there would be no significant adverse impacts on police protection within the study area or on emergency service as a result of the proposed project. The New York Police Department (NYPD) would continue to evaluate its staffing needs and assign personnel based on population growth, area coverage, crime levels, and other local factors. The proposed project, including potential effects to police response times, would be taken into consideration during such routine evaluations of service adjustments to continue to provide adequate police coverage. The proposed project would not significantly affect NYPD response times because the four precinct headquarters are located throughout the project's study area and are not clustered around the project site. NYPD has protocols to successfully police large venues, such as Madison Square Garden and Yankee Stadium, which have similar events to those that would take place at the proposed arena. Additionally, the proposed project would implement its own site security plan, which includes measures such as the deployment of security personnel and monitoring and screening procedures.

FIRE PROTECTION AND EMERGENCY SERVICES

Significant adverse impacts on fire protection services are not expected as a result of the proposed project for either the 2010 or 2016 analysis year. There would be no significant adverse impacts from the relocation of the FDNY Special Operations Facility currently located on the project site. The loss of this facility would not impact essential fire protection services to the surrounding community. FDNY would continue to monitor its ability to provide fire and medical protection and would continue to provide these services per established standard FDNY operating procedures. There are a seven firehouses, two special operations facilities (one squad company and one non-response laundry facility), and one emergency response unit geographically distributed throughout the proposed project's study area; the nearest EMS unit is located at 39 Auburn Place north of the project site. The proposed project is not expected to result in significant adverse impacts on FDNY emergency services or response times. The proposed project is not expected to significantly affect the provision of services by fire and emergency vehicles.

PUBLIC SCHOOLS

The project site is located in both Community School Districts (CSDs) 13 and 15. The EIS assessed the effects on school capacity within ½ mile of the project; on schools within CSD 13—where most of the project site is located; on schools within CSD 15; and on all schools within CSDs 13/15 combined. The elementary and intermediate school-aged children that would be introduced as a result of the proposed project in 2010 could be accommodated in the schools located within ½ mile of the project site. Therefore, no significant adverse impacts on school capacity are expected in 2010. In 2016 under either the residential mixed-use or commercial

mixed-use variation, there would be projected shortfalls in elementary and intermediate school seats for schools located within ½ mile of the project site; however, there would remain available capacity in both the larger CSD 13 and CSD 15 (and thus CSDs 13/15 combined). While the methodology outlined in the *CEQR Technical Manual* calls for the assessment of school capacity within the larger CSD, the elementary and intermediate school shortfalls within the ½-mile study area would be substantial enough to create a significant adverse impact to elementary and intermediate schools in the vicinity of the project site.

To mitigate the projected 2016 shortfall in school seats for schools located within ½ mile of the project site, either one or a combination of the following measures would need to be undertaken: (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/or (4) building new school facilities off-site. Building 5 has been identified as a possible location for a school. Discussions are underway with New York City Department of Education (DOE) and the School Construction Authority, but there has been no commitment by DOE, at this time, to adopt any of these administrative actions and/or capital solutions.

LIBRARIES

No significant adverse impacts to libraries in the study area would result with the proposed project.

HOSPITALS AND HEALTH CARE FACILITIES

No significant adverse impacts to hospitals or health care facilities would result with the proposed project. The new residential population introduced by the proposed project would not overtax the existing hospital or health care resources in the surrounding area. The proposed project would also include a 20,000-square-foot health care facility that would provide a broad range of health care services to the community. This health center would be constructed during Phase I. There are service providers located at a number of different locations throughout the study area, and provisions for emergency vehicle access have been incorporated into the site design.

DAY CARE CENTERS

Child care facilities in the area surrounding the project site would be able to accommodate the increased population of children 12 years old or younger introduced by the proposed project in 2010. Although the number of eligible children that would be introduced to the study area by the 2016 analysis year would exceed the existing capacity of the area's child care facilities, the proposed project includes the development of an intergenerational facility that would have capacity for at least 100 children. The future demand for day care services would not exceed this future capacity. In addition, day care facilities may also be opened within the study area by 2016 as the population within this area (unrelated to the proposed project) increases. No significant adverse impacts to day care center services are anticipated in the study area in either the 2010 or 2016 analysis year as a result of the proposed project.

G. OPEN SPACE AND RECREATIONAL FACILITIES

A key component of the proposed project is at least seven acres of publicly accessible open space, which would be developed during Phase II. The new open space would provide passive

and active recreational opportunities and new pedestrian and bicycle path connections between the adjacent neighborhoods. Plazas, fountains, boardwalks, water features, lawns, and active play areas, and other features would be included in the open space. In addition, private open space on the arena's roof and publicly accessible amenities, such as the Urban Room and plazas around the outside of the arena, would be provided during Phase I. In sum, because the proposed project would provide more open space to users than is currently available, no significant adverse impact on open space and recreational resources would result.

However, because the publicly accessible open space would not be provided until Phase II, the passive open space ratio in the non-residential (¼ mile) study area would be substantially lower than DCP's recommendations after completion of Phase I in 2010. While the private open space on the arena's roof, the Urban Room, the plaza areas, and the availability of large open spaces nearby (Prospect Park and Fort Greene Park) would help address this deficiency, there would be a temporary significant adverse open space impact. By 2016, with the provision of the proposed project's minimum of seven acres of publicly accessible open space, the passive open space ratio in the non-residential study area would improve and there would no longer be any significant adverse impacts.

H. CULTURAL RESOURCES

The following summarizes the analysis that was conducted to determine the proposed project's potential effects on archaeological and historic cultural resources on the project site and in the study area, including the Prospect Heights, Fort Greene, Boerum Hill, and Clinton Hill neighborhoods, where numerous architectural resources are located.

PROJECT SITE

Development of the proposed project could impact the one potentially sensitive area identified on Block 1119 and the four potentially sensitive areas identified on Block 1127. To avoid significant adverse impacts on these potential archaeological resources, consultation would be undertaken with the New York City Landmarks Preservation Commission (LPC) and the New York State Office of Parks, Recreation and Historic Preservation (OPRHP). If additional research as recommended in the archaeology study for the project site does not eliminate any areas from further consideration, the preparation of a testing protocol by a professional archaeologist, which would describe the proposed testing measures and research issues for the testing, would be required. Upon approval by LPC and OPRHP, testing to determine whether archaeological resources may be present in these locations would be undertaken in consultation with LPC and OPRHP. However, prior to undertaking field testing on Block 1119, additional research would be undertaken to determine the presence and extent of any potential archaeological resources. This research includes determining the locations and previous subsurface impacts of gasoline tanks in the sensitive area on Block 1119, and comparing these to the area of potential archaeological sensitivity. If the sensitive area has not been fully disturbed by gasoline tank installation, then additional archival records would be pursued (that were not available at the time of the preparation of the Stage 1A Documentary Study) which could provide information on the historic occupants of the potentially sensitive site.

If testing confirms the presence of significant archaeological resources (i.e., resources that are eligible for the State/National Register [S/NR]), mitigation measures would be developed in consultation with OPRHP and LPC, such as data recovery, which would be undertaken prior to any project construction. A report describing the results of the testing would be provided to LPC

and OPRHP for their review. Any mitigation measures would be determined based on the characteristics and significance of the resource. The consultation process respecting archaeological resources would occur in accordance with a Letter of Resolution (LOR) among the New York State Empire State Development Corporation (ESDC), OPRHP, and the project sponsors.

Demolition of the former LIRR Stables at 700 Atlantic Avenue and the former Ward Bread Bakery complex at 800 Pacific Street would be significant adverse impacts. The potential reuse of these properties as part of the proposed project has been studied, but it was concluded that there is no feasible or prudent alternative to demolishing them. Measures to partially mitigate the resources' demolition would be developed in consultation with OPRHP. In addition, the proposed subway improvements would affect portions of the Atlantic Avenue Subway Station. However, such distinguishing elements as the station's decorative tiles, marble, platform plaques, the old LIRR spur, and the subway entrance in the Williamsburgh Savings Bank Building would not be altered. If required, the two plain sign panels in an area not currently accessible to the public would be removed and stored.

STUDY AREA

The proposed project would obscure views of the Williamsburgh Savings Bank Building from south of the project site along the Flatbush Avenue corridor and from certain other vantage points, which would be a significant adverse historic resources impact. Views of this resource would be preserved from other principal view corridors, including 4th Avenue, Atlantic Avenue (from the east and the west), and Flatbush Avenue from the north. In addition, as discussed in more detail below in "Shadows," a proposed project building would adversely affect the Church of the Redeemer by casting new morning shadows on its stained glass windows. The proposed project would not cause any other significant adverse contextual impacts to study area historic resources.

Overall, regarding the proposed project's relationship to historic resources, the scale of the proposed project's buildings would be larger than most resources in the study area. The new buildings would also transform an area that is mainly characterized by transportation and industrial uses and that has historically separated residential areas north and south of the project site. The setbacks of the proposed buildings closest to the Prospect Heights historic district would be clad principally in masonry, and would create streetwalls that would not be incompatible with the scale and design of the historic district, which is located across the streets from, and extends south of, the project site.

With respect to contextual impacts, the buildings would be taller and have larger footprints than those located in the historic districts. However, the proposed development would not isolate any historic district from its setting or streetscape. The proposed project's residential buildings and open spaces would not constitute incompatible visual, audible, or atmospheric elements that would diminish the significant characteristics of the buildings in the historic districts in the study area.

During the proposed project's construction, inadvertent adverse impacts could result to nearby historic resources, consisting of portions of the Atlantic Avenue Subway Station, and 15 nearby buildings. These include 10 buildings in the Prospect Heights historic district, four in the State and National Register (S/NR)-eligible area around the Swedish Baptist Church, and the Pacific Branch of the Brooklyn Public Library. To prevent any impacts to these resources, a construction protection plan would be prepared in consultation with OPRHP.

PROTECTIVE AND MITIGATION MEASURES

All protective and mitigation measures, including (1) procedures for archaeological testing to identify the presence/lack of presence of archaeological resources on the project site, (2) measures to mitigate significant adverse impacts to significant archaeological resources on the project site if necessary, (3) measures to mitigate the demolition of the former Ward Bread Bakery complex and former LIRR Stables, and (4) preparation of a CPP, would be undertaken in accordance with a Letter of Resolution among the ESDC, OPRHP, and the project sponsors.

I. URBAN DESIGN AND VISUAL RESOURCES

URBAN DESIGN

The proposed project would transform an underutilized 22-acre site and establish physical and visual connections between several vibrant Brooklyn neighborhoods. It would add to the site a major mixed-use development at the southern gateway to Downtown Brooklyn. Development of the project site's western end, adjacent to the transit hub, would be of a scale similar to the buildings in Downtown Brooklyn. Development at the eastern end of the project site would serve as a transition and connection to the surrounding residential neighborhoods. Distinctive modern buildings would attract people to live, work, and enjoy sports and entertainment events in an area that is situated at a major transportation crossroad and that is currently in a blighted and underdeveloped condition.

In general, the proposed project is expected to alter the built form of the project site and study area through the addition of an arena and 16 additional buildings, ranging in height at their highest roofs from approximately 184 feet to approximately 620 feet. Most of these buildings would be considerably taller and of a larger scale than the buildings in the surrounding area. Streets would be closed and blocks would be joined to create the arena block (the three blocks bounded by Dean Street and Flatbush, Atlantic, 5th, and 6th Avenues) and the large residential block (the two blocks bounded by Dean Street and Atlantic, Carlton, and Vanderbilt Avenues). The arena block would provide a sufficient footprint for a functioning arena. The creation of the arena block would facilitate pedestrian access to the arena from the subway, and the four buildings surrounding the arena would incorporate a variety of uses that would promote street activity.

The creation of the large residential block between Carlton and Vanderbilt Avenues would allow the development of at least seven acres of new publicly accessible open spaces that would enliven the project site and the surrounding study area. This block would also accommodate water features that serve as stormwater detention basins, a major sustainable design element, as well as a new visual resource for the area. Wide openings into the open space and the provision of a pedestrian path along the right-of-way of Pacific Street would enhance pedestrian activity and create visual links to the residential neighborhoods to the north, south, east, and west.

The larger buildings and the most active uses would surround the transit hub at the crossroads of Atlantic and Flatbush Avenues. Further, the proposed project would greatly alter the Brooklyn skyline with the addition of 17 uniquely shaped buildings that would be markedly different in height, form, and massing from most buildings in the study area. The proposed project would be dramatically different than anything in the neighborhood today and would enhance the vitality of the area and foster connections between neighborhoods surrounding the site.

VISUAL RESOURCES

The proposed project would redevelop a largely abandoned-looking area of Brooklyn—three blocks occupied by the underdeveloped below-grade rail yard, and five additional blocks occupied by a miscellaneous collection of warehouses, and residential and commercial structures, some of which are vacant and/or in a dilapidated state. The proposed project is designed as a comprehensive plan with buildings of varying heights, unique shapes, and a style of architecture that would differ substantially from the buildings in the surrounding neighborhoods.

With the proposed project, views of the Williamsburgh Savings Bank Building, a visual resource in the Brooklyn skyline, would be unobstructed from the areas to the north, east, west, and from the south along the 4th Avenue corridor. Views of the Bank Building from some elevated transportation corridors would remain from some vantage points but would be obstructed from other points. Views of the Williamsburgh Savings Bank Building along the Flatbush Avenue view corridor from south of the project site would be obstructed except from vantage points on Flatbush Avenue immediately adjacent to the project site. It should be noted, however, that a tower could be constructed as-of-right and independent of the proposed project on Block 1118 that would also obstruct views of the Bank Building along the Flatbush Avenue corridor south of the project site. Other views of the Bank Building that would be obstructed by the proposed project are those along Pacific Street between 4th and Flatbush Avenues and points along 5th Avenue, and those from Bergen Street between 6th and Carlton Avenues, the Dean Playground, and Vanderbilt Avenue east of the project site. The loss of these views would constitute an unavoidable significant adverse impact.

Alternatives to preserve the view of the Williamsburgh Savings Bank Building from these particular view corridors would require either the elimination of Buildings 1 and 2 from the project program or the relocation of the arena block development farther east.

With the proposed project, most changes to visual resources and view corridors in the study area would not be considered adverse. The Atlantic Avenue Control House would remain visible from the east and west along Atlantic Avenue and from the south along 4th and Flatbush Avenues. Similarly, visual resources north of the project site—the bell towers of the Church of St. Luke and St. Matthew and the Verizon building—would remain visible from areas within the northern and eastern sections of the study area. Views of the bell tower of St. Joseph's Roman Catholic Church at 856 Pacific Street would remain visible from the study area east and south of the project site. Therefore, it is anticipated that there would be no adverse impacts to these visual resources.

Completion of the proposed project would create new visual resources. Views east and west along the Atlantic Avenue corridor would be transformed by the arena and nine tall buildings fronting on this portion of the Atlantic Avenue view corridor between 4th and Vanderbilt Avenues. This transformation would not be considered adverse, however, in light of the absence of significant visual resources at the project site or in this view corridor. Views southeast along the Flatbush Avenue view corridor, from northwest of the project site would include views of Building 1, the arena, and Site 5. These changes would be significant but not adverse. Views northwest along the Flatbush Avenue view corridor would include views of Site 5 and Buildings 1 and 2. From some vantage points along the west side of Flatbush Avenue south of the project site, other buildings on the project site would be visible along this view corridor. Along Flatbush Avenue, the proposed buildings would serve as new wayfinders in the skyline, becoming new visual resources.

Views along the tree-lined residential streets described in existing conditions would not be affected by the proposed project as views along these corridors would not include views of the project site.

NIGHTTIME LIGHTING AND SIGNAGE

Signage on the project site would be typical for local retail and commercial areas throughout New York City with the exception of portions of the Atlantic and Flatbush Avenue frontages. Signage controls for the retail establishments occupying street-level space in the Phase II developments, the Pacific Street frontage of Site 5, and portions of the arena block would be consistent with the strictest signage controls used in New York City for local retail. Signage controls along the Atlantic, Flatbush, and 4th Avenue frontages of the Site 5 building allow for signage similar to that found on commercial establishments in the area. Special signage controls would apply to the Urban Room, Building 1, and the arena façades along Atlantic Avenue and Flatbush Avenue. With the exception of limited signage for ground-floor uses, illuminated and non-illuminated opaque signs would be limited to the westernmost 75 feet of the proposed project and to the Building 1 façades along the two streets and would be limited in terms of overall surface area and height. Additional signage and lighting would also be allowed on the Urban Room (to its full height), on Building 1 (to a height of 60 feet), and on the arena façade (to a height of 40 feet); however, this additional permitted signage would have to be sufficiently transparent to make activity within the building and the interior architecture visible to passersby, and to allow people within the building to view the exterior. This signage would concentrate lighting and signage at the intersection of Flatbush and Atlantic Avenues and away from residential neighborhoods to the south.

Since most of the project lighting would be in keeping with commercial areas throughout Brooklyn, the project lighting would not represent a significant impact. Area signage would be visible to the east and west on Atlantic Avenue, to the north and south on Flatbush Avenue, and on a small portion of Pacific and Dean Streets south of Flatbush Avenue. Other residential areas would not have direct views of the signage. Since the signage would be visible principally along the commercial corridors of Atlantic and Flatbush Avenues, it would not have a significant adverse impact. The effect of the signage on the relatively small residential area on Pacific and Dean Streets south of Flatbush Avenue, from which it would be visible, would also not be considered significant.

J. SHADOWS

The buildings of the proposed project could potentially cast very long shadows due to their height and adversely affect public sun-sensitive resources in the area. Of the 15 public open spaces that fall within the proposed project's shadow sweep, the shadows cast by the proposed project's buildings would result in a significant adverse impact on the open space resource of the Atlantic Terminal Houses, a New York City Housing Authority (NYCHA) development, located at the northeast corner of Atlantic and Carlton Avenues. Of the 14 designated and eligible historic resources that fall within the proposed project's shadow sweep, the shadows cast by the proposed buildings would result in a significant adverse impact on one historic resource—the stained glass windows of Church of the Redeemer.

OPEN SPACES

The open space at the Atlantic Terminal Houses, divided into two separate areas by a one-story building, contains both passive and active use areas. With full development (2016), there would be additional shadow cast on this open space. The project's incremental shadows would have a significant adverse impact on this open space when the weather is cooler and shadows are longer, in the spring, fall, and winter as they would diminish the attractiveness of this open space.

The project sponsors, in consultation with NYCHA, will develop potential mitigation measures to ameliorate the shadow effects on this open space. These measures will focus on improving the attractiveness and usability of the open space and could include reconfiguration and/or addition of seating to portions of the open space experiencing more sunlight.

HISTORIC RESOURCES

The proposed building on Site 5 would cast shadow to the west on the Church of the Redeemer (an S/NR-eligible historic resource) at 24-32 4th Avenue, in the morning and during all seasons when this Phase I building is constructed. In the late spring, summer, and late summer, the durations would be the longest lasting through most of the morning. The shadows would have a significant adverse impact because they would reduce light to the stained glass windows on the church's east façade when services may be taking place. Morning services currently begin at 11:00 AM on Sundays.

The project sponsors have been coordinating with the church to develop measures to offset the potential effect of the project's shadows on the stained glass windows. These could include replacement of the semi-opaque screen currently protecting the existing stained glass windows, improved lighting to highlight these features, or the implementation of some other mutually agreed to measures.

K. HAZARDOUS MATERIALS

The project site has a long history of railroad, industrial, storage, manufacturing, and commercial uses. Contaminants on the project site are known to include asbestos and lead-based paint in buildings, and subsurface contamination (fill, soil, soil gas, and/or groundwater). Migration of contaminants from outside the project site is also possible.

Development of the proposed project would involve the demolition of the existing structures on the project site and excavation, disturbance, and removal of much of the existing fill and soil. Hazardous materials only pose a threat to human health or the environment if exposure to them can occur, such as by breathing volatile and semi-volatile compounds or particulate-laden air released during demolition, excavation, and construction. Following construction of the project's buildings, the principal potential pathway of concern would be the intrusion of vapors into the buildings from subsurface contamination.

To better understand conditions on the project site, Phase 1 and Phase 2 Environmental Site Assessments (ESAs) identified the potential for contamination and then confirmed and characterized the contamination through sampling. The ESAs discovered that contamination on the project site is in both the subsurface (mainly from local current or former gas stations and historic fill) and inside current buildings (mainly from asbestos and lead-based paint).

To make certain that there would be no potential threats to residents, construction workers, and the surrounding environment from hazardous materials, the proposed project would closely

follow site remediation guidelines in accordance with all applicable city, state, and federal regulations. The proposed project's remediation measures, including a construction health and safety plan, would ensure that all hazardous materials encountered on the project site are properly handled, removed, and disposed.

With the implementation of the remediation measures, no significant adverse hazardous materials impacts would occur as a result of the proposed project's construction. Following construction, there would be no further potential for significant adverse impacts.

L. INFRASTRUCTURE

Although the proposed project would generate new demands on infrastructure in the 2010 and 2016 analysis years, the municipal systems serving the project site have adequate capacity to meet the needs of the proposed project, and therefore no significant adverse impacts would result. In addition, local improvements in sewers and water mains and on-site stormwater management techniques are proposed to address the project's infrastructure needs.

WATER SUPPLY

The increase in demand on the City's water supply system from the proposed project would not be significant. As part of the proposed project, local water distribution mains would be replaced and upgraded, and no impacts on local water pressure are expected. The proposed project would also include voluntary water conservation measures as well as those required by the City. Therefore, no significant adverse impacts on water supply would result.

SANITARY WASTEWATER TREATMENT

The Red Hook Water Pollution Control Plant would have sufficient capacity to handle the sanitary sewage volumes that would be generated by the proposed project. The proposed project would also provide new and larger sewers near the project site consistent with an amended drainage plan for the project and nearby blocks. Therefore, no significant adverse impacts on sanitary wastewater treatment would result.

STORMWATER RUNOFF AND COMBINED SEWER OVERFLOWS (CSOs)

The proposed project has the potential to create new runoff to the City's sewer system (which is a combined system in this area and, therefore, conveys both sanitary sewage and stormwater runoff). However, the proposed project also includes a number of site-specific stormwater management approaches that would result in a net reduction to stormwater discharges (over the No Build Condition), thus minimizing the potential for any adverse water quality impacts on the Gowanus Canal or the East River would be avoided (see the discussion below). These measures include: water conservation to reduce sanitary wastewater flows; on-site detention and retention tanks for stormwater with multi-level discharge points to optimize storage; and re-use of captured stormwater within the project site. Therefore, no significant adverse impacts on stormwater and CSOs would result.

GOWANUS CANAL/EAST RIVER WATER QUALITY

The frequency and volume of CSO discharges to the East River and from the Gowanus Pumping Station to the Gowanus Canal would not significantly increase with the proposed project.

Therefore, no significant adverse impacts on Gowanus Canal/East River water quality would result.

SOLID WASTE MANAGEMENT

The proposed project would increase the volumes of solid waste and recyclables, but it would not affect the delivery of these services or place a significant burden on the solid waste management services (both public and private). In addition, the proposed project would not conflict with, or require amendments to, the City's Solid Waste Management Plan. Therefore, no significant adverse impacts on solid waste management would result.

ENERGY

The proposed project's increased demands on electricity and gas would be insignificant, relative to the capacity of these systems and the current levels of service in New York City, and no significant impacts on energy systems would result. In addition, local distribution grid improvements proposed by Con Edison would improve service to the project site and Downtown Brooklyn as a whole. New electrical and gas lines are also proposed within the beds of streets that would be reconstructed as part of the proposed project. Therefore, no significant adverse impacts on energy would result.

M. TRAFFIC AND PARKING

VEHICULAR TRAFFIC

The proposed project's potential impacts on traffic conditions in 2010 and 2016 were examined at 93 study area intersections (87 signalized and six unsignalized) during five weekday peak hours (8-9 AM, noon-1 PM, 5-6 PM, 7-8 PM pre-game, and 10-11 PM post-game) and two Saturday peak hours (1-2 PM pre-game and 4-5 PM post-game).

With completion of Phase I in 2010, of the 93 intersections analyzed, a total of 60 would have significant adverse impacts in one or more peak hours. The Saturday 4-5 PM post-game peak hour would have the highest number of impacted intersections with 45, followed by the weekday 7-8 PM pre-game and Saturday 1-2 PM pre-game peak hours with 34 impacted intersections each. There would be 29 impacted intersections in the weekday AM peak hour, 16 in the midday and 32 in the weekday PM peak hour. The weekday 10-11 PM peak hour would have the lowest number of impacted intersections under 2010 Build conditions with 13.

With completion of the proposed project in 2016, a total of 68 intersections would be significantly adversely impacted. A total of 48 intersections would have significant adverse impacts in the weekday AM peak hour in 2016, 27 in the midday, 44 in the PM, 40 in the 7-8 PM pre-game peak hour, and 17 in the 10-11 PM post-game peak hour. On Saturdays, 42 intersections would have significant impacts in the 1-2 PM pre-game peak hour and 48 in the 4-5 PM post-game peak hour in 2016.

This EIS has identified a full array of traffic mitigation measures to address these impacts, including the following:

PHYSICAL ROADWAY IMPROVEMENTS

- Reconfiguration of the Atlantic Avenue/Flatbush Avenue/4th Avenue intersection

- Operational modifications to Pacific Street
- Construction of an expanded Times Plaza at the intersection of 4th, Flatbush, and Atlantic Avenues

DEMAND MANAGEMENT

- Remote parking with price incentives and free shuttle service for arena patrons
- On-site high-occupancy-vehicle parking requirements
- Subject to review and approval by the NYCT, transit price incentives for arena patrons
- Cross-marketing of area businesses to reduce peak surges
- On-site bicycle parking

TRANSIT SERVICE RECOMMENDATIONS

- Subject to review and approval by NYCT, increased weekday evening operation of the IRT No. 5 subway service to Brooklyn and increased weekend service on the IRT

TRAFFIC OPERATIONAL IMPROVEMENTS

- PM parking regulation extension to 8 PM
- Other parking regulation adjustments
- Signal timing and phasing adjustments
- Signal installations and upgrades

With these mitigation measures, significant traffic impacts in 2010 would be fully mitigated at 33 out of 60 intersections; some but not all significant impacts would be mitigated at a further 24 intersections, and no significant impacts would be mitigated at a total of three intersections. There would be two intersections unmitigated significant adverse impacts in the weekday 8-9 AM peak hour in 2010, one in the midday, six in the 5-6 PM, seven in the 7-8 PM pre-game and one in the 10-11 PM post-game peak hours. On Saturdays, the number of intersections with unmitigated significant adverse impacts would total 12 during the 1-2 PM pre-game peak hour and 16 during the 4-5 PM post-game peak hour.

In 2016, with mitigation, all significant impacts would be fully mitigated at 29 out of 68 intersections; some but not all significant impacts would be mitigated at a further 37 intersections, and no significant impacts would be mitigated at a total of two intersections. There would be 12 intersections with unmitigated significant adverse impacts in the weekday 8-9 AM peak hour, two in the midday, 17 in the 5-6 PM, eight in the 7-8 PM pre-game, and none in the 10-11 PM post-game peak hours. On Saturdays, the number of intersections with unmitigated impacts would total 18 during the 1-2 PM pre-game peak hour and 29 during the 4-5 PM post-game peak hour.

BICYCLES

The proposed project would likely generate new commuter bicycle trips, as well as recreational and discretionary trips. Although the proposed project would generate new vehicular traffic on roadways used by bicyclists, there would be no project-related permanent street closures or

changes in street directions along any street segment with an existing or planned on-street bike lane or along a bicycle route recommended by the City's Bicycle Network Development Program. The proposed project would include construction (by 2016) of new off-street bike route segments through the project site that would more safely connect existing and planned on-street bike routes. The proposed project includes a parking station for up to 400 bicycles in a secure indoor facility on the arena block.

ACCIDENTS

In 2016, peak hour project-generated vehicular traffic through the Atlantic and Flatbush Avenue intersection would increase by 4 to 15 percent, and crosswalks would have up to 2,700 new peak hour pedestrian trips. New pedestrian trips and vehicular traffic at this intersection (as well as at Atlantic and Vanderbilt Avenues and other intersections near the project site) may increase the potential for vehicle–vehicle and vehicle–pedestrian conflicts or accidents, especially during the weekday and Saturday pre-game and post-game peak hours when the greatest increases would occur. To enhance overall safety, the proposed project would eliminate several roadway segments through the project site, build a major new on-site entrance to the Atlantic Avenue/Pacific Street subway station to eliminate the need for subway riders en route to and from the south to cross Atlantic Avenue, provide high-visibility crosswalks and lighting at key intersections near the project site, and build new off-street bike route segments through the project site that would more safely connect existing and planned on-street bike routes.

Along with these physical improvements, police or traffic control officers are expected to be deployed at the Atlantic and Flatbush Avenue intersection and other locations to minimize conflicts between vehicles and pedestrians during the pre-game and post-game periods when a basketball game or other major event is scheduled. The project sponsor would work with NYCDOT and NYPD to ensure that needed resources are available for this purpose.

PARKING

Street closures and operational changes with the proposed project would result in a loss of about 180 on-street spaces, as well as 24 spaces for police vehicles along 6th Avenue. Mitigation-related parking restrictions would result in the further loss of approximately 70 curbside parking spaces. This loss of on-street spaces would not result in a deficit of on-street parking capacity, and sufficient off-street parking capacity would be available both on-site and at existing public facilities within ½ mile of the arena to fully meet the proposed project's demands in all peak periods in 2010 and 2016. Therefore, the proposed project would not cause any significant adverse impacts on parking conditions. However, as some drivers en route to the project site would choose to park on-street if spaces were available, it is likely that much of the on-street parking capacity available near the arena would be used by project-generated demand during a Nets basketball game or other major arena event.

N. TRANSIT AND PEDESTRIANS

SUBWAY SERVICE

The majority of new subway trips would occur at the three stations that make up the Atlantic Avenue/Pacific Street subway station complex, which would be immediately adjacent to the project site and accessible via a new on-site entrance. In addition, the Bergen Street IRT, Fulton

Street IND, and Lafayette Avenue IND subway stations would all attract 200 or more project-generated trips in at least one peak hour.

Overall, the new on-site entrance and internal circulation improvements proposed at the Atlantic Avenue/Pacific Street subway station complex would be adequate in accommodating new project-generated demand at acceptable levels of service during the analyzed 8-9 AM, 5-6 PM, and 7-8 PM peak hours in 2010 and 2016, as would existing analyzed stairways and fare arrays at station. All analyzed stairways and fare arrays at the Bergen Street IRT, Fulton Street IND, and Lafayette Avenue IND subway stations would also continue to operate at acceptable levels of service during these periods in 2010 and 2016. The proposed project would therefore not result in significant adverse impacts to subway station stairways, escalators, passageways, and fare arrays. However, crowding on the platforms at the Atlantic Avenue/Pacific Street subway station complex could occur during certain post-game situations. Such crowding would be a significant adverse impact, which could be addressed by providing additional subway trains during post-game periods.

All subway routes serving the project site are expected to continue to operate below their practical capacity in the peak direction in the 8-9 AM and 5-6 PM commuter peak periods with the proposed project in 2010 and 2016. The proposed project would therefore not result in significant adverse impacts on subway line haul conditions.

BUS SERVICE

With the proposed project, new bus trips would be added to the 11 NYCT local bus routes serving the project site during the analyzed weekday 8-9 AM and 5-6 PM commuter peak hours. With this added demand, all 11 routes would continue to operate with available capacity at their maximum load points in the peak direction in each of these peak hours in 2010, and no significant adverse impacts to local bus service would occur with Phase I development. In 2016, project-generated demand in the 8-9 AM peak hour would cause a significant adverse impact on westbound B38 buses. As standard practice, NYCT routinely conducts ridership counts and adjusts bus service frequency to meet its service criteria, within fiscal and operating constraints. Therefore, no mitigation is proposed for the potential impact on westbound B38 service.

PEDESTRIANS

The proposed project would include improved pedestrian elements at the project site, such as wider sidewalks (20-foot-wide sidewalks along Atlantic and Flatbush Avenues, for example), high-visibility crosswalks, and improved lighting at key intersections. However, 6th Avenue south of Pacific Street would be reconstructed with 15-foot-wide sidewalks, compared with the existing 18-foot-wide sidewalks to accommodate two-way traffic between Atlantic and Flatbush Avenues.

Development of the proposed project would also add new pedestrian demand to sidewalks, corner areas, and crosswalks. In general, the highest numbers of new pedestrian trips in both 2010 and 2016 would typically occur during the weekday 7-8 PM and Saturday 1-2 PM pre-game periods. The analysis of pedestrian conditions therefore focuses on these peak hours as well as the weekday 8-9 AM and 5-6 PM commuter peak hours.

With full development of the proposed project in 2016, the north crosswalk on Carlton Avenue at Dean Street would have a significant adverse impact in the weekday and Saturday pre-game peak hours. The proposed project would also cause a significant adverse impact on the north

crosswalk on 6th Avenue at Dean Street in 2016 during the Saturday pre-game peak hour. Much of the project-generated demand on these crosswalks in the pre-game periods would be en route to the arena from the proposed 2,100-space parking garage that would be located on Block 1129. Since many of these pedestrians would use these crosswalks to walk back to the parking garage at the end of a game, these two crosswalks may have similar significant adverse impacts in the weekday and Saturday post-game periods.

To mitigate these impacts, the north crosswalk on Carlton Avenue at Dean Street would be widened to 20 feet (from 16 feet) and the north crosswalk on 6th Avenue at Dean Street would be widened to 17 feet (also from 16 feet). All other analyzed crosswalks, sidewalks, and corner areas would continue to operate at acceptable levels of service in all analyzed peak hours in both 2010 and 2016.

O. AIR QUALITY

The proposed project would not result in any significant adverse air quality impacts from either mobile or stationary sources.

Vehicular traffic generated by the proposed project would not result in any violations of the National Ambient Air Quality Standard (NAAQS) or any significant adverse air quality impacts. It was also determined that carbon monoxide (CO) impacts would not exceed CEQR *de minimis* criteria, while increments of particulate matter less that 2.5 microgram in size ($PM_{2.5}$) would not exceed the City's interim guidance criteria.

The proposed project would likely be required to obtain a state facility permit from NYSDEC and permits to construct from DEP for the proposed project's stationary sources of emissions. Analyses of the emissions and dispersion of nitrogen dioxide (NO_2), CO, particulate matter less than 10 microgram in size (PM_{10}), and sulfur dioxide (SO_2) from the proposed project's stationary sources indicate that such emissions would not result in the violations of NAAQS or in significant adverse air quality impacts. Because of the proposed project's low particulate matter emissions, the impacts of its $PM_{2.5}$ emissions would be insignificant under the NYSDEC policy guidance on $PM_{2.5}$. Nevertheless, a $PM_{2.5}$ analysis was conducted. The analysis identified a limited number of receptors on upper floors of project buildings that would exceed the NYSDEC annual $PM_{2.5}$ threshold for determining potential significance. However, these exceedances would not result in significant adverse impacts. The maximum annual emissions of PM_{10} would be below the NYSDEC applicability threshold of 15 tons per year for assessing impacts of $PM_{2.5}$ from stationary sources. The potential exposure to $PM_{2.5}$ at these locations would be limited since occupants would not be expected to have their windows open continuously throughout the year. In addition, the maximum predicted $PM_{2.5}$ concentration levels are comparable to ambient levels of $PM_{2.5}$ measured at various locations in New York City over the past several years. On a neighborhood scale, $PM_{2.5}$ annual average impacts were below the City's interim guidance criterion. No off-site impacts were projected to exceed the NYSDEC criteria for potentially significant $PM_{2.5}$ impacts. The analysis also indicates that there would be no exceedance of the interim criterion for 24-hour $PM_{2.5}$ increments. Therefore, no significant adverse air quality impacts are anticipated from the proposed project's stationary sources.

The results of the industrial source analysis demonstrate that there would be no significant adverse air quality impacts on the proposed project from nearby industrial sources.

P. NOISE

The proposed project would result in significant adverse noise impacts at four locations around the project site, including residential locations adjacent to the project site during one or more peak hours in both 2010 and 2016. These locations are 1) Flatbush Avenue in the area near Dean Street; 2) Dean Street from approximately Flatbush to Vanderbilt Avenues (including the Dean Playground); 3) 6th from approximately Dean Street to Atlantic Avenue; and 4) Carlton Avenue from approximately Dean Street to Atlantic Avenue. The impacts would be localized and occur on street segments immediately adjacent to the project site (Flatbush Avenue, Dean Street, and 6th and Carlton Avenues). In each of these locations, noise levels would in the "marginally unacceptable" range, which is not unusual for New York City residential areas.

In 2016 with traffic mitigation, the significant adverse impact at Flatbush Avenue would not occur; noise impacts at the other locations would continue to occur at somewhat reduced levels from the projected levels in 2016 without mitigation.

To address the significant adverse impact on residences in these areas, the project sponsors would make double-glazed windows and alternate means of ventilation (air conditioning) available at no cost to the owners where such measures do not already exist. With these measures, significant noise impacts to residences would be fully mitigated.

Noise levels within the new open space areas created on-site as part of the proposed project would be above the 55 dBA $L_{10(1)}$ noise level for outdoor areas requiring serenity and quiet contained in the *CEQR Technical Manual* noise exposure guidelines. While noise levels in these new areas would be above the 55 dBA $L_{10(1)}$ guideline noise level, they would be comparable to noise levels in a number of open space areas and parks in New York City, including Hudson River Park, Riverside Park, Bryant Park, Fort Greene Park, and other urban open space areas.

Q. NEIGHBORHOOD CHARACTER

The proposed project would significantly change the character of the project site. The project site, as it now stands, does not contain any of the community character that defines the surrounding neighborhoods. Although the project site sits at a major crossroads and across the street from a major transportation hub, it contains virtually none of the neighborhood characteristics or vitality of Boerum Hill, Fort Greene, Clinton Hill, Prospect Heights, and Park Slope, and in fact creates a barrier between these neighborhoods. The project site's character stands in stark contrast to the character of much of the surrounding area, which includes uses more typical of viable urban neighborhoods, including medium- to high-density residential and commercial development to the north.

The change in character on the project site would not alter the basic character of the surrounding neighborhoods, whose defining elements are located at some distance from the project site and are protected by zoning and historic district designations. However, the proposed project would affect the character of areas immediately surrounding the site and would result in localized adverse neighborhood character effects in a few of those areas. The greatest change would occur on Dean Street between Flatbush and Vanderbilt Avenues, which forms the southern border of the project site and is at the northern edge of Prospect Heights. The character of Dean Street would change from a nondescript, but quiet, mixed-use former industrial street to an active street with a mix of uses. The proposed project would also affect the character of a few residential rowhouses facing Site 5 (within sight of the arena's brightly lit signs) and the rowhouses across from the arena loading docks on Dean Street. Project-generated traffic would result in a

deterioration of traffic flow on Bergen Street in Prospect Heights. These affected locations would be clustered adjacent to the project site, in areas which are located along the perimeters of and not in the cores of their respective neighborhoods. Thus, even when considered together, the changes to neighborhood character in these transition areas would not be significantly adverse.

The project would be visible in the skyline from portions of several of the adjacent residential neighborhoods. However, this would be perceived as middle-distance or background conditions, and would not affect the character of the neighborhoods' cores, all of which would also be protected from changes in land use and density by underlying zoning and the regulations of their historic districts. The dense mix of commercial, entertainment, residential, and open space uses proposed for the project site would advance the goals of the Special Downtown Brooklyn District.

The overarching goal of the proposed project is to transform the character of the project site from an underutilized and blighted area into a vibrant mixed-use community that would include a state-of-the-art arena, affordable and market-rate housing, first-class office space, publicly accessible open space, local retail and community services, a possible hotel, and an improved rail yard. The proposed project would meet this goal as follows:

- Significantly change the project site from a blighted area into a high-density neighborhood with a mix of residential, commercial, entertainment, cultural, and open space uses, served by Brooklyn's largest transportation hub;
- Develop a destination use (the arena) thereby creating a center of pedestrian activity desirable in higher-density commercial areas;
- Reconfigure, renovate, and platform over the existing rail yard, which has long been a blighting influence in the immediate area, thereby eliminating the physical and visual barrier that separates the neighborhoods of Boerum Hill, Fort Greene, Prospect Heights, and Park Slope;
- Create a new Brooklyn skyline with architecturally distinctive buildings;
- Create an active streetscape where none currently exists;
- Provide a substantial cohesively designed open space to serve and connect the surrounding neighborhoods; and
- Change the land use patterns on the project site to permit commercial and residential uses consistent with the surrounding neighborhoods, with higher-density uses to the north and west closer to Downtown Brooklyn, stepping down to a lower density adjacent to the residential areas to the south.

R. CONSTRUCTION IMPACTS

CONSTRUCTION ACTIVITIES

All construction is expected to be completed over a 10-year period; the number of construction activities would vary over time, and are divided, for purposes of the analysis, into two phases. Phase I would begin with the demolition of existing structures on the site, reconstruction of the rail yard and the construction of the arena block and Site 5 buildings on Blocks 927, 1118, 1119, and 1127. Environmental remediation and demolition of all existing buildings would be the first tasks. Demolition on all blocks would occur in Phase I. The arena for the Nets basketball team is

expected to be open in October 2009, and the rest of the Phase I development would be completed by the 4th quarter of 2010.

Also included in Phase I are construction of the West Portal between the rail yard and Atlantic Terminal; NYCT connections; installation of major new sewer and water lines; and other utility lines, such as telecommunication facilities with capacity for the complete project. During Phase I, the period with the greatest number of buildings simultaneously under construction would be in late 2008 to early 2009 when the arena, the LIRR improvements, and five buildings would be in various stages of construction. The levels of construction activities before and after the Phase I peak would be of lesser intensity.

In Phase II, the construction activity would be less intense than during Phase I. From 2010 to 2014, the activity would be centered on Block 1120 with a peak at the end of 2011 and the beginning of 2012. In 2014, the work would shift to Blocks 1121 and 1129 with a secondary peak in 2016.

It is anticipated that construction activities for the buildings and the arena would generally take place Monday through Friday with exceptions that are discussed separately below. Over the course of construction, it is expected that evening and night work would be required. For example, some of the rail yard reconstruction work would be scheduled to start after the rail yard has been vacated to meet the evening rush hour and be completed before trains return from the morning rush hour. When work is required outside of normal construction hours, the proper approvals would be obtained from the appropriate agencies.

During the construction of various components of the proposed project (buildings, infrastructure replacement and upgrades, transportation improvements), traffic lanes and sidewalks would have to be closed or protected for varying lengths of time, bus stops would have to be temporarily relocated, and crosswalks redirected. This work would be coordinated with and approved by the appropriate governmental agencies.

The project sponsors have committed to implementing a state-of-the-art emissions and noise reduction program, consisting of the following components.

AIR QUALITY

1. *Diesel Equipment Reduction.* The construction of the proposed project would minimize the use of diesel engines, and use electric engines operating on grid power in lieu of diesel engines, to the extent practicable. To that end, the project sponsors have met with Con Edison to ensure the early connection of grid power to the site by commissioning permanent service for Buildings 2 and 3 for use during construction. This would ensure that grid power would be available on site by the third quarter of 2007, prior to the peak construction period. Construction contracts would specify the use of electric engines where practicable, and ensure the distribution of power connections throughout the site as needed. Equipment that would use grid power in lieu of diesel engines would include, but may not be limited to, welders, rebar benders, scissor lifts, and hydraulic articulating boom lifts. This would also eliminate generators that would normally be needed for construction equipment.
2. *Clean Fuel.* Ultra-low sulfur diesel (ULSD) fuel would be used exclusively for all diesel engines throughout the site. This would enable the use of tailpipe reduction technologies (see below), and would directly reduce DPM emissions. The exclusive use of this fuel for all diesel engines would also reduce the emission of sulfur oxides to a negligible level.

3. *Best available tailpipe reduction technologies.* Non-road diesel engines with a power rating of 50 horsepower (hp) or greater, and controlled truck fleets (i.e., truck fleets under long-term contract with the proposed project, such as concrete trucks), would utilize the best available tailpipe technology for reducing DPM emissions. The project sponsors have identified diesel particle filters (DPFs) as being the tailpipe technology currently available that is verified to have the highest reduction capability. Construction contracts would specify that all diesel non-road engines rated at 50 hp or greater would utilize DPFs or other tailpipe reduction technology, either original equipment manufacturer (OEM) or retrofit technology with add-on controls verified to reduce DPM emissions by at least 85 percent. Controls may include active DPFs, if necessary. Exceptions would be made only in cases where DPFs cannot be used for safety reasons, or where it is proven that a certain engine is necessary for the task where a DPF would not function properly; in those cases, the use of diesel oxidation catalyst (DOC) or other tailpipe reduction technology verified to reduce DPM by at least 25 percent would be required.

This program to reduce air pollutant emissions from construction exceeds that of any large-scale private construction project in New York City to date.

NOISE

To reduce noise levels at the source or during most sensitive time periods ("source controls"), six types of measures were examined and would be implemented:

1. The project sponsors have committed to utilizing equipment that meets the sound level standards for equipment (specified in Subchapter 5 of the new New York City Noise Control Code) from the start of construction activities and using a wide range of equipment, including construction trucks, that produces lower noise levels than typical construction equipment;
2. Where feasible, the project sponsors would use quiet construction procedures, and equipment (such as generators, hydraulic lift vehicles, trucks, and tractor trailers) quieter than that required by the New York City Noise Control Code;
3. Generally, the project sponsors would schedule and perform the most noisy work during weekday daytime hours (and not during weekday nighttime or weekend hours);
4. Generally, the project sponsors would schedule equipment and material deliveries during weekday daytime hours, and not during weekday nighttime or weekend hours;
5. As early in the construction period as practicable, diesel-powered equipment would be replaced with electrical-powered equipment, such as electric scissor lifts and electric articulating boom lifts (i.e., early electrification); and
6. The project sponsors would require all contractors and subcontractors to properly maintain their equipment and have quality mufflers installed.

Three types of measures related to the placement of equipment and implementation of barriers between equipment and sensitive receptors were examined and would be implemented to the extent feasible:

1. Noisy equipment, such as generators, cranes, tractor trailers, concrete pumps, concrete trucks and dump trucks, would be located at locations which are away from sensitive receptor locations and are shielded from sensitive receptor locations (For example, during the early construction phase of work delivery trucks and dump trucks would be located

approximately 20 feet below grade to take advantage of shielding benefits. Once building foundations are completed, delivery trucks would be located adjacent to noisy streets—Atlantic Avenue, Flatbush Avenue, 6th Avenue, etc.—rather than at quieter streets—such as Dean Street and Pacific Street—where there are residences. In addition, delivery trucks would operate behind noise barriers);

2. Noise barriers would be utilized to provide shielding (i.e., the construction sites would have a minimum 8-foot barrier, with a 16-foot barrier adjacent to sensitive locations—on locations along Pacific Street, Dean Street, and Flatbush Avenue opposite residences and the Brooklyn Bear's Pacific Street Community Garden —and truck deliveries would take place behind these barriers once building foundations are completed); and
3. Noise curtains and equipment enclosures would be utilized to provide shielding to sensitive receptor locations.

POTENTIAL CONSTRUCTION IMPACTS

Notwithstanding the measures described above, the 10-year construction period would be disruptive to the local area, and significant adverse impacts from construction activities would occur from construction-related traffic on the local street network, from construction-related noise, and from the demolition of two historic buildings. Mitigation has been developed to address these impacts where feasible. The proposed project would not result in significant adverse impacts on the following areas: land use; socioeconomic conditions; community facilities; hazardous materials; infrastructure; parking; transit and pedestrians; or air quality.

TRAFFIC DURING CONSTRUCTION

The detailed construction traffic analysis shows that significant adverse traffic impacts would occur at numerous locations throughout the construction period. However, these impacts would be attributable primarily to factors other than the added traffic from construction trucks and worker vehicles. The permanent closure of several streets within the project site, the lane disruptions during utility installation and rail yard improvements, and the reconstruction of two bridges over the rail yard were determined to be the main reasons for changes in area travel patterns and traffic diversions. These traffic diversions, when combined with construction-generated traffic, would concentrate traffic at specific intersections near the project site and result in the projected significant adverse traffic impacts for 12 intersections in proximity to the project site and seven outlying intersections. All significant adverse traffic impacts identified at the outlying intersections would be mitigated by the early implementation of proposed operational traffic mitigation measures. However, certain significant adverse traffic impacts identified at 10 intersections adjacent to the project site would remain unmitigated.

NOISE AND VIBRATION DURING CONSTRUCTION

Three open space resources would experience significant adverse noise impacts during some portion of the construction period: Brooklyn Bear's Community Garden, the Dean Playground, and South Oxford Park. Because of safety and aesthetic concerns, there is no feasible and practicable mitigation for these impacts. The analysis also shows the potential for significant adverse noise impacts at the Pacific Branch of the Brooklyn Public Library. The need for and feasibility of mitigation at this location will be further analyzed between the draft and final EIS. If these studies indicate that the library would have a significant noise impact and no feasible mitigation is developed, this location would have an unmitigated significant adverse impact.

Significant noise impacts were also predicted to occur at a number of residential locations during some portion of the construction periods. At locations where significant adverse noise impacts are predicted to occur, and where the residences do not contain both double-glazed or storm-windows and alternative ventilation (thus maintaining acceptable interior noise levels), these mitigation measures would be available at no cost for purchase and installation to owners of residences. However, residents within the identified zone who do not have double-glazed or storm-windows and alternative ventilation and choose not to accept the mitigation measures made available would still be predicted to experience significant adverse impacts from construction noise at these locations.

The construction is not expected to result in any significant adverse vibration impacts.

EFFECTS OF CONSTRUCTION ON CULTURAL RESOURCES

The proposed project would involve the demolition of two historic resources on the project site, the former Ward Bread Bakery complex at 800 Pacific Street and the former LIRR Stables at 700 Atlantic Avenue. Measures to partially mitigate the impact of the demolitions of these buildings would be developed in consultation with OPRHP. To avoid construction-related impacts on historic resources within 90 feet of project construction, historic buildings within 90 feet of project construction would be protected by a Construction Protection Plan (CPP), which would be developed in consultation with OPRHP and would comply with the procedures set forth in TPPN #10/88 and other New York City Building Code regulations.

The buildings of most concern with regard to the potential for structural or architectural damage due to vibration are the Swedish Baptist Church and nearby row houses along Dean Street, which are immediately adjacent to the site of Building 15. A monitoring program would be implemented to ensure that no architectural or structural damage will occur.

EFFECTS OF CONSTRUCTION ON NEIGHBORHOOD CHARACTER

Construction activity associated with the proposed project would have significant adverse localized neighborhood character impacts in the immediate vicinity of the project site during construction. The project site and the immediately surrounding area would be subject to added traffic from construction trucks and worker vehicles, partial and complete street closures, and the reconstruction of two bridges over the rail yard, resulting in changes in area travel patterns and the resultant significant adverse traffic impacts. Construction traffic and noise would change the quiet character of Dean Street and Pacific Street in the immediate vicinity of the project site. A number of specific measures to minimize noise, vibration, dust, and other construction-related nuisances would be employed where practicable. The impacts would be localized and would not alter the character of the larger neighborhoods surrounding the project site.

INFRASTRUCTURE

Construction of the proposed project would not cause any significant impacts on infrastructure systems or their users. Several water and sewer lines (as well as smaller utility lines) would have to be relocated and connected to the proposed new buildings. All infrastructure relocation or replacement would be approved by DEP and meet its standards. Construction-generated solid waste would be disposed by private carters at off-site landfills. Energy for the construction activities would be provided through grid power and on-site generators. Relative to the capacity of the City's electric system, the increase in demand would be insignificant.

RODENT CONTROL

Construction contracts would include provisions for a mouse and rat control program (including baiting and ensuring regular trash pickup) coordinated by appropriate public agencies. No hazards to people, domestic animals, and other wildlife are expected.

S. PUBLIC HEALTH

No significant adverse impacts to public health are anticipated as a result of the operation or construction of the proposed project.

T. ALTERNATIVES

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 sports and entertainment venue. None of these alternatives would address the blighted conditions on the project site. These alternatives 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. ✶